SIEMENS

SIMATIC HMI / PC-based Automation

Human Machine Interface Systems/ PC-based Automation

Catalog
ST 80/
ST PC

Edition
2017

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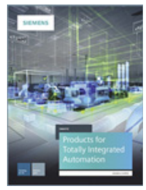

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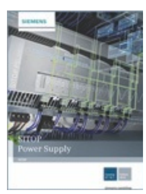

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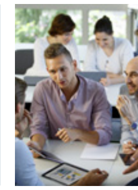

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Operator control and monitoring systems/ PC-based Automation

Catalog ST 80 / ST PC · 2017

Supersedes:
Catalog ST 80 / ST PC · 2016

Refer to the Industry Mall for current updates of this catalog:
www.siemens.com/industrymall

The products contained in this catalog can also be found in the Interactive Catalog CA 01.
Article No.: E86060-D4001-A510-D7-7600

Please contact your local Siemens branch.

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Operator control and monitoring systems
PC-based Automation

1

Overview

SIMATIC HMI operator control and monitoring systems – efficient machine-level operator control and monitoring

Equipment for monitoring and operator control is needed wherever people have to work with or on machinery and plants performing diverse tasks from cylinder driers to waste compactors. It is not difficult to find the right device for your specific task. The challenge is to find a solution that is future-proof and flexible, that can be integrated into higher-level networks, and that can also meet the ever-increasing demands for transparency and data provision. SIMATIC HMI Panels have proven their value in a variety of different applications in all industrial sectors over many years. The range of the systems in use is just as wide as that of the applications and technologies in the respective plants.

SIMATIC HMI stands for highly efficient machine-level operator control and monitoring and has some unique advantages:

- Efficient engineering
  Visualization can be created more quickly and easily than ever before.
- Innovative design and operation
  Visualization becomes the outstanding feature of the machine.
- Brilliant HMI operator panels
  The right HMI operator panel for every application.
- Backup – with security
  Protection for investments and know-how, secure operation.
- Commissioning in the fast lane
  Lose no time with testing and servicing.

www.siemens.com/hmi

SIMATIC HMI software – a lot more than just visualization software

With the SIMATIC WinCC (TIA Portal), SIMATIC WinCC and SIMATIC WinCC Open Architecture product families, SIMATIC HMI covers the entire engineering and visualization software spectrum for the human machine interface.

- Almost the entire range of SIMATIC operator panels can be configured with SIMATIC WinCC (TIA Portal), the successor to SIMATIC WinCC flexible.
  The functionality covers both visualization tasks at machine level and SCADA applications on PC-based multi-user systems.
- The current version 7.4 of SIMATIC WinCC is available for extremely complex process visualization tasks and SCADA applications, e.g. taking account of redundant solutions and vertical integration all the way to plant intelligence solutions.
- Ultimately, SIMATIC WinCC Open Architecture addresses applications that require extensive customer-specific adaptations or manage large and/or complex applications, as well as projects that demand special system requirements and functions.

www.siemens.com/wincc

Overview (continued)

SIMATIC HMI - Brilliant and rugged operator panel

Basic HMI - for the entry level

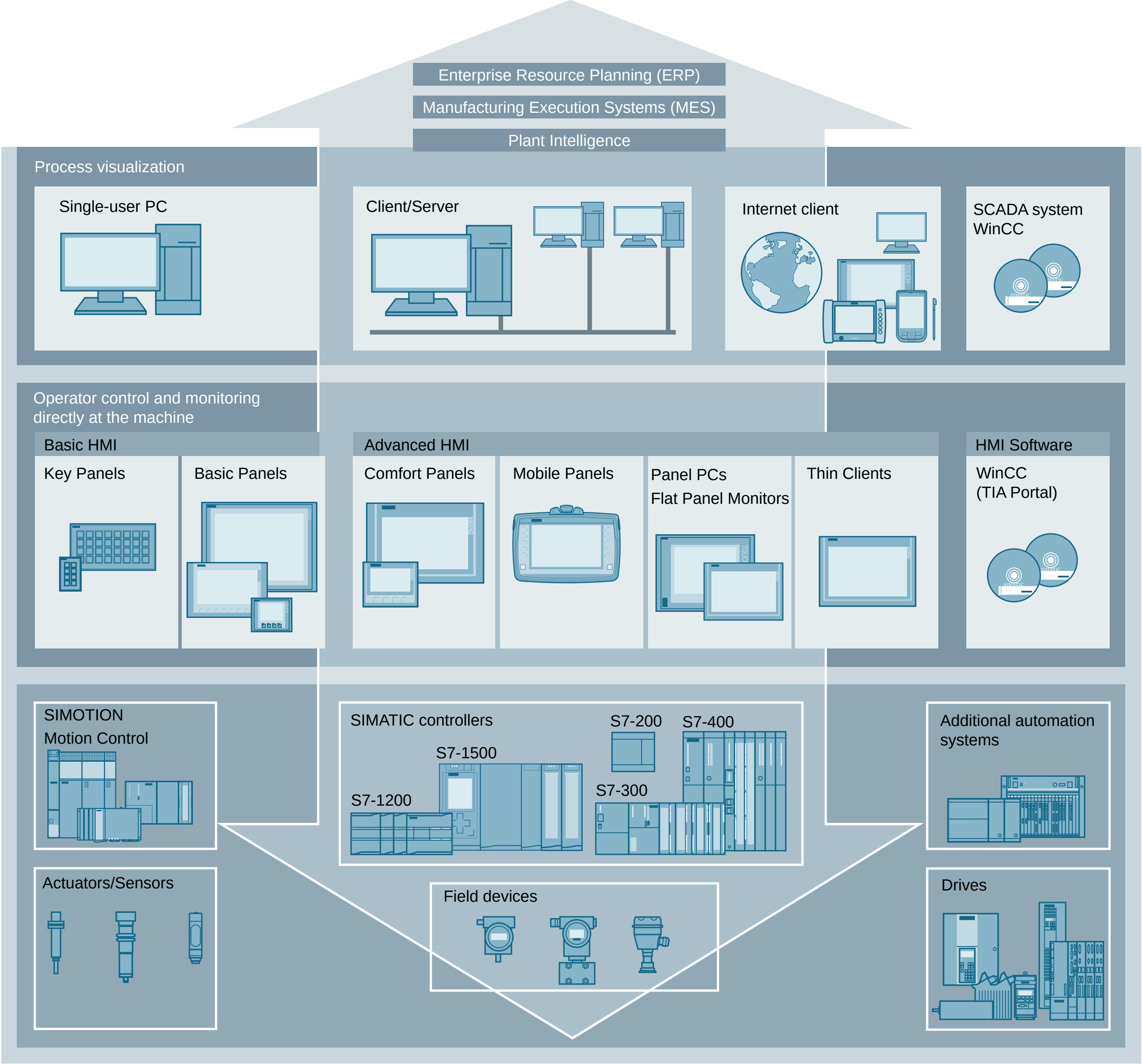
- Key Panels
  Pre-assembled and ready for installation, for conventional operator panels. No configuration required with WinCC!
  http://www.siemens.com/key-panels
- Basic Panels
  The entry level series for simple HMI applications.
  http://www.siemens.com/basic-panels

Panel-based HMI Advanced - for more sophistication

- Comfort Panels
  High-end functionality for demanding indoor and outdoor HMI applications.
  http://www.siemens.com/comfort-panels
- Mobile Panels
  Portable HMI operator panels for mobile deployment on site.
  http://www.siemens.com/mobile-panels

Individual HMI devices in customized versions

http://www.siemens.com/customized-automation



Overview (continued)

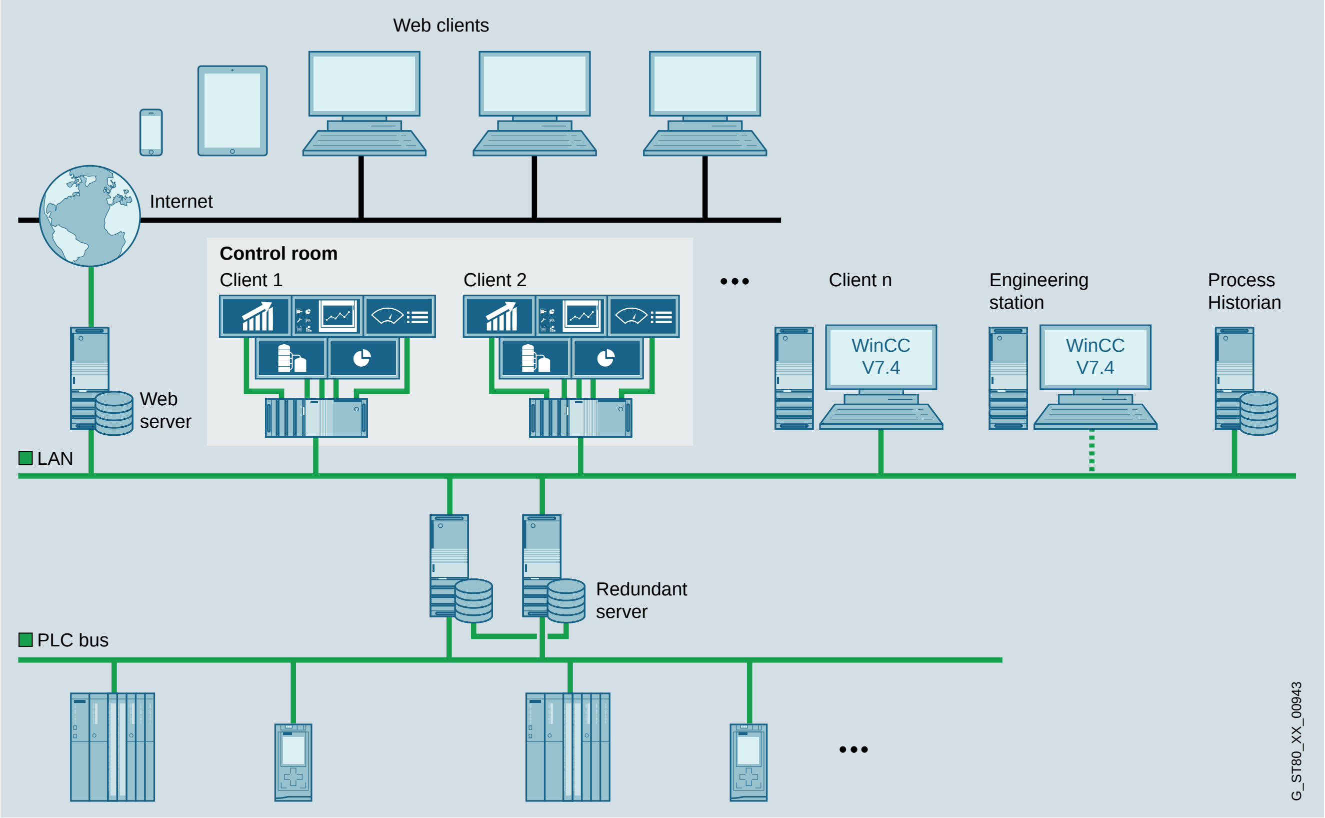
Control system optimizes the productivity of a hot dip galvanizing plant

Control room

As semi-finished products, galvanized steel sheets play a key role in industrial production, such as car manufacturing. One proven method of protecting steel sheets from rust is the application of a zinc coating in a hot dip galvanizing process, in which strips of sheet steel are drawn through a bath containing liquid zinc. Plants for this process are complex and in continuous operation, thus placing high demands on the process control system and the hardware used.

Advantages of the SIMATIC SCADA system and SIMATIC IPC solution:

- SIMATIC WinCC V7 SCADA system whose scalability and openness also permits the implementation of future functional expansions.
- Redundant setup of the control system and operating stations with industry-compatible SIMATIC industrial PCs and thin clients.
- Optimum overview thanks to multi-monitor solution in the control room and more than 27 operating stations throughout the plant and production hall.
- Availability of the production data over a long period in the SIMATIC Process Historian for reasons of traceability.
- Increased productivity using long-term analyses of plant availability, productivity, energy consumption and quality.
- More effective support and shorter downtimes thanks to fast, web-based access to plants with the SIMATIC WinCC WebNavigator.



Overview (continued)

Modernization of a plant in the food and beverage industry on the basis of an integrated automation and visualization solution

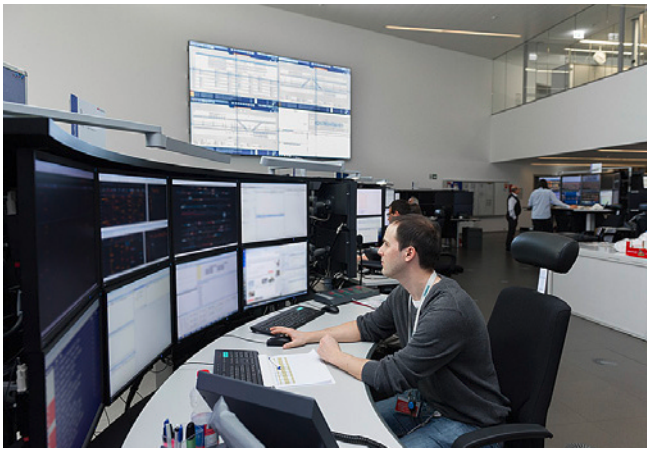
The modernization involved equipping 3 production lines with an expanded SCADA system, a new control architecture, converters and motor starters.

The project was implemented smoothly, and the integrated hardware and software solution with the TIA Portal enabled the simplification of the engineering process.

Advantages of the solution with the SIMATIC SCADA system WinCC Professional in the TIA Portal, S7-1500 and SIMATIC IPC:

- Simplified application engineering
- Efficient monitoring of the production lines enables the optimal path through the production to be defined for each batch.
- Increased productivity
- Simple and intuitive operation implemented thanks to good visual support
- Better control of the motors involved with the process
- Integration of the production data into the existing ERP system
- Faults in the current process can be easily localized

Tunnel control system for the longest railway tunnel in the world



The SIMATIC WinCC Open Architecture tunnel control system is at the heart of the monitoring systems for the entire tunnel infrastructure. Continuous availability of the entire system is essential to ensure the trouble-free operation of the Gotthard Base Tunnel.

The Gotthard Base Tunnel has a tunnel control center at the south and north portals. The two tunnel control systems installed there monitor and control all of the installed systems and plants. All the required data are acquired, collated and visualized on the tunnel control system. A fully integrated maintenance management tool and an operations control system are also part of the tunnel control system with a large screen display.

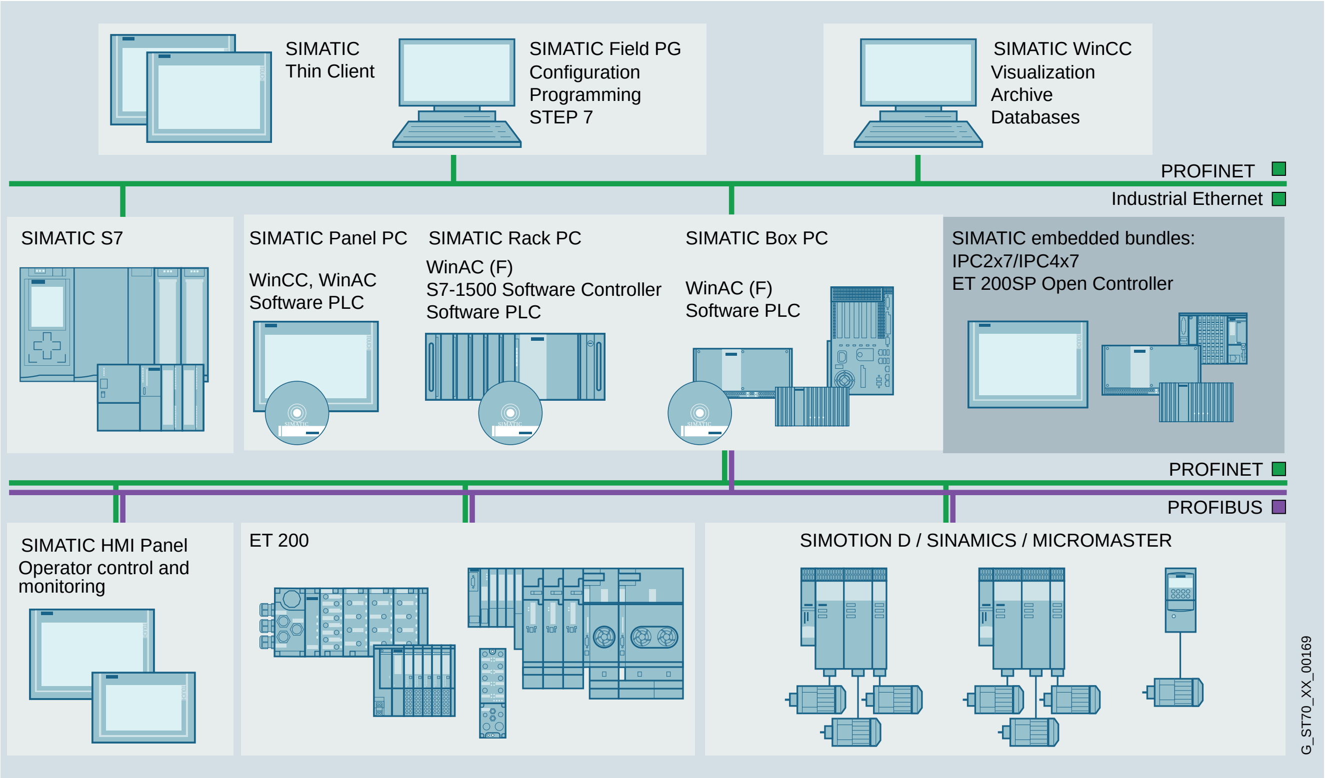
The advantages of the solution:

- Highest failure safety thanks to the presence of doubly redundant tunnel control equipment – Disaster Recovery System (2x2 redundancy)
- Central monitoring of the infrastructure simplifies fault management
- More efficient operation through central control of the entire infrastructure
- Integration of many (sub-)systems thanks to OPC UA as a standardized interface throughout the entire project
- Optimal user friendliness through uniform user interface across all plants, overview of all systems at one workstation as well as large screen display (multi-monitor management)

1

Introduction

Overview



SIMATIC PC-based Automation

http://www.siemens.com/pc-based

Industrial IoT Gateway - SIMATIC IOT2000

An intelligent gateway which harmonizes communication between the various sources of data before analyzing it and forwarding it to the corresponding recipients.
An easy-to-implement solution.

http://siemens.com/iot2000

Industrial PCs

Our reliable and innovative industrial PCs are the optimal PC hardware platform for PC-based Automation from Siemens.

- Rack PC
- Box PC
- Panel PC
- Tablet PC
- Industrial monitors and thin clients
- Devices for special requirements
  - Fully-enclosed IP65 devices
  - Devices with stainless steel fronts
  - Devices for hazardous areas
- IPC software
- Embedded bundles/software packages

http://www.siemens.com/simatic-ipc

Software controller

The ***SIMATIC S7-1500 Software Controller*** implements a SIMATIC S7-1500 controller on SIMATIC IPC. It is particularly suitable for control solutions in special-purpose machine manufacturing which involve a high-performance implementation of complex control tasks, the integration of PC applications, or the realization of multiple tasks on a single device.

PC-based controllers

PC-based controllers combine the functions of a PC-based software controller with visualization, PC applications and central I/Os (inputs/outputs) in a single, compact device.

The ***SIMATIC ET 200SP Open Controller*** is an industrial PC with the design of the ET 200SP I/O system and a pre-installed S7-1500 Software Controller.

http://www.siemens.com/open-controller

Overview (continued)

Innovative PC-based solution with safety for solar panel production

For a new plant for the production of solar panels, the existing highly heterogeneous concept is to be replaced by a new, state-of-the-art automation solution which can cover the comprehensive demands in a compact and integrated way.

There are increased performance and memory requirements due to the increased complexity of the system.

The PLC should also be able to provide the specified safety functions (emergency stop, access protection to hazardous areas).

Various bus systems must be linked in plant 3. Also a customer-specific Windows application is to be used on the selected systems and therefore the connection to a higher-level MES system has to be implemented. The system is designed for high throughput and three-shift operation.

The advantages of the solution with SIMATIC PC-based Automation:

- Thanks to its openness (Open Development Kit), S7-1500 Software Controller / WinAC RTX on the host SCADA industrial PC offers the possibility for integrating a Windows customer application with very little effort, and is thus used as a data concentrator (process quality/diagnostic data), and communication with the host MES system is also implemented in combination with WinCC (SCADA).
- Industry-standard products from the SIMATIC range offer maximum quality for 24/7 round the clock operation.

Safe transfer at sea

For transferring persons at sea to wind energy plants or oil platforms, a Dutch company has developed a six-legged platform on hydraulic cylinders.

This platform is basically an upside-down flight simulator, and allows safe transfer from a ship even in bad weather.

The advantages of the solution with SIMATIC PC-based Automation:

- Fault-tolerant SIMATIC S7-400H in redundant design for general control tasks
- Two lower-level SIMATIC S7 Modular Embedded Controllers which meet the requirements for high speeds, integration of fast I/O cards, and a flexible, modular and rugged design.
- An integrated programming environment with SIMATIC STEP 7
- Automation products from Siemens comply with the stringent requirements of the offshore sector

Overview (continued)

Unit-type cogeneration unit

When redesigning unit-type cogeneration units, the automation approach should also be restructured.

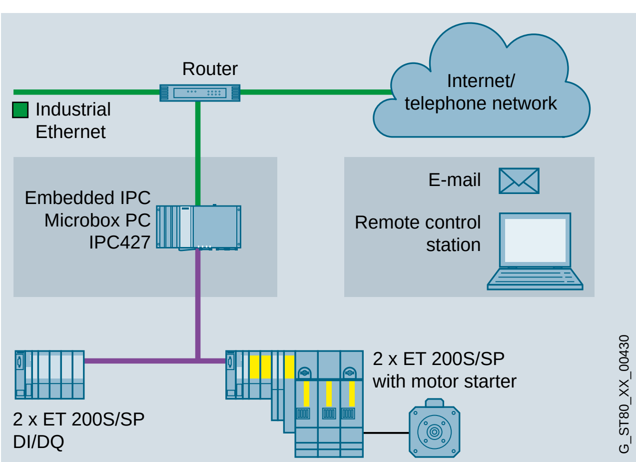
The objective was to execute all control, visualization and archiving tasks which were previously handled by a PLC and a PC on a compact unit.

Space was to be saved in the control cabinet, and the administration and training requirements reduced.

At the same time a rugged, maintenance-free device was required which can also be easily connected over the Internet.

The advantages of the solution with SIMATIC PC-based Automation:

- Microbox PC as a rugged, compact embedded system
  - Control, visualization and archiving of the process parameters in one device
  - Space and cost savings thanks to integration of several tasks on a single embedded industrial PC
    Previously: one PLC and one visualization PC
- Easy and quick access to the embedded IPC over the Internet



The plant concept

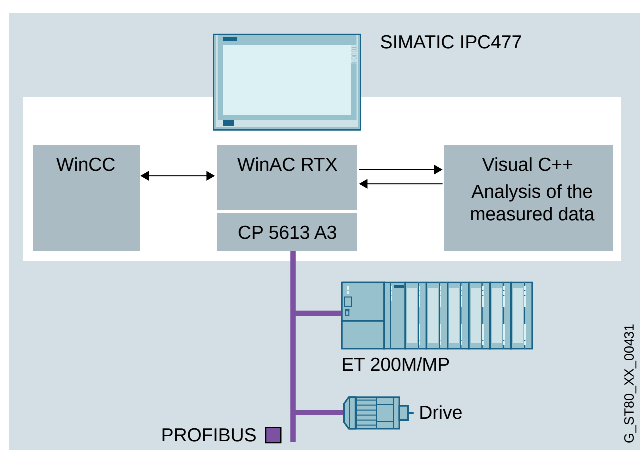
Measurement of foil thickness

During the manufacture of plastic foils, a highly accurate and uniform foil thickness over the entire width is a decisive quality criterion.
For this purpose, a measuring head with radioactive source moves back and forth above the foil and perpendicular to the continuously transported reel, and a sensor moves underneath the foil.

From the attenuation of the radiation, the foil thickness can be determined exactly at each position by extensive mathematical calculations, and deviations from the reference thickness can be compensated.

The advantages of the solution with SIMATIC PC-based Automation:

- Visualization is performed using WinCC, and control using WinAC RTX on a PC.
- Complex mathematical algorithms are required for evaluation of the extensive measured data.
- These are meaningfully implemented in the high-level language C++. Seamless and high-performance integration of these algorithms into the STEP 7 program is via the ODK (Open Development Kit).
- Data exchange between WinAC RTX and WinCC, for visualization of the extensive measured curves, takes place very quickly via the hard drive cache. This functionality was also implemented via the ODK.
- Interconnection of the standardized technology function is via CFC (Continuous Function Chart).



The plant concept

Overview (continued)

PC-based machine data acquisition optimizes the production of farming machinery

To introduce more efficient, resource-saving and therefore cost-effective production processes in the factory, a leading farming machinery manufacturer has integrated a central, plant-wide machine data acquisition system using Panel PCs.

Due to the need for retrofitting in the existing environment, flexible and space-saving installation of the Panel PCs was paramount.

More than 200 fully-enclosed SIMATIC HMI IPC477 PRO Panel PCs for central machine data acquisition, with communications interfacing to the production machinery and the production planning computer. Mounting of the Panel PCs directly at the machine without additional control boxes on stand-alone columns.

The advantages of the solution with SIMATIC PC-based Automation:

- Enhanced efficiency by optimizing the complete production organization through a high degree of uniformity.
- Minimized use of resources (less paper is required in production).
- Simple, low-cost retrofitting of the Panel PC directly in production on a stand, without the installation of an additional operator console.

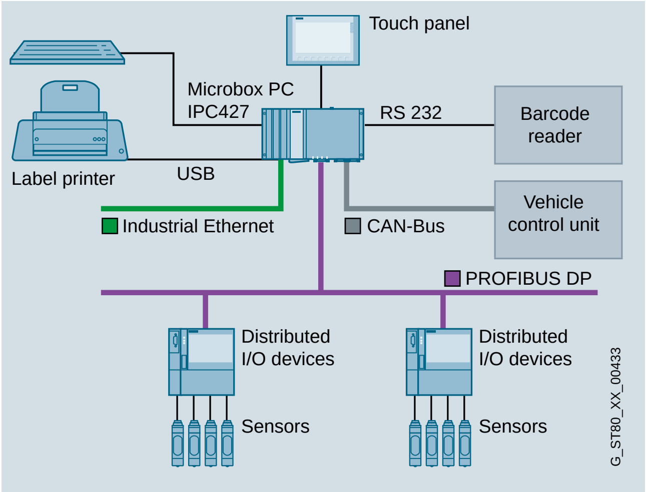
PC-based control in automotive test rigs

Test rigs in the automotive industry require trouble-free operation and high quality.

A high-performance system is required in the control, processing, archiving and visualization of measured data which can also provide openness and flexibility for connection to different bus systems and for the use of software.

The advantages of the solution with SIMATIC PC-based Automation:

- Flexible, easy-to-service and maintenance-friendly system with Windows in conjunction with Software Controller CPU 1500S
- Reduction in integration overhead thanks to integral interfaces such as PROFINET, PROFIBUS, Ethernet, CAN, and the flexibility when using modules for different bus systems, e.g. PCIe/104
- System availability concept ensures round-the-clock operation and reduced downtime costs
- Fan-free, temperature-resistant operation up to 60 °C saves additional cooling measures
- High investment security through long-term availability of the components



The plant concept

Overview (continued)

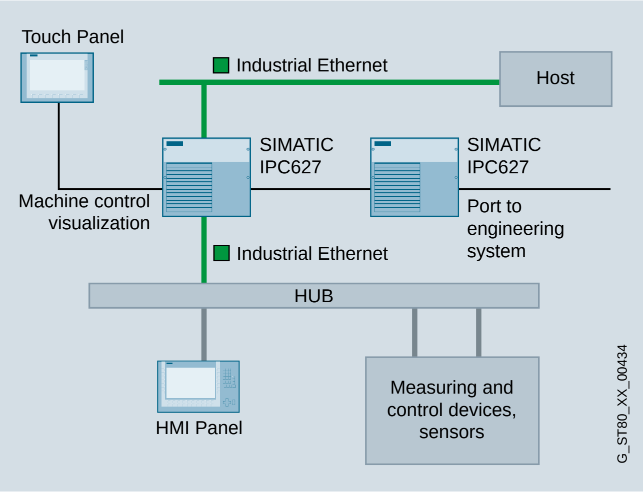
PC-based control in the semiconductor industry

In the semiconductor industry, high quality and fault-free operation round-the-clock are decisive criteria. A high-performance system that guarantees fast and precise production of the semiconductors is required for controlling the machines, monitoring the production system, and processing the production data.

High flexibility and openness are also required for connecting to the production control system and machine engineering system.

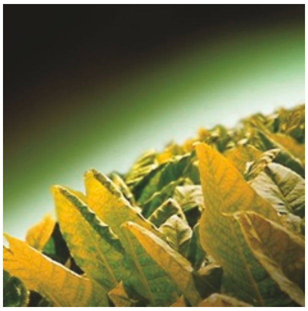
The advantages of the solution with SIMATIC PC-based Automation:

- Compact, rugged industrial PCs with powerful processors and the latest technology enable high processing performance
- Pre-installed systems save time and costs when integrated into the overall system
- WinCC ToolLink-EDA (Equipment Data Acquisition) enables diagnostics of process and machine data in real time
- System availability concept with integral RAID1 functionality and remote monitoring with SIMATIC IPC DiagMonitor ensures fault-free 24-hour operation
- High investment security through long-term availability of the components
- International certification and worldwide support guarantee global use



The plant concept

Track & trace line controller for tobacco industry



In order to comply with new legal regulations, a track & trace system in an existing plant has been extended. The requirement is to test 100 cartons per minute in three-shift operation and to save the data in an SQL database for traceability reasons.

The automation system should be characterized by high ruggedness, but also offer the openness required to connect additional components such as printers and the Machine Vision system.

The advantages of the solution with SIMATIC PC-based Automation:

- Compact automation solution consisting of Microbox PC embedded industrial PC, PLC with preinstalled and ready-to-use PLC software, and visualization with WinCC
- Control of the entire track & trace system and interfacing to the control system
- Open solution with the help of the WinAC ODK (Open Development Kit) thanks to a link to an SQL database for managing the serial numbers and other data
- Additional openness and flexibility by connecting printers and vision system

Overview (continued)

Retrofit of a woodworking machine – safe!

In the past, machines and plants for wood-working were equipped with specially developed, proprietary controllers. Today, future-oriented standard components are used for retrofit projects. The customer decided in favor of integrating standard automation and safety technology in a single unit with the SIMATIC WinAC RTX F software controller in a fan-free and maintenance-free IPC, the Microbox PC.

PROFINET as an innovative fieldbus connects distributed I/O, safety and operator panels quickly and easily.

The advantages of the solution with SIMATIC PC-based Automation:

- The compact PC-based automation solution multiplies the performance and precision of the plant.
- Implementation of PROFINET resulted in a series of additional advantages such as the diagnostics capability.
- Integration of standard and fail-safe automation in a single unit achieved component savings. The size of the cabinet was reduced by 20 percent and the wiring by 50 percent. The customer benefited from a high level of operating convenience and minimized machine downtimes.

Image processing with data backup

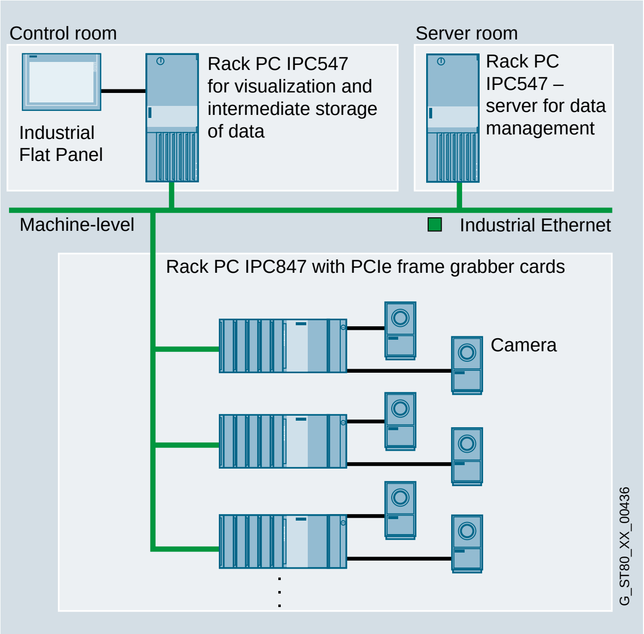
In image processing applications, high performance computers are required due to the large volume of data to be processed. The image data must be recorded, processed and saved quickly.

Frame grabber cards with a high data throughput, for example, are used for recording image data. The interfaces for the expansion cards must not become bottle-necks in this case. To ensure continued problem-free processing of the acquired data, you need a state-of-the-art system with up-to-date processor and memory technology.

Lots of data is produced again during the subsequent data backup. Thus the available storage medium must be fast and fail-safe at the same time. An open system is required for connecting to existing plants.

The advantages of the solution with SIMATIC PC-based Automation:

- Rugged SIMATIC PC with state-of-the-art processor performance and the latest technology
- Current interfaces such as PCI Express for applications with a high data throughput rate, e.g. frame grabber cards for recording image data
- Visualization on up to two monitors with an optional, high-performance graphics card
- Onboard communication interfaces such as Ethernet and PROFINET, e.g. for connecting to EPS systems or integration in existing systems
- International certifications and global support facilitate the worldwide use of the image processing solution



The plant concept

Overview (continued)

High-performance industrial PC for reliable control and monitoring of wind power plants

All Siemens turbines for offshore wind power plants feature special technical characteristics that ensure long-term, low-maintenance operation.

In contrast to sites on land, offshore wind farms are not always accessible to service teams. The basic quality requirements and standards for all components used in terms of absolute fail-safety and reliability, are therefore extremely high.

The SIMATIC Box PC of the 627 series that has been implemented matches the requirements of the solution provider all the way down the line. The rugged industrial PC is designed for 24-hour continuous duty at ambient temperatures up to 55 °C.

For reliable operation, the Box PC is installed in a solid metal enclosure that is resistant to shock and vibration and that demonstrates a high degree of of electromagnetic compatibility (EMC). For a high level of data security, the option of a mirror disk system with two hard disks (RAID1) was selected. The RAID1 controller is already onboard, and does not occupy a PCI slot.

The rugged, reliable hardware with extremely compact dimensions in durable industrial design also stands up to the demands of continuous operation in a harsh environment.

The advantages of the solution with SIMATIC PC-based Automation:

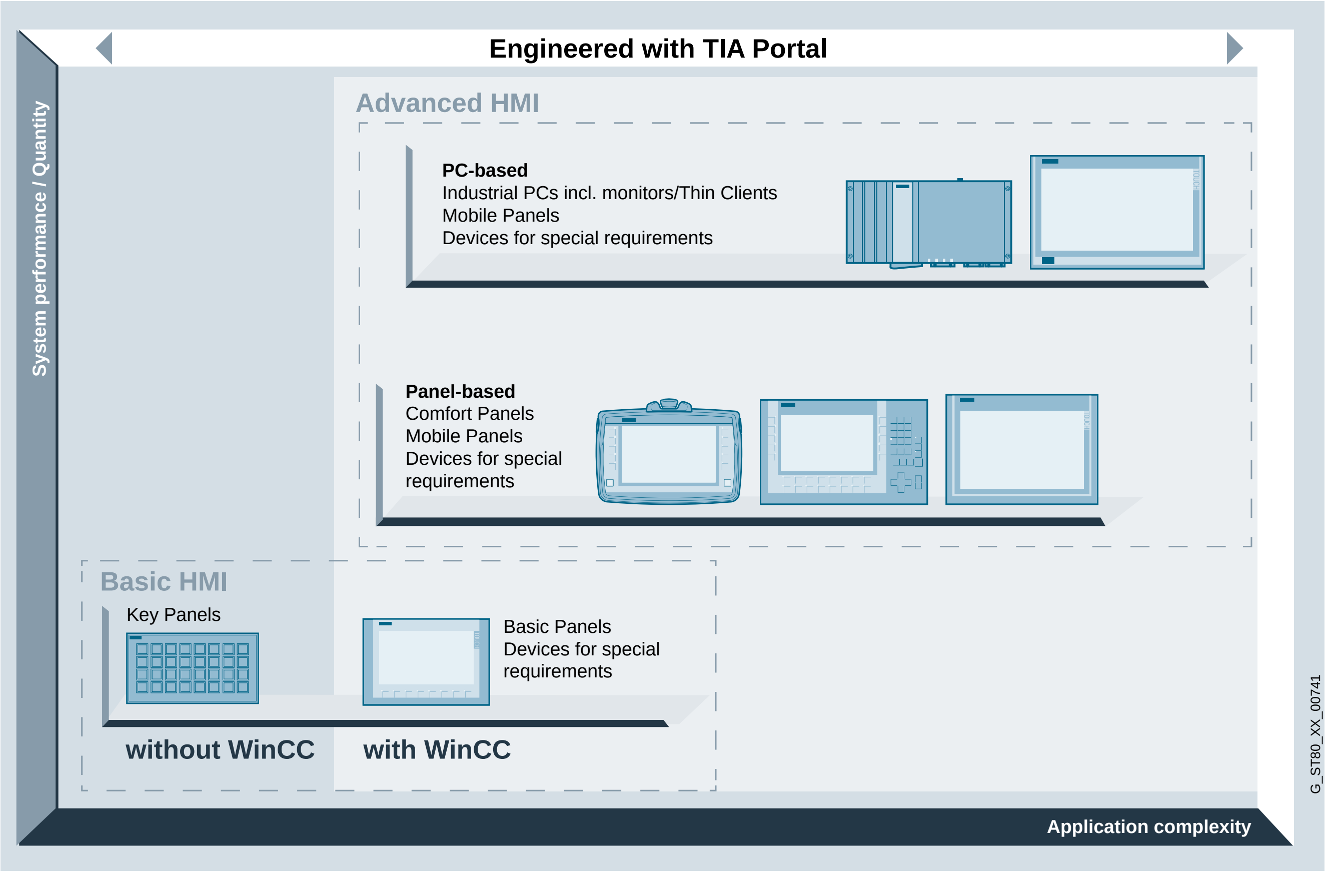
- The mounting dimensions of Box PCs remain identical over several device generations and mounting solutions can be simply reused for the next generation.
- Furthermore, when a new device generation is used, any front-accessible interfaces and function elements can be retained. For example, the Siemens Wind division already utilized a complete lifecycle of a Box PC generation and no adjustments to a new hardware platform were required when the successor product was introduced.
- Through compliance with international standards, such as CE and UL, and worldwide service, the Box PC can be implemented round the globe.

Operator panels

2

Introduction

Overview



SIMATIC HMI Panels – operator panels for efficient machine-level interaction

A complete range of powerful and innovative HMI devices is available for implementing efficient, machine-level HMI solutions in the most diverse applications and industries. One unique and highly efficient feature is the integrated configuring via SIMATIC WinCC in the TIA Portal, with which users can achieve significant savings with regard to engineering time, costs and effort.

http://www.siemens.com/hmi-panels

Basic HMI

- Panel-based:
  Operator panels with excellent price-performance ratio for simple visualization tasks.
  http://www.siemens.com/basic-hmi

Advanced HMI

- Panel-based:
  Powerful operator panels for demanding visualization tasks with a high level of convenience.
  http://www.siemens.com/advanced-hmi-panel
- PC-based:
  High-performance operator panels for data-intensive and complex visualization tasks.
  http://www.siemens.com/advanced-hmi-pc

Rugged and compact for use at machine level

With IP66/NEMA 4 degree of protection at the front, high EMC and extreme vibration resistance, the SIMATIC HMI operator panels are ideally suited for use at machine level in harsh industrial environments. Thanks to their compact design with a shallow mounting depth, the stationary operator panels can be fitted anywhere, even where only restricted space is available.
For distributed configurations, there are also devices available with all-round IP65/NEMA 4 protection.

The extremely rugged and shock-proof enclosure with degree of protection IP65 makes the Mobile Panels especially suitable for industrial applications. Their low weight and ergonomic design means that they are user-friendly and easy to operate.

One configuration software for everything

SIMATIC WinCC (TIA Portal) is a tool for the uniform configuration of all SIMATIC HMI Panels as well as PC-based systems. Graded variants are available for every task. The software permits simple and efficient configuration. Programming experience is not required.

Once created, configurations can be reused within the family. Key Panels only need to be configured, not programmed.

Overview (continued)

Component of Totally Integrated Automation

Siemens provides the complete modular system of matched components for automation solutions from one source and — with Totally Integrated Automation — one of the most globally successful automation concepts. SIMATIC WinCC (TIA Portal) is an integral component of this world. It offers crucial advantages. Thanks to the triple uniformity in configuration/programming, data management and communication, automation solution engineering costs are significantly reduced.

Open for a wide variety of automation systems

Despite being consistently incorporated into the SIMATIC world, the panels are nevertheless open for connection to PLCs from many different vendors. The standard delivery includes a comprehensive range of user-friendly drivers.

Innovative operator control and monitoring

The SIMATIC HMI Panels facilitate innovative operator control and monitoring combined with ruggedness, stability and simplicity. On the Comfort Panels in particular, standard hardware and software interfaces, e.g. the Multimedia Card/SD Card, USB, Ethernet, PROFINET, PROFIBUS DP and Visual Basic scripts, provide more flexibility and openness as well as access to the office world.

Worldwide application

The SIMATIC HMI Panels are ideally equipped for global use. Online language switching permits selection of up to 32 languages during operation simply by pressing a button.
The wide variety of languages available also includes, for example, Asian logographic languages (Chinese, Taiwanese, Korean, Japanese) and Russian. The configuration interface of WinCC (TIA Portal) including the online help and the complete documentation is also multilingual. Up to 32 languages can be used in one project. And all this is complemented by global service and support from Siemens.

Configuration at a glance

	WinCC (TIA Portal) / STEP 7 engineering software				
	Basic	Comfort	Advanced	Professional	STEP 7
Key Panels	-	-	-	-	•
Basic Panels 2nd Generation [1]	•	•	•	•	-
Basic Panels 1st Generation	•	•	•	•	-
Comfort Panels	-	• [3]	•	•	-
Mobile Panels 2nd Generation	-	• [2]	• [2]	• [2]	-

• Possible

[1] As of WinCC (TIA Portal) V13

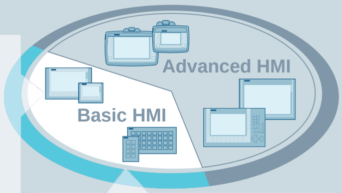
[2] As of WinCC (TIA Portal) V13 SP1

[3] Outdoor versions from WinCC (TIA Portal) V13 SP1, Update 6 and HSP (download)

Introduction

Overview

Basic HMI



Basic Panels

Cost-efficient, fully graphical user guidance?

- Intuitive operation of 4"... 22"
- Integrated HMI basic functionality
- Perfect interaction with SIMATIC S7-1200 and SIMATIC S7-1500

Key Panels

Flexible expansion with keys – or even safety functions?

- Fast commissioning
- Easy networking
- Intuitive state detection

Inexpensive realization of simple HMI tasks

Basic HMI is recommended for simple applications with a limited quantity structure, where the price-performance ratio counts as well as fast, intuitive operation.

The devices offer a brilliant display quality and high-power visualization, which significantly simplifies the operation of simple machines and equipment. You can also save valuable time during installation, commissioning and engineering with turnkey and flexible solutions.

SIMATIC HMI Key Panels

You can use the Key Panels to realize operator panels quickly, as well as save a lot of time and money setting them up since they are prefabricated and ready for installation.

All illuminated pushbuttons are freely configurable and equipped with five colored LEDs (red, green, blue, yellow and white). All buttons can also easily be inscribed in IP65. On the back, there are integrated IO terminals for connecting actuators and sensors.

SIMATIC HMI Basic Panels

Basic Panels are perfect for the cost-effective implementation of simple visualization tasks at machine level. Their basic features and functionality as well as the especially attractive price make them perfect entry-level devices.

The following modules are available:

- Key Panels
  - SIMATIC HMI KP8/KP8F/KP32F (key devices with multicolored LEDs)
- Basic Panels
  - Standard devices 2nd generation
  - Standard devices 1st generation

Overview

SIMATIC HMI Key Panels

The Key Panels, PROFINET successors to the PROFIBUS DP-based Push Button Panels, are operator panels which are ready-to-run without any configuration effort at all.

Alternatives to individually wired long-stroke keys. They are designed for direct operator control of the machine.

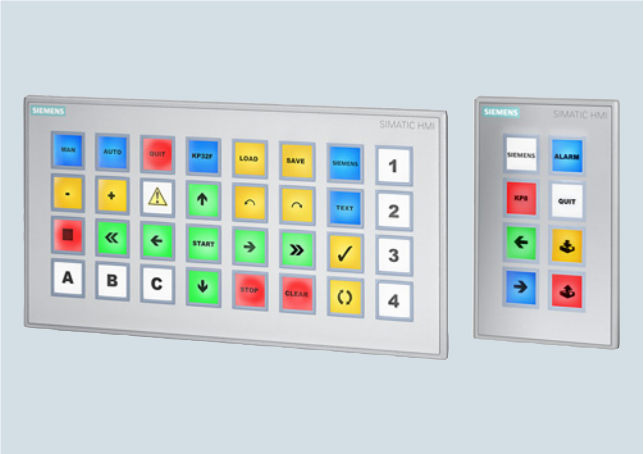
Key Panels provide many basic functions for direct operator control and monitoring instead of machine operator control, a cost-effective, versatile and space-saving combination, and they reduce configuration and installation costs to a minimum. Furthermore, additional actuators and sensors can also be optionally connected directly on the back of the devices.

The Key Panels can be used directly in line and ring topologies thanks to an integrated switch and two RJ45 PN sockets.

- SIMATIC HMI blank front design
- SIMATIC HMI KP8 PN
- SIMATIC HMI KP8F PN (shared device with GSD file possible)
- SIMATIC HMI KP32F PN (PROFIsafe can be switched off)

You can find more information at:

http://www.siemens.com/key-panels



SIMATIC HMI KP32F and HMI KP8

Key Panel, blank front, at the front populated and at the back not populated

- Optimum operability thanks to large mechanical keys and multicolored LED backlighting (daylight readable)
- Over 60% time savings for wiring and installation (Plug&Play)
- More than 30% savings in material costs compared to conventional keypad operator panels
- 2 PROFINET ports (incl. switch) already integrated for setting up line and ring topologies
- Freely configurable digital I/Os on the rear for connecting key-operated switches, indicator lamps, etc.
- Connection of fail-safe emergency stop buttons or other fail-safe signals with KP8F and KP32F (in SIL 2 or SIL 3)
- Functionally compatible with all standard PROFINET master CPUs, also non-Siemens
- KP8 and blank front design, also optimized for installation in IPC Extension Units in IP65
- Maximum flexibility due to parameterization
- Blank front design for standardized assembly of flexible operator panels

Technical specifications

Article number	**6AV3688-3AY36-0AX0** SIMATIC HMI KP8 PN	**6AV3688-3AF37-0AX0** SIMATIC HMI KP8F PN	**6AV3688-3EH47-0AX0** SIMATIC HMI KP32F PN
General information			
Product type designation	SIMATIC HMI KP8 PN	SIMATIC HMI KP8F PN	SIMATIC HMI KP32F PN
Operator controls			
With parameterizable keys	Yes	Yes	Yes
Keyboard fonts			
• Membrane keyboard			
- user-definable label membrane keys	Yes	Yes	Yes
• Function keys			
- Number of function keys	8	8	32
• Short-stroke keys			
- Number of short-stroke keys	8	8	32
Expansions for operator control of the process			
• DP direct LEDs (LEDs as S7 output I/O)	8; Adjustable brightness	8; Adjustable brightness	8; Adjustable brightness
• Number of color modes for LED	5; Red, green, blue, yellow, white	5; Red, green, blue, yellow, white	5; Red, green, blue, yellow, white
• Direct keys (keys as S7 input I/O)	8	8	32
Installation type/mounting			
Mounting type	Mounting clip	Mounting clip	Mounting clip
Mounting position	vertical	vertical	vertical
Rack mounting	No	No	No
Front mounting	Yes; Compatible with Extension Units dimensions	Yes; Compatible with Extension Units dimensions	Yes
Rail mounting	No	No	No
Wall mounting/direct mounting	No	No	No
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes
maximum permissible angle of inclination without external ventilation	30°; To the front/rear	30°; To the front/rear	30°; To the front/rear
Number of slots for command devices and signaling units	0	0	0
Supply voltage			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V; 24 V can be looped through connector, interrupted when pulled	24 V; 24 V can be looped through connector, interrupted when pulled	24 V; 24 V looped through at connector, no interruption on pulling
permissible range, lower limit (DC)	20.4 V	20.4 V	20.4 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V
Type of output			
LED colors			
• red	Yes	Yes	Yes
• yellow	Yes	Yes	Yes
• green	Yes	Yes	Yes
• white	Yes	Yes	Yes
• blue	Yes	Yes	Yes
Digital inputs			
Number of digital inputs	8; Total inputs and outputs max. 8 and 1x SIL 2 or 2x SIL 3	8; Total inputs and outputs max. 8 and 1x SIL 2 or 2x SIL 3	32; Total inputs and outputs max. 32 and 2x SIL 2 or 4x SIL 3
Input voltage			
• Rated value (DC)	24 V	24 V	24 V
Digital outputs			
Number of digital outputs	8; Max. 8 inputs and outputs (total)	8; Max. 8 inputs and outputs (total)	16; Max. 32 inputs and outputs (total)
Short-circuit protection	Yes	Yes	Yes
Switching capacity of the outputs			
• with resistive load, max.	100 mA	100 mA	100 mA

Technical specifications (continued)

Article number	**6AV3688-3AY36-0AX0** SIMATIC HMI KP8 PN	**6AV3688-3AF37-0AX0** SIMATIC HMI KP8F PN	**6AV3688-3EH47-0AX0** SIMATIC HMI KP32F PN
Output voltage			
• Rated value (DC)	24 V; Non-isolated	24 V; Non-isolated	24 V; Non-isolated
Total current of the outputs			
• Current per channel, max.	100 mA	100 mA	100 mA
• Current per group, max.	800 mA	800 mA	800 mA
Interfaces			
Number of industrial Ethernet interfaces	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch
Number of PROFINET interfaces	2; Incl. switch	2; Incl. switch	2; Incl. switch
Industrial Ethernet			
• Industrial Ethernet status LED	2; Per port	2; Per port	2; Per port
• Number of ports of the integrated switch	2; Per port	2; Per port	2; Per port
Protocols			
PROFINET	Yes; also 3rd party PLC	Yes; also 3rd party PLC	Yes; incl. shared device, 3rd party PLC
PROFINET CBA	No	No	No
IRT	Yes	Yes	Yes
MRP	Yes	Yes	Yes
PROFIsafe	No	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor	Yes; 2x SIL 2 (two-channel) or 4x SIL 3 (single channel) emergency stop sensor
PROFIBUS	No	No	No
Test commissioning functions			
Illuminant test	Yes; During switch on	Yes; During switch on	Yes; During switch on
Key and signal lamp test	Yes; Automatically when switching on	Yes; Automatically when switching on	Yes; Automatically when switching on
Degree and class of protection			
IP (at the front)	IP65	IP65	IP65
Enclosure Type 4 at the front	No	No	No
Enclosure Type 4x at the front	Yes; Incl. NEMA12	Yes; Incl. NEMA12	Yes; Incl. NEMA12
IP (rear)	IP20	IP20	IP20
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
Suitable for safety functions	Yes	Yes	Yes
Marine approval			
• Germanischer Lloyd (GL)	No	No	No
• American Bureau of Shipping (ABS)	No	No	No
• Bureau Veritas (BV)	No	No	No
• Det Norske Veritas (DNV)	No	No	No
• Lloyds Register of Shipping (LRS)	No	No	No
• Nippon Kaiji Kyokai (Class NK)	No	No	No
• Polski Rejestr Statkow (PRS)	No	No	No
Use in hazardous areas			
• ATEX Zone 2	Yes	Yes	No
• ATEX Zone 22	Yes	Yes	No
• cULus Class I Zone 1	No	No	No
• cULus Class I Zone 2, Division 2	Yes	Yes	No
• FM Class I Division 2	Yes	Yes	No

2

Technical specifications (continued)

Article number	**6AV3688-3AY36-0AX0** SIMATIC HMI KP8 PN	**6AV3688-3AF37-0AX0** SIMATIC HMI KP8F PN	**6AV3688-3EH47-0AX0** SIMATIC HMI KP32F PN
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C
Relative humidity			
• Operation, max.	95 %; no condensation	95 %; no condensation	95 %; no condensation
Configuration			
Configuration software			
• STEP 7 Basic (TIA Portal)	Yes	Yes	Yes
• STEP 7 Professional (TIA Portal)	Yes	Yes	Yes
Functionality under WinCC (TIA Portal)			
Process coupling			
• S7-1200	Yes; with ET 200pro CPU and ET 200S CPU	Yes; with ET 200pro CPU and ET 200S CPU	Yes; with ET 200pro CPU and ET 200S CPU
• S7-1500	Yes	Yes	Yes
• S7-200	No	No	No
• S7-300/400	Yes; with F-CPU: STEP 7 V11 SP1 (or higher) and Safety V11 (or higher) or SIMATIC STEP 7 Basic V11 (or higher)	Yes; with F-CPU: STEP 7 V11 SP1 (or higher) and Safety V11 (or higher) or SIMATIC STEP 7 Basic V11 (or higher)	Yes; with F-CPU: STEP 7 V11 SP1 or higher and Safety V11 (or higher), without F-CPU STEP 7 or SIMATIC STEP 7 Basic V11 (or higher)
• LOGO!	No	No	No
• WinAC	Yes	Yes	Yes
• SIMOTION	No	No	No
• Allen Bradley (EtherNet/IP)	No	No	No
• Allen Bradley (DF1)	No	No	No
• Mitsubishi (MC TCP/IP)	No	No	No
• Mitsubishi (FX)	No	No	No
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	No	No	No
• Modicon (Modbus TCP/IP)	No	No	No
• Modicon (Modbus)	No	No	No
Mechanics/material			
Enclosure material (front)			
• Plastic	Yes	Yes	No
• Aluminum	No	No	Yes
Service life			
• Short-stroke keys (in switching cycles)	1 500 000	1 500 000	1 500 000
• LEDs (ON period)	100 %	100 %	100 %
Dimensions			
Width of the housing front	98 mm	98 mm	295 mm
Height of housing front	155 mm	155 mm	155 mm
Mounting cutout, width	68 mm; Max. thickness of mounting plate 2 - 6 mm	68 mm; Max. thickness of mounting plate 2 - 6 mm	277 mm; Max. thickness of mounting plate 2 - 6 mm
Mounting cutout, height	129 mm	129 mm	137 mm
Overall depth	49 mm; Incl. angled SIMATIC Ethernet connector	49 mm; Incl. angled SIMATIC Ethernet connector	69 mm; Incl. angled SIMATIC Ethernet connector
Weights			
Weight without packaging	280 g	280 g	1 220 g

Technical specifications (continued)

Article number	6AV3688-3XY38-3AX0 KP8 DESIGN BLANK FRONT
General information	
Product type designation	SIMATIC HMI design blank front
Operator controls	
With parameterizable keys	No
Keyboard fonts	
• Function keys	
- Number of function keys	0
Installation type/mounting	
Mounting type	Clamp terminals
Mounting position	Any
Rack mounting	No
Front mounting	Yes; Compatible with Extension Units dimensions
Rail mounting	No
Wall mounting/direct mounting	No
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
maximum permissible angle of inclination without external ventilation	180°; To the front/rear
Number of slots for command devices and signaling units	5; Max. 5 possible
Supply voltage	
Type of supply voltage	external
Type of output	
LED colors	
• red	No
• yellow	No
• green	No
• white	No
• blue	No
Interfaces	
Number of USB interfaces	0
Test commissioning functions	
Key and signal lamp test	No
EMC	
Emission of radio interference acc. to EN 55 011	
• Limit class A, for use in industrial areas	No
• Limit class B, for use in residential areas	No
Degree and class of protection	
IP (at the front)	IP65
Enclosure Type 4 at the front	No
Enclosure Type 4x at the front	No
IP (rear)	IP20

Article number	6AV3688-3XY38-3AX0 KP8 DESIGN BLANK FRONT
Standards, approvals, certificates	
CE mark	Yes
cULus	No
RCM (formerly C-TICK)	No
KC approval	No
Suitable for safety functions	Yes; e.g. installation of emergency stop
Marine approval	
• Germanischer Lloyd (GL)	No
• American Bureau of Shipping (ABS)	No
• Bureau Veritas (BV)	No
• Det Norske Veritas (DNV)	No
• Lloyds Register of Shipping (LRS)	No
• Nippon Kaiji Kyokai (Class NK)	No
• Polski Rejestr Statkow (PRS)	No
Use in hazardous areas	
• ATEX Zone 2	No
• ATEX Zone 22	No
• cULus Class I Zone 1	No
• cULus Class I Zone 2, Division 2	No
• FM Class I Division 2	No
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	55 °C
• Operation (vertical installation)	
- For vertical installation, min.	0 °C
- For vertical installation, max.	55 °C
• Operation (max. tilt angle)	
- At maximum tilt angle, min.	0 °C
- At maximum tilt angle, min.	45 °C
• Operation (vertical installation, portrait format)	
- For vertical installation, min.	0 °C
- For vertical installation, max.	45 °C
• Operation (max. tilt angle, portrait format)	
- At maximum tilt angle, min.	0 °C
- At maximum tilt angle, min.	45 °C
Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	60 °C
Relative humidity	
• Operation, max.	95 %
Mechanics/material	
Enclosure material (front)	
• Plastic	No
• Aluminum	Yes
• Stainless steel	No
Dimensions	
Width of the housing front	98 mm
Height of housing front	155 mm
Mounting cutout, width	68 mm; Max. thickness of mounting plate 2 - 6 mm
Mounting cutout, height	129 mm
Overall depth	49 mm
Weights	
Weight without packaging	240 g

SIMATIC HMI KP8/KP8F/KP32F

2

Ordering data

Ordering data	Article No.
SIMATIC HMI KP8 PN Key Panel, 8 short-stroke keys with multicolored LEDs, PROFINET interfaces, 2 x parameterizable with STEP 7 V5.5 or higher	**6AV3688-3AY36-0AX0**
SIMATIC HMI KP8F PN Key Panel, 8 short-stroke keys with multicolored LEDs, PROFINET interfaces with PROFIsafe, parameterizable with STEP 7 V5.5 or higher; 4 additional fail-safe inputs. Can be used as 2 x SIL 2 or 1 x SIL 3	**6AV3688-3AF37-0AX0**
SIMATIC HMI KP32F PN Key Panel, 32 short-stroke keys with multicolored LEDs, PROFINET interfaces with PROFIsafe, parameterizable with STEP 7 V5.5 or higher; including 8 fail-safe inputs. Can be used as 4 x SIL 2 or 2 x SIL 3	**6AV3688-3EH47-0AX0**
Blank front design For standard 22.5 mm operator controls, same mounting dimensions as KP8	**6AV3688-3XY38-3AX0**
Demo case SIMATIC HMI Key Panel – low-cost demo and experiment case • Includes: - 1x case - 1x KP8 PN - 1x CPU 1211C - 1x stand, permanently wired, including program • Power supply possible with a standard laptop mains adapter (not included in scope of supply)	**A5E31477788** Only by fax to Siemens AG, Mr. Michael Christ Industry Sector, DF FA SE MF PU2 RS FDS DTS Würzburger Str. 121, 90766 Fürth, Germany Tel.: +49 911 750-4128 Fax: +49 911 750-2411
Documentation You can find the manual for the Key Panels on the Internet at:	http://support.automation.siemens.com/WW/view/en/56652789
Accessories	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

More information

More information is available on the Internet at:

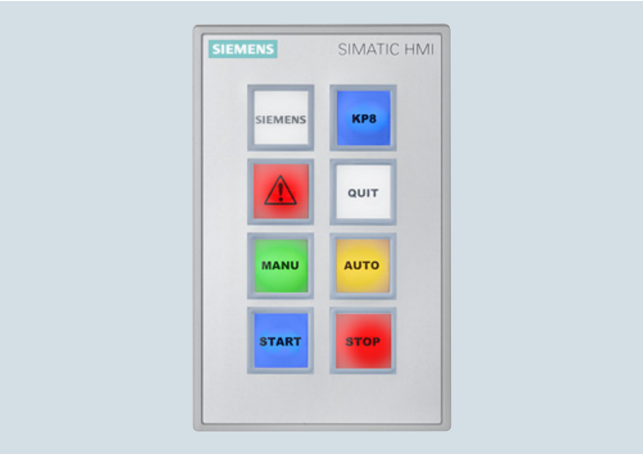
http://www.siemens.com/simatic-key-panels

For accessories, please refer to SIMATIC HMI accessories.

Note:

Do you need a specific modification or extension to the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

Overview



SIPLUS HMI KP8 PN

Blank front

SIPLUS HMI Key Panels

- Optimum operability thanks to large mechanical keys and multicolored LED backlighting (daylight readable)
- Over 60% time savings for wiring and installation (Plug&Play)
- More than 30% savings in material costs compared to conventional keypad operator panels
- 2 PROFINET ports (incl. switch) already integrated for setting up line and ring topologies
- Freely configurable digital I/Os on the rear for connecting key-operated switches, indicator lamps, etc.
- Connection of fail-safe emergency stop buttons or other fail-safe signals with KP8F and KP32F (in SIL 2 or SIL 3)
- Functionally compatible with all standard PROFINET master CPUs, also non-Siemens
- KP8 and blank front design, also optimized for installation in IPC Extension Units in IP65
- Maximum flexibility due to parameterization
- Blank front design for standardized assembly of flexible operator panels

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

Technical specifications

Article number	**6AG1688-3AY36-2AX0** SIPLUS HMI KP8 PN
Ambient conditions	
Ambient temperature during operation	
• min.	-40 °C; = Tmin; Startup @ -25 °C
• max.	60 °C; = Tmax
Extended ambient conditions	
• relative to ambient temperature-atmospheric pressure-installation altitude	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)
Relative humidity	
- With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
- against biologically active substances / conformity with EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- against chemically active substances / conformity with EN 60721-3-3	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!
- against mechanically active substances / conformity with EN 60721-3-3	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!

Ordering data

	Article No.
SIPLUS HMI KP8 PN	
(exposure to media)	
Key Panel, 8 short-stroke keys with multicolored LEDs, PROFINET interfaces, 2 x parameterizable with STEP 7 V5.5 or higher	**6AG1688-3AY36-2AX0**
Blank front design	
(exposure to media)	
For standard 22.5 mm operator controls, same mounting dimensions as KP8	**6AG1688-3XY38-2AX0**
Documentation	
You can find the manual for the Key Panels on the Internet at:	http://support.automation.siemens.com/WW/view/en/56652789
Accessories	See SIMATIC HMI accessories

Overview

Basic Panels (2nd Generation)

SIMATIC HMI Basic Panels (2nd Generation) with their fully developed HMI basic functions are the ideal entry-level series for simple HMI applications.

The device family offers panels with 4", 7", 9" and 12" displays, as well as combined key and touch operation.

The innovative high-resolution widescreen displays with 64 000 colors are also suitable for upright installation, and they can be dimmed down to 100%. The innovative operator interface with improved usability opens up a diverse range of options thanks to new controls and graphics. The new USB interface enables the connection of keyboard, mouse or barcode scanner, and supports the simple archiving of data on a USB flash drive as well as the manual backup and restoring of the complete panel.

The integrated Ethernet or RS 485/422 interface (version-specific) enables simple connection to the controller.

Technical specifications

Article number	**6AV2123-2DB03-0AX0** SIMATIC HMI KTP400 BASIC	**6AV2123-2GB03-0AX0** SIMATIC HMI KTP700 BASIC	**6AV2123-2GA03-0AX0** SIMATIC HMI KTP700 BASIC DP
General information			
Product type designation	SIMATIC HMI KTP400 Basic	SIMATIC HMI KTP700 Basic	SIMATIC HMI KTP700 Basic
Display			
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	4.3 in	7 in	7 in
Number of colors	65 536	65 536	65 536
Resolution (pixels)			
• Horizontal image resolution	480 Pixel	800 Pixel	800 Pixel
• Vertical image resolution	272 Pixel	480 Pixel	480 Pixel
Backlighting			
• MTBF backlighting (at 25 °C)	20 000 h	20 000 h	20 000 h
• Backlight dimmable	Yes	Yes	Yes
Operator controls			
Keyboard fonts			
• Function keys			
- Number of function keys	4	8	8
- Number of function keys with LEDs	0		
Touch operation			
• Design as touch screen	Yes	Yes	Yes
Installation type/mounting			
Mounting in portrait format possible	Yes	Yes	Yes
Supply voltage			
Type of supply voltage	DC	DC	24 V DC
Rated value (DC)	24 V	24 V	24 V
Memory			
Memory available for user data	10 Mbyte	10 Mbyte	10 Mbyte

Technical specifications (continued)

Article number	6AV2123-2DB03-0AX0 SIMATIC HMI KTP400 BASIC	6AV2123-2GB03-0AX0 SIMATIC HMI KTP700 BASIC	6AV2123-2GA03-0AX0 SIMATIC HMI KTP700 BASIC DP
Type of output			
Acoustics			
• Buzzer	Yes	Yes	Yes
Time of day			
Clock			
• Software clock	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes
Interfaces			
Number of industrial Ethernet interfaces	1	1	0
Number of RS 485 interfaces	0	0	1
Number of USB interfaces	1; Up to 16 GB	1; Up to 16 GB	1; Up to 16 GB
Number of SD card slots	0	0	0
Protocols			
PROFINET	Yes	Yes	No
IRT	No	No	No
MRP	No	No	No
PROFIBUS	No	No	Yes
MPI	No	No	Yes
Degree and class of protection			
IP (at the front)	65	65	65
Enclosure Type 4x at the front	Yes	Yes	Yes
IP (rear)	20	20	20
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
Marine approval			
• Germanischer Lloyd (GL)	Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes
• Polski Rejestr Statkow (PRS)	No	No	No
• Chinese Classification Society (CCS)	No	No	No
Use in hazardous areas			
• ATEX Zone 2	No	No	No
• ATEX Zone 22	No	No	No
• IECEx Zone 2	No	No	No
• IECEx Zone 22	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No
• FM Class I Division 2	No	No	No

Technical specifications (continued)

Article number	6AV2123-2DB03-0AX0 SIMATIC HMI KTP400 BASIC	6AV2123-2GB03-0AX0 SIMATIC HMI KTP700 BASIC	6AV2123-2GA03-0AX0 SIMATIC HMI KTP700 BASIC DP
Ambient conditions			
Suited for indoor use	Yes		Yes
Suited for outdoor use	No		No
Ambient temperature during operation			
• Operation (vertical installation)			
- For vertical installation, min.	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	50 °C
Relative humidity			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
Configuration			
Configuration software			
• STEP 7 Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)
• WinCC flexible Compact	No	No	No
• WinCC Basic (TIA Portal)	Yes	Yes	Yes
Languages			
Online languages			
• Number of online/runtime languages	10	10	10
Functionality under WinCC (TIA Portal)			
Applications/options			
• Web browser	Yes	Yes	No
• SIMATIC WinCC Sm@rtServer	Yes; Available with WinCC (TIA Portal) V14 or higher	Yes; Available with WinCC (TIA Portal) V14 or higher	No
Number of Visual Basic Scripts	No	No	No
Task planner	Yes	Yes	Yes
• time-controlled	No	No	No
• task-controlled	Yes	Yes	Yes
Message system			
• Bit messages			
- Number of bit messages	1 000	1 000	1 000
• Analog messages			
- Number of analog messages	25	25	25
• Message buffer			
- Number of entries	256	256	256
- Circulating buffer	Yes	Yes	Yes
- retentive	Yes	Yes	Yes
Recipe management			
• Number of recipes	50	50	50
• Size of internal recipe memory	256 kbyte	256 kbyte	256 kbyte
• Recipe memory expandable	No	No	No
Variables			
• Number of variables per device	800	800	800
• Number of variables per screen	100	100	100
Images			
• Number of configurable images	250	250	250
Archiving			
• Number of archives per device	2; One message and one process value archive	2; One message and one process value archive	2; One message and one process value archive
• Number of entries per archive	10 000	10 000	10 000
• Message archive	Yes	Yes	Yes
• Process value archive	Yes	Yes	Yes
• Archiving methods			
- Sequential archive	Yes	Yes	Yes
- Short-term archive	Yes	Yes	Yes

Technical specifications (continued)

Article number	6AV2123-2DB03-0AX0 SIMATIC HMI KTP400 BASIC	6AV2123-2GB03-0AX0 SIMATIC HMI KTP700 BASIC	6AV2123-2GA03-0AX0 SIMATIC HMI KTP700 BASIC DP
• Memory location			
- Memory card	No	No	No
- USB memory	Yes	Yes	Yes
- Ethernet	No	No	No
• Data storage format			
- CSV	No	No	No
- TXT	Yes	Yes	Yes
- RDB	No	No	No
Security			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	No	No	No
Transfer (upload/download)			
• MPI/PROFIBUS DP	No	No	Yes
• Ethernet	Yes	Yes	No
Process coupling			
• S7-1200	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	No
• Allen Bradley (DF1)	No	No	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	No
• Mitsubishi (FX)	No	No	Yes
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	No	No	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	No
• Modicon (Modbus)	No	No	Yes
Peripherals/Options			
Peripherals			
• Printer	No	No	No
• SIMATIC HMI MM memory card: Multi Media Card	No	No	No
• SIMATIC HMI SD memory card: Secure Digital memory card	No	No	No
• USB memory	Yes	Yes	Yes
Mechanics/material			
Enclosure material (front)			
• Plastic	Yes	Yes	Yes
• Aluminum	No	No	No
• Stainless steel	No	No	No
Dimensions			
Width of the housing front	141 mm	214 mm	214 mm
Height of housing front	116 mm	158 mm	158 mm
Mounting cutout, width	123 mm	197 mm	197 mm
Mounting cutout, height	99 mm	141 mm	141 mm
Overall depth	33 mm	39 mm	39 mm
Weights			
Weight without packaging	360 g	780 g	800 g

Technical specifications (continued)

Article number	6AV2123-2JB03-0AX0 SIMATIC HMI KTP900 BASIC	6AV2123-2MB03-0AX0 SIMATIC HMI KTP1200 BASIC	6AV2123-2MA03-0AX0 SIMATIC HMI KTP1200 BASIC DP
General information			
Product type designation	SIMATIC HMI KTP900 Basic	SIMATIC HMI KTP1200 Basic	SIMATIC HMI KTP1200 Basic
Display			
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	9 in	12 in	12 in
Number of colors	65 536	65 536	65 536
Resolution (pixels)			
• Horizontal image resolution	800 Pixel	1 280 Pixel	1 280 Pixel
• Vertical image resolution	480 Pixel	800 Pixel	800 Pixel
Backlighting			
• MTBF backlighting (at 25 °C)	20 000 h	20 000 h	20 000 h
• Backlight dimmable	Yes	Yes	Yes
Operator controls			
Keyboard fonts			
• Function keys			
- Number of function keys	8	10	10
Touch operation			
• Design as touch screen	Yes	Yes	Yes
Installation type/mounting			
Mounting in portrait format possible	Yes	Yes	Yes
Supply voltage			
Type of supply voltage	DC	24 V DC	24 V DC
Rated value (DC)	24 V	24 V	24 V
Memory			
Memory available for user data	10 Mbyte	10 Mbyte	10 Mbyte
Type of output			
Acoustics			
• Buzzer	Yes	Yes	Yes
Time of day			
Clock			
• Software clock	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes
Interfaces			
Number of industrial Ethernet interfaces	1	1	0
Number of RS 485 interfaces	0	0	1
Number of USB interfaces	1; Up to 16 GB	1; Up to 16 GB	1; Up to 16 GB
Number of SD card slots	0	0	0
Protocols			
PROFINET	Yes	Yes	No
IRT	No	No	No
MRP	No	No	No
PROFIBUS	No	No	Yes
MPI	No	No	Yes
Degree and class of protection			
IP (at the front)	65	65	65
Enclosure Type 4x at the front	Yes	Yes	Yes
IP (rear)	20	20	20
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes

2

Technical specifications (continued)

Article number	**6AV2123-2JB03-0AX0** SIMATIC HMI KTP900 BASIC	**6AV2123-2MB03-0AX0** SIMATIC HMI KTP1200 BASIC	**6AV2123-2MA03-0AX0** SIMATIC HMI KTP1200 BASIC DP
Marine approval			
• Germanischer Lloyd (GL)	Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes
• Polski Rejestr Statkow (PRS)	No	No	No
• Chinese Classification Society (CCS)	No	No	No
Use in hazardous areas			
• ATEX Zone 2	No	No	No
• ATEX Zone 22	No	No	No
• IECEx Zone 2	No	No	No
• IECEx Zone 22	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No
• FM Class I Division 2	No	No	No
Ambient conditions			
Suited for indoor use			Yes
Suited for outdoor use			No
Ambient temperature during operation			
• Operation (vertical installation)			
- For vertical installation, min.	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C	50 °C
Relative humidity			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
Configuration			
Configuration software			
• STEP 7 Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)
• WinCC flexible Compact	No	No	No
• WinCC Basic (TIA Portal)	Yes	Yes	Yes
Languages			
Online languages			
• Number of online/runtime languages	10	10	10
Functionality under WinCC (TIA Portal)			
Applications/options			
• Web browser	Yes	Yes	No
• SIMATIC WinCC Sm@rtServer	Yes; Available with WinCC (TIA Portal) V14 or higher	Yes; Available with WinCC (TIA Portal) V14 or higher	No
Number of Visual Basic Scripts	No	No	No
Task planner	Yes	Yes	Yes
• time-controlled	No	No	No
• task-controlled	Yes	Yes	Yes
Message system			
• Bit messages			
- Number of bit messages	1 000	1 000	1 000
• Analog messages			
- Number of analog messages	25	25	25
• Message buffer			
- Number of entries	256	256	256
- Circulating buffer	Yes	Yes	Yes
- retentive	Yes	Yes	Yes
Recipe management			
• Number of recipes	50	50	50
• Size of internal recipe memory	256 kbyte	256 kbyte	256 kbyte
• Recipe memory expandable	No	No	No

Technical specifications (continued)

Article number	6AV2123-2JB03-0AX0 SIMATIC HMI KTP900 BASIC	6AV2123-2MB03-0AX0 SIMATIC HMI KTP1200 BASIC	6AV2123-2MA03-0AX0 SIMATIC HMI KTP1200 BASIC DP
Variables			
• Number of variables per device	800	800	800
• Number of variables per screen	100	100	100
Images			
• Number of configurable images	250	250	250
Archiving			
• Number of archives per device	2; One message and one process value archive	2; One message and one process value archive	2; One message and one process value archive
• Number of entries per archive	10 000	10 000	10 000
• Message archive	Yes	Yes	Yes
• Process value archive	Yes	Yes	Yes
• Archiving methods			
- Sequential archive	Yes	Yes	Yes
- Short-term archive	Yes	Yes	Yes
• Memory location			
- Memory card	No	No	No
- USB memory	Yes	Yes	Yes
- Ethernet	No	No	No
• Data storage format			
- CSV	No	No	No
- TXT	Yes	Yes	Yes
- RDB	No	No	No
Security			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	No	No	No
Transfer (upload/download)			
• MPI/PROFIBUS DP	No	No	Yes
• Ethernet	Yes	Yes	No
Process coupling			
• S7-1200	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	No
• Allen Bradley (DF1)	No	No	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	No
• Mitsubishi (FX)	No	No	Yes
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	No	No	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	No
• Modicon (Modbus)	No	No	Yes
Peripherals/Options			
Peripherals			
• Printer	No	No	No
• SIMATIC HMI MM memory card: Multi Media Card	No	No	No
• SIMATIC HMI SD memory card: Secure Digital memory card	No	No	No
• USB memory	Yes	Yes	Yes
Mechanics/material			
Enclosure material (front)			
• Plastic	Yes	Yes	Yes
• Aluminum	No	No	No
• Stainless steel	No	No	No

2

Technical specifications (continued)

Article number	6AV2123-2JB03-0AX0 SIMATIC HMI KTP900 BASIC	6AV2123-2MB03-0AX0 SIMATIC HMI KTP1200 BASIC	6AV2123-2MA03-0AX0 SIMATIC HMI KTP1200 BASIC DP
Dimensions			
Width of the housing front	267 mm	330 mm	330 mm
Height of housing front	182 mm	245 mm	245 mm
Mounting cutout, width	251 mm	310 mm	310 mm
Mounting cutout, height	166 mm	221 mm	221 mm
Overall depth	55 mm	60 mm	60 mm
Weights			
Weight without packaging	1 130 g	1 710 g	1 710 g

Ordering data

	Article No.
SIMATIC HMI Basic Panels (2nd Generation)	
Key and Touch devices	
SIMATIC HMI KTP400 Basic Key/touch-screen operation; 4" TFT widescreen display, 65 536 colors, PROFINET interface	6AV2123-2DB03-0AX0
SIMATIC HMI KTP700 Basic Key/touch-screen operation; 7" TFT widescreen display, 65 536 colors, PROFINET interface	6AV2123-2GB03-0AX0
SIMATIC HMI KTP700 Basic DP Key/touch-screen operation; 7" TFT widescreen display, 65 536 colors, PROFIBUS interface	6AV2123-2GA03-0AX0
SIMATIC HMI KTP900 Basic Key/touch-screen operation; 9" TFT widescreen display, 65 536 colors, PROFINET interface	6AV2123-2JB03-0AX0
SIMATIC HMI KTP1200 Basic Key/touch-screen operation; 12" TFT widescreen display, 65 536 colors, PROFINET interface	6AV2123-2MB03-0AX0
SIMATIC HMI KTP1200 Basic DP Key/touch-screen operation; 12" TFT widescreen display, 65 536 colors, PROFIBUS interface	6AV2123-2MA03-0AX0

	Article No.
Starter kits	
Starter kits with an S7-1200 consist of: • The respective SIMATIC HMI Basic Panel SIMATIC HMI KP300 Basic mono PN SIMATIC HMI KTP400 Basic SIMATIC HMI KTP700 Basic • SIMATIC S7-1200 CPU 1212C AC/DC/Rly • SIMATIC S7-1200 Simulator Module SIM 12 • SIMATIC STEP 7 BASIC CD • SIMATIC S7-1200 HMI Manual Collection CD • Ethernet CAT5 cable, 2 m	
Starter kit SIMATIC S7-1200 + KP300 Basic mono PN	6AV6651-7HA01-3AA4
Starter Kit SIMATIC S7-1200 + KTP400 Basic	6AV6651-7KA01-3AA4
Starter Kit SIMATIC S7-1200 + KTP700 Basic	6AV6651-7DA01-3AA4
Starter kits with a LOGO! consist of: • The respective SIMATIC HMI Basic Panel SIMATIC HMI KP300 Basic mono PN SIMATIC HMI KTP400 Basic SIMATIC HMI KTP700 Basic • LOGO! 12/24 RCE • LOGO! POWER 24 V 1.3 A • LOGO! SOFT COMFORT V7 • WINCC BASIC (TIA Portal) • Ethernet CAT5 cable, 2 m	
Starter kit LOGO! + KP300 Basic mono PN	6AV2132-0HA00-0AA1
Starter kit LOGO! + KTP400 Basic	6AV2132-0KA00-0AA1
Starter kit LOGO! + KTP700 Basic	6AV2132-3GB00-0AA1
Documentation	
You can find the manual for the Basic Panels on the Internet at:	http://support.automation.siemens.com
Accessories	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

More information

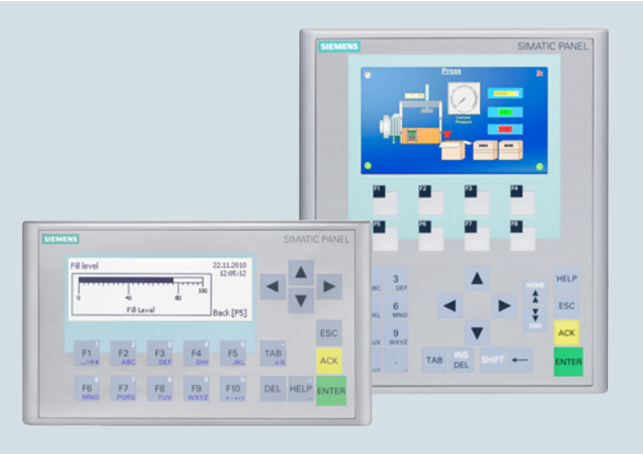
More information is available on the Internet at:

http://www.siemens.com/simatic-basic-panels

Note:

Do you need a specific modification or extension to the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

Overview



Basic Panels (1st Generation)

- Ideal entry-level series from 3" to 15" for operating and monitoring compact machines and systems
- Clear process representation thanks to use of pixel-graphics displays
- Intuitive operation using touch and tactile function keys
- Equipped with all the necessary basic functions such as alarm logging, recipe management, plots, vector graphics, and language switching
- Simple connection to the controller via integral Ethernet interface or separate version with RS 485/422
- Faster commissioning thanks to integrated diagnostics viewer and IP setting for SIMATIC S7-1200 and S7-1500 PLCs

More information is available on the Internet at:

http://www.siemens.com/simatic-basic-panels

Technical specifications

Article number	**6AV6647-0AH11-3AX0** SIMATIC HMI KP300 BASIC MONO PN	**6AV6647-0AJ11-3AX0** SIMATIC HMI KP400 BASIC COLOR PN
General information		
Product type designation	SIMATIC HMI KP300 Basic mono PN	SIMATIC HMI KP400 Basic color PN
Display		
Design of display	FSTN	TFT
Screen diagonal	3.6 in	4.3 in
Number of colors	4; Backlit display only (white, red, green, yellow)	256
Resolution (pixels)		
• Horizontal image resolution	240 Pixel	480 Pixel
• Vertical image resolution	80 Pixel	272 Pixel
Backlighting		
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h
• Backlight dimmable	No	No
Operator controls		
Keyboard fonts		
• Function keys		
- Number of function keys	10	8
Touch operation		
• Design as touch screen	No	No
Installation type/mounting		
Mounting in portrait format possible	No	No
Supply voltage		
Type of supply voltage	DC	DC
Rated value (DC)	24 V	24 V
Memory		
Memory available for user data	1 Mbyte	1 Mbyte
Type of output		
Acoustics		
• Buzzer	No	No
Time of day		
Clock		
• Software clock	Yes	Yes
• retentive	No	No
• synchronizable	Yes	Yes

Article number	**6AV6647-0AH11-3AX0** SIMATIC HMI KP300 BASIC MONO PN	**6AV6647-0AJ11-3AX0** SIMATIC HMI KP400 BASIC COLOR PN
Interfaces		
Number of industrial Ethernet interfaces	1	1
Number of RS 485 interfaces	0	0
Number of USB interfaces	0	0
Number of SD card slots	0	0
Protocols		
PROFINET	Yes	Yes
IRT	No	No
PROFIBUS	No	No
MPI	No	No
Degree and class of protection		
IP (at the front)	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes
IP (rear)	IP20	IP20
Standards, approvals, certificates		
CE mark	Yes	Yes
cULus	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
Marine approval		
• Germanischer Lloyd (GL)	Yes	No
• American Bureau of Shipping (ABS)	Yes	No
• Bureau Veritas (BV)	Yes	No
• Det Norske Veritas (DNV)	Yes	No
• Lloyds Register of Shipping (LRS)	Yes	No
• Nippon Kaiji Kyokai (Class NK)	Yes	No
• Polski Rejestr Statkow (PRS)	No	No
Use in hazardous areas		
• ATEX Zone 2	No	No
• ATEX Zone 22	No	No
• cULus Class I Zone 2, Division 2	Yes	No
• FM Class I Division 2	No	No

Technical specifications (continued)

Article number	6AV6647-0AH11-3AX0 SIMATIC HMI KP300 BASIC MONO PN	6AV6647-0AJ11-3AX0 SIMATIC HMI KP400 BASIC COLOR PN
Ambient conditions		
Ambient temperature during operation		
• Operation (vertical installation)		
- For vertical installation, min.	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C
Relative humidity		
• Operation, max.	90 %; no condensation	90 %; no condensation
Configuration		
Configuration software		
• STEP 7 Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)	Yes; via integrated WinCC Basic (TIA Portal)
• WinCC flexible Compact	No	No
• WinCC Basic (TIA Portal)	Yes	Yes
Languages		
Online languages		
• Number of online/runtime languages	5	5
Functionality under WinCC (TIA Portal)		
Task planner		
• time-controlled	No	No
• task-controlled	Yes	Yes
Message system		
• Bit messages		
- Number of bit messages	200	200
• Analog messages		
- Number of analog messages	15	15
• Message buffer		
- Number of entries	256	256
- Circulating buffer	Yes	Yes
- retentive	Yes	Yes
Recipe management		
• Number of recipes	5	5
• Size of internal recipe memory	40 kbyte	40 kbyte
• Recipe memory expandable	No	No
Variables		
• Number of variables per device	250	500
• Number of variables per screen	30	30

Article number	6AV6647-0AH11-3AX0 SIMATIC HMI KP300 BASIC MONO PN	6AV6647-0AJ11-3AX0 SIMATIC HMI KP400 BASIC COLOR PN
Images		
• Number of configurable images	50	50
Archiving		
• Number of archives per device	0	0
Security		
• Number of user groups	50	50
• Number of users	50	50
• SIMATIC Logon	No	No
Transfer (upload/download)		
• MPI/PROFIBUS DP	No	No
• Ethernet	Yes	Yes
Process coupling		
• S7-1200	Yes	Yes
• S7-1500	Yes	Yes
• S7-200	Yes	Yes
• S7-300/400	Yes	Yes
• LOGO!	Yes	Yes
• WinAC	Yes	No
• SIMOTION	No	No
• Allen Bradley (EtherNet/IP)	Yes	Yes
• Allen Bradley (DF1)	No	No
• Mitsubishi (MC TCP/IP)	Yes	Yes
• Mitsubishi (FX)	No	No
• OMRON (FINS TCP)	No	No
• OMRON (LINK/Multilink)	No	No
• Modicon (Modbus TCP/IP)	Yes	Yes
• Modicon (Modbus)	No	No
Peripherals/Options		
Peripherals		
• Printer	No	No
• SIMATIC HMI MM memory card: Multi Media Card	No	No
• SIMATIC HMI SD memory card: Secure Digital memory card	No	No
• USB memory	No	No
Mechanics/material		
Enclosure material (front)		
• Plastic	Yes	Yes
• Aluminum	No	No
• Stainless steel	No	No
Dimensions		
Width of the housing front	165 mm	162 mm
Height of housing front	97 mm	189 mm
Mounting cutout, width	149 mm	135 mm
Mounting cutout, height	82 mm	171 mm
Overall depth	30 mm	33 mm
Weights		
Weight without packaging	0.25 kg	0.51 kg

Ordering data

	Article No.
SIMATIC HMI Basic Panels (1st Generation)	
KP300 Basic mono PN Key operation; 3" FSTN LCD display, black and white, PROFINET interface	**6AV6647-0AH11-3AX0**
KP400 Basic color PN Key operation; 4" widescreen TFT display, 256 colors, PROFINET interface	**6AV6647-0AJ11-3AX0**
Accessories	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

Overview

With their fully developed HMI basic functions, 2nd Generation SIPLUS Basic Panels are the ideal entry-level series for simple HMI applications.

The device family offers panels with 4", 7", 9" and 12" displays, as well as combined key and touch operation.

The innovative high-resolution widescreen displays with 64 000 colors are also suitable for upright installation, and they can be dimmed down to 100%. The innovative operator interface with improved usability opens up a diverse range of options thanks to new controls and graphics. The new USB interface enables the connection of keyboard, mouse or barcode scanner, and supports the simple archiving of data on a USB flash drive.

The integrated Ethernet or RS 485/422 interface (version-specific) enables simple connection to the controller.

Note

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

Technical documentation on SIPLUS can be found here:
http://www.siemens.com/siplus-extreme

Technical specifications

Article number	**6AG1123-2DB03-2AX0** SIPLUS HMI KTP400 BASIC	**6AG1123-2GB03-2AX0** SIPLUS HMI KTP700 BASIC	**6AG1123-2GA03-2AX0** SIPLUS HMI KTP700 BASIC DP
General information			
Product type designation	SIPLUS HMI KTP400 Basic	SIPLUS HMI KTP700 Basic	SIMATIC HMI KTP700 Basic
Ambient conditions			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No	No	No
Ambient temperature during operation			
• Operation (vertical installation)			
- For vertical installation, min.	-20 °C	-20 °C	-20 °C; = Tmin
- For vertical installation, max.	50 °C	50 °C	50 °C
Extended ambient conditions			
• relative to ambient temperature-atmospheric pressure-installation altitude	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)
Relative humidity			
- With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation/frost (no commissioning when condensation present), vertical mounting position
Resistance			
- against biologically active substances / conformity with EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request		
- against chemically active substances / conformity with EN 60721-3-3	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!		
- against mechanically active substances / conformity with EN 60721-3-3	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!		

Technical specifications (continued)

Article number	**6AG1123-2JB03-2AX0** SIPLUS HMI KTP900 BASIC	**6AG1123-2MB03-2AX0** SIPLUS HMI KTP1200 BASIC	**6AG1123-2MA03-2AX0** SIPLUS HMI KTP1200 BASIC DP
General information			
Product type designation	SIPLUS HMI KTP900 Basic	SIMATIC HMI KTP1200 Basic	SIMATIC HMI KTP1200 Basic
Ambient conditions			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No	No	No
Ambient temperature during operation			
• Operation (vertical installation)			
- For vertical installation, min.	-20 °C	-10 °C; = Tmin	-10 °C; = Tmin
- For vertical installation, max.	50 °C	50 °C	50 °C
Extended ambient conditions			
• relative to ambient temperature-atmospheric pressure-installation altitude	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)
Relative humidity			
- With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation	100 %; RH incl. condensation/frost (no commissioning when condensation present), vertical mounting position
Resistance			
- against biologically active substances / conformity with EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- against chemically active substances / conformity with EN 60721-3-3	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!
- against mechanically active substances / conformity with EN 60721-3-3	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!

Ordering data

	Article No.
SIPLUS HMI Basic Panels, Key and Touch	
SIPLUS HMI KTP400 Basic For areas with extreme exposure to media (conformal coating); ambient temperature -20 ... +50 °C	**6AG1123-2DB03-2AX0**
SIPLUS HMI KTP700 Basic For areas with extreme exposure to media (conformal coating); ambient temperature -20 ... +50 °C	**6AG1123-2GB03-2AX0**
SIPLUS HMI KTP700 Basic DP For areas with extreme exposure to media (conformal coating); ambient temperature -20 ... +50 °C	**6AG1123-2GA03-2AX0**
SIPLUS HMI KTP900 Basic For areas with extreme exposure to media (conformal coating); ambient temperature -20 ... +50 °C	**6AG1123-2JB03-2AX0**
SIPLUS HMI KTP1200 Basic For areas with extreme exposure to media (conformal coating); ambient temperature -10 ... +50 °C	**6AG1123-2MB03-2AX0**
SIPLUS HMI KTP1200 Basic DP For areas with extreme exposure to media (conformal coating); ambient temperature -10 ... +50 °C	**6AG1123-2MA03-2AX0**
Accessories	see SIMATIC Basic Panels 2nd Generation

More information

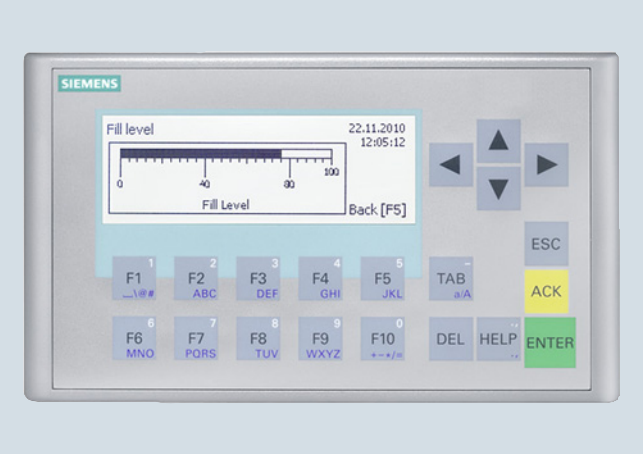
More information is available on the Internet at:

http://www.siemens.com/simatic-basic-panels

Note:

Do you need a specific modification or extension to the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

Overview



- Ideal entry-level series of 3.8" to 15" for operating and monitoring compact machines and systems
- Clear process representation through the use of full-graphic displays
- Intuitive operation via touch and tactile function keys
- Equipped with all the necessary basic functions such as reporting, recipe management, curve representation, vector graphics, and language selection
- Easy connection to the controller via integrated Ethernet interface or a separate version with RS 485/422

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

Technical documentation on SIPLUS can be found here:
http://www.siemens.com/siplus-extreme

Technical specifications

Article number	**6AG1647-0AH11-2AX0** SIPLUS HMI KP300 BASIC MONO PN 3.6"
General information	
Product type designation	SIMATIC HMI KP300 Basic mono PN
Ambient conditions	
Suited for indoor use	Yes
Suited for outdoor use	No
Ambient temperature during operation	
• Operation (vertical installation)	
- For vertical installation, min.	-25 °C
- For vertical installation, max.	60 °C
Extended ambient conditions	
• relative to ambient temperature-atmospheric pressure-installation altitude	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)
Relative humidity	
- With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
- against biologically active substances / conformity with EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
- against chemically active substances / conformity with EN 60721-3-3	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!
- against mechanically active substances / conformity with EN 60721-3-3	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!

Ordering data

	Article No.
SIPLUS HMI KP300 Basic mono PN For areas with extreme exposure to media (conformal coating); ambient temperature -25 ... +60 °C	**6AG1647-0AH11-2AX0**
Accessories	See SIMATIC Basic Panels

More information

More information is available on the Internet under:

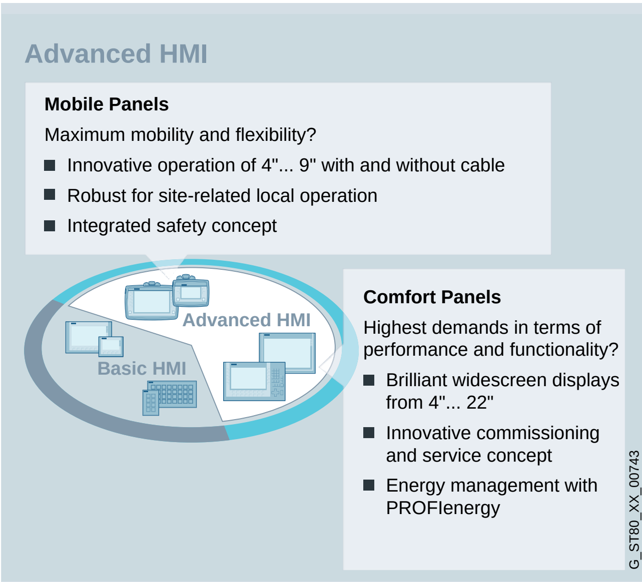
http://www.siemens.com/simatic-basic-panels

Note:

Do you require a specific modification to or supplement for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

Introduction

Overview



Advanced HMI, Panel-based

Realization of demanding, complex HMI tasks with a high level of user convenience

If you are looking for a panel-based solution for more demanding applications with larger quantity scales, make a decision for Advanced HMI.

The user benefits from excellent functionality and a wide range of devices and applications, with key or touch operation.

Both stationary and mobile solutions are available.

SIMATIC HMI Comfort Panels

SIMATIC HMI Comfort Panels are designed for implementing high-performance visualization tasks at machine-level. High performance, functionality and numerous integrated interfaces offer the greatest convenience in high-end applications.

The following modules are available:

- Comfort Panels
  - Standard devices
  - Versions with all-round IP65 protection (see note below)
  - Outdoor versions
  - Stainless steel versions

SIMATIC HMI Mobile Panels

Take power and safety directly in your hands. Choose Mobile Panels for high-end mobile applications, fail-safe machines and widely distributed plants. The process communication can be wired or via WLAN.

The following modules are available:

- Mobile Panels
  - Mobile Panels 2nd Generation
  - Mobile Panels x77 Series

Note on Comfort Panels PRO with all-round IP65 protection

Comfort Panels PRO with all-round IP65 protection are specially designed for the support arm/pedestal mounting and are based on the Comfort Panel built-in units.

Thanks to their extremely rugged design, the devices are ideal for industrial applications in harsh environments.

The following variants are available:

- TP1500 Comfort PRO
- TP1900 Comfort PRO
- TP2200 Comfort PRO
- Start of delivery scheduled for 08/2017

For more information, please go to:

http://siemens.com/simatic-hmi-pro

Overview

Comfort Panel family, KP, TP, KTP

SIMATIC HMI Comfort Panels Standard

- Excellent HMI functionality for demanding applications
- Widescreen TFT displays with 4", 7", 9", 12", 15", 19" and 22" diagonals (all 16 million colors) with up to 40% more visualization area as compared to the predecessor devices
- Integrated high-end functionality with archives, scripts, PDF/Word/Excel viewer, Internet Explorer, Media Player and Web Server
- Dimmable displays from 0 to 100% via PROFIenergy, via the HMI project or via a controller
- Modern industrial design, cast aluminum fronts for 7" upwards
- Upright installation for all touch devices
- Optimal selection option: seven touch and five key versions are available
- Data security in the event of a power failure for the device and for the SIMATIC HMI Memory Card
- Innovative service and commissioning concept
- Maximum performance with short screen refresh times
- Suitable for extremely harsh industrial environments thanks to extended approvals such as ATEX 2/22 and marine approvals
- All versions can be used as an OPC UA client or as an OPC DA server
- Key-operated devices with LED in every function key and new text input mechanism, similar to the keypads of mobile phones
- All keys have a service life of 2 million operations
- Configuring with the WinCC engineering software of the TIA Portal

Note:

A 7" and a 15" Comfort Outdoor version are available. These devices have been specially designed for outdoor applications in a difficult environment. Best display quality, even under sunlight, UV-resistant fronts and much more.

For further information, please go to:

http://www.siemens.com/hmi

2

Technical specifications

Article number	**6AV2124-2DC01-0AX0** SIMATIC HMI KTP400 COMFORT	**6AV2124-0GC01-0AX0** SIMATIC HMI TP700 COMFORT	**6AV2124-0JC01-0AX0** SIMATIC HMI TP900 COMFORT	**6AV2124-0MC01-0AX0** SIMATIC HMI TP1200 COMFORT
General information				
Product type designation	SIMATIC HMI KTP400 Comfort	SIMATIC HMI TP700 Comfort	SIMATIC HMI TP900 Comfort	SIMATIC HMI TP1200 Comfort
Display				
Design of display	TFT	TFT	TFT	TFT
Screen diagonal	4.3 in	7 in	9 in	12.1 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216
Resolution (pixels)				
• Horizontal image resolution	480 Pixel	800 Pixel	800 Pixel	1 280 Pixel
• Vertical image resolution	272 Pixel	480 Pixel	480 Pixel	800 Pixel
Backlighting				
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	80 000 h	80 000 h
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Operator controls				
Keyboard fonts				
• Function keys				
- Number of function keys	4	0	0	0
Touch operation				
• Design as touch screen	Yes	Yes	Yes	Yes
Installation type/mounting				
Mounting in portrait format possible	Yes	Yes	Yes	Yes
Supply voltage				
Type of supply voltage	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V
Memory				
Memory available for user data	4 Mbyte	12 Mbyte	12 Mbyte	12 Mbyte
Type of output				
Acoustics				
• Speaker	No	Yes	Yes	Yes
Time of day				
Clock				
• Hardware clock (real-time)	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes	Yes
Interfaces				
Number of industrial Ethernet interfaces	1	1; 2 ports (switch)	1; 2 ports (switch)	1; 2 ports (switch)
Number of RS 485 interfaces	1; RS 422/485 combined	1; RS 422/485 combined	1; RS 422/485 combined	1; RS 422/485 combined
Number of USB interfaces	1; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole	1; 5-pole	1; 5-pole	1; 5-pole
Number of SD card slots	2	2	2	2
Industrial Ethernet				
• Number of ports of the integrated switch	1; No switch integrated	2	2	2
Protocols				
PROFINET	Yes	Yes	Yes	Yes
IRT	No	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12
MRP	No	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12
PROFIBUS	Yes	Yes	Yes	Yes
MPI	Yes	Yes	Yes	Yes

Technical specifications (continued)

Article number	6AV2124-2DC01-0AX0 SIMATIC HMI KTP400 COMFORT	6AV2124-0GC01-0AX0 SIMATIC HMI TP700 COMFORT	6AV2124-0JC01-0AX0 SIMATIC HMI TP900 COMFORT	6AV2124-0MC01-0AX0 SIMATIC HMI TP1200 COMFORT
Degree and class of protection				
IP (at the front)	IP65	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes	Yes
IP (rear)	IP20	IP20	IP20	IP20
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
Marine approval				
• Germanischer Lloyd (GL)	Yes	Yes	Yes	Yes; As of product version: 10
• American Bureau of Shipping (ABS)	Yes	Yes	Yes	Yes; As of product version: 10
• Bureau Veritas (BV)	Yes	Yes	Yes	Yes; As of product version: 10
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes; As of product version: 10
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes	Yes; As of product version: 10
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes	Yes; As of product version: 10
• Polski Rejestr Statkow (PRS)	No	No	No	No
Use in hazardous areas				
• ATEX Zone 2	Yes	Yes	Yes	Yes
• ATEX Zone 22	Yes	Yes	Yes	Yes
• IECEx Zone 2	Yes	Yes	Yes	Yes
• IECEx Zone 22	Yes	Yes	Yes	Yes
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes	Yes
• FM Class I Division 2	Yes	Yes	Yes	Yes
Ambient conditions				
Ambient temperature during operation				
• Operation (vertical installation)				
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C; (55 °C, see entry ID:64847814)	50 °C; (55 °C, see entry ID:64847814)	50 °C; (55 °C, see entry ID:64847814)
Relative humidity				
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
Configuration				
Configuration software				
• WinCC Comfort (TIA Portal)	Yes; from V11	Yes; from V11	Yes; from V11	Yes; from V11
Languages				
Online languages				
• Number of online/runtime languages	32	32	32	32
Functionality under WinCC (TIA Portal)				
Applications/options				
• Web browser	Yes	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes	Yes
Task planner				
• time-controlled	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes

Technical specifications (continued)

Article number	**6AV2124-2DC01-0AX0** SIMATIC HMI KTP400 COMFORT	**6AV2124-0GC01-0AX0** SIMATIC HMI TP700 COMFORT	**6AV2124-0JC01-0AX0** SIMATIC HMI TP900 COMFORT	**6AV2124-0MC01-0AX0** SIMATIC HMI TP1200 COMFORT
Message system				
• Bit messages				
- Number of bit messages	2 000	4 000	4 000	4 000
• Analog messages				
- Number of analog messages	50	200	200	200
• Message buffer				
- Number of entries	256	1 024	1 024	1 024
- Circulating buffer	Yes	Yes	Yes	Yes
- retentive	Yes	Yes	Yes	Yes
Recipe management				
• Number of recipes	100	300	300	300
• Size of internal recipe memory	512 kbyte	2 Mbyte	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes	Yes	Yes
Variables				
• Number of variables per device	1 024	2 048	2 048	2 048
• Number of variables per screen	50	400	400	400
Images				
• Number of configurable images	500	500	500	500
Archiving				
• Number of archives per device	10	50	50	50
Security				
• Number of user groups	50	50	50	50
• Number of users	50	50	50	50
• SIMATIC Logon	Yes	Yes	Yes	Yes
Logging through printer				
• Alarms	Yes	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes	Yes
• Electronic print to file	Yes; pdf, html	Yes; pdf, html	Yes; pdf, html	Yes; pdf, html
Transfer (upload/download)				
• MPI/PROFIBUS DP	Yes	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes	Yes
Process coupling				
• S7-1200	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes	Yes

Technical specifications (continued)

Article number	**6AV2124-2DC01-0AX0** SIMATIC HMI KTP400 COMFORT	**6AV2124-0GC01-0AX0** SIMATIC HMI TP700 COMFORT	**6AV2124-0JC01-0AX0** SIMATIC HMI TP900 COMFORT	**6AV2124-0MC01-0AX0** SIMATIC HMI TP1200 COMFORT
Peripherals/Options				
Peripherals				
• Printer	Yes	Yes	Yes	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
• USB memory	Yes	Yes	Yes	Yes
• Network camera	Yes	Yes	Yes	Yes
Mechanics/material				
Enclosure material (front)				
• Plastic	Yes	No	No	No
• Aluminum	No	Yes	Yes	Yes
• Stainless steel	No	No	No	No
Dimensions				
Width of the housing front	140 mm	214 mm	274 mm	330 mm
Height of housing front	116 mm	158 mm	190 mm	241 mm
Mounting cutout, width	123 mm	197 mm	251 mm	310 mm
Mounting cutout, height	99 mm	141 mm	166 mm	221 mm
Overall depth	49 mm	63 mm	63 mm	65 mm
Weights				
Weight without packaging	0.6 kg	1.4 kg	1.9 kg	2.8 kg

Article number	**6AV2124-0QC02-0AX1** SIMATIC HMI TP1500 COMFORT	**6AV2124-0UC02-0AX1** SIMATIC HMI TP1900 COMFORT	**6AV2124-0XC02-0AX1** SIMATIC HMI TP2200 COMFORT
General information			
Product type designation	SIMATIC HMI TP1500 Comfort	SIMATIC HMI TP1900 Comfort	SIMATIC HMI TP2200 Comfort
Display			
Design of display	TFT	TFT	TFT
Screen diagonal	15.4 in	18.5 in	21.5 in
Number of colors	16 777 216	16 777 216	16 777 216
Resolution (pixels)			
• Horizontal image resolution	1 280 Pixel	1 366 Pixel	1 920 Pixel
• Vertical image resolution	800 Pixel	768 Pixel	1 080 Pixel
Backlighting			
• MTBF backlighting (at 25 °C)	80 000 h	50 000 h	30 000 h
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Operator controls			
Keyboard fonts			
• Function keys			
- Number of function keys	0	0	0
Touch operation			
• Design as touch screen	Yes	Yes	Yes
Installation type/mounting			
Mounting in portrait format possible	Yes	Yes	Yes
Supply voltage			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V
Memory			
Memory available for user data	24 Mbyte	24 Mbyte	24 Mbyte

Technical specifications (continued)

Article number	**6AV2124-0QC02-0AX1** SIMATIC HMI TP1500 COMFORT	**6AV2124-0UC02-0AX1** SIMATIC HMI TP1900 COMFORT	**6AV2124-0XC02-0AX1** SIMATIC HMI TP2200 COMFORT
Type of output			
Acoustics			
• Speaker	Yes	Yes	Yes
Time of day			
Clock			
• Hardware clock (real-time)	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes
Interfaces			
Number of industrial Ethernet interfaces	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port	2; 2 ports (switch) + independent port
Number of RS 485 interfaces	1; RS 422/485 combined	1; RS 422/485 combined	1; RS 422/485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0	2; USB 2.0
Number of SD card slots	2	2	2
Industrial Ethernet			
• Number of ports of the integrated switch	2	2	2
Protocols			
PROFINET	Yes	Yes	Yes
IRT	Yes; As of WinCC V14 SP1 HSP	Yes; As of WinCC V14 SP1 HSP	Yes; As of WinCC V14 SP1 HSP
MRP	Yes	Yes	Yes
PROFIBUS	Yes	Yes	Yes
MPI	Yes	Yes	Yes
Degree and class of protection			
IP (at the front)	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes
IP (rear)	IP20	IP20	IP20
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
Marine approval			
• Germanischer Lloyd (GL)	No	No	No
• American Bureau of Shipping (ABS)	No	No	No
• Bureau Veritas (BV)	No	No	No
• Det Norske Veritas (DNV)	No	No	No
• Lloyds Register of Shipping (LRS)	No	No	No
• Nippon Kaiji Kyokai (Class NK)	No	No	No
• Polski Rejestr Statkow (PRS)	No	No	No
Use in hazardous areas			
• ATEX Zone 2	No	No	No
• ATEX Zone 22	No	No	No
• IECEx Zone 2	No	No	No
• IECEx Zone 22	No	No	No
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes
• FM Class I Division 2	Yes	Yes	Yes
Ambient conditions			
Ambient temperature during operation			
• Operation (vertical installation)			
- For vertical installation, min.	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C; (55 °C, see entry ID:64847814)	45 °C	45 °C
Relative humidity			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation

Technical specifications (continued)

Article number	6AV2124-0QC02-0AX1 SIMATIC HMI TP1500 COMFORT	6AV2124-0UC02-0AX1 SIMATIC HMI TP1900 COMFORT	6AV2124-0XC02-0AX1 SIMATIC HMI TP2200 COMFORT
Configuration			
Configuration software			
• WinCC Comfort (TIA Portal)	Yes; V14 SP1 HSP or higher	Yes; V14 SP1 HSP or higher	Yes; V14 SP1 HSP or higher
Languages			
Online languages			
• Number of online/runtime languages	32	32	32
Functionality under WinCC (TIA Portal)			
Applications/options			
• Web browser	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes
Task planner			
• time-controlled	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes
Message system			
• Bit messages			
- Number of bit messages	6 000	6 000	6 000
• Analog messages			
- Number of analog messages	200	200	200
• Message buffer			
- Number of entries	1 024	1 024	1 024
- Circulating buffer	Yes	Yes	Yes
- retentive	Yes	Yes	Yes
Recipe management			
• Number of recipes	500	500	500
• Size of internal recipe memory	4 Mbyte	4 Mbyte	4 Mbyte
• Recipe memory expandable	Yes	Yes	Yes
Variables			
• Number of variables per device	4 096	4 096	4 096
• Number of variables per screen	400	400	400
Images			
• Number of configurable images	750	750	750
Archiving			
• Number of archives per device	50	50	50
Security			
• Number of user groups	50	50	50
• Number of users	50	50	50
• SIMATIC Logon	Yes	Yes	Yes
Logging through printer			
• Alarms	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes
• Electronic print to file	Yes; pdf, html	Yes; pdf, html	Yes; pdf, html
Transfer (upload/download)			
• MPI/PROFIBUS DP	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes

Technical specifications (continued)

Article number	**6AV2124-0QC02-0AX1** SIMATIC HMI TP1500 COMFORT	**6AV2124-0UC02-0AX1** SIMATIC HMI TP1900 COMFORT	**6AV2124-0XC02-0AX1** SIMATIC HMI TP2200 COMFORT
Process coupling			
• S7-1200	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes
Peripherals/Options			
Peripherals			
• Printer	Yes	Yes	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
• USB memory	Yes	Yes	Yes
• Network camera	Yes	Yes	Yes
Mechanics/material			
Enclosure material (front)			
• Plastic	No	No	No
• Aluminum	Yes	Yes	Yes
• Stainless steel	No	No	No
Dimensions			
Width of the housing front	415 mm	483 mm	560 mm
Height of housing front	310 mm	337 mm	380 mm
Mounting cutout, width	396 mm	465 mm	542 mm
Mounting cutout, height	291 mm	319 mm	362 mm
Overall depth	75 mm	75 mm	75 mm
Weights			
Weight without packaging	5.2 kg	6.5 kg	7.1 kg

Technical specifications (continued)

Article number	**6AV2124-1DC01-0AX0** SIMATIC HMI KP400 COMFORT	**6AV2124-1GC01-0AX0** SIMATIC HMI KP700 COMFORT	**6AV2124-1JC01-0AX0** SIMATIC HMI KP900 COMFORT	**6AV2124-1MC01-0AX0** SIMATIC HMI KP1200 COMFORT	**6AV2124-1QC02-0AX0** SIMATIC HMI KP1500 COMFORT
General information					
Product type designation	SIMATIC HMI KP400 Comfort	SIMATIC HMI KP700 Comfort	SIMATIC HMI KP900 Comfort	SIMATIC HMI KP1200 Comfort	SIMATIC HMI KP1500 Comfort
Display					
Design of display	TFT	TFT	TFT	TFT	TFT
Screen diagonal	4.3 in	7 in	9 in	12.1 in	15.4 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
Resolution (pixels)					
• Horizontal image resolution	480 Pixel	800 Pixel	800 Pixel	1 280 Pixel	1 280 Pixel
• Vertical image resolution	272 Pixel	480 Pixel	480 Pixel	800 Pixel	800 Pixel
Backlighting					
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	80 000 h	80 000 h	80 000 h
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Operator controls					
Keyboard fonts					
• Function keys					
- Number of function keys	8	24	26	34	36
Touch operation					
• Design as touch screen	No	No	No	No	No
Installation type/mounting					
Mounting in portrait format possible	No	No	No	No	No
Supply voltage					
Type of supply voltage	DC	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V	24 V
Memory					
Memory available for user data	4 Mbyte	12 Mbyte	12 Mbyte	12 Mbyte	24 Mbyte
Type of output					
Acoustics					
• Speaker	No	Yes	Yes	Yes	Yes
Time of day					
Clock					
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes	Yes	Yes	Yes
Interfaces					
Number of industrial Ethernet interfaces	1	1; 2 ports (switch)	1; 2 ports (switch)	1; 2 ports (switch)	2; 2 ports (switch) + independent port
Number of RS 485 interfaces	1; RS 422/485 combined	1; RS 422/485 combined	1; RS 422/485 combined	1; RS 422/485 combined	1; RS 422/485 combined
Number of USB interfaces	1; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole	1; 5-pole	1; 5-pole	1; 5-pole	--
Number of SD card slots	2	2	2	2	2
Industrial Ethernet					
• Number of ports of the integrated switch	1; No switch integrated	2	2	2	2
Protocols					
PROFINET	Yes	Yes	Yes	Yes	Yes
IRT	No	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V14 SP1 HSP
MRP	No	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes; As of WinCC V12	Yes
PROFIBUS	Yes	Yes	Yes	Yes	Yes
MPI	Yes	Yes	Yes	Yes	Yes

Technical specifications (continued)

Article number	**6AV2124-1DC01-0AX0** SIMATIC HMI KP400 COMFORT	**6AV2124-1GC01-0AX0** SIMATIC HMI KP700 COMFORT	**6AV2124-1JC01-0AX0** SIMATIC HMI KP900 COMFORT	**6AV2124-1MC01-0AX0** SIMATIC HMI KP1200 COMFORT	**6AV2124-1QC02-0AX0** SIMATIC HMI KP1500 COMFORT
Degree and class of protection					
IP (at the front)	IP65	IP65	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes
IP (rear)	IP20	IP20	IP20	IP20	IP20
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes
Marine approval					
• Germanischer Lloyd (GL)	Yes	Yes	Yes	Yes; As of product version: 10	No
• American Bureau of Shipping (ABS)	Yes	Yes	Yes	Yes; As of product version: 10	No
• Bureau Veritas (BV)	Yes	Yes	Yes	Yes; As of product version: 10	No
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes; As of product version: 10	No
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes	Yes; As of product version: 10	No
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes	Yes; As of product version: 10	No
• Polski Rejestr Statkow (PRS)	No	No	No	No	No
Use in hazardous areas					
• ATEX Zone 2	Yes	Yes	Yes	Yes	No
• ATEX Zone 22	Yes	Yes	Yes	Yes	No
• IECEx Zone 2	Yes	Yes	Yes	Yes	No
• IECEx Zone 22	Yes	Yes	Yes	Yes	No
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes	Yes	Yes
• FM Class I Division 2	Yes	Yes	Yes	Yes	Yes
Ambient conditions					
Ambient temperature during operation					
• Operation (vertical installation)					
- For vertical installation, min.	0 °C	0 °C	0 °C	0 °C	0 °C
- For vertical installation, max.	50 °C	50 °C; (55 °C, see entry ID:64847814)	50 °C; (55 °C, see entry ID:64847814)	50 °C; (55 °C, see entry ID:64847814)	50 °C; (55 °C, see entry ID:64847814)
Relative humidity					
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
Configuration					
Configuration software					
• WinCC Comfort (TIA Portal)	Yes; from V11	Yes; from V11	Yes; from V11	Yes; from V11	Yes; V14 SP1 HSP or higher
Languages					
Online languages					
• Number of online/runtime languages	32	32	32	32	32

2

Technical specifications (continued)

Article number	**6AV2124-1DC01-0AX0** SIMATIC HMI KP400 COMFORT	**6AV2124-1GC01-0AX0** SIMATIC HMI KP700 COMFORT	**6AV2124-1JC01-0AX0** SIMATIC HMI KP900 COMFORT	**6AV2124-1MC01-0AX0** SIMATIC HMI KP1200 COMFORT	**6AV2124-1QC02-0AX0** SIMATIC HMI KP1500 COMFORT
Functionality under WinCC (TIA Portal)					
Applications/options					
• Web browser	Yes	Yes	Yes	Yes	Yes
• Pocket Word	Yes	Yes	Yes	Yes	Yes
• Pocket Excel	Yes	Yes	Yes	Yes	Yes
• PDF Viewer	Yes	Yes	Yes	Yes	Yes
• Media Player	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes	Yes	Yes
Task planner					
• time-controlled	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes
Message system					
• Bit messages					
- Number of bit messages	2 000	4 000	4 000	4 000	6 000
• Analog messages					
- Number of analog messages	50	200	200	200	200
• Message buffer					
- Number of entries	256	1 024	1 024	1 024	1 024
- Circulating buffer	Yes	Yes	Yes	Yes	Yes
- retentive	Yes	Yes	Yes	Yes	Yes
Recipe management					
• Number of recipes	100	300	300	300	500
• Size of internal recipe memory	512 kbyte	2 Mbyte	2 Mbyte	2 Mbyte	4 Mbyte
• Recipe memory expandable	Yes	Yes	Yes	Yes	Yes
Variables					
• Number of variables per device	1 024	2 048	2 048	2 048	4 096
• Number of variables per screen	50	400	400	400	400
Images					
• Number of configurable images	500	500	500	500	750
Archiving					
• Number of archives per device	10	50	50	50	50
Security					
• Number of user groups	50	50	50	50	50
• Number of users	50	50	50	50	50
• SIMATIC Logon	Yes	Yes	Yes	Yes	Yes
Logging through printer					
• Alarms	Yes	Yes	Yes	Yes	Yes
• Report (shift log)	Yes	Yes	Yes	Yes	Yes
• Hardcopy	Yes	Yes	Yes	Yes	Yes
• Electronic print to file	Yes; pdf, html	Yes; pdf, html	Yes; pdf, html	Yes; pdf, html	Yes; pdf, html
Transfer (upload/download)					
• MPI/PROFIBUS DP	Yes	Yes	Yes	Yes	Yes
• Ethernet	Yes	Yes	Yes	Yes	Yes

Technical specifications (continued)

Article number	**6AV2124-1DC01-0AX0** SIMATIC HMI KP400 COMFORT	**6AV2124-1GC01-0AX0** SIMATIC HMI KP700 COMFORT	**6AV2124-1JC01-0AX0** SIMATIC HMI KP900 COMFORT	**6AV2124-1MC01-0AX0** SIMATIC HMI KP1200 COMFORT	**6AV2124-1QC02-0AX0** SIMATIC HMI KP1500 COMFORT
Process coupling					
• S7-1200	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes	Yes
• WinAC	Yes	Yes	Yes	Yes	Yes
• SIMOTION	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes	Yes	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes	Yes	Yes	Yes
• Mitsubishi (FX)	Yes	Yes	Yes	Yes	Yes
• OMRON (FINS TCP)	No	No	No	No	No
• OMRON (LINK/Multilink)	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes	Yes	Yes	Yes
• Modicon (Modbus)	Yes	Yes	Yes	Yes	Yes
• OPC UA Client	Yes	Yes	Yes	Yes	Yes
• OPC UA Server	Yes	Yes	Yes	Yes	Yes
Peripherals/Options					
Peripherals					
• Printer	Yes	Yes	Yes	Yes	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB	Yes; Up to 128 MB
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB	Yes; Up to 2 GB
• USB memory	Yes	Yes	Yes	Yes	Yes
• Network camera	Yes	Yes	Yes	Yes	Yes
Mechanics/material					
Enclosure material (front)					
• Plastic	Yes	No	No	No	No
• Aluminum	No	Yes	Yes	Yes	Yes
• Stainless steel	No	No	No	No	No
Dimensions					
Width of the housing front	152 mm	308 mm	362 mm	454 mm	483 mm
Height of housing front	188 mm	204 mm	230 mm	289 mm	310 mm
Mounting cutout, width	135 mm	281 mm	338 mm	434 mm	450 mm
Mounting cutout, height	171 mm	177 mm	206 mm	269 mm	291 mm
Overall depth	49 mm	63 mm	63 mm	65 mm	75 mm
Weights					
Weight without packaging	0.8 kg	2.2 kg	2.7 kg	4.4 kg	5.4 kg

Ordering data

	Article No.
SIMATIC HMI Comfort Panels	
Key and touch devices	
SIMATIC HMI KTP400 Comfort Key/touch-screen operation; 4" widescreen display	**6AV2124-2DC01-0AX0**
Touch devices	
SIMATIC HMI TP700 Comfort Touch-screen operation; 7" widescreen display	**6AV2124-0GC01-0AX0**
SIMATIC HMI TP900 Comfort Touch-screen operation; 9" widescreen display	**6AV2124-0JC01-0AX0**
SIMATIC HMI TP1200 Comfort Touch-screen operation; 12" widescreen display	**6AV2124-0MC01-0AX0**
SIMATIC HMI TP1500 Comfort Touch-screen operation; 15" widescreen display	**6AV2124-0QC02-0AX1**
SIMATIC HMI TP1900 Comfort Touch-screen operation; 19" widescreen display	**6AV2124-0UC02-0AX1**
SIMATIC HMI TP2200 Comfort Touch-screen operation; 22" widescreen display	**6AV2124-0XC02-0AX1**
Key devices	
SIMATIC HMI KP400 Comfort Key operation; 4" widescreen display	**6AV2124-1DC01-0AX0**
SIMATIC HMI KP700 Comfort Key operation; 7" widescreen display	**6AV2124-1GC01-0AX0**
SIMATIC HMI KP900 Comfort Key operation; 9" widescreen display	**6AV2124-1JC01-0AX0**
SIMATIC HMI KP1200 Comfort Key operation; 12" widescreen display	**6AV2124-1MC01-0AX0**
SIMATIC HMI KP1500 Comfort Key operation; 15" widescreen display	**6AV2124-1QC02-0AX1**

	Article No.
Starter kits for SIMATIC HMI Comfort Panels Consisting of: the respective SIMATIC HMI Comfort Panel, SIMATIC WinCC Comfort, Ethernet cable, 2 m SIMATIC HMI Memory Card 2 GB 10 protective films for touch screen devices	
Starter kit for SIMATIC HMI KTP400 Comfort, Key and Touch	**6AV2181-4DB20-0AX0**
Starter kit for SIMATIC HMI TP700 Comfort, Touch	**6AV2181-4GB00-0AX0**
Starter kit for SIMATIC HMI TP900 Comfort, Touch	**6AV2181-4JB00-0AX0**
Starter kit for SIMATIC HMI TP1200 Comfort, Touch	**6AV2181-4MB00-0AX0**
Starter kit for SIMATIC HMI TP1500 Comfort, Touch	**6AV2181-4QB00-0AX0**
Starter kit for SIMATIC HMI TP1900 Comfort, Touch	**6AV2181-4UB00-0AX0**
Starter kit for SIMATIC HMI TP2200 Comfort, Touch	**6AV2181-4XB00-0AX0**
Starter kit for SIMATIC HMI KP400 Comfort, Key	**6AV2181-4DB10-0AX0**
Starter kit for SIMATIC HMI KP700 Comfort, Key	**6AV2181-4GB10-0AX0**
Starter kit for SIMATIC HMI KP900 Comfort, Key	**6AV2181-4JB10-0AX0**
Starter kit for SIMATIC HMI KP1200 Comfort, Key	**6AV2181-4MB10-0AX0**
Starter kit for SIMATIC HMI KP1500 Comfort, Key	**6AV2181-4QB10-0AX0**
Accessories	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-comfort-panels

You can find an overview of approved printers, supply sources and printer settings on the Internet at:

http://support.automation.siemens.com/WW/view/en/11376409

Note:

Do you need a specific modification or extension to the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

SIMATIC HMI Comfort Panels Outdoor

Overview

SIMATIC HMI Comfort Panels Outdoor

Special HMI Panels have been developed which are designed to withstand outdoor environments. It's not only extreme temperatures which call for robust hardware. Direct sunlight, too, must not be allowed to impair display readability and the panel front must be protected from UV radiation.

The specially bonded displays and rugged hardware of the SIMATIC HMI Comfort Panels Outdoor make them a reliable partner for harsh ambient conditions.

For outdoor operation without additional measures

- 7" and 15" daylight-readable display, widescreen
- Automatic, central or manual dimming of the backlight, with integrated sensor
- Panel front 100% UV protected
- Front resistant to salt mist
- Front IP66 and NEMA 4 x (indoor/outdoor)
- Many certifications, such as explosion protection and marine
- Extended operating temperature range: from -30 °C to +60 °C at 3 000 m installation altitude
- TIA Portal central engineering tool (WinCC V13 SP1 & HSP or higher)
- Comfort Panel functionality and performance

Notice:

The 7" Comfort Panel Outdoor corresponds to a 7" Comfort Panel Standard, the 15" Comfort Panel Outdoor corresponds to a 12" Comfort Panel Standard in respect of performance, functionality and quantity structure.

Technical specifications

Article number	**6AV2124-0GC13-0AX0** SIMATIC HMI TP700 COMFORT OUTDOOR	**6AV2124-0QC13-0AX0** SIMATIC HMI TP1500 COMFORT OUTDOOR
General information		
Product type designation	SIMATIC HMI TP700 Comfort Outdoor	SIMATIC HMI TP1500 Comfort Outdoor
Display		
Design of display	TFT, bonded, daylight-readable	TFT, bonded, daylight-readable
Screen diagonal	7 in	15.4 in
Number of colors	16 777 216	16 777 216
Resolution (pixels)		
• Horizontal image resolution	800 Pixel	1 280 Pixel
• Vertical image resolution	480 Pixel	800 Pixel
Backlighting		
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h
• Backlight dimmable	Yes; LED, can be dimmed manually or automatically	Yes; LED, can be dimmed manually or automatically
Operator controls		
Keyboard fonts		
• Function keys		
- Number of function keys	0	0
Touch operation		
• Design as touch screen	Yes; analog, resistive	Yes; analog, resistive
Installation type/mounting		
Mounting in portrait format possible	Yes	Yes
Supply voltage		
Type of supply voltage	DC	DC
Rated value (DC)	24 V	24 V

Technical specifications (continued)

Article number	**6AV2124-0GC13-0AX0** SIMATIC HMI TP700 COMFORT OUTDOOR	**6AV2124-0QC13-0AX0** SIMATIC HMI TP1500 COMFORT OUTDOOR
Memory		
Memory available for user data	12 Mbyte	12 Mbyte
Type of output		
Acoustics		
• Speaker	Yes	Yes
Time of day		
Clock		
• Hardware clock (real-time)	Yes	Yes
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes
Interfaces		
Number of industrial Ethernet interfaces	2	2
Number of RS 485 interfaces	1; RS 422/485 combined	1; RS 422/485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole	1; 5-pole
Number of SD card slots	2	2
Industrial Ethernet		
• Number of ports of the integrated switch	2	2
Protocols		
PROFINET	Yes	Yes
IRT	Yes; WinCC V13 SP1 HSP or higher	Yes; WinCC V13 SP1 HSP or higher
MRP	Yes; WinCC V13 SP1 HSP or higher	Yes; WinCC V13 SP1 HSP or higher
PROFIBUS	Yes	Yes
MPI	Yes	Yes
Degree and class of protection		
IP (at the front)	IP66	IP66
Enclosure Type 4x at the front	Yes	Yes
IP (rear)	IP20	IP20
Standards, approvals, certificates		
CE mark	Yes	Yes
cULus	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
Marine approval		
• Germanischer Lloyd (GL)	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes
• Bureau Veritas (BV)	Yes; Available soon	Yes; Available soon
• Det Norske Veritas (DNV)	Yes	Yes
• Korean Register of Shipping (KRS)	No; Available soon	No; Available soon
• Lloyds Register of Shipping (LRS)	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes; Available soon	Yes; Available soon
• Polski Rejestr Statkow (PRS)	No	No
• Chinese Classification Society (CCS)	Yes; Available soon	Yes; Available soon
• Compass working clearance	5 m	5 m
Use in hazardous areas		
• ATEX Zone 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• ATEX Zone 22	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• IECEx Zone 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• IECEx Zone 22	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• cULus Class I Zone 2, Division 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• FM Class I Division 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate

Technical specifications (continued)

Article number	**6AV2124-0GC13-0AX0** SIMATIC HMI TP700 COMFORT OUTDOOR	**6AV2124-0QC13-0AX0** SIMATIC HMI TP1500 COMFORT OUTDOOR
Ambient conditions		
Suited for indoor use	Yes	
Suited for outdoor use	Yes; Powder-coated, UV resistant	
Ambient temperature during operation		
• Operation (vertical installation)		
- For vertical installation, min.	-30 °C	-30 °C
- For vertical installation, max.	60 °C; (55 °C, see entry ID:64847814)	60 °C; (55 °C, see entry ID:64847814)
Air pressure acc. to IEC 60068-2-13		
• Installation altitude above sea level, max.	3 000 m; Depending on the operating temperature	3 000 m; Depending on the operating temperature
Relative humidity		
• Operation, max.	90 %; no condensation	90 %; no condensation
Configuration		
Configuration software		
• WinCC Comfort (TIA Portal)	Yes; WinCC V13 SP1 Update 7 + HSP or higher	Yes; WinCC V13 SP1 Update 7 + HSP or higher
Languages		
Online languages		
• Number of online/runtime languages	32	32
Functionality under WinCC (TIA Portal)		
Applications/options		
• Web browser	Yes	Yes
• Pocket Word	Yes	Yes
• Pocket Excel	Yes	Yes
• PDF Viewer	Yes	Yes
• Media Player	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes
Task planner		
• time-controlled	Yes	Yes
• task-controlled	Yes	Yes
Message system		
• Bit messages		
- Number of bit messages	4 000	4 000
• Analog messages		
- Number of analog messages	200	200
• Message buffer		
- Number of entries	1 024	1 024
- Circulating buffer	Yes	Yes
- retentive	Yes	Yes
Recipe management		
• Number of recipes	300	300
• Size of internal recipe memory	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes
Variables		
• Number of variables per device	2 048	2 048
• Number of variables per screen	400	400
Images		
• Number of configurable images	500	500
Archiving		
• Number of archives per device	50	50

Technical specifications (continued)

Article number	**6AV2124-0GC13-0AX0** SIMATIC HMI TP700 COMFORT OUTDOOR	**6AV2124-0QC13-0AX0** SIMATIC HMI TP1500 COMFORT OUTDOOR
Security		
• Number of user groups	50	50
• Number of users	50	50
• SIMATIC Logon	Yes	Yes
Logging through printer		
• Alarms	Yes	Yes
• Report (shift log)	Yes	Yes
• Hardcopy	Yes	Yes
• Electronic print to file	Yes; pdf, html	Yes; pdf, html
Transfer (upload/download)		
• MPI/PROFIBUS DP	Yes	Yes
• Ethernet	Yes	Yes
Process coupling		
• S7-1200	Yes	Yes
• S7-1500	Yes	Yes
• S7-200	Yes	Yes
• S7-300/400	Yes	Yes
• LOGO!	Yes	Yes
• WinAC	Yes	Yes
• SIMOTION	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes
• Mitsubishi (FX)	Yes	Yes
• OMRON (FINS TCP)	No	No
• OMRON (LINK/Multilink)	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes
• Modicon (Modbus)	Yes	Yes
• OPC UA Client	Yes	Yes
• OPC UA Server	Yes	Yes
Peripherals/Options		
Peripherals		
• Printer	Yes	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes	Yes
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes	Yes
• USB memory	Yes	Yes
• Network camera	Yes; See FAQ Entry ID: 62383298 and entry ID: 65647473	Yes; See FAQ Entry ID: 62383298 and entry ID: 65647473
Mechanics/material		
Enclosure material (front)		
• Plastic	No	No
• Aluminum	Yes; Powder-coated, UV resistant	Yes; Powder-coated, UV resistant
• Stainless steel	No	No
Dimensions		
Width of the housing front	214 mm	415 mm
Height of housing front	158 mm	310 mm
Mounting cutout, width	197 mm	396 mm
Mounting cutout, height	141 mm	291 mm
Overall depth	67 mm	77 mm
Weights		
Weight without packaging	1.5 kg	4 kg

Ordering data

Ordering data	Article No.
SIMATIC HMI Comfort Panels Outdoor	
SIMATIC TP700 Comfort Panel Outdoor Touch operation, 7" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, configurable as from WinCC Comfort V13, SP1, HSP	**6AV2124-0GC13-0AX0**
SIMATIC TP1500 Comfort Panel Outdoor Touch operation, 15" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, configurable as from WinCC Comfort V13, SP1, HSP	**6AV2124-0QC13-0AX0**
Accessories	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

More information

More information is available on the Internet at:

http://www.siemens.com/comfort-outdoor

Note:

The TP700 Comfort Panel Outdoor is comparable with the TP700 Comfort Panel Standard.

The TP1500 Comfort Panel Outdoor is comparable with the TP1200 Comfort Panel Standard with a 15" display.

A TP1500 Comfort Standard unit with the maximum possible configuration cannot be installed on a TP1500 Comfort Panel Outdoor.

Overview

SIMATIC HMI TP Comfort Panels INOX

Panels with touch screen and stainless steel front are designed for use in the food and beverage industry, the pharmaceutical industry, fine chemicals and in other hygiene areas for machine-level operator control and monitoring.

For this reason, the devices with stainless steel front have been developed in compliance with DIN EN 1672-2 "Food processing machinery – Safety and hygiene requirements".

Technical specifications

	SIMATIC HMI TP700 Comfort INOX (the other specifications correspond to the SIMATIC HMI TP700 Comfort Panel)	**SIMATIC HMI TP900 Comfort INOX (the other specifications correspond to the SIMATIC HMI TP7900 Comfort Panel)**	**SIMATIC HMI TP1200 Comfort INOX (the other specifications correspond to the SIMATIC HMI TP1200 Comfort Panel)**	**SIMATIC HMI TP1500 Comfort INOX (the other specifications correspond to the SIMATIC HMI TP1500 Comfort Panel)**	**SIMATIC HMI TP1900 Comfort INOX (the other specifications correspond to the SIMATIC HMI TP1900 Comfort Panel)**
General features					
Display	7" TFT widescreen display	9“ TFT widescreen display	12" TFT widescreen display	15“ TFT widescreen display	19" TFT widescreen display
Resolution (pixels)	800 x 480	800 x 480	1 280 x 800	1 280 x 800	1 366 x 768
MTBF of backlighting (at 25 °C)	approx. 80 000 h	approx. 80 000 h	approx. 80 000 h	approx. 80 000 h	approx. 50 000 h
Power supply	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
Front					
Material	Stainless steel 1.4301, polyester-based membrane				
Surface	Hairline finish, 240 grit abrasive grain				
Device seal	EPDM, molded part	EPDM, molded part	EPDM, molded part	EPDM, molded part	EPDM, molded part
Special features	Decorative membrane drawn across the display	Decorative membrane drawn across the display	Decorative membrane drawn across the display	Decorative membrane drawn across the display	Decorative membrane drawn across the display
Ambient conditions					
Degree of protection	On the front: IP66K, enclosure type 4 and 4x (indoor use only) At the rear: IP20	On the front: IP66K, enclosure type 4 and 4x (indoor use only) At the rear: IP20	On the front: IP66K, enclosure type 4 and 4x (indoor use only) At the rear: IP20	On the front: IP66K, enclosure type 4 and 4x (indoor use only) At the rear: IP20	On the front: IP66K, enclosure type 4 and 4x (indoor use only) At the rear: IP20
Ambient temperature during operation	0 ... 50 °C	0 ... 50 °C	0 ... 50 °C	0 ... 50 °C	0 ... 45 °C
Relative humidity	Max. 90% (no condensation)	Max. 90% (no condensation)	Max. 80% (no condensation)	Max. 80% (no condensation)	Max. 70% (no condensation)
Transport/storage temperature	-20 °C to +60 °C	-20 °C to +60 °C	-20 °C … +55 °C	-20 °C … +50 °C	-20 °C … +45 °C
Approvals	CE, RCM (previously C-Tick), KC, cUL, CFM, EX, HAZ.LOC.:CL.I,DIV.2	CE, RCM (previously C-Tick), KC, cUL, CFM	CE, RCM (previously C-Tick), KC, cUL, CFM, EX, HAZ.LOC.:CL.I,DIV.2	CE, RCM (previously C-Tick), KC, cUL, CFM	CE, RCM (previously C-Tick), KC, cUL, CFM
Sector	Food & beverages, pharmaceuticals industry, other hygiene areas	Food & beverages, pharmaceuticals industry, other hygiene areas	Food & beverages, pharmaceuticals industry, other hygiene areas	Food & beverages, pharmaceuticals industry, other hygiene areas	Food & beverages, pharmaceuticals industry, other hygiene areas
Dimensions					
External dimensions (W x H x D in mm)	214 x 158	274 x 190	330 x 241	415 x 310	483 x 337
Installation cutout (W x H x D in mm)	197 x 141	251 x 166	310 x 221	396 x 291	465 x 319
Mounting depth, in mm	67	68	68	75	74
Weight	approx. 1.88 kg	approx. 2.5 kg	approx. 3.2 kg	approx 6.6 kg	approx. 7.2 kg
Special features	INOX clamping frame, cast aluminum mounting clamp	INOX clamping frame, cast aluminum mounting clamp	INOX clamping frame, cast aluminum mounting clamp	INOX clamping frame, cast aluminum mounting clamp	INOX clamping frame, cast aluminum mounting clamp

Comfort Panels INOX

Ordering data

Ordering data	Article No.
SIMATIC HMI TP700 Comfort INOX With accessory pack consisting of: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.	**6AV2144-8GC10-0AA0**
SIMATIC HMI TP900 Comfort INOX With accessory pack consisting of: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.	**6AV2144-8JC10-0AA0**
SIMATIC HMI TP1200 Comfort INOX With accessory pack consisting of: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.	**6AV2144-8MC10-0AA0**
SIMATIC HMI TP1500 Comfort INOX With accessory pack consisting of: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.	**6AV2144-8QC10-0AA0**
SIMATIC HMI TP1900 Comfort INOX With accessory pack comprising: clamping frame, device seal, mounting clamps, connection terminal, as well as installation instructions.	**6AV2144-8UC10-0AA0**
Accessories	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

The device seals can be replaced using the corresponding service packages from the accessories.

More information

Customer-specific modifications

- Customized design
  (logo, type designation and membrane color)
- Protection against condensation and corrosive gases

Quotation preparation

- Customized automation specialists define the product modifications precisely in accordance with customer requirements. The quotation is then prepared with
  - Non-recurring costs
  - Prototype costs
  - Serial device prices and
  - The general conditions in the form of a product agreement (e.g. minimum quantity).
- The defined device can then be ordered easily using this product agreement and a customized order number.

Overview

- Excellent HMI functionality for demanding applications
- Widescreen TFT displays with 4", 7", 9", 12", 15", 19" and 22" diagonals (all 16 million colors) with up to 40% more visualization area as compared to the predecessor devices
- Integrated high-end functionality with archives, scripts, PDF/Word/Excel viewer, Internet Explorer, Media Player
- Dimmable displays from 0 to 100% via PROFIenergy, via the HMI project or via a controller
- Modern industrial design, cast aluminum fronts for 7" upwards
- Upright installation for all touch devices
- Optimal selection option: seven touch and five key versions are available
- Data security in the event of a power failure for the device and for the SIMATIC HMI Memory Card
- Innovative service and commissioning concept through second SD card (automatic backup)
- Easy project transfer via standard cable (standard Ethernet cable, standard USB cable)
- Maximum performance with short screen refresh times
- Suitable for extremely harsh industrial environments thanks to extended approvals such as ATEX 2/22
- Wide range of communication options: PROFIBUS and PROFINET onboard; 2x PROFINET with integrated switch for 7" models or larger; plus 1 additional PROFINET with Gigabit support for 15" models or larger
- All variants can be used as an OPC UA client or as an OPC DA server
- Key-operated devices with LED in every function key and new text input mechanism, similar to the keypads of mobile phones
- Key-operated devices with stamped keys for optimum tactile feedback
- All keys have a service life of 2 million operations
- Configuring with the WinCC engineering software of the TIA Portal

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

Technical specifications

Article number	**6AG1124-2DC01-4AX0** SIPLUS HMI KTP400 COMFORT	**6AG1124-0GC01-4AX0** SIPLUS HMI TP700 COMFORT	**6AG1124-0JC01-4AX0** SIPLUS HMI TP900 COMFORT	**6AG1124-0MC01-4AX0** SIPLUS HMI TP1200 COMFORT
General information				
Product type designation	SIPLUS HMI KTP400 Comfort	SIPLUS HMI TP700 Comfort	SIPLUS HMI TP900 Comfort	SIPLUS HMI TP1200 Comfort
Ambient conditions				
Suited for indoor use	Yes	Yes	Yes	Yes
Suited for outdoor use	No	No	No	No
Ambient temperature during operation				
• Operation (vertical installation)				
- For vertical installation, min.	0 °C; = Tmin	0 °C; = Tmin	0 °C; = Tmin	0 °C; = Tmin
- For vertical installation, max.	50 °C; = Tmax	50 °C; = Tmax	50 °C; = Tmax	50 °C; = Tmax
Extended ambient conditions				

• relative to ambient temperature-atmospheric pressure-installation altitude	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) //
	Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) //
	Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)			

Relative humidity				
- With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)			
Resistance				
- against biologically active substances / conformity with EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request			
- against chemically active substances / conformity with EN 60721-3-3	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!			
- against mechanically active substances / conformity with EN 60721-3-3	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!			

Technical specifications (continued)

Article number	6AG1124-1DC01-4AX0 SIPLUS HMI KP400 COMFORT	6AG1124-1GC01-4AX0 SIPLUS HMI KP700 COMFORT	6AG1124-1JC01-4AX0 SIPLUS HMI KP900 COMFORT	6AG1124-1MC01-4AX0 SIPLUS HMI KP1200 COMFORT	6AG1124-1QC02-4AX0 SIPLUS HMI KP1500 COMFORT
General information					
Product type designation	SIPLUS HMI KP400 Comfort	SIPLUS HMI KP700 Comfort	SIPLUS HMI KP900 Comfort	SIPLUS HMI KP1200 Comfort	SIPLUS HMI KP1500 Comfort
Ambient conditions					
Suited for indoor use	Yes	Yes	Yes	Yes	Yes
Suited for outdoor use	No	No	No	No	No
Ambient temperature during operation					
• Operation (vertical installation)					
- For vertical installation, min.	0 °C; = Tmin	0 °C; = Tmin	0 °C; = Tmin	0 °C; = Tmin	0 °C; = Tmin
- For vertical installation, max.	50 °C; = Tmax	50 °C; = Tmax	50 °C; = Tmax	50 °C; = Tmax	50 °C; = Tmax
Extended ambient conditions					

• relative to ambient temperature-atmospheric pressure-installation altitude	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) //
	Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) //
	Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)				

Relative humidity					
- With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)				
Resistance					
- against biologically active substances / conformity with EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request				
- against chemically active substances / conformity with EN 60721-3-3	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!				
- against mechanically active substances / conformity with EN 60721-3-3	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!				

Article number	6AG1124-0QC02-4AX0 SIPLUS HMI TP1500 COMFORT	6AG1124-0UC02-4AX0 SIPLUS HMI TP1900 COMFORT	6AG1124-0XC02-4AX0 SIPLUS HMI TP2200 COMFORT
General information			
Product type designation	SIPLUS HMI TP1500 Comfort	SIPLUS HMI TP1900 Comfort	SIPLUS HMI TP2200 Comfort
Ambient conditions			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No	No	No
Ambient temperature during operation			
• Operation (vertical installation)			
- For vertical installation, min.	0 °C; = Tmin	0 °C; = Tmin	0 °C; = Tmin
- For vertical installation, max.	50 °C; = Tmax	45 °C; = Tmax	45 °C; = Tmax
Extended ambient conditions			

• relative to ambient temperature-atmospheric pressure-installation altitude	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) //
	Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) //
	Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)		

Relative humidity			
- With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)		
Resistance			
- against biologically active substances / conformity with EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request		
- against chemically active substances / conformity with EN 60721-3-3	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!		
- against mechanically active substances / conformity with EN 60721-3-3	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!		

Ordering data

Ordering data	Article No.
SIPLUS HMI Comfort Panels, Keys and Touch	
SIPLUS HMI KP400 Comfort	**6AG1124-2DC01-4AX0**
SIPLUS HMI Comfort Panels, Touch	
SIPLUS HMI TP700 Comfort	**6AG1124-0GC01-4AX0**
SIPLUS HMI TP900 Comfort	**6AG1124-0JC01-4AX0**
SIPLUS HMI TP1200 Comfort	**6AG1124-0MC01-4AX0**
SIPLUS HMI TP1500 Comfort	**6AG1124-0QC02-4AX0**
SIPLUS HMI TP1900 Comfort	**6AG1124-0UC02-4AX0**
SIPLUS HMI TP2200 Comfort	**6AG1124-0XC02-4AX0**
SIPLUS HMI Comfort Panels, Keys	
SIPLUS HMI KP400 Comfort	**6AG1124-1DC01-4AX0**
SIPLUS HMI KP700 Comfort	**6AG1124-1GC01-4AX0**
SIPLUS HMI KP900 Comfort	**6AG1124-1JC01-4AX0**
SIPLUS HMI KP1200 Comfort	**6AG1124-1MC01-4AX0**
SIPLUS HMI KP1500 Comfort	**6AG1124-1QC02-4AX0**
Accessories	See HMI accessories

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-comfort-panels

You can find an overview of approved printers, supply sources and printer settings on the Internet at:

http://support.automation.siemens.com/WW/view/en/11376409

Note:

Do you need a specific modification or extension to the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

Mobile Panels

Overview

SIMATIC Mobile Panels

Mobile Panels 2nd Generation

The second generation of SIMATIC HMI Mobile Panels impresses with its convenience, performance and quality.

The highlights: A brilliant widescreen display, particularly simple configuration and the unique illuminated emergency stop button.

This series of devices offers panels with 4", 7" and 9" displays, each of which is available with or without safety-related operator controls.

The Mobile Panels of the 2nd Generation are the successors to the SIMATIC HMI Mobile Panels x77 with cable connections.

- ***SIMATIC HMI KTP400F Mobile***
- ***SIMATIC HMI KTP700 Mobile***
- ***SIMATIC HMI KTP700F Mobile***
- ***SIMATIC HMI KTP900 Mobile***
- ***SIMATIC HMI KTP900F Mobile***

SIMATIC Mobile Panels x77 Series

<u>SIMATIC Mobile Panel 277(F) IWLAN</u>

The SIMATIC Mobile Panels 277(F) IWLAN with 8" displays feature wireless communications and offer optional safety engineering.

The highlights:

- Complete freedom in mobile HMI by means of Industrial Wireless LAN (IWLAN) as specified in IEEE 802.11 (a/b/g/h)
- Integrated security according to SIL 3 or PLe in interaction with the SIMATIC fail-safe controllers
- Powerful batteries and flexible concept for changing permit battery replacement "on the fly" without interrupting operation

The following devices are available:

- ***SIMATIC Mobile Panel 277 IWLAN V2 without operator controls***
- ***SIMATIC Mobile Panel 277 IWLAN V2 with operator controls***
- ***SIMATIC Mobile Panel 277F IWLAN V2 without operator controls***
- ***SIMATIC Mobile Panel 277F IWLAN V2 with operator controls***
- ***SIMATIC Mobile Panel 277F IWLAN RF with operator controls***

2

Overview

Mobile Panels 2nd Generation

- SIMATIC HMI KTP400F Mobile
- SIMATIC HMI KTP700 Mobile
- SIMATIC HMI KTP700F Mobile
- SIMATIC HMI KTP900 Mobile
- SIMATIC HMI KTP900F Mobile

Technical specifications

Article number	**6AV2125-2DB23-0AX0** SIMATIC HMI KTP400F MOBILE	**6AV2125-2GB03-0AX0** SIMATIC HMI KTP700 MOBILE	**6AV2125-2GB23-0AX0** SIMATIC HMI KTP700F MOBILE	**6AV2125-2JB03-0AX0** SIMATIC HMI KTP900 MOBILE	**6AV2125-2JB23-0AX0** SIMATIC HMI KTP900F MOBILE
General information					
Product type designation	SIMATIC HMI KTP400F Mobile	SIMATIC HMI KTP700 Mobile	SIMATIC HMI KTP700F Mobile	SIMATIC HMI KTP900 Mobile	SIMATIC HMI KTP900F Mobile
Display					
Design of display	TFT	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	4.3 in	7 in	7 in	9 in	9 in
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216	16 777 216
Resolution (pixels)					
• Horizontal image resolution	480 Pixel	800 Pixel	800 Pixel	800 Pixel	800 Pixel
• Vertical image resolution	272 Pixel	480 Pixel	480 Pixel	480 Pixel	480 Pixel
Backlighting					
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h	50 000 h	50 000 h	50 000 h
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Operator controls					
Keyboard fonts					
• Function keys					
- Number of function keys	4	8	8	10	10
• Numeric/alphabetical input					
- Numeric keyboard	Yes; Onscreen keyboard	Yes; Onscreen keyboard	Yes; Onscreen keyboard	Yes; Onscreen keyboard	Yes; Onscreen keyboard
- alphanumeric keyboard	Yes; Onscreen keyboard	Yes; Onscreen keyboard	Yes; Onscreen keyboard	Yes; Onscreen keyboard	Yes; Onscreen keyboard
Touch operation					
• Design as touch screen	Yes	Yes	Yes	Yes	Yes
• Design as multi-touch screen	No	No	No	No	No
Special operator controls					
• Stop button (forced blocking)	Yes	No	Yes	No	Yes
• Emergency stop button (forced blocking)	No	No	No	No	No
• Emergency stop button (illuminated and forced blocking)	Yes	No	Yes	No	Yes
• Acknowledgement button (3-stage)	Yes	No	Yes	No	Yes
• Key-operated switch	No	No	Yes	No	Yes
• Illuminated pushbutton	Yes	Yes	Yes	Yes	Yes

2

Technical specifications (continued)

Article number	**6AV2125-2DB23-0AX0** SIMATIC HMI KTP400F MOBILE	**6AV2125-2GB03-0AX0** SIMATIC HMI KTP700 MOBILE	**6AV2125-2GB23-0AX0** SIMATIC HMI KTP700F MOBILE	**6AV2125-2JB03-0AX0** SIMATIC HMI KTP900 MOBILE	**6AV2125-2JB23-0AX0** SIMATIC HMI KTP900F MOBILE
Camera					
• integrated camera	No	No	No	No	No
Expansions for operator control of the process					
• DP direct LEDs (LEDs as S7 output I/O)					
- F1...Fx	4	8	8	10	10
• Direct keys (keys as S7 input I/O)					
- F1...Fx	4	8	8	10	10
• Direct keys (touch buttons as S7 input I/O)	32	32	32	32	32
Supply voltage					
Type of supply voltage	DC	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V	24 V
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V
Input current					
Current consumption (rated value)	210 mA	350 mA	350 mA	450 mA	450 mA
Starting current inrush I^2t	0.37 $A^2 \cdot s$	0.135 $A^2 \cdot s$	0.135 $A^2 \cdot s$	0.135 $A^2 \cdot s$	0.135 $A^2 \cdot s$
Power					
Active power input, typ.	5 W	8.5 W	8.5 W	11 W	11 W
Processor					
Processor type	ARM	ARM	ARM	ARM	ARM
Memory					
Flash	Yes	Yes	Yes	Yes	Yes
RAM	Yes	Yes	Yes	Yes	Yes
Memory available for user data	4 Mbyte	12 Mbyte	12 Mbyte	12 Mbyte	12 Mbyte
Type of output					
Power LED	No	No	No	No	No
LED for safe	No	No	No	No	No
LED for communication	No	No	No	No	No
LED for battery	No	No	No	No	No
Vibrations	No	No	No	No	No
Time of day					
Clock					
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes
• Software clock	No	No	No	No	No
• retentive	Yes	Yes	Yes	Yes	Yes
• synchronizable	Yes	Yes	Yes	Yes	Yes
Interfaces					
Number of industrial Ethernet interfaces	1	1	1	1	1
Number of PROFINET interfaces	1	1	1	1	1
Number of RS 485 interfaces	0	0	0	0	0
Number of RS 422 interfaces	0	0	0	0	0
Number of RS 232 interfaces	0	0	0	0	0
Number of USB interfaces	1; USB 2.0	1; USB 2.0	1; USB 2.0	1; USB 2.0	1; USB 2.0
Number of 20 mA interfaces (TTY)	0	0	0	0	0
Number of parallel interfaces	0	0	0	0	0
Number of other interfaces	0	0	0	0	0
Number of wireless interfaces	0	0	0	0	0
Number of SD card slots	0	1	1	1	1
With software interfaces	No	No	No	No	No

Technical specifications (continued)

Article number	6AV2125-2DB23-0AX0 SIMATIC HMI KTP400F MOBILE	6AV2125-2GB03-0AX0 SIMATIC HMI KTP700 MOBILE	6AV2125-2GB23-0AX0 SIMATIC HMI KTP700F MOBILE	6AV2125-2JB03-0AX0 SIMATIC HMI KTP900 MOBILE	6AV2125-2JB23-0AX0 SIMATIC HMI KTP900F MOBILE
Protocols					
PROFINET	Yes	Yes	Yes	Yes	Yes
PROFIsafe	Yes	No	Yes	No	Yes
PROFIBUS	No	No	No	No	No
MPI	No	No	No	No	No
Protocols (Ethernet)					
• TCP/IP	Yes	Yes	Yes	Yes	Yes
• DHCP	Yes	Yes	Yes	Yes	Yes
• SNMP	Yes	Yes	Yes	Yes	Yes
• DCP	Yes	Yes	Yes	Yes	Yes
• LLDP	Yes	Yes	Yes	Yes	Yes
WEB characteristics					
• HTTP	Yes	Yes	Yes	Yes	Yes
• HTTPS	Yes	Yes	Yes	Yes	Yes
• HTML	Yes	Yes	Yes	Yes	Yes
• XML	No	No	No	No	No
• CSS	Yes	Yes	Yes	Yes	Yes
• Active X	No	No	No	No	No
• JavaScript	Yes	Yes	Yes	Yes	Yes
• Java VM	No	No	No	No	No
Further protocols					
• EtherNet/IP	Yes	Yes	Yes	Yes	Yes
• MODBUS	Yes	Yes	Yes	Yes	Yes
• other bus systems	No	No	No	No	No
Communication functions					
Wireless communication					
• supported standards					
- Radio standard WLAN 802.11	No	No	No	No	No
- Bluetooth radio standard	No	No	No	No	No
Interrupts/diagnostics/ status information					
Diagnostic messages					
• Diagnostic information readable	Yes	Yes	Yes	Yes	Yes
EMC					
Emission of radio interference acc. to EN 55 011					
• Limit class A, for use in industrial areas	Yes	Yes	Yes	Yes	Yes
• Limit class B, for use in residential areas	No	No	No	No	No
Degree and class of protection					
IP65 (all-round)	Yes	Yes	Yes	Yes	Yes
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
Suitable for safety functions	Yes	No	Yes	No	Yes
Marine approval					
• Germanischer Lloyd (GL)	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• American Bureau of Shipping (ABS)	Yes	Yes	Yes	Yes	Yes
• Bureau Veritas (BV)	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• Det Norske Veritas (DNV)	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• Korean Register of Shipping (KRS)	No	No	No	No	No
• Lloyds Register of Shipping (LRS)	No; Available soon	Yes	No; Available soon	Yes	No; Available soon
• Nippon Kaiji Kyokai (Class NK)	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• Polski Rejestr Statkow (PRS)	No	No	No	No	No
• Chinese Classification Society (CCS)	No	No	No	No	No

2

Technical specifications (continued)

Article number	6AV2125-2DB23-0AX0 SIMATIC HMI KTP400F MOBILE	6AV2125-2GB03-0AX0 SIMATIC HMI KTP700 MOBILE	6AV2125-2GB23-0AX0 SIMATIC HMI KTP700F MOBILE	6AV2125-2JB03-0AX0 SIMATIC HMI KTP900 MOBILE	6AV2125-2JB23-0AX0 SIMATIC HMI KTP900F MOBILE
Highest safety class achievable in safety mode					
• Performance level according to ISO 13849-1	PLe	none	PLe	none	PLe
• SIL acc. to IEC 61508	SIL 3	No	SIL 3	No	SIL 3
Use in hazardous areas					
• ATEX Zone 2	No	No	No	No	No
• ATEX Zone 22	No	No	No	No	No
• IECEx Zone 2	No	No	No	No	No
• IECEx Zone 22	No	No	No	No	No
• cULus Class I Zone 1	No	No	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No	No	No
• FM Class I Division 2	No	No	No	No	No
Ambient conditions					
Free fall					
• Fall height, max.	1.2 m	1.2 m	1.2 m	1.2 m	1.2 m
Ambient temperature during operation					
• min.	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C	45 °C	45 °C
Ambient temperature during storage/transportation					
• min.	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C	60 °C
Relative humidity					
• Operation, max.	90 %	90 %	90 %	90 %	90 %
Operating systems					
pre-installed operating system					
• Windows CE	Yes	Yes	Yes	Yes	Yes
Configuration					
Message indicator	Yes	Yes	Yes	Yes	Yes
Alarm system (incl. buffer and acknowledgment)	Yes	Yes	Yes	Yes	Yes
Process value display (output)	Yes	Yes	Yes	Yes	Yes
Process value default (input) possible	Yes	Yes	Yes	Yes	Yes
Recipe management	Yes	Yes	Yes	Yes	Yes
Configuration software					
• STEP 7 Basic (TIA Portal)	No	No	No	No	No
• STEP 7 Professional (TIA Portal)	No	No	No	No	No
• WinCC flexible Compact	No	No	No	No	No
• WinCC flexible Standard	No	No	No	No	No
• WinCC flexible Advanced	No	No	No	No	No
• WinCC Basic (TIA Portal)	No	No	No	No	No
• WinCC Comfort (TIA Portal)	Yes	Yes	Yes	Yes	Yes
• WinCC Advanced (TIA Portal)	Yes	Yes	Yes	Yes	Yes
• WinCC Professional (TIA Portal)	Yes	Yes	Yes	Yes	Yes
Languages					
Online languages					
• Number of online/runtime languages	32	32	32	32	32
Project languages					
• Languages per project	32	32	32	32	32

2

Technical specifications (continued)

Article number	**6AV2125-2DB23-0AX0** SIMATIC HMI KTP400F MOBILE	**6AV2125-2GB03-0AX0** SIMATIC HMI KTP700 MOBILE	**6AV2125-2GB23-0AX0** SIMATIC HMI KTP700F MOBILE	**6AV2125-2JB03-0AX0** SIMATIC HMI KTP900 MOBILE	**6AV2125-2JB23-0AX0** SIMATIC HMI KTP900F MOBILE
Functionality under WinCC (TIA Portal)					
Libraries	Yes	Yes	Yes	Yes	Yes
Applications/options					
• Web browser	Yes	Yes	Yes	Yes	Yes
• Pocket Word	No	No	No	No	No
• Pocket Excel	No	No	No	No	No
• PDF Viewer	Yes	Yes	Yes	Yes	Yes
• Media Player	No	No	No	No	No
• SIMATIC WinCC Sm@rtServer	Yes	Yes	Yes	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes	Yes	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes	Yes	Yes	Yes
Task planner					
• time-controlled	Yes	Yes	Yes	Yes	Yes
• task-controlled	Yes	Yes	Yes	Yes	Yes
Help system					
• Number of characters per info text	500	500	500	500	500
Multiproject					
• Number of projects (internal)	0	0	0	0	0
• Number of projects (external)	0	0	0	0	0
Message system					
• Number of alarm classes	32	32	32	32	32
• Bit messages					
- Number of bit messages	4 000	4 000	4 000	4 000	4 000
• Analog messages					
- Number of analog messages	200	200	200	200	200
• S7 alarm number procedure	Yes	Yes	Yes	Yes	Yes
• System messages HMI	Yes	Yes	Yes	Yes	Yes
• System messages, other (SIMATIC S7, SINUMERIK, SIMOTION, etc.)	Yes	Yes	Yes	Yes	Yes
• Number of characters per message	80	80	80	80	80
• Number of process values per message	8	8	8	8	8
• Acknowledgment groups	Yes	Yes	Yes	Yes	Yes
• Message indicator	Yes	Yes	Yes	Yes	Yes
• Message buffer					
- Number of entries	1 024	1 024	1 024	1 024	1 024
- Circulating buffer	Yes	Yes	Yes	Yes	Yes
- retentive	Yes	Yes	Yes	Yes	Yes
- maintenance-free	Yes	Yes	Yes	Yes	Yes
Recipe management					
• Number of recipes	300	300	300	300	300
• Data records per recipe	500	500	500	500	500
• Entries per data record	1 000	1 000	1 000	1 000	1 000
• Size of internal recipe memory	2 Mbyte	2 Mbyte	2 Mbyte	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes	Yes	Yes	Yes
Variables					
• Number of variables per device	2 048	2 048	2 048	2 048	2 048
• Number of variables per screen	50	400	400	400	400
Lists					
• Number of text lists per project	500	500	500	500	500
• Number of entries per text list	500	500	500	500	500
• Number of graphics lists per project	500	500	500	500	500
• Number of entries per graphics list	500	500	500	500	500

2

Technical specifications (continued)

Article number	**6AV2125-2DB23-0AX0** SIMATIC HMI KTP400F MOBILE	**6AV2125-2GB03-0AX0** SIMATIC HMI KTP700 MOBILE	**6AV2125-2GB23-0AX0** SIMATIC HMI KTP700F MOBILE	**6AV2125-2JB03-0AX0** SIMATIC HMI KTP900 MOBILE	**6AV2125-2JB23-0AX0** SIMATIC HMI KTP900F MOBILE
Archiving					
• Number of archives per device	50	50	50	50	50
• Number of entries per archive	20 000	20 000	20 000	20 000	20 000
Process coupling					
• S7-1200	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes	Yes	Yes
• S7-200	Yes	Yes	Yes	Yes	Yes
• S7-300/400	Yes	Yes	Yes	Yes	Yes
• LOGO!	Yes	Yes	Yes	Yes	Yes
• WinAC	Yes; WinAC RTX	Yes; WinAC RTX	Yes; WinAC RTX	Yes; WinAC RTX	Yes; WinAC RTX
• SINUMERIK	Yes; without NC channel	Yes	Yes; without NC channel	Yes	Yes; without NC channel
• SIMOTION	Yes	Yes	Yes	Yes	Yes
Service tools/configuration aids					
• Backup/Restore manually	Yes	Yes	Yes	Yes	Yes
• Backup/Restore automatically	No	Yes	Yes	Yes	Yes
• Simulation	Yes	Yes	Yes	Yes	Yes
• Device switchover	Yes	Yes	Yes	Yes	Yes
Peripherals/Options					
Peripherals					
• Printer	Yes	Yes	Yes	Yes	Yes
Dimensions					
Width of the housing front	194 mm	248.4 mm	248.4 mm	307.5 mm	307.5 mm
Height of housing front	166 mm	171.7 mm	194.9 mm	200.9 mm	223.5 mm
Weights					
Weight without packaging	0.7 kg	1.2 kg	1.3 kg	1.5 kg	1.6 kg
Weight incl. packaging	0.95 kg	1.3 kg	1.4 kg	1.6 kg	1.7 kg

Ordering data

	Article No.
SIMATIC Mobile Panels for 2nd Generation [1)]	
KTP400F Mobile	**6AV2125-2DB23-0AX0**
KTP700 Mobile	**6AV2125-2GB03-0AX0**
KTP700F Mobile	**6AV2125-2GB23-0AX0**
KTP900 Mobile	**6AV2125-2JB03-0AX0**
KTP900F Mobile	**6AV2125-2JB23-0AX0**

	Article No.
Starter kit Mobile Panel Consisting of: 1x KTP700F Mobile, 1x connection box standard, 1x connecting cable 2 m, 1x wall bracket, 1x WinCC Comfort (TIA Portal)	**6AV2133-5GA00-0AA0**
Accessories	
Connecting cable and accessories for Mobile Panels	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

1) The system components (connecting cables and connection boxes) must be ordered separately.

More information

More information is available on the Internet at:

http://www.siemens.com/mobile-panels

Note:

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

Overview

Technical specifications

Article number	6AV6645-0DD01-0AX1 MOBILE PANEL 277 IWLAN V2	6AV6645-0DE01-0AX1 MOBILE PANEL 277 IWLAN V2	6AV6645-0EB01-0AX1 MOBILE PANEL 277F IWLAN V2	6AV6645-0EC01-0AX1 MOBILE PANEL 277F IWLAN V2	6AV6645-0EF01-0AX1 MOBILE PANEL 277F IWLAN V2 (RFID TAG)
Display					
Design of display	TFT	TFT	TFT	TFT	TFT
Screen diagonal	7.5 in	7.5 in	7.5 in	7.5 in	7.5 in
Resolution (pixels)					
• Horizontal image resolution	640 Pixel	640 Pixel	640 Pixel	640 Pixel	640 Pixel
• Vertical image resolution	480 Pixel	480 Pixel	480 Pixel	480 Pixel	480 Pixel
Backlighting					
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h	50 000 h	50 000 h	50 000 h
Operator controls					
Operator controls	Keys and touch	Keys and touch	Keys and touch	Keys and touch	Keys and touch
Keyboard fonts					
• Function keys					
- Number of function keys	18	18	18	18	18
- Number of function keys with LEDs	18	18	18	18	18
Touch operation					
• Design as touch screen	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive
Connection type					
• Connection for mouse/keyboard/ barcode reader	USB / USB / USB	USB / USB / USB	USB / USB / USB	USB / USB / USB	USB / USB / USB
Special operator controls					
• Stop button	No	No			
• Emergency stop button (forced blocking)			Yes	Yes	Yes
• Acknowledgement button	No	No	Yes	Yes	Yes
• Key-operated switch	No	Yes	No	Yes	Yes
• Illuminated pushbutton	No	Yes	No	Yes	Yes
• Handwheel	No	Yes	No	Yes	Yes

Technical specifications (continued)

Article number	**6AV6645-0DD01-0AX1** MOBILE PANEL 277 IWLAN V2	**6AV6645-0DE01-0AX1** MOBILE PANEL 277 IWLAN V2	**6AV6645-0EB01-0AX1** MOBILE PANEL 277F IWLAN V2	**6AV6645-0EC01-0AX1** MOBILE PANEL 277F IWLAN V2	**6AV6645-0EF01-0AX1** MOBILE PANEL 277F IWLAN V2 (RFID TAG)
Supply voltage					
Design of the power supply	Via charging station or table power supply	Via charging station or table power supply	Via charging station or table power supply	Via charging station or table power supply	Via charging station or table power supply
Type of supply voltage	DC	DC	DC	DC	DC
Processor					
Processor type	ARM, 520 MHz	ARM, 520 MHz	ARM, 520 MHz	ARM, 520 MHz	ARM, 520 MHz
Memory					
Type of memory	Flash / RAM	Flash / RAM	Flash / RAM	Flash / RAM	Flash / RAM
Memory available for user data	6 Mbyte	6 Mbyte	6 Mbyte	6 Mbyte	6 Mbyte
Accumulator					
Main battery					
• Rated voltage	7.2 V	7.2 V	7.2 V	7.2 V	7.2 V
• Capacity	5 100 mA·h	5 100 mA·h	5 100 mA·h	5 100 mA·h	5 100 mA·h
• Number of loading cycles, min	500	500	500	500	500
• Charging time, typ.	4 h	4 h	4 h	4 h	4 h
• Operating time, typ.	4 h	4 h	4 h	4 h	4 h
• Display for battery capacity	Yes	Yes	Yes	Yes	Yes
• Energy-saving mode	Yes	Yes	Yes	Yes	Yes
• Battery replacement during operation	Yes	Yes	Yes	Yes	Yes
Type of output					
Status LEDs	Yes	Yes	Yes	Yes	Yes
LED for safe			Yes	Yes	Yes
LED for communication	Yes	Yes	Yes	Yes	Yes
LED for battery	Yes	Yes	Yes	Yes	Yes
Vibrations	Yes	Yes	Yes	Yes	Yes
Time of day					
Clock					
• Type	Hardware clock, battery backup, synchronizable	Hardware clock, battery backup, synchronizable	Hardware clock, battery backup, synchronizable	Hardware clock, battery backup, synchronizable	Hardware clock, battery backup, synchronizable
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes
• retentive	Yes	Yes	Yes	Yes	Yes
• synchronizable	Yes	Yes	Yes	Yes	Yes
Interfaces					
Interfaces/bus type	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)
Number of USB interfaces	1	1	1	1	1
USB port	1 x USB	1 x USB	1 x USB	1 x USB	1 x USB
Multimedia card/SD card slot	1 MMC/SD card slot	1 MMC/SD card slot	1 MMC/SD card slot	1 MMC/SD card slot	1 MMC/SD card slot
Industrial Ethernet					
• Industrial Ethernet interface	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)
WLAN					
• Wireless LAN	Yes	Yes	Yes	Yes	Yes
• Supports rapid roaming	Yes	Yes	Yes	Yes	Yes
Protocols					
PROFINET	Yes	Yes	Yes	Yes	Yes
Supports protocol for PROFINET IO	Yes	Yes	Yes	Yes	Yes
PROFIsafe	No	No	Yes	Yes	Yes

Technical specifications (continued)

Article number	**6AV6645-0DD01-0AX1** MOBILE PANEL 277 IWLAN V2	**6AV6645-0DE01-0AX1** MOBILE PANEL 277 IWLAN V2	**6AV6645-0EB01-0AX1** MOBILE PANEL 277F IWLAN V2	**6AV6645-0EC01-0AX1** MOBILE PANEL 277F IWLAN V2	**6AV6645-0EF01-0AX1** MOBILE PANEL 277F IWLAN V2 (RFID TAG)
EMC					
Emission of radio interference acc. to EN 55 011					
• Limit class A, for use in industrial areas	Yes; The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation	Yes; The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation	Yes; The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation	Yes; The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation	Yes; The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation
Degree and class of protection					
Enclosure according to EN 60529	IP65	IP65	IP65	IP65	IP65
Standards, approvals, certificates					
Certifications	cULus, RCM (former C-TICK)	cULus, RCM (former C-TICK)	cULus, RCM (former C-TICK)	cULus, RCM (former C-TICK)	cULus, RCM (former C-TICK)
CE mark	No	No	No	No	No
cULus	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
TÜV safety certification			Yes	Yes	Yes
Highest safety class achievable in safety mode					
• Performance level according to ISO 13849-1			e	e	e
• SIL acc. to IEC 61508			SIL 3	SIL 3	SIL 3
Ambient conditions					
Free fall					
• Fall height, max.	1.2 m	1.2 m	1.2 m	1.2 m	1.2 m
Ambient temperature during operation					
• min.	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	40 °C	40 °C	40 °C	40 °C	40 °C
Ambient temperature during storage/transportation					
• min.	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C	60 °C
Relative humidity					
• Operation, max.	80 %	80 %	80 %	80 %	80 %
Operating systems					
pre-installed operating system	Windows CE	Windows CE	Windows CE	Windows CE	Windows CE
Languages					
Online languages					
• Number of online/runtime languages	16	16	16	16	16
Functionality under WinCC (TIA Portal)					
Libraries	Yes	Yes	Yes	Yes	Yes
Task planner	Yes	Yes	Yes	Yes	Yes
Message system					
• Number of messages	4 000	4 000	4 000	4 000	4 000
• Bit messages	Yes	Yes	Yes	Yes	Yes
• Analog messages	Yes	Yes	Yes	Yes	Yes
Recipe management					
• Number of recipes	300	300	300	300	300
• Data records per recipe	500	500	500	500	500
• Entries per data record	1 000	1 000	1 000	1 000	1 000
• Recipe memory	64 KB integrated Flash, expandable	64 KB integrated Flash, expandable	64 KB integrated Flash, expandable	64 KB integrated Flash, expandable	64 KB integrated Flash, expandable

2

Technical specifications (continued)

Article number	**6AV6645-0DD01-0AX1** MOBILE PANEL 277 IWLAN V2	**6AV6645-0DE01-0AX1** MOBILE PANEL 277 IWLAN V2	**6AV6645-0EB01-0AX1** MOBILE PANEL 277F IWLAN V2	**6AV6645-0EC01-0AX1** MOBILE PANEL 277F IWLAN V2	**6AV6645-0EF01-0AX1** MOBILE PANEL 277F IWLAN V2 (RFID TAG)
Variables					
• Number of variables per device	2 048	2 048	2 048	2 048	2 048
• Limit values	Yes	Yes	Yes	Yes	Yes
• Multiplexing	Yes	Yes	Yes	Yes	Yes
Images					
• Number of configurable images	500	500	500	500	500
Image objects					
• Text objects	10,000 text elements	10,000 text elements	10,000 text elements	10,000 text elements	10,000 text elements
• Graphics object	Bit maps, icons, vector graphics	Bit maps, icons, vector graphics	Bit maps, icons, vector graphics	Bit maps, icons, vector graphics	Bit maps, icons, vector graphics
Complex image objects					
• Status/control	Yes; With SIMATIC S7	Yes; With SIMATIC S7	Yes; With SIMATIC S7	Yes; With SIMATIC S7	Yes; With SIMATIC S7
• dynamic objects	Diagrams, bar graphs, sliders, analog display, invisible buttons	Diagrams, bar graphs, sliders, analog display, invisible buttons	Diagrams, bar graphs, sliders, analog display, invisible buttons	Diagrams, bar graphs, sliders, analog display, invisible buttons	Diagrams, bar graphs, sliders, analog display, invisible buttons
Lists					
• Number of text lists per project	500	500	500	500	500
• Number of graphics lists per project	400	400	400	400	400
Archiving					
• Number of archives per device	20	20	20	20	20
• Number of measuring points per project	20	20	20	20	20
• Number of entries per archive	10 000	10 000	10 000	10 000	10 000
Security					
• Number of user groups	50	50	50	50	50
• Number of user rights	32	32	32	32	32
• Password export/import	Yes	Yes	Yes	Yes	Yes
Logging through printer					
• Recording/Printing	Alarms, report (shift report), PROFINET	Alarms, report (shift report), PROFINET	Alarms, report (shift report), PROFINET	Alarms, report (shift report), PROFINET	Alarms, report (shift report), PROFINET
Transfer (upload/download)					
• Transfer of configuration	USB, Ethernet, automatic transfer recognition	USB, Ethernet, automatic transfer recognition	USB, Ethernet, automatic transfer recognition	USB, Ethernet, automatic transfer recognition	USB, Ethernet, automatic transfer recognition
• Wireless LAN	Yes	Yes	Yes	Yes	Yes
Process coupling					
• Connection to controller	S7-200, S7- 300/400 see section on "System interfaces"	S7-200, S7- 300/400 see section on "System interfaces"	S7-200, S7- 300/400 see section on "System interfaces"	S7-200, S7- 300/400 see section on "System interfaces"	S7-200, S7- 300/400 see section on "System interfaces"
• S7-1200	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes; As of V13 SP1 Update 4, PROFIsafe communication also possible	Yes; As of V13 SP1 Update 4, PROFIsafe communication also possible	Yes; As of V13 SP1 Update 4, PROFIsafe communication also possible
• Zones	Yes	Yes	Yes	Yes	Yes
- Number of zones per project, max.	254	254	254	254	254
- Number of transponders for zones per project, max.	255	255	255	255	255
• Effective range			Yes	Yes	Yes
- Number of effective ranges per project, max.			127	127	127
- Number of transponders for effective ranges per project, max.			127	127	127
• Transponder	Yes	Yes	Yes	Yes	Yes
- Number of transponders per project, max.	256	256	256	256	256
- adjustable distance range	Yes	Yes	Yes	Yes	Yes
- adjustable distance, min.	2 m	2 m	2 m	2 m	2 m
- adjustable distance, max.	8 m	8 m	8 m	8 m	8 m

Technical specifications (continued)

Article number	**6AV6645-0DD01-0AX1** MOBILE PANEL 277 IWLAN V2	**6AV6645-0DE01-0AX1** MOBILE PANEL 277 IWLAN V2	**6AV6645-0EB01-0AX1** MOBILE PANEL 277F IWLAN V2	**6AV6645-0EC01-0AX1** MOBILE PANEL 277F IWLAN V2	**6AV6645-0EF01-0AX1** MOBILE PANEL 277F IWLAN V2 (RFID TAG)
Peripherals/Options					
Peripherals	Barcode reader	Barcode reader	Barcode reader	Barcode reader	Barcode reader
• SIMATIC HMI MM memory card: Multi Media Card	Yes	Yes	Yes	Yes	Yes
Mechanics/material					
Type of housing (front)	plastic	plastic	plastic	plastic	plastic
Dimensions					
Enclosure diameter	290 mm	290 mm	290 mm	290 mm	290 mm
Depth of housing	103 mm	103 mm	103 mm	103 mm	103 mm
Weights					
Weight (without packaging)	2.2 kg	2.2 kg	2.2 kg	2.2 kg	2.2 kg

Article number	**6AV6645-0FD01-0AX1** MOBILE PANEL 277 IWLAN V2 (USA VERSION)	**6AV6645-0FE01-0AX1** MOBILE PANEL 277 IWLAN V2 (USA VERSION)	**6AV6645-0GB01-0AX1** MOBILE PANEL 277F IWLAN V2 (USA VERSION)	**6AV6645-0GC01-0AX1** MOBILE PANEL 277F IWLAN V2 (USA VERSION)	**6AV6645-0GF01-0AX1** MOBILE PANEL 277F IWLAN (RFID TAG/USA)
Display					
Design of display	TFT	TFT	TFT	TFT	TFT
Screen diagonal	7.5 in	7.5 in	7.5 in	7.5 in	7.5 in
Resolution (pixels)					
• Horizontal image resolution	640 Pixel	640 Pixel	640 Pixel	640 Pixel	640 Pixel
• Vertical image resolution	480 Pixel	480 Pixel	480 Pixel	480 Pixel	480 Pixel
Backlighting					
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h	50 000 h	50 000 h	50 000 h
Operator controls					
Operator controls	Keys and touch	Keys and touch	Keys and touch	Keys and touch	Keys and touch
Keyboard fonts					
• Function keys					
- Number of function keys	18	18	18	18	18
- Number of function keys with LEDs	18	18	18	18	18
Touch operation					
• Design as touch screen	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive
Connection type					
• Connection for mouse/keyboard/ barcode reader	USB / USB / USB	USB / USB / USB	USB / USB / USB	USB / USB / USB	USB / USB / USB
Special operator controls					
• Stop button	No	No			
• Emergency stop button (forced blocking)			Yes	Yes	Yes
• Acknowledgement button	No	No	Yes	Yes	Yes
• Key-operated switch	No	Yes	No	Yes	No
• Illuminated pushbutton	No	Yes	No	Yes	No
• Handwheel	No	Yes	No	Yes	No
Supply voltage					
Design of the power supply	Via charging station or table power supply	Via charging station or table power supply	Via charging station or table power supply	Via charging station or table power supply	Via charging station or table power supply
Type of supply voltage	DC	DC	DC	DC	DC

2

Technical specifications (continued)

Article number	**6AV6645-0FD01-0AX1** MOBILE PANEL 277 IWLAN V2 (USA VERSION)	**6AV6645-0FE01-0AX1** MOBILE PANEL 277 IWLAN V2 (USA VERSION)	**6AV6645-0GB01-0AX1** MOBILE PANEL 277F IWLAN V2 (USA VERSION)	**6AV6645-0GC01-0AX1** MOBILE PANEL 277F IWLAN V2 (USA VERSION)	**6AV6645-0GF01-0AX1** MOBILE PANEL 277F IWLAN (RFID TAG/USA)
Processor					
Processor type	ARM, 520 MHz	ARM, 520 MHz	ARM, 520 MHz	ARM, 520 MHz	ARM, 520 MHz
Memory					
Type of memory	Flash / RAM	Flash / RAM	Flash / RAM	Flash / RAM	Flash / RAM
Memory available for user data	6 Mbyte	6 Mbyte	6 Mbyte	6 Mbyte	6 Mbyte
Accumulator					
Main battery					
• Rated voltage	7.2 V	7.2 V	7.2 V	7.2 V	7.2 V
• Capacity	5 100 mA·h	5 100 mA·h	5 100 mA·h	5 100 mA·h	5 100 mA·h
• Number of loading cycles, min	500	500	500	500	500
• Charging time, typ.	4 h	4 h	4 h	4 h	4 h
• Operating time, typ.	4 h	4 h	4 h	4 h	4 h
• Display for battery capacity	Yes	Yes	Yes	Yes	Yes
• Energy-saving mode	Yes	Yes	Yes	Yes	Yes
• Battery replacement during operation	Yes	Yes	Yes	Yes	Yes
Type of output					
Status LEDs	Yes	Yes	Yes	Yes	Yes
LED for safe			Yes	Yes	Yes
LED for communication	Yes	Yes	Yes	Yes	Yes
LED for battery	Yes	Yes	Yes	Yes	Yes
Vibrations	Yes	Yes	Yes	Yes	Yes
Time of day					
Clock					
• Type	Hardware clock, battery backup, synchronizable	Hardware clock, battery backup, synchronizable	Hardware clock, battery backup, synchronizable	Hardware clock, battery backup, synchronizable	Hardware clock, battery backup, synchronizable
• Hardware clock (real-time)	Yes	Yes	Yes	Yes	Yes
• retentive	Yes	Yes	Yes	Yes	Yes
• synchronizable	Yes	Yes	Yes	Yes	Yes
Interfaces					
Interfaces/bus type	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)
Number of USB interfaces	1	1	1	1	1
USB port	1 x USB	1 x USB	1 x USB	1 x USB	1 x USB
Multimedia card/SD card slot	1 MMC/SD card slot	1 MMC/SD card slot	1 MMC/SD card slot	1 MMC/SD card slot	1 MMC/SD card slot
Industrial Ethernet					
• Industrial Ethernet interface	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)	1 x Ethernet (RJ45)
WLAN					
• Wireless LAN	Yes	Yes	Yes	Yes	Yes
• Supports rapid roaming	Yes	Yes	Yes	Yes	Yes
Protocols					
PROFINET	Yes	Yes	Yes	Yes	Yes
Supports protocol for PROFINET IO	Yes	Yes	Yes	Yes	Yes
PROFIsafe	No	No	Yes	Yes	Yes
EMC					
Emission of radio interference acc. to EN 55 011					
• Limit class A, for use in industrial areas	Yes; The product is designed for use in industrial environ-ments. When used in residential areas, the emission of radio inter-ference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation	Yes; The product is designed for use in industrial environ-ments. When used in residential areas, the emission of radio inter-ference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation	Yes; The product is designed for use in industrial environ-ments. When used in residential areas, the emission of radio inter-ference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation	Yes; The product is designed for use in industrial environ-ments. When used in residential areas, the emission of radio inter-ference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation	Yes; The product is designed for use in industrial environ-ments. When used in residential areas, the emission of radio inter-ference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation

Technical specifications (continued)

Article number	**6AV6645-0FD01-0AX1** MOBILE PANEL 277 IWLAN V2 (USA VERSION)	**6AV6645-0FE01-0AX1** MOBILE PANEL 277 IWLAN V2 (USA VERSION)	**6AV6645-0GB01-0AX1** MOBILE PANEL 277F IWLAN V2 (USA VERSION)	**6AV6645-0GC01-0AX1** MOBILE PANEL 277F IWLAN V2 (USA VERSION)	**6AV6645-0GF01-0AX1** MOBILE PANEL 277F IWLAN (RFID TAG/USA)
Degree and class of protection					
Enclosure according to EN 60529	IP65	IP65	IP65	IP65	IP65
Standards, approvals, certificates					
Certifications	cULus, RCM (former C-TICK)	cULus, RCM (former C-TICK)	cULus, RCM (former C-TICK)	cULus, RCM (former C-TICK)	CE, cULus, C-TICK
CE mark	No	No	No	No	Yes
cULus	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
TÜV safety certification			Yes	Yes	Yes
Highest safety class achievable in safety mode					
• Performance level according to ISO 13849-1			e	e	e
• SIL acc. to IEC 61508			SIL 3	SIL 3	SIL 3
Ambient conditions					
Free fall					
• Fall height, max.	1.2 m	1.2 m	1.2 m	1.2 m	1.2 m
Ambient temperature during operation					
• min.	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	40 °C	40 °C	40 °C	40 °C	40 °C
Ambient temperature during storage/transportation					
• min.	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C	60 °C
Relative humidity					
• Operation, max.	80 %	80 %	80 %	80 %	80 %
Operating systems					
pre-installed operating system	Windows CE	Windows CE	Windows CE	Windows CE	Windows CE
Languages					
Online languages					
• Number of online/runtime languages	16	16	16	16	16
Functionality under WinCC (TIA Portal)					
Libraries	Yes	Yes	Yes	Yes	Yes
Task planner	Yes	Yes	Yes	Yes	Yes
Message system					
• Number of messages	4 000	4 000	4 000	4 000	4 000
• Bit messages	Yes	Yes	Yes	Yes	Yes
• Analog messages	Yes	Yes	Yes	Yes	Yes
Recipe management					
• Number of recipes	300	300	300	300	300
• Data records per recipe	500	500	500	500	500
• Entries per data record	1 000	1 000	1 000	1 000	1 000
• Recipe memory	64 KB integrated Flash, expandable	64 KB integrated Flash, expandable	64 KB integrated Flash, expandable	64 KB integrated Flash, expandable	64 KB integrated Flash, expandable
Variables					
• Number of variables per device	2 048	2 048	2 048	2 048	2 048
• Limit values	Yes	Yes	Yes	Yes	Yes
• Multiplexing	Yes	Yes	Yes	Yes	Yes
Images					
• Number of configurable images	500	500	500	500	500
Image objects					
• Text objects	10,000 text elements	10,000 text elements	10,000 text elements	10,000 text elements	10,000 text elements
• Graphics object	Bit maps, icons, vector graphics	Bit maps, icons, vector graphics	Bit maps, icons, vector graphics	Bit maps, icons, vector graphics	Bit maps, icons, vector graphics

Technical specifications (continued)

Article number	6AV6645-0FD01-0AX1 MOBILE PANEL 277 IWLAN V2 (USA VERSION)	6AV6645-0FE01-0AX1 MOBILE PANEL 277 IWLAN V2 (USA VERSION)	6AV6645-0GB01-0AX1 MOBILE PANEL 277F IWLAN V2 (USA VERSION)	6AV6645-0GC01-0AX1 MOBILE PANEL 277F IWLAN V2 (USA VERSION)	6AV6645-0GF01-0AX1 MOBILE PANEL 277F IWLAN (RFID TAG/USA)
Complex image objects					
• Status/control	Yes; With SIMATIC S7	Yes; With SIMATIC S7	Yes; With SIMATIC S7	Yes; With SIMATIC S7	Yes; With SIMATIC S7
• dynamic objects	Diagrams, bar graphs, sliders, analog display, invisible buttons	Diagrams, bar graphs, sliders, analog display, invisible buttons	Diagrams, bar graphs, sliders, analog display, invisible buttons	Diagrams, bar graphs, sliders, analog display, invisible buttons	Diagrams, bar graphs, sliders, analog display, invisible buttons
Lists					
• Number of text lists per project	500	500	500	500	500
• Number of graphics lists per project	400	400	400	400	400
Archiving					
• Number of archives per device	20	20	20	20	20
• Number of measuring points per project	20	20	20	20	20
• Number of entries per archive	10 000	10 000	10 000	10 000	10 000
Security					
• Number of user groups	50	50	50	50	50
• Number of user rights	32	32	32	32	32
• Password export/import	Yes	Yes	Yes	Yes	Yes
Logging through printer					
• Recording/Printing	Alarms, report (shift report), PROFINET	Alarms, report (shift report), PROFINET	Alarms, report (shift report), PROFINET	Alarms, report (shift report), PROFINET	Alarms, report (shift report), PROFINET
Transfer (upload/download)					
• Transfer of configuration	USB, Ethernet, automatic transfer recognition	USB, Ethernet, automatic transfer recognition	USB, Ethernet, automatic transfer recognition	USB, Ethernet, automatic transfer recognition	USB, Ethernet, automatic transfer recognition
• Wireless LAN	Yes	Yes	Yes	Yes	Yes
Process coupling					
• Connection to controller	S7-200, S7- 300/400 see section on "System interfaces"	S7-200, S7- 300/400 see section on "System interfaces"	S7-200, S7- 300/400 see section on "System interfaces"	S7-200, S7- 300/400 see section on "System interfaces"	S7-200, S7- 300/400 see section on "System interfaces"
• S7-1200	Yes	Yes	Yes	Yes	Yes
• S7-1500	Yes	Yes	Yes; As of V13 SP1 Update 4, PROFIsafe communication also possible	Yes; As of V13 SP1 Update 4, PROFIsafe communication also possible	Yes; As of V13 SP1 Update 4, PROFIsafe communication also possible
• Zones	Yes	Yes	Yes	Yes	Yes
- Number of zones per project, max.	254	254	254	254	254
- Number of transponders for zones per project, max.	255	255	255	255	255
• Effective range			Yes	Yes	Yes
- Number of effective ranges per project, max.			127	127	127
- Number of transponders for effective ranges per project, max.			127	127	127
• Transponder	Yes	Yes	Yes	Yes	Yes
- Number of transponders per project, max.	256	256	256	256	256
- adjustable distance range	Yes	Yes	Yes	Yes	Yes
- adjustable distance, min.	2 m	2 m	2 m	2 m	2 m
- adjustable distance, max.	8 m	8 m	8 m	8 m	8 m
Peripherals/Options					
Peripherals	Barcode reader	Barcode reader	Barcode reader	Barcode reader	Barcode reader
• SIMATIC HMI MM memory card: Multi Media Card	Yes	Yes	Yes	Yes	Yes
Mechanics/material					
Type of housing (front)	plastic	plastic	plastic	plastic	plastic
Dimensions					
Enclosure diameter	290 mm	290 mm	290 mm	290 mm	290 mm
Depth of housing	103 mm	103 mm	103 mm	103 mm	103 mm
Weights					
Weight (without packaging)	2.2 kg	2.2 kg	2.2 kg	2.2 kg	2.2 kg

Ordering data

	Article No.
SIMATIC Mobile Panel 277 IWLAN V2 (EU version [1])	
• Communication via WLAN (PROFINET)	**6AV6645-0DD02-0AX1**
• Communication via WLAN (PROFINET) with integrated handwheel, key-operated switch and two illuminated pushbuttons	**6AV6645-0DE02-0AX1**
SIMATIC Mobile Panel 277F IWLAN V2 PROFIsafe (EU version [1])	
• Communication via WLAN (PROFINET) with acknowledgement button and emergency stop button	**6AV6645-0EB02-0AX1**
• Communication via WLAN (PROFINET) with acknowledgement button and emergency stop button with integrated handwheel, key-operated switch, and two illuminated pushbuttons	**6AV6645-0EC02-0AX1**
• RFID tag version: Communication via WLAN (PROFINET) with acknowledgement button and emergency stop button with integrated handwheel, key-operated switch, and two illuminated pushbuttons	**6AV6645-0EF02-0AX1**
SIMATIC Mobile Panel 277 IWLAN V2 (RoW version [2])	
• Communication via WLAN (PROFINET)	**6AV6645-0DD01-0AX1**
• Communication via WLAN (PROFINET) with integrated handwheel, key-operated switch and two illuminated pushbuttons	**6AV6645-0DE01-0AX1**
SIMATIC Mobile Panel 277F IWLAN V2 PROFIsafe (RoW version [2])	
• Communication via WLAN (PROFINET) with acknowledgement button and emergency stop button	**6AV6645-0EB01-0AX1**
• Communication via WLAN (PROFINET) with acknowledgement button and emergency stop button with integrated handwheel, key-operated switch, and two illuminated pushbuttons	**6AV6645-0EC01-0AX1**
• RFID tag version: Communication via WLAN (PROFINET) with acknowledgement button and emergency stop button with integrated handwheel, key-operated switch, and two illuminated pushbuttons	**6AV6645-0EF01-0AX1**

	Article No.
SIMATIC Mobile Panel 277 IWLAN V2 (USA version)	
• Communication via WLAN (PROFINET)	**6AV6645-0FD01-0AX1**
• Communication via WLAN (PROFINET) with integrated handwheel, key-operated switch and two illuminated pushbuttons	**6AV6645-0FE01-0AX1**
SIMATIC Mobile Panel 277F IWLAN V2 PROFIsafe (USA version)	
• with acknowledgement button and emergency stop button	**6AV6645-0GB01-0AX1**
• with acknowledgement button and emergency stop button with integrated handwheel, key-operated switch, and two illuminated pushbuttons	**6AV6645-0GC01-0AX1**
• with acknowledgement button and emergency stop button with integrated handwheel, key-operated switch, and two illuminated pushbuttons (tag version)	**6AV6645-0GF01-0AX1**
Starter kit SIMATIC Mobile Panel 277(F) IWLAN (RoW version [2])	
for	
• Mobile Panel 277 IWLAN V2	**6AV6651-5GA01-0AA1**
• Mobile Panel 277F IWLAN V2	**6AV6651-5HA01-0AA1**
Accessories	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"
Note: Please order the table-top power supply or charging station as well. Required for charging the battery.	
Documentation (to be ordered separately)	
You can find the manuals for the Mobile Panels on the Internet at:	http://support.automation.siemens.com/WW/view/en/11599011/133300
SIMATIC Manual Collection	**6ES7998-8XC01-8YE0**
on DVD, 5 languages (English, French, German, Italian, Spanish); all manuals for S7-1200/200/300/400, C7, LOGO!, SIMATIC DP, PC, PG, STEP7, Engineering SW, RT SW, PCS7, SIMATIC HMI, SIMATIC NET, SIMATIC IDENT	

[1] EU version: For sales in the European Economic Area

[2] RoW version: "Rest of World" version: Version for worldwide sales except in the U.S. and the EU

The Function Manuals "Fail-Safe Operation of the Mobile Panel 277F IWLAN V1" are available for downloading in English, German, and Japanese.

http://support.automation.siemens.com/WW/view/en/31255853

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-mobile-panels

Note

Do you need a specific modification or addition to the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.

System components for Mobile Panels

Overview

System components for SIMATIC Mobile Panels are perfectly matched to the SIMATIC Mobile Panels. Charging stations, transponders, and diverse connection boxes are available for various applications.

Accessories for SIMATIC Mobile Panels can be found under "Accessories".

Only the latest accessories are listed in this section; the full range of accessories is available in the Mall and in our other online media.

More information

Reliable wireless communication solution on different automation levels according to IEEE 802.11n. The SCALANCE W Industrial Wireless LAN (IWLAN) products facilitate applications scalable in price and performance.

http://www.siemens.com/iwlan

Overview

Mobile Panels with emergency stop buttons can be wired into the emergency stop circuit of a machine or plant by means of the connection boxes.

Pressing the emergency stop button on the Mobile Panel activates the emergency stop function.

The emergency stop button on the Mobile Panel supplements, but does not replace, the emergency stop equipment permanently installed on the machine.

Technical specifications

Article number	**6AV2125-2AE03-0AX0** SIMATIC HMI CONNECTION BOX COMPACT	**6AV2125-2AE13-0AX0** SIMATIC HMI CONNECTION BOX STANDARD	**6AV2125-2AE23-0AX0** SIMATIC HMI CONNECTION BOX ADVANCED
General information			
Product type designation	SIMATIC HMI connection box, compact	SIMATIC HMI connection box, standard	SIMATIC HMI connection box, advanced
Product function			
• Web-based management	No	Yes	Yes
FH technology			
Safety evaluation through direct wiring			
• Reconnection without emergency stop circuit interruption	No	No	Yes
• Reconnection with emergency stop circuit interruption	Yes	Yes	No
• Monitoring the STOP button	Yes	Yes	Yes
• Monitoring of emergency stop button	Yes	Yes	Yes
• Monitoring of acknowledgement button	Yes	Yes	Yes
Safety evaluation via PROFIsafe			
• Reconnection without emergency stop circuit interruption	Yes	Yes	Yes
• Reconnection with emergency stop circuit interruption	No	No	No
• Monitoring the STOP button	Yes	Yes	Yes
• Monitoring of emergency stop button	Yes	Yes	Yes
• Monitoring of acknowledgement button	Yes	Yes	Yes
Installation type/mounting			
Wall mounting/direct mounting	No	Yes	Yes
Control cabinet installation	Yes	No	No
Supply voltage			
Type of supply voltage	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V
Input current			
Current consumption (rated value)	18 mA	96 mA	95 mA
Starting current inrush I^2t	0.003 $A^2 \cdot s$	0.15 $A^2 \cdot s$	0.16 $A^2 \cdot s$

2

Technical specifications (continued)

Article number	6AV2125-2AE03-0AX0 SIMATIC HMI CONNECTION BOX COMPACT	6AV2125-2AE13-0AX0 SIMATIC HMI CONNECTION BOX STANDARD	6AV2125-2AE23-0AX0 SIMATIC HMI CONNECTION BOX ADVANCED
Power			
Active power input, typ.	0.43 W	2.3 W	2.3 W
Interfaces			
Number of industrial Ethernet interfaces	2	3	3
Number of PROFINET interfaces	2	3	3
Connection point identification	Yes	Yes	Yes
Industrial Ethernet			
• Industrial Ethernet status LED	0	3	3
Protocols			
PROFINET	Yes; No switch functionality	Yes	Yes
IRT	No	No	Yes
MRP	No	No	Yes
PROFIsafe	Yes; No switch functionality	Yes	Yes
AS-Interface	No	No	No
EIB/KNX	No	No	No
Protocols (Ethernet)			
• TCP/IP	Yes; No switch functionality	Yes	Yes
• DHCP	No	Yes	Yes
• SNMP	No	Yes	Yes
• DCP	No	Yes	Yes
• LLDP	No	Yes	Yes
Further protocols			
• AS-Interface Safety at Work	No	No	No
• CAN	No	No	No
• Data-Highway	No	No	No
• DeviceNet	No	No	No
• DeviceNet Safety	No	No	No
• EtherNet/IP	Yes	Yes	Yes
• Foundation Fieldbus	No	No	No
• INTERBUS	No	No	No
• INTERBUS-Safety	No	No	No
• Local Operating Network	No	No	No
• MODBUS	Yes	Yes	Yes
• SafetyBUS p	No	No	No
• SERCOS	No	No	No
• SUCOnet	No	No	No
• other bus systems	No	No	No
EMC			
Emission of radio interference acc. to EN 55 011			
• Limit class A, for use in industrial areas	Yes; EN 61000-6-4, interference emission: Intended for use in industrial areas.	No	No
• Limit class B, for use in residential areas	No	No	No
Degree and class of protection			
IP degree of protection		IP65	IP65
IP65 (all-round)		Yes	Yes
IP (at the front)	IP65	IP65	IP65
IP (rear)	IP20		
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon
Suitable for safety functions	Yes	Yes	Yes

2

Technical specifications (continued)

Article number	**6AV2125-2AE03-0AX0** SIMATIC HMI CONNECTION BOX COMPACT	**6AV2125-2AE13-0AX0** SIMATIC HMI CONNECTION BOX STANDARD	**6AV2125-2AE23-0AX0** SIMATIC HMI CONNECTION BOX ADVANCED
Marine approval			
• Germanischer Lloyd (GL)	No; Available soon	No	No
• American Bureau of Shipping (ABS)	No	No	No
• Bureau Veritas (BV)	No	No	No
• Det Norske Veritas (DNV)	No	No	No
• Lloyds Register of Shipping (LRS)	No	No	No
• Nippon Kaiji Kyokai (Class NK)	No	No	No
• Polski Rejestr Statkow (PRS)	No	No	No
Highest safety class achievable in safety mode			
• Performance level according to ISO 13849-1	PLe	PLe	PLe
• SIL acc. to IEC 61508	SIL 3	SIL 3	SIL 3
Use in hazardous areas			
• ATEX Zone 2	No	No	No
• ATEX Zone 22	No	No	No
• cULus Class I Zone 1	No	No	No
• cULus Class I Zone 2, Division 2	No	No	No
• FM Class I Division 2	No	No	No
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C
Relative humidity			
• Operation, max.	90 %	90 %	90 %
Configuration			
Configuration software			
• STEP 7 Professional (TIA Portal)	No	No	No
• WinCC Comfort (TIA Portal)	No	Yes; Optional	Yes; Optional
• WinCC Advanced (TIA Portal)	No	Yes; Optional	Yes; Optional
• WinCC Professional (TIA Portal)	No	Yes; Optional	Yes; Optional
Mechanics/material			
Enclosure material (front)			
• Plastic	Yes	Yes	Yes
• Aluminum	No	No	No
• Stainless steel	No	No	No
Dimensions			
Width of the housing front	96 mm	230 mm	230 mm
Height of housing front	125 mm	145 mm	145 mm
Depth of housing	78 mm	76 mm	76 mm
Mounting cutout, width	77.5 mm		
Mounting cutout, height	106.5 mm		
Overall depth	30 mm		
Weights			
Weight without packaging	0.25 kg	0.72 kg	0.72 kg
Weight incl. packaging	0.29 kg	0.8 kg	0.8 kg

Ordering data

	Article No.
Connection boxes for SIMATIC Mobile Panels for 2nd Generation	
• Connection Box, Compact	**6AV2125-2AE03-0AX0**
• Connection Box, Standard	**6AV2125-2AE13-0AX0**
• Connection Box, Advanced	**6AV2125-2AE23-0AX0**
Connecting cable and accessories for Mobile Panels	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

More information

More information is available on the Internet at:

http://www.siemens.com/mobile-panels

Charging station

Overview

Technical specifications

Article number	**6AV6671-5CE00-0AX1** CHARGING STATION MOBILE PANEL 277(F) IWLAN V2
Supply voltage	
Type of supply voltage	24 V DC
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption (rated value)	3.2 A
Power	
Active power input, typ.	77 W
Degree and class of protection	
Enclosure according to EN 60529	IP65
Standards, approvals, certificates	
Certifications	CE, cULus, C-TICK
CE mark	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
Ambient conditions	
Ambient temperature during operation	
• Operation (vertical installation)	0 to +40 °C
- For vertical installation, min.	0 °C
- For vertical installation, max.	40 °C
Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	60 °C
Relative humidity	
• Operation, max.	85 %
Dimensions	
Width	208 mm
Height	333 mm
Depth	75 mm
Weights	
Weight (without packaging)	1.1 kg
Other	
Usable in the following products	
• Product 1	6AV6645-0EB01-0AX1
• Product 2	6AV6645-0EC01-0AX1
• Product 3	6AV6645-0EF01-0AX1
• Product 4	6AV6645-0GB01-0AX1
• Product 5	6AV6645-0GC01-0AX1
• Product 6	6AV6645-0GF01-0AX1
• Product 7	6AV6645-0DD01-0AX1
• Product 8	6AV6645-0DE01-0AX1
• Product 9	6AV6645-0FD01-0AX1
• Product 10	6AV6645-0FE01-0AX1
• Product 11	6AV6645-0DB01-0AX0
• Product 12	6AV6645-0DC01-0AX0
• Product 13	6AV6645-0DD01-0AX0
• Product 14	6AV6645-0DE01-0AX0

Ordering data	Article No.
Charging station for SIMATIC Mobile Panels	**6AV6671-5CE00-0AX1**

Overview

Transponder SIMATIC Mobile Panel 277F IWLAN

Technical specifications

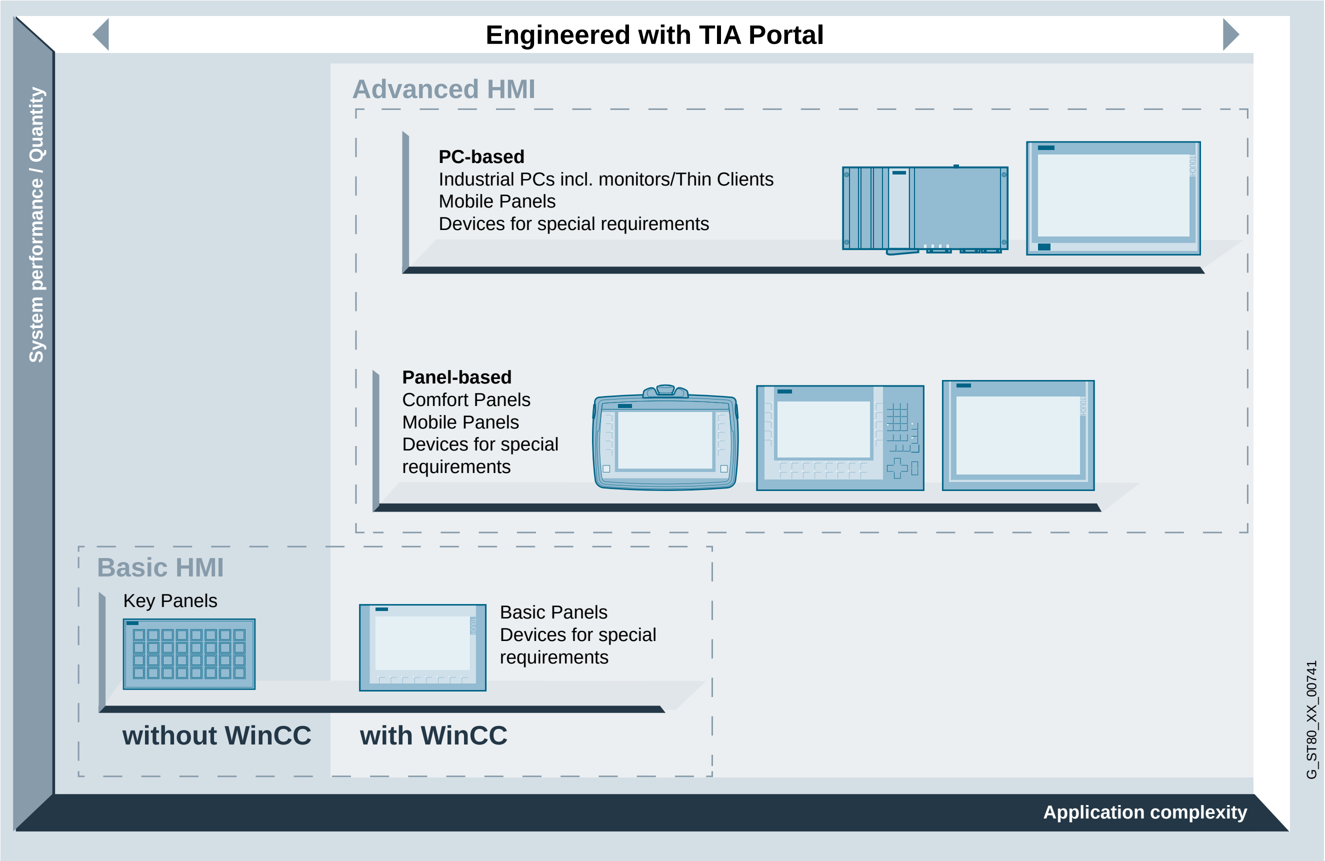
Article number	**6AV6671-5CM00-0AX1** TRANSP. F. MOBILE PANEL 277(F) IWLAN V2
Degree and class of protection	
Enclosure according to EN 60529	IP65
Enclosure according to NEMA	NEMA 4x, NEMA 12
Standards, approvals, certificates	
Certifications	CE, cULus, C-TICK, NEMA 4x, NEMA 12
CE mark	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
Ambient conditions	
Ambient temperature during operation	
• Operation (vertical installation)	0 to +50 °C
- For vertical installation, min.	0 °C
- For vertical installation, max.	50 °C
Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	60 °C
Relative humidity	
• Operation, max.	85 %
Dimensions	
Width	172 mm
Height	90 mm
Depth	38.5 mm
Weights	
Weight (without packaging)	0.3 kg
Other	
Usable in the following products	
• Product 1	6AV6645-0DD01-0AX1
• Product 2	6AV6645-0DE01-0AX1
• Product 3	6AV6645-0EB01-0AX1
• Product 4	6AV6645-0EC01-0AX1
• Product 5	6AV6645-0FD01-0AX1
• Product 6	6AV6645-0FE01-0AX1
• Product 7	6AV6645-0GB01-0AX1
• Product 8	6AV6645-0GC01-0AX1

Ordering data

	Article No.
Transponder V2 for SIMATIC Mobile Panels 277(F) IWLAN V2	**6AV6671-5CM00-0AX1**
Other accessories for Mobile Panels	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

Advanced HMI PC-based

Overview



SIMATIC HMI Advanced – efficient realization of even the most demanding and sophisticated HMI tasks

A PC-based system is recommended if production places particularly high demands on the quantity and type of information to be processed and documented.

It offers the appropriate options for sufficient storage space, processor performance and data connection. The user can either opt for a centralized solution in which the visualization and PC are combined in a single unit, or for a distributed solution with an industrial monitor as thin client.

SIMATIC Industrial Panel PCs (see chapter 4)

The most complex visualization and control tasks can be realized centrally at the machine with extremely compact industrial panel PCs. You can always find an optimum solution in our portfolio – from the embedded to the high-end industrial PC – to meet the many requirements of manufacturing and process automation.

SIMATIC IFP and SIMATIC ITC (see chapter 4)

Two innovative options are available for distributed control concepts. SIMATIC industrial monitors and thin clients are used as desktop devices for control centers, as built-in devices for operator panels or as PC-based visualization and control solutions, in which the control unit is operated separately.

The following modules are available:

- Panel PC
- Industrial monitors and thin clients
- Embedded bundles/software packages

Overview

The SIMATIC Basic Panel, Comfort Panel and Mobile Panel offer HMI functionality for the control systems:

- SIMATIC S7
- Non-Siemens controllers:
  - Allen Bradley
  - Mitsubishi
  - Modicon
  - Omron

For more detailed information, refer to the WinCC (TIA Portal) user manual, the "Windows-based systems communication" manual, or the WinCC (TIA Portal) online help.

OPC communication and HTTP communication are offered for Comfort Panels and Mobile Panels with an integrated Ethernet interface. Both OPC and HTTP communication can be used in parallel with the process links to SIMATIC S7 or non-Siemens PLCs.

Note:

Interface options for HMI devices: See the individual device descriptions.

OPC communication

OPC Data Access is an open standard for exchanging both local and remote variables between various applications via Industrial Ethernet.

HTTP communication for variable exchange between SIMATIC HMI systems

Communication based on HTTP message frames enables variables to be exchanged between SIMATIC HMI systems.

Communication standard	SIMATIC HMI			
Version	**Comfort Panel**	**Mobile Panel 177 PN/ 277**	**Mobile Panel KTPx00**	**WinCC Runtime Advanced**
OPC Data Access V2.05a + OPC UA Data Access V1.01 + OPC Data Access XML V1.00				
OPC DA Client (COM/DCOM)	–	–	–	•
OPC DA server (COM/DCOM)	–	–	–	•
OPC UA DA client	•	–	•	•
OPC UA DA server	•	–	•	•
HTTP communication for variable exchange between SIMATIC HMI systems				
HTTP client	•	•	•	•
HTTP server	•	•	•	•

• System interface possible

– System interface not possible

Overview

The following types of interface are differentiated in respect of the link between the SIMATIC Panels and SIMATIC S7 controllers:

- PROFINET interface:
  Coupling of SIMATIC Panel to SIMATIC S7 controllers via Industrial Ethernet TCP/IP using the integrated PROFINET interface of the CPU or, alternatively, a PROFINET interface module.
- MPI/PROFIBUS interface:
  Coupling of SIMATIC Panel to SIMATIC S7 controllers via MPI/PROFIBUS using the integrated MPI/PROFIBUS interface of the CPU or the integrated PPI interface of the CPU in the case of S7-200 or, alternatively, a PROFIBUS interface module in the case of S7-1200, S7-1500, S7-300 and S7-400.
- PPI interface:
  Coupling of SIMATIC Panel to SIMATIC S7-200 via PPI network using the integrated PPI interface of the CPU.

The maximum possible number of S7 connections of one CPU is determined by its performance capacity (see Catalog ST 70); from the point of view of the SIMATIC Panel, the following restrictions apply:

- Basic Panel, Comfort Panel 4", Mobile Panel 177: max. 4 connections
- Comfort Panels from 7" to 22", Mobile Panel 2nd Generation: max. 8 connections
- Mobile Panel 277: max. 6 connections
- PC with WinCC Runtime Advanced: max. 8 connections

PPI interface

The PPI interface is a point-to-point connection between a SIMATIC Panel (PPI master) or alternatively a PG (PPI master) and an S7-200 (PPI slave).

MPI/PROFIBUS interface or PROFINET interface

The corresponding multipoint-enabled SIMATIC Panel and SIMATIC S7 communication interfaces are used.
The following are possible:

- Interface between one or more SIMATIC Panels (MPI master) and one or more S7-1200/S7-1500/S7-300/S7-400s or WinAC (MPI master) (possible network topology: MPI/PROFIBUS or Industrial Ethernet TCP/IP)
- Interface between one or more SIMATIC Panels (MPI master) and one or more S7-200s (MPI slave)[1)] (possible network topology: PPI, MPI/PROFIBUS)

Unlike PPI connections, MPI connections are static connections that are set up during booting and then monitored.

In principle this type of information exchange between SIMATIC Panels and SIMATIC S7 is independent of the network used, PPI, MPI/PROFIBUS or Industrial Ethernet: SIMATIC Panels are S7 clients and SIMATIC S7 CPUs are S7 servers.

Controller	SIMATIC HMI					
Target hardware (PROTOCOL) (physics)	**Basic Panel**	**Comfort Panel**	**Mobile Panel 177 DP / PN 1)**	**Mobile Panel 277 1)**	**KTPx00(F) Mobile 1)**	**WinCC Runtime Advanced**
SIMATIC S7-1200 2)						
over Ethernet (TCP/IP)	• 3)	•	• 3)	•	•	•
over MPI or PROFIBUS network	• 4)	•	• 3)	•	–	• 5)
SIMATIC S7-1500 2)						
over Ethernet (TCP/IP)	• 3)	•	• 3)	•	•	•
over PROFIBUS network	• 3)	•	• 3)	•	–	• 5)
SIMATIC S7-300, -400, Win AC 2)						
over Ethernet (TCP/IP)	• 3)	•	• 3)	•	•	•
over MPI or PROFIBUS network		•	• 4)	•	–	• 5)
SIMATIC S7-200 2)						
over Ethernet (TCP/IP) (MPI protocol)	• 3)	•	• 3)	•	•	•
over MPI or PROFIBUS network	• 4)	• 6)	• 4) 6)	• 6)	–	• 5) 6)
over PPI network (MPI protocol)	• 4)	–	•	–	–	–
over PPI network (PPI protocol)	–	• 7)	• 7)	• 7)	–	• 5) 7)

• System interface possible

- System interface not possible

1) Mobile Panel connection via special connecting cable and connection box (see Mobile Panels), see Manual for cable layout

2) Controllers can be combined as desired

3) Basic Panel PN and Mobile Panel 177 PN only

4) Basic Panel DP and Mobile Panel 177 DP only

5) Connection via integrated MPI/PROFIBUS interface; in the case of a standard PC, a communications processor (CP) is to be used (e.g. CP 5612/5622)

6) Only on passive S7-200

7) Can be interfaced via PPI to max. 1 x S7-200 (PPI); network operation (parallel PG, etc.) is possible

Note:

For detailed information on cable assignment, refer to WinCC Online Help.

Overview

The SIMATIC Basic Panels, Comfort Panels and Mobile Panels, as well as the SIMATIC HMI software package for PC WinCC Runtime Advanced support the following protocols for linking the control systems of other manufacturers:

- Allen Bradley
  - Ethernet IP protocol
  - DF1 protocol
- Mitsubishi
  - MC TCP/IP protocol
  - FX protocol
- Modicon
  - Modbus TCP/IP protocol
  - Modbus RTU protocol
- Omron
  - Link/Multi-Link protocol

The following table contains more detailed information.

Connection overview

Controller	SIMATIC HMI					
Target hardware (PROTOCOL) (physics)	**Basic Panel**	**Comfort Panel Outdoor**	**Mobile Panel 177 DP 1) Mobile Panel 177 PN 1)**	**Mobile Panel 277 1)**	**KTPx00(F) Mobile**	**WinCC Runtime Advanced**
Allen Bradley (Ethernet IP)						
via Ethernet TCP/IP network to max. 4 x controllers 2) • ControlLogix 1756-L6x, -L6xS with Ethernet module 1756-ENBT • GuardLogix System • CompactLogix 1769-L2xE, -L3xE • CompactLogix 1769-L4x with Ethernet module 1768-ENBT • SLC 5/05 • MicroLogix 1100, 1400	• 3)	•	• 3)	•	•	•
Allen Bradley (DF1)						
to max. 1 x controller • SLC 5/03, /04, /05 • MicroLogix (RS 232)	• 4) 5)	• 4)	• 4) 5)	• 4)	–	• 6)
to max. 1 x controller • PLC5/11, /20, /30, /40, /60, /80 (RS 232)	• 4) 5)	• 4)	• 4) 5)	• 4)	–	• 7)
via KF2 gateway and DH+ network to max. 4 x controllers 2) • SLC 5/04 • PLC5/11, /20, /30, /40, /60, /80 (RS 232)	• 4) 5)	• 4)	• 4) 5)	• 4)	–	• 7) 8)
via KF2 gateway and DH+ network to max. 4 x controllers 2) • SLC 5/04 • PLC5/11, /20, /30, /40, /60, /80 (RS 422)	• 5)	•	• 5)	•	–	–
via KF3 gateway and DH485 network to max. 4 x controllers 2) • SLC 500 • MicroLogix (RS 232)	• 4) 5)	• 4)	• 4) 5)	• 4)	–	• 7) 8)

• System interface possible

- System interface not possible

1) Mobile Panel connection via special connecting cable and connection box (see Mobile Panels), see Manual for cable layout

2) The following listed controllers can be combined as required

3) Basic Panel PN and Mobile Panel 177 PN only

4) The RS 422/RS 232 adapter 6AV6671-8XE00-0AX0 is required for Basic Panels and Comfort Panels

5) Basic Panel DP and Mobile Panel 177 DP only

6) Connection via Allen Bradley PC cable 1747 CP3

7) Connection via Allen Bradley PC cable 1784 CP10

8) For connection to KF2/KF3 gateway, a gender-changer (25-pin socket/25-pin socket) is required on the gateway side

Note:

For detailed information on cable assignment, refer to WinCC Online Help; see also FAQs:
http://support.automation.siemens.com/WW/view/en/29034071

2

Overview (continued)

Controller	SIMATIC HMI					
Target hardware (PROTOCOL) (physics)	**Basic Panel**	**Comfort Panel Outdoor**	**Mobile Panel 177 DP 1) Mobile Panel 177 PN 1)**	**Mobile Panel 277 1)**	**KTPx00(F) Mobile**	**WinCC Runtime Advanced**
Mitsubishi (MC TCP/IP)						
via Ethernet IP network to max. 4 x controllers 2) • FX series FX3G, FX3U, FX3UC with Ethernet module FX3U ENET, • Series Q with Ethernet module QJ71E71-100 • iQ series/QnUD QnUDEH	• 3)	•	• 3)	•	•	•
Mitsubishi FX (serial)						
to max. 1 x controller FX series FX1N, FX2N (RS 232)	• 4)	•	• 4)	•	–	• 5)

• System interface possible

- System interface not possible

1) Mobile Panel connection via special connecting cable and connection box (see Mobile Panels), see Manual for cable layout

2) The following listed controllers can be combined as required

3) Basic Panel PN and Mobile Panel 177 PN only

4) Basic Panel DP and Mobile Panel 177 DP only

5) Connection using a Mitsubishi PC cable SC-09 with integrated level converter RS 232/RS 422

Controller	SIMATIC HMI					
Target hardware (PROTOCOL) (physics)	**Basic Panel**	**Comfort Panel Outdoor**	**Mobile Panel 177 DP 1) Mobile Panel 177 PN 1)**	**Mobile Panel 277 1)**	**KTPx00(F) Mobile**	**WinCC Runtime Advanced**
Modicon (MODBUS TCP/IP)						
Via MODBUS TCP/IP network to max. 4 x controllers 2) • Concept Quantum, Unity Quantum • Momentum • Premium (TSX57) • TSX Micro (TSX37) • Modicon M340 20x0 (except 2010)	• 3)	•	• 3)	•	•	•
Via TCP/IP Modbus Plus Bridge 174 CEV 200 40 and MODBUS PLUS network to max. 4 x controllers 2) • Concept Quantum, Unity Quantum • Momentum • Compact	• 3)	•	• 3)	•	•	•
Modicon (MODBUS RTU)						
to max. 1 x controller • Concept Quantum • Momentum • Compact (RS 232)	• 4) 5)	• 4)	• 4) 5)	• 4)	–	•
Via bridge BM85-000 or PLC with bridge functionality and MODBUS PLUS network to max. 4 x controllers 2) • Concept Quantum • Compact (RS 232)	• 4) 5)	• 4)	• 4) 5)	• 4)	–	•

• System interface possible

- System interface not possible

1) Mobile Panel connection via special connecting cable and connection box (see Mobile Panels), see Manual for cable layout

2) The following listed controllers can be combined as required

3) Basic Panel PN and Mobile Panel 177 PN only

4) The RS 422/RS 232 adapter 6AV6671-8XE00-0AX0 is required for Basic Panels and Mobile Panels

5) Basic Panel DP and Mobile Panel 177 DP only

Overview (continued)

Controller	SIMATIC HMI					
Target hardware (PROTOCOL) (physics)	**Basic Panel**	**Comfort Panel Outdoor**	**Mobile Panel 177 DP 1) Mobile Panel 177 PN 1)**	**Mobile Panel 277 1)**	**KTPx00(F) Mobile**	**WinCC Runtime Advanced**
Omron (Link/Multi-Link)						
to max. 1 x controller • CP1L, CP1H, CP1E • CJ1M, CJ1H, CJ1G • CJ2H • CS1G, CS1H, CS1D • CP2MC (RS 232)	–	• 3)	• 3) 4)	• 3)	–	•
via converter NT-AL001 and RS 422 network to max. 4 x controllers 2) • CP1L, CP1H, CP1E • CJ1M, CJ1H, CJ1G • CJ2H • CS1G, CS1H, CS1D • CP2MC (RS 232)	–	• 3)	• 3) 4)	• 3)	–	•
via RS 422 network to max. 4 x controllers 2) • CP1L, CP1H, CP1E • CJ1M, CJ1H, CJ1G (RS 422)	• 4)	•	• 4)	• 4)	–	–
Via RS 422 network to max. 4 x controllers 2) • CJ2H • CS1G, CS1H, CS1D • CP2MC (RS 422)	–	–	• 4)	• 4)	–	–

• System interface possible

- System interface not possible

1) Mobile Panel connection via special connecting cable and connection box (see Mobile Panels), see Manual for cable layout

2) The controllers listed below can be combined in any way required; connection via RS 422 interface of the controller or via RS 422 module

3) The RS 422/RS 232 adapter 6AV6671-8XE00-0AX0 is required for Basic Panels and Mobile Panels

4) Basic Panel DP and Mobile Panel 177 DP only

Note:

For detailed information on cable assignment, refer to WinCC Online Help; see also FAQs:
http://support.automation.siemens.com/WW/view/en/29034071

Notes

HMI Software

3

Overview

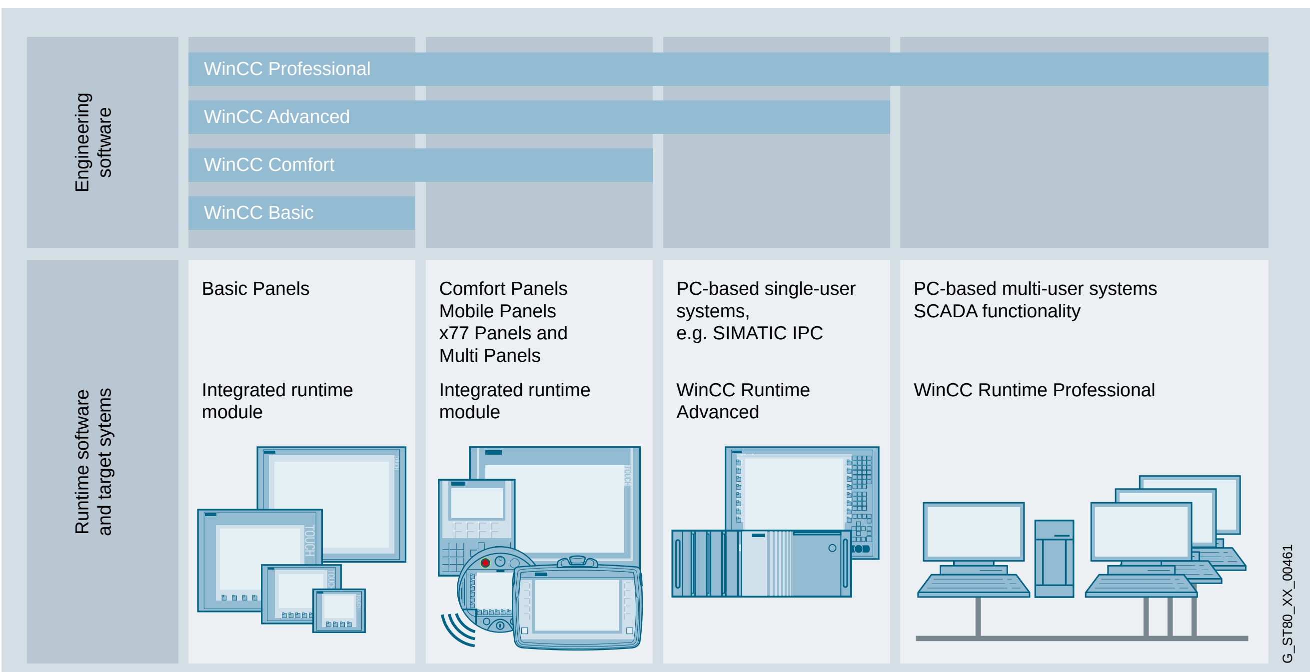
SIMATIC HMI – Efficient to a new level

Innovative, efficient, scalable and open software for the machine-level area and for SCADA solutions.

With the SIMATIC WinCC (TIA Portal), SIMATIC WinCC and SIMATIC WinCC Open Architecture product families, SIMATIC HMI offers visualization and configuration software for the entire HMI spectrum, from the machine-level area right up to SCADA systems:

- SIMATIC WinCC (TIA Portal)
  Creation of applications in the machine-level area and of process visualization or SCADA systems
- SIMATIC WinCC flexible
  Maintenance of visualization solutions in the machine-level area
- SIMATIC WinCC V7 SCADA system
  Creation of process visualization or SCADA systems
- SIMATIC WinCC Open Architecture SCADA system
  Creation of applications with a high demand for customer-specific adaptations, large and/or complex applications, as well as projects that demand special system requirements and functions.

SIMATIC WinCC (TIA Portal)



WinCC (TIA Portal) is based on the central engineering framework Totally Integrated Automation Portal (TIA Portal) which offers users a niform, efficient and intuitive solution to all their automation tasks. SIMATIC WinCC (TIA Portal) covers applications in the machine-level area and applications in the process visualization or SCADA environment.
WinCC (TIA Portal) offers the uniform and scalable configuration tools WinCC Basic, Comfort, Advanced and Professional for configuring the current SIMATIC HMI operator panels:

- SIMATIC Basic Panels
- SIMATIC Comfort Panels
- SIMATIC Mobile Panels
- PC-based systems for the machine-level area
  - SIMATIC WinCC Runtime Advanced
  - SIMATIC WinCC Runtime Professional

In addition, WinCC (TIA Portal) offers:

- Intuitive user interface with maximum degree of operator friendliness
- Clear configuration of devices and network topologies
- Shared data management and uniform symbols via controller and HMI
- Optimum interaction with the controller and HMI in a working environment
- Powerful editors for efficient engineering
- Integrated mass data operations for efficient configuration
- System diagnostics as an integral component
- Comprehensive library concept

Overview (continued)

SIMATIC SCADA Systems

The data volume in modern industrial plants is growing continuously – and along with it the challenges faced by the SCADA solutions used: Enormous data volumes must be administered and archived for the long term. This is accompanied by increasing demands on performance.

Technologies, including some from the consumer environment, are finding their way into industry. Globalization calls for higher-level SCADA systems that can be used worldwide – and the need for mobile access to plant information is also growing. On top of all these requirements – in these times of ever increasing (energy) costs – is the need to improve energy efficiency and productivity.

With SIMATIC SCADA systems, you are fit for the future

Efficiency

Efficiency: As a key to greater productivity, SIMATIC SCADA systems combine efficient engineering with high-performance archiving and maximum data security. These features provide the basis for efficient operations management and intelligent production analyses.

Scalability

We offer stationary and mobile solutions to cover increasing demands – security guaranteed. In this area, we apply more than 15 years of SCADA know-how from all industry sectors. No matter how large or small your request is – we have the right answer.

Innovation

Stay informed with mobile SCADA solutions anywhere and at any time – including with existing tablet and smartphone hardware. The use of multi-touch gestures in the industrial environment opens the door for modern operating concepts.

Openness

Due to the support of international standards and system-internal script and programming interfaces, special requests can also be easily implemented.

http://www.siemens.com/scada

SIMATIC WinCC V7 SCADA system

The process visualization or SCADA system for visualizing and operating processes, production flows, machines and plants in all sectors – from the simple single-user station through to distributed multi-user systems with redundant servers and cross-location solutions with web clients. WinCC is the information hub for company-wide, vertical integration (process visualization and platform for IT & business integration).

- All HMI functions on-board with industry-standard functions for signaling and acknowledging events, archiving of messages and measured values, logging of all process and configuration data, user administration and visualization (WinCC basic software).
- Company-wide, flexible client/server structures with operator stations on the Web, distributed servers and data integrity thanks to redundancy
- Easy to integrate over standard interfaces such as OPC (OLE for Process Control), WinCC OLE-DB, VBA (Visual Basic for Applications), VB script, C-API (ODK)
- Integration platform in the company thanks to the Historian functionality integrated into WinCC based on the Microsoft SQL Server, standard and programming interfaces and tools and clients for evaluation
- Modular expansion with options and add-ons as well as individual functional expansions with VB Script, Visual Basic for Applications, C-API (ODK) and integration of ActiveX elements.

SIMATIC SCADA and SIMATIC IPCs

Perfect interaction for optimum productivity.

- Price advantage as "Package" comprising hardware and software
- System-tested solutions reduce testing overhead
- Simple ordering and synchronized logistics

Only if ordered together with the SIMATIC IPC.

http://www.siemens.com/scada-ipc

3

3

Overview (continued)

SIMATIC WinCC Open Architecture SCADA system

The SCADA system SIMATIC WinCC Open Architecture addresses applications with high demand for customer-specific adaptations, large and/or complex applications, as well as projects that demand special system requirements and functions.

SIMATIC WinCC Open Architecture demonstrates its high performance in networked and redundant high-end control systems in particular. From the field level to the control station, from the machine to the company headquarters – integrated, high-performance communication is ensured. In every situation, a high level of availability, reliable information, fast interaction and user friendliness are guaranteed. Applications can also be changed without interrupting the process. Profitability, efficiency and safety are therefore always in equilibrium.

With its disaster recovery system and SIL3 certification, SIMATIC WinCC Open Architecture demonstrates its reliability in a wide range of critical applications. SIMATIC WinCC Open Architecture can be used on any platform and is available for Windows, Linux, iOS and Android.

SIMATIC WinCC Open Architecture is open for independent in-house developments, which means that ideas can be turned into new applications quickly and easily.

- Object-orientation supports efficient engineering and flexible plant expansion
- For large, distributed systems with up to 2048 servers
- Scalable – from a small single-user system up to a networked, redundant high-end system
- WinCC OA can be used on any platform, and is available for Windows, Linux, iOS and Android
- Hot-standby redundancy and disaster recovery system assure maximum fail-safety and availability
- WinCC OA offers a platform for customer-specific solutions
- Extensive driver and interfacing options: S7, SINAUT, OPC, OPC UA, Modbus, IEC 60870-5-101/104, DNP3, BACnet, and many others.
- Flexible logging of data either in file-based value archive or in a relational database (ORACLE)
- Modular expansion is possible using options and add-ons as well as individual functional expansions by means of own script language CONTROL, API (C++) and integration of ActiveX elements

PC-based HMI solutions (machine-level / SCADA) with SIMATIC industrial PCs

Our reliable and innovative SIMATIC IPC industrial PCs are the optimal PC hardware platforms. SIMATIC industrial PCs are offered with low-cost software packages.

For runtime versions with SIMATIC WinCC V7, WinCC Runtime Professional or WinCC Runtime Advanced visualization software products, as well as the SIMATIC WinAC RTX (F) software controller.

The simultaneous purchase of industrial PC and software package results in a price advantage.

http://www.siemens.com/pc-based

Overview

SIMATIC WinCC (TIA Portal) engineering software

Family of configuration systems with WinCC Basic, Comfort, Advanced and Professional for SIMATIC operator panels, as well as for the PC-based visualization systems WinCC Runtime Advanced and WinCC Runtime Professional

<u>SIMATIC WinCC Runtime Advanced visualization software</u>

- PC-based HMI solution for single-user systems directly at the machine
- Basic package for visualization, reporting and logging, user administration, can be expanded flexibly with VB scripts
- Basic package expandable by means of option packages
- Integration of customer-specific ActiveX Controls created with WinCC ControlDevelopment
- Can be integrated into automation solutions based on TCP/IP networks
- Expanded service concepts with remote operation, diagnostics and administration over the Intranet and Internet in combination with email communication

<u>SIMATIC WinCC Runtime Professional visualization software</u>

- PC-based operator control and monitoring system for visualization and operator control of processes, production flows, machines and plants in all sectors – from the simple single-user station through to distributed multi-user systems and cross-location solutions with web clients. WinCC Runtime Professional is the information hub for corporation-wide vertical integration.
- Industry-standard functions for signaling and acknowledging events, archiving of messages and measured values, logging of all process and configuration data, user administration, can be expanded flexibly with VB and C scripts
- Basic package expandable by means of option packages
- Also included are APIs for the Runtime to utilize the open programming interfaces
- Integration of customer-specific ActiveX Controls created with WinCC ControlDevelopment

SIMATIC WinCC (TIA Portal) Engineering

Overview

- Integrated family of engineering tools for configuring SIMATIC HMI operator panels, as well as for the PC-based visualization systems WinCC Runtime Advanced and WinCC Runtime Professional.
- WinCC (TIA Portal) is based on the new central engineering framework Totally Integrated Automation Portal (TIA Portal), which offers the user a uniform, efficient and intuitive solution to all automation tasks.
- WinCC (TIA Portal) also offers uniform engineering from the Basic Panel through to SCADA applications.
- Together with the STEP 7 (TIA Portal) products, WinCC (TIA Portal) forms the optimum solution for integrated, efficient engineering.

Current version:

- SIMATIC WinCC Basic V14 SP1
- SIMATIC WinCC Comfort V14 SP1
- SIMATIC WinCC Advanced V14 SP1
- SIMATIC WinCC Professional V14 SP1

Benefits

- The integrated configuration software reduces training, maintenance and service overhead and protects the customer's investments.
- Minimized engineering overhead and reduction of lifecycle costs thanks to Totally Integrated Automation (TIA)
- Minimized configuration overhead due to reuse of scalable and dynamizable objects
- Intelligent tools for efficient and simple configuration:
  - Wizard for defining the basic structure of the HMI project
  - Table-based editors simplify the generation and processing of similar types of object, e.g. for tags, texts, or alarms.
  - Complex configuration tasks such as the definition of paths of motion or the creation of the fundamental operator prompting are simplified by means of graphical configuration.
- Comprehensive support of multi-language configurations for worldwide use
  - Selectable views for entering configuration data in several languages
  - System and user-specific text lexicons
  - Export/import of language-dependent texts
- Investment protection due to
  - Import of the configuration from WinCC flexible 2008 SP2 and 2008 SP3
  - Transfer of the configuration from WinCC V7.0 SP3, V7.2 and V7.3

Application

SIMATIC WinCC in the editions Basic, Comfort, Advanced and Professional are innovative engineering tools for configuring SIMATIC HMI operator panels, as well as for the PC-based visualization systems WinCC Runtime Advanced and WinCC Runtime Professional.

Depending on the selected product, various target systems can be configured:

<u>WinCC Basic</u>

- Basic Panels 1st Generation
- Basic Panels 2nd Generation (without Key Panel)

<u>WinCC Comfort</u>

As WinCC Basic, plus:

- Comfort Panels
  - Mobile Panels (2nd Generation)
  - Mobile Panels x77er Series
  - Panels of the 77 series
  - Panels / Multi Panels of the 177 series
  - Panels / Multi Panels of the 277 series
  - Multi Panels of the 377 series

<u>WinCC Advanced</u>

As WinCC Comfort, plus:

- SIMATIC PCs with WinCC Runtime Advanced:
  - SIMATIC Rack PC: IPC347, IPC547, IPC647, IPC847
  - SIMATIC Box PC: IPC227, IPC427, IPC627, IPC827
  - SIMATIC Panel PC: IPC277, IPC477, IPC677, Panel PC Ex OG
  - SIMATIC S7 Open Controller: ET 200SP Open Controller
- Standard PC with WinCC Runtime Advanced
- SINUMERIK PC: PCU 50.3, PCU 50.5

<u>WinCC Professional</u>

As WinCC Advanced, plus:

- SIMATIC PCs with WinCC Runtime Professional:
  - SIMATIC Rack PC: IPC347, IPC547, IPC647, IPC847
  - SIMATIC Box PC: IPC427, IPC627, IPC827
  - SIMATIC Panel PC: IPC477, IPC677, Panel PC Ex OG
  - SIMATIC S7 Open Controller: ET 200SP Open Controller
- Standard PC with WinCC Runtime Professional

Design

The functionalities of the engineering tools of the SIMATIC WinCC family are based on each other. The available editors are largely determined by the respective configurable target systems and their function. A more comprehensive engineering tool such as WinCC Advanced can always be used to configure lower-level target devices as well (e.g. Basic Panels)

A Powerpack can be used to upgrade from a smaller edition to a larger one. This does not apply to WinCC Basic.

The functionality of WinCC engineering tools already contains the configuration support of the available Runtime options for SIMATIC Panels, WinCC Runtime Advanced or WinCC Runtime Professional, irrespective of the purchased RT licenses.
A separate license is required for the target system when using the configured Runtime options.

Function

Integration into automation systems

Integration into the SIMATIC Totally Integrated Automation Portal (TIA Portal)

- Shared data management and uniform symbols via the controller and HMI
- Optimum interaction between the controller and HMI in a working environment
- System diagnostics as an integral component
- Shared use of communication settings and process point definitions
- Simple dragging and dropping of tags from STEP 7 to an HMI device, e.g. onto a screen
- Excellent support for the new SIMATIC S7-1500 controllers
  - With symbolic addressing
  - Access to the new memory-optimized data blocks
  - New alarm and diagnostics concept

Configuration interface

- Intuitive user interfaces with maximum degree of user friendliness
- Comprehensive and fast access to editors and project data
- Adaptive user interface of engineering tools depending on configured target system
- User-definable user interface settings, e.g. layout, toolbars
- Integrated mass data operations for efficient configuration

Project handling

- Device-independent configuration data can be used on a variety of target systems without the need for conversion. The interface adapts itself to the functional possibilities of the target device.
- Cross-device utilization of common configuration data (e.g. alarm classes, text library) in multi-device projects
- Wizard-assisted definition of basic structure of HMI projects (e.g. display layout, operator prompting)

Screen editor with comprehensive options for efficient and fast screen configuration

- Generation of interconnected screen objects via Drag&Drop, e.g. tags for the creation of input/output fields with process interfacing or buttons with screen selection function
- Definition of screen templates and functions (comparable with the Slide Master in MS PowerPoint)
- User-friendly editor for the creation of faceplates with defined external interface from screen objects
- Graphics-based configuration of motion paths
- Layer technology with up to 32 layers
- Tools for the Align, Rotate and Mirror functions

Import/export

- of tags, links, text lists, and alarms

Tabular editors

- Quick and easy generation and modification of configuration objects of the same type, e.g. tags, texts or messages, in tabular editors
- Intelligent default settings depending on previously configured data, e.g. automatic incrementing of addresses when generating consecutive tags
- Simple access to the properties of an object without superfluous user intervention
- Simultaneous modification of common object properties

Object-based data management with user-friendly search and edit options

- Configuration of alarms and logs directly on the HMI tag, no switching between different editors
- Cross-reference list with direct access to all objects, e.g. for editing or selection
- Search for objects in entire project
- Text search and replace functions

Project documentation

- Selective project documentation, the following contents can be printed:
  - An entire project
  - One or more project-associated devices
  - Contents of an editor
  - Libraries

Function (continued)

Libraries for predefined/user-defined configuration objects

- Storage of all configuration objects in the library, e.g. blocks and even entire screens or tags
- Faceplates can be constructed from simple screen objects on a customer-specific or project-specific basis. Changes to these faceplates can be made centrally (block definition).
- A large number of scalable and dynamizable screen objects is included in the scope of delivery
- Size-scalable graphics for industrial applications are included in the scope of delivery
- Preview function for library objects

Language support

- Multilingual project creation (max. 32 languages) in editors thanks to selectable views
- Central management of language-specific texts and graphics in libraries
- Edit, export and import of texts for translation
- Language-specific graphics

Visual Basic and C-Script Support

- IntelliSense function for fast programming of access to runtime objects
- Simple creation of control sequences in script code
- Visual Basic Script debugging in simulator and WinCC Runtime Advanced and WinCC Runtime Professional

Test and commissioning support

- Simulation of HMI projects on engineering PC
- Marking of incomplete or incorrect configuration directly in the respective editor
- Jump to error cause based on alarm messages in the Compiler

Migration of existing HMI projects

- Data transfer in projects from WinCC flexible
- Data transfer in projects from WinCC

System prerequisites

	WinCC engineering software
Processor type (recommended)	Intel® Core™ i5-6440EQ (2.7 GHz)
RAM (recommended)	16 GB or more (32 GB for large projects)
Hard disk	SSD with at least 50 GB storage space available
Operating systems	64-bit operating systems • Windows 7 Home Premium SP1 (WinCC Basic only) • Windows 7 Professional SP1 • Windows 7 Enterprise SP1 • Windows 7 Ultimate SP1 • Windows 8.1 (WinCC Basic only) • Windows 8.1 Professional • Windows 8.1 Enterprise • Windows 10 Home Version 1607 (WinCC Basic only) • Windows 10 Professional Version 1607 • Windows 10 Enterprise Version 1607 • Windows 10 Enterprise 2016 LTSB • Windows 10 Enterprise 2015 LTSB • Windows Server 2008 R2 StdE SP1 (not WinCC Basic) • Windows Server 2012 R2 StdE Windows Server 2016 Standard • Windows Server 2016 Standard
Screen resolution	Recommended 1 920 x 1 080
Optical drive	DVD-ROM

Note:

Opening several instances of WinCC on your engineering PC at the same time may result in more demanding hardware requirements.

In addition to WinCC, Windows also requires space on the hard disk; e.g. free disk space should be available for the swap file. The following formula has proven itself in the past:

Size of swap file = 3 x size of RAM.

For further information, refer to your Windows documentation

Ordering data

	Article No.
SIMATIC WinCC V14 SP1	
SIMATIC WinCC Basic V14 SP1	
Engineering software for the configuration and simulation of Basic Panels; electronic documentation in English, German, French, Italian, Spanish, Chinese	
• Software and documentation on DVD, floating license, license key on USB stick	**6AV2100-0AA04-0AA5**
• As download [1], software and license key download, floating license, email address required for the delivery	**6AV2100-0AA04-0AH5**
SIMATIC WinCC Comfort V14 SP1	
Engineering software for the configuration and simulation of SIMATIC Panels; electronic documentation in English, German, French, Italian, Spanish, simplified Chinese, traditional Chinese	
• Software and documentation on DVD, floating license, license key on USB stick	**6AV2101-0AA04-0AA5**
• As download [1], software and license key download, floating license, email address required for the delivery	**6AV2101-0AA04-0AH5**
SIMATIC WinCC Advanced V14 SP1	
Engineering software for the configuration and simulation of SIMATIC Panels; SIMATIC WinCC Runtime Advanced electronic documentation in English, German, French, Italian, Spanish, Chinese	
• Software and documentation on DVD, floating license, license key on USB stick	**6AV2102-0AA04-0AA5**
• As download [1], software and license key download, floating license, email address required for the delivery	**6AV2102-0AA04-0AH5**
SIMATIC WinCC Professional V14 SP1	
Engineering software for the configuration and simulation of SIMATIC Panels; SIMATIC WinCC Runtime Advanced and Runtime Professional; electronic documentation in English, German, French, Italian, Spanish, Chinese	
Software and documentation on DVD, floating license, license key on USB stick	
• 512 PowerTags	**6AV2103-0DA04-0AA5**
• 4 096 PowerTags	**6AV2103-0HA04-0AA5**
• Max. PowerTags	**6AV2103-0XA04-0AA5**
As download [1], software and license key download, floating license, email address required for the delivery	
• 512 PowerTags	**6AV2103-0DA04-0AH5**
• 4 096 PowerTags	**6AV2103-0HA04-0AH5**
• Max. PowerTags	**6AV2103-0XA04-0AH5**

	Article No.
SIMATIC WinCC V14 SP1 engineering trial licenses	
on DVD, 21 day trial	
SIMATIC WinCC Basic V14 SP1, trial license	**6AV2100-0AA04-0AA7**
SIMATIC WinCC Comfort/ Advanced V14 SP1, trial license	**6AV2102-0AA04-0AA7**
SIMATIC WinCC Professional V14 SP1, trial license	**6AV2103-0AA04-0AA7**
V14 SIMATIC Engineering with STEP 7 Professional Combo	**6ES7823-1GE04-0YA5**
50 h, WinCC Professional (incl. WinCC flexible 2008) and STEP 7 Safety Advanced (incl. Distributed Safety)	
Powerpacks	
SIMATIC WinCC V14 SP1 Engineering Powerpacks (without version change)	
SIMATIC WinCC Basic to SIMATIC WinCC Comfort V14 SP1 [2]	
Floating license, license key only on USB stick	
• SIMATIC WinCC Basic to SIMATIC WinCC Comfort [2]	**6AV2101-2AA04-0BD5**
• SIMATIC WinCC Comfort to SIMATIC WinCC Advanced	**6AV2102-2AA04-0BD5**
• SIMATIC WinCC Advanced to SIMATIC WinCC Professional 512 PowerTags	**6AV2103-2AD04-0BD5**
• SIMATIC WinCC Professional Powerpack 512 PowerTags to 4 096 PowerTags	**6AV2103-2DH04-0BD5**
• SIMATIC WinCC Professional Powerpack 4 096 PowerTags to max. PowerTags	**6AV2103-2HX04-0BD5**
As download [1] Floating license, license key download only, email address required for delivery	
• SIMATIC WinCC Basic to SIMATIC WinCC Comfort [2]	**6AV2101-2AA04-0BJ5**
• SIMATIC WinCC Comfort to SIMATIC WinCC Advanced	**6AV2102-2AA04-0BJ5**
• SIMATIC WinCC Advanced to SIMATIC WinCC Professional 512 PowerTags	**6AV2103-2AD04-0BJ5**
• SIMATIC WinCC Professional Powerpack 512 PowerTags to 4 096 PowerTags	**6AV2103-2DH04-0BJ5**
• SIMATIC WinCC Professional Powerpack 4 096 PowerTags to max. PowerTags	**6AV2103-2HX04-0BJ5**

[1] Current information and availability regarding the new delivery form can be found at: http://www.siemens.com/tia-online-software-delivery

[2] Valid only for Article No.'s. 6AV2100-0AA04-0AA5 and 6AV2100-0AA04-0AH5

Ordering data

	Article No.
Software Update Service	
For a period of 12 months and for a fixed price, the customer is automatically provided with all upgrades and service packs for each installed WinCC engineering system or option. The contract is automatically extended by a further year unless canceled at least 12 weeks prior to expiration.	
Software Update Service (Standard Edition)	
The delivery is implemented according to the number of ordered SUS products (e.g. 10 upgrade packages with 10 DVDs, 10 USB sticks, etc.)	
• SIMATIC WinCC Comfort	**6AV6612-0AA00-0AL0**
• SIMATIC WinCC Advanced	**6AV6613-0AA00-0AL0**
• SIMATIC WinCC Professional 512 PowerTags	**6AV2103-0DA00-0AL0**
• SIMATIC WinCC Professional 4 096 PowerTags	**6AV2103-0HA00-0AL0**
• SIMATIC WinCC Professional max. PowerTags	**6AV2103-0XA00-0AL0**
Software Update Service (Compact Edition)	
The delivery items are combined. For several contracts, only 1 package with 1 data medium set, 1 USB flash drive with the corresponding number of licenses and the corresponding number of CoLs will be supplied.	
Delivery items to be combined must be ordered as one item.	
• SIMATIC WinCC Comfort	**6AV6612-0AA00-0AM0**
• SIMATIC WinCC Advanced	**6AV6613-0AA00-0AM0**
• SIMATIC WinCC Professional 512 PowerTags	**6AV2103-0DA00-0AM0**
• SIMATIC WinCC Professional 4 096 PowerTags	**6AV2103-0HA00-0AM0**
• SIMATIC WinCC Professional max. PowerTags	**6AV2103-0XA00-0AM0**
Software Update Service (download) [1]	
Email address required for the delivery	
• SIMATIC WinCC Comfort	**6AV6612-0AA00-0AY0**
• SIMATIC WinCC Advanced	**6AV6613-0AA00-0AY0**
• SIMATIC WinCC Professional 512 PowerTags	**6AV2103-0DA00-0AY0**
• SIMATIC WinCC Professional 4 096 PowerTags	**6AV2103-0HA00-0AY0**
• SIMATIC WinCC Professional max. PowerTags	**6AV2103-0XA00-0AY0**

	Article No.
SIMATIC WinCC Engineering Upgrades	
WinCC V11 ... V13 -> WinCC V14 SP1	
Software and documentation on DVD, upgrade license, license key on USB stick	
• SIMATIC WinCC Basic	**6AV2100-3AA04-0AE5**
• SIMATIC WinCC Comfort	**6AV2101-3AA04-0AE5**
• SIMATIC WinCC Advanced	**6AV2102-3AA04-0AE5**
• SIMATIC WinCC Professional 512 PowerTags	**6AV2103-3DA04-0AE5**
• SIMATIC WinCC Professional 4 096 PowerTags	**6AV2103-3HA04-0AE5**
• SIMATIC WinCC Professional max. PowerTags	**6AV2103-3XA04-0AE5**
As download [1], software and license key download, floating license, email address required for the delivery	
• SIMATIC WinCC Basic	**6AV2100-3AA04-0AK5**
• SIMATIC WinCC Comfort	**6AV2101-3AA04-0AK5**
• SIMATIC WinCC Advanced	**6AV2102-3AA04-0AK5**
• SIMATIC WinCC Professional 512 PowerTags	**6AV2103-3DA04-0AK5**
• SIMATIC WinCC Professional 4 096 PowerTags	**6AV2103-3HA04-0AK5**
• SIMATIC WinCC Professional max. PowerTags	**6AV2103-3XA04-0AK5**
WinCC flexible 2008 to WinCC V14 SP1	
Software and documentation on DVD, upgrade license, license key on USB stick	
• WinCC flexible Compact to WinCC Comfort	**6AV2101-4AB04-0AE5**
• WinCC flexible Standard to WinCC Comfort	**6AV2101-4BB04-0AE5**
• WinCC flexible Advanced to WinCC Advanced	**6AV2102-4AA04-0AE5**
As download [1], software and license key download, floating license, email address required for the delivery	
• WinCC flexible Compact to WinCC Comfort	**6AV2101-4AB04-0AK5**
• WinCC flexible Standard to WinCC Comfort	**6AV2101-4BB04-0AK5**
• WinCC flexible Advanced to WinCC Advanced	**6AV2102-4AA04-0AK5**

Ordering data

	Article No.
Upgrade SIMATIC WinCC V7.0 ... V7.3 RC -> WinCC Professional V14 SP1 and WinCC Runtime Professional V14 SP1	
Software and documentation on DVD, upgrade license, license key on USB stick	
• WinCC V7.0 ... V7.3 RC 128 -> WinCC Professional 512 PowerTags V14 SP1 Combo and WinCC RT Professional 128 PowerTags	**6AV2103-4BD04-0AE5**
• SIMATIC WinCC V7.0 ... V7.3 RC 512 -> WinCC Professional 512 PowerTags V14 SP1 Combo and WinCC RT Professional 512 PowerTags	**6AV2103-4DD04-0AE5**
• SIMATIC WinCC V7.0 ... V7.3 RC 2 048 -> WinCC Professional 4 096 PowerTags V14 SP1 Combo and WinCC RT Professional 2 048 PowerTags	**6AV2103-4FH04-0AE5**
• SIMATIC WinCC V7.0 ... V7.3 RC 8 192 -> WinCC Professional max. PowerTags V14 SP1 Combo and WinCC RT Professional 8 192 PowerTags	**6AV2103-4KX04-0AE5**
• SIMATIC WinCC V7.0 ... V7.3 RC 65 536 -> WinCC Professional max. PowerTags V14 SP1 Combo and WinCC RT Professional 65 536 PowerTags	**6AV2103-4MX04-0AE5**
• SIMATIC WinCC V7.0 ... V7.3 RC 102 400 -> WinCC Professional max. PowerTags V14 SP1 Combo and WinCC RT Professional 102 400 PowerTags	**6AV2103-4PX04-0AE5**
• SIMATIC WinCC V7.0 ... V7.3 RC 153 600 -> WinCC Professional max. PowerTags V14 SP1 Combo and WinCC RT Professional 153 600 PowerTags	**6AV2103-4RX04-0AE5**
• SIMATIC WinCC V7.0 ... V7.3 RC 262 144 -> WinCC Professional max. PowerTags V14 SP1 Combo and WinCC RT Professional 262 144 PowerTags	**6AV2103-4TX04-0AE5**

	Article No.
As download [1], software and license key download, floating license, email address required for the delivery	
• WinCC V7.0 ... V7.3 RC 128 -> WinCC Professional 512 PowerTags V14 SP1 Combo and WinCC RT Professional 128 PowerTags	**6AV2103-4BD04-0AK5**
• SIMATIC WinCC V7.0 ... V7.3 RC 512 -> WinCC Professional 512 PowerTags V14 SP1 Combo and WinCC RT Professional 512 PowerTags	**6AV2103-4DD04-0AK5**
• SIMATIC WinCC V7.0 ... V7.3 RC 2 048 -> WinCC Professional 4 096 PowerTags V14 SP1 Combo and WinCC RT Professional 2 048 PowerTags	**6AV2103-4FH04-0AK5**
• SIMATIC WinCC V7.0 ... V7.3 RC 8 192 -> WinCC Professional max. PowerTags V14 SP1 Combo and WinCC RT Professional 8 192 PowerTags	**6AV2103-4KX04-0AK5**
• SIMATIC WinCC V7.0 ... V7.3 RC 65 536 -> WinCC Professional max. PowerTags V14 SP1 Combo and WinCC RT Professional 65 536 PowerTags	**6AV2103-4MX04-0AK5**
• SIMATIC WinCC V7.0 ... V7.3 RC 102 400 -> WinCC Professional max. PowerTags V14 SP1 Combo and WinCC RT Professional 102 400 PowerTags	**6AV2103-4PX04-0AK5**
• SIMATIC WinCC V7.0 ... V7.3 RC 153 600 -> WinCC Professional max. PowerTags V14 SP1 Combo and WinCC RT Professional 153 600 PowerTags	**6AV2103-4RX04-0AK5**
• SIMATIC WinCC V7.0 ... V7.3 RC 262 144 -> WinCC Professional max. PowerTags V14 SP1 Combo and WinCC RT Professional 262 144 PowerTags	**6AV2103-4TX04-0AK5**

[1] Current information and availability regarding the new delivery form can be found at: http://www.siemens.com/tia-online-software-delivery

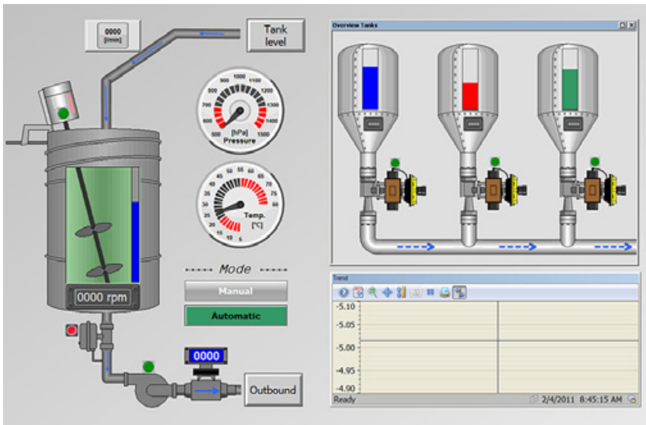
More information

More information can be found in the Internet at:

http://www.siemens.com/tia-portal

SIMATIC WinCC (TIA Portal) Runtime

Overview



SIMATIC WinCC Runtime Advanced visualization software

- PC-based HMI solution for single-user systems directly at the machine
- Basic package for visualization, reporting and logging, user administration, can be expanded flexibly with VB scripts
- Basic package expandable by means of option packages
- Integration of customer-specific ActiveX Controls created with WinCC ControlDevelopment
- Can be integrated into automation solutions based on TCP/IP networks
- Expanded service concepts with remote operation, diagnostics and administration over the intranet and Internet in combination with email communication

SIMATIC WinCC Runtime Professional visualization software

- PC-based operator control and monitoring system for visualization and operator control of processes, production flows, machines and plants in all sectors – from the simple single-user station through to distributed multi-user systems and cross-location solutions with web clients. WinCC Runtime Professional is the information hub for corporation-wide vertical integration.
- Industry-standard functions for signaling and acknowledging events, archiving of messages and measured values, logging of all process and configuration data, user administration, can be expanded flexibly with VB and C scripts
- Basic package expandable by means of option packages
- Also included are APIs for the Runtime to utilize the open programming interfaces
- Integration of customer-specific ActiveX Controls created with WinCC ControlDevelopment

For more detailed information, refer to:

http://www.siemens.com/wincc-tia-portal

http://www.siemens.com/wincc-professional

Overview

PC-based HMI solution for single-user systems directly at the machine. SIMATIC WinCC Runtime Advanced is configured with the SIMATIC WinCC Advanced or SIMATIC WinCC Professional configuration software.

Benefits

- Functions for all visualization tasks:
  - Operator functions
  - Graphics and trend displays
  - Alarm logging
  - Report system
  - Archiving (option)
  - Recipe management (option)
  - Audit Trail (option)
- Flexible runtime functionality due to Visual Basic scripts
- Innovative service concepts with remote operation, diagnostics and administration via intranet and Internet as well as email communication to increase availability (option)
- Support for simple distributed automation solutions based on TCP/IP networks at the machine-level (option)
- Part of the Totally Integrated Automation Portal
  - Direct access to the tag and message configuration of the SIMATIC controller
  - Excellent support of the new SIMATIC S7-1500 controller
    With symbolic addressing
    Access to the new memory-optimized data blocks
    New alarm and diagnostics concept
  - Integrated diagnostic functions for increasing productivity

Application

SIMATIC WinCC Runtime Advanced is the high-performance visualization software for simple, machine-oriented visualization tasks. It can be used as a single-user solution for all automation applications in production automation, process automation and building services automation.

SIMATIC WinCC Runtime Advanced can be used in combination with the following operator panels:

- SIMATIC S7 Open Controller: ET 200SP Open Controller
- SINUMERIK PC: PCU 50.3, PCU 50.5
- Standard PCs with resolutions (W x H in pixels) of:
  - 4:3 format: 640 x 480, 800 x 600, 1024 x 768, 1280 x 1024, 1600 x 1200
  - Widescreen format: 800 x 480, 1280 x 800, 1366 x 768, 1440 x 900, 1680 x 1050, 1920 x 1080, 1920 x 1200, 1980 x 1080

Design

SIMATIC WinCC Runtime Advanced is available as a software package with 128, 512, 2 048, 4 096, 8 192 and 16 384 PowerTags.

The term PowerTags is used to identify process tags and area pointers that have a process link to the controller. Tags without process links, constant limit values of tags, and messages (up to 4 000-bit-triggered messages) are also available for additional system performance.

The range of functions of WinCC Runtime Advanced includes the centralized HMI components for visualizing and reporting, and it can be expanded to suit requirements and costs by using optional packages.

SIMATIC WinCC Runtime Advanced is configured with the SIMATIC WinCC Advanced or SIMATIC WinCC Professional configuration software.

Function

<u>Visualization via Windows-compliant user interface</u>

Made up of parameterizable screen objects and faceplates created on a project-specific basis:

- Numeric and alphanumeric input/output fields
- Static text and graphic display plus vector graphics
- Dynamizable graphics from HMI symbol library
- Bar graph, trend curve graph with scroll and zoom function as well as read line
- Signal-specific text and graphic lists
- Buttons and switches for operator-process communication
- Editing fields for process values (signals)
- Analog display, slider as example for further screen objects
- Project-specific faceplates created from basic objects of the system
- Graphic displays for various standard graphic formats, e.g. bitmaps, .jpg, .wmf

<u>Alarms and messages</u>

- Discrete alarms and analog alarms as well as event-driven Alarm-S/Alarm-D message procedure with SIMATIC S7
- The new alarm and diagnostics concept of the S7-1500 controller is also supported
- Freely-definable alarm classes for definition of acknowledgment response and display of alarm events

Function (continued)

Logging of alarms and process values [1)]

- Logging in files (e.g. CSV or TXT file) and Microsoft SQL databases
- Online evaluation of process value and alarm logs
- Evaluation of process value and alarm logs using standard Microsoft tools such as Excel

Recipes [1)]

- Generation of data records for machine data or production data
- Display or entry of data records via a configurable screen object or via process screens distributed within the project
- Transmission of data records from or to the controller
- Import/export of data records from/to CSV files for further processing with other tools (e.g. MS Excel)

Documentation of process data, alarm events, and recipes

- Time or event-driven report output
- User-definable layout

Flexible expansion of integrated system function using Visual Basic script

Language support for multilingual projects

- Up to 32 online languages
- Language-dependent texts and graphics
- Language selection during runtime

User-oriented access protection according to requirements of regulated sectors

- Authentication with user ID and password
- User group-specific rights
- Central system-wide user administration based on SIMATIC Logon[1)]
- Monitoring of changes by operators in runtime operation[1)]
- Recording of operator actions in an Audit Trail [1)]

Onboard controller connection to many different controllers

- Communication via native drivers and standard OPC channel
- Simultaneous connection using several protocols: OPC Client and SIMATIC HMI HTTP protocol are additive, i.e. they can be used in conjunction with other controller connections

Open communication between HMI systems and with higher-level systems

- OPC server
  - Use of the visualization system as a data server (OPC Server) for higher-level automation components, e.g. control systems or systems in the office area
  - OPC-DA-Server: tags, e.g. process values
- Communication between HMI systems is established on the basis of Ethernet networks, or via the Intranet/Internet
  - Read and write access to tags. The WinCC Runtime Advanced or SIMATIC Panels provide other SIMATIC HMI systems or office applications with data (tags)
- Sending of emails on demand or event-driven
  - e.g. to maintenance personnel via SMTP server (Simple Mail Transfer Protocol)
  - The optional use of email/SMS gateways enables access to standard networks (external service provider required)
- System diagnostics via device-specific HTML pages; the following functions are available:
  - Starting and stopping the HMI runtime for maintenance
  - Remote access to recipe data records, passwords and information specific to the HMI system
  - Access to the HMI system files via a file explorer
  - Download of configuration data via the Intranet/Internet
  - Supplement with own HTML pages

WinCC Sm@rtServer
for the remote control via the Intranet and Internet [1)]

- Display and control of process screens on remote PC or Panel
- A SIMATIC HMI system can be used to control or monitor another system remotely; entry level for client/server configurations for distributed operator stations or for solutions with head end or control room

WinCC ControlDevelopment
for extending the functionality by adding own Controls [1)]

- Development of proprietary VB.net or C# Controls for integration in SIMATIC WinCC Runtime Advanced

1) Option for SIMATIC WinCC Runtime Advanced, runtime licenses must be purchased separately. For further information, refer to "WinCC options".

3

Function (continued)

System prerequisites

	SIMATIC WinCC Runtime Advanced
Processor type (min.) [1]	Intel® Core™ i5-6440EQ (2.7 GHz) and all processors of the SIMATIC IPC
RAM (min.) [2]	16 GB or more (32 GB for large projects)
Hard disk	SSD with at least 50 GB storage space available
Operating systems	32-bit operating systems • Windows 7 Professional SP1 • Windows 7 Enterprise SP1 • Windows 7 Ultimate SP1 • Windows Embedded Std 7 SP1 (only SIMATIC IPC) 64-bit operating systems • Windows 7 Professional SP1 Windows 7 Enterprise SP1 Windows 7 Ultimate SP1 • Windows Embedded Std 7 SP1 (only SIMATIC IPC) • Windows 8.1 Professional Windows 8.1 Enterprise • Windows Server 2008 R2 StdE SP1 Windows Server 2012 R2 StdE • Windows 7 Home Premium SP1 (only WinCC Basic) Windows 7 Professional SP1 Windows 7 Enterprise SP1 Windows 7 Ultimate SP1 • Windows 8.1 Professional Windows 8.1 Enterprise • Windows Embedded 8.1 Industry • Windows 10 Professional Version 1607 • Windows 10 Enterprise Version 1607 • Windows 10 Enterprise 2016 LTSB • Windows 10 Enterprise 2015 LTSB • Windows Server 2008 R2 StdE SP1 (not WinCC Basic) • Windows Server 2012 R2 StdE • Windows Server 2016 Standard Edition
Optical drive	DVD-ROM

1) In combination with options, more powerful systems may be required

2) The required RAM is determined primarily by the size of the graphics used.

Note:

In addition to WinCC, Windows also requires space on the hard disk; e.g. free disk space should be available for the swap file. The following formula has proven itself in the past:
Size of swap file = 3 x size of RAM.

For further information, refer to your Windows documentation.

Technical specifications

The following tables of system limitations provide assistance in estimating whether a specific project is still within the system limitations for WinCC Runtime Advanced.

The stated maximum values are not additive.

We cannot guarantee proper functioning of configurations that make full use of all system limits on the HMI devices. In addition to the limitations specified, allowances must be made for restrictions in configuration memory resources.

	SIMATIC WinCC Runtime Advanced
Tags	
Number of tags in the project	24 576
Number of PowerTags	128 –16 384
Number of elements per array	1 600
Number of local tags	8 192
Alarms	
Number of alarm classes	32
Number of discrete alarms	6 000
Number of analog alarms	500
Length of an alarm in characters	80
Number of process values per alarm	8
Size of the alarm buffer	2 048
Number of queued alarm events	500
Screens	
Number of screens	750
Number of fields per screen	600
Number of tags per screen	400
Number of complex objects per screen [1]	40
Recipes	
Number of recipes	1 000
Number of elements per recipe [2]	2 000
User data length in KB per data record	512
Number of data records per recipe	5 000
Logs	
Number of logs	100
Number of entries per log (including all log segments) [3]	500 000
Number of log segments	400
Cyclical trigger for tag logging	1 s
Number of tags that can be logged per log	24 576

1) Complex objects are: Bars, sliders, symbol library, clock, and all objects from the Controls area.

2) When using arrays, each array element represents a recipe element

3) For the "segmented circular log" logging method, the number of entries for all sequence logs is valid. The product derived from the number of circular logs times the number of data records in this log may not be exceeded.

3

Technical specifications (continued)

	SIMATIC WinCC Runtime Advanced
Trends	
Number of trends	800
Text lists and graphics lists	
Number of graphic lists	500
Number of text lists	500
Number of entries per text or graphic list	3 500
Number of graphic objects	24 576
Number of text elements	40 000
Scripts	
Number of scripts	200
Communication	
Number of connections	8
Number of connections based on "SIMATIC HMI HTTP"	16
Maximum number of connected Sm@rtClients (including a service client)	4[4)]
Help system	
Number of characters in a help text	500
Languages	
Number of runtime languages	32
Scheduler	
Time-triggered tasks[5)]	48
User administration	
Number of user groups	50
Number of user rights	32
Number of users	100

1) Complex objects are: Bars, sliders, symbol library, clock, and all objects from the Controls area.

2) When using arrays, each array element represents a recipe element

3) For the "segmented circular log" logging method, the number of entries for all sequence logs is valid. The product derived from the number of circular logs times the number of data records in this log may not be exceeded.

4) Up to three Sm@rtClients can interconnect with the Sm@rtServer on Panel PC 477.

5) Event-triggered tasks are not relevant for the system limits.

Ordering data

Ordering data	Article No.
Basic software	
SIMATIC WinCC Runtime Advanced V14 SP1	
Software and documentation on DVD, including options software [1)] single license, license key on USB stick for	
• 128 PowerTags	**6AV2104-0BA04-0AA0**
• 512 PowerTags	**6AV2104-0DA04-0AA0**
• 2 048 PowerTags	**6AV2104-0FA04-0AA0**
• 4 096 PowerTags	**6AV2104-0HA04-0AA0**
• 8 192 PowerTags	**6AV2104-0KA04-0AA0**
• 16 384 PowerTags	**6AV2104-0LA04-0AA0**
As download[3)] Single license, software and license key download, email address required for the delivery	
• 128 PowerTags	**6AV2104-0BA04-0AH0**
• 512 PowerTags	**6AV2104-0DA04-0AH0**
• 2 048 PowerTags	**6AV2104-0FA04-0AH0**
• 4 096 PowerTags	**6AV2104-0HA04-0AH0**
• 8 192 PowerTags	**6AV2104-0KA04-0AH0**
• 16 384 PowerTags	**6AV2104-0LA04-0AH0**
PowerPacks	
SIMATIC WinCC Runtime Advanced V14 (without version change)	
Single license, license key only on USB stick for PowerTags from	
Data storage medium	
• 128 PowerTags to 512 PowerTags	**6AV2104-2BD04-0BD0**
• 512 PowerTags to 2 048 PowerTags	**6AV2104-2DF04-0BD0**
• 2 048 PowerTags to 4 096 PowerTags	**6AV2104-2FH04-0BD0**
• 4 096 PowerTags to 8 192 PowerTags	**6AV2104-2HK04-0BD0**
• 8 192 PowerTags to 16 384 PowerTags	**6AV2104-2KL04-0BD0**
As download[3)] Single license, software and license key download, email address required for the delivery	
• 128 PowerTags to 512 PowerTags	**6AV2104-2BD04-0BJ0**
• 512 PowerTags to 2 048 PowerTags	**6AV2104-2DF04-0BJ0**
• 2 048 PowerTags to 4 096 PowerTags	**6AV2104-2FH04-0BJ0**
• 4 096 PowerTags to 8 192 PowerTags	**6AV2104-2HK04-0BJ0**
• 8 192 PowerTags to 16 384 PowerTags	**6AV2104-2KL04-0BJ0**

Ordering data

	Article No.
SIMATIC WinCC Runtime Advanced V14 SP1 to SIMATIC WinCC Runtime Professional V14 SP1	
Single license, software and documentation on DVD, license key on USB stick for PowerTags from	
• 128 PowerTags to 128 PowerTags	**6AV2105-2BB04-0AC0**
• 512 PowerTags to 512 PowerTags	**6AV2105-2DD04-0AC0**
• 2 048 PowerTags to 2 048 PowerTags	**6AV2105-2FF04-0AC0**
• 4 096 PowerTags to 4 096 PowerTags	**6AV2105-2HH04-0AC0**
• 8 192 PowerTags to 8 192 PowerTags	**6AV2105-2KK04-0AC0**
As download[3] Single license, software and license key download, email address required for the delivery	
• 128 PowerTags to 128 PowerTags	**6AV2105-2BB04-0AJ0**
• 512 PowerTags to 512 PowerTags	**6AV2105-2DD04-0AJ0**
• 2 048 PowerTags to 2 048 PowerTags	**6AV2105-2FF04-0AJ0**
• 4 096 PowerTags to 4 096 PowerTags	**6AV2105-2HH04-0AJ0**
• 8 192 PowerTags to 8 192 PowerTags	**6AV2105-2KK04-0AJ0**
SIMATIC WinCC Runtime Advanced V14 SP1 to SIMATIC WinCC Runtime Professional ASIA V14 SP1	
• 128 PowerTags to 128 PowerTags	**6AV2105-2BB14-0AC0**
• 512 PowerTags to 512 PowerTags	**6AV2105-2DD14-0AC0**
• 2 048 PowerTags to 2 048 PowerTags	**6AV2105-2FF14-0AC0**
• 4 096 PowerTags to 4 096 PowerTags	**6AV2105-2HH14-0AC0**
• 8 192 PowerTags to 8 192 PowerTags	**6AV2105-2KK14-0AC0**
Update	
SIMATIC WinCC Runtime Advanced V14 to V14 SP1	**6AV2104-0XX04-0DU8**
Software and documentation on DVD, including options software (DVD only, without license key)	

	Article No.
Upgrades	
SIMATIC WinCC Runtime Advanced V14 SP1	
Software and documentation on DVD, including options software single license, license keys on USB stick for	
• 128 PowerTags	**6AV2104-3BB04-0AE0**
• 512 PowerTags	**6AV2104-3DD04-0AE0**
• 2 048 PowerTags	**6AV2104-3FF04-0AE0**
• 4 096 PowerTags	**6AV2104-3HH04-0AE0**
• 8 192 PowerTags	**6AV2105-3KK04-0AE0**
As download[3] Single license, software and license key download, email address required for the delivery	
• 128 PowerTags	**6AV2104-3BB04-0AK0**
• 512 PowerTags	**6AV2104-3DD04-0AK0**
• 2 048 PowerTags	**6AV2104-3FF04-0AK0**
• 4 096 PowerTags	**6AV2104-3HH04-0AK0**
• 8 192 PowerTags	**6AV2105-3KK04-0AK0**
SIMATIC WinCC flexible 2008 to SIMATIC WinCC Runtime Advanced V14 SP1	
Software and documentation on DVD, including options software single license, license keys on USB stick for	
• 128 PowerTags to 128 PowerTags[2]	**6AV2104-4BB04-0AE0**
• 512 PowerTags to 512 PowerTags[2]	**6AV2104-4DD04-0AE0**
• 2 048 PowerTags to 2 048 PowerTags[2]	**6AV2104-4FF04-0AE0**
• 4 096 PowerTags to 4 096 PowerTags[2]	**6AV2104-4HH04-0AE0**
• 8 192 PowerTags to 8 192 PowerTags[2]	**6AV2104-4KK04-0AE0**
As download[3] Single license, software and license key download, email address required for the delivery	
• 128 PowerTags to 128 PowerTags[2]	**6AV2104-4BB04-0AK0**
• 512 PowerTags to 512 PowerTags[2]	**6AV2104-4DD04-0AK0**
• 2 048 PowerTags to 2 048 PowerTags[2]	**6AV2104-4FF04-0AK0**
• 4 096 PowerTags to 4 096 PowerTags[2]	**6AV2104-4HH04-0AK0**
• 8 192 PowerTags to 8 192 PowerTags[2]	**6AV2104-4KK04-0AK0**

1) Runtime licenses for WinCC Runtime Advanced options must be purchased separately for each target system

2) Each including 1 upgrade license to the WinCC Runtime Advanced options

3) Current information and availability regarding the new delivery form can be found at: http://www.siemens.com/tia-online-software-delivery

3

Ordering data

	Article No.
SIMATIC WinCC flexible Panel Options to SIMATIC WinCC (TIA Portal) Panel Options • WinCC flexible /Audit for SIMATIC Panels to SIMATIC WinCC Audit for SIMATIC Comfort/Mobile Panels • WinCC flexible /Sm@rtAccess for SIMATIC Panel to SIMATIC WinCC Sm@rtServer for SIMATIC Panels • WinCC flexible /Sm@rtService for SIMATIC Panels to SIMATIC WinCC Sm@rtServer for SIMATIC Panels • WinCC flexible/ProAgent for Panels to SIMATIC ProDiag for Comfort/Mobile Panel	**6AV2107-4XP00-0BF0**
As download[3] Single license, software and license key download, email address required for the delivery • WinCC flexible /Audit for SIMATIC Panels to SIMATIC WinCC Audit for SIMATIC Comfort/Mobile Panels • WinCC flexible /Sm@rtAccess for SIMATIC Panel to SIMATIC WinCC Sm@rtServer for SIMATIC Panels • WinCC flexible /Sm@rtService for SIMATIC Panels to SIMATIC WinCC Sm@rtServer for SIMATIC Panels • WinCC flexible/ProAgent for Panels to SIMATIC ProDiag for Comfort/Mobile Panel	**6AV2107-4XP00-0BK0**

[3] Current information and availability regarding the new delivery form can be found at: http://www.siemens.com/tia-online-software-delivery

More information

More information can be found in the Internet at:

http://www.siemens.com/tia-portal

Overview

PC-based operator control and monitoring system for visualization and operator control of processes, production flows, machines and plants in all sectors – from the simple single-user station through to distributed multi-user systems and cross-location solutions with web clients.

SIMATIC WinCC Runtime Professional is the information hub for corporation-wide vertical integration. SIMATIC WinCC Runtime Professional is configured with the SIMATIC WinCC Professional configuration software.

Benefits

- Functions for all visualization tasks:
  - Operator functions
  - Graphics and trend displays
  - Alarm logging
  - Report system
  - Archiving (option)
  - Recipe management (option)
- Universally scalable
  - Expandable from single station to client-server configurations
  - Process visualization via the web with the WinCC WebNavigator
- Open standards for easy integration
  - Efficient real-time database MS SQL Server
  - Open for application modules with ActiveX controls
  - Visual Basic for Applications for individual expansions
  - OPC for cross-vendor communication
- Part of the Totally Integrated Automation Portal
  - Direct access to the tag and message configuration of the SIMATIC controller
  - Excellent support of the new SIMATIC S7-1500 controller
    With symbolic addressing
    Access to the new memory-optimized data blocks
    New alarm and diagnostics concept
  - Integrated diagnostic functions for increasing productivity

Application

SIMATIC WinCC Runtime Professional is designed for visualization and operation of processes, manufacturing cycles, machines and plants. With its powerful process interface, especially to the SIMATIC family, and the secure data logging, WinCC Runtime Professional enables solutions for the process control.

The sector-neutral basic system enables universal usage in all automation applications.

SIMATIC WinCC Runtime Professional can be used in combination with the following operator panels:

SIMATIC PCs:

- SIMATIC Panel PC:
  - IPC547, IPC647, IPC847
- SIMATIC Box PC:
  - IPC427, IPC627, IPC827
- SIMATIC Rack PC:
  - IPC477, IPC677
- Standard PC

Design

SIMATIC WinCC Runtime Professional is available as a software package with 128, 512, 2 048, 4 096, 8 192, 65 536, 102 400, 153 600 and 262 144 PowerTags.

PowerTags are data points that are connected to controllers or other data sources via a WinCC Runtime Professional channel. Up to 32 alarms can be obtained from one data point. Moreover, internal tags without coupling are available for additional system performance. WinCC Runtime Professional also contains 500 archive tags. Additional archive licenses can be obtained for greater quantity structures.

Licenses for a multi-user configuration

The system software with the required number of PowerTags and additionally the SIMATIC WinCC Server for Runtime Professional option must be installed on the server.

For the clients in the basic configuration, a SIMATIC WinCC Client for Runtime Professional license is sufficient.

Function

Visualization via Windows-compliant user interface

Made up of parameterizable screen objects and faceplates created on a project-specific basis:

- Numeric and alphanumeric input/output fields
- Static text and graphic display plus vector graphics
- Dynamizable graphics from HMI symbol library
- Bar graph, trend curve graph with scroll and zoom function as well as read line
- Signal-specific text and graphic lists
- Buttons and switches for operator-process communication
- Editing fields for process values (signals)
- Analog display, slider as example for further screen objects
- Project-specific faceplates created from basic objects of the system
- Graphic displays for various standard graphic formats, e.g. bitmaps, .jpg, .wmf

Alarms and messages

- Discrete alarms and analog alarms, as well as event-driven Alarm-S/Alarm-D message procedure with SIMATIC S7
- The new alarm and diagnostics concept of the S7-1500 controller is also supported
- Freely-definable alarm classes for definition of acknowledgment response and display of alarm events

Function (continued)

Logging of alarms and process values[1)]

- Signaling system for detecting and archiving events with display and control options according to DIN 19235
- Process logging for the acquisition, compression and storage of measured values
- Online evaluation of process value and alarm logs

Recipes[1)]

- Generation of data records for machine data or production data
- Display or entry of data records via a configurable screen object or via process screens distributed within the project
- Transmission of data records from or to the controller
- Import/export of data records for further processing with other tools (e.g. MS Excel)

Documentation of process data, alarm events, and recipes

- Time or event-driven report output
- User-definable layout

Flexible expansion by means of Visual Basic Script and ANSI-C

- Programming interfaces for individual access to data and functions of WinCC Runtime Professional and for the integration in user programs with VBA, VB Script, C-API, C-Script (ANSI-C)

Open communication between HMI systems and with higher-level systems

- OPC Server
  Use of the visualization system as a data server (OPC Server) for higher-level automation components such as control systems or systems in the office sector
  - OPC-UA-DA Server: tags, e.g. process values
  - OPC-HDA-Server: logged process values
  - OPC-A&E-Server: Alarms
  - OPC-XML-DA-Server: tags, e.g. process values
  - OPC-XML-DA Server: tags, e.g. process values
- OLE DB Server
  - Standardized and user-friendly access to WinCC log data (MS SQL Server 2005).
  - Access is via the OLE-DB Provider supplies all WinCC log data available along with the accompanying process values, as well as alarm and user texts.
  - The WinCC OLE-DB provider also supports analysis functions such as minimum, maximum, alarm hit list, etc.
- WinCC WebUX for Runtime Professional [1)]
  - The WebUX option enables platform and browser-independent operator control and monitoring via the Internet or the in-house intranet or LAN.
  - Installation on the terminal is unnecessary – an HTML5-compatible browser is sufficient. WebUX can then also be used on mobile terminals.
- WinCC WebNavigator for Runtime Professional [1)]
  - Option for SIMATIC WinCC Runtime Professional for operating and monitoring plants over the Internet, company Intranet or LAN.
  - Configuration from a web server with the SIMATIC WinCC Runtime Professional software as a single-user, client or server version and a web client that enables operator control and monitoring of a current WinCC Runtime Professional project via an Internet browser with ActiveX support. The WinCC basic system does not have to be installed on the client computer.
- WinCC DataMonitor for Runtime Professional [1)]
  - The WinCC DataMonitor is used for displaying and evaluating current process states and historical data on office PCs using standard tools such as Microsoft Internet Explorer or Microsoft Excel. The DataMonitor Client is supported by a web server with current and historic process data and alarms. All staff ranging from machine operators to corporate managers can use the DataMonitor to obtain information.

[1)] Option for SIMATIC WinCC Runtime Professional; runtime licenses must be purchased separately. Additional information is available under "WinCC options".

Language support for multilingual projects

- Language-dependent texts and graphics
- Language selection during runtime

PLC link for a wide variety of PLCs on-board

- Communication via native drivers and standard OPC channel
- For communication with subordinate controls (SIMATIC protocols, PROFIBUS DP, PROFIBUS FMS, DDE and OPC server included in the scope of delivery)

New features of WinCC Runtime Professional V14 SP1

- OPC UA DA client support
- New VBS method for image windows to temporarily disable the operation of an image window
- Individualization of recipe controls.
  For adaptation of control properties (buttons or table elements)
- WebUX:
  Automatic login (only for monitoring rights)

Note:

For communication, the supplied SIMATIC Net V14 SP1 must be installed.
Before installing SIMATIC WinCC RT Professional, please always ensure compatibility with the add-on packages and options you require and use.

Function (continued)

System prerequisites	SIMATIC WinCC Runtime Professional
Processor type (min.) [1]	• Intel Celeron Dual Core 2.2 GHz (Ivy/Sandy Bridge)
RAM (min.) [2]	4 GB
Free hard disk space [3]	8 GB on system drive "C:"
Operating systems	32-bit operating systems • Windows 7 SP1 (Professional, Enterprise, Ultimate) • Windows Embedded Std 7 SP1 64-bit operating systems • Windows 7 SP1 (Professional, Enterprise, Ultimate) • Windows Embedded Std 7 SP1 • Windows 8.1 (Professional, Enterprise) • Windows Embedded 8.1 Industry • Windows 10 (Professional Version 1607, Enterprise Version 1607, Enterprise 2016 LTSB, Enterprise 2015 LTSB) • Windows Server 2008 R2 StdE SP1 • Windows Server 2012 R2 StdE • Windows Server 2016
Graphics card	32 MB RAM, 24-bit color depth
Network	Ethernet 10 Mbps or higher
Optical drive	DVD-ROM

[1] In combination with options, more powerful systems may be required

[2] The required RAM is determined primarily by the size of the graphics used.

[3] Without taking archives into account.

Note:

In addition to WinCC, Windows also requires space on the hard disk; e.g. free disk space should be available for the swap file.

The following formula has proven itself in the past:
Size of swap file = 3 x size of RAM.

For further information, refer to your Windows documentation.

Integration

Integration in company-wide solutions (IT and business integration)

WinCC Runtime Professional is strictly based on Microsoft technology, which provides for the greatest possible compatibility and integration ability.

Cross-manufacturer communication is also a simply exercise. The reason: WinCC Runtime Professional can be used as an OPC client and server, and in addition to access to current process values, it also supports standards such as OPC HDA (Historical Data Access), OPC Alarm & Events, OPC UA Data Access and OPC XML Data Access.

Just as important: Visual Basic Scripting (VBS) as an easy-to-learn, open Runtime language. If desired, professional application developers can also use ANSI-C.

WinCC Runtime Professional integrates a powerful and scalable Historian function based on the Microsoft SQL Server in the basic system.

Thus the user is given all possibilities: from high-performance archiving of current process data, to long-term archiving with high data compression, through to a central information turntable in form of a company-wide Process Historian. Open interfaces form the basis for an effective IT and business integration.

3

Technical specifications

The following tables of system limits provide assistance in estimating whether a specific project is still within the system limitations for WinCC Runtime Professional. The stated maximum values are not additive.

We cannot guarantee proper functioning of configurations that make full use of all system limits on the HMI devices. In addition to the limitations specified, allowances must be made for restrictions in configuration memory resources.

	SIMATIC WinCC Runtime Professional
Alarms	
Configurable alarms per server/single user	150,000
PowerTags per alarm line	10
User text blocks per alarm line	10
Message classes	256
Alarm types	16
Alarm priorities	17 (0...16)
Alarms in Runtime	
Alarms per alarm log	Unlimited 1)
Alarms per short-term log list	1,000
Alarms per long-term log list	1,000 2)
Alarms per alarm display	5,000 3)
Screens	
Objects per screen 4)	Unlimited 5)
Levels per screen	32
Screens per project	Unlimited 5)
Instances of fixed faceplates in a process screen	31 instances of the same picture type
Screen size in pixels	10 000 x 10 000
Nesting levels of screen objects	20
Recipes	
Number of recipes	Unlimited 5)
Number of recipe elements	500 6)
Number of recipe data records	10,000 6)
Number of views	Unlimited 5)
Logs	
Trend views per screen	25
Trends per trend view	80
Tables per screen	25
Columns per table	12
Values per table	30,000
Logs per single-user station/server	100
Log tags per single-user station/ server 7)	80,000

	SIMATIC WinCC Runtime Professional
Trends	
Trend views per image	25
Trends per trend view	80
User administration	
Number of user groups	128
Number of user rights	999
Number of users	128
Configurations – Quantity structure in a multi-user system	
WinCC clients in a system	32 8) 9)
Web clients in a system	150 10)

1) Limited by system resources.
2) On single-user station or server or on client per server if "LongTimeArchiveConsistency" is set to "No". On single-user station, server, or client if "LongTimeArchiveConsistency" is set to "Yes".
3) On single-user station or server or on client per server.
4) The number and complexity of the objects affect the performance.
5) Limited by system resources.
6) The sum of the number of recipe elements and number of data records must not exceed a value of 1,000,000
7) Dependent on the Logging PowerPack used for the log tags. 500 log tags are contained in the basis version.
8) If the server is also used as an operating unit, the number of clients for this server is reduced to four.
9) Mixed configuration: 32 Clients + 3 Web Clients
10) Mixed configuration: 50 Web Clients + 1 WinCC Client

Ordering data

	Article No.
Basic software	
SIMATIC WinCC Runtime Professional V14 SP1	
For PC systems; incl. software options 1), language/script versions: en, de, fr, it, es single license, on DVD incl. licensing, on USB flash drive, for:	
• 128 PowerTags	**6AV2105-0BA04-0AA0**
• 512 PowerTags	**6AV2105-0DA04-0AA0**
• 2 048 PowerTags	**6AV2105-0FA04-0AA0**
• 4 096 PowerTags	**6AV2105-0HA04-0AA0**
• 8 192 PowerTags	**6AV2105-0KA04-0AA0**
• 65 536 PowerTags	**6AV2105-0MA04-0AA0**
• 102 400 PowerTags	**6AV2105-0PA04-0AA0**
• 153 600 PowerTags	**6AV2105-0RA04-0AA0**
• 262 144 PowerTags	**6AV2105-0TA04-0AA0**
Incl. 500 archive tags each	
Download 3)	
Single license, software and license key download, email address required for the delivery.	
• 128 PowerTags	**6AV2105-0BA04-0AH0**
• 512 PowerTags	**6AV2105-0DA04-0AH0**
• 2 048 PowerTags	**6AV2105-0FA04-0AH0**
• 4 096 PowerTags	**6AV2105-0HA04-0AH0**
• 8 192 PowerTags	**6AV2105-0KA04-0AH0**
• 65 536 PowerTags	**6AV2105-0MA04-0AH0**
• 102 400 PowerTags	**6AV2105-0PA04-0AH0**
• 153 600 PowerTags	**6AV2105-0RA04-0AH0**
• 262 144 PowerTags	**6AV2105-0TA04-0AH0**
Incl. 500 archive tags each	
SIMATIC WinCC Runtime Professional ASIA V14 SP1	
For PC systems; incl. software options 1), language/script versions: en, zh-CN, zh-TW, ko, ja single license, on DVD incl. licensing, for:	
• 128 PowerTags	**6AV2105-0BA14-0AA0**
• 512 PowerTags	**6AV2105-0DA14-0AA0**
• 2 048 PowerTags	**6AV2105-0FA14-0AA0**
• 4 096 PowerTags	**6AV2105-0HA14-0AA0**
• 8 192 PowerTags	**6AV2105-0KA14-0AA0**
• 65 536 PowerTags	**6AV2105-0MA14-0AA0**
• 102 400 PowerTags	**6AV2105-0PA14-0AA0**
• 153 600 PowerTags	**6AV2105-0RA14-0AA0**
• 262 144 PowerTags	**6AV2105-0TA14-0AA0**
Incl. 500 archive tags each	

1) Runtime licenses for WinCC Runtime Professional options must be purchased separately for each target system.

2) Each including 1 upgrade license to the WinCC Runtime Professional options.

3) Current information and availability regarding the new type of delivery can be found at: http://www.siemens.com/tia-online-software-delivery

	Article No.
SIMATIC WinCC Client for Runtime Professional V14 SP1	
• WinCC Client for Runtime Professional	**6AV2107-0DB04-0AA0**
• WinCC Client for Runtime Professional (as download 3))	**6AV2107-0DB04-0AH0**
• WinCC Client for Runtime Professional ASIA	**6AV2107-0DB14-0AA0**
PowerPacks	
SIMATIC WinCC Runtime Professional V14 SP1 and SIMATIC WinCC Runtime Professional ASIA V14 SP1	
Single license, license key only on USB flash drives for PowerTags from	
• 128 to 512 PowerTags	**6AV2105-2BD04-0BD0**
• 512 to 2 048 PowerTags	**6AV2105-2DF04-0BD0**
• 2 048 to 4 096 PowerTags	**6AV2105-2FH04-0BD0**
• 4 096 to 8 192 PowerTags	**6AV2105-2HK04-0BD0**
• 8 192 to 65 536 PowerTags	**6AV2105-2KM04-0BD0**
• 65 536 to 102 400 PowerTags	**6AV2105-2MP04-0BD0**
• 102 400 to 153 600 PowerTags	**6AV2105-2PR04-0BD0**
• 153 600 to 262 144 PowerTags	**6AV2105-2RT04-0BD0**
Download 3)	
Single license, license key download only, email address required for the delivery.	
• 128 to 512 PowerTags	**6AV2105-2BD04-0BJ0**
• 512 to 2 048 PowerTags	**6AV2105-2DF04-0BJ0**
• 2 048 to 4 096 PowerTags	**6AV2105-2FH04-0BJ0**
• 4 096 to 8 192 PowerTags	**6AV2105-2HK04-0BJ0**
• 8 192 to 65 536 PowerTags	**6AV2105-2KM04-0BJ0**
• 65 536 to 102 400 PowerTags	**6AV2105-2MP04-0BJ0**
• 102 400 to 153 600 PowerTags	**6AV2105-2PR04-0BJ0**
• 153 600 to 262 144 PowerTags	**6AV2105-2RT04-0BJ0**
Upgrades WinCC V14 to WinCC V14 SP1	
SIMATIC WinCC Runtime Professional Update V14 -> V14 SP1	**6AV2105-0XX04-0DU8**
Data storage medium without license, can only be used in conjunction with a valid license for WinCC Runtime Professional.	

WinCC Runtime Professional

Ordering data

Ordering data	Article No.
Upgrades WinCC V11 ... 13 to WinCC V14 SP1	
SIMATIC WinCC Runtime Professional V11 ... 13 and	
SIMATIC WinCC Runtime Professional ASIA V11 ... V13 to V14 SP1	
Single license, on DVD including licensing on USB flash drive: The upgrades include WinCC RT Prof. upgrade licenses for the options (WebNavigator, DataMonitor, WebDiag Client, excluding WinCC Upgrade Client)	
• SIMATIC WinCC Runtime Professional 128 PowerTags	**6AV2105-3BB04-0AE0**
• SIMATIC WinCC Runtime Professional 512 PowerTags	**6AV2105-3DD04-0AE0**
• SIMATIC WinCC Runtime Professional 2 048 PowerTags	**6AV2105-3FF04-0AE0**
• SIMATIC WinCC Runtime Professional 4 096 PowerTags	**6AV2105-3HH04-0AE0**
• SIMATIC WinCC Runtime Professional 8 192 PowerTags	**6AV2105-3KK04-0AE0**
• SIMATIC WinCC Runtime Professional 65 536 PowerTags	**6AV2105-3MM04-0AE0**
• SIMATIC WinCC Runtime Professional 102 400 PowerTags	**6AV2105-3PP04-0AE0**
• SIMATIC WinCC Runtime Professional 153 600 PowerTags	**6AV2105-3RR04-0AE0**
• SIMATIC WinCC Runtime Professional 262 144 PowerTags	**6AV2105-3TT04-0AE0**
Ddownload [3]	
Single license, software and license key download, email address required for the delivery.	
• SIMATIC WinCC Runtime Professional 128 PowerTags	**6AV2105-3BB04-0AK0**
• SIMATIC WinCC Runtime Professional 512 PowerTags	**6AV2105-3DD04-0AK0**
• SIMATIC WinCC Runtime Professional 2 048 PowerTags	**6AV2105-3FF04-0AK0**
• SIMATIC WinCC Runtime Professional 4 096 PowerTags	**6AV2105-3HH04-0AK0**
• SIMATIC WinCC Runtime Professional 8 192 PowerTags	**6AV2105-3KK04-0AK0**
• SIMATIC WinCC Runtime Professional 65 536 PowerTags	**6AV2105-3MM04-0AK0**
• SIMATIC WinCC Runtime Professional 102 400 PowerTags	**6AV2105-3PP04-0AK0**
• SIMATIC WinCC Runtime Professional 153 600 PowerTags	**6AV2105-3RR04-0AK0**
• SIMATIC WinCC Runtime Professional 262 144 PowerTags	**6AV2105-3TT04-0AK0**

	Article No.
Upgrades WinCC V7.0 ... V7.3 to WinCC V14 SP1	
SIMATIC WinCC Runtime V7.0 ... V7.3 to SIMATIC WinCC Runtime Professional V14 SP1 and	
SIMATIC WinCC Runtime V7.0 ... V7.3 ASIA to SIMATIC WinCC Runtime Professional ASIA V14 SP1	
Single license, on DVD incl. licensing on USB flash drive	
• WinCC Runtime 128 PowerTags to WinCC Runtime Professional 128 PowerTags [2]	**6AV2105-4BB04-0AE0**
• WinCC Runtime 512 PowerTags to WinCC Runtime Professional 512 PowerTags [2]	**6AV2105-4DD04-0AE0**
• WinCC Runtime 2 048 PowerTags to WinCC Runtime Professional 2 048 PowerTags [2]	**6AV2105-4FF04-0AE0**
• WinCC Runtime 8 192 PowerTags to WinCC Runtime Professional 8 192 PowerTags [2]	**6AV2105-4KK04-0AE0**
• WinCC Runtime 65 536 PowerTags to WinCC Runtime Professional 65 536 PowerTags [2]	**6AV2105-4MM04-0AE0**
• WinCC Runtime 102 400 PowerTags to WinCC Runtime Professional 102 400 [2]	**6AV2105-4PP04-0AE0**
• WinCC Runtime 153 600 PowerTags to WinCC Runtime Professional 153 600 [2]	**6AV2105-4RR04-0AE0**
• WinCC Runtime 262 144 PowerTags to WinCC Runtime Professional 262 144 [2]	**6AV2105-4TT04-0AE0**
• WinCC RC/RT128 / RC/RT Client to WinCC Client for Runtime Professional	**6AV2107-4DB04-0AE0**
Download [3]	
Single license, software and license key download, email address required for the delivery.	
• WinCC Runtime 128 PowerTags to WinCC Runtime Professional 128 PowerTags [2]	**6AV2105-4BB04-0AK0**
• WinCC Runtime 512 PowerTags to WinCC Runtime Professional 512 PowerTags [2]	**6AV2105-4DD04-0AK0**
• WinCC Runtime 2 048 PowerTags to WinCC Runtime Professional 2 048 PowerTags [2]	**6AV2105-4FF04-0AK0**
• WinCC Runtime 8 192 PowerTags to WinCC Runtime Professional 8 192 PowerTags [2]	**6AV2105-4KK04-0AK0**
• WinCC Runtime 65 536 PowerTags to WinCC Runtime Professional 65 536 PowerTags [2]	**6AV2105-4MM04-0AK0**
• WinCC Runtime 102 400 PowerTags to WinCC Runtime Professional 102 400 [2]	**6AV2105-4PP04-0AK0**
• WinCC Runtime 153 600 PowerTags to WinCC Runtime Professional 153 600 [2]	**6AV2105-4RR04-0AK0**
• WinCC Runtime 262 144 PowerTags to WinCC Runtime Professional 262 144 [2]	**6AV2105-4TT04-0AK0**
• WinCC RC/RT128 / RC/RT Client to WinCC Client for Runtime Professional	**6AV2107-4DB04-0AK0**

[1] Runtime licenses for WinCC Runtime Professional options must be purchased separately for each target system.

[2] Each including 1 upgrade license to the WinCC Runtime Professional options.

[3] Current information and availability regarding the new type of delivery can be found at: http://www.siemens.com/tia-online-software-delivery

More information

More information can be found in the Internet at:

http://www.siemens.com/tia-portal

http://www.siemens.com/wincc-professional

Overview

Communication – SIMATIC WinCC Runtime Advanced

WinCC Advanced is an open visualization system and offers the option of connecting the most diverse control systems.

Number of connectable controllers

WinCC Advanced permits the parallel coupling of up to 8 controllers. Connection to third-party controllers. The following "Connection overview" table includes lists of third-party protocols and controllers which are directly supported by WinCC Advanced. Generally it is also possible to connect third-party controllers via OPC (OLE for Process Control).

Current notes and information about OPC servers from many different suppliers can be found at:
http://www.opcfoundation.org/

WinCC Advanced supports the standards:
- OPC Data Access 2.05a
- OPC UA Data Access 1.01
- OPC XML Data Access 1.00 (client via DCOM/XML gateway)

Coupling overview for WinCC Runtime Advanced

Protocol	Description	PC interface
SIMATIC HMI		
Ethernet TCP/IP (HTTP communication)	HTTP communication for data exchange between SIMATIC HMI (client + server) [1]	CP 1612 A2
SIMATIC S7		
Ethernet TCP/IP (S7 communication)	Channel for communication via Ethernet TCP/IP with max. 8 x SIMATIC S7 controllers S7-1200, S7-1500 S7-300, S7-400, S7-200 with CP 243-1	CP 1612 A2 CP 1613 A2 CP 1623
MPI, PROFIBUS (S7 communication)	Channel for communication via MPI, PROFIBUS with max. 8 x SIMATIC S7 controllers S7-1200 with CM 1243-5 (DP master), S7-1500 S7-300, S7-400, S7-200 (passive S7-200 only)	CP 5612, CP 5621 CP 5622, CP 5711 CP 5613 A2 CP 5613 A3 CP 5623
PPI (PPI protocol)	Channel for communication via PPI with 1 x SIMATIC S7-200 (network operation, e.g. parallel PG possible)	CP 5612, CP 5621 CP 5622, CP 5711 CP 5613 A2 CP 5613 A3 CP 5623
Software interface (S7 communication)	Channel for communication via software interface with WinAC	
SINUMERIK [2]		
Ethernet TCP/IP (S7 communication)	Channel for communication via Ethernet TCP/IP with SINUMERIK 840D sl	CP 1612 A2 CP 1613 A2 CP 1623
MPI (S7 communication)	Channel for communication via MPI with SINUMERIK 840D sl	CP 5612, CP 5621 CP 5622, CP 5711 CP 5613 A2 CP 5613 A3 CP 5623
Third-party controllers (from WinCC V11.0) [3]		
Allen Bradley Ethernet IP	Channel for communication with max. 4 x Allen Bradley controllers via Ethernet TCP/IP with Allen Bradley Ethernet IP protocol The ControlLogix / CompactLogix, SLC500 / MicroLogix and PLC5 controllers are supported	CP 1612 A2
Allen Bradley DF1	Channel for communication with Allen Bradley controllers via DF1 protocol The controllers SLC500 / MicroLogix and PLC5 are supported [3]	COM1/COM2
Mitsubishi MC TCP/IP	Channel for communication with max. 4 x Mitsubishi controllers via Ethernet TCP/IP with Mitsubishi MC TCP/IP protocol The FX3, Q, and iQ/QnUD controller series are supported	CP 1612 A2
Mitsubishi FX	Channel for communication with Mitsubishi controllers via FX protocol The FX1N, FX2N controllers are supported	COM1/COM2
Modbus TCP/IP	Channel for communication with max. 4 x Modicon controllers via Ethernet TCP/IP using the Modbus TCP/IP protocol The Quantum, Momentum, Premium, TSX Micro, Compact and M340 controllers are supported	CP 1612 A2
Modbus RTU	Channel for communication with Modicon controllers via the Modbus RTU protocol The Quantum, Momentum, and Compact controllers are supported	COM1/COM2
Omron Link / Multi Link	Channel for communication with Omron controllers via the Link/Multi protocol The CP1x, CJ1x, CJ2H, CS1x, and CP2MC controllers are supported	COM1/COM2
Cross-vendor		
OPC client [1) 4)] **for OPC DA, OPC UA DA, XML DA**	Channel for OPC communication, WinCC can acquire data from OPC server applications	CP 1612 A2
OPC server for OPC DA	Server applications for OPC communication; WinCC provides process data to OPC clients	CP 1612 A2

[1] HTTP and OPC communication can be used in combination with the other couplings; regarding SIMATIC Panels that support HTTP or OPC communication, see the overview under "System interfaces (WinCC V11)".

[2] "SINUMERIK Operate WinCC RT Advanced" license required; for further information, see NC 60 Catalog.

[3] For detailed information regarding supported controllers, see "System interfaces (WinCC V11)"

[4] Application note:
Parallel use of the OPC client channel allows, for example, connection to an SNMP OPC Server for visualization of the data present there. The SNMP OPC Server enables monitoring of any network components (e.g. switches) that support the SNMP protocol. Further information can be found under SIMATIC NET communications systems/ SNMP OPC Server.

3

Overview (continued)

Communication – SIMATIC WinCC Runtime Professional

WinCC Professional is an open process visualization system and offers the option of connecting the most diverse control systems.

Released communication software

Only communication software with the listed (or higher) product versions should be used. Corresponding SIMATIC NET upgrades are available for the upgrading of older versions.

Number of connectable controllers

With CP 1613 A2/CP 1623, a maximum of 64 S7 controllers can be connected via Industrial Ethernet; with CP 5612/CP 5622 a maximum of 8 and with CP 5613 A3 a maximum of 44 S7 controllers via PROFIBUS. With approx. 10 or more controllers, the use of Industrial Ethernet is recommended.

Client-server communication

Communication between the clients and the server is implemented using the TCP/IP protocol. The construction of a separate PC-LAN is recommended. For small projects with correspondingly small message frame advent, a SIMATIC NET Industrial Ethernet can be used for both process communication (WinCC/server ↔ PLC) and for PC-PC communication (WinCC/client ↔ WinCC/server)

Connection to third-party controllers

The following "Connection overview" table includes lists of third-party protocols and controllers which are directly supported by WinCC Professional. Generally it is also possible to connect third-party controllers via OPC (OLE for Process Control).

Current notes and information about OPC servers from many different suppliers can be found at:
http://www.opcfoundation.org/

WinCC Professional supports the standards:

- OPC Data Access 2.05a
- OPC Data Access 3.00
- OPC UA Data Access 1.01
- OPC XML Data Access 1.00
- OPC HDA 1.20
- OPC A&E 1.10

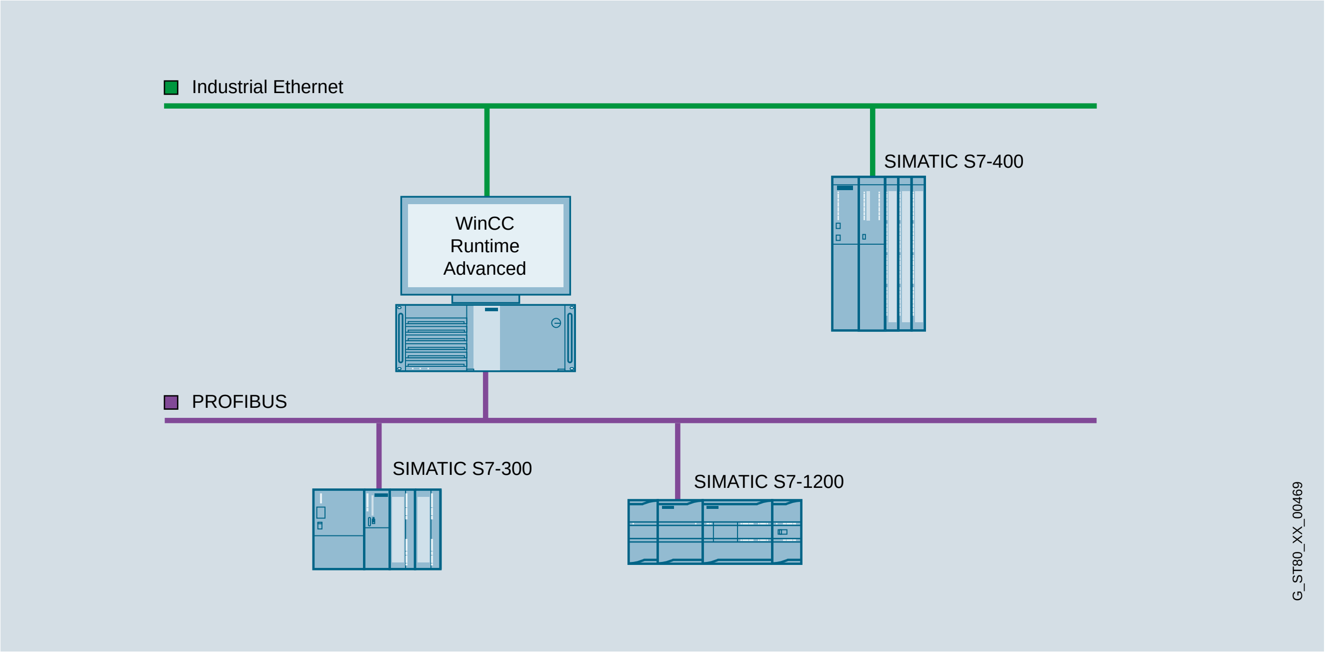
Coupling overview for WinCC Runtime Professional

Protocol	Description	PC interface
SIMATIC S7		
SIMATIC S7	Protocol Suite with channel units for communication with SIMATIC S7 via • Ethernet TCP/IP (S7 communication) to S7-1200, S7-1500, S7-300, S7-400 • MPI, PROFIBUS (S7 communication) to S7-1200 with CM 1243-5 (DP master), S7-1500, S7-300, S7-400 • Software interface (S7 communication) to Win AC	CP 5612 CP 5621 CP 5622 CP 5711 CP 5613 A3 CP 5623
Non-Siemens controllers (from WinCC V11.0)		
Allen Bradley Ethernet IP	Channel for communication with Allen Bradley controllers via Ethernet TCP/IP with Ethernet IP protocol The controllers ControlLogix / CompactLogix, SLC500 / MicroLogix, and PLC5 are supported	CP 1612 A2
Mitsubishi MC TCP/IP	Channel for communication with Mitsubishi controllers via Ethernet TCP/IP with Mitsubishi MC TCP/IP protocol The FX3, Q, and iQ/QnUD controller series are supported	CP 1612 A2
Modbus TCP/IP	Channel for communication with Modicon controllers via Ethernet TCP/IP using the Modbus TCP/IP protocol The Quantum, Momentum, Premium, TSX Micro, Compact and M340 controllers are supported	CP 1612 A2
Cross-vendor		
OPC client [1] for OPC DA, OPC XML DA	Channel for OPC communication, WinCC can acquire data from OPC server applications	CP 1612 A2
OPC server for OPC DA, OPC UA DA, OPC XML DA, OPC A&E, OPC HDA	Server applications for OPC communication; WinCC provides process data to OPC clients	CP 1612 A2

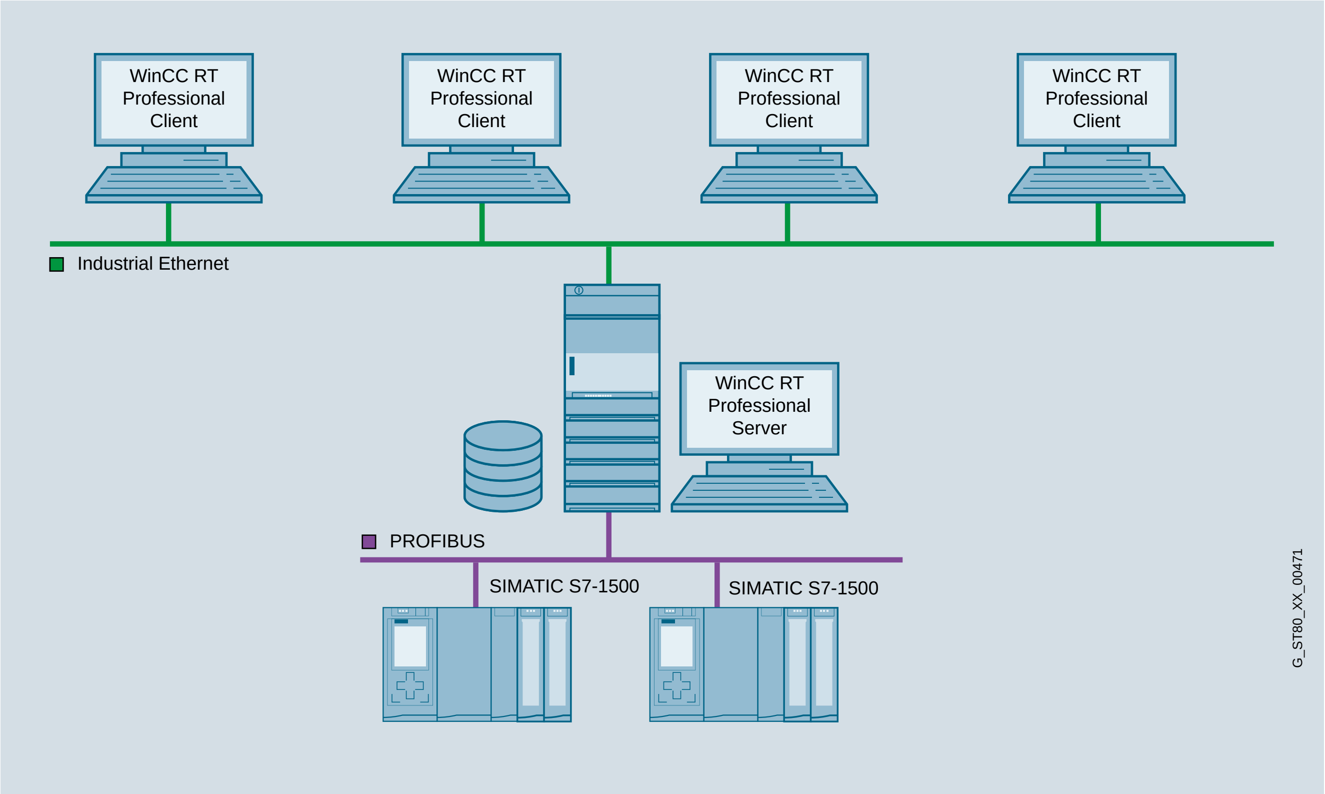
[1] Application note:
Parallel use of the OPC client channel allows, for example, connection to an SNMP OPC Server for visualization of the data present there.
The SNMP OPC Server enables monitoring of any network components (e.g. switches) that support the SNMP protocol.
Further information can be foundunder SIMATIC NET communications systems/SNMP OPC Server.

Overview (continued)

Communications examples



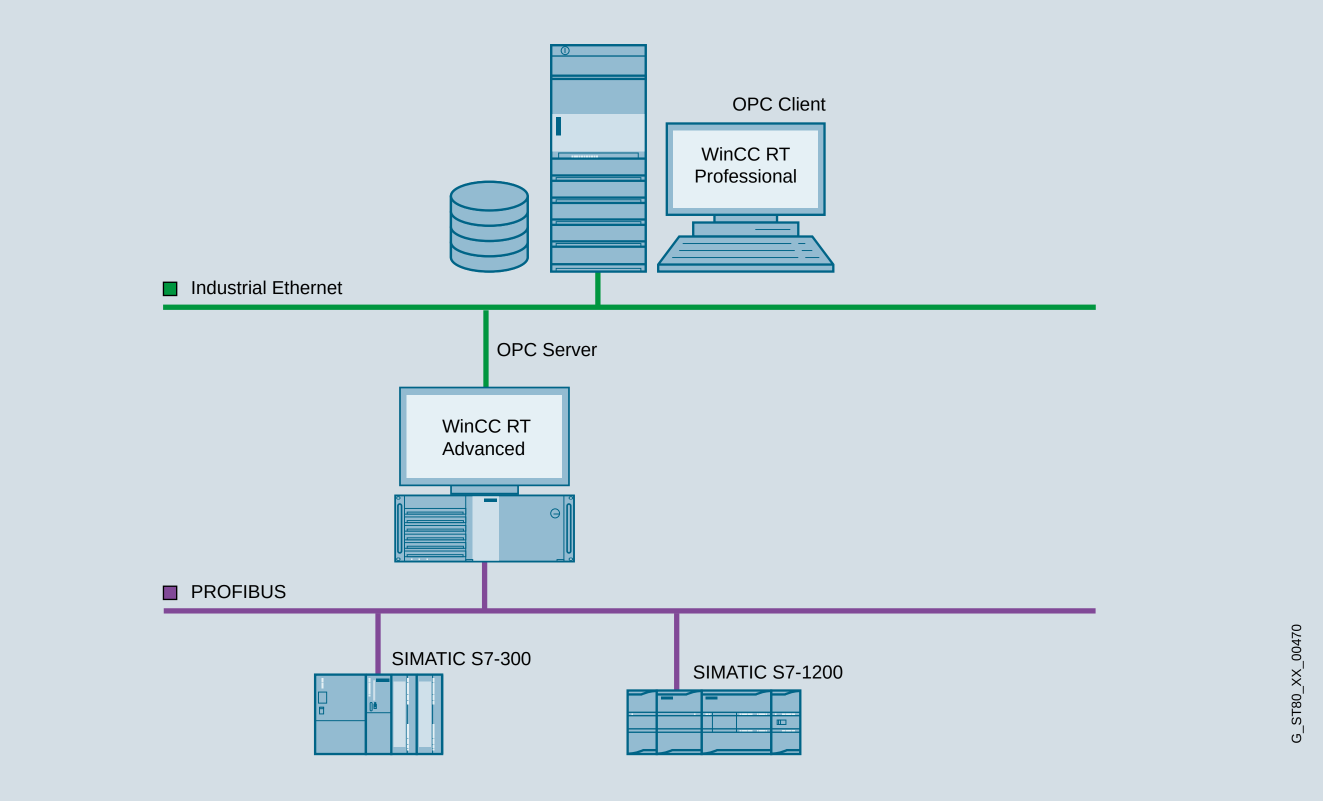
WinCC Runtime Advanced single-user system



WinCC Runtime Professional multi-user system with operable Server

WinCC Runtime communication

Overview (continued)



OPC coupling

Ordering data

	Article No.
SIMATIC WinCC (TIA Portal) Communication Communication via Industrial Ethernet TCP/IP	
CP 1612 A2 PCI card (32-bit) for connecting a programming device or PC to Industrial Ethernet (10/100/1 000 Mbps) with RJ45 connection via SOFTNET-S7 and SOFTNET PG. Software requirement: WinCC Runtime Advanced: No further installation is required (SOFTNET-S7) WinCC Runtime Professional: SOFTNET-S7 Lean (maximum of 8 connections) or SOFTNET-S7 (maximum of 64 connections) must be installed (SOFTNET-S7 Lean is included in the scope of delivery of WinCC Runtime Professional)	**6GK1161-2AA01**
SIMATIC NET SOFTNET-IE S7 V14 Software for S7 and S5-compatible communication, incl. OPC server, PG/OP communication and NCM PC, up to 64 connections, single license for 1 installation, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A	
• Single license for 1 installation	**6GK1704-1CW14-0AA0**
• Upgrade package for SIMATIC NET from Edition 2006	**6GK1704-1CW00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1704-1CW00-3AE1**

Ordering data

	Article No.
SIMATIC NET SOFTNET-IE S7 LEAN V14 (included in the scope of delivery of WinCC Runtime Professional) Software for S7-compatible and S5-compatible communication incl. OPC server, PG/OP communication and NCM PC, up to 8 connections, single license for one installation of runtime software, software and electronic manual on CD-ROM, license key on USB stick; Class A	
• Single license for 1 installation	**6GK1704-1LW14-0AA0**
• Upgrade package for SIMATIC NET from Edition 2006	**6GK1704-1LW00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1704-1LW00-3AE1**
CP 1613 A2 PCI card (32-bit) for connecting a PG/PC to Industrial Ethernet (communications software must be ordered separately)	**6GK1161-3AA01**
SIMATIC NET HARDNET-IE S7 V14 Software for S7, open communication; OPC, PG/OP communication, project software; up to 120 connections; single license for one installation of runtime software, software and electronic manual on DVD; license key on USB stick; Class A	
• Single license for 1 installation	**6GK1716-1CB14-0AA0**
• Upgrade package for SIMATIC NET from Edition 2006	**6GK1716-1CB00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1716-1CB00-3AE1**
CP 1623 PCI Express X1 card (32-bit) for connection of PG/PC to Industrial Ethernet (communications software must be ordered separately)	**6GK1162-3AA00**

	Article No.
Communication via PROFIBUS	
USB A2 PC adapter Can be used under Windows XP, Windows 7 32/64-bit	**6GK1571-0BA00-0AA0**
CP 5612 PCI card (32-bit) for connecting a PG/PC to PROFIBUS (communications software included in the WinCC basic package)	**6GK1561-2AA00**
CP 5622 PCI Express X1 card (32-bit) for connection of PG/PC to PROFIBUS (communications software included in WinCC basic package)	**6GK1562-2AA00**
CP 5711 USB adapter (USB V2.0) for connecting a PG/notebook to PROFIBUS or MPI (communications software included in WinCC Basic package)	**6GK1571-1AA00**
CP 5613 A3 PCI Card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately)	**6GK1561-3AA02**
CP 5623 PCI Express X1 card (32-bit) for connection of PG/PC to Industrial Ethernet (communications software must be ordered separately)	**6GK1562-3AA00**
S7-5613 Version 8.0 SP1 / Edition 2008 SP2 (V7.1) Software for S7 communication incl. PG/OP protocol, FDL, OPC server; runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A	

Version 8.0 SP1
For (32-bit) Windows 7 Ultimate, Professional; for CP 5613 A2, CP 5623 German/English
For (32-bit) Windows XP Professional, Windows 2003 Server, VISTA Ultimate/Business; for CP 5613 A2, CP 5623 German/English	

• Single license for 1 installation	**6GK1713-5CB80-3AA0**
• Upgrade package for SIMATIC NET from Edition 2006	**6GK1713-5CB00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1713-5CB00-3AE1**

SIMATIC WinCC (TIA Portal) options

Overview

Options for SIMATIC WinCC Runtime Advanced and SIMATIC WinCC Runtime Professional

SIMATIC WinCC Recipes

- Generation and management of data records for machine or production data
- Display or entry of data records via a configurable screen object or via process pictures distributed within the project
- Transmission of data records from or to the PLC
- Import/export of data records for further processing with other tools (e.g. MS Excel)

SIMATIC WinCC Logging

- Logging of messages and process values
- Online evaluation of process value logs and alarm logs
- Evaluation of process value and alarm logs using standard MS tools such as Excel

Options for SIMATIC Panels and SIMATIC WinCC Runtime Advanced

SIMATIC WinCC Audit

- Recording of operator actions in an audit trail
- Electronic signature for important user actions relevant to production
- Audit supports users in meeting special quality requirements, e.g.
  - Production plants requiring validation according to FDA 21 CFR Part 11
  - In respect of traceability according to EU 175/2002 (EU directive)

SIMATIC WinCC Sm@rtServer

- Flexible solution for location-independent access to HMI systems
- Remote maintenance of machines and plants via the Internet/intranet
- Reduced downtimes for machines and plants due to direct remote access
- Flexible solution for location-independent access to machines and plants

Options for SIMATIC Panels, SIMATIC WinCC Runtime Advanced and SIMATIC WinCC Runtime Professional

SIMATIC Logon

- Creates user administration on a central computer to which one or more WinCC stations can be connected over Ethernet.
- With each user logon/logoff on one of the connected stations, SIMATIC Logon checks whether a user password has been created and that the required privileges exist.
- SIMATIC Logon supports the user in combination with the Audit option in meeting requirements in accordance with FDA 21 CFR Part 11 and EU178.

Options for SIMATIC WinCC Runtime Professional

SIMATIC WinCC DataMonitor (see page 3/127)

- Display and analysis of current process states and historical data on office PCs with standard tools.
- Information can be individually compiled online during runtime via the Internet/intranet.

WinCC IndustrialDataBridge for WinCC Runtime Professional (V13 SP1 or higher) (see page 3/130)

Using the SIMATIC WinCC IndustrialDataBridge, communication links between different data sources and data targets can be created by means of simple configuration/programming.
The IndustrialDataBridge can either be integrated into WinCC or used as a stand-alone application (not in conjunction with WinCC).

SIMATIC Information Server 2014 (see page 3/134)

The SIMATIC Information Server 2014 is an open, Web-based reporting system for interactive areas. Reports can be used in Internet Explorer, for Excel, Word or PowerPoint, as well as for Adobe Reader (pdf). The SIMATIC Information Server has access to archived process values and messages, and can be used either directly in conjunction with WinCC / WinCC/RT Professional / PCS7 OS as well as with SIMATIC Process Historian 2014.

For more detailed information on the SIMATIC Information Server and article numbers, see SCADA System SIMATIC WinCC.

http://www.siemens.com/simatic-information-server

SIMATIC Process Historian 2014 (see page 3/132)

The SIMATIC Process Historian 2014 is a powerful, long-term archive server solution that stores the WinCC process values and messages in a central database. The system offers full scalability for performance and scope. It records and stores data from one or more WinCC, WinCC/RT Professional and PCS 7 projects. The number of connected single stations, servers, or redundant server pairs is unrestricted. SIMATIC Process Historian is designed for use throughout your plant, and is positioned below the corporate management level (ERP, MES).

For more detailed information on the SIMATIC Process Historian and article numbers, see SCADA System SIMATIC WinCC.

http://www.siemens.com/simatic-process-historian

Overview (continued)

SIMATIC WinCC Redundancy

For configuring a high-performance, fail-safe, client-server system. One WinCC/Redundancy package is required for each redundant pair of servers.

SIMATIC WinCC Server and SIMATIC WinCC Client

For setting up a high-performance client-server system

- A number of coordinated HMI stations can be operated in a single group with networked automation systems
- Client/server solution:
  - One server supplies up to 32 connected clients with process and archive data, messages, screens and reports.

SIMATIC WinCC WebNavigator (see page 3/121)

- Operator control and monitoring of plants via the Internet or the in-house intranet/LAN
- Web Client permits the operator control and monitoring of a current WinCC Runtime Professional project via an Internet browser with ActiveX support

SIMATIC WinCC WebUX (see page 3/125)

- Mobile operator control and monitoring via the Internet or the in-house intranet/LAN, using commercially available mobile devices
- Platform and browser can be used independently on HTML5-capable and SVG-capable data terminal equipment without installation on the client

Options for SIMATIC WinCC Runtime Advanced

SIMATIC WinCC ControlDevelopment

- Expansion of the basic functionality with proprietary controls
- Development of proprietary VB.net or C# Controls for integration in WinCC Runtime Advanced

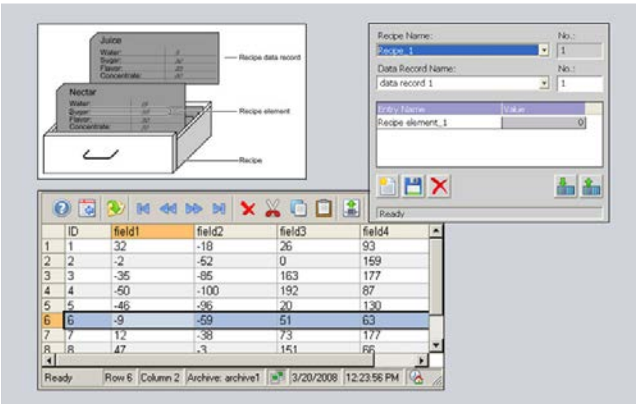
Overview of the individual options

Options	WinCC RT Advanced	WinCC RT Professional	SIMATIC Panels
SIMATIC Logon	•	•	•
WinCC Logging	•	•	-
WinCC Recipes	•	•	-
WinCC Audit	•	-	•
WinCC Sm@rtServer	•	-	•
WinCC DataMonitor	-	•	-
WinCC IndustrialDataBridge	-	•	-
SIMATIC Information Server	-	•	-
SIMATIC Process Historian	-	•	-
WinCC Redundancy	-	•	-
WinCC Server/WinCC Client	-	•	-
WinCC WebNavigator	-	•	-
WinCC WebUX	-	•	-
WinCC ControlDevelopment	•	-	-

• possible

WinCC Recipes

Overview



- Option for SIMATIC WinCC Runtime Advanced and WinCC Runtime Professional for managing data records in recipes that contain related machine or production data
- The data in a data set can be transferred, for example, from the control unit to the PLC to switch production to a different product variant
- Licensing:
  - SIMATIC Panels / Multi Panels / Comfort Panels: No license is required.
  - WinCC Runtime Advanced: One license is required per operator station
  - WinCC Runtime Professional: A license is only required on the server (or single-user system).

Benefits

- Generation and management of machine parameters and production data on the basis of data records, and exchange with the automation device, e.g. with the machine.
- Clear tabular representation of the data elements with the aid of a configurable screen object, or depiction in technological relationships across several process screens.
- Simple operator guidance through standard functions.
- Export/import of data records for further processing with other tools (e.g. MS Excel)

Function

- Input of data records (e.g. operating parameters of a machine, production data for a plastics machine) on the HMI device as well as their storage and transfer to the control
- Display or entry of data records via a configurable screen object or via several process screens distributed within the project
- The data record elements are coupled with the process via a direct tag connection
- Transmission of data records from or to the controller
- Powerful interfaces enable a synchronized data exchange with the controller.
- Storage of data records on local data carriers or on remote data servers via networks
- Logging of data records, e.g. as batch report/shift report
- User-friendly and flexible management of data records by powerful standard functions

The recipes and the associated data records are created using a separate, user-friendly WinCC Engineering editor and data is pre-assigned to them. A configurable table object is used for displaying the data at runtime. Furthermore, the individual data record elements can also be displayed directly based on standard input/output fields across several process screens. In this way, the data in technological views can be presented clearly to the operator.

Import and export functions support the importing and exporting of data via external applications (e.g. MS Excel).

Technical specifications

	WinCC Recipes for Runtime Advanced
	The values specified are maximum values
Number of recipes	1 000
Number of elements per recipe [1]	2 000
User data length in KB per data record	256
Number of data records per recipe	5 000

[1] When using arrays, each array element represents a recipe element

	WinCC Recipes for Runtime Professional
	The values specified are maximum values
Number of recipes	1 000 [2]
Number of elements per recipe [1]	500 [3]
User data length in KB per data record	3 000 [3]
Number of data records per recipe	3 000 [2]

[2] Limited by system resources.

[3] The sum of the number of recipe elements and number of data records must not exceed a value of 320,000.

Ordering data

	Article No.
SIMATIC WinCC Recipes for Runtime Advanced [1]	
• Single license, license key only on USB stick	**6AV2107-0JA00-0BB0**
as download [2]	
• Single license, license key download only, email address required for the delivery	**6AV2107-0JA00-0BH0**
SIMATIC WinCC Recipes for Runtime Professional [1]	
• Single license, license key only on USB stick	**6AV2107-0JB00-0BB0**
as download [2]	
• Single license, license key download only, email address required for the delivery	**6AV2107-0JB00-0BH0**
SIMATIC WinCC Recipes + Logging for Runtime Advanced [1]	**6AV2107-0HA00-0BB0**
Single license, license key only on USB stick	

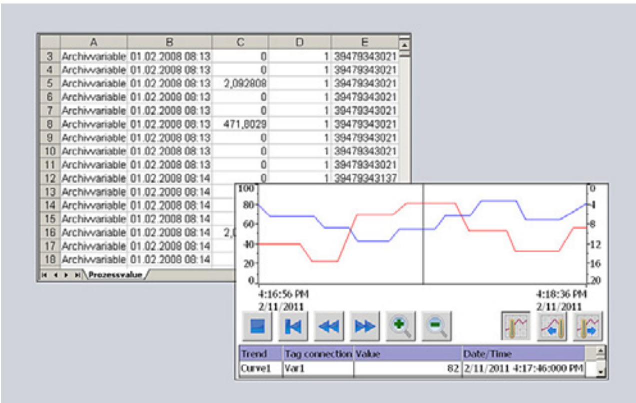
[1] One license is required for each operator console. A license is not required for the engineering system for configuring the runtime option.

[2] Current information and availability regarding the new delivery package can be found at: http://www.siemens.com/tia-online-software-delivery

3

WinCC Logging

Overview



- Option for SIMATIC WinCC Runtime Advanced and WinCC Runtime Professional for logging process values and alarms
- Logging of process values and alarms supports the acquisition and processing of process data from an industrial plant or machine. Evaluation of the logged process data provides information about the operating states of the plant or machine
- Licensing:
  - SIMATIC Panels / Multi Panels / Comfort Panels: No license is required.
  - WinCC Runtime Advanced: One license is required per operator station
  - WinCC Runtime Professional: 500 Logging Tags are already included in the basic package The number of Logging Tags can be increased by means of additional licenses

Benefits

- Alarm and process value logs enable predictive diagnostics, which avoids downtimes
- Early detection of danger and fault conditions
- Increase of the product quality and the productivity thanks to regular analysis of the alarm and process value logs

Application

- Transfer of the logs for evaluation and long-term archiving
- Detection of recurring error states
- Optimization of maintenance cycles
- Ensuring the quality standard
- Quality assurance and checking the utilization of production sequences
- Documentation of process sequences

Function

- Time-controlled as well as manual or process-controlled swapping out of process data and alarms for long-term archiving
- During runtime, swapped out data are read in and selectively analyzed using WinCC Runtime Professional
  - Presentation and evaluation of archived process data based on a configurable trend display. Reading of the values is facilitated by a read line.
  - Presentation and evaluation of archived alarms based on a configurable alarm view.
  - User-friendly navigation in the logs
- External evaluation of the logs using MS standard tools
- Various log types are supported: sequence and circular logs
- Logging of process values and alarms on external, Windows-supported storage media
  - SIMATIC Panels and WinCC Runtime Advanced: CSV files, RDB files, Microsoft SQL Server via ODBC
  - WinCC Runtime Professional: Microsoft SQL Server 2005
- Powerful standard functions permit user-friendly and flexible utilization of the logs

Technical specifications

	WinCC Logging for Runtime Advanced
	The values specified are maximum values
Number of logs	100
Archivable data	Process values, alarms
Cyclical trigger for archiving process values (variables)	1 s
Max. number of entries per log (incl. sequence log)	500.000 [1]
Log types	Circular logs, sequence logs (max. 400 per log)
Data storage format	CSV (Comma Separated Variable), RDB (Runtime Data Base), Microsoft SQL database (database not included in scope of delivery)

[1] Dependent on memory medium used

	WinCC Logging for Runtime Professional
	The values specified are maximum values
Number of logs per single-user station/server	100
Archivable data	Process values, alarms
Measured values per second, max.	Server/single-user station: 5 000 per s
Log tags per single-user station/ server	8.000 [2]
Log types	Circular log with and without long-term logging
Data storage format	Microsoft SQL 2008 database

[2] Dependent on the Logging PowerPack used for the log tags. 500 log tags are contained in the basis version.

Ordering data

Ordering data	Article No.
SIMATIC WinCC Recipes + Logging for Runtime Advanced [3] Single license per option, license key only on USB stick	**6AV2107-0HA00-0BB0**
SIMATIC WinCC Logging for Runtime Advanced [3]	
• Single license, license key only on USB stick	**6AV2107-0GA00-0BB0**
as download [4]	
• Single license, license key download only email address required for the delivery	**6AV2107-0GA00-0BH0**
SIMATIC WinCC Logging for Runtime Professional 1500 Logging Tags	
• Single license, license key only on USB stick	**6AV2107-0GB00-0BB0**
as download [4]	
• Single license, license key download only email address required for the delivery	**6AV2107-0GB00-0BH0**
SIMATIC WinCC Logging for Runtime Professional 5000 Logging Tags	
• Single license, license key only on USB stick	**6AV2107-0GD00-0BB0**
as download [4]	
• Single license, license key download only email address required for the delivery	**6AV2107-0GD00-0BH0**
WinCC Logging for Runtime Professional Powerpack 1500 -> 5000 Logging Tags	
• Single license, license key only on USB stick	**6AV2107-2GD00-0BD0**
as download [4]	
• Single license, license key download only email address required for the delivery	**6AV2107-2GD00-0BJ0**
WinCC Logging Upgrade for SIMATIC WinCC Archives V7.0 (10 licenses) Single license per option, license key only on USB stick	**6AV2107-4GX00-0BF0**

[3] One license is required for each operator console. A license is not required for the engineering system for configuring the runtime option.

[4] Current information and availability regarding the new delivery package can be found at: http://www.siemens.com/tia-online-software-delivery

WinCC Audit

Overview

- Option for SIMATIC WinCC Runtime Advanced as well as SIMATIC Panels for recording operations in an audit trail, and electronic signature
- The audit trail is furnished with a security mechanism that displays subsequent manipulations.
- A user-friendly configuration function, which is included as standard in WinCC, is used to define the following:
  - Which user actions should be recorded in the audit trail during runtime
  - Which important operator actions during execution time require electronic signature/comments
- Available for the following SIMATIC HMI systems:
  - Comfort Panels
  - Mobile Panels
  - TP/OP 277
  - MP 277
  - MP 377
  - WinCC Runtime Advanced
- Licensing:
  - A license for SIMATIC WinCC Logging and SIMATIC WinCC Audit is required for every operator control unit (panel or PC).

Benefits

- Audit supports the user in meeting special quality requirements, e.g.
  - Production plant requiring validation according to 21 CFR Part 11 FDA [1]
  - In respect of traceability according to EU 175/2002 [2]
- The entries in the audit trail are uniquely assigned to users. This means that responsibilities are clearly identifiable.
- The audit trail, stored as a CSV file [3], can be checked via a security mechanism to find out if subsequent changes have been made.
- For particularly important user actions, e.g., starting production or loading new recipes, electronic signatures and comments can be configured and then called up and logged during runtime.

[1] The FDA (Food and Drug Administration) is the American public health body
[2] 21 CFR Part 11- law on plant validation
[3] CSV Comma Separated Values

Technical specifications

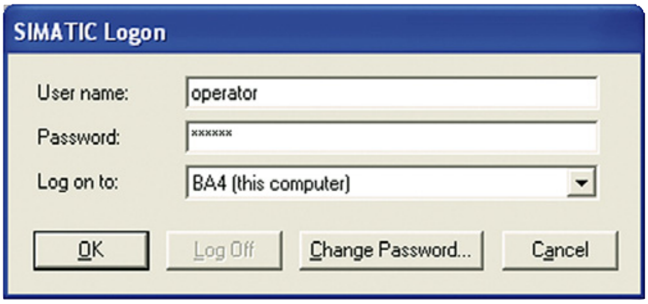
	WinCC Audit
Storage location for Audit Trail when used on the Panel	Plug-in Flash memory card or via Ethernet in the higher-level PC
Storage location for Audit Trail when using WinCC Runtime Advanced	Local hard disk or via Ethernet in the higher-level PC
Execution platform	
SIMATIC Panels	Mobile Panel 277, TP/OP 277
SIMATIC Multi Panels	MP 277, MP 377
SIMATIC Comfort Panels	all
PC systems	SIMATIC WinCC Runtime Advanced

Ordering data

Ordering data	Article No.
SIMATIC WinCC Audit for SIMATIC Panels	
• Single license, license key only on USB stick	**6AV2107-0RP00-0BB0**
as download [4]	
• Single license, license key download only, email address required for the delivery	**6AV2107-0RP00-0BH0**
SIMATIC WinCC Audit for Runtime Advanced [5]	
• Single license, license key only on USB stick	**6AV2107-0RA00-0BB0**
as download [4]	
• Single license, license key download only, email address required for the delivery	**6AV2107-0RA00-0BH0**

[4] Current information and availability regarding the new online software delivery can be found at: http://www.siemens.com/tia-online-software-delivery
[5] The following license is also required: SIMATIC WinCC Logging for Runtime Advanced

Overview



- Option for connecting SIMATIC Panels and PCs with SIMATIC WinCC Runtime Advanced as well as WinCC Runtime Professional to a central user administration.
- Creates user administration on a central computer to which one or more panels or WinCC stations can be connected over Ethernet.
- With each logging-on/off of a user on one of the connected stations, SIMATIC Logon checks whether a user password has been created and that the required privileges exist.

SIMATIC Logon for Panels and WinCC Runtime Advanced

- All users of the SIMATIC Panels or WinCC Runtime Advanced stations can be managed plant-wide from a central location
- Supports the user in combination with the Audit option in meeting requirements in accordance with FDA 21 CFR Part 11 and EU178.
- Licensing:
  SIMATIC Logon (basic license) and SIMATIC Logon Remote Access (3-pack license) for the connection of 3 panels or WinCC Runtime Advanced stations to a central user administration. Additional stations can be connected by using further SIMATIC Logon Remote Access licenses (3-pack/10-pack).

SIMATIC Logon for WinCC Runtime Professional

- All users of WinCC Runtime Professional can be managed plant-wide from a central location.
- The central user management with SL utilizes Windows mechanisms and must be installed on all participating WinCC Runtime Professional stations.
- Licensing
  SIMATIC Logon (basic license) is included in the basic package of WinCC Runtime Professional

Benefits

- Centralized configuration of all access authorizations of a distributed system avoids unnecessary travel times. Time-consuming multiple configurations for each individual local station become unnecessary. Accordingly, users can be easily configured from a central location.
- All access data apply throughout the plant on every connected station. Additional access data on local subsystems is no longer necessary.

Design

SIMATIC Logon for Panels and WinCC Runtime Advanced

SIMATIC Logon and SIMATIC Logon Remote Access are installed on a central station.

The following Runtime stations are connected to the central station via the Ethernet network:

- PCs with WinCC Runtime Advanced
- SIMATIC Panels from the 177 series or higher (with Ethernet interface)
- SIMATIC Mobile Panels from the 177 series or higher (with Ethernet interface)
- SIMATIC Multi Panels
- SIMATIC Comfort Panels

SIMATIC Logon for WinCC Runtime Professional

The SIMATIC Logon can be used for the central user management of several WinCC Runtime Professional stations. Operation in a Windows Workgroup or even in a domain is possible.

Function

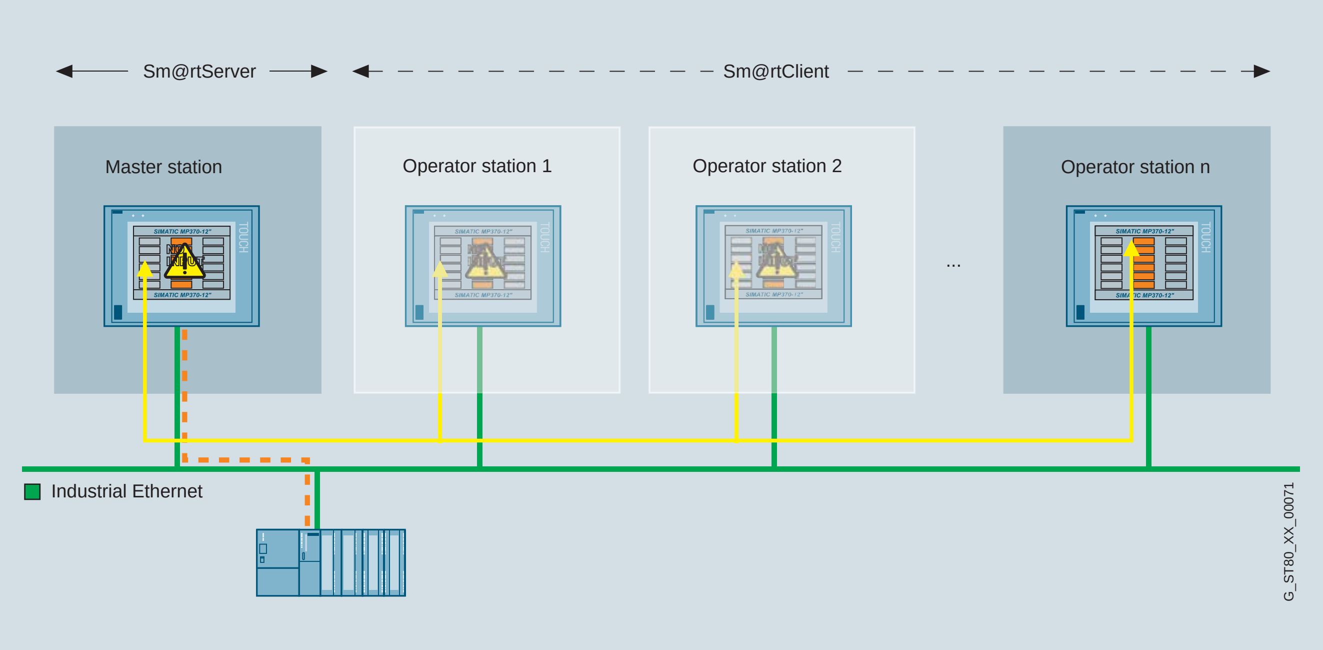
Users receive a unique user ID, user name and password. This information is encrypted and stored at a central point (for SIMATIC Logon in the Windows user management). Functions such as changing the password, automatic log-off after a predefined time and lockout after several incorrect entries of a password ensure maximum security of operation.
In addition, SIMATIC Logon allows setting up new users online, plant-wide and across applications, or blocking of existing users. SIMATIC Logon also supports electronic signature.

Ordering data	Article No.
SIMATIC Logon V1.5 Basic license [1)] For panels or WinCC Runtime Advanced stations, the corresponding number of additional SIMATIC Logon Remote Access licenses is required. No SIMATIC Logon Remote Access licenses are required for WinCC Runtime Professional	**6ES7658-7BX51-0YA0**
SIMATIC Logon Upgrade to V1.5	**6ES7658-7BX51-0YE0**
SIMATIC Logon Remote Access (3 clients) Remote Access for 3 clients; single license for 3 SIMATIC Logon Remote Access clients; the number of licensed clients is determined from the sum of the installed SIMATIC Logon Remote Access licenses.	**6ES7658-7BA00-2YB0**
SIMATIC Logon Remote Access (10 clients) Remote Access for 10 clients; single license for 10 SIMATIC Logon Remote Access clients; the number of licensed clients is determined from the sum of the installed SIMATIC Logon Remote Access licenses.	**6ES7658-7BB00-2YB0**

1) SIMATIC Logon V1.5 included in scope of supply of WinCC Runtime Professional.

WinCC Sm@rtServer

Overview



- Option for SIMATIC WinCC Runtime Advanced plus SIMATIC Panels for communication between various SIMATIC HMI systems.
- Available for the following SIMATIC HMI systems:
  - Basic Panels 2nd generation
  - Comfort Panels
  - Mobile Panel 177 PN, Mobile Panel 277
  - TP 177B PN/DP, OP 177B PN/DP
  - TP 277, OP 277
  - MP 177, MP 277, MP 377
  - WinCC Runtime Advanced
- A SIMATIC HMI system can be used to control or monitor another system remotely; entry level for client/server configurations for distributed operator stations or for solutions with head end or control room
- Local operation, visualization and data processing are as possible as plant-wide access to information. Integrated information flows ensure an overview of the status of all processes.
- Licensing:
  The "SIMATIC WinCC Sm@rtServer for Panel" or "SIMATIC WinCC Sm@rtServer for Basic Panel" or "SIMATIC WinCC Sm@rtServer for Runtime Advanced" license must be installed on the server HMI device.
  A separate license is no longer required for Comfort / Mobile Panels Version V14 or higher and for Runtime Advanced Version V14 SP1 or higher.
  A license is not required for the engineering system for configuring the runtime option.

Note:

When accessing the operator stations via the Sm@rtServer option, suitable protective measures (including IT security such as network segmentation) should be taken in order to ensure safe operation of the system.

Additional information on the topic of industrial security is available on the Internet at:

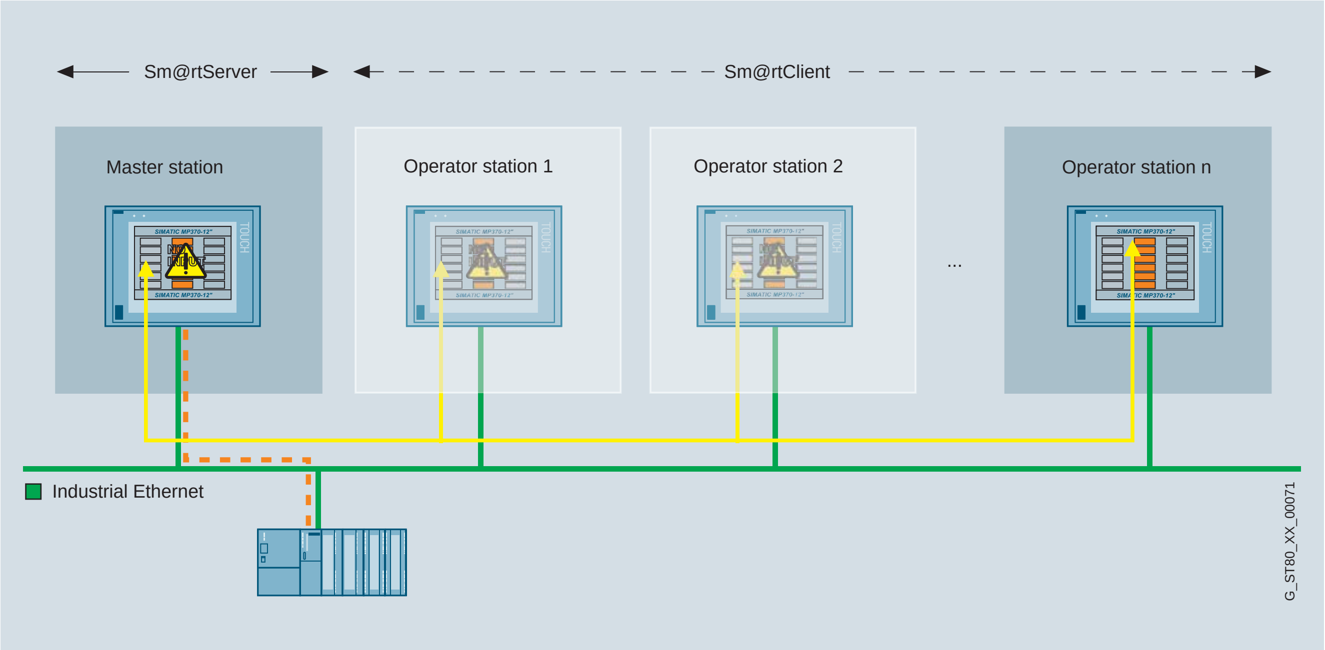
http://www.siemens.com/industrialsecurity

Benefits

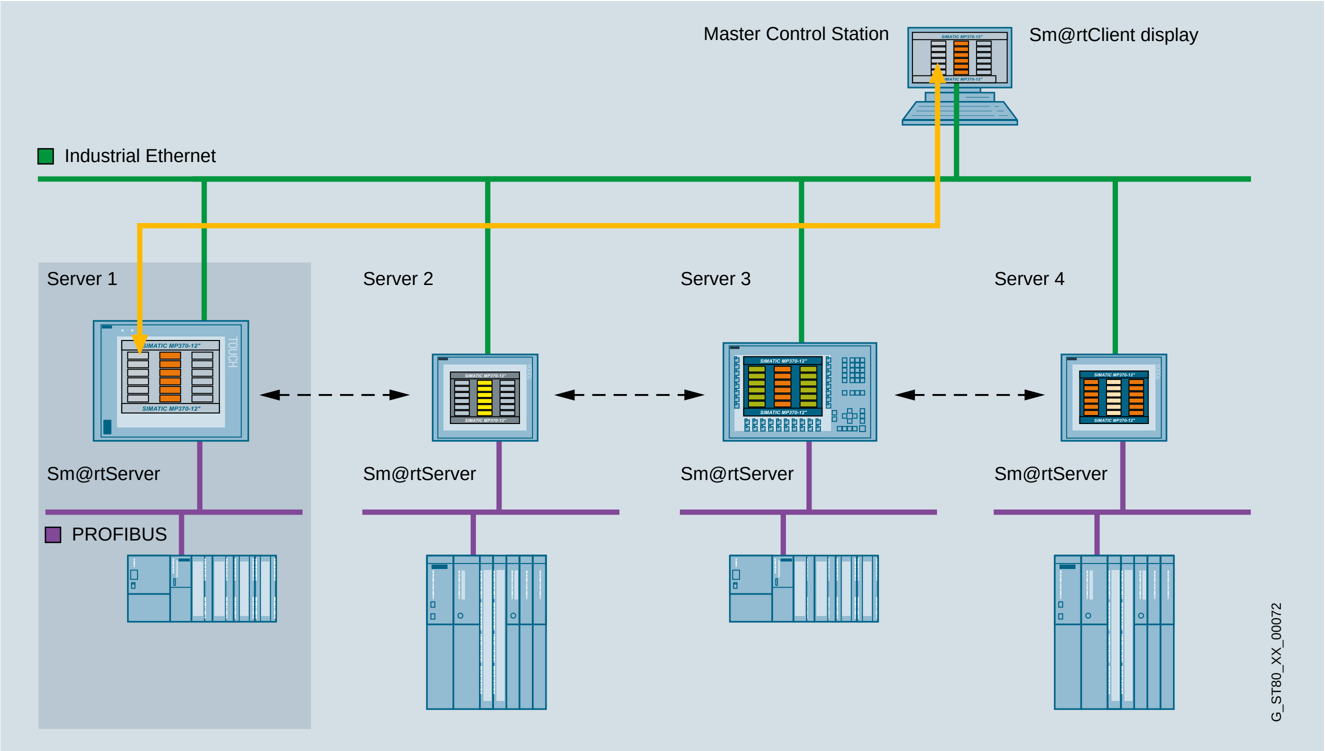
- Flexible solution for remote access to HMI systems
- Quick elimination of malfunctions or downtimes – thus increasing the productivity – through global access to machines/plants by the service and maintenance personnel.
- Avoidance of on-site service calls.

Application

- Operator control and monitoring of machines covering large areas with several operator stations by one operator.
- Operator control and monitoring of machine-level HMI systems from one central station (e.g. head-end station of a production line or from a control room)
- Remote maintenance and servicing of machines/plants over the Internet/Intranet



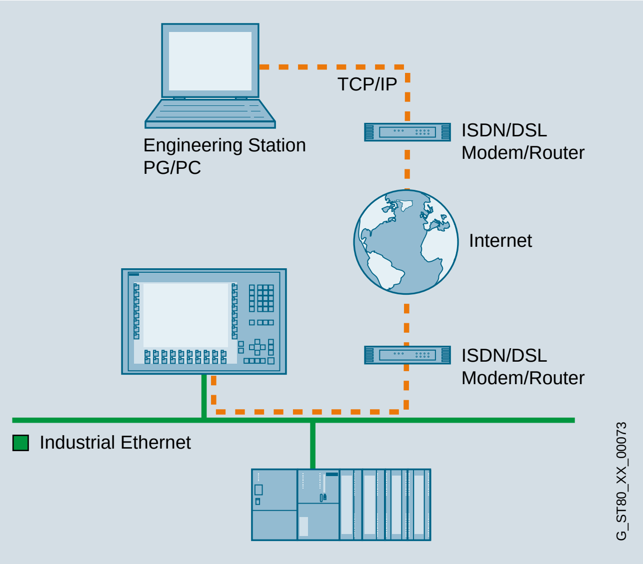
Application of the Sm@rtClient concept: Coordinated operation of several operator stations



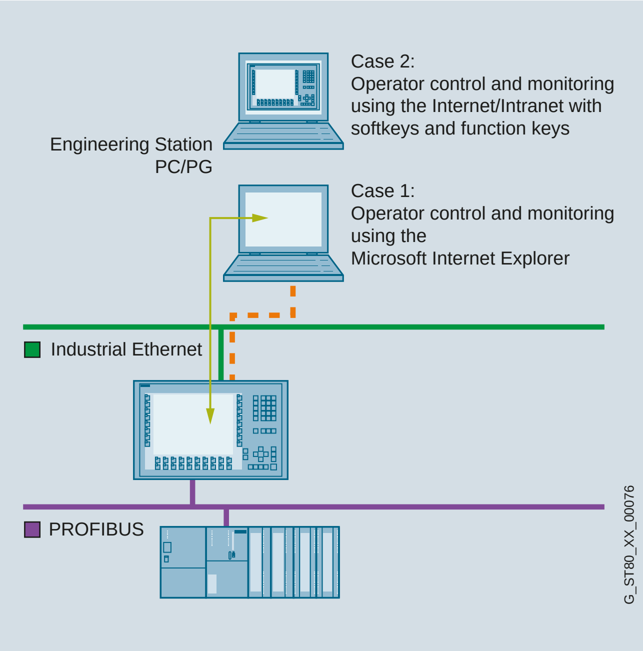
Use of the Sm@rtClient display: Operator control and monitoring of machine-level HMI systems from one central station

WinCC Sm@rtServer

Application (continued)



Remote operator control and monitoring of SIMATIC HMI systems using Industrial Ethernet and/or via the Intranet/Internet



Remote operator control and monitoring of SIMATIC HMI systems using Industrial Ethernet and/or via the Intranet/Internet

Function

Coordinated operation of several operator stations:

- The HMI application and communication with the controller takes place via the master station. "Sm@rtClients" can be activated from here in the case of machines/plants with larger dimensions which require a larger number of operator panels. The Sm@rtClients are then provided with access to the master station and thus to the process. Access procedures guarantee that only one operator system can actively access the process at any given time.
- Embedded in process screens, a configurable screen object (Sm@rtClient display) represents the screen of the relevant HMI system (Sm@rtServer)
- Powerful standard functions permit user-friendly and flexible operation of the display

Remote control of an operating station:

- The HMI application and communication with the controller takes place via the HMI system. Using the Sm@rtServer, the HMI systems in the machines/systems can be serviced remotely.
  An access process ensures that only one operator (either locally at the machine or remotely via Internet Explorer) can actively access the process at one time.
- Microsoft Internet Explorer V6.0 SP1 or higher is sufficient for accessing an HMI system.

Technical specifications

	WinCC Sm@rtServer
	The values specified are maximum values
Execution platform	
SIMATIC Basic Panels 2nd generation	all
SIMATIC Comfort Panels	all
SIMATIC Panels	Mobile Panel 177 PN, Mobile Panel 277, TP/OP 177B PN/DP, TP/OP 277
SIMATIC Multi Panels	MP 177, MP 277, MP 377
PC systems	SIMATIC WinCC Runtime Advanced
Number of Sm@rtClients that can simultaneously connect to a Sm@rtServer	
SIMATIC Basic Panels 2nd generation	1 client
Comfort Panel as Sm@rtServer	2 clients for 4" devices 3 clients for 7", 9", 12" and 15" devices 2 clients for 19" devices 1 client for 22" devices
Mobile Panel 177 PN, TP/OP 177B PN/DP, MP 177 as Sm@rtServer	2 clients
Mobile Panel 277, TP/OP 277, MP 277 as Sm@rtServer	3 clients for 6" devices 2 clients for 8" and 10" devices
MP 377 as Sm@rtServer	3 clients for 12" devices 2 clients for 15" devices 1 client for 19" devices
WinCC Runtime Advanced as Sm@rtServer	5 clients

Ordering data

Ordering data	Article No.
WinCC Sm@rtServer for SIMATIC Basic Panels [1]	
• Single license, license key only on USB stick	**6AV2107-0CR00-0BB0**
as download [2]	
• Single license, license key download only, email address required for the delivery	**6AV2107-0CR00-0BH0**
WinCC Sm@rtServer for SIMATIC Panels [1] [3]	
• Single license, license key only on USB stick	**6AV2107-0CP00-0BB0**
as download [2]	
• Single license, license key download only, email address required for the delivery	**6AV2107-0CP00-0BH0**
WinCC Sm@rtServer for Runtime Advanced [1] [4]	
• Single license, license key only on USB stick	**6AV2107-0CA00-0BB0**
as download [2]	
• Single license, license key download only, email address required for the delivery	**6AV2107-0CA00-0BH0**

1) The license must be installed on the Sm@rtServer HMI device. A license is not required for the engineering system for configuring the runtime option.

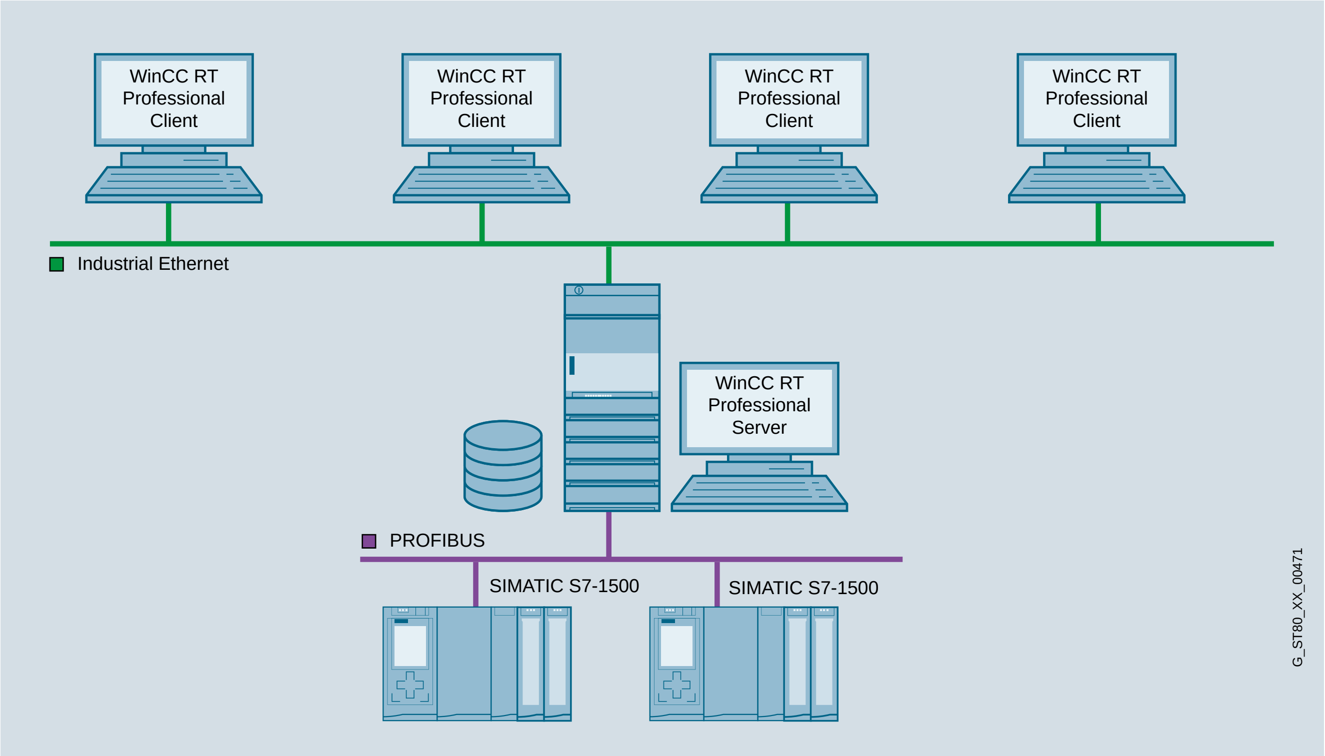
2) Current information and availability regarding the new delivery form can be found at: http://www.siemens.com/tia-online-software-delivery

3) The license is no longer required for version V14 or higher

4) The license is no longer required for version V14 SP1 or higher

WinCC Server / WinCC Client

Overview



WinCC TIA RT Professional - Multi-user system with operable server

- Option for SIMATIC WinCC Runtime Professional, which permits the configuration of a powerful client/server system
- One of the following operating systems must be available to install the option on the server: Windows Server 2003 R2 SP2, Windows Server 2008 SP2 or Windows XP Professional. When using Windows XP Professional, a maximum of 3 clients can be connected.
- A number of coordinated HMI stations can be operated in a single group with networked automation systems.
- Client/server solution: One server supplies up to 32 connected clients with process and archive data, alarms, screens and reports.
  - Requirement: Network connection (TCP/IP) between the server PC and the connected clients.
- Licensing:
  - A WinCC Runtime Professional license on the server with the appropriate number of PowerTags and the "WinCC Server for RT Professional" license.
  - The l"WinCC Client for RT Professional" license on the clients.

Benefits

- Integrated scalability from the single-user system to the client/server solution
- Considerably expanded quantity structure, relieves the load on the individual servers, and thus better performance through the distribution of the overall application or of the tasks among several servers

Application

In a complex plant, WinCC Runtime Professional can be configured as a distributed system depending on the requirements:

- Functional distribution (e.g. alarm server, log server, etc.), or
- Distribution corresponding to the physical plant structure (e.g. body-in-white, paint shop, etc.).

Function

All process data of a WinCC project is stored in different Runtime databases, e.g. alarms, trend values, etc.

These Runtime databases are located on a central computer, the WinCC Server, instead on each HMI device. The operator stations, i.e. the WinCC Clients, then access the WinCC Server.

WinCC Clients and WinCC Server are independent systems. You can also connect WinCC Clients subsequently. Alternatively, you can activate and deactivate a project from a WinCC Client.

Ordering data

Ordering data	Article No.
SIMATIC WinCC server for Runtime Professional	
• Single license, license key only on USB stick	**6AV2107-0EB00-0BB0**
as download [1]	
• Single license, license key download only, email address required for delivery	**6AV2107-0EB00-0BH0**
SIMATIC WinCC Client for Runtime Professional V14	
• Single license, license key on USB stick, software and documentation on DVD	**6AV2107-0DB04-0AA0**
as download [1]	
• Single license, software and license key download, email address required for the delivery	**6AV2107-0DB04-0AH0**
SIMATIC WinCC Client for Runtime Professional ASIA V14 Single license, license key on USB stick, software and documentation on DVD	**6AV2107-0DB14-0AA0**

[1] Current information and availability regarding the new delivery package can be found at: http://www.siemens.com/tia-online-software-delivery

A license is not required for the engineering system for configuring the runtime option.

WinCC Redundancy

Overview

Option for SIMATIC WinCC (TIA Portal), supporting the parallel operation of two interfaced WinCC single-user systems or process data servers for mutual monitoring

If one of the two server PCs or one of the two WinCC stations fails, the second one will take over control of the entire system. Once the failed server or station is restored to operation, the contents of all the message and process value archives are copied to it.

One WinCC Redundancy package is required for each redundant pair of servers.

Benefits

- Increased system availability with gap-free data integrity
- Automatic switchover of the client when a server fails or the communication to the server fails
- Continuous operation and visualization through automatic switchover of the clients to the intact server
- Automatic synchronization of all archives in the background after a fault is cleared

Function

Normally, two WinCC stations or process data servers run in parallel. Each station has its own process connection and its own data archives. WinCC Redundancy ensures automatic matching of system and user archive data.

If one of the two server computers or WinCC stations fails, the second will take over the archiving of messages and process data, thereby ensuring seamless data integrity. In client/server mode, the clients are automatically switched from the failed server to the redundant partner. This ensures continuous plant visualization and operation on every operator station.

When the failed partner resumes operation, all process values, messages and data archived during the fail period are automatically matched with the partner. This process runs in the background and does not affect plant continuity. Once this is complete, two equivalent servers/stations will be available again.

Communication with the SIMATIC S7 PLC can also be configured with redundancy (an H Series SIMATIC S7 is required) by plugging in two communication modules and configuring two communication paths (S7-REDCONNECT software package). The use of failsafe H Series SIMATIC S7 PLCs can, if required, further increase availability at control level.

Ordering data

Ordering data	Article No.
SIMATIC WinCC Redundancy for Runtime Professional	
• Single license for 2 installations, license key on USB stick, software and documentation on DVD	**6AV2107-0FB00-0BB0**
as download [1]	
• Single license for 2 installations, license key download only, email address required for delivery	**6AV2107-0FB00-0BH0**

[1] Current information and availability regarding the new delivery package can be found at: http://www.siemens.com/tia-online-software-delivery

A license is not required for the engineering system for configuring the runtime option.

Overview

SIMATIC Visualization Architect

Challenge:

- To standardize the user interfaces of the visualizations throughout the plant
- To significantly reduce the engineering costs for the generation of the visualizations

Solution:

- Automatic generation and creation of the visualizations, based on the program code of the controller and corresponding visualization objects as part of the comprehensive library concepts.

Benefits

- Automatic creation of visualizations – drastic reduction of the engineering time
- Reduction of the commissioning times by the early detection and avoidance of faults
- Adaptation at the touch of a button to the visualizations on the basis of changes/adaptations in the control program

Function

- Integration in the TIA Portal V14 or higher
- Support of controllers:
  - S7-1200, S7-1500, ET200SP
- Support of HMI:
  - Basic Panels, Comfort Panels and Mobile Panels of the 2^{nd} Generation
- Support of PC-based:
  - WinCC Runtime Advanced, WinCC Runtime Professional, S7-1500 Software Controller
- SiVArc is configured using rules (not programmed!)

Technical specifications

SIMATIC Visualization Architect	
Operating system requirements	In accordance with the requirements of the TIA Portal components: • SIMATIC STEP 7 (TIA Portal) • SIMATIC WinCC Professional, Advanced, Comfort, Basic
Supported STEP 7 version	SIMATIC STEP 7 V14
Supported WinCC versions	SIMATIC WinCC V14 Professional, Advanced, Comfort, Basic

Odering data

SIMATIC Visualization Architect V14	
As package	
• SIMATIC Visualization Architect V14	**6AV2107-0PX04-0AA5**
• SIMATIC Visualization Architect V14 Rental	**6AV2107-0PX04-0AA6**
As download	
• Single license for 2 installations, license key download only, email address required for the delivery	**6AV2107-0PX04-0AH5**
• SIMATIC Visualization Architect V14 Rental	**6AV2107-0PX04-0AH6**
• SIMATIC Visualization Architect V14 Trial Download in Customer Support Portal	**6AV2107-0PX04-0AA7**

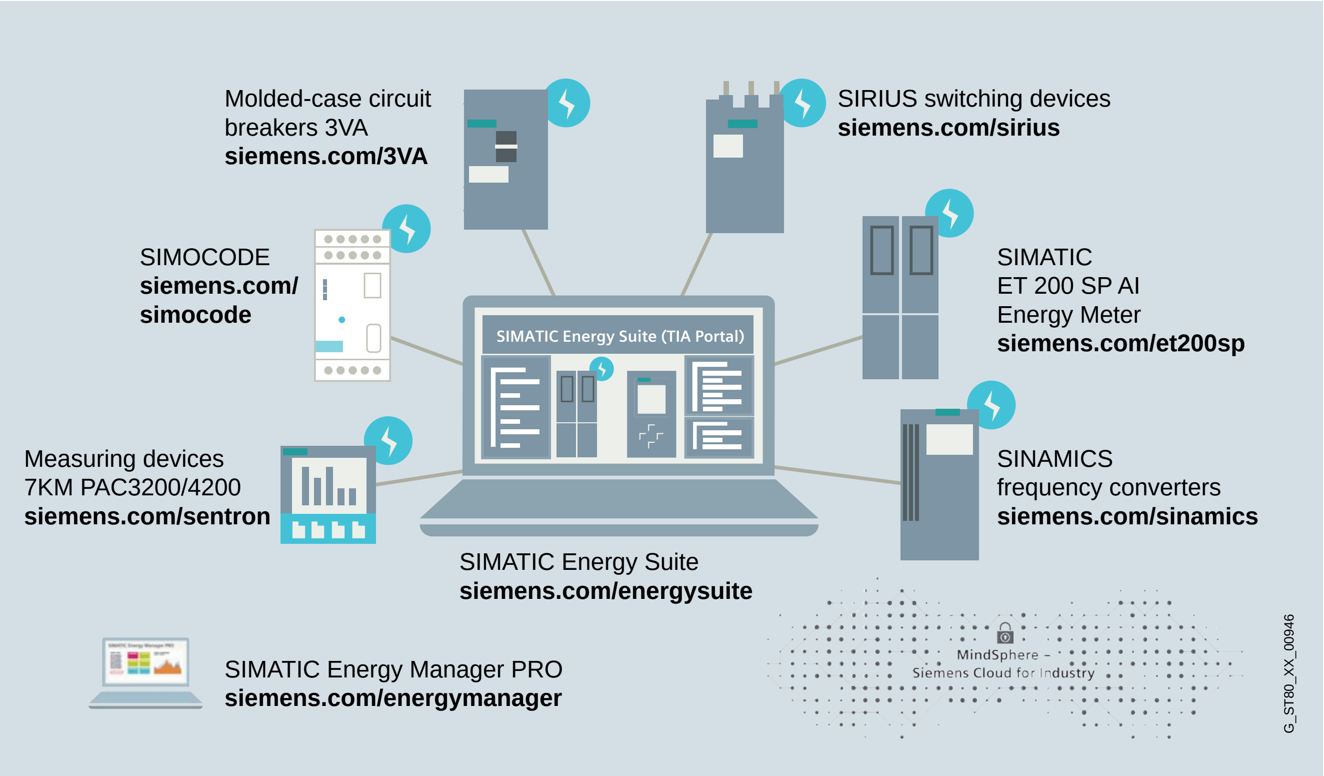
More information

For up-to-date information and availability, see:

http://www.industry.siemens.com/topics/global/en/tia-portal/software/pages/default.aspx#w2g-/topics/global/en/tia-portal/software/details/pages/sivarc.aspx

Introduction

Overview

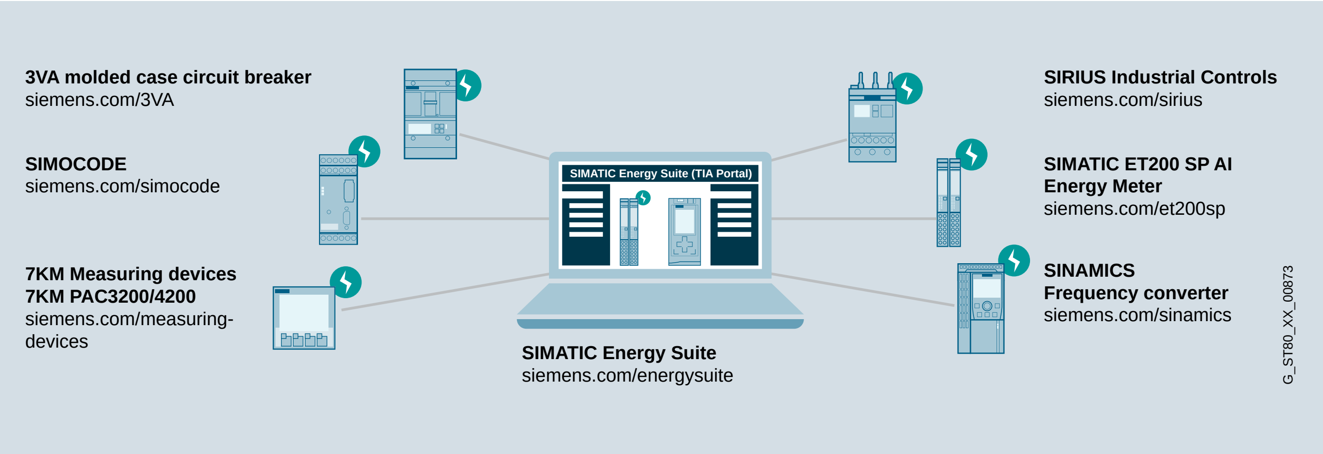


Energy Management, system overview

SIMATIC offers numerous reasons for corporate energy management in industrial plants.
However, there is one in particular: It makes an important contribution towards improving plant productivity. This results in enhanced competitiveness.

Energy management with SIMATIC makes energy flows transparent in production plants. This supports the analysis and derivation of energy saving potential.
The result: Permanently increased efficiency, higher productivity and an improved cost situation.

Overview



SIMATIC Energy Suite

High energy consumption and automated production are typical features of many industries.
Companies wishing to permanently have their energy costs under control and already looking to the future today, furnish their plants with integrated energy measuring technology, thereby anchoring their energy management in the production automation – where the bulk of the energy is consumed.

SIMATIC Energy Suite as an integrated option for the TIA Portal efficiently links energy management with automation, thus creating energy transparency in the production system.

The considerably simplified configuration of energy measuring components from the SIMATIC, SENTRON, SINAMICS, SIRIUS and SIMOCODE product families significantly reduces configuration costs.

Due to the integrated interface to SIMATIC Energy Manager PRO, the recorded energy data can be seamlessly expanded into a cross-site energy management system.

Companies can therefore additionally satisfy all required economic and energy management aspects – from the purchasing of energy and planning, right up to energy controlling.

Benefits

SIMATIC Energy Suite – The highlights:

- Integrated into the TIA Portal and automation
- Simple and intuitive configuration instead of complex manual programming
- Automatic generation of the PLC energy program for S7-1500 controllers
- User-friendly integration of measuring components from the Siemens portfolio and from other vendors
- Archiving in the tags archive of WinCC Professional or on the PLC-internal SIMATIC Memory Card
- Seamless connection to SIMATIC Energy Manager PRO

SIMATIC Energy Suite

Design

SIMATIC Energy Suite consists of the following components:

Engineering components (TIA Portal)

- Adds new, integrated editors for configuration of the energy measurement points to the TIA Portal
- Includes S7 program generator for the automatic generation of the complete S7 program
  - For acquisition, processing, buffering and archiving (WinCC Professional or SIMATIC Memory Card) of the basic energy values relevant to billing (power rating and energy)
  - Also for the extended energy values (including voltage, current, frequency) for measuring instruments that offer this function and are supported within the scope of the Energy Support Library (see below).

WinCC Runtime components (toolbox for WinCC Professional)

- Export tool for exporting the energy data archived periodically in WinCC Professional in Excel files
- Transfer tool for buffered communication of the periodic energy values relevant to billing from S7-1500 CPUs to the tag archive of WinCC Professional

S7 driver block library (Energy Support Library - EnSL)

- Contains S7 blocks for simplified communication with measuring components from the Siemens product families SIMATIC, SENTRON, SINAMICS, SIRIUS and SIMOCODE. Installation of the Energy Support Library (EnSL) enables the supported devices to be recognized by the Energy Suite. They can then be configured as energy data sources by single selection of the devices – making complex communication programming unnecessary.

Details on the currently supported devices can be found here:
http://www.siemens.com/energysuite-hardware

Function

Simple configuration direct in the TIA Portal

The SIMATIC Energy Suite is an option package for STEP 7 and WinCC (TIA Portal) which integrates new editors into the engineering HMI of the TIA Portal. These editors can be used to create and configure energy measurement points (so-called 'energy objects') in a simple manner. In addition to various parameters which are available, the following steps are of central importance when configuring an energy object:

- Assignment of an energy data source
  The data source can be any tag from the data function of the PLC (power rating value, energy count value or pulse signal from e.g. tag table, data block etc.) or from one of the devices supported by the Energy Support Library (see "Design" Topic).
- Assignment of a calculation and archiving period
  Each energy object can be assigned an individual calculation and archiving period (1 min up to 24 h) for preprocessing the power rating and energy values relevant to billing. For example, energy suppliers bill electrical energy in 15-min periods and piped media (e.g. water) in 60-min periods.

Automatic program generation instead of complex programming

Following the completed configuration of all energy objects, the S7 energy program is automatically generated by the program generator of the Energy Suite. This energy program can be downloaded to the controller (S7-1500) immediately after the compilation, and commences at once with recording and preprocessing of the energy values.

Energy data recording and preprocessing is already carried out in the automation environment, close to the consumers

The recorded energy data is standardized and calculated according to the set archiving period, provided with a time stamp, and is ready for archiving. Archiving of the power rating and energy values relevant to billing can be made directly on the PLC-internal SIMATIC Memory Card or in a connected WinCC Professional archive.

Free choice of archive location

Archiving of the power rating and energy values relevant to billing can be made directly on the PLC-internal SIMATIC Memory Card or in a connected WinCC Professional archive.

- Archiving on SIMATIC Memory Card
  The energy data is directly saved on the CPU-internal SIMATIC Memory Card according to the respective archiving period. The data is always available there as a CSV file for direct downloading via the CPU's web server
- Archiving in the WinCC Professional archive
  The basic energy data (power rating and energy values) relevant to billing is saved in the archive of a connected WinCC Professional system according to the respective archiving period.

Buffered communication
To ensure high data quality, the basic energy data (power rating and energy values) is buffered in the WinCC archive prior to transfer. This data relevant to billing is then still available in the WinCC archive without losses or errors, even after a longer interruption in communication with the archive system (e.g. when restarting the PC or when there is a fault in the IT network).

Function (continued)

Export tool for simple reading of energy data

The power rating and energy data (basic energy values relevant to billing) in the archive of the WinCC Professional system can be directly exported from the archive database to an Excel file using the supplied export tool.

It is possible to create individual export templates with free selection of measurement points and time periods. These templates can subsequently be started fully automatically, or manually at a time selected by the user (e.g. at the beginning of each month).

Display and monitoring of the energy data

When generating the energy program, the power rating and energy data (basic energy values relevant to billing) of the individual measurement points (energy objects) is made available in uniform S7 blocks with standardized data structures. In addition to the current and periodic energy values, this data also includes all relevant configuration data.

Thanks to this central and uniform provision of data in the S7 CPU, it is very easy to implement additional real-time monitoring and evaluation (e.g. calculation of key statistics) in the control program as well as uniform visualization of the energy data and energy parameters on HMI and SCADA screens.

Technical specifications

	SIMATIC Energy Suite V14 SP1
PC hardware requirements	• In accordance with the requirement of the TIA Portal components: - SIMATIC STEP 7 (TIA Portal) - SIMATIC WinCC Professional, Advanced, Comfort, Basic
Operating system requirements	• In accordance with the requirement of the TIA Portal components: - SIMATIC STEP 7 (TIA Portal) - SIMATIC WinCC Professional, Advanced, Comfort, Basic
Supported STEP 7 version	• SIMATIC STEP 7 V14 SP1
Supported WinCC versions	• SIMATIC WinCC V14 SP1 Professional, Advanced, Comfort, Basic
Supported SIMATIC CPUs	• Executes on all S7-1500 CPUs (except S7-1500S) and ET 200SP CPU; **with FW2.0 and higher.**

Ordering data

Ordering data	Article No.
Engineering package	
Includes installation medium, floating license for engineering as well as license certificates[3] for 10 energy objects[1] (2x5 EnO).	
SIMATIC Energy Suite V14 SP1 Engineering	
including 10 energy objects[1] (2x5 EnO)	
• As package	**6AV2108-0AA04-0AA5**
• Download	**6AV2108-0AA04-0AH5**
Trial package	
SIMATIC Energy Suite V14 SP1 Engineering Trial (21 days)	
• As package	**6AV2108-0AA04-0AA7**
PLC runtime licenses [2]	
Includes license certificates[3] for activating additional energy objects[1] (EnO).	
SIMATIC Energy Suite S7-1500	
SIMATIC Energy Suite S7-1500, 5 energy objects[1] (1 x 5 EnO)	
• As package	**6AV2108-0CF00-0BB0**
• Download	**6AV2108-0CF00-0BH0**
SIMATIC Energy Suite S7-1500, 10 energy objects[1] (1 x 10 EnO)	
• As package	**6AV2108-0CH00-0BB0**
• Download	**6AV2108-0CH00-0BH0**
SIMATIC Energy Suite S7-1500, 10 energy objects[1] (2 x 5 EnO)	
• As package	**6AV2108-0DF00-0BB0**
• Download	**6AV2108-0DF00-0BH0**
SIMATIC Energy Suite S7-1500, 50 energy objects[1] (5 x 10 EnO)	
• As package	**6AV2108-0FH00-0BB0**
• Download	**6AV2108-0FH00-0BH0**
SIMATIC Energy Suite S7-1500, 100 energy objects[1] (10 x 10 EnO)	
• As package	**6AV2108-0HH00-0BB0**
• Download	**6AV2108-0HH00-0BH0**

1) Energy object (EnO) corresponds to 1 energy process tag (e.g. one measuring instrument, one energy counter, one pulse signal)

2) PLC runtime licenses are countable and version-neutral

3) The correct number of existing license certificates must be configured in the properties of the CPU hardware in the TIA Portal.

More information

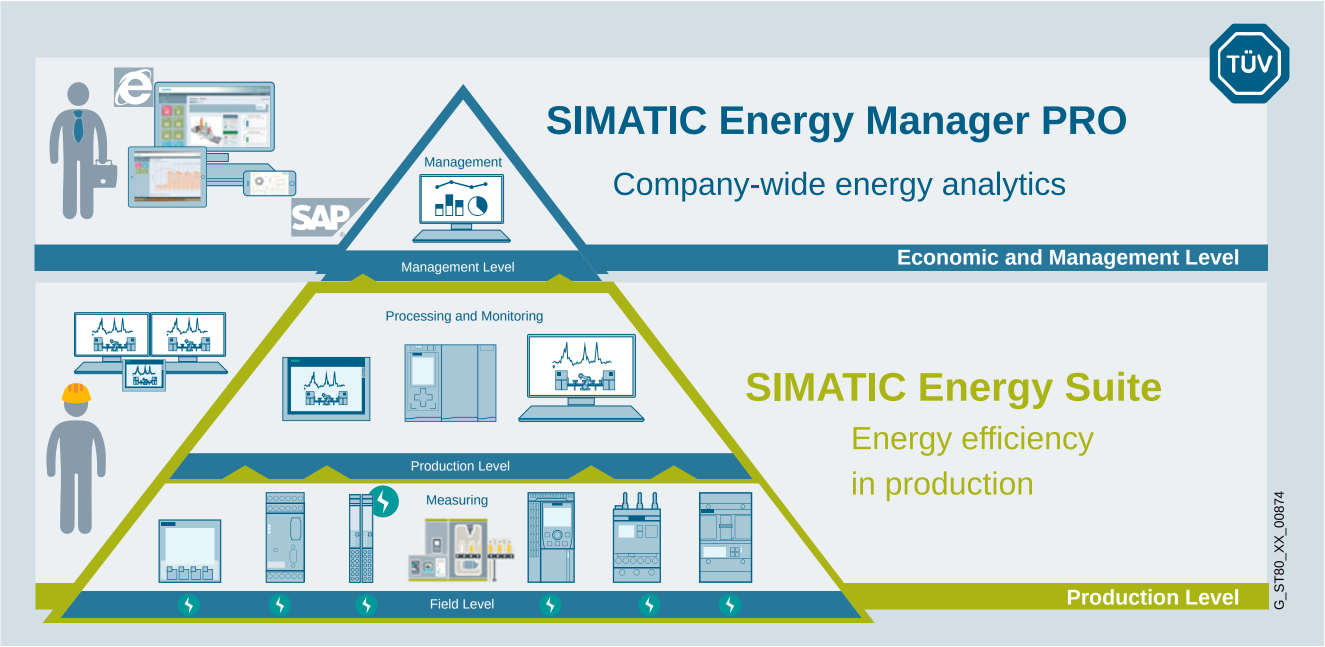
You can find more information on the Internet at:

SIMATIC Energy Suite: http://www.siemens.com/energysuite

Energy Support Library (EnSL):
http://www.siemens.com/energysuite-hardware

Siemens Industry Online Support:
https://support.industry.siemens.com/

Overview



SIMATIC Energy Manager PRO energy management system

The SIMATIC Energy Manager PRO provides users with a modular, non-sector-specific energy management system for industrial operations.

SIMATIC Energy Manager PRO forms the basis for cost-effective energy management to reduce energy costs and increase energy efficiency.

Released SIMATIC software:

- SIMATIC WinCC V7.3 SE, SIMATIC WinCC V7.4
- SIMATIC WinCC V7.2
- SIMATIC WinCC RT Professional V13, SIMATIC WinCC RT Professional V14
- SIMATIC PCS7 V8.1, SIMATIC PCS7 V8.2
- SIMATIC NET V12 SP2

Note:

Among other things, SIMATIC Energy Manager PRO V7.0, a dynamic, widget-based web dashboard, offers dynamic web visualization and seamless interfacing to the SIMATIC Energy Suite.

Upgrading from SIMATIC B.Data 6.0 to SIMATIC Energy Manager PRO 7.0 is possible at any time and is included in the SIMATIC B.Data SUS.

Benefits

Advantages:

- Company-wide transparency thanks to consistent energy and material balancing of power generation and consumption plants
- Energy costs allocated according to the costs-by-cause principle and transfer to the billing system (e.g. SAP R/3 CO)
- Characteristic values for substantiated statements on increasing the efficiency of power generation systems and consumers
- Planning reliability thanks to production-related load and demand forecasts
- Support of purchasing with cost-optimized energy procurement
- Fulfilment of legal obligations for monitoring and reporting on greenhouse gas emissions (CO2 emissions)
- Reduction of workload by automatically generating internal and external energy reports
- Support of customers in the continuous improvement of energy efficiency (e.g. ISO 50001) by integrated project management for energy efficiency measures

Design

SIMATIC Energy Manager PRO V7.0

SIMATIC Energy Manager PRO is delivered as a basic package which can be flexibly expanded by tag packages.

- The ***basic package*** already contains:
  - 50 tags
  - 1 Energy Manager PRO Acquisition component
  - 1 Energy Manager PRO Client
  - 1 Energy Manager PRO Web Client
- Available ***tag packages***:
  - 50 tags
  - 100 tags
  - 250 tags
  - 500 tags
  - 1 000 tags
  - 5 000 tags
  - 30 000 tags

SIMATIC Energy Manager PRO Software Update Service (SUS)

For each Energy Manager PRO system there is a corresponding SUS (Software Update Service) which is dependent on the number of tags.

The SUS is valid for 1 year. The contract is automatically extended by 1 more year unless canceled 3 months prior to expiration.

SIMATIC Energy Manager PRO expansions

The scope of Energy Manager PRO can be extended with add-on packages:

- Energy Manager PRO Web Clients (3, 20 or 60)
- Energy Manager PRO Client
- Energy Manager PRO Acquisition component
- Energy Manager PRO Planning and Forecast

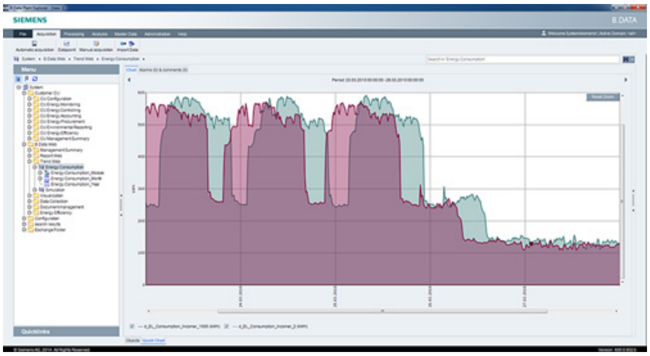
The number of clients and web clients indicates the number of times simultaneous access is possible.

Function

Acquisition and pre-processing of energy and operating data

- In addition to an interface to the SIMATIC Energy Suite, SIMATIC Energy Manager PRO also offers the latest interface standards such as WinCC, OPC UA, OPC DA, OPC HDA, MODBUS TCP, ODBC, ASCII and XML
- Preprocessing of energy data in a real-time calculation core that can be freely modeled including a formula editor for defining and configuring new calculation functions (heat calculations for boilers, quality for cogeneration plants, etc.)
- Energy Manager PRO Mobile for mobile recording of energy data including route planning for meter reading operations
- Management and analysis of energy data
- Automatic plausibility check and generation of simulated values
- Long-term archive with versioning, compression and consolidation functions
- Measured value editor for entering and processing energy and operating values
- Trender for presenting up-to-date (online) and historical load curves (trends), also for setpoint/actual value analyses
- Energy management dashboards for creating cross-company transparency through visualization of performance indicators and display of Sankey diagrams.

SIMATIC Energy Manager PRO

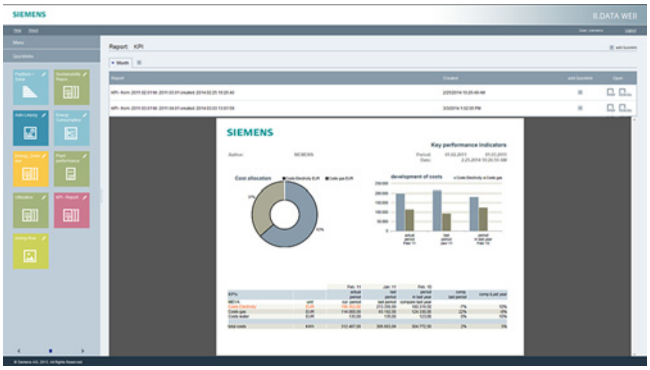


Function (continued)

Energy and material balance

Freely parameterizable balancing of the energy flows of various media such as electricity, heat, gas, steam, and emissions (CO2) in the B.Data Plant Explorer

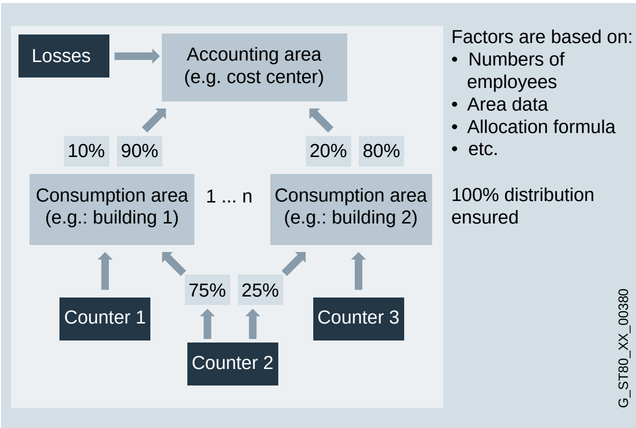
- Calculation of characteristic values (KPIs, efficiency coefficients, etc.) with direct reference to production (batches, quantities, etc.).



Energy accounting (costs and revenue accounting)

Calculation and allocation/assignment of energy costs to plants and/or customers/cost units in accordance with the costs-by-cause principle. The bottom up (measurement) and top down (allocation) procedures are supported here

- Flexible modeling of the hierarchic accounting structures in the Plant Explorer
- Tariff allocation of quantities, flexible price assessment with tariff and price time series
- Transfer of costs/revenues to the ERP system (e.g. SAP R/3 CO)



Energy planning

- Generation of requirement forecasts based on production-dependent factors (production planning) and basic load profiles (typical days)
- With multi-variable regression analysis, it is simple to evaluate and model influencing factors. This model can be used to calculate the future energy demand
- Generation of energy schedules for registering with the energy suppliers.

Energy reporting

- Freely parameterizable report generator for creating balances, protocols, shift logs, bills
- Fully automated reporting with email dispatch and document management
- Energy Manager PRO web client for company-wide viewing of dashboards, reports and results
- Information about discrepancies from specified parameters through KPI warning system

Technical specifications

	SIMATIC Energy Manager PRO V7.0
Operating system	• Windows Server 2008 R2 (English/German) • Windows Server 2012 R2 (English/German) • Windows Server 2016 (English/German) • Windows 7 Professional/Ultimate SP1 (English/German) • Windows 8.1 Pro/Enterprise 64-bit (English/German) • Windows 10 Pro/Enterprise 64-bit (English/German) • Minimum of 4 GB RAM
Interface	In addition to an interface to WinCC and S7 controllers, Energy Manager PRO also offers the latest interface standards such as OPC DA, OPC HDA, OPC UA, MODBUS TCP, ODBC, ASCII and XML.
WinCC versions [1]	• SIMATIC WinCC V7.2, V7.3 SE, V7.4 • SIMATIC WinCC RT Professional V13, V14
PCS 7 versions [2]	• SIMATIC PCS 7 V8.1 • SIMATIC PCS 7 V8.2

[1] If an acquisition computer is installed on a WinCC system, these requirements must also be complied with.

[2] The SIMATIC Energy Manager PRO system for connection to the PCS 7 must always be installed on a separate PC.

Ordering data

	Article No.
SIMATIC Energy Manager PRO V7.0	
Standard scope of delivery	
• SIMATIC Energy Manager PRO incl. 50 tags [1]	**6AV6372-2DF07-0AX0**
• Tag Package 50 [1]	**6AV6372-2DF07-0CX0**
• Tag Package 100 [1]	**6AV6372-2DF07-0DX0**
• Tag Package 250 [1]	**6AV6372-2DF07-0EX0**
• Tag Package 500 [1]	**6AV6372-2DF07-0FX0**
• Tag Package 1 000 [1]	**6AV6372-2DF07-0GX0**
• Tag Package 5 000 [1]	**6AV6372-2DF07-0HX0**
• Tag Package 30 000 [1]	**6AV6372-2DF07-0JX0**
Download	
• SIMATIC Energy Manager PRO incl. 50 tags [1]	**6AV6372-2DF07-0AH0**
• Tag Package 50 [1]	**6AV6372-2DF07-0CH0**
• Tag Package 100 [1]	**6AV6372-2DF07-0DH0**
• Tag Package 250 [1]	**6AV6372-2DF07-0EH0**
• Tag Package 500 [1]	**6AV6372-2DF07-0FH0**
• Tag Package 1 000 [1]	**6AV6372-2DF07-0GH0**
• Tag Package 5 000 [1]	**6AV6372-2DF07-0HH0**
• Tag Package 30 000 [1]	**6AV6372-2DF07-0JH0**
SIMATIC Energy Manager PRO V7.0 expansions	
Standard scope of delivery	
• 3 Web Clients	**6AV6372-2DF27-0AX0**
• 20 Web Clients	**6AV6372-2DF27-0BX0**
• 60 Web Clients	**6AV6372-2DF27-0CX0**
• Client	**6AV6372-2DF37-0AX0**
• Planning & Forecast	**6AV6372-2DF47-0AX0**
• Acquisition component	**6AV6372-2DF57-0AX0**
Download	
• 3 Web Clients	**6AV6372-2DF27-0AH0**
• 20 Web Clients	**6AV6372-2DF27-0BH0**
• 60 Web Clients	**6AV6372-2DF27-0CH0**
• Client	**6AV6372-2DF37-0AH0**
• Planning & Forecast	**6AV6372-2DF47-0AH0**
• Acquisition component	**6AV6372-2DF57-0AH0**
SIMATIC Energy Manager PRO SUS [2]	
Standard scope of delivery	
• For max. 100 additional tags through tag packages [2]	**6AV6372-2DF00-0DL0**
• For max. 500 additional tags through tag packages [2]	**6AV6372-2DF00-0FL0**
• For max. 5 000 additional tags through tag packages [2]	**6AV6372-2DF00-0HL0**
• SUS Enterprise (more than 5 000 tags) for more than 5 000 additional tags [2]	**6AV6372-2DF00-0XL0**
Download	
• For max. 100 additional tags through tag packages [2]	**6AV6372-2DF00-0DY0**
• For max. 500 additional tags through tag packages [2]	**6AV6372-2DF00-0FY0**
• For max. 5 000 additional tags through tag packages [2]	**6AV6372-2DF00-0HY0**
• SUS Enterprise (more than 5 000 tags) for more than 5 000 additional tags [2]	**6AV6372-2DF00-0XY0**

	Article No.
SIMATIC B.Data to Energy Manager PRO upgrades	
Standard scope of delivery	
• Up to 100 tags for max. 100 additional tags through tag packages	**6AV6372-2DF07-0DX4**
• Up to 500 tags for max. 500 additional tags through tag packages	**6AV6372-2DF07-0FX4**
• Up to 5 000 tags for max. 5 000 additional tags through tag packages	**6AV6372-2DF07-0HX4**
• More than 5 000 tags (Enterprise) for more than 5 000 additional tags	**6AV6372-2DF77-0XX4**
Download	
• Up to 100 tags for max. 100 additional tags through tag packages	**6AV6372-2DF07-0DH4**
• Up to 500 tags for max. 500 additional tags through tag packages	**6AV6372-2DF07-0FH4**
• Up to 5 000 tags for max. 5 000 additional tags through tag packages	**6AV6372-2DF07-0HH4**
• More than 5 000 tags (Enterprise) for more than 5 000 additional tags	**6AV6372-2DF77-0XH4**
SIMATIC Energy Manager PRO TRIAL	
Standard scope of delivery	**6AV6372-2DF17-0AX0**

[1] The tag packages dynamically expand the number of tags. The total number of tags is increased by the value of the tag package in each case.

[2] The SUS contract runs for 1 year. The contract is automatically extended by a further year unless canceled 3 months prior to expiration.

For more detailed information, refer to:

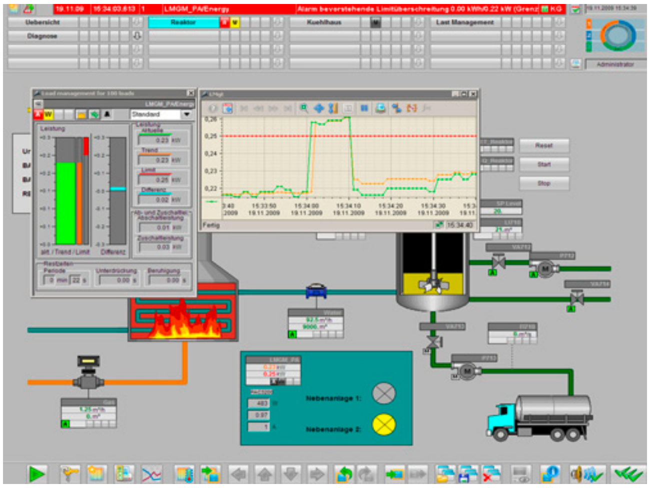
http://www.siemens.com/energymanager

More information

More information can be found on the Internet at:

http://www.siemens.com/energymanager

Overview



SIMATIC powerrate, as an option for WinCC / PCS 7, ensures transparency in energy consumption from the infeed to the load.

SIMATIC powerrate is used in all sectors in which WinCC or PCS 7 are deployed and energy efficiency considerations play a major role. Total integration into WinCC or PCS 7 means that there is no need for a special system environment. Predefined modules and symbols give you the assurance of building on tested product components, with interfaces that support customized expansion.

SIMATIC powerrate therefore provides a solution that you can use to obtain an overview of the energy consumption of a plant easily and cost-effectively through integration in an existing SIMATIC SCADA system.

Benefits

- Identification of energy-intensive equipment and processes to develop measures for improving energy efficiency.
- Comparison of consumption profiles for more efficient processes.
- Optimization of the company according to energy parameters, based on an evaluation of consumption and costs.
- Compliance with the contractually agreed power limits, thus preventing higher power supply costs or penalty payments.
- Integration of the 7KM PAC3200/4200 measuring devices for a clear overview of selected measured values and alarms.
- Integration of switches with an overview of the switch status and the switching possibilities.
- Accurate assignment and comparison of the consumption data of specific work processes or batches

Design

SIMATIC powerrate comprises the following components:

- Blocks for acquiring and conditioning energy data
- Faceplates for displaying and editing energy data
- Blocks for implementing load management (calculating the trend, monitoring the limit, releasing/inhibiting loads), batch-related consumption recording and for integrating measuring instruments and switches
- Additional blocks – for example, for time synchronization, data backup, data exchange with archives
- Faceplates for displaying results and entering values (e.g. for configuration, or manually measured values)
- Excel-based reports for allocating energy data to cost centers, for batch-related evaluation and for determining and displaying the load duration curve
- Exporting data to Excel

Function

Acquiring and conditioning energy data

Using ready-to-use function blocks, energy data can be acquired by any PROFIBUS-capable devices. The data can be input to the function blocks in the form of counter pulses, count values or power values. Count values can also be entered manually.

From this data, the function block calculates the power averages and the work values for a predefined period. This calculated data is subsequently saved in the WinCC archive. In addition, a final value forecast is extrapolated for the power values for each period.

A sample function (heat calculation) that can be adapted to the needs of the customer at any time by means of open interfaces has been implemented for the purpose of visualizing customized calculations.

Data from manually read counters can be entered directly into the system and used for further analysis. Absolute numerical values (entry of an absolute value instead of the difference from the previous value) can also be recorded and used in further processing.

Displaying energy data

The up-to-date, acquired energy data is displayed as power averages/work values for each time interval (total value for the previous interval, current value of the current interval, extrapolated value for the end of the current interval). A load trend display enables analysis of archived energy data as well as its representation in tables.

Function (continued)

Further processing of data

The archived data can be exported to Excel directly from WinCC using the export functions. The exported energy data can also be included in further customized processing. WinCC tools can be used to access the data from the WinCC archive.

Reports

For this purpose, selected energy data is read from archives (Tag Logging archive, user archives) from the WinCC Runtime database; using Microsoft Excel the following reports can then be generated:

- Cost center report
  Here the consumption can be allocated to different cost centers and the costs can be calculated on the basis of predefined tariffs. The results can be output by means of 2 reports in the form of tables or diagrams.
- Load duration curve
  An analysis is carried out on the basis of the archived power averages to establish how often a certain power average has occurred in a given period. It can be quickly detected from this characteristic curve whether temporary power peaks exist which can represent a possible starting point for cost savings by means of load management.
- Batch report
  This is used to allocate consumption to batches, whereby the data can be presented in chronological order or in order of batch name.

The generation of exports or reports can be initiated manually or automatically time-controlled (daily, weekly or monthly).

Load management

Contractually agreed power limits (in the case of electricity, normally the 15-minute average power value) must be observed, otherwise significantly higher supply prices or even penalty payments may become due to the energy supply company.

The load management feature of SIMATIC powerrate carries out cyclic trend calculations in order to issue warnings/alarms if violation of the limit is likely and to switch off loads in accordance with the given configuration should this be required. If a limit is exceeded despite this, the latest load management data is archived to enable future evaluation or analysis.

To prevent unnecessary switching operations, numerous parameters are available for adapting the load management to the current process conditions - and all this can be done conveniently via the faceplate.

For loads that are distributed over different PLCs, SIMATIC powerrate contains appropriate PLC-to-PLC communication blocks which can be used to integrate these loads into the load management system. Load management is scalable, according to the maximum number of loads to be integrated or monitored, for up to 10, 25, 50, 75 or 100 loads. Load management can be performed for different media (e.g. electricity, gas) simultaneously.

Batch-related consumption recording

A batch comprises all the units of a product that have been produced in one production cycle, i.e. under identical conditions. Batch-related consumption recording allows accurate recording of energy consumption for each batch. Batch-related consumption recording is possible for five types of energy each with up to 10 loads. Appropriate reports can be generated for analysis of the data (see also the batch report).

Integration of measuring devices 7KM PAC3200/PAC4200

If the 7KM PAC3200/PAC4200 measuring devices are integrated, selected measured values can be displayed and alarms (current, voltage, pulse frequency too high) can be generated from the digital status information and displayed.

Integration of switches

Switch integration via digital inputs/outputs (DI/DO) supports display of the switch status (On, Off, tripped, unplugged).

With the appropriate authorization, switching is also possible via the faceplate. Switching takes place in a 2-step operation (switch command is issued, followed by a prompt for repeated confirmation; the switch command is not forwarded to the switch until confirmation has been received).

WinCC Web Navigator support

Makes the powerrate functionality available over the Web.

Special functions

To avoid data loss in the event of a communication fault, the data is stored temporarily in a circulating buffer on the S7.

3

Technical specifications

	SIMATIC powerrate V4.0 SP3
Hardware requirements	
SIMATIC powerrate can be used in the PCS 7 or WinCC SCADA environments. For installation, the respective hardware requirements of the following products apply	• PCS 7 • STEP 7 and WinCC SCADA
Released CPUs - SIMATIC powerrate is released in the PCS 7 environment for	• S7-400 CPUs supported by PCS 7 • WinAC RTX 2010 SP1 and SP2
Released CPUs - SIMATIC powerrate is released in the WinCC SCADA environment for:	• S7-400 • S7-300 - SIMATIC S7 CPU 319-3 PN/DP V2.5 and higher - SIMATIC S7 CPU 317-2 PN/DP V2.6 and higher - SIMATIC S7 CPU 315-2 PN/DP V3.1 and higher • SIMATIC ET 200S IM151-8 PN/DP CPU V3.2 and higher Firmware version V3.x or later is recommended for S7-300 controllers. CPUs with firmware version V3.2 or higher must be used for the implementation of PROFIenergy I-device blocks PR3_PE_IDEV and PRx_PE_RD. • WinAC RTX 2010 SP1 and SP2
Software requirements	
You can use SIMATIC powerrate in the PCS 7 or WinCC SCADA environments. For installation, the respective software requirements of the following products apply:	• PCS 7 • STEP 7 and WinCC SCADA
The library is released for the following PCS 7 versions	• SIMATIC PCS 7 V8.1 • SIMATIC PCS 7 V8.0 SP2 • SIMATIC PCS 7 V7.1 SP4
The library is released for the following WinCC version with the corresponding versions of STEP 7	• SIMATIC WinCC V7.3 Second Edition • SIMATIC WinCC V7.2 Update 1 or higher (Update 2 is recommended)
For use with WinCC V7.3 or V7.2, the following installations are required:	• WinCC minimum installation - Basic Process Control - User archives for load management and batch-oriented energy acquisition • WinCC add-on "AS-OS Engineering" For the use of SIMATIC powerrate V4.0, WinCC must execute in integrated mode with STEP 7. • SIMATIC NET • STEP 7
powerrate Reports has been released for the following versions	• Microsoft Excel 2003 • Microsoft Excel 2007 • Microsoft Excel 2010 • Microsoft Excel 2013

Ordering data

Ordering data	Article No.
SIMATIC powerrate V4.0 SP3 ES + OS Runtime[1)] Also includes: • License for WinCC/User Archive • Block library PAC3200 for WinCC • Block library PAC3200, 3WL/3VL for PCS 7	**6AV6372-1DE04-0AX0**
SIMATIC powerrate V4.0 SP3 Upgrade Upgrade V3.x to V 4.0 SP3, ES + OS-RT[1)]	**6AV6372-1DE04-0AX4**
SIMATIC powerrate V4.0 SP3 Update Update V4.0 (SP1 or SP2) to V4.0 SP3	**6AV6372-1DE04-0AX3**
SIMATIC powerrate V4.0 SP3 Trial License Limited 30-day ES + OS Runtime license	**6AV6372-1DE04-0AX7**

1) For operation on a WinCC/PCS 7 OS single-user workstation or server and any number of automation systems. When using additional WinCC/PCS 7 OS single-user stations/servers, one license is required per WinCC/PCS 7 OS single-user station/server.

More information

More information can be found on the Internet at:

http://www.siemens.com/simatic-powerrate

Important information on the use of SIMATIC powerrate is available on the Internet at:

http://support.automation.siemens.com/WW/view/en/48204134

Overview

SIMATIC WinCC flexible ES engineering software

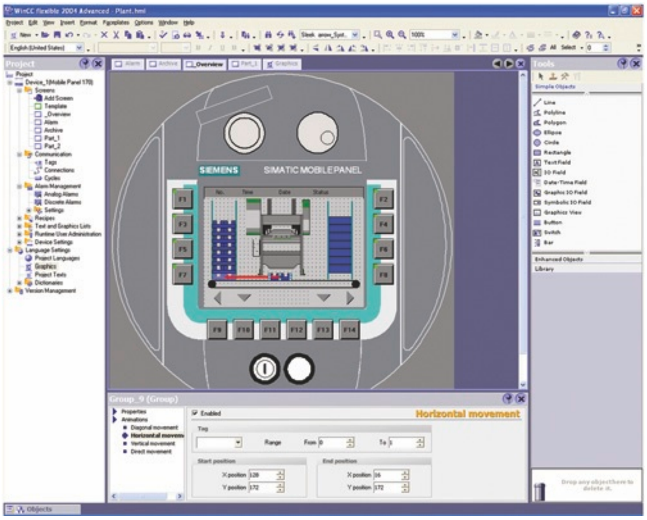
- Family of configuration systems with WinCC flexible Micro/ Compact/Standard/Advanced for SIMATIC operator panels, the HMI part of SIMATIC C7 as well as for the PC-based visualization software WinCC flexible Runtime
- Runs under Windows XP Professional / Windows 7 Professional, Ultimate, Enterprise
- Can be expanded by the option "WinCC flexible/ChangeControl" for version management and change logging

SIMATIC WinCC flexible Runtime visualization software

- Modular PC-based HMI solution for single-user systems directly at the machine (further development of ProTool/Pro RT)
- Runs under Windows XP Professional / Windows 7 Professional, Ultimate, Enterprise
- Basic package for visualization, reporting and logging; can be expanded by implementing option packages
- Flexible expansion possible with VB scripts and customized ActiveX controls created with OPP (Open Platform Program)
- Can be integrated into automation solutions based on TCP/IP networks
- Expanded service concepts with remote operation, diagnostics and administration over the intranet and Internet in combination with email communication

SIMATIC WinCC flexible ES

Overview



- Uniform family of engineering tools for configuration of SIMATIC HMI operator panels, the operator control part of SIMATIC C7 units, SINUMERIK Panel PCs as well as the PC-based visualization software WinCC flexible Runtime.
- Runs under Windows XP Professional / Windows 7 Professional, Ultimate, Enterprise
- Current version:
  - SIMATIC WinCC flexible 2008 SP3 Micro
  - SIMATIC WinCC flexible 2008 SP3 Compact
  - SIMATIC WinCC flexible 2008 SP3 Standard
  - SIMATIC WinCC flexible 2008 SP3 Advanced

Application

SIMATIC WinCC flexible Micro/Compact/Standard/Advanced are engineering tools for configuring SIMATIC HMI operator panels, the operating component of SIMATIC C7 devices, the SINUMERIK Panel PCs as well as the PC-based visualization system WinCC flexible Runtime.

Depending on the selected product, various target systems can be configured:

WinCC flexible Micro

- Micro Panels: OP 73micro, TP 170micro, TP 177micro

WinCC flexible Compact

In addition to the target systems that are configured using WinCC flexible Micro:

- Basic Panels: KTP400 Basic, KTP600 Basic, KTP1000 Basic, TP1500 Basic
- Mobile Panels: Mobile Panel 170, Mobile Panel 177
- 70 series Panels: OP 73, OP 77A, OP 77B
- 170 series Panels: TP 170A, TP 177A, TP 170B, TP 177B, OP 170B, OP 177B
- 170 series Multi Panels: MP 177
- C7 devices: C7-635 (Touch/Key)

WinCC flexible Standard

In addition to the target systems that are configured using WinCC flexible Compact:

- Mobile Panels: Mobile Panel 277
- 270 series Panels: TP 270, TP 277, OP 270, OP 277
- 270 series Multi Panels: MP 270B, MP 277
- 370 series Multi Panels: MP 370, MP 377
- C7 devices: C7-636 (Touch/Key)

WinCC flexible Advanced

In addition to the target systems that are configured using WinCC flexible Standard:

- Standard PC
- SIMATIC Panel PC:
  IPC277E, IPC277D, IPC477E, IPC477D, IPC677D
  SIMATIC Box PC:
  IPC227E, IPC227D, IPC427E, IPC427D, IPC627D, IPC827D
  SIMATIC Rack PC:
  IPC347E, IPC547G, IPC647D, IPC847D
- SINUMERIK Panel PC: HT8, OP08T, OP010, OP012, TP012, OP015, TP015, OP015A

For configuring panels released after the start of delivery of WinCC flexible 2008, an HSP (Hardware Support Package) is required that can be downloaded free of charge via the following link:
http://www.siemens.com/wincc-flexible-hsp

Technical specifications

System requirements (minimum requirements)	WinCC flexible Engineering Software
Operating system	Windows XP Professional SP3 (32-bit), Windows 7 Professional, Ultimate, Enterprise (32 and 64-bit)
	Additionally for SIMATIC WinCC flexible Micro: Windows XP Home SP3
Processor	Pentium 4 (or comparable) processor running at 1.6 GHz or faster
Resolution	1024 x 768 or higher
Main memory (RAM)	≥ 1 GB, ≥ 512 MB for WinCC flexible Micro
Hard disk (free memory space) [1]	≥ 2 GB [2] ≥ 1.2 GB for WinCC flexible Micro [3]
DVD drive	for software installation

1) In addition to the space needed by WinCC flexible, Windows also requires space on the hard disk; e.g. for the swap file. The following formula has proven itself in the past: The size of the swap file = 3 x the size of available RAM. For further information, refer to your Windows documentation

2) When installing one language. An additional 200 MB are required for each further language. In the case of different partitions for system and configuration: System partition approx. 700 MB, project partition approx. 1.3 GB.

3) When installing one language. An additional 80 MB are required for each further language. In the case of different partitions for system and configuration: System partition approx. 600 MB, project partition approx. 600 MB.

Ordering data

	Article No.
WinCC flexible 2008 Micro incl. SP3	
• Single license and documentation on DVD, single license key without license key	**6AV6610-0AA01-3CA8**
• as download [4], software download, single license, without license key download, email address required for the delivery	**6AV6610-0AA01-3CH8**
WinCC flexible 2008 Compact incl. SP3	
• Software and documentation on DVD, floating license, license key on USB stick	**6AV6611-0AA51-3CA5**
• as download [4], software and license key download, floating license, email address required for the delivery	**6AV6611-0AA51-3CH5**
WinCC flexible 2008 Standard incl. SP3	
• Software and documentation on DVD, floating license, license key on USB stick	**6AV6612-0AA51-3CA5**
• as download [4], software and license key download, floating license, email address required for the delivery	**6AV6612-0AA51-3CH5**
WinCC flexible 2008 Advanced incl. SP3	
• Software and documentation on DVD, floating license, license key on USB stick	**6AV6613-0AA51-3CA5**
• as download [4], software and license key download, floating license, email address required for the delivery	**6AV6613-0AA51-3CH5**
WinCC flexible /ChangeControl for WinCC flexible 2008 Compact/Standard/Advanced [1) 2)]	
• Floating license, option, license key only	**6AV6613-6AA01-3AB5**
• as download [4], only license key download, floating license, email address required for the delivery	**6AV6613-6AA01-3AH5**

1) A separate license for WinCC flexible/ChangeControl must be purchased for each engineering station

2) The ChangeControl option has not been released for integrated operation with STEP 7

3) Original delivery note or Certificate of License (CoL) from previous WinCC flexible Micro is required

4) Current information and availability regarding the new type of delivery can be found at: http://www.siemens.com/tia-online-software-delivery

Ordering data

	Article No.
Powerpacks	
SIMATIC WinCC flexible Power Packs	
Floating license, license key only on USB stick	
• WinCC flexible 2008 Standard to 2008 Advanced	**6AV6613-2CD01-3AD5**
• WinCC flexible 2008 Compact to 2008 Advanced	**6AV6613-2BD01-3AD5**
• WinCC flexible 2008 Compact to 2008 Standard	**6AV6612-2BC01-3AD5**
as download [4], floating license, license key download only, email address required for the delivery	
• WinCC flexible 2008 Standard to 2008 Advanced	**6AV6613-2CD01-3AJ5**
• WinCC flexible 2008 Compact to 2008 Advanced	**6AV6613-2BD01-3AJ5**
• WinCC flexible 2008 Compact to 2008 Standard	**6AV6612-2BC01-3AJ5**
Updates	
WinCC flexible 2008 Micro Update 2008, 2008 SP1, 2008 SP2 -> 2008 SP3	**6AV6610-0AA51-3CU8**
WinCC flexible 2008 Compact/Standard/Advanced Update 2008, 2008 SP1, 2008 SP2 -> 2008 SP3	**6AV6613-0AA51-3CU8**

	Article No.
Upgrades	
SIMATIC WinCC flexible 2004/2005/2007 to SIMATIC WinCC flexible 2008 incl. SP3	
• Upgrade to WinCC flexible 2008 Micro [3]	**6AV6610-0AA01-3CE8**
• Upgrade to WinCC flexible 2008 Compact, incl. ChangeControl option [1]	**6AV6611-0AA51-3CE5**
• Upgrade to WinCC flexible 2008 Standard, incl. ChangeControl option [1]	**6AV6612-0AA51-3CE5**
• Upgrade to WinCC flexible 2008 Advanced, incl. ChangeControl option [1]	**6AV6613-0AA51-3CE5**
as download [4]	
Email address required for the delivery	
• Upgrade to WinCC flexible 2008 Micro [3]	**6AV6610-0AA01-3CK8**
• Upgrade to WinCC flexible 2008 Compact, incl. ChangeControl option [1]	**6AV6611-0AA51-3CK5**
• Upgrade to WinCC flexible 2008 Standard, incl. ChangeControl option [1]	**6AV6612-0AA51-3CK5**
• Upgrade to WinCC flexible 2008 Advanced, incl. ChangeControl option [1]	**6AV6613-0AA51-3CK5**
SIMATIC WinCC flexible ASIA 2004/2005/2007 to SIMATIC WinCC flexible ASIA 2008 incl. SP3	
• Upgrade to WinCC flexible 2008 ASIA Standard, incl. ChangeControl option [1]	**6AV6612-0AA11-3CE5**
• Upgrade to WinCC flexible 2008 ASIA Advanced, incl. ChangeControl option [1]	**6AV6613-0AA11-3CE5**
Versions for China/Taiwan/Korea/Japan	
WinCC flexible 2008 ASIA Standard incl. SP3 Floating license, license key on USB stick, software and documentation on DVD.	**6AV6612-0AA11-3CA5**
WinCC flexible 2008 ASIA Advanced incl. SP3 Floating license, license key on USB stick, software and documentation on DVD.	**6AV6613-0AA11-3CA5**

1) A separate license for WinCC flexible/ChangeControl must be purchased for each engineering station
2) The ChangeControl option has not been released for integrated operation with STEP 7
3) Original delivery note or Certificate of License (CoL) from previous WinCC flexible Micro is required
4) Current information and availability regarding the new type of delivery can be found at: http://www.siemens.com/tia-online-software-delivery

More information

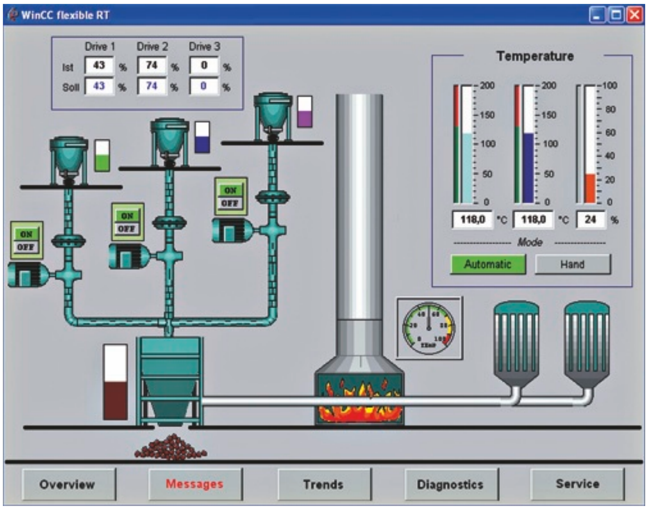
More information is available in the Internet under:

http://www.siemens.com/wincc-flexible

Note

Do you require a specific modification or extension to the products described here? You will find information about the Open Platform Program for the creation of user-specific functions and controls for WinCC flexible under "Customized Products".

Overview



PC-based visualization software for single-user systems directly at the machine.

- Runs under Windows XP Professional and Windows 7 Professional, Ultimate, Enterprise
- Current version: SIMATIC WinCC flexible 2008 SP3 Runtime

SIMATIC WinCC flexible Runtime is configured with the SIMATIC WinCC flexible Advanced configuration software.

Application

SIMATIC WinCC flexible Runtime is the high-performance visualization software for simple visualization tasks at machine level. It can be used as a single-user solution for all automation applications in factory automation, process automation and building services automation.

SIMATIC WinCC flexible Runtime can be used in combination with the following operator panels:

- SIMATIC Panel PCs
  - PC IL 70/77
  - Microbox 420
  - Panel PCs 477/477B/477C
  - Panel PCs 577/577B/577C
  - Panel PCs 670/677/677B/677C
  - Panel PCs 870/877
- SINUMERIK Panel PCs
  - HT8; OP08T
  - OP010, OP012, OP015
  - TP012, TP015, OP015A
- Standard PCs with resolutions (W x H in pixels) of:
  - 4:3 format: 640 x 480, 800 x 600, 1 024 x 768, 1 280 x 1 024, 1 600 x 1 200
  - Widescreen format: 800 x 480, 1 280 x 800, 1 366 x 768, 1 440 x 900, 1 680 x 1 050, 1 920 x 1 080, 1 920 x 1 200, 1 980 x 1 080

Design

SIMATIC WinCC flexible Runtime is available as a software package with 128, 512, 2048 or 4096 PowerTags. The term PowerTags is used exclusively to identify process variables and range pointers that have a process link to the controller. Variables without process link, constant limit values of variables, and messages (up to 4000-bit-triggered messages) are also available for additional system performance.

The range of functions of WinCC flexible Runtime includes the centralized HMI components for visualizing and reporting, and it can be expanded to suit requirements and costs by using optional packages.

SIMATIC WinCC flexible Runtime is configured with the SIMATIC WinCC flexible Advanced configuration software.

Function

System requirements	**WinCC flexible Runtime**
Operating system	Windows XP Professional SP3 (32-bit) Windows XP Embedded [1] Windows 7 Professional / Ultimate / Enterprise (32-bit and 64-bit)
Processor [4]	
• Minimum	Windows XP: 300 MHz Windows 7: 1 GHz
• Recommended	Windows XP: ≥ Pentium III, 500 MHz Windows 7: ≥ 1 GHz
Graphics	
• Minimum	SVGA
• Resolution	640 x 480 to 1600 x 1200 or 800 x 480 to 1980 x 1080
RAM [2]	
• Minimum	Windows XP: 128 MB Windows 7: 1 GB
• Recommended	Windows XP: ≥ 512 MB Windows 7: ≥ 1GB
Hard disk (free memory space) [3]	≥ 250 MB

[1] Only for enabled platforms (e.g. Panel PC 477). You can get information from your Siemens contact.

[2] RAM requirements are determined primarily by the size of the graphics used.

[3] Without taking archives into account.
In addition to the space needed by WinCC flexible, Windows also requires space on the hard disk; e.g., for the swap file. The following formula has proven itself in the past: The size of the swap file = 3 x the size of the RAM. For further information, refer to your Windows documentation

[4] More powerful systems (Pentium 4 and higher) may be required in order to use options

SIMATIC WinCC flexible RT

Integration

SIMATIC WinCC flexible Runtime supports linking to:

Protocol	PC interfaces
SIMATIC S5 via AS511 (TTY)	
S5-90U	COM1/COM2 [13]
S5-90U	
S5-100U (CPU 100, 102, 103)	
S5-115U (CPU 941, 942, 943, 944, 945)	
S5-135U (CPU 928A, 928B)	
S5-155U (CPU 946/947, 948)	
SIMATIC S5 via PROFIBUS DP [1]	
S5-95U/L2-DP master	CP 5512 [2]
S5-115U (CPU 941, 942, 943, 944, 945)	
S5-135U (CPU 928A, 928B)	
S5-155U (CPU 946/947, 948)	
SIMATIC S7 via PPI	
S7-200	CP 5612 CP 5621 [1] CP 5622 CP 5613 A3 CP 5614 A3 CP 5623 CP 5624 CP 5711 PC/PPI adapter [3]
SIMATIC S7 via MPI	
S7-200 (except CPU 212) [4]	CP 5612 CP 5621 [1] CP 5622 CP 5613 A3 CP 5614 A3 CP 5623 CP 5624 CP 5711 PC adapter USB A2 [6] Teleservice V6.1
S7-300	
S7-400	
WinAC Basis (V3.0 and higher)	
WinAC RTX	
SIMATIC S7 via PROFIBUS DP [5]	
S7-215 [4]	CP 5612 CP 5621 [1] CP 5622 CP 5613 A3 CP 5614 A3 CP 5623 CP 5624 CP 5711
S7-300 CPUs with integral PROFIBUS-SS	
S7-300 with CP 342-5	
S7-400 CPUs with integral PROFIBUS-SS	
S7-400 with CP 443-5 or IM 467	
WinAC Basis (V3.0 and higher)	
WinAC RTX	
SIMATIC S7 via Ethernet (TCP/IP)	
S7-200 with CP 243-1	CP 1612 A2 [7] CP 1613 A2
S7-300 CPUs with integral Ethernet interface	
S7-300 with CP 343-1	
S7-400 CPUs with integral Ethernet interface	
S7-400 with CP 443-1	
WinAC Basis (V3.0 and higher)	
WinAC RTX	

SIMATIC S7 via integrated interface	
WinAC Basis (V2.0 and higher)	Internal system interface
WinAC RTX	
SIMATIC 505 NITP	
SIMATIC 500/505 RS 232/RS 422	COM1/COM2
SIMATIC 505 via PROFIBUS DP	
SIMATIC 545/555 with CP 5434	CP 5612 [2] CP 5622 [2]
SIMOTION [8]	
SINUMERIK [9]	
Third-party controllers	
Allen Bradley (DF1/DH485)	COM1/COM2
Allen Bradley (Ethernet)	CP 1612 A2 [7]
GE Fanuc (SNP/SNPX)	COM1/COM2
LG GLOFA GM	COM1/COM2
Mitsubishi (FX/MP4)	COM1/COM2
Modicon (Modbus)	COM1/COM2
Modicon (Modbus TCP/IP)	CP 1612 A2 [7]
OMRON (Link/Multilink)	COM1/COM2
OPC [10] [12]	
Data Access V2.05a (client + server)	CP 1612 A2 [7]
Data Access XML V1.00 (client)	
HTTP communication for data exchange between SIMATIC HMI (client + server) [11] [12]	CP 1612 A2 [7]

1) WinCC flexible Runtime is passive (DP slave); the function block required for the link is included in the scope of delivery of WinCC flexible
2) For Microbox 427 and Panel PC 477/577/677 via internal MPI/DP interface
3) Only point-to-point to S7-200; no configuration download, operating systems: Windows XP; Article number: 6ES7901-3CB30-0AX0
4) Constraint with regard to baud rate for S7-200; see Catalog ST 70
5) WinCC flexible RT is active; communication with S7 functions
6) Only point-to-point to S7-300/-400; no configuration download, operating systems: Windows XP or higher; article number: 6GK1571-0BA00-0AA0 (USB)
7) For Microbox 427 and Panel PC 477/577/677/877 via internal Ethernet interface
8) For further information, see Catalog PM 21
9) "SINUMERIK HMI copy license OA" option required; for further information, see Catalog NC 60
10) OPC Client is included in scope of delivery, the "WinCC flexible/OPC Server for WinCC flexible Runtime" license is required for the OPC Server option
11) "WinCC flexible/Sm@rtAccess for WinCC flexible Runtime" license required
12) OPC and HTTP communication are additive, i.e. can be used in conjunction with the PLC links listed above

For information about SIMATIC Panels that support OPC/http communication, see the overview under "System interfaces".

Integration (continued)

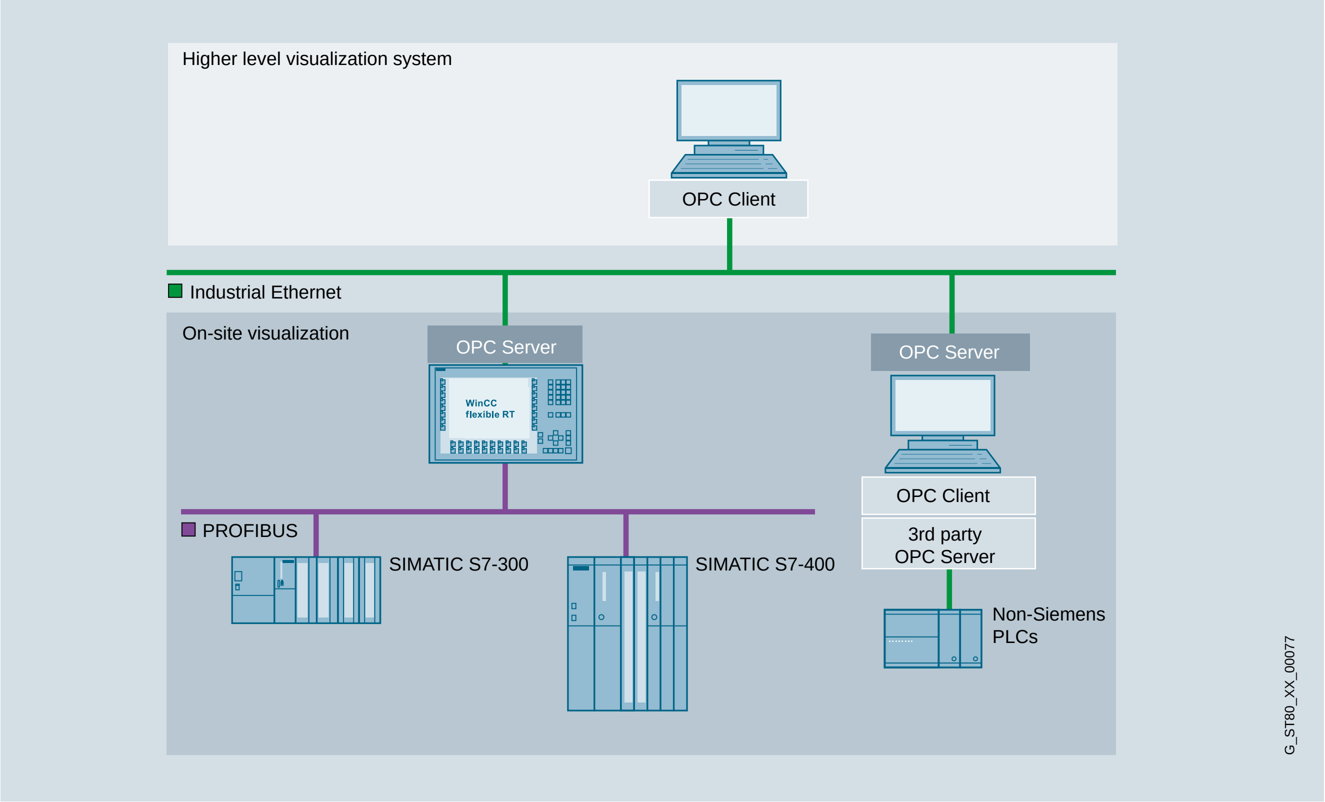
Application note

In parallel with each and every PLC link, WinCC flexible Runtime supports the use of the OPC Client channel; this enables, for example, connection to an SNMP OPC Server for the purpose of visualizing the data stored there.

The SNMP OPC Server provides a means of monitoring network components of any type (e.g. switches) which support the SNMP protocol. For further information, see Catalog IK PI.

Note:

For further information, see "Operator Control and Monitoring Devices/System interfaces"



SIMATIC WinCC flexible Runtime application example

Technical specifications

Type	SIMATIC WinCC flexible Runtime
	The specifications are maximum values
Displays	500
• Fields per screen	400
• Variables per screen	400
• Static text	30,000
• Graphics objects	2,000
• Complex objects per display (e.g. bars)	40
• Trends	800
• Graphics lists [1]	500
• Text lists [1]	500
• Number of entries in symbol tables	3,500
Variables	4,096 [3]
Messages bit-triggered / analog	4,000 / 500
• Message text (number of characters)	80
• Number of process values per message	8
• Size of message buffer	1,024
• Pending message events	500
Archives [4]	100
• Archivable data	Process data, messages
• Max. number of entries per archive (incl. all archive segments)	500,000
• Archive types	Short-term archive, sequence archive (max. 400 per archive)
• Data storage format	CSV (**C**omma **S**eparated **V**ariable), RDB (**R**untime **D**ata **B**ase), interface to MS SQL database
Recipes[4]	1,000
• Elements per recipe	2,000 [3]
• Data records per recipe	5,000 [2]
Password protection	
• User rights	32
• Number of user groups	50
Visual Basic scripts	200
Online languages, max.	16
Communication	
SIMATIC S7 MPI interface/ PROFIBUS DP interface	
• Number of connectable stations, max.	Depending on the scope of the configuration (communication) from the point of view of WinCC flexible Runtime, as many as 8 connections are possible
SIMATIC S7 PPI interface	
• Number of connectable stations, max.	1 from viewpoint of WinCC flexible Runtime
SIMATIC S5 PROFIBUS DP interface	
• Number of connectable stations, max.	1 from viewpoint of WinCC flexible Runtime
Multi-protocol operation	Yes, OPC Client or SIMATIC HMI HTTP protocol are additive, i.e. can be used in conjunction with other PLC links

1) Together only 500 text and graphics lists
2) Dependent on memory medium used
3) Dependent on number of licensed PowerTags
4) Option for SIMATIC WinCC flexible Runtime. For further information, refer to "WinCC flexible options".

3

Ordering data

	Article No.
SIMATIC WinCC flexible 2008 Runtime	
for PC systems; software and documentation on DVD, including software of the options for PC systems [1];	
Single license, license key on USB stick for:	
• 128 PowerTags (RT 128)	**6AV6613-1BA51-3CA0**
• 512 PowerTags (RT 512)	**6AV6613-1DA51-3CA0**
• 2 048 PowerTags (RT 2 048)	**6AV6613-1FA51-3CA0**
• 4 096 PowerTags (RT 4 096)	**6AV6613-1GA51-3CA0**
as download [2] Single license, software and license key download, email address required for the delivery.	
• 128 PowerTags	**6AV6613-1BA51-3CH0**
• 512 PowerTags	**6AV6613-1DA51-3CH0**
• 2 048 PowerTags	**6AV6613-1FA51-3CH0**
• 4 096 PowerTags	**6AV6613-1GA51-3CH0**
Powerpacks	
SIMATIC WinCC flexible 2008 Runtime	
Single license, license key only on USB stick for PowerTags from	
• 128 to 512 PowerTags	**6AV6613-4BD01-3AD0**
• 128 to 2 048 PowerTags	**6AV6613-4BF01-3AD0**
• 128 to 4 096 PowerTags	**6AV6613-4BG01-3AD0**
• 512 to 2 048 PowerTags	**6AV6613-4DF01-3AD0**
• 512 to 4 096 PowerTags	**6AV6613-4DG01-3AD0**
• 2 048 to 4 096 PowerTags	**6AV6613-4FG01-3AD0**
as download [2] Single license, license key download only, email address required for the delivery.	
• 128 to 512 PowerTags	**6AV6613-4BD01-3AJ0**
• 128 to 2 048 PowerTags	**6AV6613-4BF01-3AJ0**
• 128 to 4 096 PowerTags	**6AV6613-4BG01-3AJ0**
• 512 to 2 048 PowerTags	**6AV6613-4DF01-3AJ0**
• 512 to 4 096 PowerTags	**6AV6613-4DG01-3AJ0**
• 2 048 to 4 096 PowerTags	**6AV6613-4FG01-3AJ0**
Updates	
SIMATIC WinCC flexible 2008 Runtime Update 2008, 2008 SP1, 2008 SP2 -> 2008 SP3	**6AV6613-1XA51-3CU8**

	Article No.
Upgrades	
SIMATIC WinCC flexible 2004/2005/2007 Runtime to SIMATIC WinCC flexible 2008 Runtime	
Upgrade to SIMATIC WinCC flexible Runtime 2008 PowerTags including runtime options for: WinCC flexible /Archives; WinCC flexible /Recipes; WinCC flexible /Audit; WinCC flexible /Sm@rtAccess; WinCC flexible /OPC-Server; WinCC flexible /ProAgent	
• Software and documentation on DVD, single license, license key on USB stick	**6AV6613-1XA51-3CE0**
• as download [2], software and license key download, single license, email address required for the delivery	**6AV6613-1XA51-3CK0**
Upgrade of the SIMATIC WinCC flexible Panel options:	
WinCC flexible /Audit for SIMATIC Panel; WinCC flexible /Sm@rtAccess for SIMATIC Panel; WinCC flexible /Sm@rtService for SIMATIC Panel; WinCC flexible /OPC-Server for SIMATIC Multi Panel; WinCC flexible /ProAgent for SIMATIC Multi Panel	
• only license key on USB stick, single license	**6AV6618-7XX01-3AF0**
• as download [2], only license key download, single license, email address required for the delivery	**6AV6618-7XX01-3AK0**

1) Runtime licenses for WinCC flexible Runtime options must be purchased separately for each target system.

2) Current information and availability regarding the new delivery package can be found at: http://www.siemens.com/tia-online-software-delivery

3

Ordering data

	Article No.
Communication via Industrial Ethernet	
CP 1613 A2 PCI card (32-bit) for connecting a PG/PC to Industrial Ethernet (communications software must be ordered separately)	**6GK1161-3AA01**
SIMATIC NET HARDNET-IE S7 V12 Software for S7 communication and open communication; OPC, PG/OP communication, configuring software; up to 120 connections; single license for 1 installation of runtime software, software and electronic manual on DVD	
• Single license for 1 installation	**6GK1716-1CB12-0AA0**
• Software Update Service for one year, with automatic extension; requirement: Current software version	**6GK1716-1CB00-3AL0**
• Upgrade S7-1613 from V6.4 to S7-1613 V8.0 SP1	**6GK1716-1CB00-3AE0**
• Upgrade S7-1613 from V6.0, V6.1, V6.2 or V6.3 to S7-1613 V8.0 SP1	**6GK1716-1CB00-3AE1**

	Article No.
Communication via PROFIBUS	
CP 5613 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately)	**6GK1561-3AA02**
CP 5614 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately)	**6GK1561-4AA02**
SIMATIC NET PB S7-5613 V8.0 SP1 Software for S7 communication, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, license key on diskette, Class A, for 32-bit Windows 7 Professional/Ultimate for up to 4 CP 5613 A2, CP5614 A2, CP 5603 / CP 5623 / CP 5624;	
• Single license for 1 installation	**6GK1713-5CB80-3AA0**
• Software Update Service for one year, with automatic extension; requirement: Current software version	**6GK1713-5CB00-3AL0**
• Upgrade S7-5613 from V6.4 to S7-5613 V8.0 SP1	**6GK1713-5CB00-3AE0**
• Upgrade S7-5613 from V6.0, V6.1, V6.2 or V6.3 to S7-5613 V8.0 SP1	**6GK1713-5CB00-3AE1**
CP 5612 PCI card (32-bit) for connecting a PG/PC to PROFIBUS (communications software included in WinCC flexible basic package)	**6GK1561-2AA00**
CP 5622 PCI Express X1 card (32-bit) for connection of PG/PC to PROFIBUS or MPI (communications software included in WinCC flexible basic package)	**6GK1562-2AA00**
CP 5711 USB adapter (USB V2.0) for connecting a PG/notebook to PROFIBUS or MPI (communications software included in WinCC Basic package)	**6GK1571-1AA00**
SIMATIC S7, MPI cable For linking SIMATIC S7 and PG via MPI	**6ES7901-0BF00-0AA0**
PC/PPI adapter RS 232, 9-pin; male with RS 232/PPI converter, max. 19.2 kbps	**6ES7901-3CB30-0XA0**

More information

More information is available in the Internet under:

http://www.siemens.com/wincc-flexible

Note

Do you need a specific modification or option for the products described here? You will find information about the Open Platform Program for the creation of user-specific functions and controls for WinCC flexible under "Customized Products".

Overview

Option for SIMATIC WinCC flexible Engineering

SIMATIC WinCC flexible /ChangeControl

WinCC flexible/ChangeControl enables consistent backup of configuration data. The history of changes can be verified down to the last detail for applications requiring interruption-free proof for the complete life cycle of a product.

Options for SIMATIC Panels/Multi Panels and SIMATIC WinCC flexible Runtime

SIMATIC WinCC flexible/ Archives

Archiving of alarms and process values

SIMATIC WinCC flexible/ Recipes

Generation and management of data records for machine or production data

SIMATIC WinCC flexible /Audit

Recording of operator actions in an Audit Trail

- Audit supports users in meeting special quality requirements, e.g.
  - Production plant requiring validation according to 21 CFR Part 11 (Food Drug Administration law)
  - In respect of traceability according to EU 175/2002 (EU directive)

SIMATIC Logon for WinCC flexible

Option for connecting PCs with SIMATIC WinCC flexible Runtime and SIMATIC Panels to central user administration.

SIMATIC WinCC flexible /Sm@rtAccess

- Flexible solution for access to HMI systems and process data from any location
- Communication between different SIMATIC HMI systems

SIMATIC WinCC flexible /Sm@rtService

- Remote maintenance and servicing of machines and plant via Internet/intranet
- Flexible solution for remote access to machines and plant

SIMATIC WinCC flexible /OPC server

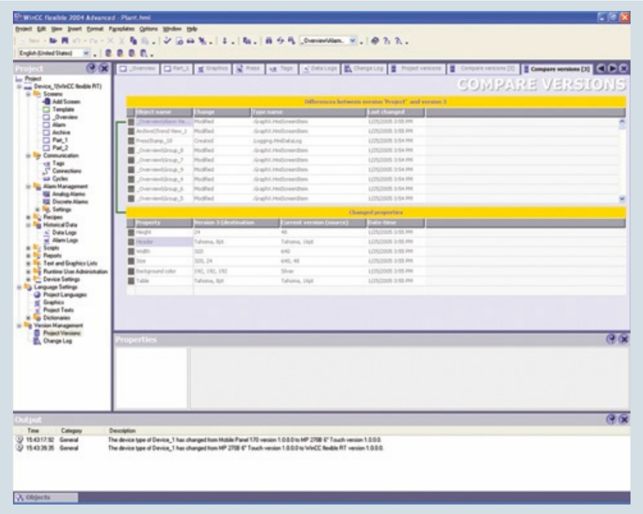
- Incorporation of automation components from different vendors into a single automation concept
- Communication for data exchange between HMI systems and/or higher-level control system

SIMATIC WinCC flexible /ProAgent

- Precise and rapid process fault diagnostics in plant and machines for SIMATIC S7 and SIMATIC HMI
- Standardized diagnostics concept for various SIMATIC components
- No further configuration overhead for diagnostics functionality

WinCC flexible /ChangeControl

Overview



- Options for the versioning of configuration data and for tracing configuration changes (e.g. as verification in regulated sectors)
- For the engineering tool SIMATIC WinCC flexible Compact/Standard/Advanced
- One license is required for each configuration computer

Benefits

- Consistent backup of configuration data
  - Delivered versions, approved reference states or development stages are managed in a database.
  - Changes to project data can be integrated without problem into the version management using new versions. A rollback is possible at any time.
- Tracing of configuration changes
  - The history of changes can be verified down to the last detail for applications requiring interruption-free proof for the complete life cycle of a product.

Ordering data

Ordering data	Article No.
WinCC flexible /ChangeControl for WinCC flexible 2008 Compact/Standard/Advanced [1]	
• Floating license, license key only on USB stick	**6AV6613-6AA01-3AB5**
as download [2]	
• Floating license, only license key download, email address required for the delivery	**6AV6613-6AA01-3AH5**

1) The ChangeControl option has not been released for integrated operation with STEP 7.

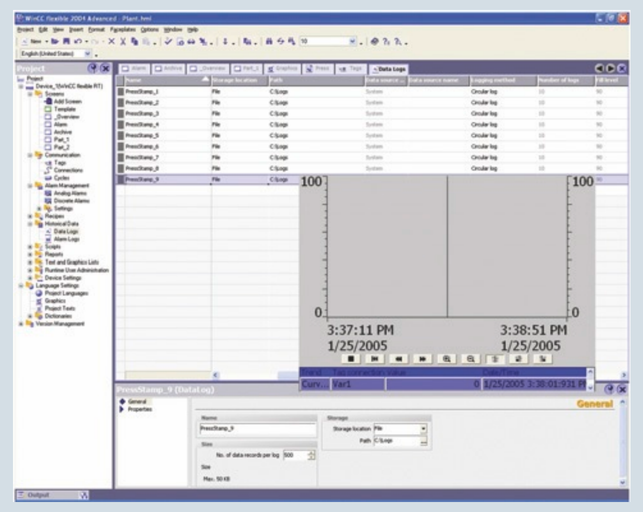
2) Current information and availability regarding the new delivery package can be found at: http://www.siemens.com/tia-online-software-delivery

More information

Note

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about the Open Platform Program for the creation of user-specific functions and controls for WinCC flexible.

Overview



- Option for SIMATIC WinCC flexible Runtime for archiving process values and messages
- Archiving of process values and messages supports the acquisition and processing of process data from an industrial plant or machine. Evaluation of the archived process data provides information about the operating states of the plant or machine
- One license is required per operator station (no license is required for SIMATIC Panels/Multi Panels)

Technical specifications

Type	WinCC flexible /Archives The specifications are maximum values
Execution platform	SIMATIC WinCC flexible Runtime
Archives	100
• Archivable data	Process values, messages
• Cyclical trigger for archiving process values (variables)	1 s
• Max. number of entries per archive (incl. sequence archive)	500,000 [1]
• Archive types	• Circulating archive • Sequence archive (max. 400 per archive)
• Data storage format	CSV (**C**omma **S**eparated **V**ariable), RDB (**R**untime **D**ata **B**ase) and interface to Microsoft SQL database (database not included in scope of delivery)

[1] Dependent on memory medium used

Ordering data

Ordering data	Article No.
WinCC flexible /Archives for WinCC flexible 2008 Runtime [2]	
• Single license, license key only on USB stick	**6AV6618-7ED01-3AB0**
as download [3]	
• Single license, license key download only, email address required for the delivery	**6AV6618-7ED01-3AH0**
WinCC flexible /Archives+ Recipes for WinCC flexible 2008 Runtime [2]	
• Single license per option, license key only on USB stick	**6AV6618-7GD01-3AB0**
as download [3]	
• Single license for each option, license key download only, email address required for the delivery	**6AV6618-7GD01-3AH0**

[2] One license is required for each operator station. A license is not required for the engineering system for configuring the runtime option.

[3] Current information and availability regarding the new delivery package can be found at: http://www.siemens.com/tia-online-software-delivery

More information

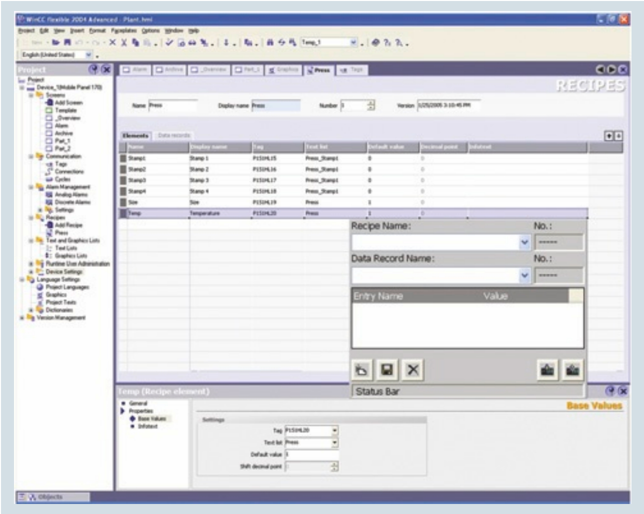
Note

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about the Open Platform Program for the creation of user-specific functions and controls for WinCC flexible.

3

WinCC flexible /Recipes

Overview



- Option for SIMATIC WinCC flexible Runtime for managing data records in recipes that contain related machine or production data
- The data in a data set can be transferred, for example, from the control unit to the PLC to switch production to a different product variant
- One license is required per operator station (no license is required for SIMATIC Panels/Multi Panels)

Technical specifications

Type	WinCC flexible /Recipes
	The specifications are maximum values
Execution platform	SIMATIC WinCC flexible Runtime
Recipes	
• Entries per recipe	1000
• Data records per recipe	2000 [1]
• User data length in bytes per data record	5000 [2]
	8000 KB [2]

[1] Dependent on number of licensed PowerTags

[2] Dependent on memory medium used

Ordering data

	Article No.
WinCC flexible /Recipes for WinCC flexible 2008 Runtime [3]	
• Single license, license key only on USB stick	6AV6618-7FD01-3AB0
as download [4]	
• Single license, license key download only, email address required for the delivery	6AV6618-7FD01-3AH0
WinCC flexible /Archives+ Recipes for WinCC flexible 2008 Runtime [3]	
• Single license per option, license key only on USB stick	6AV6618-7GD01-3AB0
as download [4]	
• Single license for each option, license key download only, email address required for the delivery	6AV6618-7GD01-3AH0

[3] One license is required for each operator station. A license is not required for the engineering system for configuring the Runtime option.

[4] Current information and availability regarding the new delivery package can be found at: http://www.siemens.com/tia-online-software-delivery

More information

Note

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about the Open Platform Program for the creation of user-specific functions and controls for WinCC flexible.

Overview

- Option for SIMATIC WinCC flexible Runtime as well as SIMATIC Panels for recording operations in an audit trail, and electronic signature
- The audit trail features a safety mechanism that indicates subsequent manipulation.
- An easy-to-use configuration option included as standard in WinCC flexible enables you to set:
  - The operator actions to be recorded in the audit trail during runtime
  - The important operator actions requiring electronic signature/comments during runtime
- The audit option combined with the WinCC flexible ES ChangeControl option supports the user with plant validation
- Available for the following SIMATIC HMI systems: TP/OP 270, TP/OP 277, MP 270B, MP 277, MP 370, MP 377, WinCC flexible Runtime
- A license is required for every operator control unit (panel or PC)

Technical specifications

	WinCC flexible /Audit
Archive for Audit Trail use on the Panel	• Plug-in flash memory card on the panel • In the higher-level PC (memory medium) connected to the panel via Ethernet
Archive for Audit Trail use of WinCC flexible Runtime	On the PC (storage medium)
Execution platform	
SIMATIC Panels	Mobile Panel 277, TP/OP 270, TP/OP 277
SIMATIC Multi Panels	MP 270B, MP 277, MP 370, MP 377
PCs	SIMATIC WinCC flexible Runtime

Ordering data

Ordering data	Article No.
WinCC flexible /Audit for SIMATIC Panels [1]	
• Single license, license key only on USB stick	**6AV6618-7HB01-3AB0**
as download [2]	
• Single license, license key download only, email address required for the delivery	**6AV6618-7HB01-3AH0**
WinCC flexible /Audit for WinCC flexible Runtime 2008 [1]	
• Single license, license key only on USB stick	**6AV6618-7HD01-3AB0**
as download [2]	
• Single license, license key download only, email address required for the delivery	**6AV6618-7HD01-3AH0**

[1] One license is required for each operator console. A license is not required for the engineering system for configuring the runtime option.

[2] Current information and availability regarding the new delivery package can be found at: http://www.siemens.com/tia-online-software-delivery

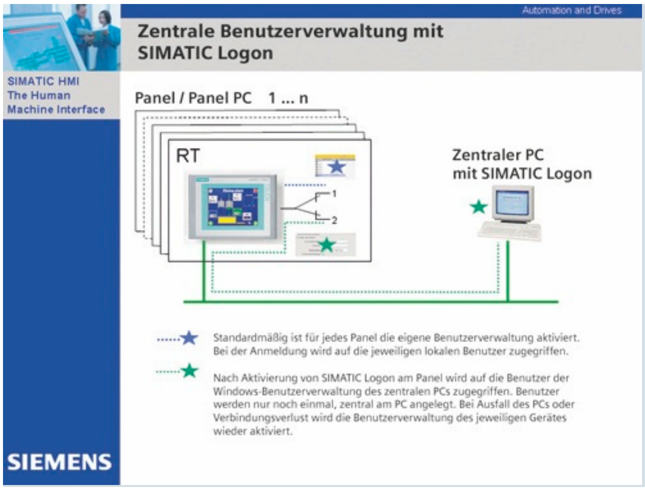
More information

Note

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about the Open Platform Program for the creation of user-specific functions and controls for WinCC flexible.

SIMATIC Logon for WinCC flexible

Overview



- Option for connecting PCs with SIMATIC WinCC flexible Runtime and SIMATIC Panels to central user administration SIMATIC Logon.
- Creates user administration on a central computer to which one or more WinCC flexible stations can be connected over Ethernet.
- SIMATIC Logon for WinCC flexible supports the user in combination with the /Audit and /ChangeControl options in meeting requirements in accordance with FDA 21 CFR Part 11 and EU178.

Design

SIMATIC Logon and SIMATIC Logon Remote Access are installed on a central station.

The following WinCC flexible stations are connected to the central station via Ethernet network:

- PCs with WinCC flexible Runtime
- SIMATIC Panels from the 177 series or higher (panels with Ethernet interface)

Licensing

The following licenses are required:

- SIMATIC Logon basic license
- SIMATIC Logon Remote Access license (3-pack license 10-pack license); more than one SIMATIC Logon Remote Access license can be installed.

The number of connectable stations depends on the SIMATIC Logon Remote Access licenses used. This number is the total of the connections provided by the individual licenses. As an example:

Two installed licenses for 10 enable the connection of 20 stations to the central station.

Technical specifications

	SIMATIC Logon for WinCC flexible
Execution platform	
SIMATIC Panels	Mobile Panel 177 PN; Mobile Panel 277, TP/OP 177B PN/DP, TP/OP 277
SIMATIC Multi Panels	MP 177, MP 277, MP 377
PCs	WinCC flexible Runtime

Ordering data

Ordering data	Article No.
SIMATIC Logon V1.5 Basic license; for panels or WinCC flexible Runtime stations, the corresponding number of additional SIMATIC Logon Remote Access licenses is required.	**6ES7658-7BX51-0YA0**
SIMATIC Logon Upgrade to V1.5	**6ES7658-7BX51-0YE0**
SIMATIC Logon Remote Access for WinCC flexible (3 clients) Remote access for 3 WinCC flexible 2008 clients; single license for 3 remote access clients; type of delivery: CD, license key disk, Certificate of License, Terms and Conditions The number of licensed clients is determined based on the amount of installed SIMATIC logon remote access licenses.	**6ES7658-7BA00-2YB0**
SIMATIC Logon Remote Access for WinCC flexible (10 clients) Remote access for 10 WinCC flexible 2008 clients; single license for 10 remote access clients; type of delivery: CD, license key disk, Certificate of License, Terms and Conditions The number of licensed clients is determined based on the amount of installed SIMATIC logon remote access licenses.	**6ES7658-7BB00-2YB0**

More information

Note

Do you need a specific modification or addition to the products described here? Then take a look under "Customer-specific products". There, we provide information on the Open Platform Program for creating your own functions or Controls for WinCC flexible.

Overview

- Option for SIMATIC WinCC flexible Runtime plus SIMATIC Panels for communication between various SIMATIC HMI systems.
- Available for the following SIMATIC HMI systems:

  - Mobile Panel 177 PN, Mobile Panel 277
  - TP 177B PN/DP, OP 177B PN/DP
  - TP 270, TP 277, OP 270, OP 277
  - MP 177, MP 270B, MP 277, MP 370, MP 377
  - WinCC flexible Runtime
- Communication between HMI systems is established on the basis of Ethernet networks, or via the intranet/Internet:
  - Read and write access to tags;
  - One SIMATIC HMI system can be remotely controlled or monitored from another one;
- Licensing:
  The license "WinCC flexible/Sm@rtAccess for Panel" or "WinCC flexible/Sm@rtAccess for WinCC flexible Runtime" must be installed on both the server and client HMI device.

Note:

If the operator stations are accessed using the Sm@rtAccess option, suitable protective measures (including IT security such as network segmentation) should be taken in order to ensure safe operation of the system.

You will find more information on the topic of Industrial Security on the Internet at:

http://www.siemens.com/industrialsecurity

Technical specifications

Type	WinCC flexible /Sm@rtAccess
	The specifications are maximum values
Execution platform	
• SIMATIC Panels	Mobile Panel 177 PN, Mobile Panel 277, TP/OP 177B PN/DP, TP/OP 270, TP/OP 277
• SIMATIC Multi Panels	MP 177, MP 270B, MP 277, MP 370, MP 377
• PCs	WinCC flexible Runtime
Sm@rtAccess SIMATIC HMI HTTP protocol	
Number of connections for one client	
• Mobile Panel 177 PN, TP/OP 177 B PN/DP, MP 177 as HTTP server	4
• Mobile Panel 277, TP/OP 270, TP/OP 277, MP 270B, MP 277, MP 370, MP 377 as HTTP server	8
• for WinCC flexible Runtime	16
Sm@rtAccess Sm@rtClient concept	
Number of Sm@rtClients that can connect to a Sm@rtServer at the same time[1) 2)]	
• Mobile Panel 177 PN, TP/OP 177B PN/DP, MP 177 as Sm@rtServer	2 clients
• Mobile Panel 277, TP/OP 270, TP/OP 277, MP 270B, MP 277 as Sm@rtServer	3 clients for 6" devices 2 clients for 8" and 10" devices
• MP 370, MP 377 as Sm@rtServer	3 clients for 12" devices 2 clients for 15" devices 1 client for 19" devices
• for WinCC flexible Runtime as Sm@rtServer	5 clients
Number of Sm@rtClient displays per screen	
• for Panels/Multi Panels	1
• for WinCC flexible Runtime	2

1) Including 1 Service Client

2) The Sm@rtServer and the WinCC flexible/Pro Agent option cannot be used simultaneously on OP/TP/MP 270/370. Parallel operation of the runtime options ProAgent, Sm@rtAccess and Sm@rtService is possible in the context of the MP 277 8" and 10" devices, Mobile Panel 277 as well as the MP 377. Limitation: a maximum of 2 clients can be connected simultaneously to a Sm@rtServer.

WinCC flexible /Sm@rtAccess

Ordering data

Ordering data	Article No.
WinCC flexible /Sm@rtAccess for SIMATIC Panel [1)]	
• Single license, license key only on USB stick	**6AV6618-7AB01-3AB0**
as download [2)]	
• Single license, license key download only, email address required for the delivery	**6AV6618-7AB01-3AH0**
WinCC flexible /Sm@rtAccess for WinCC flexible 2008 Runtime [1)]	
• Single license, license key only on USB stick	**6AV6618-7AD01-3AB0**
as download [2)]	
• Single license, license key download only, email address required for the delivery	**6AV6618-7AD01-3AH0**

1) The license must be installed on the server and on the client HMI device. Server applications are the options Sm@rtServer, HTTP-Server and SOAP-Server. Client applications are the screen object Sm@rtClient display, and the utilization of the communication driver HTTP protocol. A license is not required for the engineering system for configuring the runtime option.

2) Current information and availability regarding the new delivery package can be found at: http://www.siemens.com/tia-online-software-delivery

More information

Note

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about the Open Platform Program for the creation of user-specific functions and controls for WinCC flexible.

Overview

- Option for SIMATIC WinCC flexible Runtime and SIMATIC Panels for remote maintenance and servicing of machines/ plant via the Internet/intranet
- Available for the following SIMATIC HMI systems:

  - Mobile Panel 177 PN, Mobile Panel 277
  - TP 177B PN/DP, OP 177B PN/DP
  - TP 270, TP 277, OP 270, OP 277
  - MP 177, MP 270B, MP 277, MP 370, MP 377
  - WinCC flexible Runtime
- Licensing
  The "WinCC flexible/Sm@rtService for Panel" license or "WinCC flexible/Sm@rtService for WinCC flexible Runtime" license must be installed on the operator panels that use one of the following options/functions: Sm@rtServer, HTML pages (mini-Web server), email.

Note:

If the operator stations are accessed using the Sm@rtService option, suitable protective measures (including IT security such as network segmentation) should be taken in order to ensure safe operation of the system.

You will find more information on the topic of Industrial Security on the Internet at:

http://www.siemens.com/industrialsecurity

Application

- Remote maintenance and servicing of machines and plants via Internet/Intranet
- Calling of system information, control of target systems, and updating of data sets via Internet/Intranet
- Automatic sending of emails to experts for fast elimination of faults

Technical specifications

Type	WinCC flexible /Sm@rtService
Execution platform	
• SIMATIC Panels	Mobile Panel 177 PN, Mobile Panel 277, TP 177B PN/DP, OP 177B PN/DP, TP/OP 270, TP/OP 277
• SIMATIC Multi Panels	MP 177, MP 270B, MP 277, MP 370, MP 377
• PCs	SIMATIC WinCC flexible Runtime
Sm@rtService [1]	
Remote access via	Internet Explorer V6.0 SP1 and higher
HTML pages	
• for Panels/Multi Panels	HTML V1.1 (no support for ActiveX, Java, ASP)
• for WinCC flexible Runtime	HTML V1.1
Sending emails	• via SMTP server • Subject, message texts with 250 characters of text per email; date/time of message, message no.

[1] The Sm@rtServer and the WinCC flexible/ProAgent option cannot be used simultaneously on OP/TP/MP 270/370. Parallel operation of the runtime options ProAgent, Sm@rtAccess and Sm@rtService is possible in the context of the MP 277 8" and 10" devices, Mobile Panel 277 as well as the MP 377. Limitation: a maximum of 2 clients can be connected with a Sm@rtServer.

Ordering data

Ordering data	Article No.
WinCC flexible /Sm@rtService for SIMATIC Panels [2]	
• Single license, license key only on USB stick	6AV6618-7BB01-3AB0
as download [3]	
• Single license, license key download only, email address required for the delivery	6AV6618-7BB01-3AH0
WinCC flexible /Sm@rtService for WinCC flexible Runtime 2008 [2]	
• Single license, license key only on USB stick	6AV6618-7BD01-3AB0
as download [3]	
• Single license, license key download only, email address required for the delivery	6AV6618-7BD01-3AH0

[2] The "WinCC flexible/Sm@rtService for Panel" license or "WinCC flexible/Sm@rtService for WinCC flexible Runtime" license must be installed on the operator panels that use one of the following options: Sm@rtServer, HTML pages, email. The remote service PC and engineering system do not require a license for configuration of the Runtime option.

[3] Current information and availability regarding the new delivery package can be found at: http://www.siemens.com/tia-online-software-delivery

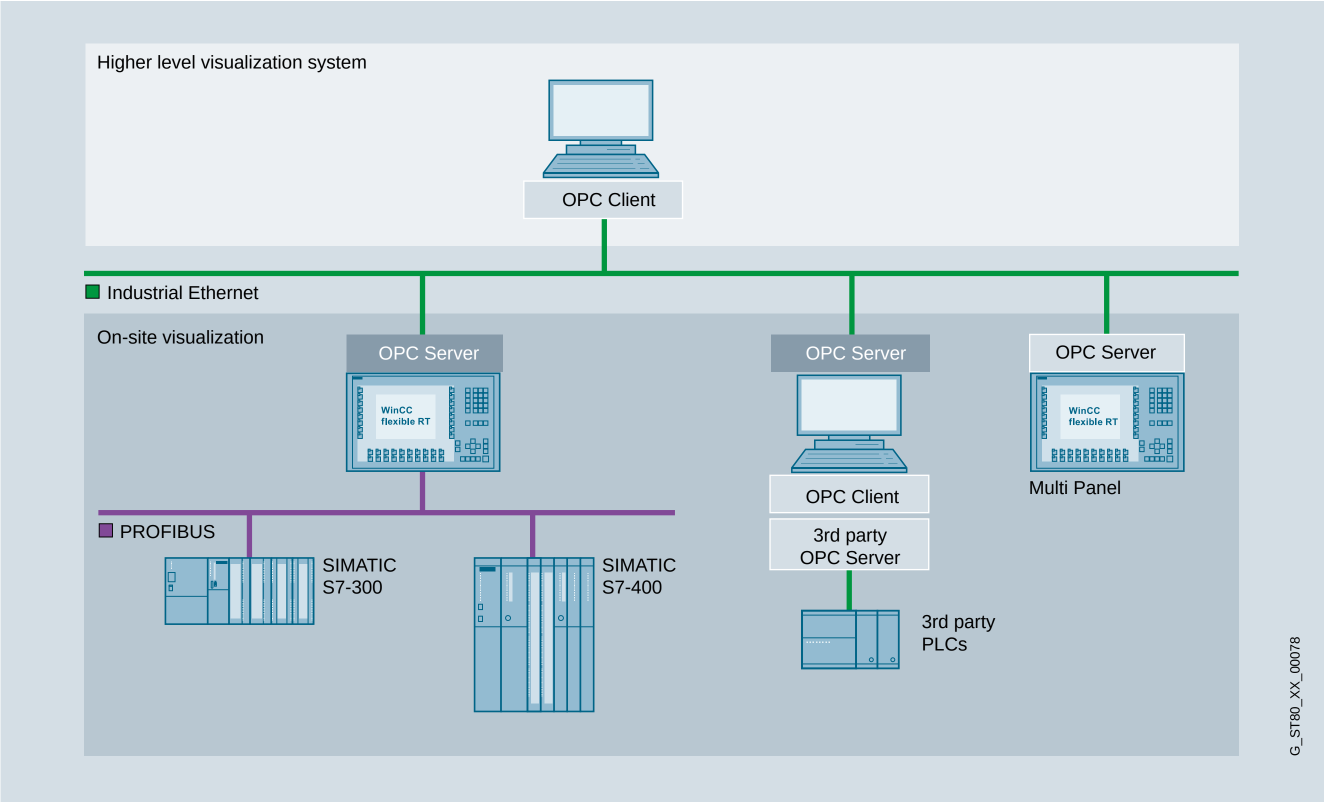
More information

Note

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about the Open Platform Program for the creation of user-specific functions and controls for WinCC flexible.

WinCC flexible /OPC-Server

Overview



- Option for SIMATIC WinCC flexible Runtime as well as Multi Panels for communication with applications from different vendors (e.g. MES, ERP, or applications in the office sector)
- Available for the following SIMATIC HMI systems:
  - Mobile Panel 277, MP 270B, MP 277, MP 370, MP 377 (use of OPC on XML basis)
  - WinCC flexible Runtime (use of OPC based on DCOM)
- One license is required for each operator station.

Application

OPC Foundation

http://www.opcfoundation.org

Technical specifications

Type	WinCC flexible /OPC-Server
	The specifications are maximum values
Execution platform	
• SIMATIC Panels	Mobile Panel 277
• SIMATIC Multi Panels	MP 270B, MP 277, MP 370, MP 377
• PCs	SIMATIC WinCC flexible Runtime

OPC-Server	
• XML server for Multi Panels	Supports the OPC XML Data Access specification V1.0 [1)]
• DCOM server for WinCC flexible Runtime	Supports the OPC Data Access specification V1.0a and V2.0
• Number of connections that an OPC server can accommodate	8

1) Data access via XML has a functional scope that is similar to OPC Data Access. A software adapter is required that must be installed on the OPC client PC to enable DCOM-based OPC clients to access the OPC XML server without any modification. The software adapter is supplied with WinCC flexible Engineering and Runtime.

Ordering data

Ordering data	Article No.
WinCC flexible /OPC-Server for SIMATIC Multi Panels [1]	
• Single license, license key only on USB stick	**6AV6618-7CC01-3AB0**
as download [2]	
• Single license, license key download only, email address required for the delivery	**6AV6618-7CC01-3AH0**
WinCC flexible /OPC-Server for WinCC flexible Runtime 2008 [1]	
• Single license, license key only on USB stick	**6AV6618-7CD01-3AB0**
as download [2]	
• Single license, license key download only, email address required for the delivery	**6AV6618-7CD01-3AH0**

[1] One license is required for each operator station. A license is not required for the engineering system for configuring the Runtime option.

[2] Current information and availability regarding the new delivery package can be found at: http://www.siemens.com/tia-online-software-delivery

More information

Note

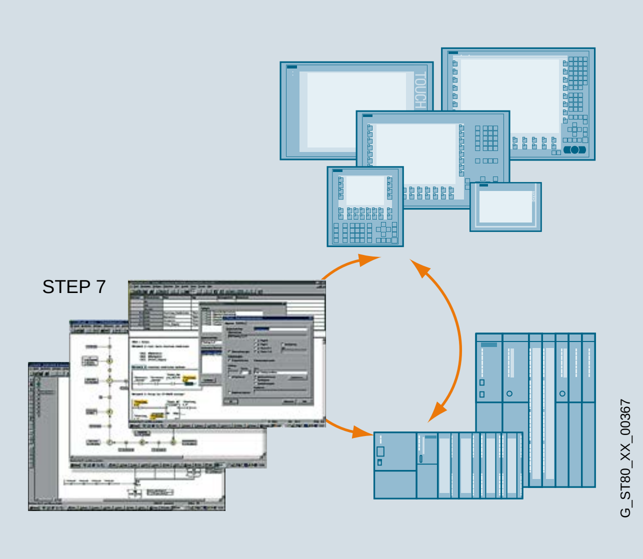
Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about the Open Platform Program for the creation of user-specific functions and controls for WinCC flexible.

3

WinCC flexible /ProAgent

3

Overview



- Targeted and rapid process diagnostics in plants and machines for SIMATIC S7 and SIMATIC HMI
- Standardized diagnostics concept for various SIMATIC components
- No further configuration overhead for diagnostics functionality
- Frees up PLC capacity with regard to memory and program execution time

Note:

For more information, see "Process Diagnostics Software SIMATIC ProAgent".

Ordering data

Ordering data	Article No.
WinCC flexible /ProAgent	
• WinCC flexible /ProAgent for SIMATIC Panels [1) executable on Mobile Panel 277, TP/OP/MP 270/277 and MP 370/377, single license, only license key on USB stick	**6AV6618-7DB01-3AB0**
as download [2)	
• WinCC flexible /ProAgent for SIMATIC Panels [1) executable on Mobile Panel 277, TP/OP/MP 270/277 and MP 370/377, single license, only license key download, email address required for the delivery	**6AV6618-7DB01-3AH0**
WinCC flexible /ProAgent	
• WinCC flexible /ProAgent for WinCC flexible Runtime 2008 [1) single license, only license key on USB stick	**6AV6618-7DD01-3AB0**
as download [2)	
• WinCC flexible /ProAgent for WinCC flexible Runtime 2008 [1) single license, only license key download, email address required for the delivery	**6AV6618-7DD01-3AH0**

1) One license is required for each operator station. A license is not required for the engineering system for configuring the Runtime option.

2) Current information and availability regarding the new form of delivery can be found at: http://www.siemens.com/tia-online-software-delivery

More information

Note

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about the Open Platform Program for the creation of user-specific functions and controls for WinCC flexible.

Overview

SIMATIC WinCC

SIMATIC WinCC V7 SCADA system

The scalable and open SCADA system for maximum plant transparency and productivity

- Efficiency:
  As a key to greater productivity, SIMATIC WinCC combines efficient engineering with high-performance archiving and maximum data security. With integrated diagnostics functions and flexible production analysis, you shorten the time-to-market and also reduce your plant standstill times.
  SIMATIC WinCC is the basis for efficient operations management and intelligent production analyses, so it offers a secure basis for deciding on optimization measures, and thus more productivity at lower cost.
- Scalability:
  With SIMATIC WinCC, it is possible to implement plants in all industrial sectors and technologies, and easily expand or modernize them by means of options or add-ons, in functional terms or sector-specifically.
  You can benefit from the redundancy concepts for enhanced availability, or decide on centralized archiving and analysis of plant information. SIMATIC WinCC offers stationary and mobile solutions to cover increasing demands.
- Innovation:
  With innovative technology, you have all the important information in view at all times. In this way, SIMATIC WinCC simplifies intuitive operation and monitoring of the production plant – even remotely. Stay informed with mobile SCADA solutions anywhere and at any time – including with existing tablet and smartphone hardware.
  The use of multi-touch gestures in the industrial environment opens the door to modern operator concepts.
- Openness:
  Since international standards and system-internal script and programming interfaces are supported, special requests can also be easily implemented.
  SIMATIC WinCC backs cross-vendor communication for integrating existing hardware, as well as for simple integration into the IT world. WinCC Specialists are available worldwide as qualified solution providers. These certified and centrally audited partners are ready to implement your individual SCADA project even in diversified client-server architectures with redundancy, or in applications with energy data management systems.
  SIMATIC WinCC is designed to be independent of any specific technology or industrial sector, modular in structure, and easy to expand. It is used worldwide in single-user applications in mechanical engineering, as well as in complex multi-user solutions with redundant servers or Web-based client access. References from many industries prove the versatility and performance capability.

http://www.siemens.com/wincc-v7

SIMATIC WinCC V7

Overview

- PC-based operator control and monitoring system for visualizing and operating processes, production flows, machines and plants in all sectors – from the simple single-user station through to distributed multi-user systems with redundant servers and cross-location solutions with web clients. WinCC is the information hub for corporation-wide vertical integration.
- The basic system configuration (WinCC basic software) includes industry-standard functions for signaling and acknowledging events, archiving of messages and measured values, logging of all process and configuration data, user administration and visualization.
- The WinCC basic software forms the core of a wide range of different applications. Based on the open programming interfaces, a wide range of WinCC options (from Siemens Industry Automation) and WinCC add-ons have been developed (by Siemens-internal and external partners).
- WinCC can be operated with every PC that meets the given HW requirements. The SIMATIC IPC product range is available in particular for the industrial use of WinCC systems. SIMATIC IPCs impress with their powerful PC technology, are designed for round-the-clock operation, and can be operated in both office areas and harsh industrial environments.

Current versions:

SIMATIC WinCC V7.4 SP1

Executable with:

- Windows 7 Professional, Enterprise, Ultimate (32-/64-bit)
- Windows 8.1 Professional, Enterprise (32-/64-bit)
- Windows 10 Professional, Enterprise, LTSB 2015, LTSB 2016 (64-bit)
- Windows 2008 Server R2 SP1 (64-bit)
- Windows 2012 Server R2 (64-bit)
- Windows 2016 Server (64-bit)
- Includes Microsoft SQL Server 2014 SP1 (32-bit)

SIMATIC WinCC V7.3

Executable with

- Windows 7 SP1 Professional, Enterprise, Ultimate (32-/64-bit)
- Windows 8.1 Professional, Enterprise (32-/64-bit)
- Windows 2008 Server SP2 Standard (32-bit)
- Windows 2008 Server R2 SP1 Standard (64-bit)
- Windows 2012 Server R2 Standard (64-bit)
- Includes Microsoft SQL Server 2008 R2 SP2 (32-bit)

Use in virtual environments – for more information see:

http://support.automation.siemens.com/WW/view/en/49370459

SIMATIC SCADA and SIMATIC IPCs

Perfect interaction for optimum productivity.

- Price advantage as "Package" comprising hardware and software
- System-tested solutions reduce testing overhead
- Simple ordering and synchronized logistics

Only if ordered together with the SIMATIC IPC.

Benefits

- All-purpose
  - Solutions for all sectors
  - Multilingual for worldwide usage
  - Can be integrated into all automation solutions
- All operator control & monitoring functions on board
  - User administration
  - Operator control and monitoring
  - Reporting, acknowledging, and archiving of events
  - Collecting, consolidating and archiving measured values (including long-term backup)
  - Logging and documenting of process and configuration data
- Can be configured simply and efficiently
  - Configuration wizards let the user focus on the essentials
  - In the picture by means of cross-reference lists and screen property displays
  - Configuration of multilingual applications
  - Configuring tool for configuring bulk data
- Universally scalable
  - Expandable from single station to client-server configurations
  - Increased availability by means of redundant servers
  - Process visualization via the Web with the WinCC WebNavigator or WebUX
- Open standards for simple integration
  - Powerful real-time database Microsoft SQL Server 2008 R2 SP2 (32-bit)
  - Open for application modules with ActiveX controls
  - Visual Basic for Applications for individual expansions
  - OPC for cross-vendor communication
- Process visualization with Plant Intelligence
  - Integrated evaluation functions for the online analysis (statistical process control)
  - Production optimization with the help of diverse options
- Expandable using options and add-ons
  - Options for scalable configurations
  - Options for increasing the availability
  - Options for IT & business integration
  - Options for SCADA expansions
  - Options for validation in accordance with FDA 21 CFR Part 11
  - Options for the use of telecontrol protocols
- Part of Totally Integrated Automation
  - Direct access to the tag and message configuration of the SIMATIC control system
  - Integrated diagnostic functions for increasing productivity

News V7.4/V7.4 SP1

- Supports Windows 10 Professional and Enterprise (64-bit)
- Extended functionality for WinCC WebUX
  - Expansion to include additional controls
  - Dynamization can be implemented with VB script and dynamic response dialog
- Expansion of the SIMATIC S7-1200 and S7-1500 communication channels
  - Increased number of connections (S7-1500 with up to 128 connections)
  - Transmission of byte data blocks
- Easier configuration with WinCC Configuration Studio
  - Efficient engineering with "drag-and-drop"
  - VBA in the WinCC Configuration Studio
- Simplified runtime operation
  - Touch operation in runtime (zoom and pan within "right click" controls)
  - Adapt "Favorites" system dialog in Runtime
  - Control toolbar size is configurable
- Uniform license model for WinCC DataMonitor, WinCC WebNavigator and WinCC WebUX. Version-independent packages can be cumulated, and WebNavigator and WebUX licenses can be combined
- Extended functionality for the WinCC Graphics Designer
- Introduction of new controls (BarChartControl for displaying archive tags in a bar chart, and SysDiagControl for system diagnostics of S7-1200/1500 controllers)
- New "OPC UA WinCC Channel" communication channel
- Remote maintenance via Remote Desktop Protocol
- and more ...

Application

SIMATIC WinCC is designed for visualization and operation of processes, manufacturing cycles, machines and plants. With its powerful process interface, especially to the SIMATIC family, and the secure data archiving, WinCC enables highly available solutions for the process control.

The sector-neutral basic system enables universal usage in all automation applications. Sector-specific solutions can, for example, be implemented using WinCC options (e.g. FDA options for the pharmaceutical industry) and sector-specific add-ons (e.g. for the water industry).

3

Design

SIMATIC WinCC is available as a complete package and as a runtime package with 128, 512, 2 048, 8 192, 65 536, 102 400, 153 600, 262 144 PowerTags.
PowerTags are data points that are connected to controllers or other data sources over a WinCC channel. Up to 32 alarms can be obtained from one data point. Moreover, internal tags without coupling are available for additional system performance.
In addition WinCC also contains 512 archive tags.
Additional archive licenses can be obtained for larger quantity structures.

Licenses for a multi-user configuration

The system software with the required number of PowerTags and additionally the option WinCC/Server must be installed on the WinCC server. In the basic configuration, one RT Client License is sufficient for the WinCC Clients [1].
An RC Client License is required to configure on clients [1].
Remote configuration is possible if WinCC Clients without their own project (Uni Client) are configured on the server project.

[1] The SQL Server Express is installed for RT / RC Clients.

Function

The powerful configuration functions of SIMATIC WinCC contribute to a reduced engineering and training overhead and lead to a more flexible use of personnel and greater operational reliability.

Anyone familiar with Microsoft Windows can also operate the WinCC Explorer, the central switching point of WinCC.
Even large quantities of data can be processed intuitively and efficiently with the WinCC Configuration Studio.

In combination with other SIMATIC components, the system is also equipped with auxiliary functions, such as process diagnostics and maintenance. All SIMATIC engineering tools work together in the configuration of the functions.

SIMATIC WinCC offers a complete basic functionality for process visualization and operation. To this end WinCC has a number of editors and interfaces that can be used to individually configure this functionality according to the respective application. Expansions of a WinCC station for control tasks are also possible with minimal engineering effort.

WinCC editors	Task or configurable runtime functionality
WinCC Explorer	Central project management for the quick access to all project data and central settings
WinCC Graphics Designer	Graphics system for user-defined visualization and operation via pixel-graphic objects
WinCC Configuration Studio	Alarm Logging Signaling system for detecting and archiving events with display and control options based on DIN 19235; freely selectable message classes, message display and logging WinCC Tag Logging Process archiving for the acquisition, compression and storage of measured values, e.g., presentation in trend and table format as well as further processing WinCC User Administrator For managing users and authorizations
WinCC Report Designer	Reporting and logging system for time and event-controlled documentation of messages, operator inputs and current process data in the form of user reports or project documentation in an arbitrary layout
WinCC Global Script	Processing functions with limitless functionality by means of the use of VBScript and ANSI-C

Interfaces

	Task or configurable runtime functionality
Communication channels	For communication with subordinate controls (SIMATIC protocols, PROFIBUS DP, PROFIBUS FMS, DDE and OPC server included in the scope of delivery)
Standard interfaces	For the open integration of other Windows applications via WinCC, WinCC-OLE-DB, ActiveX, OLE, DDE, OPC, etc.)
Programming interfaces	For the individual access to data and functions of WinCC and for the integration in user programs with VBA, VB Script, C-API (ODK), C-Script (ANSI-C)

Integration

Integration in company-wide solutions (IT and business integration)

WinCC is based on Microsoft technology, which ensures openness and integration capability. ActiveX and .net controls facilitate technology-specific and industry-specific expansions. Cross-manufacturer communication is also possible since WinCC can be used as an OPC client and server in addition to accessing current process values and supporting standards such as OPC HDA (Historical Data Access),
OPC Alarm & Events, OPC XML Data Access, and OPC UA.

Just as important: Visual Basic for Applications (VBA) is available for user-specific expansions in engineering and Visual Basic Scripting (VBS) as an easy-to-learn, open, runtime language. If desired, professional application developers can also use ANSI-C.
The Open Development Kit (ODK) simplifies access to the API programming interfaces.

WinCC integrates a powerful and scalable archiving functionality based on Microsoft SQL Server 2014 SP1 into the basic system.

This gives the user multiple and varied options: from high-performance archiving of current process data, to long-term archiving with high data compression, through to a connection to the central information hub in the form of a company-wide Process Historian. Versatile clients and tools for evaluation, the open interfaces, and special options (Connectivity Pack, Connectivity Station, IndustrialDataBridge) provide the basis for effective IT and business integration.

WinCC offers various security mechanisms, such as encrypted communication, to ensure secure operation of the plant. If external networks are accessed, for example, suitable protective measures (incl. IT security measures, such as network segmentation) should still also be taken.

You can find more information on the topic of Industrial Security on the Internet at:

http://www.siemens.com/industrialsecurity

Integration in automation solutions

WinCC is an open process visualization system and provides the option to connect the most diverse control systems.

Approved communication software

Use communication software with the listed product versions (or higher). Corresponding SIMATIC NET upgrades are available for upgrading older versions.

Number of connectable controllers

For the number of controllers which can be connected via Industrial Ethernet CP 1613, the following applies to a message frame length of 512 bytes:

Type of connection	Number of nodes
SIMATIC S5 Ethernet Layer 4 + TCP/IP	up to 60
SIMATIC S7 Protocol Suite	up to 64
SIMATIC 505 Ethernet Layer 4 + TCP/IP OMS+	up to 60 up to 128

Via PROFIBUS, a maximum of 8 controllers can be connected with CP 5612, and a maximum of 44 controllers with CP 5613. Industrial Ethernet is recommended when 10 or more controllers are used.

Mixed operation with different controllers

With their multi-protocol stack, the CP 1613 and CP 5613 communication processors enable the parallel operation of two protocols, such as for the mixed operation of different controllers, via a single bus cable. WinCC supports the operation of two similar interface boards only in connection with the channels SIMATIC S5 Ethernet Layer 4 (2 x CP 1613), SIMATIC S7 Protocol Suite (2 x CP 1613, 2 x CP 5613) as well as PROFIBUS DP (4 x CP 5613; max. 122 slaves for each CP 5613).
In addition to communication via Industrial Ethernet CP 1613 or PROFIBUS CP 5613, one CP 5612/5622 can be used in each case for communication with SIMATIC S7 via MPI.

Client-server communication

Communication between the clients and the server is via TCP/IP protocol.
Setting up a separate PC LAN is recommended. For small projects with a correspondingly low incidence of message frames, SIMATIC NET Industrial Ethernet communication can be used for both process communication (WinCC/Server ↔ PLC) and PC-PC communication (WinCC/client ↔ WinCC/server).

Channel DLL PROFIBUS DP

In accordance with the PROFIBUS standard, DP/slaves are always permanently assigned to a DP master; i.e. a second WinCC station (DP/master) cannot access the same controllers (DP/slaves). This means that redundant operation of two WinCC stations is not possible using the PROFIBUS DP connection.

Integration (continued)

Connection to controllers from other manufacturers:

If a native driver is not available, OPC (OLE for process control) is available for connection to third-party controllers.

Current notes and information about OPC servers from various suppliers can be found at:

http://www.opcfoundation.org

WinCC supports the standards:

- OPC Data Access 2.05a
- OPC Data Access 3.00
- OPC XML Data Access 1.00 (Connectivity Pack/Connectivity Station)
- OPC HDA 1.20 (Connectivity Pack/Connectivity Station)
- OPC A&E 1.10 (Connectivity Pack/Connectivity Station)
- OPC UA Client Data Access
- OPC UA Server Data Access, HDA, Alarm & Condition (Connectivity Pack / Connectivity Station)

Connection overview

Protocol	Description
SIMATIC S7	
SIMATIC S7 Protocol Suite	Channel DLL for S7 functions via MPI, PROFIBUS or Ethernet Layer 4 + TCP/IP
SIMATIC S5	
SIMATIC S5 Ethernet Layer 4	Channel DLL for S5 Layer 4 communication + TCP/IP
SIMATIC S5 Programmer Port AS511	Channel DLL and driver for serial communication with S5 using AS511 protocol to programmers port
SIMATIC S5 Serial 3964R	Channel DLL and driver for serial communication with S5 using RK512 protocol
SIMATIC S5 PROFIBUS-FDL	Channel DLL for S5-FDL
SIMATIC 505	
SIMATIC 505 Serial	Channel DLL and driver for serial communication with 505 using NITP/TBP protocol to SIMATIC 535/545/555/565/575
SIMATIC 505 Ethernet Layer 4	Channel DLL for 505 Layer 4 communication
SIMATIC 505 TCP/IP	Channel DLL for 505 TCP/IP communication
SIMATIC S7-1200, S7-1500	
SIMATIC S7-1200, S7-1500 Channel	Channel DLL for S7-1200 and S7-1500 communication

Protocol	Description
Third-party controllers	
Allen Bradley Ethernet IP	Channel DLL and drivers for communication with Allen Bradley controllers via Ethernet TCP/IP using Ethernet IP protocol
Modbus TCP/IP	Channel DLL and drivers for communication with Modicon controllers via Ethernet TCP/IP using Modbus TCP/IP protocol
Mitsubishi MC TCP/IP	Channel DLL and drivers for communication with Mitsubishi controllers via Ethernet TCP/IP using Mitsubishi MC TCP/IP protocol
Cross-manufacturer	
OPC Client for DA, XML DA	Channel DLL for OPC communication, WinCC can acquire data from OPC server applications.
OPC Server for DA, XML DA, A&E, HDA	Server applications for OPC communication; WinCC provides process data to OPC Clients
OPC UA server for DA, HDA, A&C	Server applications for OPC UA communication
PROFIBUS FMS	Channel DLL for PROFIBUS FMS
PROFIBUS DP	Channel DLL for PROFIBUS DP
SIMOTION	Channel DLL for SIMOTION

Application note:

Parallel usage of the OPC client channel allows, for example, connection to an SNMP-OPC server for visualization of the data contained there. The SNMP OPC server enables monitoring of any network components (such as switches) that support the SNMP protocol.

You can find more information under SIMATIC NET Communications Systems/SNMP OPC Server.

Integration (continued)

Communications components for PG/PC for SIMATIC (for WinCC V7.4 SP1)

Industrial Ethernet	SIMATIC S5 Ethernet Layer 4	SIMATIC S5 TCP/IP	SIMATIC S7 Protocol Suite	SIMATIC 505 Ethernet Layer 4	SIMATIC 505 TCP/IP 1)	Article No.
WinCC – channel DLL						
SIMATIC S5 Ethernet Layer 4 Channel DLL for S5 Layer 4 communication + TCP/IP	•	•				Included in the basic package
SIMATIC S7 Protocol Suite Channel DLL for S7 functions			•			Included in the basic package
SIMATIC 505 Ethernet Layer 4 Channel DLL for 505 Layer 4 communication				•		Included in the basic package
SIMATIC 505 TCP/IP 1) Channel DLL for 505 TCP/IP communication					•	Included in the basic package
Communication components for extension of the OS/OP						
CP 1612 A2 PCI card for connecting a PG/PC to Industrial Ethernet (SOFTNET-S7 or SOFTNET-S7 Lean communication software must be ordered separately)		•	•		•	**6GK1161-2AA01**
SOFTNET-IE S7 communication software for S7 functions (max. 64 connections) • Version 13 SP2 2)3) for Windows 7 SP1 (32/64-bit), Windows 8.1 (32/64-bit), Windows 2008 R2 SP1 Server, Server 2012 R2 (64-bit), and Windows 10 (64-bit)		•	•			**6GK1704-1CW13-0AA0**
SOFTNET-IE S7 Lean communication software for S7 functions (max. 8 connections) • Version 13 SP2 2)3) for Windows 7 SP1 (32/64-bit), Windows 8.1 (32/64-bit), Windows 2008 R2 SP1 Server, Server 2012 R2 (64-bit), and Windows 10 (64-bit)		•	•			**6GK1704-1LW13-0AA0**
CP 1613 A2 PCI card (32-bit) for connecting a PG/PC to Industrial Ethernet (S7-1613 communication software required)	•	•	•	•	•	**6GK1161-3AA01**
CP 1623 PCI Express X1 card (32-bit) for connecting a PG/PC to Industrial Ethernet (S7-1613 communication software required)	•	•	•	•	•	**6GK1162-3AA00**
CP 1628 PCI Express X1 card (32-bit) for connecting a PG/PC to Industrial Ethernet (HARDNET-IE S7 / S7-1613 communication software required)	•	•	•	•	•	**6GK1162-8AA00**
HARDNET-IE S7 / S7-1613 communication software for S7 functions, OPC, PG/OP communication • Version 13 SP2 2)3) for Windows 7 SP1 (32/64-bit), Windows 8.1 (32/64-bit), Windows 2008 R2 SP1 Server, Server 2012 R2 (64-bit), and Windows 10 (64-bit)	•	•	•	•		**6GK1716-1CB13-0AA0**

• System interface possible

1) Via any interface board with NDIS 3.0 interface; no separate communication software required

2) See ordering data for SIMATIC NET upgrade packages

3) SIMATIC NET Version V12 SP2 is supplied together with WinCC V7.4 SP1

4) SOFTNET-S7 Lean included in scope of supply of WinCC V7.4 SP1

3

Integration (continued)

Communications components for PG/PC for SIMATIC (for WinCC V7.4 SP1)

PROFIBUS	SIMATIC S5 PROFIBUS FDL	SIMATIC S7 Protocol Suite	PROFIBUS DP	PROFIBUS FMS	Article No.
WinCC – channel DLL					
SIMATIC S5 PROFIBUS FDL Channel DLL for S5-FDL	•				Included in the basic package
SIMATIC S7 Protocol Suite Channel DLL for S7 functions		•			Included in the basic package
PROFIBUS DP Channel DLL for PROFIBUS DP			•		Included in the basic package
Communication components for extension of the OS/OP					
CP 5612 [2] PCI card (32-bit) for connecting a PG/PC to PROFIBUS (communication software included in WinCC basic package)		•			**6GK1561-2AA00**
CP 5622 [2] PCI Express X1 card (32-bit) for connecting a PG/PC to PROFIBUS (communication software included in WinCC basic package)		•			**6GK1562-2AA00**
CP 5711 USB adapter for connecting a PG/PC to PROFIBUS or MPI (communication software included in WinCC basic package)		•			**6GK1571-1AA00**
CP 5613 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (S7-5613, DP-5613 or FMS-5613 communication software required)	•	•	•	•	**6GK1561-3AA02**
CP 5614 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (communication software must be ordered separately)	•	•	•	•	**6GK1561-4AA02**
CP 5623 PCI Express X1 card (32-bit) for connecting a PG/PC to PROFIBUS or MPI (**HARDNET PB S7** or **HARDNET PB DP** communication software required)	•	•	•	•	**6GK1562-3AA00**
HARDNET PB S7 Communication software for S7 functions + FDL • Version 8.2 SP1 [1)2)] for Windows 7 (32/64-bit) and Server 2008 R2 (64-bit)	•	•			**6GK1713-5CB08-2AA0**
HARDNET PB DP Communication software for DP master + FDL • Version 8.2. SP1 [1)2)] for Windows 7 (32/64-bit) and Server 2008 R2 (64-bit)	•		•		**6GK1713-5DB08-2AA0**

• System interface possible

1) See ordering data for SIMATIC NET upgrade packages

2) SIMATIC NET Version 8.2 SP1 is supplied together with WinCC V7.4 SP1

Integration (continued)

Communication components for PG/PC for SIMATIC (for WinCC V7.3)

Industrial Ethernet	**SIMATIC S5 Ethernet Layer 4**	**SIMATIC S5 TCP/IP**	**SIMATIC S7 Protocol Suite**	**SIMATIC 505 Ethernet Layer 4**	**SIMATIC 505 TCP/IP** [1]	**Article No.**
WinCC – channel DLL						
SIMATIC S5 Ethernet Layer 4 Channel DLL for S5 Layer 4 communication + TCP/IP	•	•				Included in the basic package
SIMATIC S7 Protocol Suite Channel DLL for S7 functions			•			Included in the basic package
SIMATIC 505 Ethernet Layer 4 Channel DLL for 505 Layer 4 communication				•		Included in the basic package
SIMATIC 505 TCP/IP [1] Channel DLL for 505 TCP/IP communication					•	Included in the basic package
Communication components for extension of the OS/OP						
CP 1612 A2 PCI card for connecting a PG/PC to Industrial Ethernet (SOFTNET-S7 or SOFTNET-S7 Lean communication software must be ordered separately)		•	•		•	**6GK1161-2AA01**
SOFTNET-IE S7 communication software for S7 functions (max. 64 connections)		•	•			
• Version 8.2 SP1 [2)3)] for Windows 7 (32/64-bit) and Server 2008 R2 (64-bit)						**6GK1704-1CW08-2AA0**
• Edition 2008 SP6 (V7.1) [2)] for Windows XP/2003 Server/(32-bit) 2008 Server						**6GK1704-1CW71-3AA0**
SOFTNET-IE S7 Lean communication software for S7 functions (max. 8 connections)		•	•			
• Version 8.2 SP1 [2) 4)] for Windows 7 (32/64-bit) and Server 2008 R2 (64-bit)						**6GK1704-1LW08-2AA0**
• Edition 2008 SP6 (V7.1) [2) 4)] for Windows XP/2003 Server / (32-bit) 2008 Server						**6GK1704-1LW71-3AA0**
CP 1613 A2 PCI card (32-bit) for connecting a PG/PC to Industrial Ethernet (S7-1613 communication software required)	•	•	•	•	•	**6GK1161-3AA01**
CP 1623 PCI Express X1 card (32-bit) for connecting a PG/PC to Industrial Ethernet (S7-1613 communication software required)	•	•	•	•	•	**6GK1162-3AA00**
CP 1628 PCI Express X1 card (32-bit) for connecting a PG/PC to Industrial Ethernet (HARDNET-IE S7 / S7-1613 communication software required)	•	•	•	•	•	**6GK1162-8AA00**
HARDNET-IE S7 / S7-1613 communication software for S7 functions and S5/505 Layer 4 communication with TCP/IP	•	•	•	•		
• Version 8.2 SP1 [2)3)] for Windows 7 (32/64-bit) and Server 2008 R2 (64-bit)						**6GK1716-1CB08-2AA0**
• Edition 2008 SP6 (V7.1) [2)] for Windows XP/2003 Server / (32-bit) 2008 Server						**6GK1716-1CB71-3AA0**

• System interface possible

1) Via any interface board with NDIS 3.0 interface; no separate communication software required

2) See ordering data for SIMATIC NET upgrade packages

3) SIMATIC NET Version 8.2 SP1 is supplied together with WinCC V7.3

4) SOFTNET S7 Lean included in scope of supply of WinCC V7.3

3

Integration (continued)

Communication components for PG/PC for SIMATIC (for WinCC V7.3)

PROFIBUS	SIMATIC S5 PROFIBUS FDL	SIMATIC S7 Protocol Suite	PROFIBUS DP	PROFIBUS FMS	Article No.
WinCC – channel DLL					
SIMATIC S5 PROFIBUS FDL Channel DLL for S5-FDL	•				Included in the basic package
SIMATIC S7 Protocol Suite Channel DLL for S7 functions		•			Included in the basic package
PROFIBUS DP Channel DLL for PROFIBUS DP			•		Included in the basic package
PROFIBUS FMS Channel DLL for PROFIBUS FMS				•	Included in the basic package
Communication components for extension of the OS/OP					
CP 5612 2) PCI card (32-bit) for connecting a PG/PC to PROFIBUS (communication software included in WinCC basic package)		•			**6GK1561-2AA00**
CP 5622 2) PCI Express X1 card (32-bit) for connecting a PG/PC to PROFIBUS (communication software included in WinCC basic package)		•			**6GK1562-2AA00**
CP 5711 USB Adapter for connecting a PG/PC to PROFIBUS or MPI (communications software included in the WinCC basic package)		•			**6GK1571-1AA00**
CP 5613 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (S7-5613, DP-5613 or FMS-5613 communication software required)	•	•	•	•	**6GK1561-3AA02**
CP 5614 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (communication software must be ordered separately)	•	•	•	•	**6GK1561-4AA02**
CP 5623 PCI Express X1 card (32-bit) for connecting a PG/PC to PROFIBUS or MPI (S7-5613 communication software or DP-5613 or FMS-5613 required)	•	•	•	•	**6GK1562-3AA00**
HARDNET PB S7 Communication software for S7 functions + FDL					
• Version 8.2 SP1 1)2) for Windows 7 (32/64-bit) and Server 2008 R2 (64-bit)	•	•			**6GK1713-5CB08-2AA0**
• Edition 2008 SP6 (V7.1) 1) 2) for Windows XP/2003 Server / (32-bit) 2008 Server	•	•			**6GK1713-5CB71-3AA0**
HARDNET PB DP Communication software for DP master + FDL					
• Version 8.2. SP1 1)2) for Windows 7 (32/64-bit) and Server 2008 R2 (64-bit)	•		•		**6GK1713-5DB08-2AA0**
• Edition 2008 SP6 (V7.1) 1) 2) for Windows XP/2003 Server / (32-bit) 2008 Server	•		•		**6GK1713-5DB71-3AA0**
FMS-5613 communication software for PROFIBUS-FMS + FDL • Edition 2008 SP6 (V7.1) 1) 2) for Windows XP/2003 Server / (32-bit) 2008 Server	•			•	**6GK1713-5FB71-3AA0**

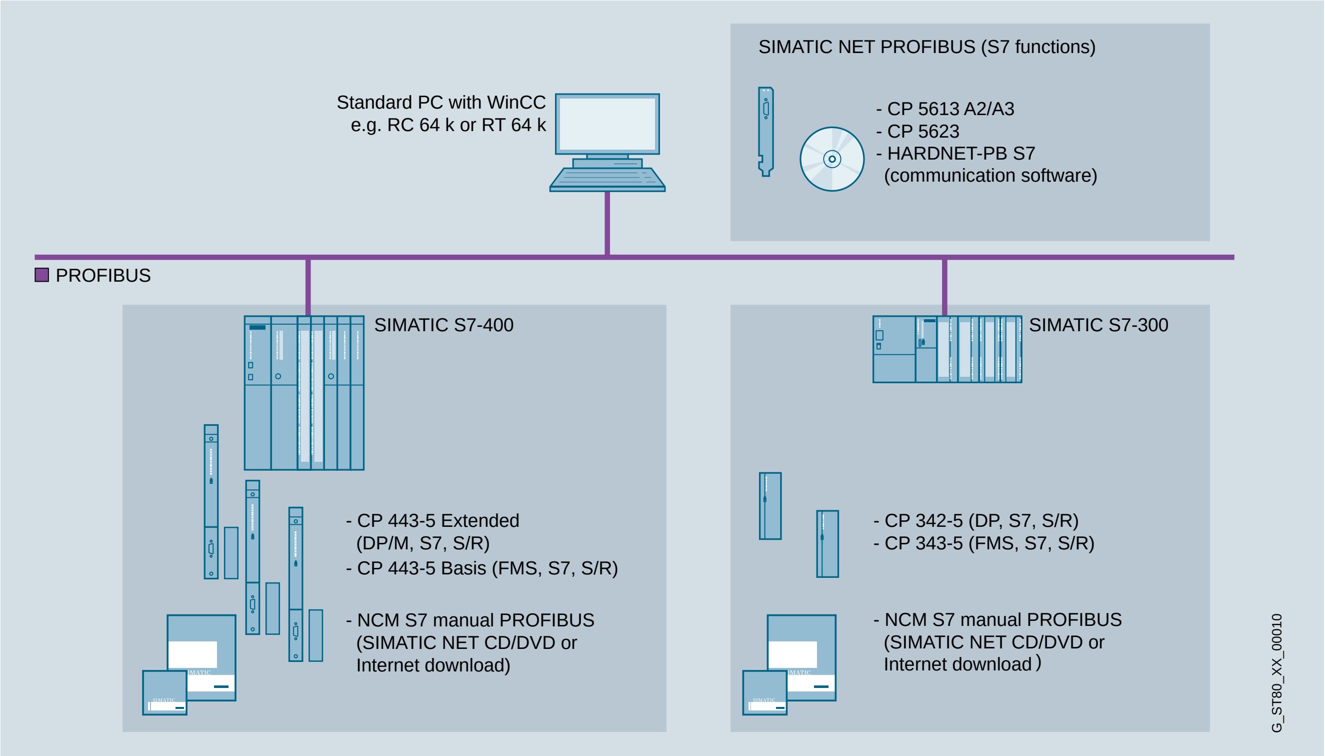
• System interface possible

1) See ordering data for SIMATIC NET upgrade package

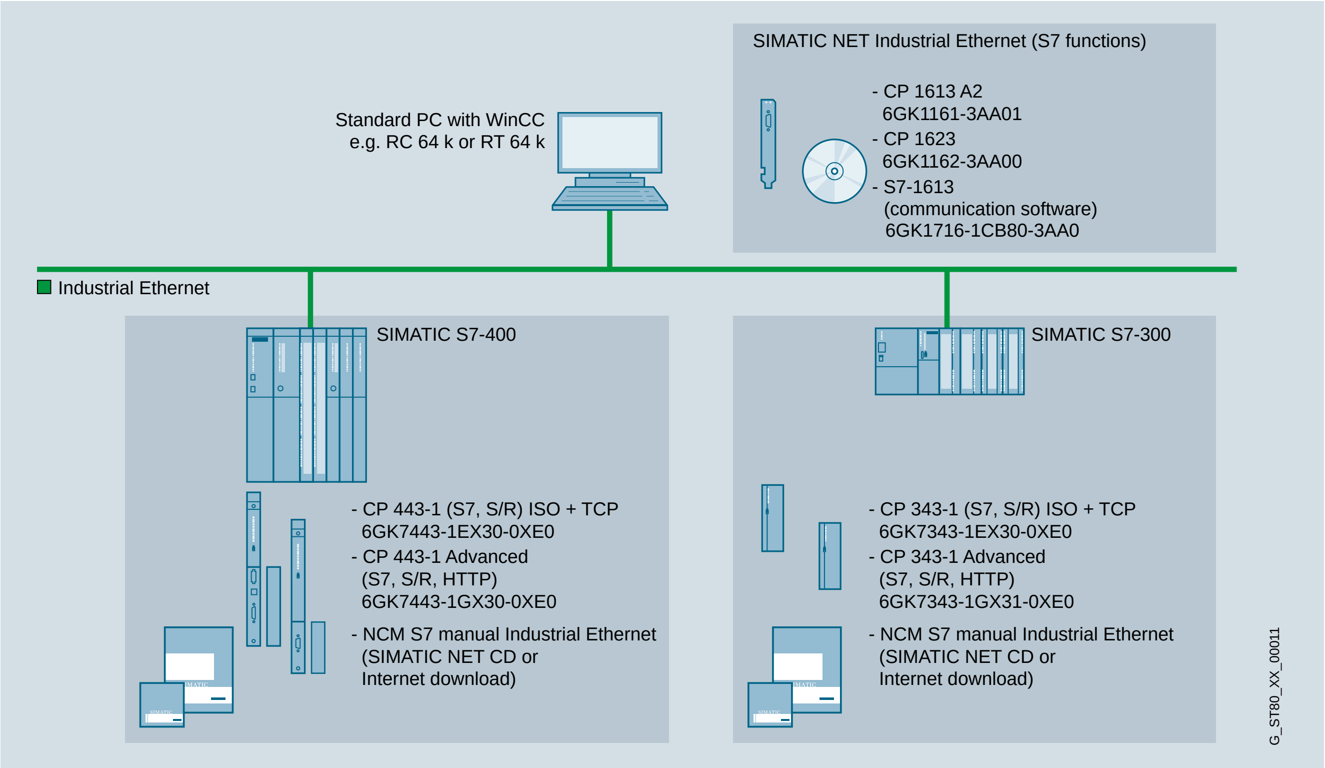
2) SIMATIC NET Version 8.2 SP1 is supplied together with WinCC V7.3

Integration (continued)

Communication examples



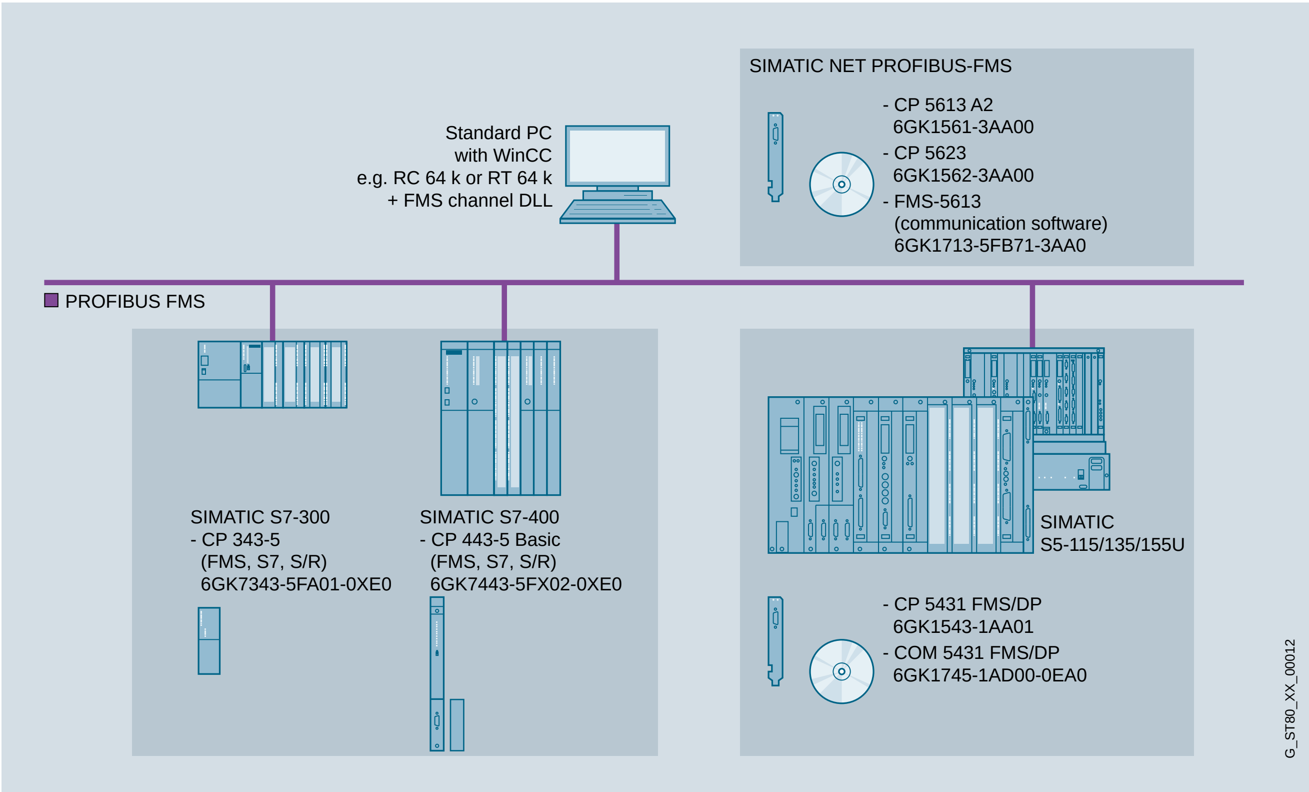
WinCC single-user system: PROFIBUS with S7 communication



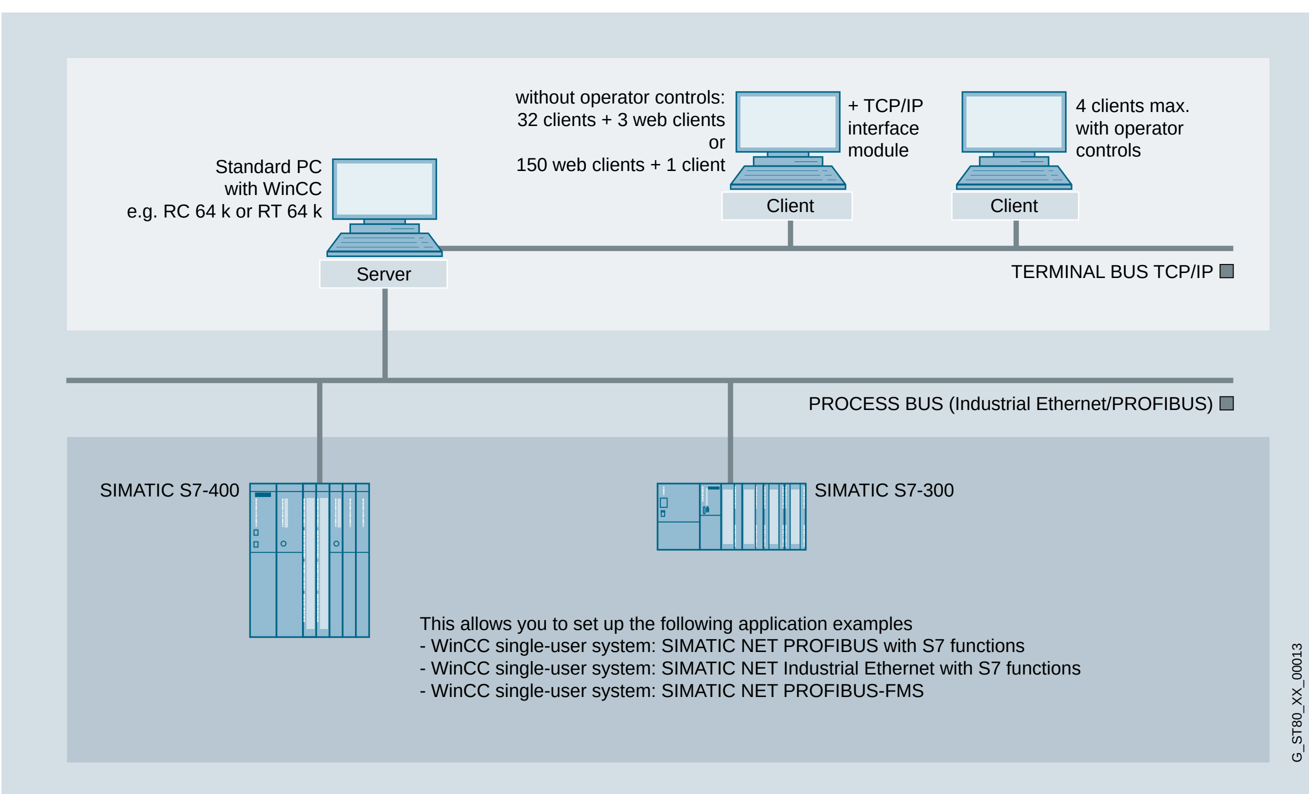
WinCC single-user system: Industrial Ethernet with S7 communication

3

Integration (continued)

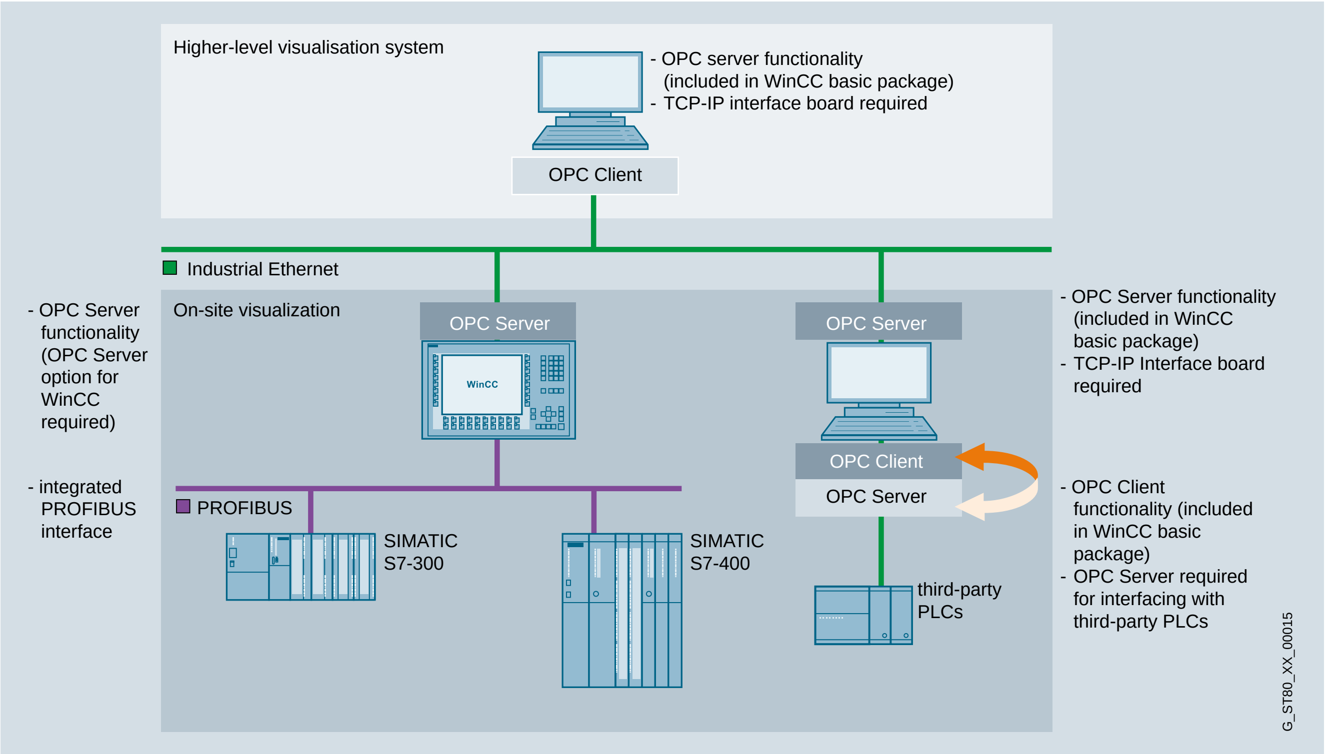


WinCC single-user system: PROFIBUS FMS



WinCC multi-user system with operable server

Integration (continued)



OPC link

Technical specifications

Type	SIMATIC WinCC V7.4 SP1 [1]
Operating system	• Windows 7 Ultimate, Professional and Enterprise (32-bit / 64-bit) • Windows 8.1 Professional and Enterprise (32-bit / 64-bit) • Windows 10 Professional, Enterprise, LTSB 2015, LTSB 2016 (64-bit) • Windows 2008 Server R2 SP1 (64-bit) • Windows 2012 Server R2 (64-bit) • Windows 2016 Server (64-bit)
PC hardware requirements	
Processor type [1]	
• Minimum	Single-user station/server: Dual-core; 2.5 GHz [2]
	Client: Dual-core; 2.5 GHz [2]
	Web client: Dual-core; 2 GHz
• Recommended	Single-user station/server: Multi-core; 3.5 GHz [2]
	Client: Multi-core; 3 GHz [2]
	Web client: Dual-core; 3 GHz

Type	SIMATIC WinCC V7.4 SP1 [1]
Work memory RAM	
• Minimum	Windows 7/ Windows 8.1 (32-bit) • Single-user station/server: 2 GB • Client: 1 GB • Web client: 1 GB Windows 7/ Windows 8.1/ Windows 10 (64-bit) • Single-user station/server: 4 GB • Client: 2 GB • Web client: 1 GB
	Windows Server 2008 R2/ Windows Server 2012 R2 Server: 4 GB
• Recommended	Windows 7/ Windows 8.1 (32-bit) • Single-user station/server: 3 GB • Client: 2 GB • Web client: 2 GB Windows 7/ Windows 8.1/ Windows 10 (64-bit) • Single-user station/server: 4 GB • Client: 4 GB • Web client: 2 GB
	Windows Server 2008 R2/ Windows Server 2012 R2 Server: 8 GB

[1] An AMD system with comparable performance can also be used
[2] Hardware requirements when using Microsoft XP Professional

3

Technical specifications (continued)

Type	SIMATIC WinCC V7.4 SP1 [1]
Graphics card	
• Minimum	16 MB, 800 x 600 [2]
• Recommended	32 MByte, 1 920 x 1 080 [2]
Hard disk	
• Minimum	Single-user station/server: 80 GB
	Client: 20 GB
	WebClient/DataMonitor Client: 5 GB
• Recommended	Single-user station/server: 160 GB
	Client: 40 GB
	WebClient/DataMonitor Client: 10 GB
• Hard disk (available memory for installation)	
- Minimum	• Client: 1.5 GB • Server: > 1.5 GB
- Recommended	• Client: > 1.5 GB • Server: 2 GB
CD-ROM/DVD-ROM/disk drive/ USB port	For software installation

[1] An AMD system with comparable performance can also be used
[2] Hardware requirements when using Microsoft XP Professional

Type	SIMATIC WinCC V7.4 SP1
Functionality/quantity structure	
Number of messages	150,000
• Message text (number of characters)	10 x 256
• Message archive	system-limited [1]
• Process values per message	10
• Constant load of messages, max.	Server/single-user station: 10/s
• Message burst, max.	Server/single-user station: 2,000/10 s every 5 min
Archives	
• Archive data points	Max. 80,000 per server [2]
• Archive types	Short-term archive with and without long-term archiving
• Data storage format	Microsoft SQL Server 2014 SP1
• Measured values per second, max.	Server/single-user station: 5 000/s
User archive	
• Total archives	No limit
• Fields per user archive	500 (maximum number of 1 000 000 fields)
• Data records per user archive	10 000
• User archive views	No limit
Graphics system	
• Number of screens	System-limited [1]
• Number of objects per screen	System-limited [1]
• Number of controllable fields per screen	System-limited [1]
PowerTags	256 K [3]
Trends	
• Trend views per image	25
• Trends per trend view	80
User administration	
• User groups	128
• Number of users	128
• Authorization groups	999
Configuration languages	5 European (deu, eng, fra, ita, esp), 4 Asian (chs, cht, kor, jpn)
Protocols	
• Message sequence reports (simultaneously)	1 per server/single-user station
• Message archive reports (simultaneously)	3
• User reports	System-limited [1]
• Report lines per group	66
• Tags per report	300 [4]
Multi-user system	
• Server	18
• Uni Client (without its own project)	max. 64
• Multi-Client (with its own project)	max. 50

[1] Dependent on the available storage space
[2] Dependent on the number of licensed archive tags (ArchiveTags)
[3] Dependent on the number of licensed PowerTags
[4] The number of tags per report is dependent on the process communication performance

Ordering data

	Article No.
SIMATIC WinCC system software	
V7.4 SP1	
Runtime packages on DVD	
Incl. 512 archive tags each; language/script versions: en, de, fr, it, es; with license for	
• WinCC RT Client	**6AV6381-2CA07-4AX0**
• 128 PowerTags (RT 128)	**6AV6381-2BC07-4AX0**
• 512 PowerTags (RT 512)	**6AV6381-2BD07-4AX0**
• 2 048 PowerTags (RT 2 048)	**6AV6381-2BE07-4AX0**
• 8 192 PowerTags (RT 8 192)	**6AV6381-2BH07-4AX0**
• 65 536 PowerTags (RT 65 536)	**6AV6381-2BF07-4AX0**
• 102 400 PowerTags (RT 102 400)	**6AV6381-2BJ07-4AX0**
• 153 600 PowerTags (RT 153 600)	**6AV6381-2BK07-4AX0**
• 262 144 PowerTags (RT 262 144)	**6AV6381-2BL07-4AX0**
As download	
• WinCC RT Client	**6AV6381-2CA07-4AH0**
• 128 PowerTags (RT 128)	**6AV6381-2BC07-4AH0**
• 512 PowerTags (RT 512)	**6AV6381-2BD07-4AH0**
• 2 048 PowerTags (RT 2 048)	**6AV6381-2BE07-4AH0**
• 8 192 PowerTags (RT 8 192)	**6AV6381-2BH07-4AH0**
• 65 536 PowerTags (RT 65 536)	**6AV6381-2BJ07-4AH0**
• 102 400 PowerTags (RT 102 400)	**6AV6381-2BJ07-4AH0**
• 153 600 PowerTags (RT 153 600)	**6AV6381-2BK07-4AH0**
• 262 144 PowerTags (RT 262 144)	**6AV6381-2BL07-4AH0**
Complete packages on DVD	
Language versions: en, de, fr, it, es; with license for	
• WinCC RC Client	**6AV6381-2CB07-4AX0**
• 128 PowerTags (RC 128)	**6AV6381-2BM07-4AX0**
• 512 PowerTags (RC 512)	**6AV6381-2BN07-4AX0**
• 2 048 PowerTags (RC 2 048)	**6AV6381-2BP07-4AX0**
• 8 192 PowerTags (RC 8 192)	**6AV6381-2BS07-4AX0**
• 65 536 PowerTags (RC 65 536)	**6AV6381-2BQ07-4AX0**
• 102 400 PowerTags (RC 102 400)	**6AV6381-2BT07-4AX0**
• 153 600 PowerTags (RC 153 600)	**6AV6381-2BU07-4AX0**
• 262 144 PowerTags (RC 262 144)	**6AV6381-2BV07-4AX0**
As download	
• WinCC RC Client	**6AV6381-2CB07-4AH0**
• 128 PowerTags (RC 128)	**6AV6381-2BM07-4AH0**
• 512 PowerTags (RC 512)	**6AV6381-2BN07-4AH0**
• 2 048 PowerTags (RC 2 048)	**6AV6381-2BP07-4AH0**
• 8 192 PowerTags (RC 8 192)	**6AV6381-2BS07-4AH0**
• 65 536 PowerTags (RC 65 536)	**6AV6381-2BQ07-4AH0**
• 102 400 PowerTags (RC 102 400)	**6AV6381-2BT07-4AH0**
• 153 600 PowerTags (RC 153 600)	**6AV6381-2BU07-4AH0**
• 262 144 PowerTags (RC 262 144)	**6AV6381-2BV07-4AH0**

	Article No.
V7.4 SP1 ASIA	
Runtime packages on DVD	
Incl. 512 archive tags each; language/script versions: en, zh-CN, zh-TW, ko, ja; with license for	
• WinCC RT Client	**6AV6381-2CA07-4AV0**
• 128 PowerTags (RT 128)	**6AV6381-2BC07-4AV0**
• 512 PowerTags (RT 512)	**6AV6381-2BD07-4AV0**
• 2 048 PowerTags (RT 2 048)	**6AV6381-2BE07-4AV0**
• 8 192 PowerTags (RT 8 192)	**6AV6381-2BH07-4AV0**
• 65 536 PowerTags (RT 65 536)	**6AV6381-2BF07-4AV0**
• 102 400 PowerTags (RT 102 400)	**6AV6381-2BJ07-4AV0**
• 153 600 PowerTags (RT 153 600)	**6AV6381-2BK07-4AV0**
• 262 144 PowerTags (RT 262 144)	**6AV6381-2BL07-4AV0**
Complete packages on DVD	
Language versions: en, zh-CN, zh-TW, ko, ja; with license for	
• WinCC RC Client	**6AV6381-2CB07-4AV0**
• 128 PowerTags (RC 128)	**6AV6381-2BM07-4AV0**
• 512 PowerTags (RC 512)	**6AV6381-2BN07-4AV0**
• 2 048 PowerTags (RC 2 048)	**6AV6381-2BP07-4AV0**
• 8 192 PowerTags (RC 8 192)	**6AV6381-2BS07-4AV0**
• 65 536 PowerTags (RC 65 536)	**6AV6381-2BQ07-4AV0**
• 102 400 PowerTags (RC 102 400)	**6AV6381-2BT07-4AV0**
• 153 600 PowerTags (RC 153 600)	**6AV6381-2BU07-4AV0**
• 262 144 PowerTags (RC 262 144)	**6AV6381-2BV07-4AV0**
V7.4 SP1 Powerpacks	
For upgrading from:	
Runtime packages	
• 128 to 512 PowerTags	**6AV6371-2BD07-4AX0**
• 512 to 2 048 PowerTags	**6AV6371-2BG07-4AX0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM07-4AX0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN07-4AX0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP07-4AX0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ07-4AX0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR07-4AX0**
As download	
• 128 to 512 PowerTags	**6AV6371-2BD07-4AJ0**
• 512 to 2 048 PowerTags	**6AV6371-2BG07-4AJ0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM07-4AJ0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN07-4AJ0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP07-4AJ0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ07-4AJ0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR07-4AJ0**
Complete packages	
• 128 to 512 PowerTags	**6AV6371-2BD17-4AX0**
• 512 to 2 048 PowerTags	**6AV6371-2BG17-4AX0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM17-4AX0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN17-4AX0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP17-4AX0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ17-4AX0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR17-4AX0**
As download	
• 128 to 512 PowerTags	**6AV6371-2BD17-4AJ0**
• 512 to 2 048 PowerTags	**6AV6371-2BG17-4AJ0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM17-4AJ0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN17-4AJ0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP17-4AJ0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ17-4AJ0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR17-4AJ0**

3

Ordering data

	Article No.
V7.4 SP1 Archive	
• 1 500 archive tags (countable)	**6AV6371-1DQ17-4AX0**
• 5 000 archive tags (countable)	**6AV6371-1DQ17-4BX0**
• 10 000 archive tags (countable)	**6AV6371-1DQ17-4CX0**
• 30 000 archive tags (countable)	**6AV6371-1DQ17-4EX0**
As download	
• 1 500 archive tags (countable)	**6AV6371-1HQ17-4AX0**
• 5 000 archive tags (countable)	**6AV6371-1HQ17-4BX0**
• 10 000 archive tags (countable)	**6AV6371-1HQ17-4CX0**
• 30 000 archive tags (countable)	**6AV6371-1HQ17-4EX0**
SIMATIC WinCC Upgrades/ Software Update Service	
SIMATIC WinCC V7.4 SP1 Upgrade [1]	
For upgrading the RT version	
• From V7.x to V7.4 SP1	**6AV6381-2AA07-4AX3**
• From V7.X ASIA to V7.4 SP1 ASIA [2]	**6AV6381-2AA07-4AV3**
As download	
• From V7.x to V7.4 SP1	**6AV6381-2AA07-4AK3**
For upgrading the RC version	
• From V7.x to V7.4 SP1	**6AV6381-2AB07-4AX3**
• From V7.X ASIA to V7.4 SP1 ASIA [2]	**6AV6381-2AB07-4AV3**
As download	
• From V7.x to V7.4 SP1	**6AV6381-2AB07-4AK3**
For upgrading the Client RT version	
• From V7.x to V7.4 SP1	**6AV6381-2CA07-4AX3**
• From V7.X ASIA to V7.4 SP1 ASIA	**6AV6381-2CA07-4AV3**
As download	
• From V7.x to V7.4 SP1	**6AV6381-2CA07-4AK3**
For upgrading the Client RC version	
• From V7.x to V7.4 SP1	**6AV6381-2CB07-4AX3**
• From V7.X ASIA to V7.4 SP1 ASIA	**6AV6381-2CB07-4AK3**
As download	
• From V7.x to V7.4 SP1	**6AV6381-2CB07-4AV3**
SIMATIC WinCC Software Update Service (SUS) [3] [4] [5]	
SIMATIC WinCC V7 Update Software Update Service for WinCC basic software and options:	
• 1 license	**6AV6381-1AA00-0AX5**
• 3 licenses	**6AV6381-1AA00-0BX5**
• 10 licenses	**6AV6381-1AA00-0CX5**
As download	
• 1 license	**6AV6381-1KA00-0AX5**
• 3 licenses	**6AV6381-1KA00-0BX5**
• 10 licenses	**6AV6381-1KA00-0CX5**

1) According to licensing provisions, 1 upgrade package must be ordered for each WinCC station

2) Upgrading from V7.X RT/RC ASIA to V7.4 SP1 ASIA is carried out using the "respective non-Asia package"

3) The Software Update Service is valid for 1 year. The contract is automatically extended by 1 more year unless canceled 3 months prior to expiration. According to licensing provisions, 1 Software Update Service must be ordered for each WinCC station.

4) Requires the current software version

5) SUS is available as download

	Article No.
SIMATIC WinCC V7.4 SP1 Communication **Communication via Industrial Ethernet / PROFIBUS**	
CP 1612 A2 PCI card (32-bit) for connection of a programming device or PC to Industrial Ethernet (10/100/1 000 Mbps) with RJ45 connection via SOFTNET S7 and SOFTNET PG. Windows 8.1 and Windows 2012 Server are not supported.	**6GK1161-2AA01**
SOFTNET IE S7 Version 13 SP2 Software for S7-compatible and S5-compatible communication incl. OPC server, PG/OP communication and NCM PC; up to 64 connections; single license for one installation of runtime software, software and electronic manual on CD-ROM; license key on USB stick; Class A for CP 1612 A2 English/German	
• Single license for 1 installation	**6GK1704-1CW13-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1704-1CW00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1704-1CW00-3AE1**
SOFTNET-IE S7 Lean Version 13 SP2 (license included in scope of supply of WinCC V7.4 SP1) Software for S7 and S5-compatible communication including OPC server, PG/OP communication and NCM PC; up to 8 connections; single license for one installation of runtime software, software and electronic manual on CD-ROM, License Key on USB stick, Class A, for CP 1612 A2, English/German	
• Single license for 1 installation	**6GK1704-1LW13-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1704-1LW00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1704-1LW00-3AE1**
CP 1613 A2 PCI card (32-bit) for connecting a programming device/PC to Industrial Ethernet (communications software must be ordered separately)	**6GK1161-3AA01**
CP 1623 PCI Express X1 card (32-bit) for connection of programming device/PC to Industrial Ethernet (communications software must be ordered separately)	**6GK1162-3AA00**
CP 1628 PCI Express X1 card (32-bit) for connecting a programming device/PC to an Industrial Ethernet (communications software must be ordered separately)	**6GK1162-8AA00**
HARDNET IE S7 V13 SP2 Software for S7-compatible and S5-compatible communication incl. OPC server, PG/OP communication and NCM PC, single license for one installation of Runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A for CP 1613 A2, CP 1623, CP 1628; English/German	
• Single license for 1 installation	**6GK1716-1CB13-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1716-1CB00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1716-1CB00-3AE1**

Ordering data

	Article No.
SIMATIC WinCC V7.4 SP1 Communication via PROFIBUS	
CP 5612 PCI card (32-bit) for connecting a programming device/PC to PROFIBUS (communications software included in WinCC Basic package)	**6GK1561-2AA00**
CP 5622 PCI Express X1 card (32-bit) for connecting a programming device/ PC to PROFIBUS (communications software included in WinCC Basic package)	**6GK1562-2AA00**
CP 5711 USB adapter for connecting a programming device/PC to PROFIBUS or MPI (communications software included in WinCC Basic package)	**6GK1571-1AA00**
CP 5613 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately)	**6GK1561-3AA02**
CP 5614 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately)	**6GK1561-4AA02**
CP 5623 PCI Express X1 card (32-bit) for connection of programming device/ PC to Industrial Ethernet (communications software must be ordered separately)	**6GK1562-3AA00**

	Article No.
HARDNET PB S7 V8.2 SP1 Software for S7 communication incl. PG/OP communication, FDL, OPC server, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A for CP 5613 A3, CP 5614 A3, CP 5623 English/German	
• Single license for 1 installation	**6GK1713-5CB08-2AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1713-5CB00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1713-5CB00-3AE1**
HARDNET PB S7 V13 SP2 Software for S7 communication incl. PG/OP communication, FDL, OPC server, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A for CP 5613 A3, CP 5614 A3, CP 5623 English/German	
• Single license for 1 installation	**6GK1713-5CB13-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1713-5CB00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1713-5CB00-3AE1**
HARDNET PB DP V13 SP2 Software for DP protocol incl. PG/OP communication, FDL, DP OPC server, runtime software, software and electronic manual on CD-ROM, License key on USB flash drive, Class A, for CP 5613 A3, CP 5614 A3, CP 5623 English/German	
• Single license for 1 installation	**6GK1713-5DB13-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1713-5DB00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1713-5DB00-3AE1**
FMS 5613 V7.1 SP6 (Edition 2008 + SP6) Software for FMS protocol incl. PG/OP communication, FDL, OPC server, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for CP 5613 A2, CP 5614 A2, CP 5623; English/German	
• Single license for 1 installation	**6GK1713-5FB71-3AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1713-5FB00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1713-5FB00-3AE1**

3

Ordering data

	Article No.
V7.3 SE incl. Update 1	
Runtime packages on DVD	
Incl. 512 archive tags each; language/script versions: en, de, fr, it, es; with license for	
• WinCC RT Client	**6AV6381-2CA07-3AX0**
• 128 PowerTags (RT 128)	**6AV6381-2BC07-3AX0**
• 512 PowerTags (RT 512)	**6AV6381-2BD07-3AX0**
• 2 048 PowerTags (RT 2 048)	**6AV6381-2BE07-3AX0**
• 8 192 PowerTags (RT 8 192)	**6AV6381-2BH07-3AX0**
• 65 536 PowerTags (RT 65 536)	**6AV6381-2BF07-3AX0**
• 102 400 PowerTags (RT 102 400)	**6AV6381-2BJ07-3AX0**
• 153 600 PowerTags (RT 153 600)	**6AV6381-2BK07-3AX0**
• 262 144 PowerTags (RT 262 144)	**6AV6381-2BL07-3AX0**
As download	
Including 512 archive tags each	
• WinCC RT Client	**6AV6381-2CA07-3AH0**
• 128 PowerTags (RT 128)	**6AV6381-2BC07-3AH0**
• 512 PowerTags (RT 512)	**6AV6381-2BD07-3AH0**
• 2 048 PowerTags (RT 2 048)	**6AV6381-2BE07-3AH0**
• 8 192 PowerTags (RT 8 192)	**6AV6381-2BH07-3AH0**
• 65 536 PowerTags (RT 65 536)	**6AV6381-2BF07-3AH0**
• 102 400 PowerTags (RT 102 400)	**6AV6381-2BJ07-3AH0**
• 153 600 PowerTags (RT 153 600)	**6AV6381-2BK07-3AH0**
• 262 144 PowerTags (RT 262 144)	**6AV6381-2BL07-3AH0**
Complete packages on DVD	
Language versions: en, de, fr, it, es; with license for	
• WinCC RC Client	**6AV6381-2CB07-3AX0**
• 128 PowerTags (RC 128)	**6AV6381-2BM07-3AX0**
• 512 PowerTags (RC 512)	**6AV6381-2BN07-3AX0**
• 2 048 PowerTags (RC 2 048)	**6AV6381-2BP07-3AX0**
• 8 192 PowerTags (RC 8 192)	**6AV6381-2BS07-3AX0**
• 65 536 PowerTags (RC 65 536)	**6AV6381-2BQ07-3AX0**
• 102 400 PowerTags (RC 102 400)	**6AV6381-2BT07-3AX0**
• 153 600 PowerTags (RC 153 600)	**6AV6381-2BU07-3AX0**
• 262 144 PowerTags (RC 262 144)	**6AV6381-2BV07-3AX0**
As download	
• WinCC RC Client	**6AV6381-2CB07-3AH0**
• 128 PowerTags (RC 128)	**6AV6381-2BM07-3AH0**
• 512 PowerTags (RC 512)	**6AV6381-2BN07-3AH0**
• 2 048 PowerTags (RC 2 048)	**6AV6381-2BP07-3AH0**
• 8 192 PowerTags (RC 8 192)	**6AV6381-2BS07-3AH0**
• 65 536 PowerTags (RC 65 536)	**6AV6381-2BQ07-3AH0**
• 102 400 PowerTags (RC 102 400)	**6AV6381-2BT07-3AH0**
• 153 600 PowerTags (RC 153 600)	**6AV6381-2BU07-3AH0**
• 262 144 PowerTags (RC 262 144)	**6AV6381-2BV07-3AH0**
V7.3 ASIA SE incl. update 1	
Runtime packages on DVD	
Incl. 512 archive tags each; language/script versions: en, zh-CN, zh-TW, ko, ja; with license for	
• WinCC RT Client	**6AV6381-2CA07-3AV0**
• 128 PowerTags (RT 128)	**6AV6381-2BC07-3AV0**
• 512 PowerTags (RT 512)	**6AV6381-2BD07-3AV0**
• 2 048 PowerTags (RT 2 048)	**6AV6381-2BE07-3AV0**
• 8 192 PowerTags (RT 8 192)	**6AV6381-2BH07-3AV0**
• 65 536 PowerTags (RT 65 536)	**6AV6381-2BF07-3AV0**
• 102 400 PowerTags (RT 102 400)	**6AV6381-2BJ07-3AV0**
• 153 600 PowerTags (RT 153 600)	**6AV6381-2BK07-3AV0**
• 262 144 PowerTags (RT 262 144)	**6AV6381-2BL07-3AV0**

	Article No.
Complete packages on DVD	
Language versions: en, zh-CN, zh-TW, ko, ja; with license for	
• WinCC RC Client	**6AV6381-2CB07-3AV0**
• 128 PowerTags (RC 128)	**6AV6381-2BM07-3AV0**
• 512 PowerTags (RC 512)	**6AV6381-2BN07-3AV0**
• 2 048 PowerTags (RC 2 048)	**6AV6381-2BP07-3AV0**
• 8 192 PowerTags (RC 8 192)	**6AV6381-2BS07-3AV0**
• 65 536 PowerTags (RC 65 536)	**6AV6381-2BQ07-3AV0**
• 102 400 PowerTags (RC 102 400)	**6AV6381-2BT07-3AV0**
• 153 600 PowerTags (RC 153 600)	**6AV6381-2BU07-3AV0**
• 262 144 PowerTags (RC 262 144)	**6AV6381-2BV07-3AV0**
V7.3 Powerpacks	
For upgrading from:	
Runtime packages	
• 128 to 512 PowerTags	**6AV6371-2BD07-3AX0**
• 512 to 2 048 PowerTags	**6AV6371-2BG07-3AX0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM07-3AX0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN07-3AX0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP07-3AX0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ07-3AX0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR07-3AX0**
As download	
• 128 to 512 PowerTags	**6AV6371-2BD07-3AJ0**
• 512 to 2 048 PowerTags	**6AV6371-2BG07-3AJ0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM07-3AJ0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN07-3AJ0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP07-3AJ0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ07-3AJ0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR07-3AJ0**
Complete packages	
• 128 to 512 PowerTags	**6AV6371-2BD17-3AX0**
• 512 to 2 048 PowerTags	**6AV6371-2BG17-3AX0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM17-3AX0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN17-3AX0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP17-3AX0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ17-3AX0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR17-3AX0**
As download	
• 128 to 512 PowerTags	**6AV6371-2BD17-3AJ0**
• 512 to 2 048 PowerTags	**6AV6371-2BG17-3AJ0**
• 2 048 to 8 192 PowerTags	**6AV6371-2BM17-3AJ0**
• 8 192 to 65 536 PowerTags	**6AV6371-2BN17-3AJ0**
• 65 536 to 102 400 PowerTags	**6AV6371-2BP17-3AJ0**
• 102 400 to 153 600 PowerTags	**6AV6371-2BQ17-3AJ0**
• 153 600 to 262 144 PowerTags	**6AV6371-2BR17-3AJ0**
V7.3 Archives	
• 1 500 Archive Tags	**6AV6371-1DQ17-3AX0**
• 5 000 Archive Tags	**6AV6371-1DQ17-3BX0**
• 10 000 Archive Tags	**6AV6371-1DQ17-3CX0**
• 30 000 Archive Tags	**6AV6371-1DQ17-3EX0**
• 80 000 Archive Tags	**6AV6371-1DQ17-3GX0**
As download	
• 1 500 Archive Tags	**6AV6371-1HQ17-3AX0**
• 5 000 Archive Tags	**6AV6371-1HQ17-3BX0**
• 10 000 Archive Tags	**6AV6371-1HQ17-3CX0**
• 30 000 Archive Tags	**6AV6371-1HQ17-3EX0**
• 80 000 Archive Tags	**6AV6371-1HQ17-3GX0**

Ordering data

	Article No.
V7.3 Archive Powerpacks	
For upgrading archiving from	
• 1 500 to 5 000 Archive Tags	**6AV6371-1DQ17-3AB0**
• 5 000 to 10 000 archive tags	**6AV6371-1DQ17-3BC0**
• 10 000 to 30 000 Archive Tags	**6AV6371-1DQ17-3CE0**
• 30 000 to 80 000 Archive Tags	**6AV6371-1DQ17-3EG0**
As download	
• 1 500 to 5 000 Archive Tags	**6AV6371-1JQ17-3AB0**
• 5 000 to 10 000 archive tags	**6AV6371-1JQ17-3BC0**
• 10 000 to 30 000 Archive Tags	**6AV6371-1JQ17-3CE0**
• 30 000 to 80 000 Archive Tags	**6AV6371-1JQ17-3EG0**
SIMATIC WinCC Upgrades/ Software Update Service	
SIMATIC WinCC V7.3 upgrade [1]	
For upgrading the RT version	
• From V6.2/7.0 to V7.3	**6AV6381-2AA07-3AX4**
• From V7.2 to V7.3	**6AV6381-2AA07-3AX3**
• From V6.2 ASIA to V7.3 ASIA [2]	**6AV6381-2AA07-3AV4**
• From V7.2 ASIA to V7.3 ASIA	**6AV6381-2AA07-3AV3**
As download	
• From V6.2/7.0 to V7.3	**6AV6381-2AA07-3AK4**
• From V7.2 to V7.3	**6AV6381-2AA07-3AK3**
For upgrading the RC version	
• From V6.2/7.0 to V7.3	**6AV6381-2AB07-3AX4**
• From V7.2 to V7.3	**6AV6381-2AB07-3AX3**
• From V6.2 ASIA to V7.3 ASIA [2]	**6AV6381-2AB07-3AV4**
• From V7.2 ASIA to V7.3 ASIA	**6AV6381-2AB07-3AV3**
As download	
• From V6.2/7.0 to V7.3	**6AV6381-2AB07-3AK4**
• From V7.2 to V7.3	**6AV6381-2AB07-3AK3**
For upgrading the Client RT version	
• From V6.2 to V7.3	**6AV6381-2CA07-3AX4**
• From V7.0/7.2 to V7.3	**6AV6381-2CA07-3AX3**
• From V6.2 ASIA to V7.3 ASIA	**6AV6381-2CA07-3AV4**
• From V7.0/7.2 ASIA to V7.3 ASIA	**6AV6381-2CA07-3AV3**
As download	
• From V6.2 to V7.3	**6AV6381-2CA07-3AK4**
• From V7.0/7.2 to V7.3	**6AV6381-2CA07-3AK3**
For upgrading the Client RC version	
• From V7.x to V7.3	**6AV6381-2CB07-3AX3**
• From V7.X ASIA to V7.3 ASIA [2]	**6AV6381-2CB07-3AV3**
As download	
• From V7.x to V7.3	**6AV6381-2CB07-3AK3**
SIMATIC WinCC Software Update Service (SUS) [3] [4] [5]	
SIMATIC WinCC V7 Update	
Software Update Service for WinCC basic software and options:	
• 1 license	**6AV6381-1AA00-0AX5**
• 3 licenses	**6AV6381-1AA00-0BX5**
• 10 licenses	**6AV6381-1AA00-0CX5**
As download	
• 1 license	**6AV6381-1KA00-0AX5**
• 3 licenses	**6AV6381-1KA00-0BX5**
• 10 licenses	**6AV6381-1KA00-0CX5**
SIMATIC WinCC V7.3 SE incl. Update 1 DVD WinCC V7.3 SE incl. Update 1	**S79220-B5964-P**

	Article No.
SIMATIC WinCC V7.3 communication	
Communication via Industrial Ethernet / PROFIBUS	
CP 1612 A2 PCI card (32-bit) for connection of a programming device or PC to Industrial Ethernet (10/100/1 000 Mbps) with RJ45 connection via SOFTNET S7 and SOFTNET PG. Windows 8.1 and Windows 2012 Server are not supported.	**6GK1161-2AA01**
SOFTNET-IE S7 Version 13 SP2 [6] Software for S7-compatible and S5-compatible communication incl. OPC server, PG/OP communication and NCM PC; up to 64 connections; single license for one installation of runtime software, software and electronic manual on CD-ROM; license key on USB stick; Class A for CP 1612 A2 English/German	
• Single license for 1 installation	**6GK1704-1CW13-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1704-1CW00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1704-1CW00-3AE1**
SOFTNET-IE S7 Lean Version 13 SP2 [6] (license included in scope of supply of WinCC V7.4 SP1/V7.3) Software for S7 and S5-compatible communication including OPC server, PG/OP communication and NCM PC; up to 8 connections; single license for one installation of runtime software, software and electronic manual on CD-ROM, License Key on USB stick, Class A, for CP 1612 A2, English/German	
• Single license for 1 installation	**6GK1704-1LW13-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1704-1LW00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1704-1LW00-3AE1**

[1] According to licensing provisions, 1 upgrade package must be ordered for each WinCC station

[2] Upgrading from V7.0 RT/RC ASIA to V7.3 ASIA is carried out using the "respective non-Asia package"

[3] The Software Update Service is valid for 1 year. The contract is automatically extended by 1 more year unless canceled 3 months prior to expiration. According to licensing provisions, 1 Software Update Service must be ordered for each WinCC station.

[4] Requires the current software version

[5] SUS is available as download

[6] The SIMATIC NET PC software delivered with SIMATIC WinCC V7.3 must always be used. The scope of supply for WinCC V7.3 includes the SIMATIC NET PC software V12 SP2 / supported operating systems: 32/64-bit Windows 7 SP1 Professional, Ultimate, 32/64-bit Windows 8.1, 64-bit Windows 2008 Server R2 SP2, 64-bit Windows 2012 Server R2 and SIMATIC NET PC Software V7.1 SP6 (Edition 2008+SP6) / supported operating systems: Windows 2012 Server R2 (64-bit), Windows 7 SP1 (32-bit/64-bit) Professional, Enterprise, Ultimate, Windows Server 2008 Standard. Only use the license from the product package of the above listed SIMATIC NET PC software products. Licenses supplied with SIMATIC NET V12 SP2 are valid for all older versions as of Edition 2006. Windows 2003, Windows XP and VISTA are no longer supported

Ordering data

Ordering data	Article No.
SIMATIC WinCC V7.3 communication via Industrial Ethernet / PROFIBUS (continued)	
CP 1613 A2 PCI card (32-bit) for connecting a programming device/PC to Industrial Ethernet (communications software must be ordered separately)	**6GK1161-3AA01**
CP 1623 PCI Express X1 card (32-bit) for connection of programming device/PC to Industrial Ethernet (communications software must be ordered separately)	**6GK1162-3AA00**
CP 1628 PCI Express X1 card (32-bit) for connecting a programming device/PC to an Industrial Ethernet (communications software must be ordered separately)	**6GK1162-8AA00**
HARDNET-IE S7 V13 SP2 [6)] Software for S7-compatible and S5-compatible communication incl. OPC server, PG/OP communication and NCM PC, single license for one installation of runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A for CP 1613 A2, CP 1623, CP 1628; English/German	
• Single license for 1 installation	**6GK1716-1CB13-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1716-1CB00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1716-1CB00-3AE1**
SIMATIC WinCC V7.3 Communication via PROFIBUS	
CP 5612 [7)] PCI card (32-bit) for connecting a programming device/PC to PROFIBUS (communications software included in WinCC Basic package)	**6GK1561-2AA00**
CP 5622 [7)] PCI Express X1 card (32-bit) for connecting a programming device/PC to PROFIBUS (communications software included in WinCC Basic package)	**6GK1562-2AA00**
CP 5711 USB adapter for connecting a programming device/PC to PROFIBUS or MPI (communications software included in WinCC Basic package)	**6GK1571-1AA00**
CP 5613 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately)	**6GK1561-3AA02**
CP 5614 A3 PCI card (32-bit) for connecting a PC to PROFIBUS (communications software must be ordered separately)	**6GK1561-4AA02**
CP 5623 PCI Express X1 card (32-bit) for connection of programming device/PC to Industrial Ethernet (communications software must be ordered separately)	**6GK1562-3AA00**

	Article No.
HARDNET-PB S7 V8.2 SP1 [6)] Software for S7 communication incl. PG/OP communication, FDL, OPC server, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A; for CP 5613-A2, CP 5614-A2, CP 5623 English/German	
• Single license for 1 installation	**6GK1713-5CB08-2AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1713-5CB00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1713-5CB00-3AE1**
HARDNET-PB S7 V13 SP2 [6)] Software for S7 communication incl. PG/OP communication, FDL, OPC server, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A; for CP 5613-A2, CP 5614-A2, CP 5623 English/German	
• Single license for 1 installation	**6GK1713-5CB13-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1713-5CB00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1713-5CB00-3AE1**
HARDNET-PB DP V13 SP2 [6)] Software for DP protocol incl. PG/OP communication, FDL, DP OPC server, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A, for CP 5613-A2, CP 5614-A2, CP 5623; English/German	
• Single license for 1 installation	**6GK1713-5DB13-0AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1713-5DB00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1713-5DB00-3AE1**
FMS-5613 V7.1 SP6 (Edition 2008+SP6) [6)] Software for FMS protocol incl. PG/OP communication, FDL, OPC server runtime software, software and electronic manual on CD ROM, License Key on USB stick, Class A; For CP 5613-A2, CP 5614-A2, CP 5623; English/German	
• Single license for 1 installation	**6GK1713-5FB71-3AA0**
• Upgrade package for SIMATIC NET Edition 2006 or higher	**6GK1713-5FB00-3AE0**
• Upgrade package for SIMATIC NET V6.0, V6.1, V6.2 and Edition 2005	**6GK1713-5FB00-3AE1**

6) The SIMATIC NET PC software delivered with SIMATIC WinCC V7.3 must always be used. The scope of supply for WinCC V7.3 includes the SIMATIC NET PC software V12 SP2 / supported operating systems: 32/64-bit Windows 7 SP1 Professional, Ultimate, 32/64-bit Windows 8.1, 64-bit Windows 2008 Server R2 SP2, 64-bit Windows 2012 Server R2 and SIMATIC NET PC Software V7.1 SP6 (Edition 2008+SP6) / supported operating systems: Windows 2012 Server R2 (64-bit), Windows 7 SP1 (32-bit/64-bit) Professional, Enterprise, Ultimate, Windows Server 2008 Standard. Only use the license from the product package of the above listed SIMATIC NET PC software products. Licenses supplied with SIMATIC NET V12 SP2 are valid for all older versions as of Edition 2006. Windows 2003, Windows XP and VISTA are no longer supported.

7) Only for WinCC single-user system / supported operating systems: 32/64-bit Windows 7 Professional, Ultimate

More information

WinCC language versions

SIMATIC WinCC is also offered in simplified Chinese, traditional Chinese, Korean and Japanese especially for Asian markets. These WinCC versions are intended for machine manufacturers, plant constructors and exporters who supply the regions of China, Taiwan, Korea and Japan.

WinCC ASIA includes all familiar WinCC functions and offers in addition the configuration user interface in the respective national language and English. The online help is available in simplified Chinese, traditional Chinese, Korean, Japanese and English. A Chinese, Korean, Japanese or multilingual Windows operating system is required for operation.

The runtime licenses are language-neutral. The English handling program (Automation License Manager – ALM) is executable under the Chinese, Korean and Japanese Windows versions.

In order to use the Asian languages in WinCC, an Asia hardware dongle is required.

More information is available on the Internet at:

http://www.siemens.com/wincc

http://www.siemens.com/wincc-v7

IPC packages

There are attractive packages available with SIMATIC Rack PCs (IPC347, IPC547, IPC647, IPC847), SIMATIC Box PCs (IPC227, IPC427, IPC627, IPC827) and SIMATIC Panel PCs (IPC277, IPC477, IPC677) for a completely matched software and hardware package. These IPCs can be configured in different ways for use as single station, server or client.

Downloads:

In most cases, the products can also be obtained as software downloads.

More information on Online Software Delivery is available here:

http://www.automation.siemens.com/mcms/topics/en/simatic/online-software-delivery/Seiten/default.aspx

SIMATIC WinCC options

Overview

The universal WinCC basic software is the basis for modular expansions. These functional expansions can be obtained in the form of WinCC options and as WinCC Premium add-ons.

WinCC options are created by WinCC Development and are Siemens Industry Automation products. You can obtain support from our Advisory Services and via the central hotline.

Options for scalable plant configurations

- WinCC/Server
  For configuring a powerful client/server system
- WinCC/Redundancy
  For increasing system availability through redundancy
- WinCC Web Navigator
  For operator control and monitoring of plants via the Internet, in-house intranet or LAN
- WinCC WebUX
  For operator control and monitoring of plants, independent of platforms and browsers, via the Internet, in-house intranet or LAN
- SIMATIC Process Historian
  Central, scalable long-term archive for the whole plant
  http://www.siemens.com/simatic-process-historian
- SIMATIC TeleControl
  For connecting outlying stations (remote terminal units = RTUs) via telecontrol protocols in a WinCC SCADA system

Options for greater efficiency in operations management

- WinCC/User Archives
  For managing data records in user archives
- WinCC DataMonitor
  For displaying and evaluating current process states and historical data on office PCs with standard tools
- WinCC/Performance Monitor
  For analysis and optimization of production on the basis of individual performance indicators
- WinCC/SES (Sequence Execution System)
  Scalable step sequence control for sequence-based processes
- WinCC/Audit
  - Change management
  - Generation of audit trails for engineering and runtime
- WinCC/Calendar Scheduler
  Calendar-based planning of events
- WinCC/ChangeControl
  - Change and version management
  - Generation of audit trails for engineering
- WinCC/Event Notifier
  For sending of notifications triggered by specific events in the WinCC message system
- SIMATIC Information Server
  Web-based, integrated reporting from production to management, based on archived data
  http://www.siemens.com/simatic-information-server

Options for openness and individual system expansions

- WinCC/Connectivity Pack
  Access to WinCC logs via OPC HDA, OPC A&E, OPC XML Server, OPC UA Server/Client and WinCC OLE-DB /OLE-DB
- WinCC/Connectivity Station
  Gateway to WinCC server data via OPC HDA, OPC A&E, OPC XML server, OPC UA Server/Client, and WinCC OLE-DB /OLE-DB from independent computers
- WinCC IndustrialDataBridge
  Configurable connection to databases and IT systems
  http://www.siemens.de/idb
- WinCC/ODK (Open Development Kit)
  For the use of open programming interfaces and the generation of customer-specific WinCC ActiveX objects

You can find more information under:

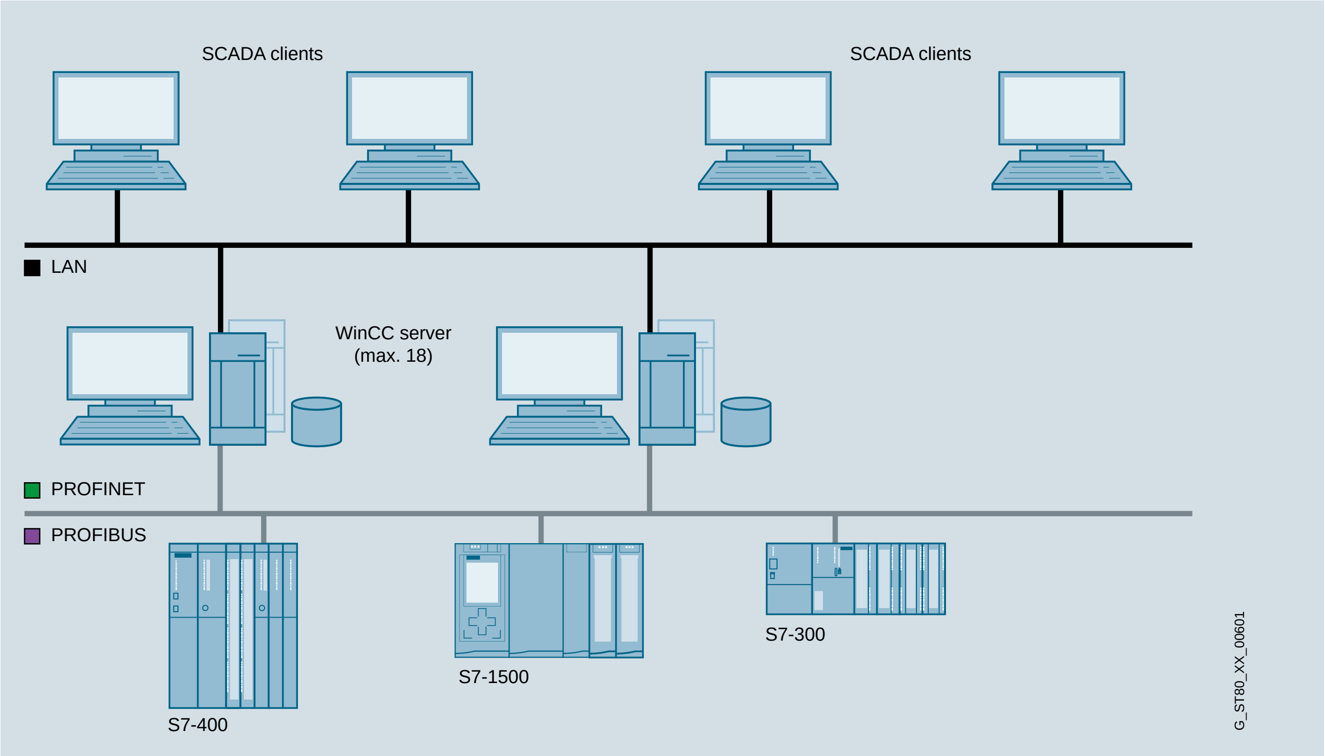
http://www.siemens.com/simatic-wincc-options

More information

WinCC options

http://www.siemens.com/wincc-options

Overview



WinCC/Server

SIMATIC WinCC/Server

- Option for SIMATIC WinCC, which permits the configuration of a powerful client/server system.
- One of the following operating systems must be available to install the option on the server:
  - Windows Server 2008 R2 SP1,
  - Windows Server 2012 R2,
  - Windows Server 2016,
  - Windows 7 SP1,
  - Windows 8.1 or Windows 10
- A maximum of 3 clients can be connected when using the non-server operating systems Windows 7 SP1, Windows 8.1 and Windows 10.
- A number of coordinated HMI stations can be operated in a single group with networked automation systems
- Client/server solution:
  - Client without its own project ("UNI-Client"): One (redundant) server can supply up to 64 clients with process and archive data, messages, images and reports. The clients act as display and operating stations for the project on the server.
  - Client with its own project ("MULTI-Client"): One client can simultaneously access up to 18 (redundant) servers. These servers make the data and images available. This data can be collectively processed and displayed in the client project in order, for example, to implement a system overview across several servers. In this case, one server can supply data to as many as 50 clients.
- Requirement: Network connection (TCP/IP) between the server PC and the connected clients
- One license is required per server.

3

Benefits

- Plant-wide scalability from the single-user system to the client/server solution
- Significantly higher quantity framework, relieving the individual servers and better performance due to distributing the complete application or tasks over several servers
- Low-cost configuration on the client is possible (the minimum RC license is sufficient)

Application

In a complex plant, WinCC can also be configured as a distributed system according to requirements:

- Functional distribution (e.g. message servers, archive servers, etc.) or
- Distribution according to the physical plant structure (e.g. body-in-white, paintshop, etc.)

Function

Each client can access more than one server at a time. Clients can also be used for configuration on the server.

A configuration of WinCC clients as a central Web server - as a distributed system if required - with an overview of all server projects in the system is also possible.

For WinCC clients, only the smallest runtime license WinCC RT client is required. In order to also facilitate configuration on WinCC clients, the smallest complete license WinCC RC client is required. Remote configuration is possible if WinCC clients without their own project (Uniclients) on the server project are configured. This makes it possible to configure inexpensive operator and configuration stations in a network.

Ordering data

Ordering data	Article No.
SIMATIC WinCC/Server V7.4 SP1	
• runtime software, single license	**6AV6371-1CA07-4AX0**
• as download, runtime software, single license	**6AV6371-1HA07-4AX0**
SIMATIC WinCC/Server V7.3	
• runtime software, single license	**6AV6371-1CA07-3AX0**
• as download, runtime software, single license	**6AV6371-1HA07-3AX0**

Overview

WinCC/Redundancy

- Option for SIMATIC WinCC, supporting the parallel operation of two interfaced WinCC single-user systems or process data servers for mutual monitoring
- If one of the two server PCs or one of the two WinCC stations fails, the second one will take over control of the entire system. Once the failed server or station is restored to operation, the content of all the message and process value archives are copied to it.
- One WinCC/Redundancy package is required for each redundant pair of servers.

Benefits

- Increased system availability with continuous data integrity
- Automatic changeover of client in the event of failure of a server or failure of the communication to a server
- Continuous operator control and visualization thanks to automatic client changeover to the intact server
- Automatic updating of all archives in the background after rectification of the fault

Function

Normally, two WinCC stations or process data servers run in parallel. Each station has its own process connection and its own data archives. WinCC/Redundancy ensures automatic matching of system and user archive data.

If one of the two server computers or WinCC stations fails, the second will take over the archiving of messages and process data, thereby ensuring seamless data integrity. In client/server mode, the clients are automatically switched from the failed server to the redundant partner. This ensures continuous plant visualization and operation on every operator station.

When the failed partner resumes operation, all process values, messages and data archived during the fail period are automatically matched with the partner. This process runs in the background and does not affect plant continuity. Once this is complete, two equivalent servers/stations will be available again.

Communication with the SIMATIC S7 PLC can also be configured with redundancy (an H Series SIMATIC S7 is required) by plugging in two communication modules and configuring two communication paths (S7-REDCONNECT software package). The use of failsafe H Series SIMATIC S7 PLCs can, if required, further increase availability at control level.

Ordering data

Ordering data	Article No.
SIMATIC WinCC/Redundancy V7.4 SP1	
• runtime software, single license for 2 installations	**6AV6371-1CF07-4AX0**
• as download, runtime software, single license for 2 installations	**6AV6371-1HF07-4AX0**
SIMATIC WinCC/Redundancy V7.3	
• runtime software, single license for 2 installations	**6AV6371-1CF07-3AX0**
• as download, runtime software, single license for 2 installations	**6AV6371-1HF07-3AX0**

3

Overview

WinCC/User Archives

- Option for SIMATIC WinCC for managing data sets in user archives that contain related data.
- WinCC and its automation partners (e.g. a SIMATIC S7 controller) write these data sets and exchange them if required.
- A license is only required for the server (or single-user system).

The WinCC/User Archives option can also be used in the context of the WinCC WebNavigator (see also WinCC WebNavigator option).

Benefits

- Storing and managing of any user data in data sets
- Flexible display using ActiveX controls
- Simple linking of data set fields to the process via direct tag linking
- Import/export functions for further processing with other tools (e.g. MS Excel)

Function

- Input of parameter sets (e.g. operating parameters of a machine) in WinCC, storage of the sets in the user archive, and forwarding to the automation level
- Continuous acquisition of production parameters by the automation system and forwarding of the parameters to WinCC at the end of the shift
- Acquisition of batch data
- Specification of production parameters
- Management of warehousing data

WinCC user archives are created and assigned data in a user-friendly way using a dedicated editor. Special ActiveX controls are used for displaying data from the user archives at runtime.

Data sets and fields from user archives are linked to the process via direct tag linking.

Import and export functions support read-in/out of data via external applications (e.g. MS Excel). Freely selectable filter criteria allow clear representation of data sets.

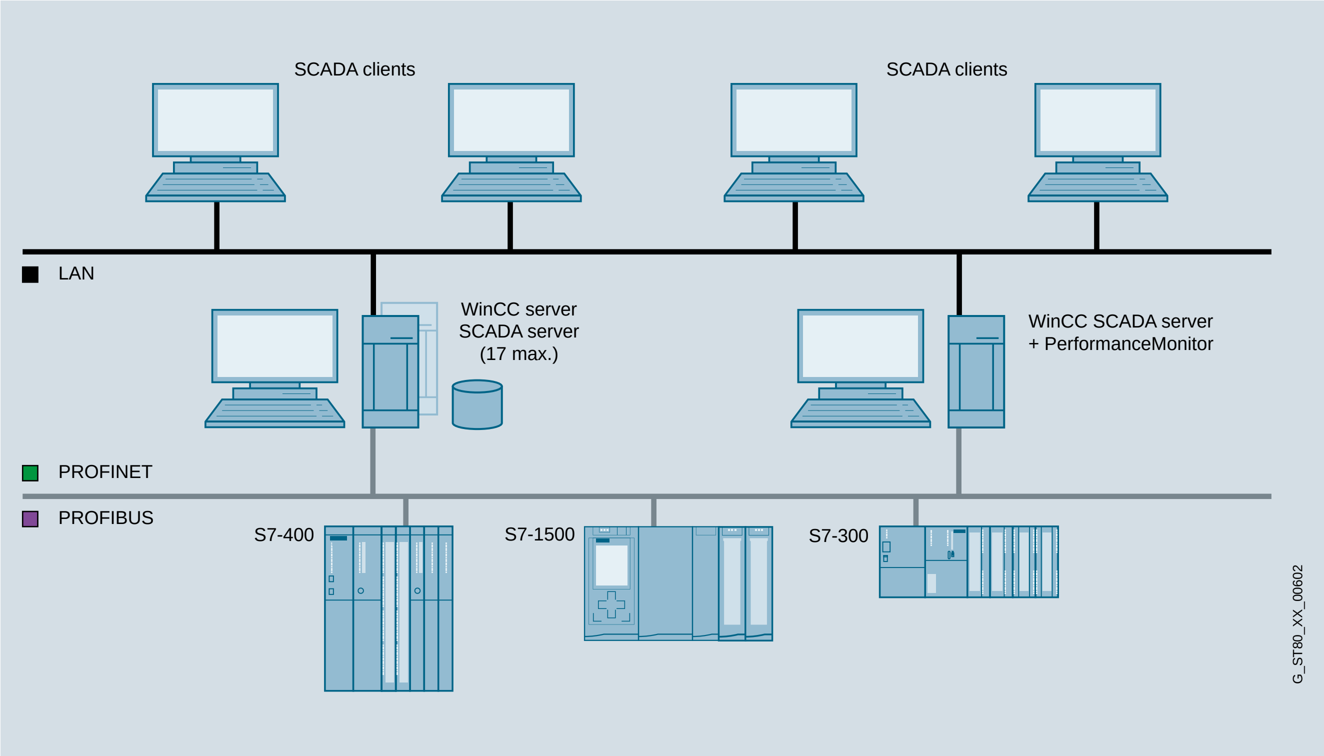
WinCC provides functions for free organization of the data storage in the user archives that affect archives, data sets and fields. Archives can thus be generated, opened, closed, or reset, and data sets or field contents can be read, written or overwritten.

Sequence archives can accommodate batch data, shift production data, or also product quality data, and meet legal obligations for verification thanks to gap-free recording.

Ordering data

Ordering data	Article No.
SIMATIC WinCC/User Archives	
• Option for SIMATIC WinCC V7.4, runtime software, single license	**6AV6371-1CB07-4AX0**
• Option for SIMATIC WinCC V7.3, runtime software, single license	**6AV6371-1CB07-3AX0**
As download	
• Option for SIMATIC WinCC V7.4, runtime software, single license	**6AV6371-1HB07-4AX0**
• Option for SIMATIC WinCC V7.3, runtime software, single license	**6AV6371-1HB07-3AX0**

Overview



WinCC/PerformanceMonitor

WinCC/PerformanceMonitor
Analysis and optimization of production on the basis of individual performance indicators

The WinCC/PerformanceMonitor facilitates flexible calculation and powerful analysis of plant-specific key performance indicators (KPIs). The indicators provide the basis for deriving optimization potential, thus enabling productivity enhancement.

They relate to individual machine groups, plant sections or production lines. The elements to be monitored are designated as equipment. Indicators are calculated based on operands which are derived from already configured WinCC tags.

By combining them with associated values, more accurate production correlations can be highlighted, such as quality/supplier dependencies. The calculation formulas used are quick and simple to create in WinCC.

Analysis of the indicators and their operands can be carried out in the WinCC system at any time. Indicators, along with their associated values if required, can be clearly displayed in bar graphs, allowing easy comparison. In addition, the input values of each performance indicator can be shown via an integrated analysis function (drill-down). The Gantt chart illustrates the chronological sequence of the operands. The table display lists the archived values, allowing subsequent correction if required. Performance indicators calculated online, either cyclically or triggered by a tag, can be written to WinCC tags for further processing in WinCC, and display in WinCC images, for example.

The PerformanceMonitor can be combined with the Web Navigator for distribution on the internet, and with the Information Server for reporting purposes. Integration into WinCC ensures fast configuration and complete transparency across all machine and plant data as a basis for optimizing plant productivity.

- The WinCC/PerformanceMonitor can be installed on a WinCC stand-alone system, WinCC server or WinCC client project (WinCC RT client license), and consists of an engineering client as well as a runtime user interface.
- The WinCC/PerformanceMonitor provides ActiveX control elements for embedding in WinCC images.
  - PerformanceControl: Bar graphs for displaying performance indicators in relation to context values, showing the operands for cause analysis in each case.
  - Gantt chart: Chronological sequence of time-based operands
  - TableControl: Tabular listing of operands with post correction option.
- With the help of the integrated configuration environment, operands are calculated (based on tags) which can be used to calculate key statistics at the set evaluation time.
- For analysis via intra- or Internet, the controls of the WinCC/PerformanceMonitor are available when using the WinCC WebNavigator.
- The SIMATIC Information Server can be used for generating plant-specific, Web-based reports (predefined and expandable).
- The archived values (operands, context) form the foundation for the analysis and are one-by-one licensing relevant on an additive basis.
- The basic package comprises a configuration environment, runtime controls (bars, Gantt, tables) and a license for archiving 30 values. The logged values (operands, context) form the basis of the analysis.
- If more values are to be logged, the number of archive values can be increased in steps of 30, 100, 300 or 1 000.

3

Benefits

Management and quality assurance

Complete transparency throughout the machine park as the basis for optimizing plant productivity.

- Recording of downtimes, localizing causes and reasons for failure times, and monitoring of equipment efficiency.
- Decision making based on performance indicators.
- Global availability of information server reports means they can be used by different user groups.
- Recognition of production correlations by combining associated values with indicators such as material used.

Servicing and maintenance

Support through cyclic and process-event triggered calculation of characteristics:

- Standardization of new plants by defining controller-based status information for key figure calculation
- Individual, targeted analysis using plant-specific performance indicators.
- Weak-point analysis in production processes and recording of undesirable process activities.
- Cause analysis by examining "drill down to operands" calculation basis.
- Identification of the events that lead to cost-intensive failures.

Line management and plant operator

The operator is always kept up-to-date by graphical display of the characteristics.

- Later modification of archived input values.
- Continuous information at the operator interface thanks to integration in the WinCC user interface.
- Alarm messaging of limit violations and trend recording through cyclic calculation of characteristics.
- Integration into the WinCC system means it is not necessary to train operating personnel
- Quick detection of weaknesses in the process using cyclic calculation of characteristics.

WinCC Engineering

- Quick configuration of WinCC operator displays with WinCC and web-based reports from the Information Server.
- Minimal networking overhead by using the WinCC infrastructure in the local network as well as for the Internet.
- Short familiarization times and simple configuration using familiar tools for user interfaces and reports (WinCC, SIMATIC Information Server)
- Minimal configuration overhead due to the type-instance concept
- Minimal administrative overhead by using the WinCC infrastructure in the local network as well as for the Internet.

Highlights

Creation of performance indicators by the WinCC engineer with subsequent utilization by all user groups in the manufacturing company on WinCC stations or Internet clients.

Application

All user groups benefit from the PerformanceMonitor, from the application engineer to management-level evaluators. The engineer can use the application environment integrated in WinCC to derive individual formulas for calculating performance indicators.

Management uses Web-based reporting without the need for installation on standard computers. For maintenance, the web client of the WebNavigator can be used for analysis with the bar (for performance), progression (Gantt) and table controls.

Performance indicators can be displayed on local user interfaces using standard WinCC resources to keep machine operators up to date. Performance indicators in the on-site WinCC system keep machine operators up to date.

The service engineer can analyze the plant from his/her workstation using the WinCC Client, the Webclient of the WinCC WebNavigator, for example. At the management level, it is possible to access Web-based reports without the need for installation on standard computers.

Function

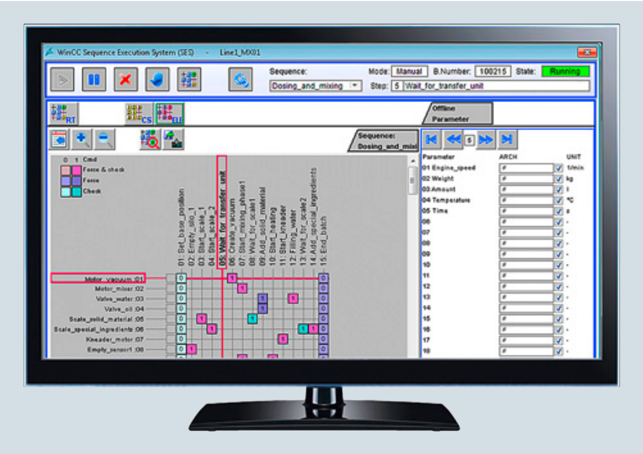
- Structuring of the production plant in equipment units constituting central elements for evaluation
- Use of structured tags in order to facilitate implementation of machine status models
- WinCC tags are compressed to an operand using formulas
- Calculated operands are stored in the archive
- Archived operands are used as input values for calculating performance indicators
- Bar graphs for analyzing performance indicators and root cause determination (drill down)
  Indicator input values (operands) can be displayed if required.
- Tabular presentation of all operands (input values)
- Progression diagrams (Gantt charts) of time-based operands
- Cyclic or event-triggered calculation results are written to WinCC tags
- WinCC Runtime, alarm logging and trend logging can utilize cyclically-calculated values
- Database information and evaluations can be displayed at every WinCC station
- Information server reports can be displayed on independent PC workstations

Ordering data

Ordering data	Article No.
WinCC/PerformanceMonitor	
WinCC/PerformanceMonitor Basic Package	
including 30 PerformanceMonitor archive tags	
• WinCC/PerformanceMonitor V7.4 for WinCC V7.4	**6AV6372-2DG07-4AA0**
• WinCC/PerformanceMonitor V7.3 for WinCC V7.3	**6AV6372-2DG07-3AA0**
As download	
• WinCC/PerformanceMonitor V7.4 for WinCC V7.4	**6AV6372-2HG07-4AA0**
• WinCC/PerformanceMonitor V7.3 for WinCC V7.3	**6AV6372-2HG07-3AA0**
Option for WinCC/PerformanceMonitor V7.3 and V7.4	
Basic package	
• 30 additive PerformanceMonitor Archive Tags	**6AV6372-2CG20-0BA0**
• 100 additive PerformanceMonitor Archive Tags	**6AV6372-2CG20-0CA0**
• 300 additive PerformanceMonitor Archive Tags	**6AV6372-2CG20-0DA0**
• 1 000 additive PerformanceMonitor Archive Tags	**6AV6372-2CG20-0EA0**
As download	
• 30 additive PerformanceMonitor Archive Tags	**6AV6372-2JG20-0BA0**
• 100 additive PerformanceMonitor Archive Tags	**6AV6372-2JG20-0CA0**
• 300 additive PerformanceMonitor Archive Tags	**6AV6372-2JG20-0DA0**
• 1 000 additive PerformanceMonitor Archive Tags	**6AV6372-2JG20-0EA0**
WinCC/PerformanceMonitor Upgrade	
V7.x to V7.4	
• Standard software	**6AV6372-2DG07-4AX3**
• As download	**6AV6372-2KG07-4AX3**

WinCC/SES (Sequence Execution System)

Overview



WinCC/SES

The WinCC/SES (Sequence Execution System) is designed for the sequential control of recipe and sequence-based processes in production. WinCC/SES is especially suitable for production plants in which dosing, mixing and material transport are important process actions.

Sequence controls can be structured with a high degree of flexibility, with the production steps being defined in a clear configuration interface and freely combined to form individual process sequences. In addition both the step sequences and the parameters can be modified online during production runs.

WinCC/SES helps the user to fine tune their production processes by allowing them to easily combine automatic sequences with manual interventions. This means that operators can react quickly and intervene in the running process, for example when quality of the raw materials fluctuates or if a different sequence among the production steps becomes necessary to facilitate more versatile production paths.

WinCC/SES also offers a high level of system availability and rapid response times since the program sequence takes place directly on the automation controller instead of on the PC.

Benefits

- Combination of automatic step sequence with manual fine adjustment of the production sequences (e.g. if behavior of natural raw materials fluctuates)
- Due to the pre-assembled SES visualization control and the SES function blocks, a high degree of engineering efficiency is achieved, because the plant engineer or configurator saves both engineering and testing and commissioning time as a result.
- SES allows flexible paths through the production and is thus an enabler for even utilization of the individual production plants
- Increased quality due to efficient operations management
- SES fulfils the real-time requirement because the steps run in the PLC
- High availability due to the execution of the step sequencer in the PLC.
- Low training costs due to uniform procedures for all step sequencers
- Minimal engineering outlay due to standardization

Application

WinCC/SES is used in production facilities in which dosing, mixing and material transport play an important role.
In such facilities, raw materials stored in tanks, silos or containers must be combined in the right process sequence with reaction containers and processing machines. This is done over several processing steps until the end product.

In WinCC/SES, the plant operator defines the production steps of his production units, specifies the production parameters such as the setpoints, and defines the corresponding production sequences in the form of step sequencers, which may comprise numerous single steps.

The SES operator control provides live visualization of the steps, including intuitive operation. After the start of production, all of the steps and production parameters such as the setpoints and actual values, as well as the current status of the production sequence are displayed in the form of an overview in the SES operator control.
During operation, the operator can thus quickly and easily readjust production sequences by manually intervening in the automatic step sequence online and, if necessary, by jumping to another step or changing the step sequence. This is required, for example, if the quality of natural raw materials fluctuates or if a different order of individual production steps is generally needed for flexible paths through production.

High system availability and fast response times are characteristic of WinCC/SES, because all of the step sequencers do not run on the PC. Instead, they are executed directly on the PLCs. As a result, the user gets a real-time behavior, on the one hand, due to the processing on the PLCs and, on the other hand, this also increases the protection against failures, because a batch continues to be produced without changes if the PC/SCADA fails.

Ordering data

Ordering data	Article No.
SIMATIC WinCC/SES Sequence Execution System Software option package for the sequential control of recipe and sequence-based processes in production, functional enhancement for SIMATIC WinCC; electronic documentation in English, German	
V7.4[1)]	
• Basic package For configuration of the Sequence Execution System	**6AV6372-2DJ07-4AA0**
• Extension 5 units For increasing the number of units [2)]	**6AV6372-2BJ07-4BA0**
Download	
• Basic package	**6AV6372-2HJ07-4AA0**
• Extension 5 units	**6AV6372-2JJ07-4BA0**
Upgrades	
• Basic Package Upgrade 7.4	**6AV6372-2DJ17-4AA0**
• Extension 5 units Upgrade 7.4	**6AV6372-2BJ17-4BA0**
As download	
• Basic Package Upgrade 7.4	**6AV6372-2HJ17-4AA0**
• Extension 5 units Upgrade 7.4	**6AV6372-2JJ17-4BA0**

1) Also compatible with WinCC V7.4 SP1

2) Additionally requires STEP7 V5.5. Based on SIMATIC S7-300 from S7-315 or higher, redundancy and WebNavigator are not supported.

Overview

WinCC/Audit & WinCC/ChangeControl

- ***WinCC/ChangeControl*** is used to trace engineering changes in a tamper-proof long-term audit trail database, called the audit trail for short. All engineering changes are automatically recorded in the audit trail. This provides a traceable record of every change that has been made, as well as enabling the causes to be deduced and the system downtimes to be minimized.
  To begin tracing at a defined project status, a project version definition is provided that contains all data and files of a WinCC project version. The project version definition naturally provides the ability to reactivate earlier project versions. Document management is also provided, which manages and archives intermediate status for system graphics, reports or user files and stores change information of the user. The audit viewer with helpful filter functions enables the audit trail to be quickly and easily evaluated, exported or even printed out.
- ***WinCC/Audit*** includes the full functionality of WinCC/ChangeControl and is also used for tracing all operations. All operations are automatically recorded in the audit trail at RT.
- Licensing:
  To configure which change information from the project should be recorded in the audit trail, the WinCC/ChangeControl RC or WinCC/Audit RC package is required. "RC" stands for Runtime and Configuration. It is required on the station that is to be configured and also includes an RT license. For recording an audit trail, one WinCC/Audit RT license is required per WinCC station (Client/Server).
- The WinCC/Audit or WinCC/ChangeControl options and SIMATIC Logon support users in the validation of their plants and meet the requirements according to FDA CFR 21 Part 11.

Benefits

- Quick and easy traceability configuration
- Gap-free and automated recording of engineering changes and operator actions in an audit trail
- Reduction in plant downtimes thanks to fast analysis of the gap-free recorded audit trail information
- Logging of defined WinCC project status with all database information and files of the application
- Gap-free documentation of the project version definition procedures with version number, user and comments
- Complete tracing support by WinCC single and multi-station systems, single and multi-project solutions, Client/Server architecture
- Extensive reduction in engineering outlay in order to meet the requirements of FDA 21 CFR Part11 & EU 178/2002
- Compliance with the requirements of the Food and Drug Administration (FDA) for the food, beverages and tobacco industries

Design

WinCC/ChangeControl and WinCC/Audit consist of five components:

- The audit editor for configuration the audit trail content
- The project version definition for logging WinCC projects
- Document management for automatic archiving and versioning of WinCC plant mimics, scripts, reports, and project-specific documents, and the recording of the associated change information
- The audit viewer for visualizing, exporting and printing WinCC and WinCC flexible audit trails. The viewer is available as an executable program under Windows, as well as OCX with WinCC Runtime.
- The audit trail, which tracks all changes in respect of both engineering and plant operation in a separate SQL database. The audit trail can be set up as a central audit trail for a number of projects or even just for a single project.

WinCC/ChangeControl and WinCC/Audit support both single-user and multi-user systems, client/server architectures and even the WinCC redundancy system. No redundant audit trail is created however.

Function

WinCC/ChangeControl

WinCC/ChangeControl is a functional subset of WinCC/Audit. WinCC/ChangeControl is for tracing engineering changes in the engineering phase or in online operation. All change data is recorded in an audit trail.

There are two types of engineering changes:

- those that change the WinCC database or are executed through the WinCC Explorer, such as e.g. changes to tag management or creating a user group,

and those

- limited to changing files, the so-called document administration.

The document management manages system images, scripts and log layouts and customer-specific documents and stores respective intermediate versions as backups. All of these documents or files are subject to a change process, i.e. documents can be booked out for processing, booked in for finalization and intermediate versions can be retrieved from backup storage with a rollback function.

The project version definition as a component of WinCC/ChangeControl archives WinCC projects and creates reproducible project status or defined start-time points for starting tracing. An audit trail is also provided with information on who has created which project version or which version has been reproduced or deleted.

Configuring the audit trail, the project version definition and the document management is simple, quick and comfortable.

The audit trail data is visualized from WinCC, as well as from WinCC flexible via the audit viewer, an executable program under Windows. The data can also be evaluated with the audit viewer OCX in Runtime by WinCC however. Users select the desired view of the audit trail information via filters or selection criteria and can export the data to an Excel file or print it on a printer. Audit trail information is tamper-proof and can thus not be modified or deleted. An export function can be used to swap out the audit trail to an XML file or to archive it.

WinCC/Audit

WinCC/Audit has all of the functionality of WinCC/ChangeControl and is also used for tracing user operations in RT operation. Tracing can be used for determining who, when and what conditions the machine has undergone. In addition to recording operator activities, the audit trail also records the starting and modifying of recipes or user logs. At specific objects or events, such as function buttons or sliders, the user can also record activities of an individual nature such as e.g., pressing a function button, moving sliders and other actions with a so-called audit entry function in the audit trail.

A WinCC/ChangeControl RC license or a WinCC/Audit RC license is required for configuring the audit trail. One RT license is required for each station (client/server) to be monitored. One RC license always includes one RT license.

Ordering data

Ordering data	Article No.
WinCC/ChangeControl	
For the configuration of the audit trail incl. RT	
• WinCC V7.4	**6AV6371-1DV27-4AX0**
• WinCC V7.3	**6AV6371-1DV27-3AX0**
As download	
• WinCC V7.4	**6AV6371-1HV27-4AX0**
• WinCC V7.3	**6AV6371-1HV27-3AX0**
WinCC/Audit RC	
For the configuration of the audit trail incl. RT	
• WinCC V7.4	**6AV6371-1DV17-4AX0**
• WinCC V7.3	**6AV6371-1DV17-3AX0**
As download	
• WinCC V7.4	**6AV6371-1HV17-4AX0**
• WinCC V7.3	**6AV6371-1HV17-3AX0**
WinCC/Audit RT	
Creation of audit trails in RT	
• WinCC V7.4	**6AV6371-1DV07-4AX0**
• WinCC V7.3	**6AV6371-1DV07-3AX0**
As download	
• WinCC V7.4	**6AV6371-1HV07-4AX0**
• WinCC V7.3	**6AV6371-1HV07-3AX0**
Upgrades	
V7.x to V7.4	
• for WinCC/Audit RT	**6AV6371-1DV07-4BX3**
• for WinCC/Audit RC or WinCC/ChangeControl	**6AV6371-1DV17-4BX3**
As download	
• WinCC/Audit RT	**6AV6371-1KV07-4BX3**
• for WinCC/Audit RC or WinCC/ChangeControl	**6AV6371-1KV17-4BX3**
V7.x to V7.3	
• for WinCC/Audit RT	**6AV6371-1DV07-3BX3**
• for WinCC/Audit RC or WinCC/ChangeControl	**6AV6371-1DV17-3BX3**
As download	
• WinCC/Audit RT	**6AV6371-1KV07-3BX3**
• For WinCC/Audit RC or WinCC/ChangeControl	**6AV6371-1KV17-3BX3**

WinCC/Audit is not released for virtualization and redundancy (Audit V7.3 only).

More information

Information on the declarations of conformity for SIMATIC WinCC can be found under:

http://www.industry.siemens.com/verticals/global/en/pharma-industries/products-and-services/services-pharmaindustrie/Seiten/good-manufacturing-practice.aspx

Overview

WinCC/Calendar Scheduler

- Option for SIMATIC WinCC for managing events in a calendar.
- Setting WinCC variables or starting global scripts at defined times.
- A license is only necessary on the server (or single user system).

Benefits

- Simple operation, configuration and planning of events thanks to handling in the style of Microsoft Office Calendar
- Simple configuration of the actions by parameterization (execution of WinCC scripts or writing of WinCC tags at certain times)
- Configuration of recurring events taking account of configurable public holidays, vacation periods, and maintenance periods
- Secure operation of the plant taking account of different authentication levels
- Clear representation of events at runtime by means of Calendar Runtime Control
- Flexible use in all typical WinCC plant configurations, client/server, redundant systems, WebNavigator

Function

With the WinCC Calendar Scheduler, events and their associated actions can be configured in a user-friendly and clear way in an editor in WinCC Explorer.

The events are represented in a calendar. The period represented can be freely selected. Recurring events can be defined as serial events with any desired exceptions.

The events are displayed in a .Net control. The Calendar Scheduler is easy and intuitive to operate and supports drag & drop during configuration and runtime.

Ordering data

	Article No.
WinCC/Calendar Scheduler	
• WinCC V7.4 [1]	**6AV6372-1DC07-4AX0**
• WinCC V7.3	**6AV6372-1DC07-3AX0**
Download	
• WinCC V7.4 [1]	**6AV6372-1HC07-4AX0**
• WinCC V7.3	**6AV6372-1HC07-3AX0**
Upgrade	
• V7.x -> V7.4 [1]	**6AV6372-1DC07-4AX3**
• V7.0/7.2->V7.3	**6AV6372-1DC07-3AX3**
Download	
• V7.x->V7.4 [1]	**6AV6372-1KC07-4AX3**
• V7.0/7.2->V7.3	**6AV6372-1KC07-3AX3**

[1] Also compatible with WinCC V7.4 SP1, except Windows Server 2016.

3

Overview

WinCC/Event Notifier

- Option for SIMATIC WinCC for notifying selected persons by email in specified time slots.
- Notification depends on events occurring in the WinCC Alarm System.
- Escalation levels, i.e. Group 2 is only notified when nobody "on site" or from Group 1 has reacted within a specified time.
- Final notification of all persons previously notified in connection with the specific event about the reaction that has taken place

A license is only necessary on the server (or single user system).

Benefits

- Simple operation, configuration and planning of notifications thanks to handling like the Microsoft Office Calendar
- Easy configuration of the notifications including support of the WinCC Runtime languages by connecting to the WinCC alarm system
- Configuration of recurring events taking account of configurable public holidays, vacation periods, and maintenance periods
- Secure operation of the plant taking account of different authentication levels
- Clear display and intuitive operation at runtime by means of Calendar Control
- Flexible use in all typical WinCC plant configurations, single station, client/server, redundant systems, WebNavigator

Function

The WinCC Event Notifier enables the following to be configured in a clear and user-friendly manner via the Calendar Options Editor in the WinCC Explorer:

- The email service for sending and receiving messages
- The messages by selecting configured messages in the WinCC Alarm System as well the setup and contents of the message by selecting the message blocks
- Contacts by selecting predefined persons from the WinCC user administration.

In a calendar it is then possible to select the persons to be notified within in the opened time slot from the existing contacts. If several persons or groups of persons are set up for the same time slot, escalation levels can be implemented by assigning different escalation times (= dead time before notification). The period represented by the calendar can be freely selected. Recurring events can be defined as serial events with any desired exceptions.

The calendar can also be integrated as .Net Control in WinCC screens; the appearance of the calendar controls at runtime is configurable. Via the calendar control, you can create time slots during runtime with contacts who should be notified upon occurrence of the configured events in the WinCC Alarm System. In addition, the calendar control allows the creation of new contacts by means of selection from the WinCC user management.

The Event Notifier is easy and intuitive to operate and supports drag & drop during configuration and runtime.

Ordering data

Ordering data	Article No.
WinCC/Event Notifier	
• for WinCC V7.4 [1]	**6AV6372-1DD07-4AX0**
• for WinCC V7.3 SE	**6AV6372-1DD07-3AX0**
As download	
• for WinCC V7.4 [1]	**6AV6372-1HD07-4AX0**
• for WinCC V7.3 SE	**6AV6372-1HD07-3AX0**

1) Also compatible with WinCC V7.4 SP1, except Windows Server 2016.

Overview

WinCC/ODK (Open Development Kit)

- WinCC option for utilization of the exposed programming interfaces that can be used to access data and functions of the WinCC configuration and WinCC runtime system
- The interfaces are designed as "C-Application Programming Interface" (C-API)
- Scope of delivery: CD-ROM with documentation and examples

Benefits

- Individual system expansions via an open standard programming language
- Access to data and functions of the WinCC configuration and runtime system
- Development of your own applications and add-ons for the WinCC basic system

Function

The API functions are configuration and runtime functions, and include:

- MSRTCreateMsg: Creates a message
- DMGetValue: Gets the value of a variable
- PDLRTSetProp: Sets the object properties in a display

They can be used in the following places:

- within WinCC, for example in global scripts or as part of C actions in the Graphics Designer,
- in Windows applications in the programming language C (the current version of Microsoft Visual C++ is necessary as a development environment for WinCC).

Ordering data

Ordering data	Article No.
SIMATIC WinCC/ODK Open Development Kit, Option for SIMATIC WinCC	
• V7.4 [1]	**6AV6371-1CC07-4AX0**
• V7.3 SE	**6AV6371-1CC07-3AX0**
As download	
• V7.4 [1]	**6AV6371-1GC07-4AX0**
• V7.3 SE	**6AV6371-1GC07-3AX0**

[1] Also compatible with WinCC V7.4 SP1

3

3

Overview

WinCC/Connectivity Pack & WinCC Connectivity Station

Cross-vendor communication in the automation sector has always been of primary importance for WinCC.

This is even more true for the release of preprocessed production data for higher-level information systems (e.g., MES = Management Execution System, ERP = Enterprise Resource Planning or Office packages = MS Excel, MS Access etc.). WinCC features integrated OPC Data Access and OPC XML DA servers for access to all online values in the system and makes open interfaces available for access to historical WinCC data.

- The Connectivity Pack includes OPC XML DA 1.00, OPC HDA 1.20 (Historical Data Access), OPC A&E 1.10 (Alarm & Events) as well as a WinCC OLE-DB interface, which also gives remote computers without installed WinCC access to WinCC archive and alarm data.
- The function of the OPC servers (XML DA, HDA and A&E) and the OPC UA servers (DA, HDA, AC) is assured by the WinCC/Connectivity Pack. In order to access data in the database via WinCC OLE-DB/OLE-DB, you will also need a license for the WinCC/Connectivity Pack.
- A Connectivity Pack license is required for every WinCC system to be accessed.
- If the Connectivity Station is used, an additional Connectivity Pack license does not have to be installed on the WinCC systems that are accessed. The Connectivity Station functions autonomously and does not require a WinCC installation on the computer.

Benefits

- Access to variables, historical WinCC data, alarm data and user archives from any computer
- Options for analyzing and evaluating process data with specialist tools or user-defined applications (e.g., via VisualBasic)

Function

As an OPC HDA server, WinCC makes historical data from the WinCC archive system available to other applications. An OPC HDA client (e.g. a reporting tool) can define the time interval for the required data by entering a start and end time. OPC HDA servers also support the generation of a variety of aggregate functions on the server itself (e.g. standard deviation, variance, mean values, integral values, etc.), thereby helping to relieve the load on the network, as only preprocessed data are transmitted.

OPC A&E servers are used to forward WinCC messages (along with all associated process values) to any client at production or enterprise control level. Filter mechanisms and subscriptions ensure that only selected modified data are transmitted. Acknowledgement is of course also supported.

The WinCC OPC XML DA server makes cross-platform communication between Windows and non-Windows systems possible, even via the Internet. This enables read and write WinCC online values (external and internal WinCC variables) to be exchanged with non-Siemens systems.

WinCC OLE-DB makes standardized and user-friendly access to WinCC archive data possible (MS SQL Server). In exactly the same way as access via the OPC HDA and OPC A&E interfaces, access via the WinCC OLE DB provider makes all WinCC archive data available along with the associated process values and message/user texts. The WinCC OLE-DB provider also supports analysis functions such as minimum, maximum, message hit list, etc.

The WinCC Connectivity Station was designed as a stand-alone gateway to WinCC server data. It supports access to WinCC server data over the OPC channels described as well as those for process values (not alarms) over OLE DB . Access to WinCC data is transparent, i.e. independent of which server of a redundant pair is active or whether data have already been transferred to the central archive server.

Function (continued)

Connectivity Station

If no visualization is required at a station, any Windows computer with access to WinCC via OPC and OLE-DB can be configured via the Connectivity Station. This permits access to WinCC stations with server packages from a central computer without WinCC installation. The WinCC stations can be accessed via the following interfaces:

- OPC interfaces of the Connectivity Station
- OLE DB interface of the Connectivity Pack

The two access variants are autonomous access options with different ranges of functions.

OPC interfaces of the Connectivity Station

The Connectivity Station provides interfaces via which you can access the following using an OPC-Client.

- OPC-DA-Server: tags, e.g. process values
- OPC-HDA-Server: archived process values
- OPC-A&E-Server: alarms

Licensing

You require the "WinCC Connectivity Station" license in order to utilize the OPC interfaces of the Connectivity Station on a computer without WinCC installed.

If you only use the OPC interfaces of a WinCC installation, you only need the "Connectivity Pack" license.

The following table shows the combinations:

	New: WinCC-independent installation with Connectivity Station	Standard installation: OPC with WinCC
OPC DA	"WinCC Connectivity Station" license	No license required
OPC HDA	"WinCC Connectivity Station" license	"WinCC Connectivity Pack" license
OPC A&E	"WinCC Connectivity Station" license	"WinCC Connectivity Pack" license
OPC UA DA		"WinCC OPC UA HDA / AC Connectivity Pack" license

The Connectivity Station is planned over NCM PC Manager or SIMATIC Manager. In the versions 7.0 and higher, the Connectivity Station does not run as a service.

Ordering data

	Article No.
WinCC/Connectivity Pack & WinCC/Connectivity Station	
V7.4 SP1	
Basic packages	
• WinCC/Connectivity Pack V7.4 SP1 [1)]	**6AV6371-1DR07-4AX0**
• WinCC/Connectivity Station V7.4 SP1 [1)]	**6AV6371-1DR17-4AX0**
As download	
• WinCC/Connectivity Pack V7.4 SP1	**6AV6371-1HR07-4AX0**
• WinCC/Connectivity Station V7. 4 SP1	**6AV6371-1HR17-4AX0**
V7.3	
Basic packages	
• WinCC/Connectivity Pack V7.3 [1)]	**6AV6371-1DR07-3AX0**
• WinCC/Connectivity Station V7.3 [1)]	**6AV6371-1DR17-3AX0**
As download	
• WinCC/Connectivity Pack V7.3	**6AV6371-1HR07-3AX0**
• WinCC/Connectivity Station V7.3	**6AV6371-1HR17-3AX0**

1) Upgrades to V7.x are included in the WinCC V7.x basic software upgrades.

3

Overview

SIMATIC TeleControl

SIMATIC TeleControl for WinCC supports connection to outlying stations (Remote Terminal Units = RTUs) via telecontrol protocols.

- SIMATIC TeleControl V7.4 has been released for use with WinCC V7.4.
- SIMATIC TeleControl V7.4 supports the combination with WinCC as a Windows Service.

Benefits

SIMATIC TeleControl for WinCC V7.4 can not only integrate newly configured RTUs, but it can also integrate units which already exist in outlying areas by means of DNP3 or IEC 870-5-101/104 drivers. For communication with the outstations, SIMATIC TeleControl for WinCC V7.4 uses the SINAUT ST7 and DNP3 protocols (both via serial and TCP/IP communication connections) as well as IEC 870-5-101 (serial) and IEC 870-5-104 (Ethernet TCP/IP).

The serial RTU link is possible via the following components, which can be connected directly via WinCC (single station or server):

- SINAUT TIM communication modules (SINAUT ST7 telecontrol protocol)
- TCP/IP serial converter (telecontrol protocols DNP3, IEC 870-5-101)

Equipment from MOXA or Lantronix, for example, can be used as TCP/IP serial converters.

By means of Ethernet TCP/IP, the RTUs can be connected directly or via TCP/IP WAN routers to the SIMATIC WinCC system bus (SINAUT ST7, DNP3, IEC 870-5-104 telecontrol protocols). When using the SINAUT ST7 telecontrol protocol, the SINAUT TIM communication module can be used in addition to the TCP/IP WAN router or as an alternative.

Application

Telecontrol communication over the wide area network is largely determined by the communication infrastructure which already exists. Various transmission media such as dedicated line, analog or digital telephone networks, wireless networks (GSM or private), DSL or GPRS can also be combined with each other.

SINAUT ST7 telecontrol protocol

Detailed information for implementing telecontrol applications with the SINAUT ST 7 telecontrol protocol via the Industry Mall.

IEC 60870-5-101/104 telecontrol protocols

More detailed information for implementing telecontrol applications with the IEC 60870-5-101/104 telecontrol protocols via the Industry Mall.

DNP3 telecontrol protocol

SIMATIC TeleControl for WinCC V7.4 also supports the DNP3 telecontrol protocol. Widely distributed outstations (RTUs) can be controlled and monitored with the DNP3 telecontrol protocol via serial or Ethernet TCP/IP communication links by means of the telecontrol center in SIMATIC WinCC.

The control center integrated with SIMATIC TeleControl into the SCADA system is the master during telecontrol communication. The slaves are represented by the remote stations.
SIMATIC S7-1200, SIMATIC S7-1500, SIMATIC S7-300/S7-300F and S7-400/S7-400F/S7-400H/S7-400FH controllers as well as RTU3030C and third-party RTUs can be used as remote stations.

Further hardware and software components round off the range of products:

- TIM communication modules
- TCP/IP converters – serial and MD modem modules
- Mobile radio components (GSM/GPRS)
- TCP/IP routers and switches
- SCALANCE S security modules
- Dedicated line accessories
- Cables
- Engineering package for configuration of DNP3 data objects, stations, networks and connections as well as for diagnostics

In order to implement telecontrol networks, basic topologies including point-to-point, multi-point, star and ring can be configured using classic or TCP/IP-based media. These can be combined flexibly depending on the existing infrastructure.

Classic WAN media:

- Dedicated line via modem, e.g. SINAUT MD2
- Private radio networks
- Analog telephone network
- Digital ISDN network
- GSM, UMTS, LTE mobile network

TCP/IP-based WAN media:

- Ethernet networks, e.g. SCALANCE X with fiber-optic cables
- Industrial Wireless LAN with SCALANCE W
- Public networks and the Internet using DSL and/or GPRS

Function

Special characteristics of DNP3 communication

- Change-driven data transmission
  - Change-driven transmission of process data between RTU and control center
  - Signaling of RTU, control center or connection failure
  - Automatic data updating for all communication partners involved following troubleshooting and following the startup of the RTU or control center
- Chronological processing of process data
  - Time tagging of all data frames at the place of origin allows process data to be archived by the process control system in the correct chronological order
  - The time of the DNP3 stations in the WAN can be synchronized via SIMATIC WinCC (including summertime/wintertime switchover)
- Local data storage
  - The TIM communication module can temporarily store (for several hours or even days) message frames should the connection or the communication partner fail
  - Intermediate storage of message frames of lower priority in the case of priority-controlled data transmission (with dial-up networks or quantity-dependent data transmission costs)

Operating modes

The DNP3 telecontrol protocol supports the following operating modes:

- Polling
- Polling with time slot procedure
- Multi-master polling with time slot procedure
- Spontaneous mode in dial-up networks
- Spontaneous mode in the TCP/IP-based WAN

Integration

Integration of SIMATIC WinCC/TeleControl for WinCC V7.4 into the WinCC SCADA system offers particular advantages for the sectors water/wastewater, as well as oil and gas, especially in the case of the following types of plant:

- Freshwater treatment and distribution
- Wastewater treatment plants
- Oil and gas pipelines and water pipes
- Oil and gas drilling fields and the associated treatment plants

In these types of plant, remote outstations such as pumping stations, valve stations or automated stations for wellheads must be integrated.

Through the support of communication protocols for RTUs such as SINAUT ST7, SIMATIC WinCC/TeleControl for WinCC V7.4 supports the following advanced communication concepts:

- Reduction in the transferred data volume by means of event-controlled communication mechanisms for alarm and measured value information.
- Time-synchronization of RTUs and correct time stamping of all data in the RTU.
- Tolerance of lower bandwidth, high latency or lack of reliability of communication lines
- Prevention of data loss due to communications failure through data backup in the RTU
- Support of communication media with serial interface (dedicated lines, dial-up connections over analog telephone lines and ISDN lines), various radio devices (standard, spread spectrum modulation), microwave and GSM
- Support for TCP/IP-based WANs (Wide Area Networks) such as DSL, GPRS or Ethernet radio networks
- Support for redundant communication connections
- Expanded communication diagnostics functions for RTU communication links
- Remote programming of RTUs
- Support for different communication topologies – Point-to-point, multidrop (multistation mode) and hierarchic network structures
- High quality server redundancy scheme without data loss in the case of server failure

Through the support of communication protocols for RTUs such as IEC 60870-5 and DNP3, SIMATIC WinCC/TeleControl for WinCC V7.4 supports the following advanced communication concepts:

- Reduction in the transferred data volume by means of event-controlled communication mechanisms for alarm and measured value information.
- Time synchronization of RTUs and correct time stamping of all data in the RTU.
- Tolerance of lower bandwidth, high latency or lack of reliability of communication lines
- Prevention of data loss due to communications failure through data backup in the RTU (not all non-Siemens RTUs support this)
- Support of communication media with serial interface (dedicated lines, dial-up connections over analog telephone lines and ISDN lines), various radio devices (standard, spread spectrum modulation), microwave and GSM
- Support for TCP/IP-based WANs (Wide Area Networks) such as DSL, GPRS or Ethernet radio networks
- Support for redundant communication connections
- Expanded communication diagnostics functions for RTU communication links
- Remote programming of RTUs
- Support for different communication topologies – Point-to-point, multidrop (multistation mode) and hierarchic network structures
- High quality server redundancy scheme without data loss in the case of server failure

Integration (continued)

Outstations/remote terminal units

SIMATIC WinCC/TeleControl for WinCC V7.4 supports the following preferred outstations for local distributed automation:

- Controller integrated into ET 200S (IEC 870-5-101/104 telecontrol protocols); for cost-sensitive applications, up to approx. 30 I/O signals or approx. 200 data points
- Controller integrated into RTU3030C (DNP3, IEC 60870-5-104 telecontrol protocols); for cost-sensitive applications, up to approx. 16 I/O signals or approx. 150 data points
- S7-1200/S7-1200F controller (DNP3, IEC 60870-5-104 telecontrol protocols); up to 150 I/O signals or approx. 2 000 data points
- S7-1500 controller (IEC 60870-5-101/104 telecontrol protocols); up to 250 I/O signals or approx. 4 000 data points
- S7-300/S7-300F controller (SINAUT ST7, DNP3, IEC 60870-5-101/104 telecontrol protocols); for extremely flexible configuration, up to 100 I/O signals or approx. 2 000 data points
- S7-400/S7-400F controller (SINAUT ST7, DNP3, IEC 60870-5-101/104 telecontrol protocols); up to 500 I/O signals or approx. 5 000 data points
- Redundant S7-400H/S7-400FH controller (DNP3 and IEC 60870-5-101/104 telecontrol protocols); up to 500 I/O signals or approx. 5 000 data points
- Third-party station with the IEC 60870-5-101/104 and DNP3 telecontrol protocols (depending on type of station)
- ET 200SP / ET 200SP F Distributed Controllers (telecontrol protocols DNP3, IEC 60870-5-104); extremely flexible configuration options; number of I/O signals / information points depend of the CPU type

The following table provides an overview of the current options for connecting to these outstations:

Spectrum of outstations and integration versions							
Telecontrol protocol		**SINAUT ST 7**		**DNP3**		**IEC 60870-5-101**	**IEC 60870-5-104**
Type of communication		Serial	Ethernet TCP/IP	Serial	Ethernet TCP/IP	Serial	Ethernet TCP/IP
Interface		TIM 4R-IE	TCP/IP WAN router or/and TIM 4R-IE	TCP/IP serial converter	TCP/IP WAN router	TCP/IP serial converter	TCP/IP WAN router
RTU/interface	ET 200S with integr. CPU (corresponds to S7-314)	-	-	-	-	IM 151-7 CPU or IM 151-8 PN/DP CPU as well as 1 SI module + SIPLUS RIC library	IM 151-8 PN/DP CPU + SIPLUS RIC library
	S7-1200/S7-1200F	-	-	-	CP 1243-1 DNP3	-	CP 1243 – 1 IEC
	ET 200SP with integr. CPU CPU1510SP(F)-1PN CPU1512SP(F)-1PN	-	-	-	CP 1542SP-1 IRC	-	CP 1542SP-1 IRC
	S7-1500	-	-	-	-	CM PtP + SIPLUS RIC Library	SIPLUS RIC Library
	RTU3030C	-	-	-	UMTS integrated modem	-	UMTS integrated modem
	S7-300/S7-300F	TIM 3V-IE	TIM 3V-IE	TIM 3V-IE DNP3	TIM 3V-IE DNP3	CP 341 + SIPLUS RIC library	CP 343 + IEC on S7 or integr. PN interface + SIPLUS RIC Library
	S7-400/S7-400F	TIM 4R-IE	TIM 4R-IE	TIM 4R-IE DNP3	TIM 4R-IE DNP3	CP 441 + SIPLUS RIC library	CP 443 + SIPLUS RIC library or integrated PN interface + SIPLUS RIC library
	S7-400H/ S7-400FH	-	-	TIM 4R-IE DNP3	TIM 4R-IE DNP3	ET 200M + 2 x CP 341 + SIPLUS RIC library	CP 443 + SIPLUS RIC library
	Third-party station	-	-	Depends on type of station		Depends on type of station	
Dial-up lines		•	-	•	-	-	-
Dedicated line and radio networks		•	•	•	•	•	•
Master/slave		•	•	•	•	•	•
Peer-to-peer		•	•	-	-	•	•
Mesh networks		•	•	•	•	•	•
Time tagging in RTU		•	•	•	•	•	•
RTU time synchronization		•	•	•	•	•	•
Data buffering in RTU		•	•	•	•	•	•
Routing with SIMATIC PDM		•	•	-	-	-	•
International standard		-	-	•	•	•	•

Ordering data

	Article No.
SIMATIC TeleControl for WinCC	
SIMATIC TeleControl 7.4 for WinCC Basic Engineering Software package with SIMATIC Telecontrol for WinCC 7.4 engineering software, floating license for 1 user; runs with Windows 7 Ultimate and Enterprise 32/64-bit, Windows 10 LTSB 2015 (64-bit), Windows Server 2008 R2 Standard 64-bit or Windows Server 2012 R2 Standard 64-bit, electronic documentation on CD/DVD, bilingual (German, English) Type of delivery: License key memory stick, certificate of license including terms and conditions, SIMATIC WinCC Data Medium Package V7.4 and CD "WinCC TeleControl Option V7.4"	**6DL5000-7AA47-0XA5**
SIMATIC TeleControl V7.4 for WinCC Server Runtime Software package with SIMATIC Telecontrol for WinCC 7.4 engineering software, single license for 1 user; runs with Windows 7 Ultimate and Enterprise 32/64-bit, Windows 10 LTSB 2015 (64-bit), Windows Server 2008 R2 Standard 64-bit or Windows Server 2012 R2 Standard 64-bit, electronic documentation on CD/DVD, two languages (German, English) Type of delivery: License key memory stick, certificate of license including terms and conditions, SIMATIC WinCC Data Medium Package V7.4 and CD "WinCC TeleControl Option V7.4"	
• 6 stations	**6DL5002-7AA47-0XA0**
• 12 stations	**6DL5002-7AB47-0XA0**
• 256 stations	**6DL5002-7AE47-0XA0**
• unlimited	**6DL5002-7AF47-0XA0**
Upgrades	
SIMATIC TeleControl for WinCC, upgrade V7.0 to V7.4 Upgrade package; single license for 1 installation, E-SW and documentation on DVD; license key on USB flash drive, Class A; two languages (German English). Executable under Windows 7 Ult/ Server 2008 R2/Server 2012 R2	**6DL5002-7AA47-0XE0**

	Article No.
Driver software for telecontrol protocols	
TeleControl SINAUT driver Runtime license for a WinCC stand-alone system or WinCC Server, single license for 1 installation. Requirement: SIMATIC TeleControl 7.4 software for WinCC Server Runtime (6, 12, 256 stations) Type of delivery: License key memory stick, certificate of license including terms and conditions	**6DL5101-8AX00-0XB0**
TeleControl DNP3 Driver Runtime license for a WinCC stand-alone system or WinCC Server, single license for 1 installation. Requirement: SIMATIC TeleControl 7.4 software for WinCC Server Runtime (6, 12, 256 stations) Type of delivery: License key memory stick, certificate of license including terms and conditions	**6DL5101-8EX00-0XB0**
TeleControl IEC 870-5-101/-104 Driver Runtime license for one WinCC Single Station or one WinCC server, single license for 1 installation Requirement: SIMATIC TeleControl 7.4 software for WinCC Server Runtime (6, 12, 256 stations) Type of delivery: License key memory stick, certificate of license including terms and conditions	**6DL5101-8CX00-0XB0**

More information

For an overview of the complete performance range on the Internet, visit:

Service & Support:

https://support.industry.siemens.com/cs/?lc=en-WW

Technical Support (Hotline):

https://support.industry.siemens.com/My/ww/en/requests

More information on telecontrol (RTUs):

www.siemens.com/telecontrol

Introduction

Overview

Whether for a single operator station, multiple operator stations or complex solutions, whether for small or large plants – SIMATIC SCADA systems will grow with your plant.

Since they are scalable over the entire life cycle, existing plants can be expanded at any time.

To enable maximum integration, some SCADA options are also available for all products and in some cases all versions. This creates security of investment.

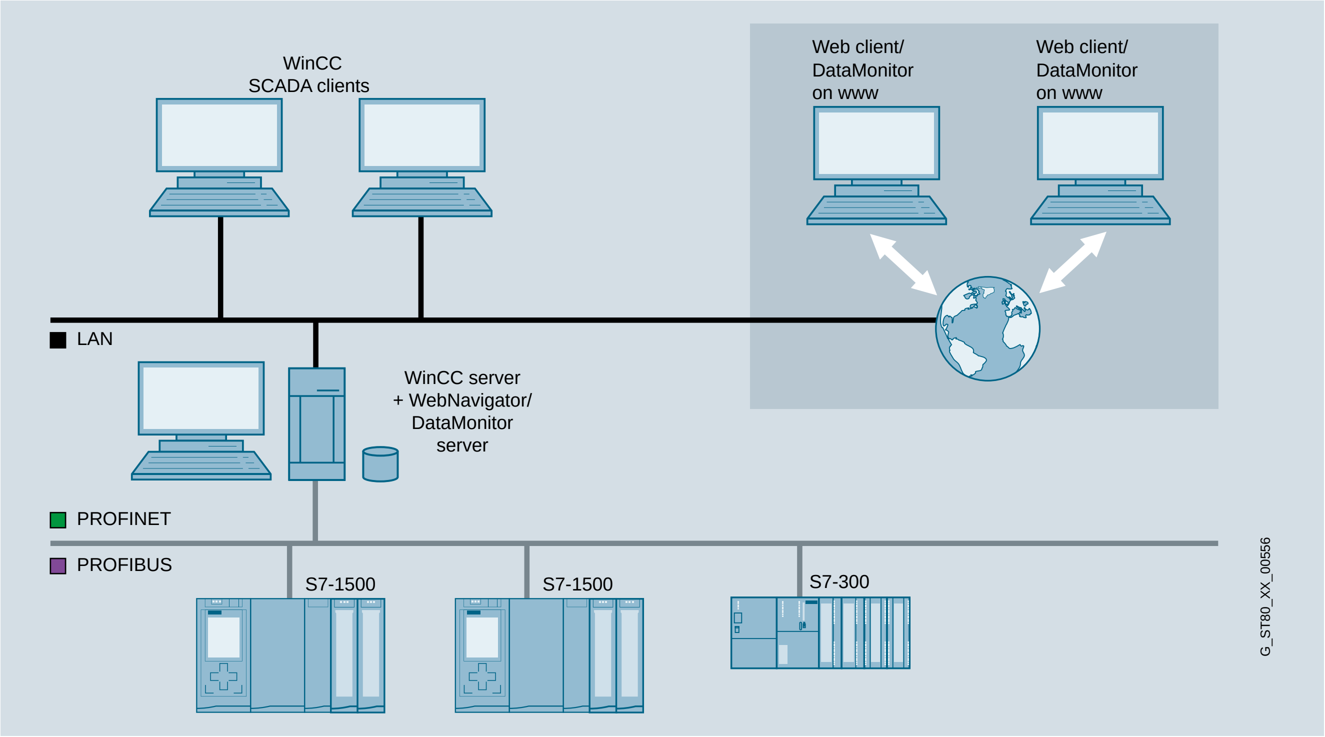
More information is available at:

http://www.siemens.com/scada-options

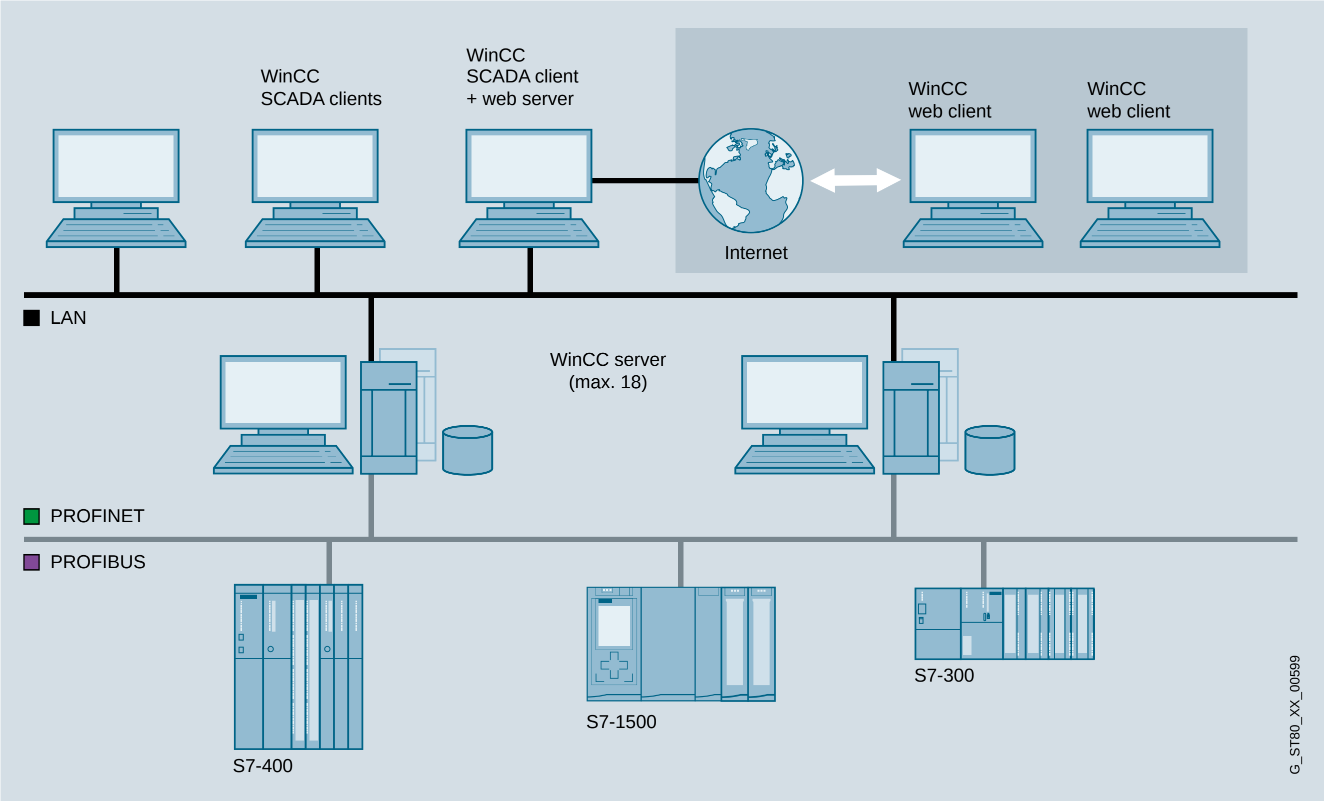
	WinCC RT Professional	WinCC V7	WinCC Open Architecture
WinCC Web Navigator	x	x	--
WinCC WebUX	x	x	--
WinCC DataMonitor	x	x	--
WinCC IndustrialDataBridge	x	x	--
SIMATIC Process Historian	-- (cross-version)	-- (cross-version)	-- [1]
SIMATIC Information Server	-- (cross-version)	-- (cross-version)	x

[1] Note: SIMATIC Process Historian cannot be used with WinCC OA.

Overview



WinCC Server as web server



WinCC MultiClient as web server

3

Overview (continued)

- Option for SIMATIC WinCC or WinCC Runtime Professional for operating and monitoring plants over the Internet, company Intranet or LAN.
- Configuration from:
  - A web server with SIMATIC WinCC as single-user or server version and a web client that permits operator control and monitoring of a current WinCC project using the Internet Explorer. In combination with WinCC V7, the WebNavigator Server can be operated on a MultiClient
- Licensing:
  - Server-based licenses are available for access to the web server by 1, 3, 10, 30 or 100 clients.
  - Client-based licenses are available for guaranteed access to the web server (Diagnostics Client)
  - The WebNavigator license is valid for WinCC V7 and Runtime Professional (as of V7.4 and as of V14)
  - The licenses are additive
  - The WebNavigator licenses can also be applied to the use of the WinCC WebUX

Note:

When accessing the operator stations via the WinCC WebNavigator option, suitable protective measures (including IT security such as network segmentation) should be taken in order to ensure safe operation of the system.

You will find more information on the topic of Industrial Security on the Internet at:

http://www.siemens.com/industrialsecurity

Benefits

- Operator control and monitoring across long distances and on different platforms (PC, local panel, mobile PDA)
- Large configurations with up to 150 operator stations (depending on the plant complexity and communication load)
- Optimally tailored clients for operating and monitoring, analysis, service and diagnostics
- Acceptance of configuration data for the web, generally without changes
- Minimum maintenance costs due to central software administration
- With the WinCC Web Viewer (WinCC Viewer RT), the process screens can be displayed on the web client independently of the Internet Explorer. Settings for the client are made on the client itself. The WinCC Web Viewer can also be used in conjunction with the MS Terminal Service.
- The SIMATIC WinCC WebNavigator can also be operated in "view only" mode and is thus used as tool for monitoring and navigating using Internet Explorer or WinCC Web Viewer (WinCC Viewer RT).
- Security is increased by adjustable automatic logout. If an automatic logout is to take place, an absolute or inactive time period can be set.

Application

In addition to the standard WebNavigator licensing, there is the "Diagnostics Client" with identical functionality but different licensing. It is especially suitable for the following applications:

- Remote diagnostics/operation of several unmanned WinCC server stations
- Central control rooms that monitor several web servers via one user interface
- Maintenance personnel who require guaranteed access to the server at any time, regardless of the number of users already logged on to the server.
  On the server side, only one WebNavigator Diagnostics Server license or, alternatively, one Standard WebNavigator license is required.

Design

Licenses for the WebNavigator

The WebNavigator Client software can be installed as many times as required without the need for a license.

- Server-based licensing
  - A license is required for using the WebNavigator Server.
  - Licenses are available for simultaneous access to the web server by 1, 3, 10, 30 or 100 clients.
- Diagnostics Client Licensing
  - For cost-optimized access by one or a small number of WebNavigator Clients to numerous web servers (e.g. for diagnostic purposes).
    This client license provides guaranteed access to web servers at any time.
    In respect of function there is no difference compared with regular WebNavigator Clients and the two can be mixed.

WebNavigator Clients are capable of accessing several different web servers.

Thin Client solutions

The WebNavigator can also run under Windows Server 2008 R2 SP1 or Windows Server 2012 R2 terminal services.
The Windows Server 2008 R2 SP1 or Windows Server 2012 R2 operating system is required.
This makes it possible, for example, to connect SIMATIC Thin Clients to the WinCC server as visualization stations.

For this purpose, the Windows terminal services must be installed on the PC on which the web client is installed.
The Windows Server 2008 R2 SP1 or Windows Server 2012 R2 operating system is required.

Up to 25 Thin Clients can be connected to one terminal server.

Applications:

- Mobile devices
- Handhelds
- Rugged on-site visualizations

Function

The WinCC basic system makes setting up and configuring a WebNavigator Server very easy. WinCC process screens to be visualized via the Internet are created as usual using the graphic editor.

To display WinCC process screens on the web client, the Microsoft Internet Explorer or browser is used independent of the supplied WinCC Web Viewer (WinCC Viewer RT).

The operator on the web client is integrated in the central WinCC user administration and can operate and monitor the system according to the configured access rights.

The WebNavigator supports all standard security mechanisms that can be used for applications on the Internet, e.g. routers, firewalls and proxy servers.

Ordering data

Ordering data	Article No.
SIMATIC WinCC WebNavigator as from Runtime Professional V14 and WinCC as from V7.4 [2]	
Single license, license key on USB flash drive	
• 1 client license (countable)	**6AV6362-1AB00-0BB0**
• 3 client licenses (countable)	**6AV6362-1AD00-0BB0**
• 10 client licenses (countable)	**6AV6362-1AF00-0BB0**
• 30 client licenses (countable)	**6AV6362-1AJ00-0BB0**
• 100 client licenses (countable)	**6AV6362-1AM00-0BB0**
as download [1]	
Single license, license key download, email address mandatory	
• 1 client license (countable)	**6AV6362-1AB00-0AH0**
• 3 client licenses (countable)	**6AV6362-1AD00-0AH0**
• 10 client licenses (countable)	**6AV6362-1AF00-0AH0**
• 30 client licenses (countable)	**6AV6362-1AJ00-0AH0**
• 100 client licenses (countable)	**6AV6362-1AM00-0AH0**
SIMATIC WinCC WebNavigator Diagnostics Client	
for WinCC V14 Runtime Professional and WinCC as from V7.4	
• Standard scope of delivery	**6AV6362-1BA00-0BB0**
• as download	**6AV6362-1BA00-0AH0**
WinCC WebNavigator Load Balancing	
for WinCC V7.4	
• Load Balancing	**6AV6362-1FA00-0BB0**
• Load Balancing Step Up	**6AV6362-1GA00-0BB0**
as download	
RT-SW, single license, license key download, email address mandatory	
• Load Balancing	**6AV6362-1FA00-0AH0**
• Load Balancing Step Up	**6AV6362-1GA00-0AH0**
SIMATIC WinCC WebNavigator for Runtime Professional (WinCC V13)	
Single license, license key only on USB flash drive	
• 3 clients, runtime software	**6AV2107-0KD00-0BB0**
• 10 clients	**6AV2107-0KF00-0BB0**
• 25 clients	**6AV2107-0KH00-0BB0**
• 50 clients	**6AV2107-0KK00-0BB0**
• 100 clients	**6AV2107-0KM00-0BB0**
• 150 clients	**6AV2107-0KP00-0BB0**
Download	
Single license, license key download only, email address required for delivery	
• 3 clients	**6AV2107-0KD00-0BH0**
• 10 clients	**6AV2107-0KF00-0BH0**
• 25 clients	**6AV2107-0KH00-0BH0**
• 50 clients	**6AV2107-0KK00-0BH0**
• 100 clients	**6AV2107-0KM00-0BH0**
• 150 clients	**6AV2107-0KP00-0BH0**

[1] Current information and availability regarding the new delivery package can be found at: http://www.siemens.com/tia-online-software-delivery

Ordering data

	Article No.
WinCC WebNavigator for Runtime Professional Powerpacks (WinCC V13)	
Single license, license key only on USB flash drive	
• 3 to 10 clients	**6AV2107-2KF00-0BD0**
• 10 to 25 clients	**6AV2107-2KH00-0BD0**
• 25 to 50 clients	**6AV2107-2KK00-0BD0**
• 50 to 100 clients	**6AV2107-2KM00-0BD0**
• 100 to 150 clients	**6AV2107-2KP00-0BD0**
Download	
Single license, license key only on USB flash drive	
• 3 to 10 clients	**6AV2107-2KF00-0BJ0**
• 10 to 25 clients	**6AV2107-2KH00-0BJ0**
• 25 to 50 clients	**6AV2107-2KK00-0BJ0**
• 50 to 100 clients	**6AV2107-2KM00-0BJ0**
• 100 to 150 clients	**6AV2107-2KP00-0BJ0**
WinCC WebNavigator Diagnose Server/Client (WinCC V13)	
Single license, license key only on USB flash drive	
• WinCC WebDiagnostics Server for Runtime Professional, Runtime SW	**6AV2107-0KR00-0BB0**
• WinCC WebDiagnostics Client for Runtime Professional, Runtime SW	**6AV2107-0KT00-0BB0**
Download	
Single license, license key download only, email address required for delivery	
• WinCC WebDiagnostics Server for Runtime Professional, Runtime SW	**6AV2107-0KR00-0BH0**
• WinCC WebDiagnostics Client for Runtime Professional, Runtime SW	**6AV2107-0KT00-0BH0**
SIMATIC WinCC WebNavigator for Runtime Professional (WinCC V13)	
• 1 client	**6AV2107-0KB00-0BB0**
• 5 clients	**6AV2107-0KE00-0BB0**
Download	
• 1 client	**6AV2107-0KB00-0BH0**
• 5 clients	**6AV2107-0KE00-0BH0**
SIMATIC WinCC WebNavigator for Runtime Professional Powerpack (WinCC V13)	
• 1 -> 3 clients	**6AV2107-2KD00-0BD0**
• 3 -> 5 clients	**6AV2107-2KE00-0BD0**
• 5 -> 10 clients	**6AV2107-2KG00-0BD0**
Download	
• 1 -> 3 clients	**6AV2107-2KD00-0BJ0**
• 3 -> 5 clients	**6AV2107-2KE00-0BJ0**
• 5 -> 10 clients	**6AV2107-2KG00-0BJ0**

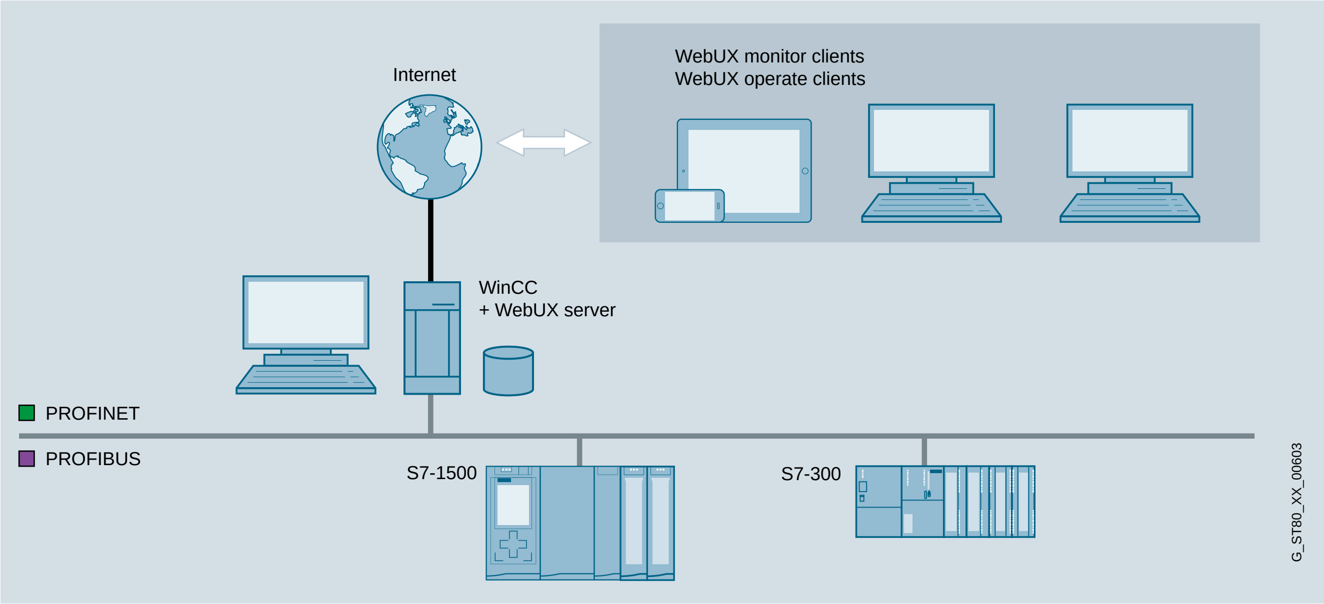
1) Current information and availability regarding the new delivery package can be found at: http://www.siemens.com/tia-online-software-delivery

2) As from WinCC V14 the licenses are cumulative, i.e. one 10-client license and one 30-client license permit access by 40 clients.

A license is not required for the engineering system for configuring the runtime option.

	Article No.
WinCC/Web Navigator V7.3 (WinCC V7.3)	
• 1 client license	**6AV6371-1DH07-3LX0**
• 3 client licenses	**6AV6371-1DH07-3AX0**
• 5 client licenses	**6AV6371-1DH07-3MX0**
• 10 client licenses	**6AV6371-1DH07-3BX0**
• 25 client licenses	**6AV6371-1DH07-3CX0**
• 50 client licenses	**6AV6371-1DH07-3DX0**
• 100 client licenses	**6AV6371-1DH07-3GX0**
• 150 client licenses	**6AV6371-1DH07-3HX0**
Download	
RT-SW, single license, license key download, email address mandatory	
• 1 client license	**6AV6371-1HH07-3LX0**
• 3 client licenses	**6AV6371-1HH07-3AX0**
• 5 client licenses	**6AV6371-1HH07-3MX0**
• 10 client licenses	**6AV6371-1HH07-3BX0**
• 25 client licenses	**6AV6371-1HH07-3CX0**
• 50 client licenses	**6AV6371-1HH07-3DX0**
• 100 client licenses	**6AV6371-1HH07-3GX0**
• 150 client licenses	**6AV6371-1HH07-3HX0**
WinCC/Web Navigator Powerpacks (WinCC 7.3)	
• From 1 to 3 clients	**6AV6371-1DH07-3LA0**
• From 3 to 5 clients	**6AV6371-1DH07-3AM0**
• From 5 to 10 clients	**6AV6371-1DH07-3MB0**
• From 10 to 25 clients	**6AV6371-1DH07-3BC0**
• From 25 to 50 clients	**6AV6371-1DH07-3CD0**
• From 50 to 100 clients	**6AV9681-1DH07-3DG0**
• From 100 to 150 clients	**6AV9681-1DH07-3GH0**
Download	
RT-SW, single license, license key download, email address mandatory	
• From 1 to 3 clients	**6AV6371-1JH07-3LA0**
• From 3 to 5 clients	**6AV6371-1JH07-3AM0**
• From 5 to 10 clients	**6AV6371-1JH07-3MB0**
• From 10 to 25 clients	**6AV6371-1JH07-3BC0**
• From 25 to 50 clients	**6AV6371-1JH07-3CD0**
• From 50 to 100 clients	**6AV9681-1JH07-3DG0**
• From 100 to 150 clients	**6AV9681-1JH07-3GH0**
WinCC/Web Navigator Diagnose Client (for WinCC 7.3)	
• Standard scope of delivery	**6AV6371-1DH07-3EX0**
• as download	**6AV6371-1HH07-3EX0**
WINCC/Web Navigator Diagnose Server (for WinCC 7.3)	
• Standard scope of delivery	**6AV6371-1DH07-3FX0**
• as download	**6AV6371-1HH07-3FX0**
WinCC/Web Navigator Upgrade (WinCC 7.3)	
Is included in the corresponding WinCC upgrade from WinCC 6.2 and higher	
WinCC WebNavigator Load Balancing (WinCC 7.3)	
• Load Balancing	**6AV6371-1DH07-3JX0**
• Load Balancing Step Up	**6AV6371-1DH07-3FJ0**
Download	
RT-SW, single license, license key download, email address mandatory	
• Load Balancing	**6AV6371-1HH07-3JX0**
• Load Balancing Step Up	**6AV6371-1HH07-3FJ0**

Overview



WinCC WebUX

The WinCC WebUX option permits mobile, platform and browser-independent operator control and monitoring via the Internet or the in-house intranet or LAN.

WinCC WebUX is delivered with the WinCC system. Following installation, the WinCC Runtime system operates as WinCC WebUX server.

The images for the WinCC WebUX are created using the graphic editor. The WinCC picture is stored in the corresponding format in the project through the "web-capable" picture property. Using the service platform IIS (Internet Information Server), the files are made available for the Internet.

No installation on the client is required for using the WebUX. WinCC WebUX can be used independent of the industrial sector, for example in service for the acknowledgment of alarm messages, in quality assurance for monitoring important production data, or in management for obtaining a quick overview of key production figures.

The WebUX server itself does not require a basic license. Clients that are simultaneously logged into the server are licensed. Regarding licensing, it is differentiated between Monitor Clients (read only) and Operate Clients (reading and writing of values). WinCC WebUX can be used immediately due to a free Monitor Client that is included in the WinCC package.

3

Benefits

WinCC Engineering

- Fast configuration using the graphic editor
- No expensive training in web technologies is required due to the use of WinCC standard tools
- Can be used without complex additional configuration on the client

Maintenance, servicing and IT

- No WinCC-specific installation on the clients required
- No WinCC-specific maintenance at the data terminal equipment required
- The WinCC WebUX server version and version of the mobile clients do not have to be the same
- Standard user authorizations on the client suffice

Line management and plant operator

- Mobile operator control and monitoring using commercially available mobile devices
- Uniform look and feel both on the mobile devices and on the WinCC station
- Secure communication via HTTPS and SSL certificates
- No entry costs, since a Monitoring client is included in the WinCC package
- Flexible licensing due to additive, Floating Client licenses
- Secured plant data as a basis for decision-making

Highlights

- Can be used on HTML5-capable and SVG-capable data terminal equipment without installation on the client

Function

Supported functions in WebUX of WinCC V7.4/V14:

- Language selection by setting the Web language in the User Administrator
- Support of following WinCC objects:
  - Most WinCC standard objects and WinCC pipe objects
  - WinCC Smart objects (picture window, I/O field, graphic object, status display, text list, multi-line text, combo box, list box)
  - WinCC Windows objects
- The following WinCC controls are supported:
  - WinCC AlarmControl
  - WinCC OnlineTrendControl
  - OnlineTrend Web Control
  - OnlineTable Web Control
  - Ruler Web Control
  - Slider Control
  - Digital/Analog Clock Control
  - Gauge Control
  - WebBrowser Control
- Dynamizations by means of VB script or via the dynamics dialog
- User administration via SIMATIC Logon
- System events for user logon and logoff

Note:

Browser-dependent display is occasionally possible
Minor differences in display and behavior are possible for the different browser versions.

Please also note the supported functionalities in the respective documentations.

Ordering data

Ordering data	Article No.
SIMATIC WinCC WebUX as from Runtime Professional V14 and WinCC as from V7.3	
Monitor Clients:	
• 1 client (countable)	**6AV6362-2AB00-0BB0**
• 3 clients (countable)	**6AV6362-2AD00-0BB0**
• 10 clients (countable)	**6AV6362-2AF00-0BB0**
• 30 clients (countable)	**6AV6362-2AJ00-0BB0**
• 100 clients (countable)	**6AV6362-2AM00-0BB0**
As download	
• 1 client (countable)	**6AV6362-2AB00-0AH0**
• 3 clients (countable)	**6AV6362-2AD00-0AH0**
• 10 clients (countable)	**6AV6362-2AF00-0AH0**
• 30 clients (countable)	**6AV6362-2AJ00-0AH0**
• 100 clients (countable)	**6AV6362-2AM00-0AH0**
Operate clients	
• 1 client (countable)	**6AV6362-2BB00-0BB0**
• 3 clients (countable)	**6AV6362-2BD00-0BB0**
• 10 clients (countable)	**6AV6362-2BF00-0BB0**
• 30 clients (countable)	**6AV6362-2BJ00-0BB0**
• 100 clients (countable)	**6AV6362-2BM00-0BB0**
As download	
• 1 client (countable)	**6AV6362-2BB00-0AH0**
• 3 clients (countable)	**6AV6362-2BD00-0AH0**
• 10 clients (countable)	**6AV6362-2BF00-0AH0**
• 30 clients (countable)	**6AV6362-2BJ00-0AH0**
• 100 clients (countable)	**6AV6362-2BM00-0AH0**

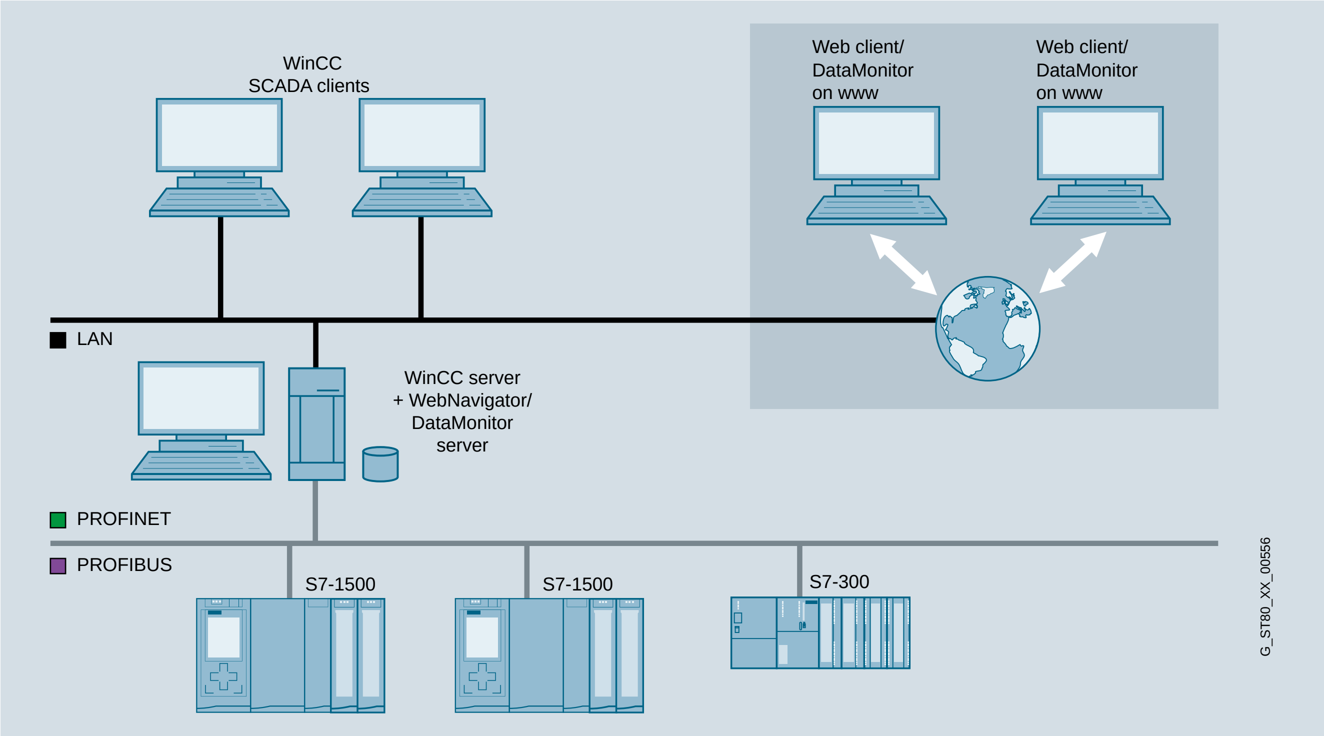
Note:

One Monitor Client license is included in the WinCC basic package. The licenses are cumulative, i.e. one 10-client license and one 30-client license permit access by 40 clients.

Operate licenses can be used as Monitor licenses as of V14/V7.4.

Licenses from V7.3 can continue to be used in V7.4 without upgrading.

Overview



WinCC DataMonitor

- The WinCC DataMonitor is used for displaying and evaluating current process states and historical data on office PCs using standard tools such as Microsoft Internet Explorer or Microsoft Excel.
  The DataMonitor Client is supported by a web server with current and historic process data and alarms. All staff ranging from machine operators to corporate managers can use the DataMonitor to obtain information. In combination with WinCC V7 and with the aid of the multiclient architecture, access can be made to several lower-level WinCC stations.
- DataMonitor is a suite of Internet-capable tools:
  - ***Process Screens***
    Tool exclusively for monitoring and navigating via WinCC or WinCC Runtime Professional screens using the WinCC Web Viewer (WinCCViewer RT) in the "view only" mode
  - ***Excel Workbooks***
    Logging tool that integrates WinCC or WinCC Runtime Professional Archive and online values into Microsoft Excel and supports online analysis
  - ***Published Reports***
    Event- or time-driven execution of Excel or PDF reports for the output of process data and analysis results.
  - ***WebCenter***
    Individual configuration of Internet pages and compilation of information within a portal.
- DataMonitor does not require manual client installation because it loads the required components from the DataMonitor server
- There is no installation required on the client for the WebCenter, Trends and Alarms functions.

WinCC DataMonitor

3

Benefits

- Information can be compiled online individually during runtime via the Internet/Intranet.
- Efficiently monitor and analyze production lines.
- Easily collect and distribute information.
- Substantiate decisions with reports.
- View production status anywhere and anytime.

Highlights:

- With the WebCenter function, archive tags can be accessed without changing the configuration system.
- Dedicated Internet pages can be created for displaying data with the WebCenter.
For this purpose, for example, a bar chart, a pie chart or a trend graph is available.
- The analyses can be made with relative or absolute time specification.
This enables comparisons of identical time periods on different days.
- Reports can be made available on the DataMonitor server or emailed automatically based on time intervals or triggered by events.
- Support of Microsoft Internet Explorer version, including "tabbed browsing".

Function

- All tools are fully Internet-compatible and, therefore, support access via any type of connection (LAN, GSM, radio, modem, Internet, etc.).
- All popular security mechanisms such as login/password, firewalls, encryption, etc. are supported.
- Users can combine the available tools at will.
Licensing only takes into account simultaneous access to one web server.
- For display purposes, screens from the WinCC project can be used or special overview displays configured.
Animations, scripts, navigation and access rights remain valid.
- The WinCC DataMonitor has purely a display function
- Company-wide Excel reports, which contain historical and current process values, can be stored centrally for general access (reports, statistics).
However, local queries to meet individual requirements can also be compiled and executed online.
Plot and tabular representation are supported for archive data already swapped out.
- Enhanced user management for the WebCenter in order to assign individual Internet pages and created reports to specific user groups.
- A search function simplifies the management of connections to the WinCC server

Ordering data

	Article No.
SIMATIC WinCC DataMonitor as from Runtime Professional V14 and WinCC as from V7.4 [2]	
Standard scope of delivery	
• 1 client license (countable)	**6AV6362-3AB00-0BB0**
• 3 client licenses (countable)	**6AV6362-3AD00-0BB0**
• 10 client licenses (countable)	**6AV6362-3AF00-0BB0**
• 30 client licenses (countable)	**6AV6362-3AJ00-0BB0**
Download[1]	
• 1 client license (countable)	**6AV6362-3AB00-0AH0**
• 3 client licenses (countable)	**6AV6362-3AD00-0AH0**
• 10 client licenses (countable)	**6AV6362-3AF00-0AH0**
• 30 client licenses (countable)	**6AV6362-3AJ00-0AH0**
SIMATIC WinCC DataMonitor for Runtime Professional (up to WinCC V13)	
Single license, license key only on USB flash drive	
• 1 client	**6AV2107-0LB00-0BB0**
• 3 clients	**6AV2107-0LD00-0BB0**
• 10 clients	**6AV2107-0LF00-0BB0**
• 25 clients	**6AV2107-0LH00-0BB0**
• 50 clients	**6AV2107-0LK00-0BB0**
Download[1]	
Single license, license key download only, email address required for delivery	
• 1 client	**6AV2107-0LB00-0BH0**
• 3 clients	**6AV2107-0LD00-0BH0**
• 10 clients	**6AV2107-0LF00-0BH0**
• 25 clients	**6AV2107-0LH00-0BH0**
• 50 clients	**6AV2107-0LK00-0BH0**
SIMATIC WinCC DataMonitor for Runtime Professional Powerpacks (WinCC V13)	
Single license, license key only on USB flash drive	
• From 1 to 3 clients	**6AV2107-2LD00-0BD0**
• From 3 to 10 clients	**6AV2107-2LF00-0BD0**
• From 10 to 25 clients	**6AV2107-2LH00-0BD0**
• From 25 to 50 clients	**6AV2107-2LK00-0BD0**
Download[1]	
Single license, license key download only, email address required for delivery	
• From 1 to 3 clients	**6AV2107-2LD00-0BJ0**
• From 3 to 10 clients	**6AV2107-2LF00-0BJ0**
• From 10 to 25 clients	**6AV2107-2LH00-0BJ0**
• From 25 to 50 clients	**6AV2107-2LK00-0BJ0**

	Article No.
WinCC DataMonitor V7.3 for WinCC V7.3 and WinCC V7.3 ASIA	
• 1 client license	**6AV6371-1DN07-3LX0**
• 3 client licenses	**6AV6371-1DN07-3AX0**
• 10 client licenses	**6AV6371-1DN07-3BX0**
• 25 client licenses	**6AV6371-1DN07-3CX0**
• 50 client licenses	**6AV6371-1DN07-3DX0**
Download[1]	
• 1 client license	**6AV6371-1HN07-3LX0**
• 3 client licenses	**6AV6371-1HN07-3AX0**
• 10 client licenses	**6AV6371-1HN07-3BX0**
• 25 client licenses	**6AV6371-1HN07-3CX0**
• 50 client licenses	**6AV6371-1HN07-3DX0**
WinCC DataMonitor Powerpacks V7.3	
• From 1 to 3 clients	**6AV6371-1DN07-3LA0**
• From 3 to 10 clients	**6AV6371-1DN07-3AB0**
• From 10 to 25 clients	**6AV6371-1DN07-3BC0**
• From 25 to 50 clients	**6AV6371-1DN07-3CD0**
Download[1]	
• From 1 to 3 clients	**6AV6371-1JN07-3LA0**
• From 3 to 10 clients	**6AV6371-1JN07-3AB0**
• From 10 to 25 clients	**6AV6371-1JN07-3BC0**
• From 25 to 50 clients	**6AV6371-1JN07-3CD0**

[1] Current information and availability regarding the new delivery package can be found at: http://www.siemens.com/tia-online-software-delivery

[2] As from WinCC V14 the licenses are cumulative, i.e. one 10-client license and one 30-client license permit access by 40 clients.

A license is not required for the engineering system for configuring the runtime option.

WinCC IndustrialDataBridge

Overview

WinCC IndustrialDataBridge

- The WinCC IndustrialDataBridge option uses standard interfaces in order to connect the automation world with the world of IT and ensure a two-way information flow.
- Using the SIMATIC WinCC IndustrialDataBridge, communication links between different data sources and data targets can be created by means of simple configuration/ programming. The IndustrialDataBridge can either be integrated into WinCC or used as a stand-alone application (not in conjunction with WinCC).
- Its use is very flexible, due to the support of different database formats and standard interfaces. On top of this, it offers easy configuration instead of programming, which permits fast and secure deployment.
- Data sources used for WinCC IndustrialDataBridge can include WinCC Runtime Professional (V13 SP1 or higher).

Benefits

- Connection of the automation level to the IT world
- Integration of systems from different manufacturers via numerous standard interfaces (including OPC, OLE-DB, office formats, etc.)
- Cost-effective and secure due to simple configuration by means of standard software without programming
- High-performance data exchange between several systems at the same time

Highlights

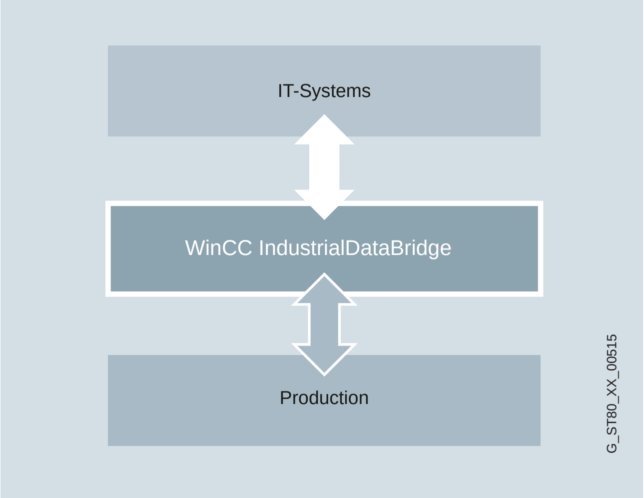
- No programming knowledge required
- Efficient due to transmission of individual data or block transfer (">", "<", "inside where…)
- Unicode support
- Support of Asian languages (Simplified Chinese, Japanese)
- Web Navigator; support of the WinCC IndustrialDataBridge controls in WinCC images
- WinCC IndustrialDataBridge runs as a system service, as an application in connection with WinCC Runtime Professional, or as a version-independent, standalone application

Design

The software comprises a configuration environment and a runtime environment. The different data interfaces are integrated via software modules. In each case, one module is required as the data source and one module as the data destination. The different modules can be combined in any way.

The connections between data source and data destination are created in the configuration environment. In the runtime environment, the IndustrialDataBridge establishes the connection autonomously and transfers the data of the linked variables.

Function



WinCC IndustrialDataBridge: Connection to databases and IT systems

- WinCC IndustrialDataBridge establishes a link between the source and destination interfaces and transfers data on the basis of a change in value once a configured period of time has elapsed, or when a defined event occurs.
- WinCC IndustrialDataBridge exchanges data between the automation systems of different manufacturers.
- In WinCC it is possible to support access to tags, tag logging, alarm logging and user archive data.
- Possible storage of process data in Office formats such as Excel or Access. Databases can also be integrated for the archiving of larger aggregates.
- One of the features of WinCC IndustrialDataBridge is a send/receive interface which also enables data transfer to SIMATIC S5 or S7-300 stations or other send/receive-compatible devices.
- WinCC IndustrialDataBridge likewise enables SCADA and control systems from a variety of manufacturers to be linked via the OPC interface. In addition, communication via RFC1006 or Send/Receive is also supported.
- SQL databases are available as data destinations for production data acquisition. Data can be transferred from the data source on an event-driven basis with the OPC module or sent directly from the PLC with the Send/Receive module.
- Integration of the WinCC IndustrialDataBridge runtime control into WinCC screens when installing the WinCC IndustrialDataBridge on a WinCC station.
- Independent text-based csv, txt and HTML files are created on reaching a programmable number of entries or if the value of a WinCC tag changes.
- Block transfer for databases through the support of the operators "<" and ">" in the Select instruction.
- Available providers (data sources) can be connected to any consumers (data targets) via the WinCC IndustrialDataBridge (see table below).

Function (continued)

Functions for configuration:

- Graphic design of links using drag & drop
- Import and export of links
- Highlighting of selected links
- Renaming of links is possible at any time
- Fast switch for the configuration of the graphic links

Licensing:

The licensing model for WinCC IndustrialDataBridge V7.4 SP1 consists of a basic license and additional tag licenses (300 tags + 1 000 tags = 1 300 tags)

Interfaces:

The table below shows the possible data sources and destinations.

Provider (data sources)	Consumer (data destinations)
	• csv, txt
	• MS Excel 2003, 2007, 2010, 2013
• MS Access 2003, 2007, 2010, 2013	• MS Access 2003, 2007, 2010, 2013
• MS SQL Server 2005, 2008, 2008 R2, 2012	• MS SQL Server 2005, 2008, 2008 R2, 2012, 2014
• MySQL 3.5, 5.1, 5.5, 5.6, 5.7	• MySQL 3.5, 5.1, 5.5, 5.6, 5.7
• Oracle 8i, 10g, 11g, 12c Release 2, 12c	• Oracle 8i, 10g, 11g, 12c Release 2, 12c
• OPC Data Access 3.0, OPC XML 1.0	• OPC Data Access 3.0, OPC XML 1.0
	• IDB OPC Server
• Send/Receive	• Send/Receive
• WinCC V7.2, V7.3, V7.4, V7.4 SP1 (via OLE DB)	• WinCC UserArchives V7.2, V7.3, V7.4, V7.4 SP1
• WinCC UserArchives V7.2, V7.3, V7.4, V7.4 SP1	
• WinCC RT Professional V13 SP1/ V14, V14 SP1 (via OLE DB Provider)	• WinCC RT Professional V13 SP1/ V14, V14 SP1 (via OLE DB)
	• configurable TXT / HTML/XML

Ordering data

Ordering data	Article No.
SIMATIC WinCC IndustrialDataBridge 7.4 SP1 for WinCC For data exchange with databases and OPC servers; language versions: English, German, Simplified Chinese, Japanese	
• Basic package	**6AV6362-4AA07-4AA0**
• With 300 tags (countable)	**6AV6362-4AD00-0BB0**
• With 1 000 tags (countable)	**6AV6362-4AF00-0BB0**
• With 3 000 tags (countable)	**6AV6362-4AH00-0BB0**
As download	
• Basic package	**6AV6362-4AA07-4AH0**
• With 300 tags (countable)	**6AV6362-4AD00-0AH0**
• With 1 000 tags (countable)	**6AV6362-4AF00-0AH0**
• With 3 000 tags (countable)	**6AV6362-4AH00-0AH0**
SIMATIC WinCC IndustrialDataBridge V7.3 for WinCC For data exchange with databases and OPC servers; language versions: English, German, Simplified Chinese, Japanese	
• With 128 tags	**6AV6371-1DX07-3AX0**
• With 512 tags	**6AV6371-1DX07-3BX0**
• With 2 048 tags	**6AV6371-1DX07-3CX0**
• With 10 000 tags	**6AV6371-1DX07-3DX0**
As download	
• With 128 tags	**6AV6371-1HX07-3AX0**
• With 512 tags	**6AV6371-1HX07-3BX0**
• With 2 048 tags	**6AV6371-1HX07-3CX0**
• With 10 000 tags	**6AV6371-1HX07-3DX0**
SIMATIC WinCC IndustrialDataBridge V7.3 Powerpack	
• From 128 to 512 tags	**6AV6371-1DX07-3AB0**
• From 512 to 2 048 tags	**6AV6371-1DX07-3BC0**
• From 2 048 to 10 000 tags	**6AV6371-1DX07-3CD0**
As download	
• From 128 to 512 tags	**6AV6371-1JX07-3AB0**
• From 512 to 2 048 tags	**6AV6371-1JX07-3BC0**
• From 2 048 to 10 000 tags	**6AV6371-1JX07-3CD0**
SIMATIC WinCC IndustrialDataBridge Upgrade	
• From V7.x to V7.4 SP1	**6AV6362-4AA07-4AE0**
• From V7.x to V7.3	**6AV6371-1DX07-3XX3**
• From V6.2 to V7.3	**6AV6371-1DX07-3XX4**
As download	
• From V7.x to V7.4 SP1	**6AV6362-4AA07-4AK0**
• From V7.x to V7.3	**6AV6371-1KX07-3XX3**
• From V6.2 to V7.3	**6AV6371-1KX07-3XX4**

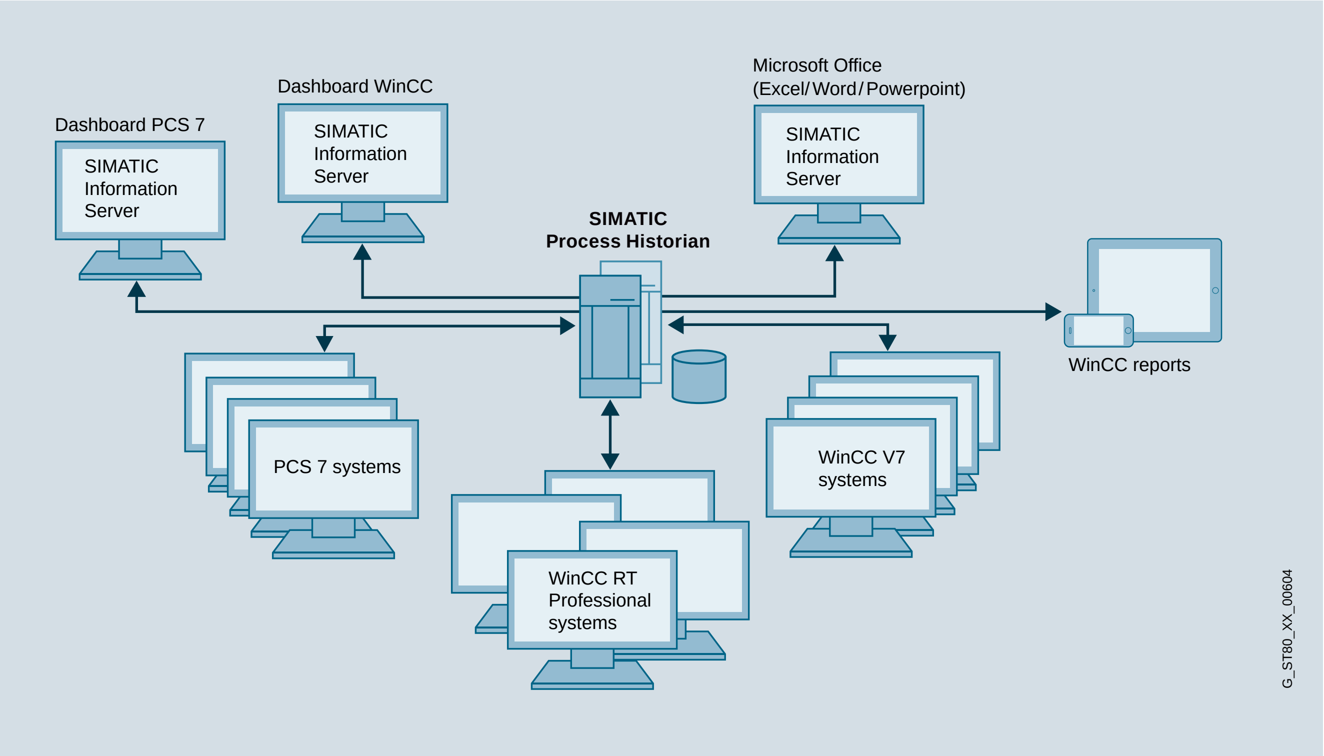
More information

More information is available at:

http://www.siemens.com/idb

SIMATIC Process Historian

Overview



SIMATIC Process Historian

SIMATIC Process Historian

The Process Historian is a powerful, long-term-archive server solution that stores the WinCC process values and messages in a central database.

The system offers full scalability for performance and scope. It records and stores data from one or more WinCC, WinCC RT Professional and PCS 7 projects.

The number of connected single stations, servers, or redundant server pairs is unrestricted.

SIMATIC Process Historian is designed for use throughout your plant, and is positioned below the corporate management level (ERP, MES).

The SIMATIC Information Server is used as a reporting system for the Process Historian. It accesses the central database of the Process Historian and visualizes the data in clear, user-friendly displays on WinCC stations or office PCs. The central Process Historian database provides access to real-time data throughout the plant.

This data is the key to sustainable plant optimization measures. Since the archive system can be fully integrated, no additional engineering is required. SIMATIC Process Historian uses the integrated relational database, SQL Server from Microsoft®. No complex reconfiguration is needed because the archive system is integrated into WinCC. Selected WinCC process values or messages are archived long-term on a time or event-driven basis.

The Process Historian is used for the long-term archiving of process values and messages.

<u>SIMATIC Process Historian 2014 SP2</u>

- Central, plant-wide long-term archive as corporate information hub
- Real-time archiving of process values and messages from:
  - WinCC V7.0 SP3, V7.2, V7.3, V7.4 and V7.4 SP1
  - Data migration, WinCC V 6.2 SP 3 and higher
  - WinCC/Performance Monitor V7.4 and V7.4 SP1
  - WinCC RT Professional, V13 SP1, V13 SP2, V14 and higher
  - PCS 7 SIMATIC BATCH (see Catalog PCS 7)
- High performance with very large data volumes
- Data access via OPC UA Server
- Migration support for data migration from WinCC/ Storage plus, CAS Storage plus and WinCC segments.
- High availability thanks to redundancy concept with observer/witness server for increasing data integrity
- High degree of security due to integrated, complete backup and restore of all segments (disaster recovery)
- Enhanced data security through store and forward mechanism
- Scalable without breaks in production
- Maximum data transparency
- High degree of security thanks to integrated backup system
- Simple and fast management and diagnostics with the Process Historian Management "Dashboard"
- Backup & Restore for PCS 7 Batch

Overview (continued)

Operating systems, virtualization

- Windows Server 2012 R2 (64-bit Standard / Enterprise)
- Windows Server 2008 R2 SP1 (64-bit Standard / Enterprise)
- MS SQL Server 2014 SP1

Process Historian 2014 has been released for the following virtual environments:

- VMWare vSphere Hyper Visor (ESXi) V5.5
- Microsoft Hyper-V Server 2012

Benefits

- Fully integrated archiving solution for large volumes of data
- Central, plant-wide long-term archive as corporate information hub
- Process data and messages from any number of subordinate WinCC systems can be archived
- Plant expansions can be implemented without interrupting the production process
- High availability in redundant mode
- High degree of security due to integrated backup system
- Database for analyses with the aim of optimizing the plant and thereby raising productivity

Function

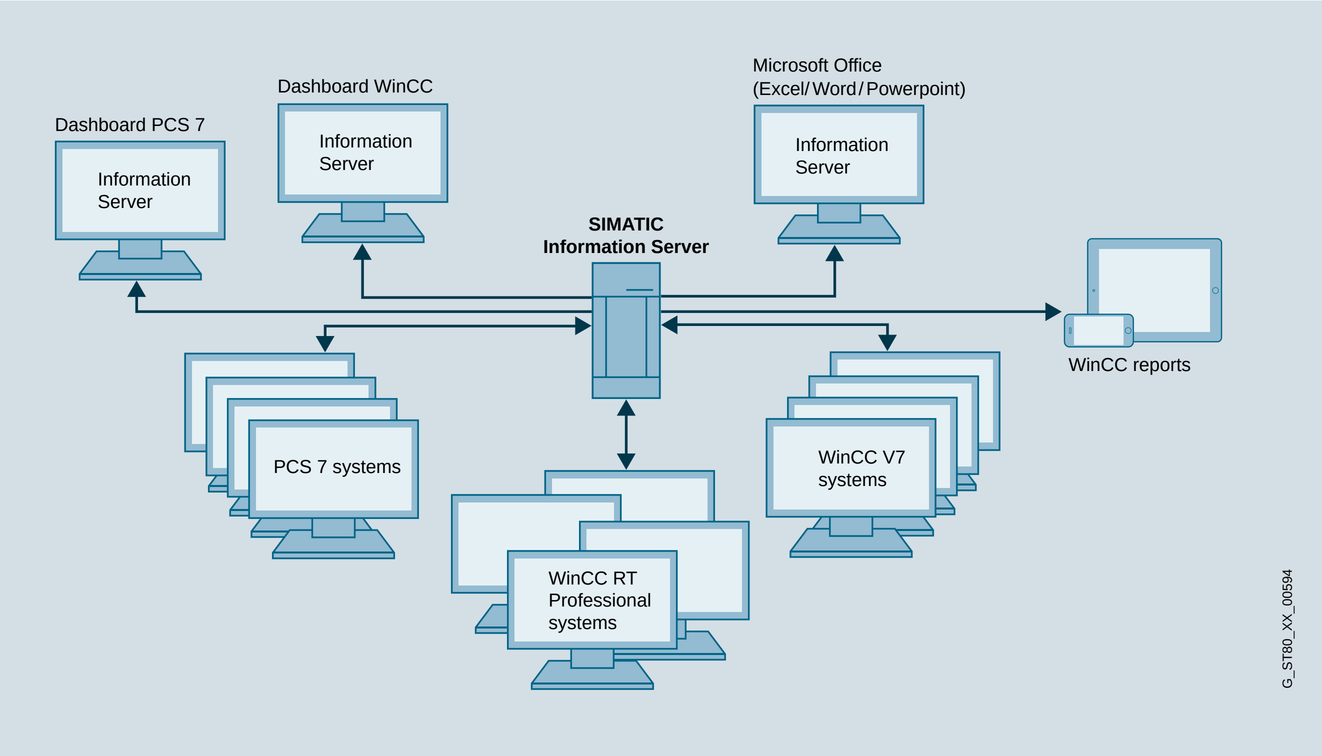
- Real-time storage of the WinCC archive data (process values and messages) from any number of WinCC stations
- Visualization of the archive data on WinCC clients or WinCC single stations either directly or using the SIMATIC Information Server
- Process Historian configuration tool for fast, simple engineering
- The redundant Process Historian is based on the Microsoft SQL Server Mirroring (3rd system for controlling the availability of the redundancy)
- High degree of security due to integrated complete backup and restore of all segments
- During the initial configuration the database and the segmentation are set up
- The PH-Ready component is installed on the WinCC server for the process of archiving to the PH
- The PH automatically detects all connected WinCC server projects (via the PH-Ready component)
- The Process Historian Management "Dashboard" enables simple and fast management and diagnostics

Ordering data

Ordering data	Article No.
SIMATIC Process Historian 2014 SP2	
• Single License	6AV6361-1AA01-4AA0
• Single License (Redundancy Complete) 2 x Process Historian Server 2 x Process Historian Server Redundancy	6AV6361-1BA01-4AA0
• Single License Redundancy	6AV6361-1CA00-0AD0
as download (for 2014 SP1 only)	
• Single License	6AV6361-1AA01-4AH0
• Single License (Redundancy Complete) 2 x Process Historian Server 2 x Process Historian Server Redundancy	6AV6361-1BA01-4AH0
• Single License Redundancy	6AV6361-1CA00-0AJ0
Process Historian OPC UA Server	6AV6361-1HA01-4AB0
Upgrades	
Upgrade from CAS (Central Archive Server) V7.0 SP3 or Process Historian 2013 to Process Historian 2014 SP2	6AV6361-1AA01-4AE0
As download	
Process Historian OPC UA Server	6AV6361-1HA01-4AJ0
Upgrades	
• Upgrade from CAS (Central Archive Server) V7.0 SP3 or Process Historian 2013 to Process Historian 2014 SP1	6AV6361-1AA01-4AK0
• Upgrade from CAS V6.2 to V7.0 SP3	6AV6371-1DQ17-0XX3
• Upgrade from CAS V6.2 ASIA to V7.0 SP3 ASIA	6AV6371-1DQ17-0XV3

SIMATIC Information Server

Overview



Information Server 2014 SP2

Information Server 2014 SP2 is an open, Web-based reporting system for interactive areas.
Reports can be used in Internet Explorer, Excel, Word or PowerPoint, as well as for Adobe Reader (PDF).
SIMATIC Information Server has access to archived process values and messages, and can be used either directly in conjunction with WinCC / WinCC/RT Professional / PCS7 OS as well as with Process Historian 2014 SP2.

- Access to archived process values and messages from:
  - WinCC V7.2 UD 4, V7.3 Second Edition UD 1, V7.4 and V7.4 SP1
  - WinCC/PerformanceMonitor V7.2, V7.4 and V7.4 SP1
  - WinCC RT Professional V13 SP1, V13 SP2, V14 and V14 SP1
  - PCS7 according to its compatibility specifications
  - WinCC Open Architecture
- Process Historian 2014 SP2
- Open reporting system with report templates in RDL or Excel format
- Through add-ins for Microsoft Office environments, direct access to the archived data of the Process Historian or WinCC can be easily established.
- Reports can be integrated directly in Word and Excel, thus greatly simplifying work steps.
- Process values can be displayed in tabular or graphic form depending on various filter functions
- Support of subscriptions for a cyclical or event-driven report generation, including sending of emails
- Web-based parameter assignment of the report templates
- Use of the standard tools MS Excel, MS Word and MS PowerPoint for individual report templates
- Reporting system based on MS Reporting Services for more complex individual report templates
- Can be used for HTML5-enabled tablet PCs larger than 10.5"
- Automatic cyclic and event-based reporting (PDF, Excel, Word, PowerPoint)
- Central storage and automatic transmission of reports created by email
- Data security thanks to access protection, user administration, SSL encryption and SMTP authentication

Operating systems, browsers, MS Office, virtualization

- Windows 2008 Server R2 SP1 Standard Edition (64-bit)
- Windows 7 SP1 (32-bit/64-bit) Professional, Enterprise, Ultimate
- Windows 8.1
- Windows Server 2012 R2
- Windows 10

The browsers to be used must have HTML5 capability

- Internet Explorer as of Version 11.0
- Mozilla Firefox (current version)
- Google Chrome (current version)
- Office add-ins for Microsoft Excel, PowerPoint and Word, for the following 32-bit Office versions: 2007 SP2, 2010 SP1 and 2013

SIMATIC Information Server 2014 SP2 has been released for the following virtual environments:

- VMWare vSphere Hyper Visor (ESXi) V5.5
- Microsoft Hyper-Server 2012

Benefits

- Central, web-based reporting system as an interface for all corporate areas up to the management level.
- Easy handling thanks to the use of standard tools such as MS Word, Excel and PowerPoint
- Provision of freely configurable reports via Web-based dashboards
- Import of data from any number of WinCC, WinCC RT Professional and PCS7 applications
- Transparent access to WinCC tag and alarm archive and to the data of the SIMATIC Process Historian

Highlights

- Set of frequently used report templates for process values, messages and batches
- Open reporting system for creating any number of new report templates
- Storage of configured (parameterized) report templates for faster access
- Export of reports in common document formats
- Support of subscriptions for cyclic report generation including email service
- Creation and storage of application-specific dashboards
- Role management for Windows users; supports workgroups and Active Directory; user rights can be assigned for specific projects
- Generation of reports and inserting as graphics in Microsoft Office Word documents
- Creation of Microsoft Excel, Word and PowerPoint reports for historical process values and messages as well as storage of the Excel report templates on the Information Server
- Support of subscriptions for Excel report templates
- Mobile access to reports via HTML5-enabled browser, also from tablets > 10.5"

Function

- Easy creation and individual design of own web pages
- No web page programming knowledge (html, asp) is necessary
- Creation of meaningful reports with Office knowledge
- Easy parameterization of predefined report templates
- Creation of your own report templates based on the Microsoft Reporting Services
- High flexibility due to access to numerous WinCC projects and the SIMATIC Process Historian
- Use of Microsoft Word and Excel for individual reports
- Consistent configuration of the access protection
- Installation-free in HTML5-enabled browsers on Web client or tablet > 10.5"

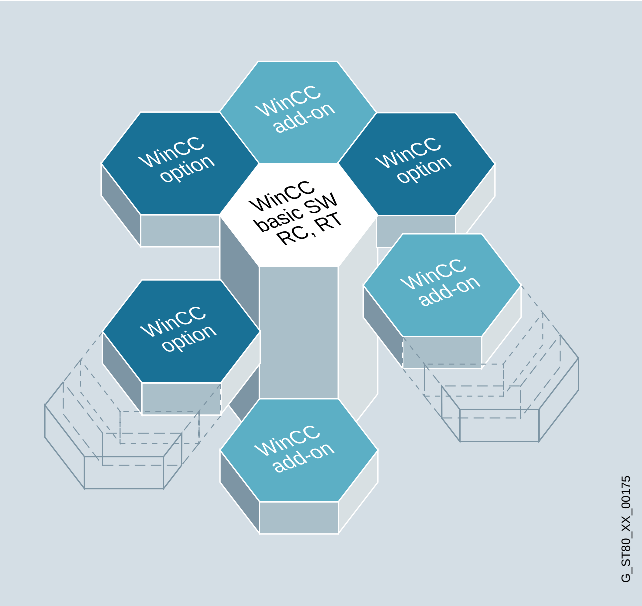
Ordering data

Ordering data	Article No.
SIMATIC Information Server 2014 SP2 "Basic Package" • Information Server • Information Server - Client access (3) • Information Server - Data source access (1)	**6AV6361-2AA01-4AA0**
as download (for 2014 SP1 only) • Information Server • Information Server - Client access (3) • Information Server - Data source access (1)	**6AV6361-2AA01-4AH0**
SIMATIC Information Server Client and data source license, version-independent	
• 1 Client access	**6AV6361-2BD00-0AD0**
• 3 Client access	**6AV6361-2BE00-0AD0**
• 5 Client access	**6AV6361-2BF00-0AD0**
• 10 Client access	**6AV6361-2BG00-0AD0**
• 1 Data source access	**6AV6361-2CD00-0AD0**
• 3 Data source access	**6AV6361-2CE00-0AD0**
As download	
• 1 Client access	**6AV6361-2BD00-0AJ0**
• 3 Client access	**6AV6361-2BE00-0AJ0**
• 5 Client access	**6AV6361-2BF00-0AJ0**
• 10 Client access	**6AV6361-2BG00-0AJ0**
• 1 Data source access	**6AV6361-2CD00-0AJ0**
• 3 Data source access	**6AV6361-2CE00-0AJ0**
Upgrade	
Upgrade Information Server 2013 to Information Server 2014 SP2 As download	**6AV6361-2AA01-4AE0**
Upgrade Information Server 2013 to Information Server 2014 SP1	**6AV6361-2AA01-4AK0**

3

WinCC add-ons and partner management

Overview



WinCC Premium Add-ons – Solutions for all sectors and technologies

The basic system is designed to be independent of any specific technology or industrial sector, to be modular and flexibly expandable and to permit not only simple single-user applications in machine construction, but also complex multi-user solutions or even distributed systems with several servers and clients in plant engineering.
WinCC Premium Add-ons are supplementary products that have been created by competent partners working in the specifc sectors and technologies and represent interesting expansions for WinCC.

WinCC Premium Add-ons are not DF (Siemens) products, but the products of partners who are committed to complying with certain quality features and boundary conditions.

The Premium Add-ons are checked, for example, in the Siemens Test Center for their compatibility with the basic WinCC system and supported in the first instance by the central Hotline.

As they are important application- and sector-specific add-on products for SIMATIC WinCC, they are marketed jointly by Siemens and the respective add-on suppliers.

The WinCC Premium Add-on products can be found on the Internet (see More information) and in the "Online WinCC Premium Add-on Catalog".

Premium Add-ons for Connectivity:

- **PM OPEN IMPORT system software**
  enables the WinCC flexible archives to be automatically read into the WinCC system.
- **PM OPEN IMPORT system software**
  offers a flexible, low-cost solution for exporting current process data and archive data from WinCC into freely structurable text files.
- **PM OPEN TCP/IP system software**
  offers a low-cost solution for connecting computer systems (PPS, laboratory, logistics and quality management systems, etc.) to the automation and process control level.
- **CONNECT ALARM Historian system software**
  permits the flexible importing of messages and alarms from WinCC and WinCC flexible into the SIMATIC IT Historian.
- **TOP Server**
  is a proven OPC data integration platform with a large number of OPC device drivers.
- **TOP Server UCON**
  enables separate OPC device drivers to be created by Point-Click configuration.

Premium Add-on for process management:

- **PM-ANALYZE**
  is used for locating sources of error or weak spots in plants by analyzing messages and process values**.**
- **PM CONTROL system software**
  is a cross-industry recipe system for user-friendly creation and management of recipes with integrated order control.
- **PM QUALITY system software**
  is a modular and sector-independent archive system for order-related or batch-related acquisition of process and production data.

Premium Add-on for sector products:

- **ACRON 7 for WinCC**
  is used for long-term archiving and logging of process data for small to medium-sized plants, specifically in the water supply and treatment industry.
- **Sm@rtlib function library**
  provides function blocks for S7-300/400 as well as faceplates and icons for WinCC and WinCC flexible from the areas of process industry, HVAC, pharmaceuticals and energy.

Premium Add-on for configuration tools:

- **DCC TranslationEditor**
  for the efficient, secure translation of multilingual visualizations with in-built features for quality assurance.

Premium Add-on for diagnostics and maintenance:

- **ACC Alarm Management System**
  enables messages to be passed from the visualization system to mobile radio call receivers, such as cell phones or pagers, etc**.**
- **PM MAINT system software**
  is a sector and technology-neutral maintenance system for use in preventive maintenance.

Overview (continued)

Competent partners

With SIMATIC WinCC, you not only get excellent products to suit your requirements, but we will also support you with selecting a partner for your automation solution.

In our global network of Siemens Automation Solution Providers you will always find competent partners in your neighborhood. In addition, Siemens-internal WinCC Competence Centers and WinCC Specialists support external system integrators with WinCC customer and industry-specific implementation of efficient solutions.

WinCC Competence Centers

Mannheim: Process management

- Sector-independent solutions and products in the fields of production, environment, maintenance and diagnostics
- Connectivity tools, system integration, connection to SAP R/3
- Support of FDA validation and WinCC ODK

Stuttgart: Production technology

- Solutions for maintenance management
- Alarm management

Plano, Texas (USA)

Migration of FactoryLink to SIMATIC WinCC

- Support for customers with migration projects
- Optimization of automated migration tools
- Support for FactoryLink customers with CSS contracts

More information

WinCC Competence Centers

More information is available on the Internet at
http://www.siemens.com/wincc-coc

Siemens Solution Partner Automation

More information is available on the Internet at
http://www.siemens.com/automation/solutionpartner

WinCC Specialists

More information is available on the Internet at
http:/www.siemens.com/wincc-specialists

WinCC Premium Add-on

More information is available on the Internet at
http://www.siemens.com/wincc-addons

Overview

SIMATIC WinCC Open Architecture

SIMATIC WinCC Open Architecture is a SCADA system for visualizing and operating processes, production flows, machines and plants in all industrial sectors.

SIMATIC WinCC OA is built consistently on object-oriented structures. Due to this consistent and well-considered use of object-oriented structures, from process images to the database, the engineering costs improve for SIMATIC WinCC OA customers.

Distributed systems enable the connection of up to 2 048 autonomous SIMATIC WinCC Open Architecture systems via a single network. Each subsystem can be configured either as single-user or multi-user system, each of which may be redundant or non-redundant.

Current version: ***SIMATIC WinCC Open Architecture V3.15***
Executable under:

- Windows 10 (64-bit)
- Windows 7 Ultimate/Enterprise/Professional SP1 (64-bit)
- Windows 7 Ultimate SP1 (64-bit) (only approved for IPC 227E / 277E)
- Windows Server 2012 R2 (64-bit)
- Windows Server 2008 R2 (64-bit)
- Red Hat Enterprise Linux 7.2 (64-bit)
- OpenSuse Leap 42 (64-bit)
- CentOS 7.2 - SLES 12.1 (64-bit)
- VMWare ESXi Version 5.5, 6

Note:

Native 64-bit support.

Benefits

- Efficient engineering and flexible plant expansion
  - Object orientation
  - Unlimited number of data points
  - Mass engineering
  - Multilingual with UTF-8 support
- Object-oriented data model
  - Mapping of setpoint values and measured values for a physical plant object onto a structured data point
  - Data point comprises a tree structure with data point elements
  - The individual process values are mapped onto the data point elements
  - Any number of data points can be instanced from one defined data point structure (data point type), e.g. 20 pumps of the same type.
  - Data point types can be embedded in other data point types, which enables more complex plant objects to be generated (e.g. one pump station comprises 2 pumps).
  - Graphical plant symbols can be linked with a data point type. They only need to be drawn once, but can be used for all instances of the linked type.
  - Savings in engineering outlay.
- Freely scalable
  - From a small single-user system up to a networked, redundant high-end system
  - Distributed systems of up to 2 048 servers
- Platform-independent
  - Available for Windows, Linux, iOS and Android
- Native 64-bit support
  - More system memory is usable, due to native 64-bit support
  - This means that larger data quantity structures per server can be processed
- Maximum fail-safety and availability
  - Hot standby redundancy
  - Disaster recovery system
  - SIL3 certification according to IEC 61508
- Platform for customized solutions
  - Quick and easy implementation of new processes
  - Swift adaptation of the control and visualization of the plant to current market requirements
  - Company-internal programming and in-house developments enable independence and protection of intellectual property
  - Structure of standardized solutions permits continuous use
  - Support of brand-labeling
  - Individual brand names for OEM developments
- Openness thanks to comprehensive driver and interface options:
  - SIMATIC S7 TCP/IP, Modbus TCP/IP, Ethernet/IP, SNMP, BACnet, OPC DA Client & Server, OPC A&E Client & Server, OPC UA Client & Server (DA, AC), SSI driver, IEC 60870-5-101, -104, DNP3, SINAUT, IEC 61850/61400, RK512, TLS, Teleperm M, API, Cerberus
- Seamless traceability of system states by means of high-performance archiving:
  - Data archiving in value archives (internal database format)
  - Data archiving in an Oracle database
- Expandable by means of add-ons and solution frameworks:
  - Add-on for integration of video management systems (VIDEO)
  - Add-on for increasing the availability (DRS, etc.)
  - Add-on for clarity in distributed systems (GIS Viewer, etc.)
  - Add-on for efficient maintenance management (AMS, Scheduler, etc.)
  - Add-on for mobile operability (Web Client, Mobile Client, etc.)
  - Add-on for efficient building automation technology (BacNet, etc.)
  - Mobile App SIMATIC WinCC OA Operator

Application

The SCADA system SIMATIC WinCC Open Architecture addresses applications with high demand for customer-specific adaptations, large and/or complex applications, as well as projects that demand special system requirements and functions.

SIMATIC WinCC Open Architecture demonstrates its high performance in networked and redundant high-end control systems in particular. Integrated, high-performance communication is guaranteed from the field level to the control station, from the machine to the company headquarters. In every situation, high availability, reliable information, fast interaction, and user friendliness are guaranteed. Applications can also be changed without interrupting the process. Profitability, efficiency and safety are therefore always in equilibrium. SIMATIC WinCC Open Architecture displays its reliability in a wide range of business-critical applications.

With SIMATIC WinCC Open Architecture, ideas can be quickly and easily converted into new applications. SIMATIC WinCC Open Architecture is open for independent in-house developments and also enables own product branding.

Thanks to its special system properties, SIMATIC WinCC Open Architecture meets the highest demands especially in the case of traffic solutions, building management systems and supply systems (power, water, oil and gas, etc.).

Design

SIMATIC WinCC Open Architecture is available as a single-user runtime license, multi-user runtime license, Web Client license, and parameterization and development license. With SIMATIC WinCC Open Architecture the required license is determined, among other things, according to the number of inputs and outputs (I/O).

An "I/O" refers to a data point element (DPE) whose content is exchanged either by means of drivers (e.g. S7 driver communicates with a PLC), with other software systems. Internal data point elements, i.e. DPEs without communication to the outside, are not counted for licensing. The licenses are available either with an unlimited number of I/Os or with limitations of 500 to 250 000 I/Os.

The multi-user runtime license allows working simultaneously from different PCs, with the licensing taking place via the server. The active clients are then counted. The web client and the ultralight client enable the visualization and operation of process pictures over an exclusively HTTP connection between the server and the respective web client. The parameterization and development licenses extend a runtime license with the option of configuration and parameterization. They each require a server license.

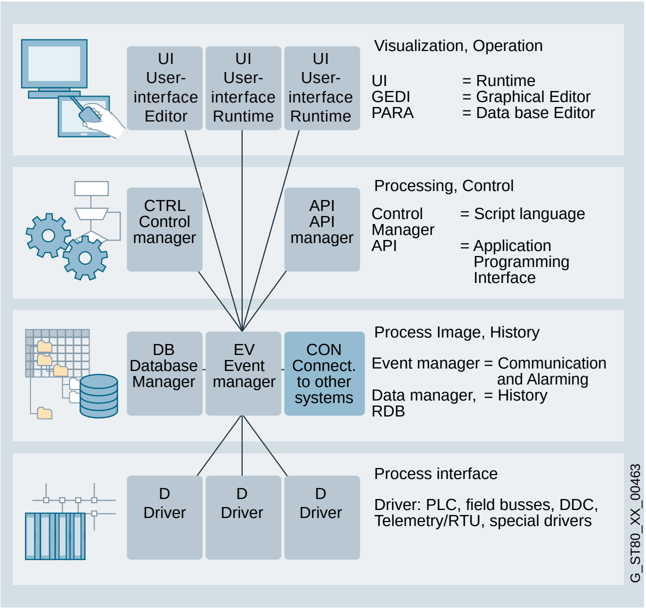
Function

SIMATIC WinCC Open Architecture is a very modular SCADA system. The required functionalities are realized by specific, functional entities created for various tasks. In SIMATIC WinCC Open Architecture these units are called "Managers" – they are also independent processes in software terms.

WinCC OA Manager	Task
Event Manager (EV)	The Event Manager (EV) is the processing center in WinCC OA. This unit provides a constantly updated image of all PowerTags in the memory. Each other functional unit (Manager) that wants to access the data receives it from the process image of the Event Manager and does not have to communicate directly with a controller. Conversely, a command from an operator station is initially set only as a value change in the process image of the Event Manager. The associated driver then forwards it to the corresponding target device (e.g. PLC) automatically. The Event Manager is a kind of central data distributor, in effect the communication center for WinCC OA. Furthermore, this Manager also carries out the alarm handling and can execute various arithmetic functions autonomously.
Driver Manager (D)	The lowest level in a WinCC OA System is represented by the process connections, referred to in WinCC OA as drivers (D). These are special programs that handle the communication with the control and field level. Since numerous different forms of communication are possible with the PLCs or telecontrol nodes, there are different drivers that can be selected. In very simple terms, the driver is a unit for converting a particular protocol into the internal communication form of WinCC OA. The driver reads the current states, measurement or counter values from the field and in the opposite direction it forwards commands and setpoints to the lower-level controllers (= the term "control" should be used here and below to represent all possible devices of the basic automation (PLC, DDC, telecontrol system, etc.)).
Data Manager (DB)	The Data Manager (DB) represents the link to database. On one hand, it involves the parameterization data of an application that is to be stored in such a database. On the other hand, it involves the historical recording of changes in values or alarms. If a user wishes to query historical data at a later date, then the Data Manager completes this request and not the database itself.

Function (continued)

WinCC OA Manager	Task
Control Manager (CTRL)	WinCC OA has numerous options for implementing your own algorithms and processing. The two most important are the internal language control (CTRL) and the general application programming interface (API). Control is an extremely powerful scripting language. The processing is interpretative, so that no compilation is required. The syntax is almost identical with ANSI-C, with some modifications for simplification. This is a fully developed, procedural high-level language with multi-threading (= quasi-parallel processing of individual programs; the system itself carries out the processing check). The language offers a comprehensive function library for tasks of the control and visualization technology. Control can be used as a stand-alone process (Control Manager), for animation and user interface design or for standardized, data object-oriented processing functions. The API (WinCC OA API) represents the most powerful form of functional expansion. It is configured as a C++ class library and allows the software developer to implement individual functions as an independent, additional manager (forecast system, simulation, tools, proprietary databases, etc.).
User Interface Manager (UI)	The interface to the user is created by the User Interface Manager (UI). This comprises a graphics editor (GEDI), a database editor (PARA) or the general user interface of the application (Vision module). The User Interface serves to display values, issue commands or track alarms in the alarm list. Trends and reports are also usually part of the UI. From a programming viewpoint, the user interaction in WinCC OA is completely isolated from the background processing – this is merely a view of the data of the current process image or the history.



A WinCC OA System consists of function-specific units, the managers

For special tasks such as redundancy, management for distributed systems, web server, reporting, simulation, COM etc., further managers are available.

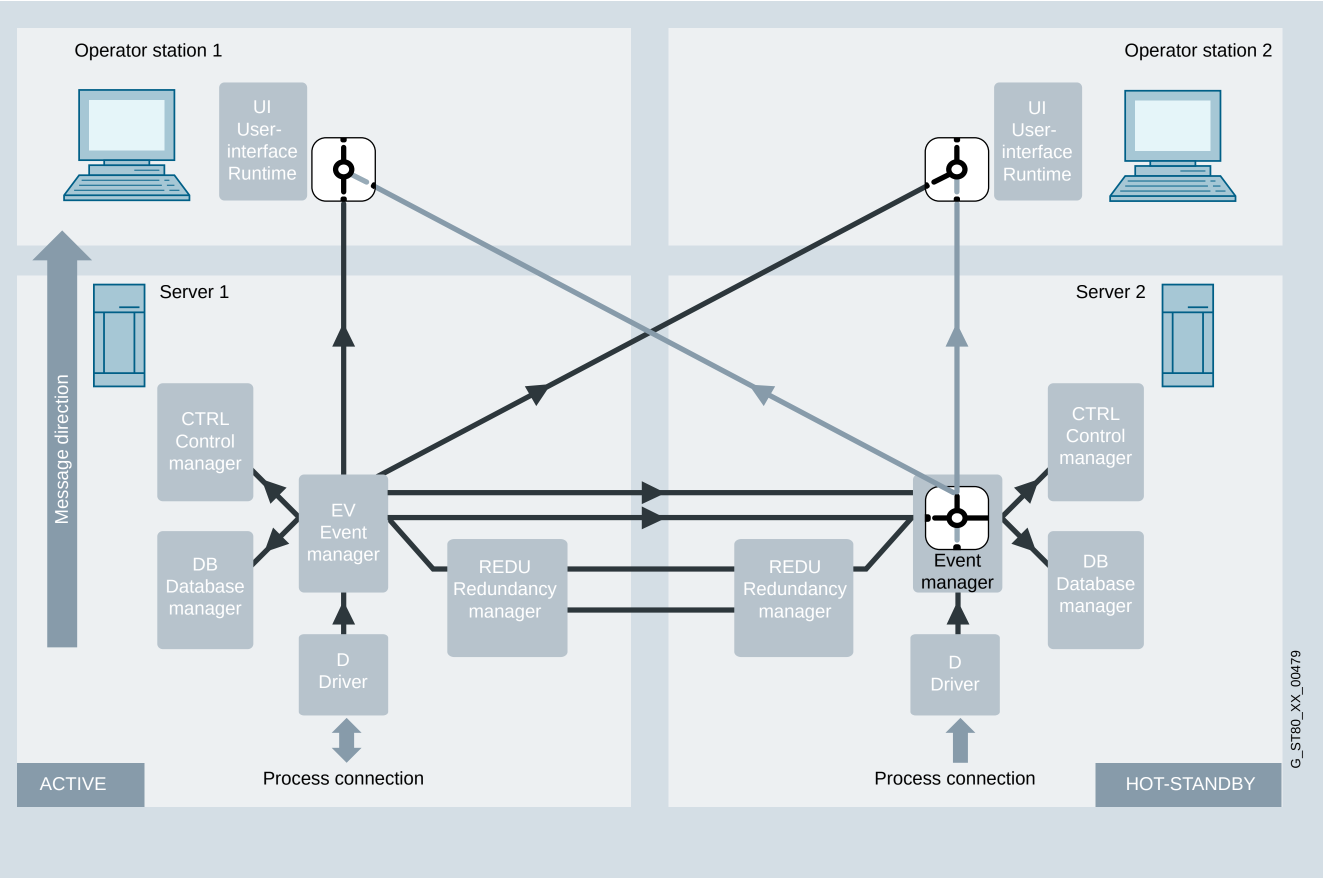
The powerful configuration functions contribute to a reduction of engineering and training overheads and lead to increased flexibility and operational reliability.

Function (continued)

Special functions	Task
Access to external databases	The database interfaces offer the possibility of access to external databases. Under Windows, the link is established via the ADO Standard. ADO (ActiveX Data Objects) is an interface developed by Microsoft for vendor-independent access to data sources of all types, primarily databases. The data source for ADO is an OLE DB Provider, although ODBC-compatible databases can also be addressed via an internal wrapper. In Linux, the Qt library is used as an interface to relational databases. Access in this case is either direct via the native DB-API or via ODBC.
Application Programming Interface (API)	The API offers a series of functions that enable WinCC OA to be extended with special managers. A manager means a program that communicates with the system by via a protocol defined by WinCC OA.
COM (Component Object Model)	This is a specification for the development of modular software components that can be used by each COM-compatible application. COM components can easily be integrated into such applications and can even be removed from an application during runtime. COM components can be programmed in a host of different languages, even though C++ is usually used for this purpose. The specifications OLE, ActiveX and DirectX are based on the COM technology.
Control expansion	Expansion that allows C++ functions to be added to the programming language.
Panel topology/ summation signal	Generation of panel hierarchies/topologies in existing or new projects and automatic creation of summation signals of the alarm data points that are located in the panels of the topology.
Redundancy (see diagram below)	The failure safety in a redundant system is implemented by means of hot standby. Hot standby is a hardware-independent solution for high availability. This is a safety concept that consists of two interconnected server systems. Both servers are constantly in operation and are subject to the same functional loading (but only one server is ever active; the second compares the data with the primary unit at runtime). On the failure of one unit, an "on-the-fly changeover" takes place and the previously passive server assumes the leading role. This guarantees access to data or functions at all times.

Special functions	Task
SMS	Allows the sending and receiving of text messages with WinCC OA.
Encryption of panels and CTRL scripts/ libraries	Allows your panels or scripts to be encrypted, thereby protecting your knowledge and work.
Script Wizard	Easy-to-use tool that simplifies the creation of animated, graphical plant symbols, which saves time during engineering.
Simple Symbols	Basic package of plant symbols that have been created using the script wizard. These can be adapted quickly and easily to the specific requirements of the customer.
Easy Faceplates	Simple parameter assignment of predefined pop-up windows that display details of the associated plant symbol. Without any additional drawing outlay, several standard functions per object can be activated for the detail view (alarm display, trend display, measured value table, setpoint value table, address table, notes).
Drag and Draw	Several representative graphical objects can be defined and configured for each plant object in the data model (data point type). These are pre-configured and need only be moved to the panel via drag-and-drop when the plant pictures are drawn. This saves valuable time during engineering.
Distributed systems (see the diagram below)	Permits the coupling of two or more autonomous WinCC OA systems via a network. Each subsystem of a distributed system can be configured either as a single-user or multi-user system, each of which may be redundant or non-redundant. A sub-system in this context means a server on which an Event Manager is running, whereby in case of redundancy both redundantly operating servers are considered as one system.

Function (continued)



The diagram shows a detailed representation of the two computers Server 1 and Server 2. Server 1 is in the management mode (active) and Server 2 is in hot standby mode (passive).

In the case of redundant operation, the UIs of both operator stations are connected to both Event Managers, however only the data of the active system is displayed on both UIs.

The Event Manager of the passive system is restricted exclusively to communication with the Event Manager of the active system for comparison of the process data (it sends no data to the connected UIs or it discards messages from the drivers – this can be seen in the figure with the switches on the UIs or on the passive Event Manager).

Integration

Integration in automation solutions

SIMATIC WinCC Open Architecture is an open SCADA system with comprehensive drivers and flexible options for connection to other external systems.

Depending on the communications protocol and the bus physics used, specific drivers are used in each case:

- Serial protocols: RK512, 3964R, etc.
- Ethernet: Industrial Ethernet (S7), Modbus TCP (OpenModbus), Ethernet IP (AB), etc.
- Telecontrol systems: SINAUT, SSI (Ethernet) , IEC 61850/61400, IEC 60870-5-101, IEC 60870-5-104, etc.
- Vendor-independent interfaces: OPC UA, etc.

In SIMATIC WinCC Open Architecture, several drivers can be operated in parallel.

These can be of the same type or also of different types. It is possible in a SIMATIC WinCC Open Architecture system, for example, to establish connections via the S7 protocol to a SIMATIC controller, via IEC 60870-5-104 to a telecontrol system, and via OPC DA to any OPC server at the same time.

Integration (continued)

Connection overview

Protocol	Description
S7 TCP/IP	TCP/IP driver for Siemens Industrial Ethernet
OPC Client (Data Access)	• Compatibility with specifications DA 1.0 and 2.05a • Connection to inproc, local or remote server • Connection with up to 20 servers at the same time • Monitoring of the connection to the server and automatic reconnection if the connection is interrupted. • Address browsing if supported by the server. • Benefits of the CALL-R functionality for CALL-R servers (simplified parameter assignment)
OPC Server (Data Access)	• Corresponds to Data Access 2.05a specification (reading/writing of online values). • Is to be started as a manager just like other drivers. • The provided DPEs (server -> client) can be easily and quickly defined via data point groups. • DPEs can be declared as readable (read-only access is permitted; Group OPCRead) or as writable items (Group OPCWrite). • Clients can browse the WinCC OA OPC Server hierarchically.
OPC Alarms & Events	OPC Alarms & Events (abbreviated to OPC A&E) is, in addition to Data Access, a further standard for performing central alarm management on a cross-vendor basis. OPC A&E is used to ensure the link to other control systems and the display of alarms/events in a hierarchical system.
OPC Historical Data Access	OPC Historical Data Access (OPC HDA) is used to exchange archived process data. This is in contrast to the OPC Data Access (OPC DA) specification that deals with real-time data.
OPC UA (Unified Architecture)	WinCC OA client supports the OPC UA Data Access (DA), Alarms & Conditions (AC) and Historical Access (HA) standards.
Modbus TCP	Modbus/TCP is based on the serial Modbus protocol, which was adapted for TCP/IP. The Modbus/TCP driver can be used simultaneously for Modbus/TCP or UNICOS.
Ethernet/IP	Ethernet/IP is used for communication with several PLC generations and families from Rockwell Automation / Allen Bradley. The protocol is part of the application layer and is based on the standard TCP/IP network protocol.
S-bus	The WinCC OA S-bus driver is used to link SAIA PCD control devices to WinCC OA projects. Client mode of the SAIA S-Bus drive r is used. Communication is carried out using the UDP; the serial version of the protocol is not supported.
Serial: RK512/3964R	Is used for interfacing a PLC via the 3964R/RK512 protocol
Cerberus	Cerberus is a fire, intrusion and gas alarm system. The Cerberus driver guarantees communication to and from the central fire alarm systems and building security facilities in the event a fire, gas or intruder alarm.

Protocol	Description
SSI	Is used for the interfacing of SAT remote control systems. The data is exchanged via the LAN (Ethernet, IEEE 802.3); the frame formats used are the SSI formats defined by SAT. The SK 1703 telecontrol components with a suitable communication card (KE/ET) are supported.
IEC 60870-5-101, -104	IEC drivers are standardized telecontrol drivers that can process proprietary frames. IEC stands for International Electrotechnical Commission, the international standardization committee for electrical engineering. • IEC 60870-5-104 for data exchange via TCP/IP • IEC 60870-5-101 for serial connection
IEC 61850/61400	IEC 61850 Client and IEC 61400 Client defines an architecture for satisfying the requirements of electrical substation automation. It defines a data model and the communication services for interaction with and between the elements of a substation, such as power supply units, circuit-breakers, protective devices etc. A description language and a system configuration language (SCL) have been defined for technical purposes.
DNP3	The DNP3 (Distributed Network Protocol 3) driver is an open, rugged and modern protocol which exhibits characteristics and strengths similar to the IEC driver. The transfer of any number of frames with different data types takes place between the WinCC OA System (Master) and the remote stations (Slave).
SINAUT	SINAUT (SIemens Network AUTomation) is a communication protocol for automated monitoring and control of remote process stations on the basis of SIMATIC S7. Communication takes place via TCP/IP.
SNMP Manager & Agent	SNMP (Simple Network Management Protocol) is a protocol for monitoring network elements (servers, workstations, routers, switches, hubs, etc.) and their functions. • SNMP Manager supports SNMP V1, V2, and V3 • SNMP Agent supports SNMP V1 and V2
BACnet over IP – driver	BACnet (Building Automation and Control Networks) is a standardized protocol for building automation and has been set by the ASHRAE (American Society of Heating, Refrigerating and Air-conditioning Engineers) as a guideline to provide a uniform and cross-company standard for data communication within and between building automation systems. The BACnet Standard 2004 is supported in accordance with the PIC list (see product documentation)

Further drivers on request or via C++ API

3

Technical specifications

Type	SIMATIC WinCC Open Architecture V3.15
Operating system	• Windows 10 (64-bit) • Windows 7 Ultimate/Enterp rise/Professional SP1 (64-bit) • Windows 7 Ultimate SP1 (64-bit) (only approved for IPC 227E / 277E) • Windows Server 2012 R2 (64-bit) • Windows Server 2008 R2 (64-bit) • Red Hat Enterprise Linux 7.2 (64-bit) • OpenSUSE Leap 42 (64-bit) • CentOS 7.2 (64-bit) - SLES 12.1 (64-bit) • VMWare ESXi Version 5.5, 6
PC hardware requirements [1]	
Processor type	Intel Pentium or equivalent
Minimum	Intel Pentium IV 1.6 GHz (or better) [2)3)]
Recommended	• Client: Intel Pentium IV/Core2/i3, 2 GHz [2)3)] • Server: Intel Core i3 CPU Dual, 3 GHz [2] • Server large system[4]: Intel(R) Core(TM) i5/i7 CPU Dual / Quad, 3 GHz [2)3)]
Work memory RAM	
Minimum	2 GB [2]
Recommended	• Client: 2 GB [2)3)] • Server: 8 GB [2)3)] • Server large system: 16 GB [2]
Hard disk (available memory for installation)	
Minimum	HD with 800 MB available [2]
Recommended	Server large system with local logging: SCSI LVD Controller, WIDE SCSI / LVD HDD or comparable storage system with at least 500 MB of available space [2]
Screen and graphics card (TrueColor)	
Minimum	1024 x 768 [2]
Recommended	1280 x 1024 [2]
Mouse and keyboard	Mouse, keyboard
DVD drive	For software installation
Local power user rights	• For installation • For operation

1) For actual use in plants, the hardware requirements are largely dependent on the project size and the dynamic response of the process variables. Whenever possible, use rugged, high-quality hardware with corresponding functionalities such as redundant power supply units or RAID hard disks. WinCC OA supports dual and multi-processor mode and benefits significantly from the fact that each WinCC OA Manager can be assigned to one processor core as a system process. At the same time, however, it is important that the individual cores offer the highest possible performance (high clocking), since load-critical core processes such as the event manager run on exactly one core (for this reason, multi-core machines with low-clocked cores are unsuitable for WinCC OA). As for RAM, CPU and HDD, the usual rule applies: more is better

2) System requirements generally only refer to WinCC OA Version 3.14 under the supported versions of the Windows and Linux operating systems.

3) A precondition for the minimum requirement is that the operating system used does not have any greater requirements itself

4) With a large system it is essential that the system permits not only the highest data point numbers but also a high dynamic response.

WinCC OA is ideally suited for use in very large distributed systems. The optimum design of such systems demands corresponding system knowledge of WinCC OA.

Due to the event-oriented processing, individual design parameters can be increased or reduced as necessary in actual applications.

Type	SIMATIC WinCC Open Architecture
Functionality/quantity structure	
Number of messages	150,000 [2]
Message text (number of characters)	System-limited [1]
Message archive	System-limited [1]
Process values per message	1 process value + up to 32 alarm associated values per message
Constant load of messages, max.	500/s [2]
Message burst, max.	15,000/10 s every 5 min [2]
Archives	
Archive data points	Max. 250,000 per server [2]
Archive types	< 20 parallel logs, different retention period for each log
Data storage format	Oracle or file system
Measured values per second, max.	Server/single-user station: 7,000/s [2) 3)]
User archive	
Archives	System-limited [1]
Type	SIMATIC WinCC Open Architecture
Table size	System-limited by ORACLE database
Graphics system	
Number of screens	System-limited [1]
Number of objects per screen	System-limited [1]
Number of controllable fields per screen	System-limited [1]
PowerTags	< 750,000 per server [2]
User administration	
User accounts	< 4096
Configuration languages	2 (De, En)
Runtime languages	40 (of which 8 Asian)
Multi-user system	
Server	< 2048 [2) 4)]
Number of clients	< 244 per server [2) 5)]

1) Dependent on the available storage space

2) Dependent on the system configuration and the system load (due to the event-oriented architecture, the system load is essentially determined by the change rates of the values to be processed)

3) By means of high-performance hardware configuration (one archiving cluster and approx. 120 distributed systems that archive parallel values in the cluster): 200,000 archived value changes per second

4) Physical limit: <2048, in practice systems have already been implemented with up to 550 distributed systems

5) Physical limit: < 244 clients per server, recommended: max. 100 clients per server

Ordering data

	Article No.
SIMATIC WinCC Open Architecture system software V3.15	
WinCC OA core components WinCC OA Server Language/script versions: en, de; with license for:	
WinCC OA single-user station 500 I/O V3.15 License for single operator station with up to 500 I/O (bit, integer), alerting, extended trend, historical recording, S7 and S7 Plus (8 connections) drivers, SSL encryption, OPC client, OPC server, OPC UA client, WinCC OA Web server and one WinCC OA OPERATOR 1 Device License. Cannot be expanded with multiple operator stations or add-ons.	**6AV6351-1HA31-5AA0**
WinCC OA Server I/O V3.15 License for server (without operator station licenses), alerting, extended trend, historical recordings, S7 and S7 Plus (8 connections) drivers, SSL encryption, OPC client, OPC server, OPC UA client, WinCC OA Web server and one WinCC OA OPERATOR 1 Device License.	
• **1 000 I/O** With a max. of 1 000 I/O of any type	**6AV6351-1HB31-5AA0**
• **3 000 I/O** With a max. of 3 000 I/O of any type	**6AV6351-1HC31-5AA0**
• **5 000 I/O** With a max. of 5 000 I/O of any type	**6AV6351-1HD31-5AA0**
• **10 000 I/O** With a max. of 10 000 I/O of any type	**6AV6351-1HE31-5AA0**
• **15 000 I/O** With a max. of 15 000 I/O of any type	**6AV6351-1HF31-5AA0**
• **25 000 I/O** With a max. of 25 000 I/O of any type	**6AV6351-1HG31-5AA0**
• **50 000 I/O** With a max. of 50 000 I/O of any type	**6AV6351-1HH31-5AA0**
• **75 000 I/O** With a max. of 75 000 I/O of any type	**6AV6351-1HJ31-5AA0**
• **100 000 I/O** With a max. of 100 000 I/O of any type	**6AV6351-1HK31-5AA0**
• **150 000 I/O** With a max. of 150 000 I/O of any type	**6AV6351-1HL31-5AA0**
• **200 000 I/O** With a max. of 200 000 I/O of any type	**6AV6351-1HM31-5AA0**
• **250 000 I/O** With a max. of 250 000 I/O of any type	**6AV6351-1HN31-5AA0**
• With unlimited I/O	**6AV6351-1HP31-5AA0**
WinCC OA Dongle V3.15 Hardware dongle for USB port for operation with a hardware-independent license attached to the dongle, which can also extend the hardware-linked license of the operator station or server on a temporary basis.	**6AV6351-1AH31-5AA0**
WinCC OA on data medium WinCC OA Software DVD – current version on disk	**6AV6351-1AX31-5AA0**

	Article No.
WinCC OA for Nanobox Runtime License for SIMATIC Nanobox (Win 7 Ultimate SP1 64-bit) with max. 128 I/O, including one operator station, distributed systems option, S7 and S7 Plus (8 connections) drivers, SSL encryption, OPC client, OPC server, OPC UA client, RDB option, WinCC OA Web server as well as a choice of one other driver. This package cannot be expanded with other WinCC OA options. The use of this license is exclusively restricted to the approved Nanoboxes (restrictions on the hardware side can be viewed in the online help).	
• 128 I/O	**6AV6351-1KA31-5AA0**
• 512 I/O	**6AV6351-1KB31-5AA0**
• 2 048	**6AV6351-1KC31-5AA0**
• 4 096 I/O	**6AV6351-1KE31-5AA0**
WinCC OA Desktop UI V3.15 Operator station license with all server operator station functionalities. Only the number of simultaneously active Desktop UIs is counted	
• 1 Operator station license	**6AV6351-1CP31-5AA0**
• 10 Operator station licenses	**6AV6351-1CQ31-5AA0**
• 25 Operator station licenses	**6AV6351-1CR31-5AA0**
• 50 Operator station licenses	**6AV6351-1CS31-5AA0**
• 100 Operator station licenses	**6AV6351-1CT31-5AA0**
WinCC OA Ultralight UX The Ultralight UX enables an operator station to be implemented in a web browser without installation of a plug-in. The Ultralight UX can run on PCs and laptops. Only the number of simultaneously active Ultralight UX Clients is counted. Please note Ultralight UX Client restrictions according to the online help.	
• License for 1 client	**6AV6351-1JK31-5AA0**
• License for 10 clients	**6AV6351-1JL31-5AA0**
• License for 25 clients	**6AV6351-1JM31-5AA0**
• License for 50 clients	**6AV6351-1JN31-5AA0**
• License for 100 clients	**6AV6351-1JP31-5AA0**
WinCC OA Mobile UI The Mobile UI enables an operator station to be implemented on a mobile device. Installation takes place via an app available in the iTunes App Store or in Google Play Store. Only the number of simultaneously active Mobile UIs is counted. You can find the supported Android and iOS devices and restrictions in the online help.	
• License for 1 mobile UI	**6AV6351-1JQ31-5AA0**
• License for 10 mobile UIs	**6AV6351-1JR31-5AA0**
• License for 25 mobile UIs	**6AV6351-1JS31-5AA0**
• License for 50 mobile UIs	**6AV6351-1JT31-5AA0**
• License for 100 mobile UIs	**6AV6351-1JU31-5AA0**

3

Ordering data

Ordering data	Article No.
WinCC OA OPERATOR mobile app	
Permits operation and visualization of a WinCC OA installation via iPhone and iPad. Over a secured SSL connection, measured values and alarms can be retrieved, as well as commands and acknowledgements sent. Navigation takes place in list form or map-supported. The configuration is carried out in an intuitive wizard. Each device must be assigned its own, fixed license.	
• License for 1 device	**6AV6352-1DK31-5AA0**
• License for 3 devices	**6AV6352-1DL31-5AA0**
• License for 10 devices	**6AV6352-1DM31-5AA0**
• License for 25 devices	**6AV6352-1DN31-5AA0**
• License for 50 devices	**6AV6352-1DP31-5AA0**
WinCC OA parameter assignment and development license	
Client, parameterization and development license for single operator station, graphic editor with symbol catalog, user-friendly script development language, alerting, extended trend, and historical recording.	
WinCC OA Para for single-user station V3.15 Requires a corresponding single-user station license.	**6AV6351-1EA31-5AA0**
WinCC OA Para V3.15 Requires corresponding server license.	**6AV6351-1EP31-5AA0**
WinCC OA Para Remote V3.15 Client, parameterization and development license for remote access to server.	**6AV6351-1EQ31-5AA0**
WinCC OA API interface gen. V3.15 Application programming interface for the integration of customer-specific managers or drivers. One license is required for each development workstation. We strongly recommend the participation in a Certified WinCC OA Developer Workshop when ordering this product for the first time.	**6AV6351-1EK31-5AA0**
WinCC OA Custom Driver V3.15 Extends a WinCC OA server license with the option of communication with a customer-specific driver. One license is required for each customer-specific driver.	**6AV6351-1EL31-5AA0**
WinCC OA Custom Manager V3.15 Extends a WinCC OA server license with the option of communicating with a customer-specific manager. One license is required for each customer-specific manager	**6AV6351-1EM31-5AA0**
WinCC OA redundancy In the case of redundant servers, two server licenses and two WinCC OA redundancy options are required for each redundant server pair.	
WinCC OA Redundancy V3.15 Extends a WinCC OA Server with the option of bumpless switchover to a hot standby server.	**6AV6351-1FP31-5AA0**
WinCC OA distributed systems Enables the connection of several autonomous WinCC OA systems. Each server requires one server license and one distributed systems option. In the case of redundant servers, 2 licenses are required for the redundant server pair.	
WinCC OA distributed systems V3.15 Extends a WinCC OA Server to include the Multiserver option.	**6AV6351-1GP31-5AA0**
WinCC OA Disaster Recovery System	
WinCC OA Disaster Recovery Center V3.15 Allows configuration of a remote backup control center. A disaster recovery center comprises two distributed systems. Both systems must be redundant. Requires Oracle databases and RDB. Refer to the online help for example configurations. Each server in the Disaster Recovery System requires one WinCC OA Disaster Recovery Center option.	**6AV6352-1AA31-5AA0**

Ordering data

	Article No.
SIMATIC WinCC Open Architecture V3.15 communication	
WinCC OA TLS Gateway Gateway acc. to TLS regulations via TCP/IP	**6AV6352-1CN31-5AA0**
WinCC OA Teleperm M Driver for Teleperm M Bus C275 (requires an Ako-Tec Bridge)	**6AV6352-1BB31-5AA0**
WinCC OA S7 Plus TCP/IP S7 Plus driver for the new S7-1200, S7-1500 controllers, open controllers and PLC Sim, supports symbolic addressing, all protection levels and browsing of TIA Portal projects	
• 8 connections	**6AV6352-1CP31-5AA0**
• 64 connections	**6AV6352-1CQ31-5AA0**
• 512 connections	**6AV6352-1CR31-5AA0**
WinCC OA S7 TCP/IP driver TCP/IP driver for Siemens Industrial Ethernet.	**6AV6352-1BC31-5AA0**
WinCC OA Modbus TCP/IP driver Driver for Modbus TCP/IP	**6AV6352-1BD31-5AA0**
WinCC OA Modbus TCP/IP Server The WinCC OA Modbus/TCP server allows Modbus/TC-clients to query and represent data from a WinCC OA system within the Modbus data model.	**6AV6352-1CS31-5AA0**
WinCC OA Ethernet/IP Driver for Allen Bradley - Rockwell EtherNet/IP	**6AV6352-1CK31-5AA0**
WinCC OA SAIA S-Bus Driver for SAIA controllers (SAIA S bus)	**6AV6352-1BW31-5AA0**
WinCC OA SSI driver Driver for SAT telecontrol components	**6AV6352-1BF31-5AA0**
WinCC OA SNMP Driver SNMP – network monitoring (V2&V3)	**6AV6352-1BG31-5AA0**
WinCC OA BACnet Driver + Diagnostics Extends a WinCC OA Server to include a license for using the WinCC OA BACnet online engineering environment consisting of WinCC OA BACnet driver, WinCC OA BACnet object library including faceplates, and WinCC OA BACnet browser (max. 5 000 objects per server).	**6AV6352-1DA31-5AA0**
WinCC OA IEC 104 Driver IEC 60870-5-104	**6AV6352-1BH31-5AA0**
WinCC OA IEC 101 Driver IEC 60870-5-101	**6AV6352-1BJ31-5AA0**

	Article No.
WinCC OA IEC 61850/61400 Expands a WinCC OA Server with a license for using the IEC 61850 protocol comprising the IEC 61850 driver (client in accordance with IEC 61850 Standard Part 7 & Part 8 Edition 2 & IEC 61400-25) and the IEC 61850 browser.	**6AV6352-1BV31-5AA0**
WinCC OA DNP3 Driver DNP3 for connecting DNP3 devices	
• 10 DNP3 devices	**6AV6352-1BK31-5AA0**
• 25 DNP3 devices	**6AV6352-1BL31-5AA0**
• 50 DNP3 devices	**6AV6352-1BM31-5AA0**
• 250 DNP3 devices	**6AV6352-1BN31-5AA0**
• Unlimited	**6AV6352-1BP31-5AA0**
WinCC OA SINAUT Driver SINAUT for connecting controllers	
• For connecting a maximum of 10 controllers	**6AV6352-1BQ31-5AA0**
• SINAUT driver for connecting up to 25 controllers	**6AV6352-1BR31-5AA0**
• SINAUT driver for connecting up to 50 controllers	**6AV6352-1BS31-5AA0**
• SINAUT driver for connecting up to 250 controllers	**6AV6352-1BT31-5AA0**
• SINAUT driver – unlimited license	**6AV6352-1BU31-5AA0**
WinCC OA RK512 Driver for connection via 3964R / RK512 protocol	**6AV6352-1CA31-5AA0**
WinCC OA Cerberus Driver for connection with the Siemens DMS7000 / Cerberus fire alarm system. Communication is implemented via the C-Bus (Cer-Ban) using the serial interface RS 232 (MK 7022).	**6AV6352-1CH31-5AA0**
WinCC OA OPC HDA server The WinCC OA OPC Historical Data Access (HDA) Server provides archived process data from a WinCC OA project. (Status version: "OPC HDA 1.20" (mandatory functions))	**6AV6352-1CL31-5AA0**
WinCC OA OPC HDA Client The WinCC OA OPC Historical Data Access (HDA) Client allows access to the process data provided by any OPC HDA Servers (Version: "OPC HDA 1.20" (mandatory functions))	**6AV6352-1CM31-5AA0**
WinCC OA OPC UA Server The WinCC OA OPC UA server allows OPC UA clients to query the data of a WinCC OA system. Version: "OPC UA Server 1.03" (mandatory functions).	**6AV6352-1CJ31-5AA0**

More information

More information can be found in the Internet at:

http://www.siemens.com/wincc-open-architecture

SIMATIC WinCC Open Architecture Add-ons

Overview

SIMATIC WinCC Open Architecture is a SCADA system for visualizing and operating processes, production flows, machines and plants in all industrial sectors.

SIMATIC WinCC OA is built consistently on object-oriented structures. Due to this consistent and well-considered use of object-oriented structures, from process images to the database, the engineering costs improve for SIMATIC WinCC OA customers.

Distributed systems enable the connection of up to 2 048 autonomous SIMATIC WinCC Open Architecture systems via a single network. Each subsystem can be configured either as single-user or multi-user system, each of which may be redundant or non-redundant.

Current version: **SIMATIC WinCC Open Architecture V3.15**
Executable under:

- Windows 10 (64-bit)
- Windows 7 Ultimate/Enterprise/Professional SP1 (64-bit)
- Windows 7 Ultimate SP1 (64-bit)
  (only approved for IPC 227E / 277E)
- Windows Server 2012 R2 (64-bit)
- Windows Server 2008 R2 (64-bit)
- Red Hat Enterprise Linux 7.2 (64-bit)
- OpenSuse Leap 42 (64-bit)
- CentOS 7.2 - SLES 12.1 (64-bit)
- VMWare ESXi Version 5.5, 6

Note:

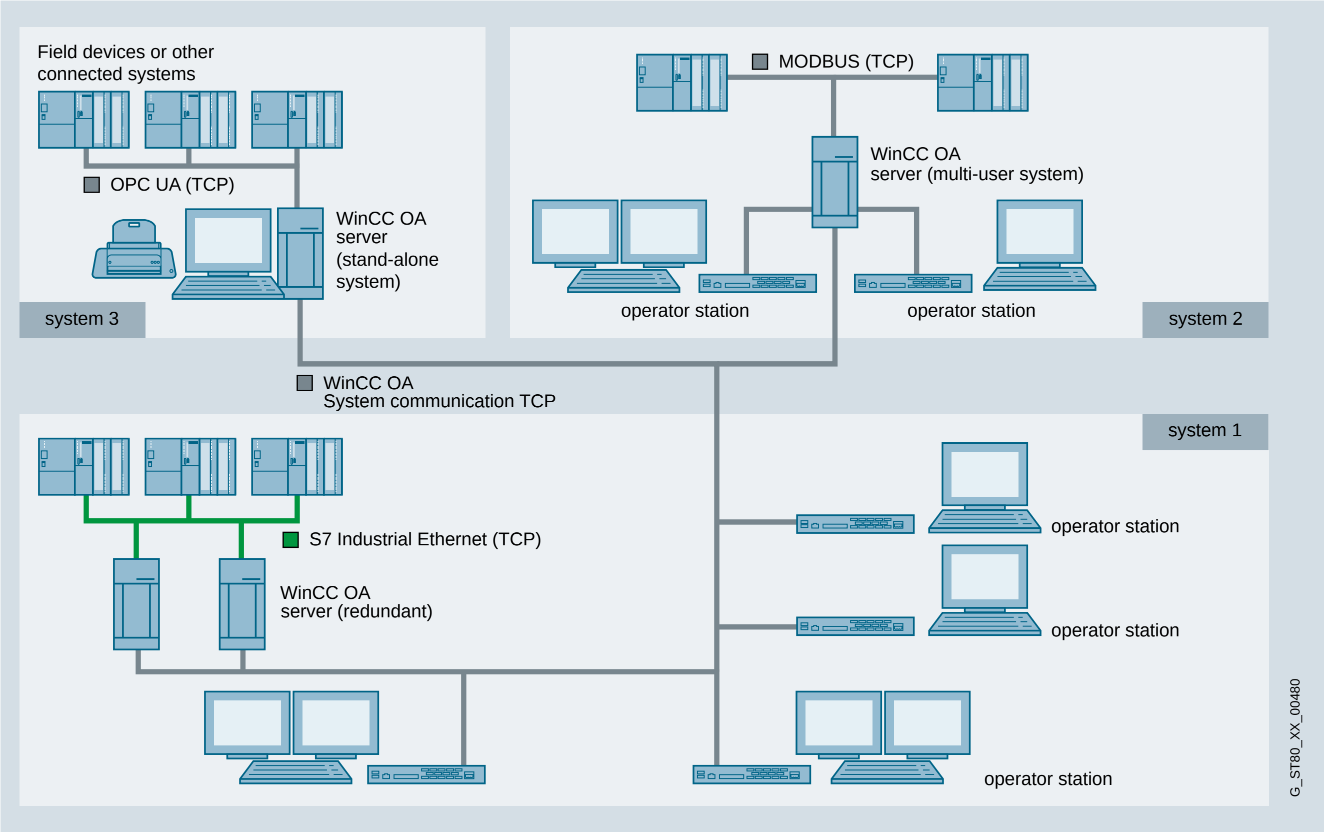
Native 64-bit support.

Function

SIMATIC WinCC Open Architecture add-ons

The universal WinCC Open Architecture basic software is the basis for modular expansions.

These functional expansions are available in the form of WinCC Open Architecture add-ons.



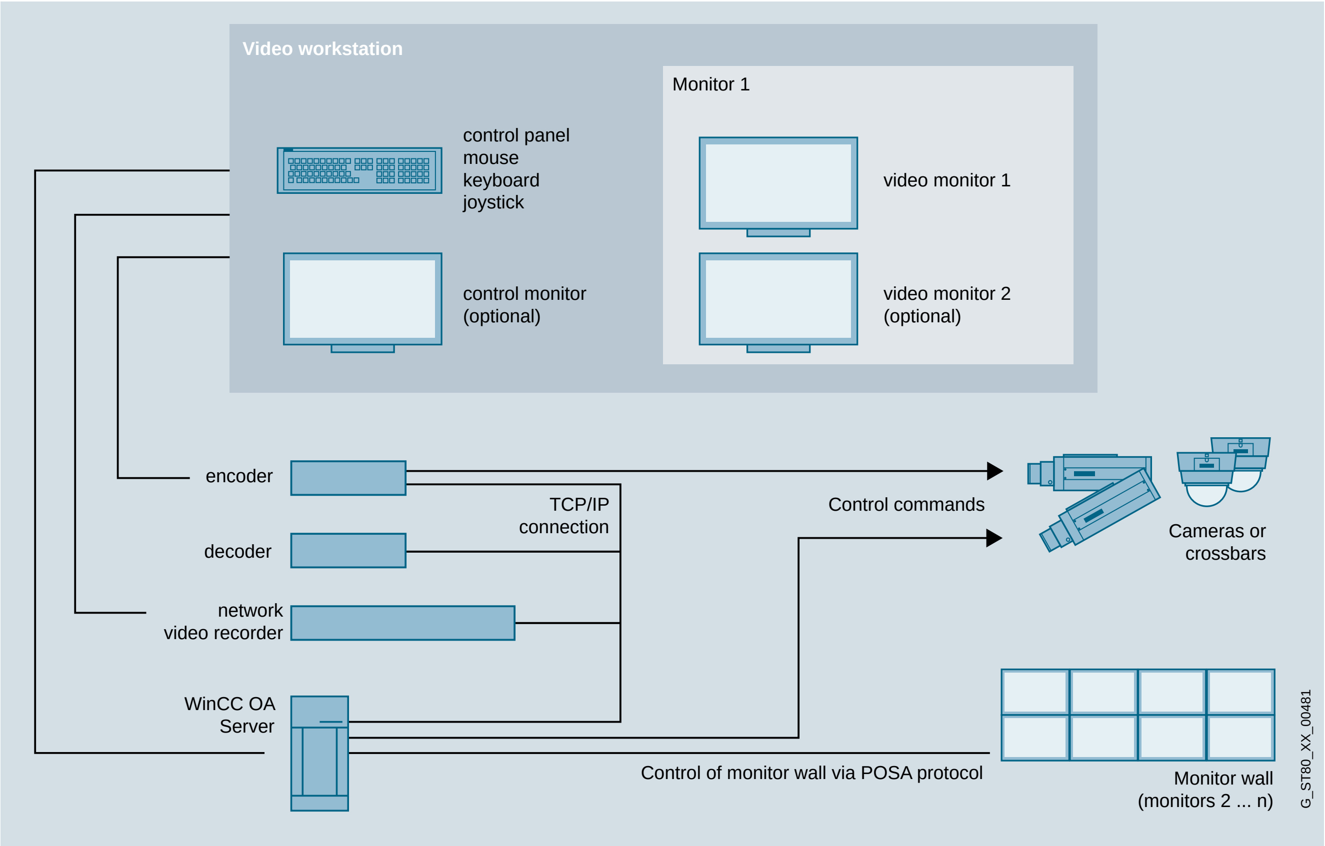
Distributed systems with WinCC OA

Function (continued)

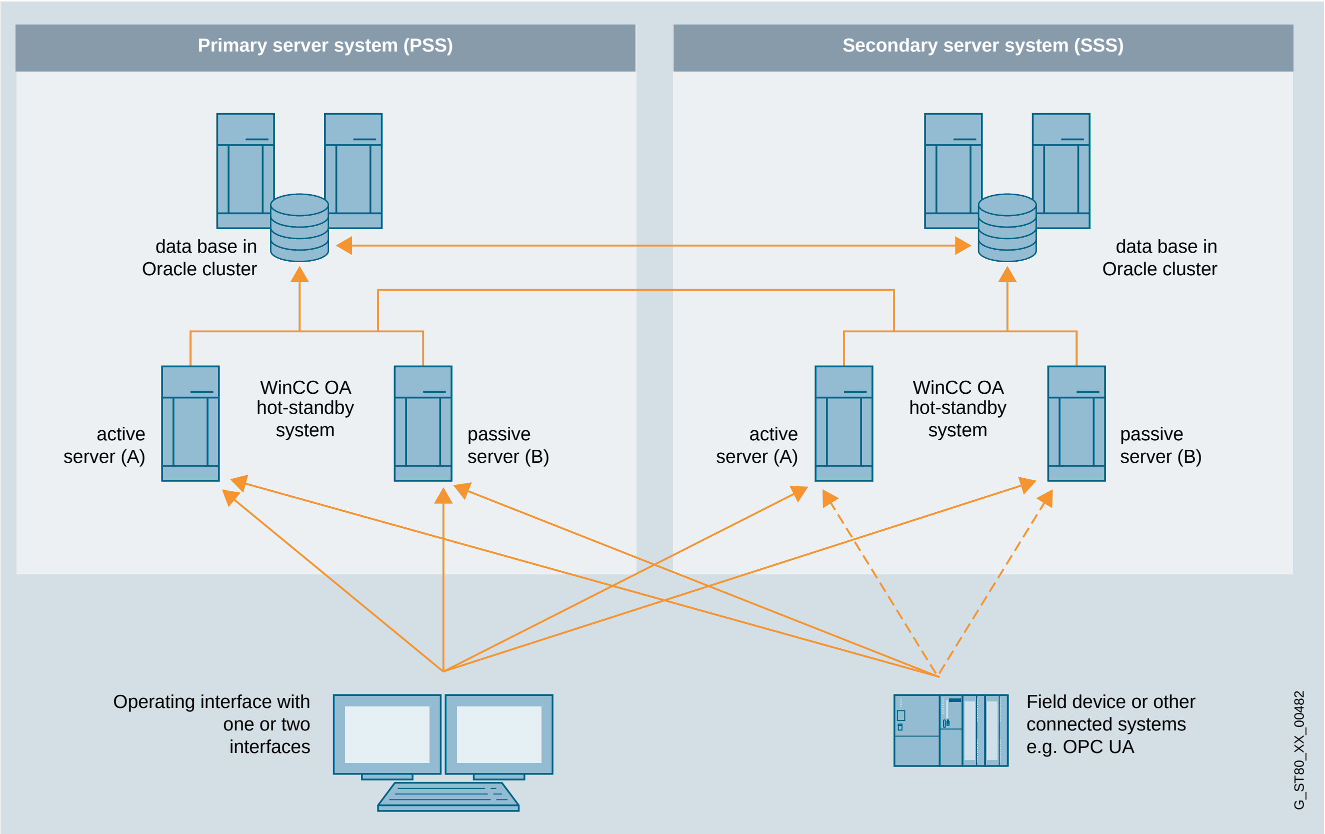
Add-ons	Task
BACnet	BACnet provides an integrated BACnet-compliant online/offline engineering solution for building automation technology, including object library. Designed for heating, ventilation and air-conditioning, lighting control and safety systems.
S7 AdvancedLib object library	The S7 AdvancedLib (AdvS7) is an industry-independent object library that permits the use and visualization of objects from the process control system (e.g.: drives, valves, regulators, motors, etc.) in a project with WinCC OA and S7. In addition to the WinCC OA and AdvS7 license, the use of S7 AdvancedLib requires the use of the relevant library on the SIMATIC side.
Maintenance package	Includes the following functions: Operating hours counter, operating cycle counter and maintenance log.
Scheduler	Permits the creation, parameterization and management of time programs that allow the time and event-driven triggering of specific actions.
Recipes	WinCC OA recipes allow setpoints or commands for certain data point elements to be sent simultaneously. Based on "recipe types", which define the quantity of the assigned data point elements, recipes are created that send their values to the data point elements upon activation.
GIS Viewer	With the help of this viewer, standardized cards of a geo-information system (GIS) can be fully integrated in WinCC OA. Furthermore, it is possible to display all WinCC OA objects in the cards.
Reporting	Web-based reporting is implemented using the standardized Simple Object Access Protocol (SOAP) reporting interface. Reporting tools from third-party suppliers can thus be used with no additional effort. The BIRT templates that are also provided, as well as the predefined reporting data, further simplify the reporting. • Web-capable reporting interface (SOAP): - ECLIPSE BIRT (large number of reporting templates for ECLIPSE BIRT are also supplied) - Crystal Reports - SIMATIC Information Server - Microsoft Excel • Online values, history • Support of compressed data, SQL, alarms • Diagnostic tools • Audit trail
Excel report	Powerful report generator directly in Microsoft Excel. Templates can be created easily and directly in Excel. If a report has to be created over a defined period of time, the system accesses the template and automatically completes it with data from the WinCC OA process database. Reports can also be created, printed and saved on a time-controlled basis, without any need for user access. The Excel Report fully supports compression structures (AC - archive compression) of WinCC OA.

Add-ons	Task
Communication Center	Stands for modern alarm management/remote alerting and communication using the latest standards and various media. The Communication Center creates synergies by using the various interfaces for remote alerting via the control system. Text message and email media are covered with the Communication Center.
VIDEO (see figure below)	Enables the integration of a video management system in WinCC OA. Through the combination of SCADA and video monitoring in one system, the costs for separate video interfaces and the additional expense of maintenance and operation can be saved, and the period of training for operating personnel can also be reduced.
HTTP server	For displaying WinCC OA data via Intranet and Web.
Authentication via Kerberos	A WinCC OA system can be exposed to a variety of attacks. An unauthorized WinCC OA System could set up a connection to the distribution manager or hackers could try to manipulate WinCC OA messages. Secure authentication has been developed to prevent such attacks. The authentication based on Kerberos enables each WinCC OA component to verify the identity of another component. WinCC OA servers can verify the identity of the clients and clients can verify the identity of the servers. In addition, Kerberos ensures that messages are not modified during their transmission (capture-replay attacks are prevented). Furthermore, it is also possible to send messages in encrypted form.
AMS (Advanced Maintenance Suite)	For the effective planning, administration, implementation and monitoring of maintenance work and faults. The processes are evaluated by means of statistics and reports are communicated.
Web client	From a technical standpoint, the WinCC OA Web Client is a plug-in that is downloaded via the web browser (which is used on the client computer) and a WinCC OA UI Manager is then displayed embedded in the HTML page. No WinCC OA installation on the client computer is required, except for the required web client plug-ins.
Ultralight Client UX	A "thin client" that is suitable for plant access via a PC workstation and a browser. Access is possible via a standard Web browser without the need for any additional installations.
WinCC OA OPERATOR	Permits operation and visualization of a WinCC OA installation via iPhone and iPad. Process data, plant availability, and plant status can all be displayed. Location filtering provides a rapid overview of all spatially distributed systems including summation alarms.
Disaster Recovery System (see figure below)	This system expands the simple redundancy to include a second redundant system, to which the system can switch over in the event of a fault (e.g. fire or explosion in the building of the primary system). By means of this additional local redundancy, the highest level of system stability is obtained.

Function (continued)



Network topology Video



Disaster Recovery System architecture with WinCC OA

Ordering data

	Article No.
SIMATIC WinCC Open Architecture add-ons	
WinCC OA SmartSCADA 3.15 KPI Toolbox Allows performance indicator definitions and performance indicator instances to be created either in the user-friendly formula editor or freely in the CONTROL. The devices are connected by means of a context-based search in the system model or in data points. The performance indicators can be calculated manually, event-driven or cyclically. Online engineering takes place in its own Wizard (no para license included). It includes 20 KPI instances.	**6AV6352-1PA31-5AA0**
WinCC OA SmartSCADA 3.15 KPI Expansion 100 Performance indicator toolbox expanded to include another 100 KPI instances.	**6AV6352-1PB31-5AA0**
WinCC OA SmartSCADA 3.15 Analysis Toolbox 1 year subscription Wizards guide data allows the analysis of historical data and the learning of a statistical model for system classification. The integration of the "R" CONTROL statistics toolbox makes a large variety of statistical evaluations available. Online engineering takes place in its own Wizard (no para license included). The license can only be issued for a limited period (subscription model). The time limitation applies to this feature only, and not to the complete WinCC OA license.	**6AV6352-1PC31-5AA0**
WinCC OA BACnet driver + diagnostics Extends a WinCC OA Server to include a license for using the WinCC OA BACnet online engineering environment consisting of WinCC OA BACnet driver, WinCC OA BACnet object library including faceplates, and WinCC OA BACnet browser (max. 5 000 objects per server).	**6AV6352-1DA31-5AA0**
WinCC OA BACnet Engineering Extends a WinCC OA Server to include a license for using the WinCC OA BACnet engineering environment consisting of WinCC OA BACnet browser, WinCC OA EDE-Tool + EDE file interface (requires the WinCC OA engineering license) (max. 5 000 objects per server).	**6AV6352-1DB31-5AA0**

	Article No.
WinCC OA GIS GIS viewer for displaying ESRI Shapes Files. A license is required for Pro UI. Can be used in a WinCC OA Desktop UI and WinCC OA Ultralight UX. Maps are not included. Dynamization performed using Ctrl scripting.	**6AV6352-1DC31-5AA0**
WinCC OA S7 AdvancedLib Runtime license for using the object library WinCC OA S7 AdvancedLib, coordinated with the SIMATIC object library also supplied, which is free of charge until revoked. License required for each server. The PLC section of this library is the intellectual property of Siemens AG - a software sublicense contract to this effect must be signed and returned before the SIMATIC Object Library can be obtained.	**6AV6352-1DD31-5AA0**
WinCC OA Maintenance Maintenance management for recording operating hours, switching cycles, alarm handling and notepad function. License required for each server.	**6AV6352-1DE31-5AA0**
WinCC OA Scheduler Daily, weekly and monthly program, as well as individual non-periodic events with consideration of public holidays, assignment of priority and override function. License required for each server.	**6AV6352-1DF31-5AA0**
WinCC OA Recipe Creation of any recipe types and recipes, acceptance of current process values as recipe, activation/download to data points, import and export (Microsoft Excel). License required for each server.	**6AV6352-1DG31-5AA0**
WinCC OA RDB RDB Oracle connection for WinCC OA Server. Oracle licenses are not included. License required for each server. (RDB for CentOS and OpenSuse are not supported).	**6AV6352-1DH31-5AA0**
WinCC OA DB Logger The WinCC OA DB Logger permits the export of freely selectable data from WinCC OA to an external database. See the online help for further information.	**6AV6352-1DJ31-5AA0**

3

Ordering data

	Article No.
Solution Frameworks The Solution Frameworks are only available in combination with consulting and additional testing overhead, and not as standard products.	
WinCC OA PMS Application framework for the implementation of production management systems. The framework offers functions for recording and evaluating production and batch-related quality data. The framework also offers functions for fine production planning and machine assignment. A system administration according to ANSI S95 can be implemented at little cost. This item is not available as a sole product, only in combination with consulting and additional testing overhead.	**6AV6352-1EA31-5AA0**
WinCC OA topology package The topology package is an application framework enabling the topological coloring of network views. A qualitative statement is made regarding which parts (nodes, line section, etc.) of a network are directly connected to which infeed units in a connection established by switching elements. This item is not available as a sole product, only in combination with consulting and additional testing overhead.	**6AV6352-1EB31-5AA0**
WinCC OA ACAS WinCC OA Advanced Command Authority Suite framework for managing and visualizing authority settings. The license includes the management panel and panel expansions for alarm, horn and acknowledgement functions. This item is not available as a sole product, only in combination with consulting and additional testing overhead.	**6AV6352-1EC31-5AA0**
WinCC OA APM The WinCC OA Framework APM – Advanced Playback Manager – allows you to play back the system status of the real-time system in a test/simulation system. The APM offers the following functions: Snapshot (moment in time), playback (time range), training sequence. Please note that the APM Package does not include any simulation of the process or of the associated open loop control. Since APM is a framework, we urgently recommend that you use our Consulting Service for project-specific integration.	**6AV6352-1ED31-5AA0**

	Article No.
Reporting Expands a WinCC OA Server to include a reporting interface for active connections (clients) for the evaluation of WinCC OA data by means of a third-party tool such as BIRT, Crystal Reports or MS Excel. (In WinCC OA Version 3.15, the existing Excel Report is still supported and is automatically supplied along with the WinCC OA Reporting option.) Licenses for third-party tools are not supplied.	
• 1 client	**6AV6352-1FE31-5AA0**
• 2 clients	**6AV6352-1FF31-5AA0**
• 5 clients	**6AV6352-1FG31-5AA0**
• 10 clients	**6AV6352-1FH31-5AA0**
Communication Center Remote alarm messaging via text message and email. Basic package for alarms. Output as text message or email is possible. Price per WinCC OA Server.	
WinCC OA CommCenter 1 Basic package for 25 alarms.	**6AV6352-1GA31-5AA0**
WinCC OA CommCenter 2 Basic package for 250 alarms.	**6AV6352-1GB31-5AA0**
WinCC OA CommCenter 3 Basic package for 2 500 alarms.	**6AV6352-1GC31-5AA0**
WinCC OA CommCenter 4 Basic package for unlimited alarms.	**6AV6352-1GD31-5AA0**
Video management Permits the display of video streams in the client UI and Web client, as well as the control of video equipment (swivel cameras, recorders, …). More detailed information and details of supported hardware can be obtained from the online help. Streams are parallel, actively displayed external or displayed recorded video signals. Necessary WinCC OA Server licenses require no additional I/Os. Two licenses are required for one redundant server pair.	
WinCC OA Video Light Permits connection of 16 video inputs (cameras) and simultaneous display of 4 video outputs (streams). This package cannot be expanded.	**6AV6352-1JA31-5AA0**
WinCC OA Video Basic Permits connection of 32 video inputs (cameras) and simultaneous display of 8 video outputs (streams). An expansion with additional video inputs and outputs is possible, as well as video recording and video export functions.	**6AV6352-1JB31-5AA0**

Ordering data

	Article No.
WinCC OA Video Inputs WinCC OA Video Inputs expand the WinCC OA Video Package Basic by 8 additional video inputs (cameras)	**6AV6 352-1JD31-5AA0**
WinCC OA Video Output WinCC OA Video Outputs expand the WinCC OA Video Package Basic by 1 additional video output (stream)	**6AV6 352-1JE31-5AA0**
WinCC OA Video Recording WinCC OA Video Recording expands a WinCC OA Video Basic Package by 8 streams that can be recorded on hard disk.	**6AV6352-1JF31-5AA0**
WinCC OA Video Export WinCC OA Video Export expands a WinCC OA Video Basic Package with one Video Export operator station.	**6AV6352-1JG31-5AA0**
WinCC OA Web Server Allows the management of different connections and resources between the WinCC OA Server and the WinCC OA Ultralight UX Clients. The Load Balancing feature can be activated with a number greater than 1. This feature distributes the load of multiple clients evenly across the different Web servers, thus allowing it to be scaled. With remote Web servers, multilevel architectures such as access to DMZs (demilitarized zones) can be implemented. (1 Web server is already included in the WinCC OA Server)	**6AV6351-1JV31-5AA0**
Kerberos	
WinCC OA Secure Extends a WinCC OA Server to include protection by Kerberos. Each WinCC OA Server requires a separate WinCC OA Secure license.	**6AV6352-1LA31-5AA0**
AMS (Advanced Maintenance Suite)	
AMS is always only available in combination with consulting and additional testing overhead.	
AMS Starter Package 20A/E This fully functional trial license valid for 90 days includes the AMS application as well as up to 20 A/E = 20 checklists assigned to alarm/event DP. 1)2)3)	**6AV6352-1MA31-5AA0**
AMS Entry 20 A/E The license includes the AMS application as well as up to 20 A/E = 20 checklists assigned to alarm/event DP. 1)2)3)	**6AV6352-1MB31-5AA0**
AMS Small 100 A/E The license includes the AMS application as well as up to 100 A/E = 100 checklists assigned to alarm/event DP. 1)2)3)	**6AV6352-1MC31-5AA0**
AMS Medium 1,000 A/E The license includes the AMS application as well as up to 1,000 A/E = 1,000 checklists assigned to alarm/event DP. 1)2)3)	**6AV6352-1MD31-5AA0**
AMS Large 5,000 A/E The license includes the AMS application as well as up to 5,000 A/E = 5,000 checklists assigned to alarm/event DP. 1)2)3)	**6AV6352-1ME31-5AA0**
AMS Upgrade Large The license contains an upgrade of the AMS Large 5,000 A/E license with 1,000 A/E = 1,000 checklists assigned to alarm/event DP.	**6AV6352-1MF31-5AA0**
AMS UL A/E The license includes the AMS application as well as an unlimited number of alarm/event DP checklist assignments. 1)2)3)	**6AV6352-1MG31-5AA0**
AMS Client 2 UI Operating station license for simultaneous use of no more than 2 parallel client sessions. The client license can be installed on more than one PC – only the number of simultaneously active clients is counted.	**6AV6352-1MH31-5AA0**
AMS Client 5 UI Operating station license for simultaneous use of no more than 5 parallel client sessions. The client license can be installed on more than one PC – only the number of simultaneously active clients is counted.	**6AV6352-1MJ31-5AA0**
AMS Client 10 UI Operating station license for simultaneous use of no more than 10 parallel client sessions. The client license can be installed on more than one PC – only the number of simultaneously active clients is counted.	**6AV6352-1MK31-5AA0**

1) The basic price also includes the AMS Reports packages.

2) AMS importer as well as 1 day of consulting for initial design by ETM Consultants (excluding travel expenses) and 5 hours of telephone support within 3 months after delivery.

3) AMS Reports and AMS Importer, and 1 day of consulting for initial conceptualization by ETM consultants (not incl. travel costs). This license does not include any support and cannot be expanded or extended.

More information

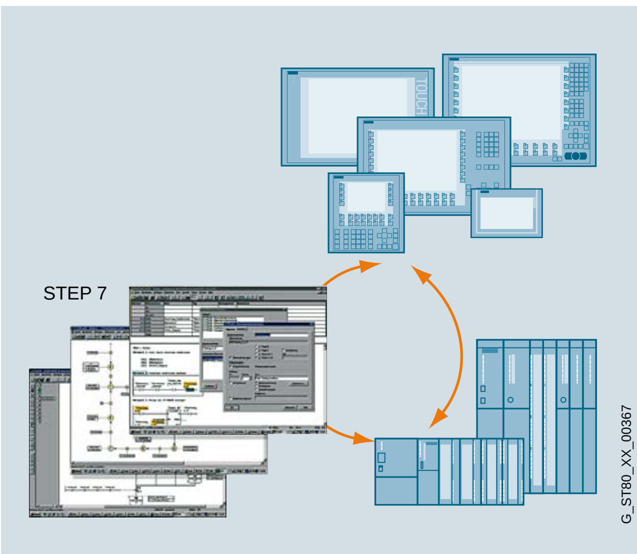
Additional information is available on the Internet at:

http://www.siemens.com/wincc-open-architecture

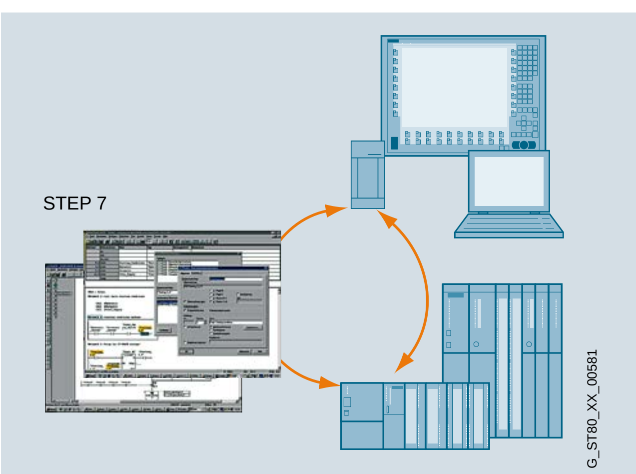
Overview

SIMATIC ProAgent

- Process error diagnosis software for quick and prec ise diagnosis of faults/errors in plants and machines for SIMATIC S7 and SIMATIC HMI
- Standardized diagnostics concept for various SIMATIC components: optimum interaction of STEP 7 engineering tools and SIMATIC HMI
- Standardized user interface



Process error diagnostics with ProAgent for WinCC flexible/ProAgent and with the STEP 7 engineering tools



WinCC/ProAgent – Process error diagnostics

Benefits

- Integral component of Totally Integrated Automation (TIA): increases productivity, minimizes the engineering outlay, reduces the lifecycle costs
- ProAgent:
  - Provides optimum support for plant and machine personnel in respect of troubleshooting and fault rectification
  - Increases plant availability
  - Reduces downtimes
- No further configuration overhead for diagnostics functionality
- Frees up PLC capacity with regard to memory and program execution time
- No special operator know-how is required thanks to clearly comprehensible indication of the cause of error

Application

Increased productivity is being achieved more and more by cutting costs. In this context, the focus is increasingly on maintenance. The emphasis here is on rectifying faults as quickly and efficiently as possible. Ideally, the operating personnel should also perform part of the maintenance tasks. The operating personnel are on-site, they are familiar with the procedures and can intervene quickly. This saves time and reduces costs. It is precisely here that ProAgent can assist operating personnel in identifying faults quickly, in particular in the automotive and machine tool industries.

In the event of a process fault, process fault diagnosis with SIMATIC ProAgent will provide information about the location and cause of that fault and support personnel with troubleshooting.

The ProAgent solution has been optimized specifically for use with SIMATIC S7-300/S7-400 and SIMATIC WinAC. It can be used in combination with the S7-PDIAG, S7-GRAPH and S7-HiGraph[1)] STEP 7 engineering tools. The ProAgent option package features standard displays that are updated with process-specific data during runtime.

1) Process diagnostics with S7-HiGraph in combination with TP/OP/MP 270/277, MP 370/377, and C7636 and PC RT systems.

3

Function

- Context-sensitive diagnostics initiation due to process error message
- Output of operands with symbols and comment
- Switching is possible between LAD, STL and signal list
- Supporting fault rectification with direct process access when using the motion display
- Output of the faulty operands directly in the message including address, symbol and comment[1)]
- Consistency test in RT: Inconsistent diagnostic units are marked with icons. This permits quick locating of faults regarding configured data in the commissioning phase.
- Direct, unit-related entry point in the diagnostic display from user displays by using ProAgent functions
- Unit or message-related entry to STEP 7 (LAD/STL/FD editor, S7-GRAPH, HW CONFIG (upon system error messages)), supported fully automatically [2)]
- Unit or message-related entry to STEP 7), supported fully automatically[3)]
- Graphic display of step sequences (overview display)[4)]

1) In combination with TP/OP/MP 270/277, MP 370/377, C7 636, WinCC/ProAgent as of V6.0, and WinCC flexible/ProAgent

2) WinCC/ProAgent as of V5.5 and as of WinCC flexible 2007/ProAgent on PC RT

3) Only WinCC/ProAgent as of V5.5

4) As of WinCC flexible 2007/ProAgent, WinCC/ProAgent as of V5.6 in combination with S7-GRAPH as of V5.1 (OCX is delivered as of S7-GRAPH 5.1)

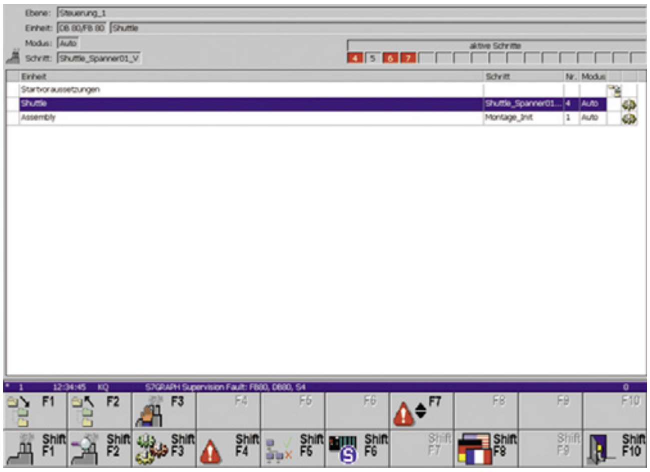
Standardized user interface with standard displays

- Message display
- Unit overview
- Diagnostics detail display
- Motion display
- Sequencer operating display

The displayed image contents are related to the previously selected units or messages. This means that the proper. context-sensitive diagnostics display can be called up based on a message or a selected technological unit.

Message display

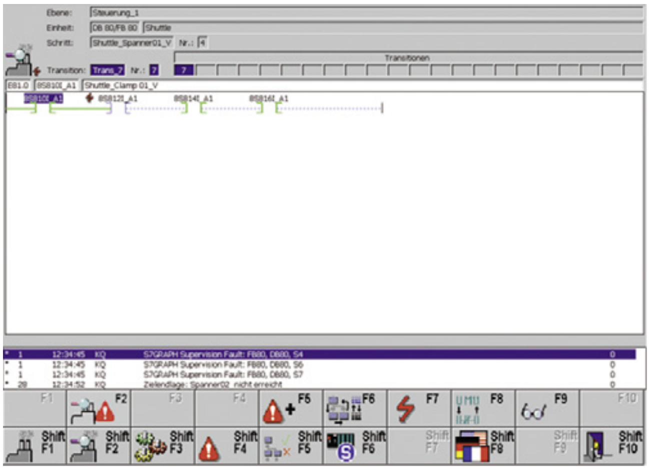
All of the existing process messages are shown in the message display. Context-sensitive branching to other diagnostic displays is also possible with a selected message. The operating personnel can also take the message directly from the erroneous operands and react immediately without having to perform any other operations on the HMI device. WinCC flexible permits this function on the Windows CE-based devices TP/OP/MP 270/277, MP 370/377, and on PC Runtime systems. The function is available as of version 6.0 for WinCC/ProAgent.



Unit overview

The units overview displays all technological units and the respective sub-units (system/machine components) in table form. In this display, the user is able to recognize, for example, which operating mode or which status the respective unit is in. The operating mode can be changed by the user if required.

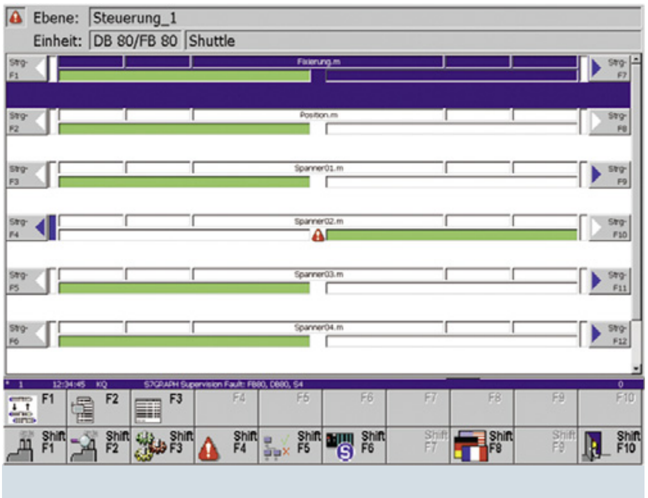
Faulty units are marked with attributes.



Diagnostics detail display

The diagnostic detail display shows the faulty operands at the time of origination of a process error. As an option, current status information can also be displayed. The diagnostics results are either displayed in a ladder diagram (LAD), statement list (STL), or in a clearly arranged signal list overview. The output of the operands depends on the display format with symbols and comments from the S7 symbol table. Only the operands that cause the fault are displayed and marked with a highlighted attribute. Switching to a display that calls up the current status of all operands in the controller is also possible.

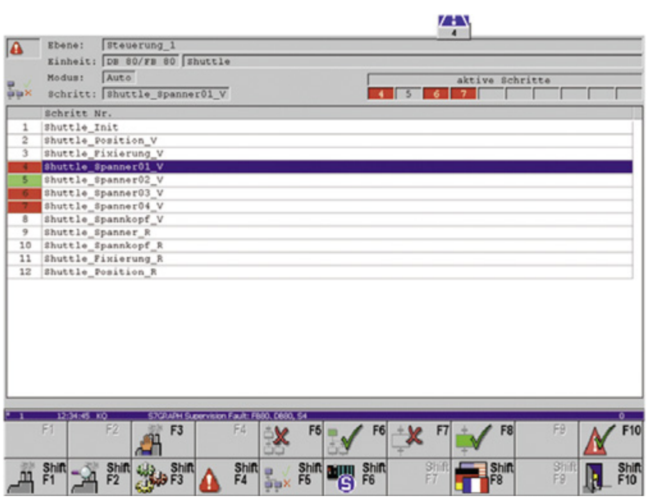
Function (continued)



Motion display

The motion display is used for supported fault rectification. Every motion line contains a comment line that describes the motion (e.g. x-axis), two actions for implementing the motion, response concerning the actuation of a motion and information on the respectively achieved end positions (max. 16).

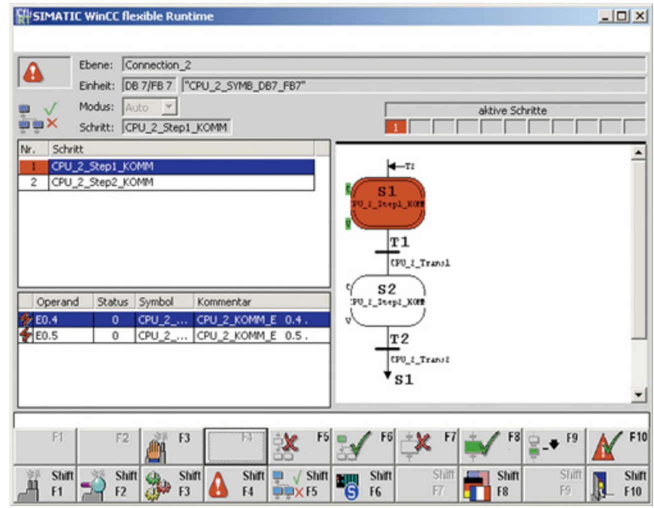
The motion itself is controlled with softkeys on the side of SIMATIC Panels and Multi Panels. For time-critical motions, the actuation can be done directly through inputs of the controller (depending on the capabilities of the target hardware: 24 V direct keys, DP direct keys via PROFIBUS).



Sequencer operating display

The sequencer operating display supports sequencer control. This makes functions such as initializing and acknowledging sequencers, activating/deactivating individual steps and operating mode settings possible analog to the status/control in S7-GRAPH.

The steps are output to a list with step number/name. Attributes for identifying an active/faulty step give the operating personnel an overview of the current status of the step sequence.



Sequencer diagnostic display

WinCC flexible/ProAgent and WinCC/ProAgent[1)] also offer capabilities for graphic monitoring and sequencer diagnostics. This gives the user the ability to monitor active/faulty steps as well as the fault cause, e.g. faulty transition conditions, simultaneously on the HMI device.

1) WinCC/ProAgent as of V5.6 in combination with S7-GRAPH as of V5.1 (OCX is delivered as of S7-GRAPH 5.1)

Technical specifications

	WinCC/ProAgent	**WinCC flexible /ProAgent**
Interfaces		
• Can be used in conjunction with programmable controllers:	SIMATIC S7: S7-300/S7-400; WinAC	SIMATIC S7: S7-300/S7-400; WinAC
• Types of connection	SIMATIC S7 Protocol Suite: MPI, PROFIBUS DP, Industrial Ethernet, TCP/IP	SIMATIC S7 Protocol Suite: MPI, PROFIBUS DP, PROFINET IO, Industrial Ethernet, TCP/IP
Display units		
Standard images for:		Standard displays for easy embedding in user displays, example project for MP 377
Number of languages for online language selection	3 (de/en/fr)	5 (de/en/fr/it/es)
Functionality		
Modification of HMI diagnostics data management in RT	WinCC/ProAgent V6.0 and higher	No
Unit overview	Yes	Yes
Message display	Yes	Yes
Sequencer operating display	Yes	Yes
Diagnostics detail display	Yes	Yes
• Display STL/LAD/signal list	Yes/Yes/Yes	Yes/Yes/Yes
• Display of operands with symbol and comment	Yes	Yes
Criteria analysis	When fault occurs/current status/can be archived	When fault occurs/current status
Motion display		
• Number of viewable movements	6	6
• Directions of motion	2	2
• Number of viewable end positions per movement	16	16
Documentation		
In electronic format	de/en/fr; included in scope of delivery	de/en/fr/it/es; included in scope of delivery
Requirements		
HMI software	WinCC V7.0 SP3 (ProAgent V7.0 SP3)	WinCC flexible 2008
Operating system: Configuration	WinCC/ProAgent V7.0 + SP2: Windows Professional SP3, Windows 7 (32-bit) Ultimate, Business, and Enterprise	WinCC flexible / ProAgent 2008 + SP2: Windows XP SP3, Windows 7 Professional, Ultimate, Enterprise
Operating system Runtime	WinCC/ProAgent V7.0 + SP2: Windows XP Professional SP3, Windows 7 (32-bit) Ultimate, Business and Enterprise, Windows 2003 Server SP2, Windows 2008 Server SP2	WinCC flexible/ProAgent for SIMATIC Panels: WinCC flexible / ProAgent for WinCC flexible Runtime: Windows XP SP3, Windows 7 Professional, Ultimate, Enterprise
STEP 7	V5.4 SP4 and higher	V5.3 and higher
• S7-GRAPH	V5.3 SP6 and higher	V5.2 + SP3 and higher
• S7-PDIAG	V5.3 SP3 and higher	V5.1 and higher
• S7-HiGraph	No	V5.3 and higher
Type of delivery (one license is required for each target hardware)	CD-ROM / Runtime license	Runtime license

3

Ordering data

	Article No.
SIMATIC WinCC/ProAgent	
Software option package for process diagnosis based on S7 GRAPH V5 and higher and S7 PDIAG V5 and higher; functional enhancement for SIMATIC WinCC; electronic documentation in English, French and German; functions and standard screens for use on a PC (resolution 1024 x 768 pixels) and Panel PC 577/677/877 15" (resolution 1024 x 768 pixels) in English, French and German, runtime license (single license)	
WinCC/ProAgent	
• V7.4 1)	**6AV6371-1DG07-4AX0**
• V7.3 1)	**6AV6371-1DG07-3AX0**
As download	
• V7.4 1)	**6AV6371-1HG07-4AX0**
• V7.3 1)	**6AV6371-1HG07-3AX0**
Upgrade	
• V7.x to V7.4 1)	**6AV6371-1DG07-4AX3**
• V6.x to V7.3 1)	**6AV6371-1DG07-3AX4**
• V7.x to V7.3 1)	**6AV6371-1DG07-3AX3**
As download	
• V7.x to V7.4 1)	**6AV6371-1KG07-4AX3**
• V6.x to V7.3 1)	**6AV6371-1KG07-3AX4**
• V7.x to V7.3 1)	**6AV6371-1KG07-3AX3**

	Article No.
SIMATIC WinCC flexible/ProAgent	
Software option package for process diagnostics based on S7 PDIAG V5.1 and higher, S7 GRAPH V5.2 + SP3 and higher; S7 HiGRAPH V5.3 and higher. Functional enhancement for SIMATIC WinCC flexible; electronic documentation in English, French, German, Italian, and Spanish	
WinCC flexible/ProAgent for SIMATIC Panels	**6AV6618-7DB01-3AB0**
Runtime license (single license) executable on TP/OP/MP 270/277, Mobile Panel 277, and MP 370/377	
WinCC flexible /ProAgent for WinCC flexible Runtime	**6AV6618-7DD01-3AB0**
Runtime license (single license)	

1) Not multi-station-capable

PC-based Automation

4

For Communication, see next page.

PC-based Automation

Overview

SIMATIC Industrial PC

Our reliable and innovative SIMATIC industrial PCs are the optimal PC hardware platform for PC-based Automation from Siemens.

Rack PC

Rack PCs are flexible, high-availability industrial PC systems for powerful yet compact applications using 19" technology.

Box PC

SIMATIC Box PCs provide mechanical engineers, plant engineers and control cabinet makers with particularly rugged industrial PC systems for use in powerful yet compact applications.

Panel PC

SIMATIC Panel PCs are suitable thanks to their high industrial compatibility for use in control cabinets, consoles and control panels, as well as directly on the machine. Typical areas of application can be found in both factory and process automation.

Tablet PC

The SIMATIC Industrial Tablet PC taps new application areas within the scope of Industrie 4.0. Designed for industrial use, the SIMATIC ITP1000 delivers convincing results with its many functions for day-to-day working. Typical applications are in maintenance/service, production and measuring and testing.

Industrial monitors and thin clients

Flexible operator input concepts can be implemented via Flat Panel monitors or thin clients. These are industry-standard LCD monitors with high-contrast displays that can be located at quite some distance from the PC, or low-cost, rugged thin clients that offer HMI functionality over the network in larger plants spread over wide areas.

Devices for special requirements

Fully enclosed IP65 devices

The fully enclosed SIMATIC PRO devices are ideal for industrial applications in harsh environments due to their extremely rugged design. They are, for example, specially designed for mounting on a support arm/pedestal.

http://www.siemens.com/ip65-hmi-devices

Devices with stainless steel front

SIMATIC offers industry-specific versions for smooth use in accordance with regulations by modifying its standard devices. For the food and beverages industry, for example, we supply devices with stainless steel fronts, and for industries facing particularly harsh environmental conditions we offer fully enclosed, dust and splash proof devices in a rugged aluminum enclosure with high IP65 protection.

Panels and Panel PCs with touch screens and stainless steel fronts are designed for machine-level operation and monitoring in the food and beverages industry.

http://www.siemens.com/inox-hmi-geraete

Devices for hazardous areas

Intrinsically safe SIMATIC Panel PCs and Thin Clients specifically developed for hazardous areas.

http://www.siemens.com/simatic-hmi-ex

IPC software

A graded concept is available for effective early detection of potential failures and minimization of actual downtimes.
It consists of hardware and software expansion options specially developed for SIMATIC IPCs, which can be used to increase availability on a system-specific basis, depending on safety requirements.
The following components are available:

- SIMATIC IPC Image & Partition Creator
- SIMATIC IPC DiagMonitor
- SIMATIC IPC Remote Manager
- SIMATIC IPC Support Package for VxWorks V1.1

Embedded bundles with industrial PCs

Embedded industrial PCs are available at attractive prices as ready-to-use SIMATIC embedded bundles complete with a Windows Embedded operating system and pre-installed and pre-configured SIMATIC visualization and control software. They are efficient, cost-effective and ready-to-use complete packages that enable significantly faster commissioning.

http://www.siemens.com/simatic-embedded-bundles

Software packages for SIMATIC IPCs

Software packages are offered for all available SIMATIC IPCs that, when ordered, produce genuine price advantages.
All you have to do is: select your SIMATIC IPC, configure it, and order it together with the SIMATIC WinCC RT Advanced, WinCC RT Professional and WinCC V7 software and also the SIMATIC WinAC RTX (F) software controller.

http://www.siemens.com/simatic-ipc-packages

More information

Notes on the scope of delivery

Microsoft operating systems are pre-installed in an OEM version.

The scope of supply also includes:

- Recovery CD for simple reinstallation of the operating system (not for Windows Embedded)
- Restore DVD (hard disk image) for fast and very easy restoration of the PC delivery status
- SIMATIC IPC Documentation and Drivers DVD
- Compact Operating Instructions (English/German/French/ Spanish/Italian/Chinese)
- Electronic manual on IPC Documentation and Drivers DVD (English/German)

More information is available on the Internet at:

http://www.siemens.com/simatic-ipc

Overview

Rack PCs are flexible, high-availability industrial PC systems for powerful yet compact applications using 19" technology.

Four device classes are available for different requirements:

SIMATIC IPC347 – high performance at an optimized price

SIMATIC IPC547 – latest technology and maximum performance

SIMATIC IPC647 – maximum compactness combined with maximum industrial functionality

SIMATIC IPC847 – maximum expandability and industrial functionality

Shared industrial functionality of the IPC series 547, 647 and 847

- Maximum system performance for complex automation tasks and computationally intensive PC tasks in the industrial environment through use of Intel Core processors
- Designed for 24-hour continuous operation
- Monitoring and diagnostics functions (e.g. temperature, fan, watchdog)
- RAID1 configuration (mirrored drives), optionally in hot swap drive bays
- Hard disks with capacities up to 1 TB for large volumes of data
- SSD (solid-state drive), also as RAID1 configuration, optional
- Redundant AC power supply, optional
- Compact dimensions for installation in control cabinets only 500 mm deep
- Dust protection thanks to overpressure ventilation concept with fan on the front and dust filter
- Lockable front door
- Service-friendly equipment design due to prepared telescopic rail mounting
- Service-friendly device design due, for example, to the replacement of filters/fans from the front without the need for tools, or opening of the enclosure with just one screw
- Universal implementation as an industrial workstation or server
- Operating system pre-installed and activated for fast startup
- Fast restoration of the delivery status of the HDD thanks to restore DVD
- High flexibility and expandability of components
- PCI and PCI Express expansion slots
- Independent industrial product design

Overview (continued)

SIMATIC IPC347E – high performance at an optimized price

- Intel Pentium and Intel Core i processors, 4th generation
- Lockable front flap
- Uninterrupted duty at 40 °C ambient temperature without power loss
- Dust protection thanks to overpressure ventilation concept with fan on the front and dust filter
- PCI and PCI Express expansion slots
- 5 configurations available ex stock at short notice
- Availability at least 1.5 years
- Guaranteed spare parts availability for at least 3 years

SIMATIC IPC547G – latest technology and maximum performance at an attractive price

- Intel Core i processors 6th generation and Xeon
- Maximum processor performance in maximum configuration without loss of power (throttling) at ambient temperatures of up to 40 °C
- Optional RAID5 configuration (striping with parity) in hot swap drive bays
- RAID1 and RAID5 configurations with additional hot spare hard disk, optional
- Hard disks with capacities up to 2 TB for large volumes of data
- Low noise output thanks to controlled fans
- Status and alarm LEDs at the front for signaling critical system states
- Availability at least 2.5 years
- Guaranteed spare parts availability for at least 3 years

SIMATIC IPC647D – maximum compactness combined with maximum industrial functionality

- Maximum compactness due to 4 free PCI/PCI Express slots for installing long expansion cards
- High thermal stability up to 50 °C ambient temperature, even at maximum processor performance
- High vibration/shock resistance thanks to special hard disk holders
- Intel Core i processors 4th generation and Xeon
- ECC memory, optional
- Hardware RAID PCIe x8 controller incl. ZMM and SAS hard disks in hot-swap removable drive bay
- Front LED concept for efficient self-diagnostics, e.g. monitoring of hard disks in RAID1 configurations, fans or the status display for Ethernet, PROFINET and PROFIBUS
- Integrated PROFIBUS DP/MPI or PROFINET interface (optional)
- High component/design continuity
- Motherboard developed and manufactured by Siemens
- Availability for at least 5 years
- Guaranteed spare parts availability for at least 5 years

SIMATIC IPC847D – maximum expandability and industrial functionality

- Maximum expandability due to 11 free PCI/PCI Express slots for installing long expansion cards
- High thermal stability up to 50 °C ambient temperature, even at maximum processor performance
- High vibration/shock resistance thanks to special hard disk holders
- Intel Core i processors 4th generation and Xeon
- Optional RAID5 configuration (striping with parity) in hot swap drive bays
- RAID1 and RAID5 configurations with additional hot spare hard disk or SSD, optional
- ECC memory, optional
- Hardware RAID PCIe x8 controller incl. ZMM and SAS hard disks in hot-swap removable drive bay
- AC power supply with UPS (**U**ninterruptible **P**ower **S**upply) functionality incl. maintenance-free lead-tin battery
- Front LED concept for efficient self-diagnostics, e.g. monitoring of hard disks in RAID1 configurations, fans or status displays for Ethernet, PROFINET and PROFIBUS
- Integrated PROFIBUS DP/MPI or PROFINET interface (optional)
- High component/design continuity
- Motherboard developed and manufactured by Siemens
- Availability for at least 5 years
- Guaranteed spare parts availability for at least 5 years

Technical specifications

Rack PC	SIMATIC IPC347E	SIMATIC IPC547G	SIMATIC IPC647D	SIMATIC IPC847D
Design				
19" rack	4 U	4 U	2 U	4 U
Housing depth	463 mm	447 mm or 357 mm	447 mm	447 mm
Prepared for telescopic rails	•	•	•	•
Horizontal/vertical installation	• / -	• / •	• / -	• / •
19" mounting bracket can be removed from outside	•	•	•	•
Tower kit (optional)	-	•	-	•
General features				
Processor	• Intel Pentium Dual Core G3420 (2C/2T, 3.2 GHz) • Intel Core i5-4570S (4C/4T, 2.9 (3.6) GHz)	• Intel Xeon E3-1275 v5 [1] (4C/8T, 3.6 (4.0) GHz) • Intel Core i7-6700 (4C/8T, 3.4 (4.0) GHz) • Intel Core i5-6500 (4C/4T, 3.2 (3.6) GHz) • Intel Pentium G4400 (2C/2T, 3.3 GHz)	• Intel Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz) • Intel Core i5-4570TE (2C/4T, 2.7 (3.3) GHz) • Intel Core i3-4330TE (2C/4T, 2.4 GHz)	• Intel Xeon E3-1275 V3 (4C/8T, 3.5 (3.9) GHz) [2] • Intel Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz) • Intel Core i5-4570TE (2C/4T, 2.7 (3.3) GHz) • Intel Core i3-4330TE (2C/4T, 2.4 GHz)
Work memory	• 2/4 GB, expandable up to 16 GB	• 4 GB, expandable up to 64 GB [1]	• 2 GB, expandable up to 32 GB • ECC optional	• 2 GB, expandable up to 32 GB • ECC optional
Slots for expansions (all lengths up to 312 mm)	• 1 x PCI Express x16 (16 lanes) • 1 x PCI Express x8 (2 lanes) • 1 x PCI x1 (1 lane) • 4 x PCI	• 1 x PCI Express x16 (16 lanes) • 1 x PCI Express x16 (4 lanes) [1] • 1 x PCI Express x8 (1 lane) • 1 x PCI Express x4 (4 lanes) [1] • 1 x PCI Express x4 (1 lane) • 2 x PCI or • 1 x PCI Express x16 (16 lanes) • 1 x PCI Express x16 (1 lane) • 1 x PCI Express x8 (1 lane) • 2 x PCI Express x4 (1 lane) • 2 x PCI	• 2 x PCI • 2 x PCI Express x16 (8 lanes) or • 3 x PCI Express x16 (4 lanes) • 1 x PCI Express x16 (8 lanes) or • 2 x PCI Express x16 (4 lanes)	• 7 x PCI • 1 x PCI Express x16 (16 lanes) • 3 x PCI Express x4 (1 lane) or • 3 x PCI • 1 x PCI Express x16 (8 lanes) • 4 x PCI Express x16 (4 lanes) • 3 x PCI Express x4
Onboard graphics	• 1 x DVI-D • 1 x VGA	• 1 x or 2 x [1] DisplayPort • 1 x DVI-D • 1 x VGA (via DP adapter cable, optional)	• 2 x DisplayPort • 1 x DVI-I • 1 x VGA (via adapter cable, optional)	• 2 x DisplayPort • 1 x DVI-I • 1 x VGA (via adapter cable, optional)
Graphics card (optional)	-	PCI Express x16 (2 x VGA or 2 x DVI-D)	PCI Express x16 (2 x VGA or 2 x DVI-D)	PCI Express x 16 (2 x VGA or 2 x DVI-D)
Operating system				
None	•	•	•	•
Pre-installed and activated, supplied on restore DVD	• Windows 7 Ultimate Multi-Language (64-bit)	• Windows 7 Ultimate Multi-Language (64-bit) • Windows 10 IoT Enterprise LTSB 2015 multi-language (64-bit) • Windows Server 2008 R2 incl. 5 clients, multi-language (64-bit) • Windows Server 2012 R2 incl. 5 clients, multi-language (64-bit)	• Windows 7 Ultimate Multi-Language (32/64-bit) • Windows 10 IoT Enterprise LTSB 2015 multi-language (64-bit) • Windows Server 2008 R2 incl. 5 Clients Multi-Language (64-bit) • Windows Server 2012 R2 incl. 5 Clients Multi-Language (64-bit)	• Windows 7 Ultimate Multi-Language (32/64-bit) • Windows 10 IoT Enterprise LTSB 2015 multi-language (64-bit) • Windows Server 2008 R2 incl. 5 Clients Multi-Language (64-bit) • Windows Server 2012 R2 incl. 5 Clients Multi-Language (64-bit)
Project-specific on request	-	• Linux (in prep.) [3] • Other	• Linux [3] • VxWorks (Support Package) • VMware (ESXi) certified [4] • Other	• Linux [3] • VxWorks (Support Package) • VMware (ESXi) certified [4] • Other

[1] Only with mainboard with C236 chipset

[2] Limitation regarding ambient temperature

[3] Suitable for specific Linux versions in accordance with the specifications of the Siemens manufacturer's declaration "Suitable for Linux", see: http://support.automation.siemens.com/WW/view/en/10805661/134200 (Linux is a trademark owned by Linus Torvald)

[4] Certified as host system for VMware vSphere Hypervisor (ESXi 6.0 U2), see: https://support.industry.siemens.com/cs/ww/en/view/109477420

Technical specifications (continued)

Rack PC	SIMATIC IPC347E	SIMATIC IPC547G	SIMATIC IPC647D	SIMATIC IPC847D
Interfaces				
PROFIBUS/MPI	-	-	12 Mbit/s (compatible with CP 5622), optional	12 Mbit/s (compatible with CP 5622), optional
PROFINET	-	-	3 x RJ45 (compatible with CP 1616), optional	3 x RJ45 (compatible with CP 1616), optional
Ethernet	2 x Realtek 10/100/1000 Mbps (RJ45)	2 x Intel 10/100/1000 Mbps (RJ45)	2 x Intel 10/100/1000 Mbps (RJ45, teaming-capable)	2 x Intel 10/100/1000 Mbps (RJ45, teaming-capable)
USB 3.0 (high current)	2 x at the rear	6 x [1] or 4 x, 2 of which at front	4 x, 1 of which at front, 1 x internal, e.g. for USB dongle with optional interlock	4 x, 1 of which at front, 1 x internal, e.g. for USB dongle with optional interlock
USB 2.0 (high current)	5 x, 2 of which at front 1 x internal, 2 x at the rear	4 x rear-mounted, 1 x internal[1] e.g. for USB dongle (with optional lock)	3 x, 1 of which at front	3 x, 1 of which at front
VGA	•	• optionally via DP adapter cable	• optionally via adapter cable	• optionally via adapter cable
DVI	•	•	•	•
DisplayPort	-	•	•	•
Drives				
SATA hard disks				
• Internal installation	•	•	-	•
• Installation at the front in the removable drive bay	-	•	•	•
• Internal installation in drive holder (shock and vibration-damped)	-	•	•	•
RAID1/5 configuration with onboard RAID with SATA hard disks	-	• [1] / • [1]	• / -	• / •
RAID1/5 configuration with HW-RAID and ZMM with SAS hard disks	-	-	• / -	• / •
RAID configuration with additional hot spare hard disk	-	• [1]	-	•
SSD (solid-state drive)	-	•	•	•
RAID1 configuration with solid-state drive	-	• [1]	•	•
Optical drives				
DVD±R/RW	-	• (Slim)	• (Slim)	• (Slim)
AC power supply	•	•	•	•
Redundant (optional)	-	•	•	•
UPS internal (optional)	-	-	-	•
Ambient conditions [5]				
Vibration/ shock load during operation	- / -	0.2 g / 1 g	0.5 g / 5 g	0.5 g / 5 g
Ambient temperature during operation	With maximum configuration: 5 ... 40 °C	With maximum configuration: 0 ... 40 °C	With maximum configuration: 0 ... 50 °C	With maximum configuration: 0 ... 50 °C

• Available

- Not available

1) Only with mainboard with C236 chipset

2) Limitation regarding ambient temperature

3) Suitable for specific Linux versions in accordance with the specifications of the Siemens manufacturer's declaration "Suitable for Linux", see: http://support.automation.siemens.com/WW/view/en/10805661/134200 (Linux is a trademark owned by Linus Torvald)

4) Certified as host system for VMware vSphere Hypervisor (ESXi 6.0 U2), see: https://support.industry.siemens.com/cs/ww/en/view/109477420

5) Restrictions when using DVD±R/RW, SAS HDDs, SATA Enterprise HDDs and hard disks in removable drive bay

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-pc

Information material can be ordered or downloaded from the Internet:

http://www.siemens.com/simatic/printmaterial

Overview

SIMATIC IPC347E

The SIMATIC IPC347E is an industrial PC in 19" rack design (4U).

It offers:

- Optimized price
- High performance
- Intel Core i technology of the 4th generation

Technical specifications

Article number	**6AG4012-1AA10-0XX0** SIMATIC IPC347E (RACK PC, 19", 4U)	**6AG4012-1AA21-0XX0** SIMATIC IPC347E (RACK PC, 19", 4U)	**6AG4012-1CA21-0XX0** SIMATIC IPC347E (RACK PC, 19", 4U)	**6AG4012-1CA21-0BX0** SIMATIC IPC347E (RACK PC, 19", 4U)	**6AG4012-1AA21-0BX0** SIMATIC IPC347E (RACK PC, 19", 4U)
Installation type/mounting					
Mounting	For horizontal rack mounting	For horizontal rack mounting	For horizontal rack mounting	For horizontal rack mounting	For horizontal rack mounting
Design	Rack PC, 19", 4U	Rack PC, 19", 4U	Rack PC, 19", 4U	Rack PC, 19", 4U	Rack PC, 19", 4U
Rack mounting	Yes	Yes	Yes	Yes	Yes
Supply voltage					
Type of supply voltage	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC
Line frequency					
• Rated value 50 Hz	Yes	Yes	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes	Yes	Yes
Processor					
Processor type	Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB Cache)	Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB Cache)	Core i5-4570S (4C/4T, 2.9 (3.6) GHz, 6 MB Cache)	Core i5-4570S (4C/4T, 2.9 (3.6) GHz, 6 MB Cache)	Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB Cache)
Drives					
Hard disk	500 GB HDD	500 GB HDD	500 GB HDD	500 GB HDD	500 GB HDD
Memory					
Type of memory	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM
Work memory	2 GB (pre-installed), support up to 16 GB	4 GB (pre-installed), support up to 16 GB	4 GB (pre-installed), support up to 16 GB	4 GB (pre-installed), support up to 16 GB	4 GB (pre-installed), support up to 16 GB
Hardware configuration					
Slots					
• free slots	4x PCI, 1x PCIe, 1x PCI (x8) (2 Lanes), 1x PCIe (x16) (16 Lanes)	4x PCI, 1x PCIe, 1x PCI (x8) (2 Lanes), 1x PCIe (x16) (16 Lanes)	4x PCI, 1x PCIe (x1), 1x PCI (x8), 1x PCIe (x16)	4x PCI, 1x PCIe, 1x PCI (x8) (2 Lanes), 1x PCIe (x16) (16 Lanes)	4x PCI, 1x PCIe, 1x PCI (x8) (2 Lanes), 1x PCIe (x16) (16 Lanes)

Technical specifications (continued)

Article number	**6AG4012-1AA10-0XX0** SIMATIC IPC347E (RACK PC, 19", 4U)	**6AG4012-1AA21-0XX0** SIMATIC IPC347E (RACK PC, 19", 4U)	**6AG4012-1CA21-0XX0** SIMATIC IPC347E (RACK PC, 19", 4U)	**6AG4012-1CA21-0BX0** SIMATIC IPC347E (RACK PC, 19", 4U)	**6AG4012-1AA21-0BX0** SIMATIC IPC347E (RACK PC, 19", 4U)
Interfaces					
Interfaces/bus type	2x Gbit Ethernet (RJ45), 1x DVI-D, 1x VGA, 4x USB 2.0 on rear, 2x USB 2.0 on front, 2x COM, 2x PS/2, Audio (Line in, Line out, Micro)	2x Gbit Ethernet (RJ45), 1x DVI-D, 1x VGA, 4x USB 2.0 on rear, 2x USB 2.0 on front, 2x COM, 2x PS/2, Audio (Line in, Line out, Micro)	2x Gbit Ethernet (RJ45)	2x Gbit Ethernet (RJ45), 1x DVI-D, 1x VGA, 4x USB 2.0 on rear, 2x USB 2.0 on front, 2x COM, 2x PS/2, Audio (Line in, Line out, Micro)	2x Gbit Ethernet (RJ45), 1x DVI-D, 1x VGA, 4x USB 2.0 on rear, 2x USB 2.0 on front, 2x COM, 2x PS/2, Audio (Line in, Line out, Micro)
Number of Industrial Ethernet interfaces	2	2	2	2	2
USB port	2x USB 3.0 rear, 2x USB 2.0 rear, 2x USB 2.0 front, 1x USB 2.0 internal	2x USB 3.0 rear, 2x USB 2.0 rear, 2x USB 2.0 front, 1x USB 2.0 internal	2x USB 3.0 rear, 2x USB 2.0 rear, 2x USB 2.0 front, 1x USB 2.0 internal	2x USB 3.0 rear, 2x USB 2.0 rear, 2x USB 2.0 front, 1x USB 2.0 internal	2x USB 3.0 rear, 2x USB 2.0 rear, 2x USB 2.0 front, 1x USB 2.0 internal
Connection for keyboard/mouse	2x PS/2	2x PS/2	2x PS/2		2x PS/2
serial interface	2x COM ports (RS 232, RS 422, RS 485)	2x COM ports (RS 232, RS 422, RS 485)	2x COM ports (RS 232, RS 422, RS 485)	2x COM ports (RS 232, RS 422, RS 485)	2x COM ports (RS 232, RS 422, RS 485)
Multimedia					
• Audio In/Out	Yes	Yes	Yes	Yes	Yes
• Microphone In	Yes	Yes	Yes	Yes	Yes
Video interfaces					
• Graphics interface	1x VGA; 1x DVI-D	1x VGA; 1x DVI-D		1x VGA; 1x DVI-D	1x VGA; 1x DVI-D
Industrial Ethernet					
• Industrial Ethernet interface	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes
Integrated Functions					
Monitoring functions					
• Status LEDs	POWER, HDD	POWER, HDD	POWER, HDD	POWER, HDD	POWER, HDD
EMC					
Interference immunity against discharge of static electricity					
• Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields					
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 1 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 150 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 1 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 150 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 1 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 150 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 1 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 150 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 1 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 150 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference					
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric				
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4, Burst				
Interference immunity against voltage surge					
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric				
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric				

Technical specifications (continued)

Article number	6AG4012-1AA10-0XX0 SIMATIC IPC347E (RACK PC, 19", 4U)	6AG4012-1AA21-0XX0 SIMATIC IPC347E (RACK PC, 19", 4U)	6AG4012-1CA21-0XX0 SIMATIC IPC347E (RACK PC, 19", 4U)	6AG4012-1CA21-0BX0 SIMATIC IPC347E (RACK PC, 19", 4U)	6AG4012-1AA21-0BX0 SIMATIC IPC347E (RACK PC, 19", 4U)
Interference immunity to magnetic fields					
• Interference immunity to magnetic fields at 50 Hz	30 A/m; to IEC 61000-4-8	30 A/m; to IEC 61000-4-8	30 A/m; to IEC 61000-4-8	30 A/m; to IEC 61000-4-8	30 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference					
• Interference emission via line/ AC current cables	IEC 61000-6-4, CISPR 22, FCC Class A	IEC 61000-6-4, CISPR 22, FCC Class A	IEC 61000-6-4, CISPR 22, FCC Class A	IEC 61000-6-4, CISPR 22, FCC Class A	IEC 61000-6-4, CISPR 22, FCC Class A
Compliance with line harmonic distortion limits					
• Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3	Yes; EN 61000-3-2 Class D; EN 61000-3-3	Yes; EN 61000-3-2 Class D; EN 61000-3-3	Yes; EN 61000-3-2 Class D; EN 61000-3-3	Yes; EN 61000-3-2 Class D; EN 61000-3-3	Yes; EN 61000-3-2 Class D; EN 61000-3-3
Degree and class of protection					
IP (at the front)	IP20	IP20	IP20	IP20	IP20
IP (rear)	IP20	IP20	IP20	IP20	IP20
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes
FCC	Yes	Yes	Yes	Yes	Yes
EMC	CE, IEC 61000-6-4:2011, IEC 61000-6-2:2005	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005
• EN 61000-6-2	Yes	Yes	Yes	Yes	Yes
Ambient conditions					
Ambient temperature during operation					
• Ambient temperature during operation	+5 °C to +40 °C	+5 °C to +40 °C	+5 °C to +40 °C	+5 °C to +40 °C	+5 °C to +40 °C
• min.	5 °C	5 °C	5 °C	5 °C	5 °C
• max.	40 °C	40 °C	40 °C	40 °C	40 °C
Relative humidity					
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no conden-sation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no conden-sation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no conden-sation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no conden-sation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no conden-sation), Storage: 5% to 95% at 25 °C (no condensation)
Operating systems					
pre-installed operating system				Yes	Yes
without operating system	Yes	Yes	Yes		
pre-installed operating system					
• Windows 7				Yes; Ultimate 64 bit	Yes; Ultimate 64 bit
Mechanics/material					
Enclosure material (front)					
• Aluminum	Yes	Yes	Yes	Yes	Yes
Dimensions					
Width	430 mm	430 mm	430 mm	430 mm	430 mm
Height	177 mm	177 mm	177 mm	177 mm	177 mm
Depth	463 mm	463 mm	463 mm	463 mm	463 mm

Ordering data

	Article No.
Configurations	
SIMATIC IPC347E	
• **Configuration 1** Intel Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB cache); 500 GB HDD SATA, internal; 2 GB DDR3 SDRAM (1 x 2 GB); without operating system; 100/240 V AC industrial power supply. Interfaces: 2 x Gbit Ethernet (RJ45), 4 x USB at the rear, 2 x USB at the front, 1 x USB internal, 1 x DVI-D, 1 x VGA, 2 x serial, 2 x PS/2, audio	**6AG4012-1AA10-0XX0**
• **Configuration 2** Intel Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB cache); 500 GB HDD SATA, internal; 4 GB DDR3 SDRAM (1 x 4 GB); DVD±RW; without operating system; 100/240 V AC industrial power supply. Interfaces: 2 x Gbit Ethernet (RJ45), 4 x USB at the rear, 2 x USB at the front, 1 x USB internal, 1 x DVI-D, 1 x VGA, 2 x serial, 2 x PS/2, audio	**6AG4012-1AA21-0XX0**
• **Configuration 3** Intel Core i5-4570S (4C/4T, to 3.6 GHz, 6 MB cache); 500 GB HDD SATA, internal; 4 GB DDR3 SDRAM (1 x 4 GB); DVD±RW; without operating system; 100/240 V AC industrial power supply. Interfaces: 2 x Gbit Ethernet (RJ45), 4 x USB at the rear, 2 x USB at the front, 1 x USB internal, 1 x DVI-D, 1 x VGA, 2 x serial, 2 x PS/2, audio	**6AG4012-1CA21-0XX0**
• **Configuration 4** Intel Core i5-4570S (4C/4T, to 3.6 GHz, 6 MB cache); 500 GB HDD SATA, internal; 4 GB DDR3 SDRAM (1 x 4 GB); DVD±RW; Windows 7 Ultimate, 64-bit, SP1; 100/240 V AC industrial power supply. Interfaces: 2 x Gbit Ethernet (RJ45), 4 x USB at the rear, 2 x USB at the front, 1 x USB internal, 1 x DVI-D, 1 x VGA, 2 x serial, 2 x PS/2, audio	**6AG4012-1CA21-0BX0**
• **Configuration 5** Intel Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB cache); 500 GB HDD SATA, internal; 4 GB DDR3 SDRAM (1 x 4 GB); DVD±RW; Windows 7 Ultimate, 64-bit, SP1; 100/240 V AC industrial power supply. Interfaces: 2 x Gbit Ethernet (RJ45), 4 x USB at the rear, 2 x USB at the front, 1 x USB internal, 1 x DVI-D, 1 x VGA, 2 x serial, 2 x PS/2, audio	**6AG4012-1AA21-0BX0**
Accessories	
Power cable, straight, 3 m long	
• Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden	**6ES7900-0AA00-0XA0**
• United Kingdom	**6ES7900-0BA00-0XA0**
• Switzerland	**6ES7900-0CA00-0XA0**
• USA	**6ES7900-0DA00-0XA0**
• Italy	**6ES7900-0EA00-0XA0**
• China	**6ES7900-0FA00-0XA0**

Note:

Software packages with SIMATIC WinCC flexible, SIMATIC WinCC RT Advanced or Professional and SIMATIC WinCC can be ordered together with the SIMATIC IPC at favorable prices.

More information under "Embedded Bundles / packages for industrial PCs".

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-pc

Overview

SIMATIC IPC547G

The SIMATIC IPC547G is a rugged industrial PC in 19" rack design (4U).

It offers:

- Maximum performance
- Attractive price
- Intel Core i/Xeon technology, 6th generation

Technical specifications

	IPC547G	
Chipset	**Intel C236**	**Intel H110**
General features		
Design	19" rack PC, 4 U, enclosure versions (standard 446 mm deep and short 356 mm deep) • Prepared for telescopic rails • Suitable for horizontal and vertical installation • 19" mounting bracket can be removed from outside • Tower Kit (optional) for conversion to a tower PC	
Chipset	Intel C236	Intel H110
Processor base	LGA1151	LGA1151
Processor	• Intel Xeon E3-1275 v5 (4C/8T) 3.6 (4.0) GHz, 8 MB cache, iAMT 11.0 • Intel Core i7-6700 (4C/8T) 3.4 (4.0) GHz, 8 MB cache, iAMT 11.0 • Intel Core i5-6500 (4C/4T) 3.2 (3.6) GHz, 6 MB cache, iAMT 11.0 • Intel Pentium processor G4400 (2C/2T) 3.3 GHz, 3 MB cache	• Intel Core i7-6700 (4C/8T) 3.4 (4.0) GHz, 8 MB cache • Intel Core i5-6500 (4C/4T) 3.2 (3.6) GHz, 6 MB cache • Intel Pentium processor G4400 (2C/2T) 3.3 GHz, 3 MB cache
Work memory	• 4 GB to 64 GB available for order • Dual or single channel • DDR4-2133 SDRAM • 4 memory sockets • Expandable up to 64 GB	• 4 GB to 32 GB available for ordering • Dual or single channel • DDR4-2133 SDRAM • 2 memory sockets • Expandable up to 32 GB
Spare slots for expansions (all long)	• 1 x PCIe x16 Gen. 3 • 1 x PCIe x16 (4 lanes) Gen 3 • 1 x PCIe x8 (1 lane) Gen 3 • 1 x PCIe x4 (4 lanes) Gen 3 • 1 x PCIe x4 (1 lane) Gen 3 • 2 x PCI	• 1 x PCIe x16 Gen. 3 • 1 x PCIe x16 (1 lane) Gen 2 • 1 x PCIe x8 (1 lane) Gen 2 • 1 x PCIe x4 (1 lane) Gen 2 • 1 x PCIe x4 (1 lane) Gen 2 • 2 x PCI
Graphics		
Graphics controller	• Onboard Intel HD graphics P530 / 530 /510 integrated into processor	• Onboard Intel HD graphics 530 /510 integrated into processor
Resolutions	• Dynamic Video Memory to 1.7 GB • Max. resolution DVI-D: 1 920 x 1 200 • Max. DisplayPort resolution: 4 096 x 2 304 • VGA (via DP-VGA adapter) up to 2 560 x 1 600	
Graphics card	Graphics card NVIDIA Quadro NVS 315 in PCI Express x16-slot (optional), active cooling • 1 GB graphics memory • Max. resolution VGA: 2 x 2 048 x 1 536 • Max. resolution DVI-D: 2 x 1 920 x 1 200	

Technical specifications (continued)

	IPC547G	
Chipset	**Intel C236**	**Intel H110**
Graphics card operating systems (pre-installed and activated)		
• Windows 7 Ultimate, multi-language, 32-bit	• No (only drivers on D&D DVD)	
• Windows 7 Ultimate, multi-language, 64-bit	• Yes	
• Windows 10 IoT LTSB 2015 multi-language, 64-bit	• Yes	
• Windows Server 2008 R2 incl. 5 clients, multi-language, 64-bit	• Yes	
• Windows Server 2012 R2 incl. 5 clients, multi-language, 64-bit	• Yes	
Power supply		
Power supply	• 100-240 V AC, 50-60 Hz	
Power supply (redundant)	• 2x 100-240 V AC, 50-60 Hz (optional)	
Drives		
Hard disks (HDD) 3.5"	• Serial ATA, 7,200 rpm • Serial ATA [Enterprise], 7,200 rpm	
Internal installation:	• 1x 1 TB HDD • 2x 1 TB HDD • 1x 240 GB SSD • 1x 480 GB SSD • 2x 480 GB SSD • RAID1, 1 TB (2x 1 TB HDD) • RAID1, 1 TB (2x 1 TB HDD [Enterprise])	• 1x 1 TB HDD • 2x 1 TB HDD • 1x 240 GB SSD • 1x 480 GB SSD • 2x 480 GB SSD
Installation at the front in removable drive bay trays (hot swapping with RAID (standard enclosure only)):	• 1x 1 TB HDD • 2x 1 TB HDD • 1x 480 GB SSD • 2x 480 GB SSD • RAID1, 480 GB (2x 480 GB SSD) • RAID1, 1 TB (2x 1 TB HDD) • RAID1, 1 TB (2x 1 TB HDD [Enterprise]) • RAID1, 2 TB (2x 2 TB HDD [Enterprise]) • RAID1, 2 TB (2x 2 TB HDD [Enterprise]) + 1x 2 TB HDD [Enterprise] as hot spare • RAID1, 2 TB (2x 2 TB HDD [Enterprise]) + 1x 480 GB SSD (if configured, operating system installed on SSD); • RAID5, 4 TB (3x 2 TB HDD [Enterprise]) • RAID5, 4 TB (3x 2 TB HDD [Enterprise]) + 1x 2 TB HDD [Enterprise] as hot spare (up to +35 °C)	• 1x 1 TB HDD • 2x 1 TB HDD • 1x 480 GB SSD • 2x 480 GB SSD
RAID controller	• Intel Rapid Storage Technology integrated into chipset	-
DVD±RW	• Yes (slim) (standard enclosure only)	
Slots for drives	• 3 x 5.25" / 4x low-profile removable drive bays (at the front) (standard enclosure only) • 2 x 3.5" / 2.5" (internal) • 1 x 5.25" slim (for 1 x DVD±RW) (standard enclosure only)	
Interfaces		
Ethernet	2 x Gigabit Intel Ethernet (IE/PN), RJ45, teaming-capable	
USB 2.0	• 4x at the rear • 1x internal, e.g. for USB dongle with optional interlock	• 4x at the rear
USB 3.0	• 4x at the rear • 2x at the front	• 2x at the rear • 2x at the front
DisplayPort	• 2x (V1.2)	• 1x (V1.2)
DVI	• 1x DVI-D	• 1x DVI-D
VGA	• Via DP-VGA adapter (optional)	
Multi-monitoring	• 2x VGA or 2x DVI-D via PCIe x16 graphics card (optional)	
Serial	• COM1 (V.24) • COM2 (V.24) (optional)	• - • COM2 (V.24) (optional)
Parallel	• LPT (optional)	
Keyboard/mouse	• 2x PS/2	
Audio	• 1 x line in; 1 x line out; 1 x micro	

Technical specifications (continued)

	IPC547G	
Chipset	**Intel C236**	**Intel H110**
Monitoring functions		
Temperature	• When permitted operating temperature range is exceeded	
Fans	• Speed monitoring of • Front fan • Processor fan • HDD fans • Graphics card fan • Power supply fan	
BIOS battery	• Yes	
Watchdog	• Yes	
Status LEDs	• POWER (PC switched on) • HDD (access to hard disk) • TEMP (temperature monitoring) • FAN (fan monitoring) • HDD0/1/2/3 ALARM	
Environmental conditions		
Degree of protection	• IP30 at front with front door closed • IP20 at back	
Protection class	• Protection class I according to IEC 61140	
Vibration during operation	• 20 to 200 Hz: 2 m/s2 (approx. 0.2 g) Note: Restrictions with DVD±RW operation and HDD in removable drive bay trays	
Shock resistance during operation	• 9.8 m/s2, 20 ms (approx. 1g) Note: Restrictions with DVD±RW operation and HDD in removable drive bay trays	
Temperature in operation	• + 0 °C to + 40 °C at maximum configuration Note: Restrictions regarding DVD±RW operation and HDD [Enterprise]	
Humidity • During operation • Storage/transport	• 5% to 80% at 25 °C (no condensation) • 5% to 95% at 25 °C (no condensation)	
Electromagnetic compatibility (EMC)		
Emitted interference (AC)	EN 55022 Class B, FCC Class A	
Immunity to conducted interference on supply lines	• ± 2 kV (IEC 61000-4-4, burst) • ± 1 kV (IEC 61000-4-5, symm. surge) • ±2 kV (IEC 61000-4-5, surge asymm.)	
Noise immunity on signal lines	• ± 2 kV (IEC 61000-4-4, burst, length > 30 m) • ± 1 kV (IEC 61000-4-4, burst, length < 30 m) • ± 2 kV (IEC 61000-4-5, surge, length > 30 m)	
Immunity to static discharge	• ± 4 kV, contact discharge (IEC 61000-4-2) • ± 8 kV, air discharge (IEC 61000-4-2)	
Immunity to high-frequency radiation	• 1 V/m, 80% AM, 2 to 2.7 GHz (IEC 61000-4-3) • 3 V/m, 80% AM, 1.4 to 2 GHz (IEC 61000-4-3) • 10 V/m, 80% AM, 80 MHz to 1 GHz (IEC 61000-4-3) • 10 V, 80% AM, 150 kHz to 80 MHz (IEC 61000-4-6)	
Magnetic fields	• 30 A/m, 50/60 Hz (IEC 61000-4-8)	
Approvals and safety regulations		
Safety directives	IEC 60950-1; UL 60950-1; CSA	
Approvals	cULus 60950	
CE marking	Use in the office and industrial sectors • Emitted interference: EN 61000-6-3:2007 • Noise immunity: EN 61000-6-2:2005	
Dimensions and weights		
Installation dimensions (W x H x D) in mm	Standard enclosure version: 434 x 177 x 446 / short enclosure version 434 x 177 x 356	
Weight, approx.	Min. 16 kg, max. 25 kg	

Note regarding SIMATIC PC operating system licenses

The accompanying operating system license is only valid for installation on the SIMATIC IPC supplied in each case. Installation can only be performed on these SIMATIC systems in accordance with Microsoft OEM licensing regulations.

4

Ordering data

	Article No.
SIMATIC IPC547G	**6AG4104 - 4 ■ ■ ■ ■ - ■ ■ ■ ■**
Rack PC, 19", 4 U Interfaces: 2 x USB 3.0 at the front, 2 x Gbit Ethernet, 2 x PS/2, audio; slots: 5 x PCI Express, 2 x PCI; temperature and fan monitoring; watchdog; card retainer	
Processors and mainboards	
• Pentium G4400 (2C/2T, 3.3 GHz, 3 MB cache); mainboard (chipset H110, 1 x DVI-D, 1 x DisplayPort V1.2, 2 x USB 3.0 & 4 x USB 2.0 at the rear)	A
• Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache); mainboard (chipset H110, 1 x DVI-D, 1 x DisplayPort V1.2, 2 x USB 3.0 & 4 x USB 2.0 at the rear)	C
• Core i7-6700 (4C/8T, 3.4 (4.0) GHz, 8 MB cache); mainboard (chipset H110, 1 x DVI-D, 1 x DisplayPort V1.2, 2 x USB 3.0 & 4 x USB 2.0 at the rear)	D
• Pentium G4400 (2C/2T, 3.3 GHz, 3 MB cache); mainboard (chipset C236, 1 x DVI-D, 2 x DisplayPort V1.2, 4 x USB 3.0 & 4 x USB 2.0 at the rear, 1 x USB 2.0 internal, 1 x COM1; RAID onboard)	E
• Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache, iAMT); mainboard (chipset C236, 1 x DVI-D, 2 x DisplayPort V1.2, 4 x USB 3.0 & 4 x USB 2.0 at the rear, 1 x USB 2.0 internal, 1 x COM1; RAID onboard)	G
• Core i7-6700 (4C/8T, 3.4 (4.0) GHz, 8 MB cache, iAMT); mainboard (chipset C236, 1 x DVI-D, 2 x DisplayPort V1.2, 4 x USB 3.0 & 4 x USB 2.0 at the rear, 1 x USB 2.0 internal, 1 x COM1; RAID onboard)	H
• Xeon E3-1275 v5 (4C/8T, 3.6 (4.0) GHz, 8 MB cache, iAMT); mainboard (chipset C236, 1 x DVI-D, 2 x DisplayPort V1.2, 4 x USB 3.0 & 4 x USB 2.0 at the rear, 1 x USB 2.0 internal, 1 x COM1; RAID onboard)	J

	Article No.
SIMATIC IPC547G (continued)	**6AG4104 - 4 ■ ■ ■ ■ - ■ ■ ■ ■**
Drives (SATA)	
• 1 x 1 TB HDD, internal (0.2 g vibration, 1 g shock)	A
• 2 x 1 TB HDD, internal (0.2 g vibration, 1 g shock)	B
• 1 x 240 GB SSD, internal	C
• 1 x 480 GB SSD, internal	D
• 2 x 480 GB SSD, internal	E
• RAID1, 1 TB (2 x 1 TB HDD), internal (0.2 g vibration, 1 g shock)[1]	F
• RAID1, 1 TB (2 x 1 TB HDD [Enterprise]), internal (0.2 g vibration, 1 g shock)[1]	G
• 1 x 1 TB HDD in removable drive bay, on the front [2]	H
• 2 x 1 TB HDD in removable drive bay, on the front [2]	J
• 1 x 480 GB SSD in removable drive bay, on the front [2]	K
• 2 x 480 GB SSD in removable drive bay, on the front [2]	L
• RAID1, 480 GB (2 x 480 GB SSD) in removable drive bay, hot-swappable, front-mounted [1)2)]	M
• RAID1, 1 TB (2 x 1 TB HDD) in rem. drive bay, hot-swap, front- mounted [1)2)]	N
• RAID1, 1 TB (2 x 1 TB HDD [Enterprise]) in rem. drive bay, hot-swap, front- mounted [1)2)]	P
• RAID1, 2 TB (2 x 2 TB HDD [Enterprise]) in rem. drive bay, hot-swap, front- mounted [1)2)]	Q
• RAID1, 2 TB (2 x 2 TB HDD [Enterprise]) in removable drive bay, hot-swappable + 1 x 2 TB HDD [Enterprise] as hot spare in removable drive bay, front-mounted [1)2)]	R
• RAID1, 2 TB (2 x 2 TB HDD [Enterprise]) in removable drive bay, hot-swappable + 1x 480 GB SSD in removable drive bay, front-mounted (operating system installed on SSD if configured) [1)2)]	S
• RAID5, 4 TB (3 x 2 TB HDD [Enterprise]) in rem. drive bay, hot-swap, front- mounted [1)2)]	T
• RAID5, 4 TB (3 x 2 TB HDD [Enterprise]) in removable drive bay, hot-swappable + 1 x 2 TB HDD [Enterprise] as hot spare in removable drive bay, front-mounted; (up to +35°C) [1)2)]	U

Ordering data

	Article No.
SIMATIC IPC547G (continued)	**6AG4104 - 4 ■ ■ ■ ■ - ■ ■ ■ ■**
Memory configuration	
• 4 GB DDR3 SDRAM (1 x 4 GB), single channel	0
• 8 GB DDR3 SDRAM (2 x 4 GB), dual channel	1
• 16 GB DDR3 SDRAM (2 x 8 GB), dual channel	2
• 32 GB DDR3 SDRAM (2 x 16 GB), dual channel	3
• 64 GB DDR3 SDRAM (4 x 16 GB), dual channel [1]	4
Type of enclosure / power supplies and removable media	
• Enclosure (short), blue-chromated, 100/240 V AC industrial power supply, without removable media	0
• Enclosure, blue-chromated, 100/240 V AC industrial power supply, without removable media	1
• Enclosure, blue-chromated, 100/240 V AC industrial power supply, DVD±RW (slim)	2
• Enclosure, blue-chromated, 2 x 100/240 V AC redundant industrial power supply, without removable media	3
• Enclosure, blue-chromated, 2 x 100/240 V AC redundant industrial power supply, DVD±RW (slim)	4
• Painted enclosure, 100/240 V AC industrial power supply, without removable media	5
• Painted enclosure, 100/240 V AC industrial power supply, DVD±RW (slim)	6
• Painted enclosure, 2 x 100/240 V AC redundant industrial power supply, without removable media	7
• Painted enclosure, 2 x 100/240 V AC redundant industrial power supply, DVD±RW (slim)	8
Expansions (hardware)	
• Without expansions (hardware), onboard graphics	0
• Without expansions (hardware), onboard graphics; adapter cable DP to VGA for onboard graphics	1
• Without expansions (hardware), PCIe x16 graphics card (dual head: 2 x VGA or 2 x DVI-D), 1 GB	2
• Serial (COM2) + parallel (LPT); onboard graphics	3
• Serial (COM2) + parallel (LPT); onboard graphics; adapter cable DP to VGA for onboard graphics	4
• Serial (COM2) + parallel (LPT) + PCIe x16 graphics card (dual head: 2 x VGA or 2 x DVI-D), 1 GB	5

	Article No.
SIMATIC IPC547G (continued)	**6AG4104 - 4 ■ ■ ■ ■ - ■ ■ ■ ■**
Operating systems (pre-installed and activated)	
• Windows 7 Ultimate, MUI (en, de, fr, it, es), 64-bit, SP1	B
• Windows 10 IoT Enterprise LTSB 2015, multi-language (en, de, fr, it, es), 64-bit	C
• Windows Server 2008 R2 Standard Edition 64-bit SP1 incl. 5 clients, multi-language (en, de, fr, it, es)	F
• Windows Server 2012 R2 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es)	G
• Without operating system	X
Expansions (software)	
• SIMATIC IPC DiagMonitor software included	A
• SIMATIC IPC Image & Partition Creator software included	B
• SIMATIC IPC DiagMonitor + Image & Partition Creator software included	C
• Without expansions (software)	X
• Without expansions (software) / TPM [3] (not for China or Russia)	Y
Country-specific versions	
• Without power supply cord	0
• Power cord for Europe	1
• Power cord for the USA	2
• Power cord for China	3

1) Only with mainboard with C236 chipset
2) Not for use with short enclosure
3) TPM = Trusted Platform Module

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

Ordering data

	Article No.
Preferred types (available at short notice from stock)	
SIMATIC IPC547G (Rack PC, 19", 4 U) • Pentium G4400 (2C/2T, 3.3 GHz, 3 MB cache) • Mainboard with chipset H110 1x 1 TB HDD, internal • 4 GB DDR4 SDRAM (1x 4 GB) • Painted enclosure • 100/240 V AC industrial power supply • Serial (COM2) + Parallel (LPT) • Without power supply cord	**6AG4104-4AA05-3XX0**
SIMATIC IPC547G (Rack PC, 19", 4 U) • Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB Cache, iAMT) • Mainboard with C236 chipset • RAID1, 1 TB (2x 1 TB HDD) in removable tray, hot-swappable, front-mounted • 8 GB DDR4 SDRAM (2 x 4 GB), dual channel • Painted enclosure • 100/240 V AC industrial power supply • DVD +/-RW (slim) • Serial (COM2) + Parallel (LPT) • Adapter cable DP to VGA for onboard graphics • Windows 7 Ultimate, MUI (en, de, fr, it, es), 64-bit, SP1 • Without power supply cord	**6AG4104-4GN16-4BX0**
SIMATIC IPC547G (Rack PC, 19", 4 U) • Core i7-6700 (4C/8T, 3.4 (4.0) GHz, 8 MB cache, iAMT) • Mainboard with C236 chipset • RAID1, 1 TB (2x 1 TB HDD Enterprise), in removable tray, hot-swappable, front-mounted • 8 GB DDR4 SDRAM (2x 4 GB), dual channel • Painted enclosure • 2x 100/240V AC red. industrial power supply unit • DVD +/-RW (Slim) • Serial (COM2) + Parallel (LPT) • PCIe x16 graphics card (dual head: 2x VGA/2x DVI-D), 1 GB • Windows 7 Ultimate, MUI (en, de, fr, it, es), 64-bit, SP1 • Without power supply cord	**6AG4104-4HP18-5BX0**

	Article No.
Accessories	
Memory expansions	
• 4 GB DDR4-2133 SDRAM	**6ES7648-2AL60-0PA0**
• 8 GB DDR4-2133 SDRAM	**6ES7648-2AL70-0PA0**
• 16 GB, DDR4-2133 SDRAM	**6ES7648-2AL80-0PA0**
Removable drive bay for 3.5'' hard disk or 2.5'' solid-state drive, SATA (without hard disk drive/ solid-state drive)	**6ES7648-0EH00-1BA0**
Tower Kit IPC547G To convert the computer into an industrial tower PC	
• Standard enclosure version	**6ES7648-1AA01-0XC0**
• Short enclosure version	**6ES7648-1AA01-0XE0**
Adapter cable	
• DisplayPort to DVI-D for onboard graphics	**6ES7648-3AF00-0XA0**
• DisplayPort to VGA for onboard graphics	**6ES7648-3AG00-0XA0**
Retainer For mechanically interlocking the internal USB port	**6ES7648-1AA00-0XK0**

More information

More information is available on the Internet at:

http://www.siemens.com/ipc547g

Overview

SIMATIC IPC647D

The SIMATIC IPC647D is a very rugged, high-performance industrial PC in 19" rack design (2 U) with excellent industrial functionality.

It offers:

- Extreme compactness
- Extreme ruggedness
- Intel® Core® i/Xeon technology 4th generation

Technical specifications

Article number	**6AG4112-2....-....** SIMATIC IPC647D (RACK PC)
Installation type/mounting	
Mounting	For horizontal rack mounting
Design	Rack PC, 19", 2U
Supply voltage	
Type of supply voltage	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100 - 240 V AC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache, VT-d, AMT); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT)
Chipset	Intel DH82C226 PCH
Graphic	
Graphics controller	Onboard graphics controller Intel HD 4600 Graphics integrated into the processor / PCI-Express graphics card (Dual Head: 2x VGA or 2x DVI-D) in the PCIe (x16) slot (optional)

Article number	**6AG4112-2....-....** SIMATIC IPC647D (RACK PC)
Drives	
Optical drives	DVD±R/RW (SlimLine)
Hard disk	500 GB HDD, 1 TB HDD, 2x 1 TB HDD, RAID1 (2x 1 TB HDD, mirror disks); RAID1 (2x 1 TB HDD SAS, mirror disks) with PCIe (x8) RAID controller incl. ZMCP module
SSD	Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks)
Slot for drives	Mounted internally on the fixed hard disk support, or mounted internally in vibration/shock-absorbing hard disk support, or mounted at the front in the low-profile removable drive bay (hot-swap in RAID configurations)
Memory	
Work memory	2 GB to 32 GB DDR3 1600 DIMM, ECC optional
Hardware configuration	
Slots	
• free slots	2x PCIe mech. (x16) (4 lanes) or 4x PCIe mech. (x16) (4 lanes / 8 lanes depending on slot) or 2x PCI, 2x PCIe mech. (x16) (8 lanes); all modules to a length of 312 mm can be used

Technical specifications (continued)

Article number	**6AG4112-2....-....** SIMATIC IPC647D (RACK PC)
Interfaces	
Interfaces/bus type	1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS or PROFINET optional
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible
USB port	2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal
Connection for keyboard/mouse	2x PS/2
serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232
parallel interface	optional LPT1
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes
Video interfaces	
• Graphics interface	2x DisplayPort and 1x DVI-I onboard; 1x VGA via DVI-VGA adapter cable (optional); graphics card PCIe (x16), Dual Head (2x VGA or 2x DVI-D), 512 MB graphics memory (optional)
Industrial Ethernet	
• Industrial Ethernet interface	2 x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	POWER, HDD, ETHERNET 1, ETHERNET 2, PROFIBUS / MPI, SF PROFINET, WATCHDOG, TEMP, FAN, HDD0 ALARM, HDD1 ALARM
• Fan	Yes
• Monitoring function via network	Optional
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6

Article number	**6AG4112-2....-....** SIMATIC IPC647D (RACK PC)
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4, Burst
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-3, FCC Class A, EN 61000-6-4, CISPR 22, EN 55022 Class B, EN 61000-3-2 Class D, EN 61000-3-3
Degree and class of protection	
IP (at the front)	IP41
IP (rear)	IP20
Standards, approvals, certificates	
Approval	CE, cULus 60950, KCC
CE mark	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)
UL approval	Yes
cULus	Yes
KC approval	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered
Marine approval	
• Germanischer Lloyd (GL)	Yes; Only with SSD
• American Bureau of Shipping (ABS)	Yes; Only with SSD
• Bureau Veritas (BV)	Yes; Only with SSD
• Det Norske Veritas (DNV)	Yes; Only with SSD
• Lloyds Register of Shipping (LRS)	Yes; Only with SSD

Technical specifications (continued)

Article number	**6AG4112-2....-....** SIMATIC IPC647D (RACK PC)
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 ... 50 °C no ODD operation, no HDD operation in swap frame, no hardware RAID controller; 0 ... 45 °C no ODD operation, no hardware RAID controller, power loss of expansion cards in total < 55 W; 0 ... 40 °C no hardware RAID controller, power loss of the expansion cards in total < 55 W; 0 ... 35 °C no restrictions
• min.	0 °C
• max.	50 °C
Relative humidity	
• Relative humidity	Tested to IEC 60068-78, DIN IEC 68-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested according to IEC 60068-2-6: 10 cycles, 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s² (0.5 g)
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27, IEC 60068-2-29: half-sine: 50 m/s² (5 g), 30 ms, 100 shocks per axis

Article number	**6AG4112-2....-....** SIMATIC IPC647D (RACK PC)
Operating systems	
pre-installed operating system	Yes
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes
Software	
SIMATIC Software	Optionally in package with SIMATIC WinCC or WinCC flexible
Dimensions	
Width	430 mm
Height	88 mm; 2U
Depth	444 mm

Ordering data

	Article No.
SIMATIC IPC647D	**6AG4112 - 2 ■ ■ ■ ■ - ■ ■ ■ ■**
Interfaces: RACK PC, 19", 2 U Interfaces: 2 x GBIT LAN (RJ45); 1 x DVI-I; 2 x DisplayPort; 1 x COM; 2 x PS/2; audio; 2 x USB 3.0, 2 x USB 2.0 at rear; 1 x USB 3.0, 1 x USB 2.0 at front, 1 x USB 3.0 internal; temperature and fan monitoring, watchdog, card retainer	
Processor / Main board	
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache); mainboard without fieldbus	**D**
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB, VT-x); mainboard with PROFIBUS/MPI (CP 5622-compatible)	**E**
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache); mainboard with PROFINET (3 x RJ45, CP 1616-compatible)	**F**
• Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB Cache, TB, VT-d, AMT); mainboard without fieldbus	**G**
• Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache, TB, VT-x, VT-d, AMT); mainboard with PROFIBUS/MPI (CP 5622-compatible)	**H**
• Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache, TB, VT-d, AMT); mainboard with PROFINET (3 x RJ45, CP 1616-compatible)	**J**
• Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, TB, VT-d, AMT); mainboard without fieldbus	**K**
• Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, TB, VT-x, VT-d, AMT); mainboard with PROFIBUS/MPI (CP 5622-compatible)	**L**
• Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, TB, VT-d, AMT); mainboard with PROFINET (3 x RJ45, CP 1616-compatible)	**M**
Hard disks / SSD	
• 500 GB HDD SATA, internal (0.5 g vibration, 5 g shock)	**A**
• 1 TB HDD SATA, internal (0.5 g vibration, 5 g shock)	**B**
• 2 x 1 TB HDD SATA, internal (0.5 g vibration, 5 g shock)	**C**
• RAID1, 1 TB (2 x 1 TB HDD SATA, mirror disks), internal (0.5 g vibration, 5 g shock)	**D**
• 500 GB HDD SATA in removable drive bay; front	**H**
• 1 TB HDD SATA in removable drive bay; front	**K**
• 2 x 1 TB HDD SATA in removable drive bay; front-mounted	**M**
• RAID1, 1 TB (2 x 1 TB HDD SATA, mirror disks) in removable drive bay, hot-swappable, front	**P**
• 240 GB SSD SATA, internal	**S**
• 240 GB SSD SATA in removable drive bay; front	**T**
• RAID1, 1 TB (2 x 1 TB HDD SAS, mirror disks) in removable drive bay, hot-swappable, front-mounted; PCIe x8 RAID controller including ZCMP module (2 slots occupied)	**U**
• RAID1, 240 GB (2 x 240 GB SSD SATA, mirror disks), in removable drive bay, hot swap, at the front	**W**

	Article No.
SIMATIC IPC647D (continued)	**6AG4112 - 2 ■ ■ ■ ■ - ■ ■ ■ ■**
Memory configuration	
• 2 GB DDR3 SDRAM (1 x 2 GB), single channel	**1**
• 4 GB DDR3 SDRAM (2 x 2 GB), dual channel	**2**
• 8 GB DDR3 SDRAM (2 x 4 GB), dual channel	**3**
• 16 GB DDR3 SDRAM (2 x 8 GB), dual channel	**4**
• 32 GB DDR3 SDRAM (4 x 8 GB), dual channel	**5**
• 8 GB DDR3 SDRAM, (2 x 4 GB), ECC, dual channel	**6**
• 16 GB DDR3 SDRAM, (2 x 8 GB), ECC, dual channel	**7**
• 32 GB DDR3 SDRAM, (4 x 8 GB), ECC, dual channel	**8**
Bus module / swap media / SSD:	
• Bus module 2-slot: 2 x PCIe x16; without drives	**0**
• Bus module 4-slot: 2 x PCI, 2 x PCIe x16; without drives	**1**
• Bus module 4-slot: 4 x PCIe x16; without drives	**2**
• Bus module 2-slot: 2 x PCIe x16; DVD±RW (slim)	**3**
• Bus module 4-slot: 2 x PCI, 2x PCIe x16; DVD±RW (slim)	**4**
• Bus module 4-slot: 4 x PCIe x16; DVD±RW (slim)	**5**
• Bus module 2-slot: 2 x PCIe x16 / 1 x 240 GB SSD (for operating system), internal	**6**
• Bus module 4-slot: 2 x PCI, 2 x PCIe x16 / 1 x 240 GB SSD (for operating system), internal	**7**
• Bus module 4-slot: 4 x PCIe x16 / 1 x 240 GB SSD (for operating system), internal	**8**
Expansion hardware	
• Without expansions (hardware), onboard graphics;	**0**
• Without expansions (hardware), onboard graphics, DVI-I adapter cable, VGA-compliant for onboard graphics;	**1**
• Serial (COM2) + parallel (LPT, 1 slot reserved), onboard graphics;	**2**
• Serial (COM2) + parallel (LPT, 1 slot reserved), onboard graphics; DVI-I adapter cable, VGA-compliant for onboard graphics;	**3**
• Serial (COM2) + Parallel (LPT, 1 slot reserved) + PCIe x16 Graphics Card (Dual-Head: 2 x VGA or 2 x DVI-D), 512 MB, (1 slot reserved);	**4**
• PCIe x16 graphics card (dual head: 2 x VGA or 2 x DVI-D), 512 MB, (1 slot occupied)	**5**

Ordering data

	Article No.
SIMATIC IPC647D (continued)	**6AG4112 - 2 ■ ■ ■ ■ - ■ ■ ■ ■**
Operating system (pre-installed and activated)	
• Windows 7 Ultimate, 32-bit, SP1, MUI (en, de, fr, it, es)	**A**
• Windows 7 Ultimate, 64-bit, SP1, MUI (en, de, fr, it, es)	**B**
• Windows 10 IoT Enterprise LTSB 2015, multi-language (en, de, fr, it, es), 64-bit	**C**
• Windows Server 2008 R2 Standard Edition 64-bit SP1 incl. 5 clients, multi-language (en, de, fr, it, es)	**F**
• Windows Server 2012 R2 Standard Edition incl. 5 clients, MUI (en, de, fr, it, es), 64-bit	**G**
• Without operating system	**X**
Expansions (software) / Security	
• SIMATIC IPC DiagMonitor software V4.x enclosed	**A**
• SIMATIC IPC Image Creator Software 3.x enclosed	**B**
• SIMATIC IPC DiagMonitor 4.x and Image Creator Software 3.x enclosed	**C**
• Without software	**X**
• without expansions (software) / TPM [1] (not for China or Russia)	**Y**
Power supply, with country-specific cable	
• 110/240 V AC industrial power supply with NAMUR; power cable for Europe	**0**
• 110/240 V AC industrial power supply with NAMUR; power cable for United Kingdom	**1**
• 110/240 V AC industrial power supply with NAMUR; power cable for Switzerland	**2**
• 110/240 V AC industrial power supply with NAMUR; power cable for USA	**3**
• 110/240 V AC industrial power supply with NAMUR; power cable for Italy	**4**
• 110/240 V AC industrial power supply with NAMUR; power cable for China	**5**
• 2 x 110 / 240 V AC redundant power supply; without power cable	**6**
• 110/240 V AC industrial power supply with NAMUR; without power cable	**8**

[1] TPM = Trusted Platform Module

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

For an up-to-date overview, see the SIMATIC IPC online configurator at: https://www.siemens.com/ipc-configurator

	Article No.
Accessories	
Memory expansions	
• 2 GB DDR3 1600 DIMM	**6ES7648-2AJ50-0MA0**
• 4 GB DDR3 1600 DIMM	**6ES7648-2AJ60-0MA0**
• 8 GB DDR3 1600 DIMM	**6ES7648-2AJ70-0MA0**
• 8 GB DDR3 1600 DIMM, ECC	**6ES7648-2AJ70-1MA0**
Hardware accessories	
Tray for low-profile removable drive bay For 3.5" hard drive (SATA/SAS) and 2.5" SSD (SATA), without drive	**6ES7648-0EG01-1BA0**
Filter mats for SIMATIC IPC647D (packing unit: 10 units)	**A5E02396171**
Adapter cable	
• Adapter cable DisplayPort to DVI-D for onboard graphics	**6ES7648-3AF00-0XA0**
• Adapter cable DisplayPort to VGA for onboard graphics	**6ES7648-3AG00-0XA0**
Power cable, straight, 3 m long	
• Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden	**6ES7900-0AA00-0XA0**
• United Kingdom	**6ES7900-0BA00-0XA0**
• Switzerland	**6ES7900-0CA00-0XA0**
• USA	**6ES7900-0DA00-0XA0**
• Italy	**6ES7900-0EA00-0XA0**
• China	**6ES7900-0FA00-0XA0**
USB retainer For locking the internal USB port	**6ES7648-1AA00-0XK0**
Expansion components	See Expansion components
Communication products	See Expansion components
VxWorks real-time operating system	See expansion components

Note:

Software Packages with SIMATIC WinCC flexible, WinCC RT Advanced, SIMATIC WinCC, and SIMATIC WinAC RTX (F) can be ordered together with the SIMATIC IPC at a price advantage. More information under "Embedded Bundles / Packages for industrial PCs".

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-pc

Overview

SIMATIC IPC847D

The SIMATIC IPC847D is an extremely robust, high-performance industrial PC in 19" rack design (4 U) with excellent industrial functionality.

It offers:

- Maximum expandability
- Extreme ruggedness
- Intel® Core® i / Xeon technology 4th generation

Technical specifications

Article number	**6AG4114-2....-....** SIMATIC IPC847D (RACK PC)
Installation type/mounting	
Design	Rack PC, 19", 4U
Supply voltage	
Type of supply voltage	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC; optional 100/240 V AC with UPS functionality incl. maintenance-free lead-tin battery
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache, VT-d, AMT); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT)
Chipset	Intel DH82C226 PCH
Graphic	
Graphics controller	Onboard graphics controller Intel HD 4600 Graphics integrated into the processor / PCI-Express graphics card (Dual Head: 2x VGA or 2x DVI-D) in the PCIe (x16) slot (optional)
Drives	
Optical drives	DVD±R/RW (SlimLine)
Hard disk	500 GB HDD, 1 TB HDD , 2x 1 TB HDD, RAID1 (2x 1 TB HDD, mirror disks), RAID1 (2x 1 TB HDD, mirror disks) + 1x 1 TB HDD as hot spare, RAID5 (3x 1 TB HDD, striping with parity), RAID5 (3x 1 TB HDD, striping with parity) + 1x 1 TB HDD as hot spare; RAID1 (2x 1 TB HDD SAS, mirror disks), RAID5 (3x 1 TB HDD SAS, striping with parity), RAID5 (3x 1 TB HDD SAS, striping with parity) + 1x 1 TB HDD SAS as hot spare incl. PCIe (x8) RAID SAS controller incl. ZMCP module
SSD	Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks)
Article number	**6AG4114-2....-....** SIMATIC IPC847D (RACK PC)
Slot for drives	Mounted internally on the fixed hard disk support, or mounted internally in vibration/shock-absorbing hard disk support, or mounted at the front in the low-profile removable drive bay (hot-swap in RAID configurations)
Memory	
Work memory	2 GB to 32 GB DDR3 1600 DIMM, ECC optional
Hardware configuration	
Slots	
• free slots	11 slots: 7x PCI, 3x PCIe (x4) (1 lane), 1x PCIe (x16) or 3x PCI, 5x PCIe mech. (x16) (4x 4 lanes, 1x 8 lanes), 3x PCIe (x4); all modules to a length of 312 mm can be used
Interfaces	
Interfaces/bus type	1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS or PROFINET optional
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible
USB port	2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal
Connection for keyboard/mouse	2x PS/2
serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232
parallel interface	optional LPT1
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes
Video interfaces	
• Graphics interface	2x DisplayPort and 1x DVI-I onboard; 1x VGA via DVI-VGA adapter cable (optional); graphics card PCIe (x16), Dual Head (2x VGA or 2x DVI-D), 512 MB graphics memory (optional)
Industrial Ethernet	
• Industrial Ethernet interface	2 x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes

Technical specifications (continued)

Article number	6AG4114-2....-.... SIMATIC IPC847D (RACK PC)
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	POWER, ETHERNET 1, ETHERNET 2, PN | MPI / DP, WATCHDOG, TEMP, FAN, HDD0 ALARM, HDD1 ALARM, HDD2 ALARM, HDD | HDD3 ALARM
• Fan	Yes
• Monitoring function via network	Optional
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4, Burst
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-3, FCC Class A, EN 61000-6-4, CISPR 22, EN 55022 Class B, EN 61000-3-2 Class D, EN 61000-3-3
Degree and class of protection	
IP (at the front)	IP41
IP (rear)	IP20

Article number	6AG4114-2....-.... SIMATIC IPC847D (RACK PC)
Standards, approvals, certificates	
Approval	CE, cULus 60950, KCC
CE mark	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)
CSA approval	Yes; Included in cULus
UL approval	Yes
cULus	Yes; UL 60950-1, file number E115352
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 °C to +45 °C, no burner operation, 0 °C to +50 °C, no operation of optical drive, power dissipation of the expansion cards in total < 30 W, maximum 3 removable drive bays, 0 °C to +40 °C with AC UPS, 0 °C to +35 °C with hardware RAID controller
• min.	0 °C
• max.	50 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s^2 (0.5 g)
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27, IEC 60068-2-29: half-sine: 50 m/s^2 (5 g), 30 ms, 100 shocks per axis
Operating systems	
pre-installed operating system	Yes
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes
Software	
SIMATIC Software	Optionally in package with SIMATIC WinCC or WinCC flexible
Dimensions	
Width	430 mm
Height	177 mm; 4U
Depth	444 mm

Ordering data

	Article No.
SIMATIC IPC847D	**6AG4114 - 2 ■ ■ ■ ■ - ■ ■ ■ ■**
Interfaces: RACK PC, 19", 4 U Interfaces: 2 x GBIT LAN (RJ45); 1 x DVI-I; 2 x DisplayPort; 1 x COM; 2 x PS/2; audio; 2 x USB 3.0, 2 x USB 2.0 at rear; 1 x USB 3.0, 1 x USB 2.0 at front, 1 x USB 3.0 internal; temperature and fan monitoring, watchdog, card retainer	
Processor / Main board	
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache); mainboard without fieldbus	D
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); mainboard with PROFIBUS/MPI (CP 5622-compatible)	E
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache); mainboard with PROFINET (3 x RJ45, CP 1616-compatible)	F
• Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB Cache, TB, VT-d, AMT); mainboard without fieldbus	G
• Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache, TB, VT-x, VT-d, AMT); mainboard with PROFIBUS/MPI (CP 5622-compatible)	H
• Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache, TB, VT-d, AMT); mainboard with PROFINET (3 x RJ45, CP 1616-compatible)	J
• Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, TB, VT-d, AMT); mainboard without fieldbus	K
• Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, TB, VT-x, VT-d, AMT); mainboard with PROFIBUS/MPI (CP 5622-compatible)	L
• Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, TB, VT-d, AMT); mainboard with PROFINET (3 x RJ45, CP 1616-compatible)	M
• Xeon E3-1275 v3 (4C/8T, 3.5 (3.9) GHz, 8 MB cache, TB, VT-d, AMT); mainboard without fieldbus	N
• Xeon E3-1275 v3 (4C/8T, 3.5 (3.9) GHz, 8 MB cache, TB, VT-x, VT-d, AMT); mainboard with PROFIBUS/MPI (CP 5622-compatible)	P
• Xeon E3-1275 v3 (4C/8T, 3.5 (3.9) GHz, 8 MB cache, TB, VT-d, AMT); mainboard with PROFINET (3 x RJ45, CP 1616-compatible)	Q

	Article No.
SIMATIC IPC847D (continued)	**6AG4114 - 2 ■ ■ ■ ■ - ■ ■ ■ ■**
Drives	
• 500 GB HDD SATA, internal (0.3 g vibration, 3 g shock)	A
• 500 GB HDD SATA, internal (0.5 g vibration, 5 g shock)	B
• 1 TB HDD SATA, internal (0.5 g vibration, 5 g shock)	C
• 2 x 1 TB HDD SATA, internal (0.5 g vibration, 5 g shock)	D
• RAID1, 1 TB (2 x 1 TB HDD SATA, mirror disks), internal (0.5 g vibration, 5 g shock)	E
• 500 GB HDD SATA in removable drive bay; front	F
• 1 TB HDD SATA in removable drive bay; front	G
• 2 x 1 TB HDD SAT in removable drive bay; front	H
• RAID1, 1 TB (2 x 1 TB HDD SATA, mirror disks) in removable drive bay, hot-swappable, front;	J
• RAID5, 2 TB (3 x 1 TB HDD, SATA, striping with parity) in removable drive bay, hot-swappable, front	K
• RAID5, 2 TB (3 x 1 TB HDD, SATA, striping with parity) in removable drive bay, hot-swappable + 1 TB SATA HDD as hot spare in removable drive bay, front-mounted	L
• 240 GB SSD SATA, internal	M
• 240 GB SSD SATA in removable drive bay; front	N
• RAID1, 1 TB (2 x 1 TB HDD SATA, mirror disks), internal (0.5 g vibration, 5 g shock) + 240 GB SSD SATA (for operating system) in removable drive bay	P
• RAID1, 1 TB (2 x 1 TB HDD, SATA, mirror disks) in removable drive bay, hot swap + 1 TB HDD SATA as hot spare in removable drive bay, front;	Q
• RAID1, 1 TB (2 x 1 TB HDD SATA, mirror disks) i+ 240 GB SSD SATA (for operating system) in removable drive bay, hot-swap; front	R
• RAID1, 1 TB (2 x 1 TB HDD SAS, mirror disks) in removable drive bay, hot-swappable, front-mounted; PCIe x8 RAID controller incl. ZCMP module (2 slots occupied)	S
• RAID1, 1 TB (2 x 1 TB HDD SAS, mirror disks) in removable drive bay; PCIe x8 RAID controller including ZCMP module (2 slots occupied) + 240 GB SATA HDD (for operating system) in removable drive bay, front-mounted	T
• RAID5, 2 TB (3 x 1 TB HDD SAS, striping with parity) in removable drive bay, hot-swappable, front-mounted; PCIe x8 RAID controller including ZCMP module (2 slots occupied)	U
• RAID5, 2 TB (3 x 1 TB HDD SAS, striping with parity) in removable drive bay, hot-swappable; PCIe x8 RAID controller including ZCMP module (2 slots occupied) + 1 TB SATA HDD as hot-spare in removable drive bay, front-mounted	V
• RAID1, 240 GB (2 x 240 GB SSD SATA, mirror disks), in removable drive bay, hot swap, at the front	W

Ordering data

SIMATIC IPC847D (continued)	Article No. 6AG4114 - 2 ■ ■ ■ ■ - ■ ■ ■ ■
Memory configuration	
• 2 GB DDR3 SDRAM (1 x 2 GB), single channel	1
• 4 GB DDR3 SDRAM (2 x 2 GB), dual channel	2
• 8 GB DDR3 SDRAM (2 x 4 GB), dual channel	3
• 16 GB DDR3 SDRAM (2 x 8 GB), dual channel	4
• 32 GB DDR3 SDRAM (4 x 8 GB), dual channel	5
• 8 GB DDR3 SDRAM, (2 x 4 GB), ECC, dual channel	6
• 16 GB DDR3 SDRAM, (2 x 8 GB), ECC, dual channel	7
• 32 GB DDR3 SDRAM, (4 x 8 GB), ECC, dual channel	8
Bus module / swap media	
• Bus module 11-slot: 7 x PCI, 3 x PCIe x4, 1 x PCIe x16; without swap media	0
• Bus module 11-slot: 3 x PCI, 3 x PCIe x4, 5 x PCIe x16; without swap media	1
• Bus module 11-slot: 7 x PCI, 3 x PCIe x4, 1 x PCIe x16; DVD±RW (slim)	2
• Bus module 11-slot: 3 x PCI, 3 x PCIe x4, 5 x PCIe x16; DVD±RW (slim)	3
Expansion hardware	
• Without expansions (hardware), onboard graphics;	0
• Without expansions (hardware), onboard graphics, DVI-I adapter cable, VGA-compliant for onboard graphics;	1
• Serial (COM2) + parallel (LPT, 1 slot reserved), onboard graphics;	2
• Serial (COM2) + parallel (LPT, 1 slot reserved), onboard graphics; DVI-I adapter cable, VGA-compliant for onboard graphics;	3
• Serial (COM2) + Parallel (LPT, 1 slot reserved) + PCIe x16 Graphics Card (Dual-Head: 2 x VGA or 2 x DVI-D), 512 MB, (1 slot reserved);	4

SIMATIC IPC847D (continued)	Article No. 6AG4114 - 2 ■ ■ ■ ■ - ■ ■ ■ ■
Operating system (pre-installed and activated)	
• Windows 7 Ultimate, 32-bit, SP1, MUI (en, de, fr, it, es)	A
• Windows 7 Ultimate, 64-bit, SP1, MUI (en, de, fr, it, es)	B
• Windows 10 IoT Enterprise LTSB, 64-bit, MUI (en, de, fr, it, es)	C
• Windows Server 2008 R2 Standard Edition 64-bit SP1 incl. 5 clients, multi-language (en, de, fr, it, es)	F
• Windows Server 2012 R2 Standard Edition incl. 5 clients, MUI (en, de, fr, it, es), 64-bit	G
• Without operating system	X
Expansions (software) / Security	
• SIMATIC IPC DiagMonitor software V4.x enclosed	A
• SIMATIC IPC Image Creator Software 3.x enclosed	B
• SIMATIC IPC DiagMonitor 4.x and Image Creator Software 3.x enclosed	C
• Without software (software)	X
• without expansions (software) / TPM [1] (not for China or Russia)	Y
Power supply, with country-specific cable	
• 110/240 V AC industrial power supply with NAMUR; power cable for Europe	0
• 110/240 V AC industrial power supply with NAMUR; power cable for United Kingdom	1
• 110/240 V AC industrial power supply with NAMUR; power cable for Switzerland	2
• 110/240 V AC industrial power supply with NAMUR; power cable for USA	3
• 110/240 V AC industrial power supply with NAMUR; power cable for Italy	4
• 110/240 V AC industrial power supply with NAMUR; power cable for China	5
• 2 x 110 / 240 V AC redundant power supply; without power cable	6
• 110 / 240 V AC industrial UPS including maintenance-free lead-tin battery; without network cable	7
• 110/240 V AC industrial power supply with NAMUR; without power cable	8

[1] TPM = Trusted Platform Module

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

For an up-to-date overview, see the SIMATIC IPC online configurator at: https://www.siemens.com/ipc-configurator

Ordering data

	Article No.
Accessories	
Memory expansions	
• 2 GB DDR3 1600 DIMM	**6ES7648-2AJ50-0MA0**
• 4 GB DDR3 1600 DIMM	**6ES7648-2AJ60-0MA0**
• 8 GB DDR3 1600 DIMM	**6ES7648-2AJ70-0MA0**
• 8 GB DDR3 1600 DIMM, ECC	**6ES7648-2AJ70-1MA0**
Hardware accessories	
Tray for low-profile removable drive bay For 3.5" hard drive (SATA/SAS) and 2.5" SSD (SATA), without drive	**6ES7648-0EG01-1BA0**
Filter mats for SIMATIC IPC847D (packing unit: 10 units)	**A5E01064980**
Adapter cable	
• DisplayPort to DVI-D for onboard graphics	**6ES7648-3AF00-0XA0**
• DisplayPort to VGA for onboard graphics	**6ES7648-3AG00-0XA0**

	Article No.
Power cable, straight, 3 m long	
• Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden	**6ES7900-0AA00-0XA0**
• United Kingdom	**6ES7900-0BA00-0XA0**
• Switzerland	**6ES7900-0CA00-0XA0**
• USA	**6ES7900-0DA00-0XA0**
• Italy	**6ES7900-0EA00-0XA0**
• China	**6ES7900-0FA00-0XA0**
Tower Kit for converting the computer into an industrial tower PC	**6ES7648-1AA00-0XD0**
USB retainer for interlocking the internal USB port	**6ES7648-1AA00-0XK0**
Expansion components	See expansion components
Communication products	See expansion components
VxWorks real-time operating system	See expansion components

Note:

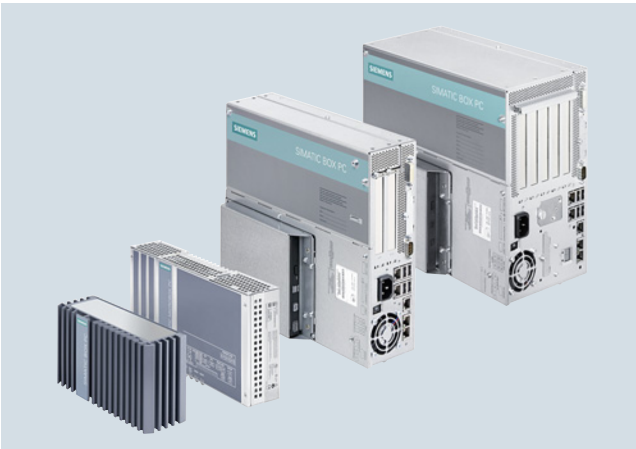
Software Packages with SIMATIC WinCC flexible, WinCC RT Advanced, SIMATIC WinCC, and SIMATIC WinAC RTX (F) can be ordered together with the SIMATIC IPC at a price advantage. More information under "Embedded Bundles / Packages for industrial PCs".

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-pc

Overview



SIMATIC Box PCs provide mechanical engineers, plant engineers and control cabinet makers with particularly rugged industrial PC systems for use in powerful yet compact applications.

The following device classes are available for various requirements:

- ***SIMATIC IPC227*** (Nanobox PC):
  The Box PC with optimized performance in compact design – maintenance-free and rugged
- ***SIMATIC IPC427*** (Microbox PC):
  The powerful embedded IPC – maintenance-free with versatile configuration
- ***SIMATIC IPC627/IPC827*** (Box PC):
  The high-end IPC – with maximum performance, functional scope, and expansion capability

Shared industrial functionality:

- Extreme compactness
- Certification for global marketing
- System-tested with SIMATIC components
- High vibration/shock load during operation
- Wide operational temperature range
- Robust data storage with CompactFlash/CFast or solid-state drive (SSD)
- Varied mounting possibilities for flexibility with installation
- Designed for 24-hour continuous operation
- Integrated parameterizable monitoring functions (temperature, fan, watchdog)
- High service friendliness
- Operating system pre-installed and activated for fast startup
- Motherboard developed and manufactured by Siemens
- Availability for 3 to 6 years
- Repairs and spare parts service for 5 years
- High component/design continuity
- Long-term availability of PC components from the Intel embedded line

SIMATIC IPC227 (Nanobox PC): The Box PC with optimized performance in compact design – maintenance-free and rugged

- Maximum compactness with approx. 1 liter enclosure volume with integrated industrial power supply for minimum space requirements in the control cabinet
- Maximum flexibility thanks to several mounting options and interfaces on one side suitable for every installation situation
- Optimum variety of interfaces due to a large number of integrated interfaces such as a selectable serial connection and 2 x teaming-capable Gigabit-Ethernet
- Maximum industrial functionality due to closed enclosure for optimum dust protection and non-volatile retentive memory
- Further device options for optimum adaptation to the application with additional PCIe slot

***SIMATIC IPC427 (Microbox PC):
The powerful embedded IPC – maintenance-free with versatile configuration***

- Fan-free operation
- High performance with maximum compactness and ruggedness for direct installation in the machine
- Optimized for embedded applications
- Flexibility expandable using one or two PCIe I/O cards (optional)
- Flexible installation options including standard rail/wall/front upright mounting, even outside control cabinets
- NVRAM for retentive data storage (optional)

SIMATIC IPC627/IPC827 (Box PC): The high-end IPC – with maximum performance, functional scope, and expansion capability

- Maximum system performance for complex measuring, control and visualization tasks
- High flexibility with expansion slots and integral interfaces
- Flexible, space-saving installation with mounting brackets or portrait assembly kits
- Rugged design for direct installation in the machine
- RAID1 controller onboard
- Maximum processor performance up to an ambient temperature of 55 °C
- High system availability
- Battery-backed SRAM as memory for WinAC data
- 4 signaling LEDs

Technical specifications

Article number	6ES7647-8B...-.... SIMATIC IPC227E (NANOBOX PC)	6AG4141-.....-.... SIMATIC IPC427E (MicroBOX PC)	6AG4131-2....-.... SIMATIC IPC627D (BOX PC)	6AG4132-2....-.... SIMATIC IPC827D (BOX PC)
Installation type/mounting				
Mounting	DIN rail, wall mounting, portrait mounting	DIN rail, wall mounting, portrait mounting	Wall mounting, portrait mounting	Wall mounting, portrait mounting
Design	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit
Supply voltage				
Type of supply voltage	24 V DC	24 V DC	100/240 V AC (autorange); 24 V DC	100/240 V AC (autorange); 24 V DC
Line frequency				
• Rated value 50 Hz			Yes	Yes
• Rated value 60 Hz			Yes	Yes
Mains buffering				
• Mains/voltage failure stored energy time	20 ms		20 ms	20 ms
Processor				
Processor type	Intel Celeron N2807 / N2930	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB Cache); Core i3-6102E (2C/4T, 1.9 GHz, 3 MB Cache); Core i5-6442EQ (4C/4T, 1.9 (2.7) GHz, 6 MB Cache, iAMT); Xeon E3-1505L v5 (4C/8T, 2.0 (2.8) GHz, 8 MB Cache, iAMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)
Chipset			Intel DH82C226 PCH	Intel DH82C226 PCH
Graphic				
Graphics controller		Intel HD graphics controller	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)
Drives				
Optical drives			DVD±R±RW combi-drive, optional	DVD±R±RW combi-drive, optional
Hard disk	2.5" SATA ≥ 320 GB	2.5" SATA ≥ 320 GB	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped
SSD	Yes; ≥ 80 GB optional	Yes; ≥ 80 GB, optional ≥ 240 / 480 GB	Yes; ≥ 240 GB optional	Yes; ≥ 240 GB optional
Memory				
Type of memory	DDR3L	DDR4 SO-DIMM	DDR3 1600 DIMM	DDR3 1600 DIMM
Work memory	2 / 4 / 8 GB	4 GB to 16 GB, ECC optional	2 / 4 / 8 / 16 GB; ECC optional	2 / 4 / 8 / 16 GB; ECC optional
Data areas and their retentivity				
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional	512 kbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration				
Slots				
• free slots	1x PCIe x1 (optional)	2x PCIe; optional: 1x PCIe (x4); 2x PCIe (x1, x4), with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer	3x PCI, 1x PCIe (x4), 1x PCIe (x16); with card retainer

Technical specifications (continued)

Article number	**6ES7647-8B...-....** SIMATIC IPC227E (NANOBOX PC)	**6AG4141-.....-....** SIMATIC IPC427E (MicroBOX PC)	**6AG4131-2....-....** SIMATIC IPC627D (BOX PC)	**6AG4132-2....-....** SIMATIC IPC827D (BOX PC)
Interfaces				
PROFIBUS/MPI			Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622	Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622
Number of Industrial Ethernet interfaces		3; Ethernet (2x RJ45, optional 3x RJ45)		
Number of PROFINET interfaces			3; Optional	3; Optional
USB port	1x USB 3.0 / 3x USB 2.0	4x USB 3.0	4x USB 3.0	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB	USB / USB
serial interface	Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS	Without / 2x COM (RS 232 / RS 485 / RS 422; switchable)	1x COM1 (RS 232), optional: 1x COM2 (RS 232)	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface			optional LPT1	optional LPT1
Video interfaces				
• Graphics interface	1x DisplayPort	2x DisplayPort	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
Industrial Ethernet				
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	3x Ethernet (RJ45)	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes
Integrated Functions				
Monitoring functions				
• Temperature monitoring	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes
• Status LEDs	Yes	Yes	Yes	Yes
• Fan	No	No	Yes	Yes
• Monitoring function via network	Optional	Optional	Optional	Optional
EMC				
Interference immunity against discharge of static electricity				
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields				
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference				
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m

Technical specifications (continued)

Article number	**6ES7647-8B...-....** SIMATIC IPC227E (NANOBOX PC)	**6AG4141-.....-....** SIMATIC IPC427E (MicroBOX PC)	**6AG4131-2....-....** SIMATIC IPC627D (BOX PC)	**6AG4132-2....-....** SIMATIC IPC827D (BOX PC)
Interference immunity against voltage surge				
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields				
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference				
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection				
IP (at the front)	IP40	IP20	IP20	IP20
IP (rear)	IP40	IP20	IP20	IP20
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes
• UL 508	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
FCC	Yes	Yes	Yes	Yes
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005	CE, EN 55022A, EN 61000-6-4, EN 61000-6-2	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
• EN 61000-6-2	Yes	Yes	Yes	Yes
Dust protection	Protection against foreign bodies > 1 mm			
Marine approval				
• Germanischer Lloyd (GL)	Yes	Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes	Yes
Ambient conditions				
Ambient temperature during operation				
• Ambient temperature during operation	0 °C up to 60 °C	0 °C to +55 °C	+5 °C up to 55 °C	+5 °C up to 55 °C
• min.	0 °C	0 °C	5 °C	5 °C
• max.	60 °C	55 °C	55 °C	55 °C
Relative humidity				
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations				
• Vibration load in operation	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s^2 (1 g)	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s^2 (1 g)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s^2 (1g)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s^2 (1g)
Shock testing				
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s^2, 11 ms	Tested to DIN IEC 60068-2-29: 50 m/s^2 (5 g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s^2 (5 g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s^2 (5 g), 30 ms, 100 shocks

Technical specifications (continued)

Article number	**6ES7647-8B...-....** SIMATIC IPC227E (NANOBOX PC)	**6AG4141-.....-....** SIMATIC IPC427E (MicroBOX PC)	**6AG4131-2....-....** SIMATIC IPC627D (BOX PC)	**6AG4132-2....-....** SIMATIC IPC827D (BOX PC)
Operating systems				
Operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bit	Windows 7 Ultimate (Multi-Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10	Windows 7 Ultimate 32-bit/ 64-bit, MUI; Windows 10 IoT Enterprise LTSB 2015, 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI	Windows 7 Ultimate 32-bit/ 64-bit, MUI; Windows 10 IoT Enterprise LTSB 2015, 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes	Yes	Yes	Yes
without operating system	Yes	Yes	Yes	Yes
Software				
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX		Optional package with SIMATIC WinCC or WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX
Dimensions				
Width	191 mm	262 mm	312 mm	312 mm
Height	100 mm	139.7 mm	81 mm; with DVD drive: 105 mm	155 mm; With DVD drive: 179 mm
Depth	60 mm	55.5 mm	301 mm; incl. mounting rail	301 mm; incl. mounting rail

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-pc

Information material can be ordered or downloaded from the Internet:

http://www.siemens.com/simatic/printmaterial

SIMATIC IPC227E

Overview

SIMATIC IPC227E (Nanobox PC): The Box PC with optimized performance in compact design – maintenance-free and rugged

The SIMATIC IPC227E Nanobox PC is an extremely compact and flexible embedded industrial PC.

Thanks to its closed, dust-protected all-metal enclosure, the IPC227E offers maximum industrial functionality for flexible use under harsh conditions - while remaining maintenance-free.

Modern interfaces and the option for expansion via a PCIe slot mean this Box PC can be easily integrated into the automation system.

The latest Intel Dual-Core and Quad-Core processors ensure excellent performance here in an ultra-compact design.

Technical specifications

Article number	**6ES7647-8B...-....** SIMATIC IPC227E (NANOBOX PC)
Installation type/mounting	
Mounting	DIN rail, wall mounting, portrait mounting
Design	Box PC, built-in unit
Supply voltage	
Type of supply voltage	24 V DC
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Intel Celeron N2807 / N2930
Drives	
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; ≥ 80 GB optional
Memory	
Type of memory	DDR3L
Work memory	2 / 4 / 8 GB
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration	
Slots	
• free slots	1x PCIe x1 (optional)
Interfaces	
USB port	1x USB 3.0 / 3x USB 2.0
Connection for keyboard/mouse	USB / USB
serial interface	Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS
Video interfaces	
• Graphics interface	1x DisplayPort
Industrial Ethernet	
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes

Article number	**6ES7647-8B...-....** SIMATIC IPC227E (NANOBOX PC)
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Yes
• Fan	No
• Monitoring function via network	Optional
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m

Technical specifications (continued)

Article number	**6ES7647-8B...-....** SIMATIC IPC227E (NANOBOX PC)
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection	
IP (at the front)	IP40
IP (rear)	IP40
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005
• EN 61000-6-2	Yes
Dust protection	Protection against foreign bodies > 1 mm
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes

Article number	**6ES7647-8B...-....** SIMATIC IPC227E (NANOBOX PC)
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 °C up to 60 °C
• min.	0 °C
• max.	60 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s² (1 g)
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s², 11 ms
Operating systems	
Operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bit
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32 bits or 64 bits
• Windows 10 IoT Enterprise	Yes; Windows 10 IoT Enterprise LTSB 2016 (64-bit) MUI
Software	
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX
Dimensions	
Width	191 mm
Height	100 mm
Depth	60 mm

4

Ordering data

	Article No.
SIMATIC IPC227E	**6ES7647 - 8 B■■■ - ■■■■**
Processor	
• Celeron N2807 (2C/2T)	**A**
• Celeron N2930 (4C/4T)	**B**
• Celeron N2807 (2C/2T) / TPM (not for China)	**C**
• Celeron N2930 (4C/4T) / TPM (not for China)	**D**
Work memory / NVRAM	
• 2 GB	**1**
• 4 GB	**2**
• 8 GB	**3**
• 2 GB / NVRAM	**4**
• 4 GB / NVRAM	**5**
• 8 GB / NVRAM	**6**
Device version / interface	
• Basis without COM	**1**
• Basis with COM1/2	**2**
• PCIe without COM	**3**
• PCIe with COM1/2	**4**
Operating system	
• Without OS	**0**
• Windows Embedded Standard 7 E SP1, English, 32-bit	**1**
• Windows Embedded Standard 7 E SP1, English, 64-bit	**2**
• Windows Embedded Standard 7 P SP1, English, 32-bit	**3**
• Windows Embedded Standard 7 P SP1, English, 64-bit	**4**
• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)	**5**
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	**6**
• Windows 10 IoT Enterprise LTSB 2016, 64-bit, MUI (en, de, fr, it, es)	**7**

	Article No.
SIMATIC IPC227E	**6ES7647- 8 B■■■ - ■■■■**
Mass storage	
• None	**A**
• 80 GB SSD	**B**
• 240 GB SSD	**C**
• 4 GB CFast	**K**
• 8 GB CFast	**L**
• 16 GB CFast	**M**
• 320 GB HDD	**R**
Software	
• Without SIMATIC software	**A**
• CPU 1507S	**B**
• WinCC RT Advanced V14, 128 PT	**D**
• WinCC RT Advanced V14, 512 PT	**E**
• WinCC RT Advanced V14, 2 048 PT	**F**
• WinCC RT Advanced V14, 4 096 PT	**G**
• CPU 1507S / WinCC RT Advanced V14, 128 PT	**J**
• CPU 1507S / WinCC RT Advanced V14, 512 PT	**K**
• CPU 1507S / WinCC RT Advanced V14, 2 048 PT	**L**
• CPU 1507S / WinCC RT Advanced V14, 4 096 PT	**M**
Mounting accessories	
• Standard rail	**1**
• Wall mounting	**2**
• Portrait mounting	**3**
• Standard rail mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	**4**
• Wall mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	**5**
• Portrait mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	**6**

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

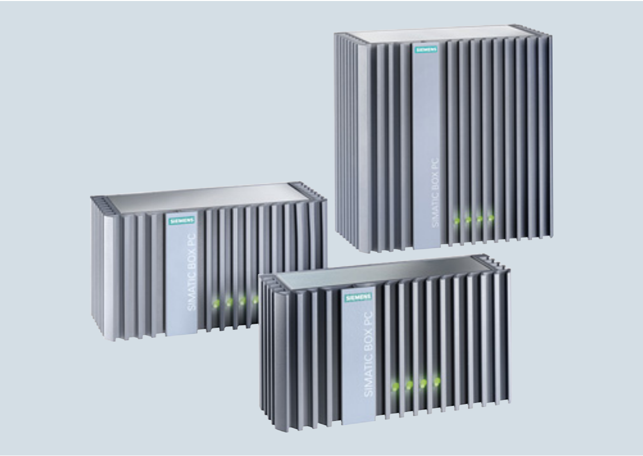
More information

More information is available on the Internet at:

http://www.siemens.com/simatic-ipc

4

Overview



SIMATIC IPC227D (Nanobox PC): The compact embedded IPC – maintenance-free and dust-proof with versatile mounting

- Maximum compactness with approx. 1 liter enclosure volume or more with integrated industrial power supply for minimum space requirements in the control cabinet
- Maximum flexibility thanks four mounting options and interfaces on one side suitable for every installation situation
- Optimum variety of interfaces due to a large number of integrated interfaces such as a selectable serial port (RS 232/RS 485/CAN) and 2 x teaming-capable Gigabit LAN
- Maximum industrial functionality due to closed enclosure for optimum dust protection and non-volatile retentive memory
- Further device options for optimum adaptation to the application with additional PCIe slot or RS 232 interfaces or digital I/O

Technical specifications

Article number	**6ES7647-8A...-....** SIMATIC IPC227D (NANOBOX PC)
Installation type/mounting	
Design	Box PC, built-in unit
Supply voltage	
Type of supply voltage	24 V
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Intel Atom E6x0
Drives	
Hard disk	CF or SSD or HD
SSD	Yes; ≥ 80 GB optional
Memory	
Work memory	512 MB to 2 GB
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte
Hardware configuration	
Slots	
• free slots	1x PCIe x1 (optional)
Interfaces	
USB port	4x USB 2.0 high speed/high current
Connection for keyboard/mouse	USB / USB
serial interface	COM1: 1 x RS 232 or RS 485 or CAN
Video interfaces	
• Graphics interface	DVI-D
Industrial Ethernet	
• Industrial Ethernet interface	2 x Fast Ethernet
- 100 Mbps	Yes
- 1000 Mbps	Yes

Article number	**6ES7647-8A...-....** SIMATIC IPC227D (NANOBOX PC)
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Yes
• Fan	No
Degree and class of protection	
IP (at the front)	IP20
Standards, approvals, certificates	
Approval	CE (industry), UL, cULus
CE mark	Yes
cULus	Yes
KC approval	Yes
Dust protection	Protection against foreign bodies > 1 mm
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 °C to 50 °C
• min.	0 °C
• max.	50 °C
Operating systems	
Operating system	Windows 7 Ultimate (Multi-Language) 32-bit / 64-bit
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows XP Professional	Yes
• Windows 7	Yes

Ordering data

	Article No.
SIMATIC IPC227D	**6ES7647 - 8 A■■■ - ■■■■**
1 x DVI-D graphics interface 2 x 10/100/1 000 Mbps Ethernet RJ45 4 x USB V2.0 (high current) CompactFlash slot 24 V DC industrial power supply	
Processors / memory configuration / NVRAM	
• Atom E620 (600 MHz), 512 MB RAM	A
• Atom E620 (600 MHz), 512 MB RAM, NVRAM	B
• Atom E640 (1.0 GHz), 1 GB RAM	E
• Atom E640 (1.0 GHz), 1 GB RAM, NVRAM	F
• Atom E660 (1.3 GHz), 2 GB RAM	G
• Atom E660 (1.3 GHz), 2 GB RAM, NVRAM	H
Drives	
• Without drive, with CF slot	0
• 320 GB HDD SATA	1
• 240 GB solid-state drive SATA	2
• 80 GB solid-state drive SATA	4
• 2 GB SIMATIC IPC CompactFlash	5
• 4 GB SIMATIC IPC CompactFlash	6
• 8 GB SIMATIC IPC CompactFlash	7
• 16 GB SIMATIC IPC CompactFlash	8
COM interface	
• COM1: RS 232	0
• COM1: RS 485	1
• COM1: CAN	2

	Article No.
SIMATIC IPC227D	**6ES7647 - 8 A■■■ - ■■■■**
Operating system	
• Without operating system	0
• Windows Embedded Standard 2009 pre-installed (CF from 2 GB/SSD/HD)	1
• XP Prof. MUI pre-installed on SSD/HD	2
• Windows Embedded Standard 7 (32-bit) pre-installed (CF from 4 GB/SSD/HD)	3
• Windows 7 (32-bit) MUI pre-installed on SSD/HD	4
Software bundles	
• Without RTX/HMI software	A
• RTX: WinAC RTX 2010	B
• RTX F: WinAC RTX F 2010	C
• HMI: WinCC RT Advanced 128 PT	F
• HMI: WinCC RT Advanced 512 PT	G
• HMI: WinCC RT Advanced 2 048 PT	H
• HMI/RTX: RT 128 PT	M
• HMI/RTX: RT 512 PT	N
• HMI/RTX: RT 2 048 PT	P
• HMI/RTX F: RT 128 PT	R
• HMI/RTX F: RT 512 PT	S
• HMI/RTX F: RT 2 048 PT	T
Device versions	
• Device version: Base line	A
• Device version: PCIe (1 slot)	B
• Device version: COM (COM2-4: RS 232)	D
• Device version: IO (4x dig. inputs/outputs each)	E
Mounting accessories	
• Standard mounting rail	1
• Wall mounting	2
• Portrait mounting	3
• Side mounting	4
Accessories	
Cable strain relief set for IPC227D Packing unit: 5 units	**6ES7648-1AA50-0XL0**
Dust protection set for IPC227D	**6ES7648-1AA50-0XG0**

Release for individual order variants: See releases in the ordering procedure.

Note:

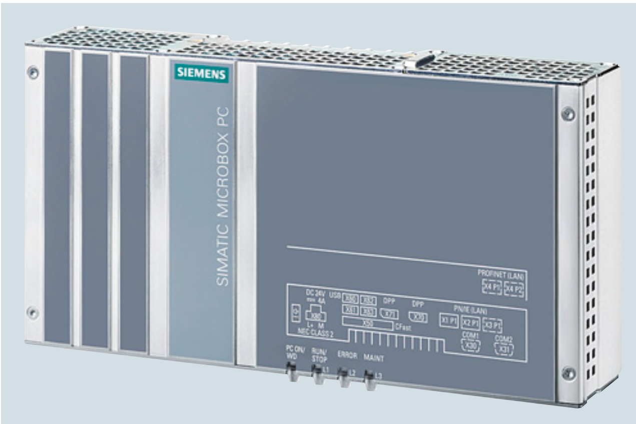
Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

More information

More information can be found on the Internet at:

http://www.siemens.com/simatic-pc

Overview



SIMATIC IPC427E (Microbox PC): The powerful embedded IPC – maintenance-free with versatile configuration

Ready-to-run, complete solution:
- Ultra-compact
- Maintenance-free
- Intel Core i technology of the sixth generation

Technical specifications

Article number	**6AG4141-.....-....** SIMATIC IPC427E (MicroBOX PC)
Installation type/mounting	
Mounting	DIN rail, wall mounting, portrait mounting
Design	Box PC, built-in unit
Supply voltage	
Type of supply voltage	24 V DC
Processor	
Processor type	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB Cache); Core i3-6102E (2C/4T, 1.9 GHz, 3 MB Cache); Core i5-6442EQ (4C/4T, 1.9 (2.7) GHz, 6 MB Cache, iAMT); Xeon E3-1505L v5 (4C/8T, 2.0 (2.8) GHz, 8 MB Cache, iAMT)
Graphic	
Graphics controller	Intel HD graphics controller
Drives	
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; ≥ 80 GB, optional ≥ 160 GB
Memory	
Type of memory	DDR4 SO-DIMM
Work memory	4 GB to 16 GB, ECC optional
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration	
Slots	
• free slots	2x PCIe; optional: 1x PCIe (x4); 2x PCIe (x1, x4), with card retainer

Article number	**6AG4141-.....-....** SIMATIC IPC427E (MicroBOX PC)
Interfaces	
Number of Industrial Ethernet interfaces	3; Ethernet (2x RJ45, optional 3x RJ45)
USB port	4x USB 3.0
Connection for keyboard/mouse	USB / USB
serial interface	Without / 2x COM (RS 232 / RS 485 / RS 422; switchable)
Video interfaces	
• Graphics interface	2x DisplayPort
Industrial Ethernet	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Yes
• Fan	No
• Monitoring function via network	Optional

4

Technical specifications (continued)

Article number	6AG4141-.....-.... SIMATIC IPC427E (MicroBOX PC)
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection	
IP (at the front)	IP20
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 55022A, EN 61000-6-4, EN 61000-6-2
• EN 61000-6-2	Yes

Article number	6AG4141-.....-.... SIMATIC IPC427E (MicroBOX PC)
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 °C to +55 °C
• min.	0 °C
• max.	55 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s² (1 g)
Shock testing	
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s² (5 g), 30 ms, 100 shocks
Operating systems	
Operating system	Windows 7 Ultimate (Multi-Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32 bits or 64 bits
• Windows 10 IoT Enterprise	Windows 10 IoT Enterprise LTSB 2016 (64-bit) MUI
Dimensions	
Width	262 mm
Height	139.7 mm
Depth	55.5 mm

Ordering data

	Article No.
SIMATIC IPC427E (Box PC) [1]	**6AG4141 - ■■■■■ - ■■■■**
Processor and fieldbus	
• Celeron G3902E; 2 x Gigabit Ethernet (IE/PN)	0
• Celeron G3902E; 3 x Gigabit Ethernet (IE/PN)	1
• Core i3-6102E; 3 x Gigabit Ethernet (IE/PN)	3
• Core i5-6442EQ; 3 x Gigabit Ethernet (IE/PN)	5
• Xeon E3-61505L; 3 x Gigabit Ethernet (IE/PN)	7
Mounting accessories/ATEX	
• DIN rail mounting	B
• Wall mounting	C
• Portrait mounting	D
• DIN rail mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	F
• Wall mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	G
• Portrait mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	H
Work memory/NVRAM/ECC	
• 4 GB	A
• 8 GB	B
• 16 GB	C
• 8 GB with ECC	D
• 16 GB with ECC	E
• 4 GB and NVRAM	F
• 8 GB and NVRAM	G
• 16 GB and NVRAM	H
• 8 GB with ECC and NVRAM	J
• 16 GB with ECC and NVRAM	K
Expansions/interface	
• No RS 232/RS 485, without PCIe	0
• No RS 232/RS 485 and one PCIe	1
• No RS 232/RS 485 and two PCIe	2
• Two RS 232/RS 485, without PCIe	3
• Two RS 232/RS 485 and one PCIe	4
• Two RS 232/RS 485 and two PCIe	5
Operating system	
• Without operating system	0
• Windows Embedded Standard 7 SP1, English, 32-bit	1
• Windows Embedded Standard 7 SP1, English, 64-bit	2
• Windows Embedded Standard 7 SP1, English, 64-bit, multi-touch	3
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	4
• Windows 10 IoT Enterprise 2016 LTSB (64-bit) for the Celeron, Core i3 and Core i5 processors	7
• Windows 10 IoT Enterprise 2016 LTSB (64-bit) for Xeon processor	8

	Article No.
SIMATIC IPC427E (Box PC) [1]	**6AG4141 - ■■■■■ - ■■■■**
Mass storage, externally accessible	
• Without external mass storage	0
• CFast 2 GB without operating system	1
• CFast 4 GB without operating system	2
• CFast 8 GB (only optionally with operating system/software if no internal mass storage or HDD)	3
• CFast 16 GB (only optionally with operating system/software if no internal mass storage or HDD)	4
• CFast 30 GB (only optionally with operating system/software if no internal mass storage or HDD)	5
Mass storage, internal	
• Without internal mass storage	A
• CFast 8 GB	B
• CFast 16 GB	C
• CFast 30 GB	D
• 80 GB solid-state drive SATA	E
• 240 GB solid-state drive SATA	F
• HDD 320 GB	J
• 400 GB solid-state drive SATA	G
SIMATIC software (bundles)	
• Without SIMATIC software	A
• CPU 1507S	B
• WinCC RT Advanced V14 SP1, 128 PT	C
• WinCC RT Advanced V14 SP1, 512PT	D
• WinCC RT Advanced V14 SP1, 2 048 PT	E
• WinCC RT Advanced V14 SP1, 4 096 PT	F
• WinCC RT Advanced V14 SP1, 8 192 PT	G
• CPU 1507S / WinCC RT Advanced V14 SP1, 128 PT	H
• CPU 1507S / WinCC RT Advanced V14 SP1, 512PT	J
• CPU 1507S / WinCC RT Advanced V14 SP1, 2 048 PT	K
• CPU 1507S / WinCC RT Advanced V14 SP1, 4 096 PT	L
• CPU 1507S / WinCC RT Advanced V14 SP1, 8 192 PT	M
Power supply	
• 24 V DC industrial power supply	0
• 24 V DC and TPM [2] (not for China or Russia)	8

[1] For an up-to-date overview, see the SIMATIC PC online configurator: http://www.siemens.com/ipc-configurator

[2] TPM = Trusted Platform Module

4

SIMATIC IPC427D

Overview

SIMATIC IPC427D (Microbox PC): The powerful embedded IPC – maintenance-free with versatile configuration

Ready to start complete solution:
- Ultra-compact
- Maintenance-free
- Third generation Intel Core i technology

Technical specifications

Article number	**6AG4140-.....-...0** SIMATIC IPC427D (MICROBOX PC)	**6AG4140-.....-...8** SIMATIC IPC427D (MICROBOX PC) WITH TPM
Installation type/mounting		
Mounting	DIN rail, wall mounting, portrait mounting	DIN rail, wall mounting, portrait mounting
Design	Box PC, built-in unit	Box PC, built-in unit
Supply voltage		
Type of supply voltage	24 V DC	24 V DC
Processor		
Processor type	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)
Graphic		
Graphics controller	Intel HD Graphics, Intel HD Graphics 4000	Intel HD Graphics, Intel HD Graphics 4000
Drives		
Hard disk	2.5" SATA ≥ 320 GB	2.5" SATA ≥ 320 GB
SSD	Yes; ≥ 80 GB, optional ≥ 160 GB	Yes; ≥ 80 GB, optional ≥ 160 GB
Memory		
Type of memory	DDR3 SO-DIMM	DDR3 SO-DIMM
Work memory	1 / 2 / 4 / 8 GB; ECC optional	1 / 2 / 4 / 8 GB; ECC optional
Data areas and their retentivity		
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional	512 kbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration		
Slots		
• free slots	2x PCIe; optional: 1x PCIe (x4); 2x PCIe (x1, x4), with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer

Technical specifications (continued)

Article number	**6AG4140-.....-...0** SIMATIC IPC427D (MICROBOX PC)	**6AG4140-.....-...8** SIMATIC IPC427D (MICROBOX PC) WITH TPM
Interfaces		
PROFIBUS/MPI	onboard, isolated, max. 12 Mbit/s, CP 5611-compatible	onboard, isolated, max. 12 Mbit/s, CP 5611-compatible
Number of PROFINET interfaces	1; 3 ports (incl. switch)	1; 3 ports (incl. switch)
USB port	4x USB 3.0	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB
serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232	COM1: 1x RS 232, COM2 (optional): 1x RS 232
Video interfaces		
• Graphics interface	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
Industrial Ethernet		
• Industrial Ethernet interface	Onboard, 2 x 10/100/1000 Mbit/s, RJ45, no plug-in card necessary	Onboard, 2 x 10/100/1000 Mbit/s, RJ45, no plug-in card necessary
- 100 Mbps	Yes	Yes
- 1000 Mbps	Yes	Yes
Integrated Functions		
Monitoring functions		
• Temperature monitoring	Yes	Yes
• Watchdog	Yes	Yes
• Status LEDs	Yes	Yes
• Monitoring function via network	Optional	Optional
EMC		
Interference immunity against discharge of static electricity		
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields		
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference		
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge		
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields		
• Interference immunity t o magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference		
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection		
IP (at the front)	IP20	IP20
IP (rear)	IP20	IP20

Technical specifications (continued)

Article number	**6AG4140-.....-...0** SIMATIC IPC427D (MICROBOX PC)	**6AG4140-.....-...8** SIMATIC IPC427D (MICROBOX PC) WITH TPM
Standards, approvals, certificates		
CE mark	Yes	Yes
UL approval	Yes	Yes
• UL 508	Yes	Yes
cULus	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
FCC	Yes	Yes
EMC	CE, EN 55022A, EN 61000-6-4, EN 61000-6-2	CE, EN 55022A, EN 61000-6-4, EN 61000-6-2
• EN 61000-6-2	Yes	Yes
Marine approval		
• Germanischer Lloyd (GL)	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes
Ambient conditions		
Ambient temperature during operation		
• Ambient temperature during operation	0 °C to +55 °C	0 °C to +55 °C
• min.	0 °C	0 °C
• max.	55 °C	55 °C
Relative humidity		
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations		
• Vibration load in operation	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s^2 (1 g)	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s^2 (1 g)
Shock testing		
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s^2 (5 g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s^2 (5 g), 30 ms, 100 shocks
Operating systems		
Operating system	Windows 7 Ultimate (Multi-Language) 32-bit / 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit	
pre-installed operating system	Yes	Yes
without operating system	Yes	Yes
pre-installed operating system		
• Windows 7	Yes; Ultimate 32 bits or 64 bits	Yes; Ultimate 32 bits or 64 bits
• Windows 10 IoT Enterprise	Windows 10 IoT Enterprise LTSB 2016 (64-bit) MUI	
Software		
SIMATIC Software	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX
Dimensions		
Width	262 mm	262 mm
Height	139.7 mm	139.7 mm
Depth	50.5 mm	50.5 mm

Ordering data

	Article No.
SIMATIC IPC427D (Box PC) [1) 2)]	**6AG4140 - ■ ■ ■ ■ ■ - ■ ■ ■ ■**
Processor and fieldbus	
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN)	**0**
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	**1**
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); CAN interface	**2**
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN)	**3**
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	**4**
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	**5**
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN) (optional ECC only here)	**6**
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	**7**
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	**8**
Mounting accessories:	
• without mounting accessories	**A**
• DIN rail mounting	**B**
• Wall mounting	**D**
• Portrait mounting	**E**
• Mounting onto standard rail with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	**M**
• Wall mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	**N**
• Vertical mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	**P**

	Article No.
SIMATIC IPC427D (Box PC) [1) 2)]	**6AG4140 - ■ ■ ■ ■ ■ - ■ ■ ■ ■**
Work memory/NVRAM/ECC:	
• 1 GB	**A**
• 2 GB	**B**
• 4 GB	**C**
• 8 GB	**D**
• 4 GB with ECC (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	**G**
• 8 GB with ECC (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	**H**
• 1 GB and NVRAM	**J**
• 2 GB and NVRAM	**K**
• 4 GB and NVRAM	**L**
• 8 GB and NVRAM	**M**
• 4 GB with ECC and NVRAM (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	**N**
• 8 GB with ECC and NVRAM (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	**P**
Expansions/interface:	
• One RS 232, without PCIe	**0**
• One RS 232 and one PCIe	**1**
• One RS 232 and two PCIe	**2**
• Second RS 232, without PCIe	**3**
• Second RS 232 and one PCIe	**4**
• Second RS 232 and second PCIe	**5**
Operating system:	
• Without operating system	**0**
• Windows Embedded Standard 7 Professional, 32-bit, MUI	**3**
• Windows Embedded Standard 7 SP1, English, 32-bit	**4**
• Windows Embedded Standard 7 SP1, English, 64-bit	**5**
• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)	**6**
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	**7**

1) Built to order versions with a delivery time of max. 15 working days and with identified repair, if not preferred type

2) For an up-to-date overview, see the SIMATIC PC online configurator at: http://www.siemens.com/ipc-configurator

3) Only with "work memory and NVRAM"

4) TPM = Trusted Platform Module

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

Bundles with SIMATIC software only with Windows Embedded Standard 7, work memory and NVRAM (with RTX and RTX F), and CFast mass storage of 4 GB or more / SSD.

4

Ordering data

	Article No.	
SIMATIC IPC427D (Box PC) 1) 2)	**6AG4140 - ■■■■■ - ■■■■**	
Mass storage, externally accessible:		
• Without external mass storage		**0**
• CFast 2 GB Without operating system		**1**
• CFast 4 GB (only optionally with operating system if no internal mass storage)		**2**
• CFast 8 GB (only optionally with operating system if no internal mass storage)		**3**
• CFast 16 GB (only optionally with operating system if no internal mass storage)		**4**
Internal mass storage:		
• Without internal mass storage		**A**
• CFast 2 GB, without software		**B**
• CFast 4 GB, without software		**C**
• CFast 8 GB, without software		**D**
• CFast 16 GB, without software		**E**
• 80 GB solid-state drive (standard)		**H**
• HDD 320 GB		**K**
• 240 GB solid-state drive (standard)		**P**

	Article No.	
SIMATIC IPC427D (Box PC) 1) 2)	**6AG4140 - ■■■■■ - ■■■■**	
SIMATIC software pre-installed (bundles, only with Windows Embedded Standard 7):		
• Without SIMATIC software		**A**
• WinAC RTX 2010 3)		**B**
• WinCC RT Advanced, 128 PT		**C**
• WinCC RT Advanced, 512 PT		**D**
• WinCC RT Advanced, 2 048 PT		**E**
• WinCC RT Advanced, 4 096 PT		**F**
• WinCC RT Advanced 128 PT, WinAC RTX 2010 3)		**J**
• WinCC RT Advanced 512 PT, WinAC RTX 2010 3)		**K**
• WinCC RT Advanced 2 048 PT, WinAC RTX 2010 3)		**L**
• WinCC RT Advanced 4 096 PT, WinAC RTX 2010 3)		**M**
• WinAC RTX F 2010 3)		**N**
• WinCC RT Advanced 128 PT, WinAC RTX F 2010 3)		**P**
• WinCC RT Advanced 512 PT, WinAC RTX F 2010 3)		**Q**
• WinCC RT Advanced 2 048 PT, WinAC RTX F 2010 3)		**R**
• WinCC RT Advanced 4 096 PT, WinAC RTX F 2010 3)		**S**
• WinCC RT Professional Client/single-user station 128 PT		**Y**
Power supply:		
• 24 V DC industrial power supply		**0**
• 24 V DC and TPM 4) (not for China or Russia)		**8**

1) Built to order versions with a delivery time of max. 15 working days and with identified repair, if not preferred type

2) For an up-to-date overview, see the SIMATIC PC online configurator at: http://www.siemens.com/ipc-configurator

3) Only with "work memory and NVRAM"

4) TPM = Trusted Platform Module

Overview

IPC627D with DVD drive

SIMATIC IPC627D (Box PC): The high-end IPC – with maximum performance, functional scope and expansion capability

It offers:

- Maximum performance in the smallest space
- Intel Xeon technology
- Removable hard disks (RAID1)

Technical specifications

Article number	**6AG4131-2....-....** SIMATIC IPC627D (BOX PC)
Installation type/mounting	
Mounting	Wall mounting, portrait mounting
Design	Box PC, built-in unit
Supply voltage	
Type of supply voltage	100/240 V AC (autorange); 24 V DC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)
Chipset	Intel DH82C226 PCH
Graphic	
Graphics controller	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)
Drives	
Optical drives	DVD±R±RW combi-drive, optional
Hard disk	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped
SSD	Yes; ≥ 240 GB optional

Article number	**6AG4131-2....-....** SIMATIC IPC627D (BOX PC)
Memory	
Type of memory	DDR3 1600 DIMM
Work memory	2 / 4 / 8 / 16 GB; ECC optional
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration	
Slots	
• free slots	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer
Interfaces	
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622
Number of PROFINET interfaces	3; Optional
USB port	4x USB 3.0
Connection for keyboard/mouse	USB / USB
serial interface	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface	optional LPT1
Video interfaces	
• Graphics interface	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
Industrial Ethernet	
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes

4

Technical specifications (continued)

Article number	**6AG4131-2....-....** SIMATIC IPC627D (BOX PC)
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Yes
• Fan	Yes
• Monitoring function via network	Optional
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection	
IP (at the front)	IP20
IP (rear)	IP20

Article number	**6AG4131-2....-....** SIMATIC IPC627D (BOX PC)
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
• EN 61000-6-2	Yes
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	+5 °C up to 55 °C
• min.	5 °C
• max.	55 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)
Shock testing	
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s² (5 g), 30 ms, 100 shocks
Operating systems	
Operating system	Windows 7 Ultimate 32-bit/64-bit, MUI; Windows 10 IoT Enterprise LTSB 2015, 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32 bits or 64 bits
• Windows 10 IoT Enterprise	Yes; LTSB 2015, 64-bit, MUI
Software	
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX
Dimensions	
Width	312 mm
Height	81 mm; with DVD drive: 105 mm
Depth	301 mm; incl. mounting rail

Ordering data

	Article No.
SIMATIC IPC627D [1]	**6AG4131 - 2 ■ ■ ■ ■ - ■ ■ ■ ■**
HD graphics onboard (Xeon, i3: HD4600); 2 x Gigabit Ethernet (IE/PN) RJ45; 4 x USB V3.0; 1x serial (COM1); RAID controller onboard; watchdog, temp./fan monitoring;	
Processor:	
• Intel Celeron G1820TE (2C, 2.2 GHz, 2 MB cache)	A
• Intel Celeron G1820TE (2C, 2.2 GHz, 2 MB cache), PROFIBUS/MPI (CP 5622-compatible); 2 MB buffered SRAM	B
• Intel Celeron G1820TE (2C, 2.2 GHz, 2 MB cache), PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB buffered SRAM	C
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x);	D
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); PROFIBUS/MPI (CP 5622-compatible); 2 MB battery-backed SRAM;	E
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB battery-backed SRAM;	F
• Xeon E3-1268Lv3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT);	G
• Xeon E3-1268Lv3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT); PROFIBUS/MPI (CP 5622-compatible); 2 MB battery-backed SRAM;	H
• Xeon E3-1268Lv3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT); PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB battery-backed SRAM;	J
Drives	
• 250 GB HDD SATA	A
• 250 GB HDD SATA; DVD+/-RW	B
• 500 GB HDD SATA	D
• 500 GB HDD SATA; DVD+/-RW	E
• RAID1 2 x 320 GB SATA (2.5")	G
• RAID1 2 x 320 GB SATA (2.5"); DVD+/-RW	H
• Swap HDD RAID1 2 x 320 GB SATA (2.5")	K
• Swap HDD RAID1 2 x 320 GB SATA (2.5"); solid-state drive 240 GB	L
• 240 GB solid-state drive	M
• Solid-state drive 240 GB; 320 GB HDD SATA (2.5");	N
• 240 GB solid-state drive; 320 GB HDD SATA (2.5"); DVD+/-RW	P
• 80 GB internal solid-state drive	Q
• 80 GB solid-state drive; DVD+/-RW	R

	Article No.
SIMATIC IPC627D [1]	**6AG4131 - 2 ■ ■ ■ ■ - ■ ■ ■ ■**
Memory configuration	
• 2 GB DDR3 1600 DIMM	1
• 4 GB DDR3 1600 DIMM	2
• 8 GB DDR3 1600 DIMM	3
• 16 GB DDR3 1600 DIMM	4
• 8 GB DDR3 1600 DIMM; ECC	5
• 16 GB DDR3 1600 DIMM; ECC	6
Expansion 1 (HW)	
• 2 x PCI;	0
• 1 x PCIe (x16); 1 x PCI	1
• 1 x PCIe (x16); 1 x PCIe (x4)	2
Expansion 2 (HW)	
• Without expansion (HW)	0
• 2 x USB in addition (1 slot occupied)	1
• COM2; LPT (1 slot occupied)	2
• 2 x USB in addition; COM2; LPT (2 slots occupied)	3
Operating system	
• Windows 7 Ultimate, 32-bit SP1, MUI (en, de, fr, it, es)	A
• Windows 7 Ultimate, 64-bit SP1, MUI (en, de, fr, it, es)	B
• Windows 10 IoT Enterprise LTSB 2015, 64-bit, MUI (en, de, fr, it, es)	C
• Windows Embedded Standard 7 P, 32-bit, SP1, MUI (Eng, Ger, Fr, It, Sp) with SSD 80 GB option	D
• Without	X
Expansion (SW)	
• SIMATIC IPC DiagMonitor V4.x enclosed	A
• SIMATIC IPC Image & Partition Creator V3.x enclosed	B
• SIMATIC IPC DiagMonitor V4.x, Image & Partition Creator V3.x enclosed	C
• Without	X
• TPM [2] (not for China or Russia)	Y
Country-specific design / power supply	
• 100/230 V AC industrial power supply with NAMUR; power cable for Europe	0
• 110/230 V AC industrial power supply with NAMUR; power cable for UK	1
• 110/230 V AC industrial power supply with NAMUR; power cable for CH	2
• 110/230 V AC industrial power supply with NAMUR; power cable for the USA	3
• 110/230 V AC industrial power supply NAMUR; power cable for Italy	4
• 110/230 V AC industrial power supply with NAMUR; power cable for China	5
• 24 V DC industrial power supply	6
• 110/230 V AC industrial power supply with NAMUR; without power cable	8

[1] For an up-to-date overview, see the SIMATIC PC online configurator at: http://www.siemens.com/ipc-configurator

[2] TPM = Trusted Platform Module

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

Ordering data

Ordering data	Article No.
Accessories	
Memory expansion	
• 2 GB DDR3 1600 SDRAM, DIMM	**6ES7648-2AJ50-0MA0**
• 4 GB DDR3 1600 SDRAM, DIMM	**6ES7648-2AJ60-0MA0**
• 8 GB DDR3 1600 SDRAM, DIMM	**6ES7648-2AJ70-0MA0**
• 8 GB DDR3 1600 SDRAM, DIMM, ECC	**6ES7648-2AJ70-1MA0**
Assembly kit for portrait mounting	
• Upward or downward interface outlet	**6ES7648-1AA10-1YA0**
• Interface outlet to the front	**6ES7648-1AA10-1YB0**
SIMATIC PC graphics adapter cable DVI-I acc. to VGA, 250 mm long	**6ES7648-3AB00-0XA0**
SIMATIC PC power cable For Box PC and Panel PC, 230 V AC, angled, 3 m	
• For Germany, France, Spain, the Netherlands, Belgium, Sweden, Austria, Finland	**6ES7900-1AA00-0XA0**
• For United Kingdom	**6ES7900-1BA00-0XA0**
• For Switzerland	**6ES7900-1CA00-0XA0**
• For the USA	**6ES7900-1DA00-0XA0**
• For Italy	**6ES7900-1EA00-0XA0**
• For China	**6ES7900-1FA00-0XA0**

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-pc

Overview

IPC827D with opened DVD drive

SIMATIC IPC827D (Box PC): The high-end IPC – with maximum performance, functional scope and expansion capability

It offers:

- Maximum performance and high expandability
- with Intel Xeon technology
- Removable hard disks (RAID1)

Technical specifications

Article number	**6AG4132-2....-....** SIMATIC IPC827D (BOX PC)
Installation type/mounting	
Mounting	Wall mounting, portrait mounting
Design	Box PC, built-in unit
Supply voltage	
Type of supply voltage	100/240 V AC (autorange); 24 V DC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)
Chipset	Intel DH82C226 PCH
Graphic	
Graphics controller	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)
Drives	
Optical drives	DVD±R±RW combi-drive, optional
Hard disk	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped
SSD	Yes; ≥ 240 GB optional

Article number	**6AG4132-2....-....** SIMATIC IPC827D (BOX PC)
Memory	
Type of memory	DDR3 1600 DIMM
Work memory	2 / 4 / 8 / 16 GB; ECC optional
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration	
Slots	
• free slots	3x PCI, 1x PCIe (x4), 1x PCIe (x16); with card retainer
Interfaces	
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622
Number of PROFINET interfaces	3; Optional
USB port	4x USB 3.0
Connection for keyboard/mouse	USB / USB
serial interface	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface	optional LPT1
Video interfaces	
• Graphics interface	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
Industrial Ethernet	
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Yes
• Fan	Yes
• Monitoring function via network	Optional

Technical specifications (continued)

Article number	**6AG4132-2....-....** SIMATIC IPC827D (BOX PC)
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection	
IP (at the front)	IP20
IP (rear)	IP20

Article number	**6AG4132-2....-....** SIMATIC IPC827D (BOX PC)
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
• EN 61000-6-2	Yes
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	+5 °C up to 55 °C
• min.	5 °C
• max.	55 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)
Shock testing	
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s² (5 g), 30 ms, 100 shocks
Operating systems	
Operating system	Windows 7 Ultimate 32-bit/64-bit, MUI; Windows 10 IoT Enterprise LTSB 2015, 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32 bits or 64 bits
• Windows 10 IoT Enterprise	Yes; LTSB 2015, 64-bit, MUI
Software	
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX
Dimensions	
Width	312 mm
Height	155 mm; With DVD drive: 179 mm
Depth	301 mm; incl. mounting rail

Ordering data

	Article No.
SIMATIC IPC827D [1]	**6AG4132 - 2 ■ ■ ■ ■ - ■ ■ ■ ■**
HD graphics onboard (Xeon, i3: HD4600); 2 x Gigabit Ethernet (IE/PN) RJ45; 4 x USB V3.0; 1x serial (COM1); RAID controller onboard; watchdog, temp./fan monitoring;	
Processor:	
• Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB cache)	**A**
• Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB cache); PROFIBUS/MPI (CP 5622-compatible); 2 MB battery-backed SRAM	**B**
• Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB cache); PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB battery-backed SRAM	**C**
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x)	**D**
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); PROFIBUS/MPI (CP 5622-compatible); 2 MB battery-backed SRAM	**E**
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB battery-backed SRAM	**F**
• Xeon E3-1268Lv3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT)	**G**
• Xeon E3-1268Lv3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT); PROFIBUS/MPI (CP 5622-compatible); 2 MB battery-backed SRAM	**H**
• Xeon E3-1268Lv3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT); PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB battery-backed SRAM	**J**
Drives	
• 250 GB HDD SATA;	**A**
• 250 GB HDD SATA; DVD+/-RW;	**B**
• 500 GB HDD SATA;	**D**
• 500 GB HDD SATA; DVD+/-RW;	**E**
• RAID1 2 x 320 GB SATA (2.5");	**G**
• RAID1 2 x 320 GB SATA (2.5"); DVD+/-RW	**H**
• Swap HDD RAID1 2 x 320 GB SATA (2.5")	**K**
• Swap HDD RAID1 2 x 320 GB SATA (2.5"); solid-state drive 240 GB	**L**
• Solid-state drive, 240 GB	**M**
• Solid-state drive 240 GB; 320 GB HDD SATA (2.5")	**N**
• Solid-state drive 240 GB; 320 GB HDD SATA (2.5"); DVD+/-RW	**P**
• Solid-state drive 80 GB, internal for WES7P	**Q**
• Solid-state drive 80 GB, internal for WES7P; DVD+/-RW	**R**

	Article No.
SIMATIC IPC827D [1]	**6AG4132 - 2 ■ ■ ■ ■ - ■ ■ ■ ■**
Memory configuration	
• 2 GB DDR3 1600 DIMM	**1**
• 4 GB DDR3 1600 DIMM	**2**
• 8 GB DDR3 1600 DIMM	**3**
• 16 GB DDR3 1600 DIMM	**4**
• 8 GB DDR3 1600 DIMM; ECC	**5**
• 16 GB DDR3 1600 DIMM; ECC	**6**
Expansions (HW)	
• 1 x PCIe (x16); 1 x PCIe (x4); 3 x PCI	**0**
Expansion 2 (HW)	
• Without expansion (HW)	**0**
• 2 x USB in addition (1 slot occupied)	**1**
• COM2; LPT (1 slot occupied)	**2**
• 2 x USB in addition; COM2; LPT (2 slots occupied)	**3**
Operating system	
• Windows 7 Ultimate, 32-bit SP1, MUI (en, de, fr, it, es)	**A**
• Windows 7 Ultimate, 64-bit SP1, MUI (en, de, fr, it, es)	**B**
• Windows 10 IoT Enterprise LTSB 2015, 64-bit, MUI (en, de, fr, it, es)	**C**
• Windows Embedded Standard 7 P, 32-bit, SP1, MUI (Eng, Ger, Fr, It, Sp) with SSD 80 GB option	**D**
• Without	**X**
Expansion (SW)	
• SIMATIC IPC DiagMonitor V4.x enclosed	**A**
• SIMATIC IPC Image & Partition Creator V3.x enclosed	**B**
• SIMATIC IPC DiagMonitor V4.x, Image & Partition Creator V3.x enclosed	**C**
• Without	**X**
• TPM [2] (not for China or Russia)	**Y**
Country-specific design / power supply	
• 100/230 V AC industrial power supply with NAMUR; power cable for Europe	**0**
• 110/230 V AC industrial power supply with NAMUR; power cable for UK	**1**
• 110/230 V AC industrial power supply with NAMUR; power cable for CH	**2**
• 110/230 V AC industrial power supply with NAMUR; power cable for the USA	**3**
• 110/230 V AC industrial power supply NAMUR; power cable for Italy	**4**
• 110/230 V AC industrial power supply with NAMUR; power cable for China	**5**
• 24 V DC industrial power supply	**6**
• 110/230 V AC industrial power supply with NAMUR; without power cable	**8**

1) For an up-to-date overview, see the SIMATIC PC online configurator at: http://www.siemens.com/ipc-configurator

2) TPM = Trusted Platform Module

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

Ordering data

Ordering data	Article No.
Accessories	
Memory expansion	
• 2 GB DDR3 1600 SDRAM, DIMM	**6ES7648-2AJ50-0MA0**
• 4 GB DDR3 1600 SDRAM, DIMM	**6ES7648-2AJ60-0MA0**
• 8 GB DDR3 1600 SDRAM, DIMM	**6ES7648-2AJ70-0MA0**
• 8 GB DDR3 1600 SDRAM, DIMM, ECC	**6ES7648-2AJ70-1MA0**
Assembly kit for portrait mounting	
• Upward or downward interface outlet	**6ES7648-1AA30-1YA0**
• Interface outlet to the front	**6ES7648-1AA30-1YB0**
SIMATIC PC graphics adapter cable DVI-I acc. to VGA, 250 mm long	**6ES7648-3AB00-0XA0**
SIMATIC PC power cable For Box PC and Panel PC, 230 V AC, angled, 3 m	
• For Germany, France, Spain, the Netherlands, Belgium, Sweden, Austria, Finland	**6ES7900-1AA00-0XA0**
• For the United Kingdom	**6ES7900-1BA00-0XA0**
• For Switzerland	**6ES7900-1CA00-0XA0**
• For the USA	**6ES7900-1DA00-0XA0**
• For Italy	**6ES7900-1EA00-0XA0**
• For China	**6ES7900-1FA00-0XA0**

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-pc

Overview

SIMATIC Panel PCs are suitable thanks to their high industrial compatibility for use in control cabinets, consoles and control panels, as well as directly on the machine. Typical areas of application can be found in both factory and process automation.

There is a broad range of robust, high-performance SIMATIC Panel PCs available for different requirements.

Shared industrial functionality

- High-quality components and modules with a high MTBF (mean time between failure), which also ensure 24-hour operation in the extended temperature range
- High swing/shock capacity of the devices through special hard-disk suspensions, locked connectors and card retainers
- Rugged housing model with high electromagnetic compatibility (EMC) and integrated industrial power supplies (also in accordance with NAMUR)
- Service-friendly device design
- Bright, brilliant displays in different sizes from 7" to 22"
- Same front panel mounting dimensions and uniform front design across all device families
- Rugged fronts protected from dust, humidity and chemical substances (front-side IP65 degree of protection)

SIMATIC IPC277: The Panel PC with optimized performance – maintenance-free and compact with displays from 7"

- High degree of flexibility for selecting rugged widescreen fronts from 7" to 19" for a more freely configurable display area
- High resolution, large viewing angle, and up to 100% dimmable backlighting for a brilliant display with optimized power consumption
- Absolutely maintenance-free due to the use of CompactFlash/ CFast or SSD as mass storage and fanless operation up to 50 °C ambient temperature
- Maximum industrial functionality due to non-volatile retentive memory (option)
- Ready-to-use embedded bundles with visualization and/or control software

SIMATIC IPC477: The powerful embedded Panel PC – maintenance-free with versatile configuration

- Compact design
- High performance with highly compact design and ruggedness
- Flexible expansion using a PCIe I/O card (optional)
- No rotating parts (without fan and hard disk)
- High security due to use of the operating system
- Windows Embedded Standard 7
- Ready-to-use devices with optionally pre-installed software
- HMI: Innovative HMI software WinCC RT Advanced (inc. logging and recipes)
- Software Controller: with real-time capable software PLC
- Retentive memory on board (NV-RAM, can be used with software controller)
- Available as PRO version (all-round IP65 degree of protection) with multi-touch

SIMATIC IPC677D: The high-end Panel PC – with maximum performance, functional scope and expansion capability

- Rugged, expandable industrial PC with choice of front panels
- Rugged design for industrial use
- Complete PC openness
- Optional PROFIBUS or PROFINET onboard
- All processors with dual core

Technical specifications

Article number	**6AV7882-0...0-...0** SIMATIC IPC277E	**6AV7241-.....-....** SIMATIC IPC477E	**6AV7260-.....-....** SIMATIC IPC677D
Installation type/mounting			
Mounting			For horizontal and vertical mounting
Design	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit
maximum permissible installation angle +/-	45°		20°
Supply voltage			
Type of supply voltage	24 V DC	100/240 V AC (autorange) 50/60 Hz; 24 V DC	100/240 V AC (autorange); 24 V DC
Line frequency			
• Rated value 50 Hz		Yes	Yes
• Rated value 60 Hz		Yes	Yes
Mains buffering			
• Mains/voltage failure stored energy time	20 ms		10 ms
Processor			
Processor type	Intel Celeron N2807 / N2930	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB Cache); Core i3-6102E (2C/4T, 1.9 GHz, 3 MB Cache); Core i5-6442EQ (4C/4T, 1.9 (2.7) GHz, 6 MB Cache, iAMT); Xeon E3-1505L v5 (4C/8T, 2.0 (2.8) GHz, 8 MB Cache, iAMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)
Chipset			Intel DH82C226 PCH
Graphic			
Graphics controller		Intel HD graphics controller	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)
Drives			
Optical drives			DVD±R±RW combi-drive, optional
Hard disk			3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped
SSD	Yes; ≥ 80 GB optional	Yes	Yes; ≥ 240 GB optional
Memory			
Type of memory	DDR3L	DDR4 SO-DIMM	DDR3 1600 DIMM
Work memory	2 / 4 / 8 GB	4 GB to 16 GB, ECC optional	2 / 4 / 8 / 16 GB; ECC optional
Data areas and their retentivity			
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional	512 kbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration			
Slots			
• free slots			2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer

Technical specifications (continued)

Article number	6AV7882-0...0-...0 SIMATIC IPC277E	6AV7241-.....-.... SIMATIC IPC477E	6AV7260-.....-.... SIMATIC IPC677D
Interfaces			
PROFIBUS/MPI			Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622
Number of Industrial Ethernet interfaces		3; 3x Ethernet (RJ45)	
Number of PROFINET interfaces			3; Optional
USB port	1x USB 3.0 / 3x USB 2.0 (7"/9": 2x USB 2.0)	4x USB 3.0	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB
serial interface	1x COM (1x RS 232 / 422 / 485), selectable in the BIOS	Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface			optional LPT1
Video interfaces			
• Graphics interface	1x DisplayPort	2x DisplayPort	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
Industrial Ethernet			
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	3x Ethernet (RJ45)	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes
Integrated Functions			
Monitoring functions			
• Temperature monitoring	Yes		Yes
• Watchdog	Yes	Yes	Yes
• Status LEDs	No		Yes
• Fan	No		Yes
• Monitoring function via network	Optional		Optional
EMC			
Interference immunity against discharge of static electricity			
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields			
• Interference immunity against high frequency radiation	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference			
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge			
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric

Technical specifications (continued)

Article number	**6AV7882-0...0-...0** SIMATIC IPC277E	**6AV7241-.....-....** SIMATIC IPC477E	**6AV7260-.....-....** SIMATIC IPC677D
Interference immunity to magnetic fields			
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8		100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference			
• Interference emission via line/AC current cables	Noise emission: EN 61000-6-4:2007 +A1:2011 (industrial environments), CISPR 22 Class B, FCC Class A		EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection			
IP (at the front)	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20
Standards, approvals, certificates			
CE mark	Yes	Yes; CE marking / EC Declaration of Conformity	Yes
CSA approval		Yes	
UL approval	Yes	Yes	Yes
• UL 508	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
FCC	Yes	Yes	Yes
EMC	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A	CE, EN 61000-6-4:2007, EN 61000-6-2:2005
• EN 61000-6-2	Yes		Yes
Marine approval			
• Germanischer Lloyd (GL)	Yes; 7", 9", 12"	Yes	
• American Bureau of Shipping (ABS)	Yes; 7", 9", 12"	Yes	
• Bureau Veritas (BV)	Yes; 7", 9", 12"	Yes	
• Det Norske Veritas (DNV)		Yes	
• Lloyds Register of Shipping (LRS)		Yes	
• Nippon Kaiji Kyokai (Class NK)		Yes	
Ambient conditions			
Ambient temperature during operation			
• Ambient temperature during operation	0 °C to 50 °C	0 to +45°C	+5 °C to +45 °C with full configuration
• min.	0 °C	0 °C	5 °C
• max.	50 °C; 19": max. 45 °C	45 °C	45 °C
Relative humidity			
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)	5% - 80% at 25 °C	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations			
• Vibration load in operation	Tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 500 Hz: 9.8 m/s²	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s² (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s² (hard disk)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)

Technical specifications (continued)

Article number	**6AV7882-0...0-...0** SIMATIC IPC277E	**6AV7241-.....-....** SIMATIC IPC477E	**6AV7260-.....-....** SIMATIC IPC677D
Shock testing			
• Shock load during operation	Tested according to IEC 60068-2-27: 50 m/s², 30 ms	IEC 60068-2-27; 150 m/s², 11 ms (without hard disk); 50 m/s², 30 ms (with hard disk)	Tested to DIN IEC 60068-2-29: 50 m/s² (5 g), 30 ms, 100 shocks
Operating systems			
Operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bit	Windows 7 Ultimate (Multi-Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10	Windows 7 Ultimate 32-bit/64-bit, MUI; Windows 10 IoT Enterprise LTSB 2015, 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes	Yes	Yes
without operating system	Yes	Yes	Yes
Software			
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX		Optional package with SIMATIC WinCC or WinAC RTX

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-panel-pc

Note:

Do you need a specific modification or extension to the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customized modification and adaptation.

Examples are:

- Specific front panels for SIMATIC Panel PC, e.g. honing oil-resistant or with lateral function/movement keys
- SIMATIC HMI Net Panel with 46" large-scale display

Overview

SIMATIC IPC277E: The Panel PC with optimized performance – maintenance-free and compact with displays from 7"

The SIMATIC IPC277E Nanopanel PC is a flexible embedded industrial PC with rugged and durable displays.

Technologically it is based on the IPC227E Nanobox PC and thus offers maximum industrial functionality for flexible use even under harsh conditions – all without the need for maintenance.

The Panel PC is characterized by modern interfaces and a high degree of flexibility in the selection of the display. The latest Intel Dual-Core and Quad-Core processors ensure excellent performance here for visualization and control tasks.

Technical specifications

Article number	**6AV7882-0...0-...0** SIMATIC IPC277E
Installation type/mounting	
Design	Panel PC, built-in unit
maximum permissible installation angle +/-	45°
Supply voltage	
Type of supply voltage	24 V DC
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Intel Celeron N2807 / N2930
Drives	
SSD	Yes; ≥ 80 GB optional
Memory	
Type of memory	DDR3L
Work memory	2 / 4 / 8 GB
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional
Interfaces	
USB port	1x USB 3.0 / 3x USB 2.0 (7"/9": 2x USB 2.0)
Connection for keyboard/mouse	USB / USB
serial interface	1x COM (1x RS 232 / 422 / 485), selectable in the BIOS
Video interfaces	
• Graphics interface	1x DisplayPort
Industrial Ethernet	
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes

Article number	**6AV7882-0...0-...0** SIMATIC IPC277E
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	No
• Fan	No
• Monitoring function via network	Optional
EMC	
Interference imm unity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m

Technical specifications (continued)

Article number	**6AV7882-0...0-...0** SIMATIC IPC277E
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	Noise emission: EN 61000-6-4:2007 +A1:2011 (industrial environments), CISPR 22 Class B, FCC Class A
Degree and class of protection	
IP (at the front)	IP65
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005
• EN 61000-6-2	Yes
Marine approval	
• Germanischer Lloyd (GL)	Yes; 7", 9", 12"
• American Bureau of Shipping (ABS)	Yes; 7", 9", 12"
• Bureau Veritas (BV)	Yes; 7", 9", 12"

Article number	**6AV7882-0...0-...0** SIMATIC IPC277E
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 °C to 50 °C
• min.	0 °C
• max.	50 °C; 19": max. 45 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 500 Hz: 9.8 m/s²
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27: 50 m/s², 30 ms
Operating systems	
Operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bit
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32 bits or 64 bits
• Windows 10 IoT Enterprise	Yes; Windows 10 IoT Enterprise LTSB 2016 (64-bit) MUI
Software	
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX

Technical specifications (continued)

Article number	**6AV7882-0A..0-...0** SIMATIC IPC277E, 7" TOUCH	**6AV7882-0B..0-...0** SIMATIC IPC277E, 9" TOUCH	**6AV7882-0C..0-...0** SIMATIC IPC277E, 12" TOUCH	**6AV7882-0D..0-...0** SIMATIC IPC277E, 15" TOUCH	**6AV7882-0E..0-...0** SIMATIC IPC277E, 19" TOUCH	**6AV7882-0F..0-...0** SIMATIC IPC277E, 15" MULTI-TOUCH	**6AV7882-0G..0-...0** SIMATIC IPC277E, 19" MULTI-TOUCH
General information							
Product type designation	7" touch	9" touch	12" touch	15" touch	19" touch	15" multi-touch	19" multi-touch
Display							
Design of display	7" TFT touch	9" TFT touch	12" TFT touch	15" TFT touch	19" TFT touch	15" TFT multi-touch	19" TFT multi-touch
Screen diagonal	7 in	9 in	12 in	15 in	19 in	15 in	19 in
Resolution (pixels)							
• Horizontal image resolution	800 Pixel	800 Pixel	1 280 Pixel	1 280 Pixel	1 366 Pixel	1 366 Pixel	1 366 Pixel
• Vertical image resolution	480 Pixel	480 Pixel	800 Pixel	800 Pixel	768 Pixel	768 Pixel	768 Pixel
Backlighting							
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	80 000 h	80 000 h	50 000 h	70 000 h	50 000 h
Control elements							
Input device							
• Mouse, at front				Front USB 2.0 (500mA)	Front USB 2.0 (500mA)		
Touch operation							
• Design as touch screen	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive	--	--
Design as multi-touch screen	--	--	--	--	--	Yes; Projective-capacitive	Yes; Projective-capacitive
Installation type/mounting							
central design	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Power loss							
In full configuration	26 W	29 W	32 W	46 W	46 W	46 W	46 W
Dimensions							
Width of the housing front	214 mm	274 mm	330 mm	415 mm	483 mm	398 mm	464 mm
Height of housing front	158 mm	190 mm	241 mm	310 mm	337 mm	257 mm	294 mm
Overall depth	77 mm	77 mm	73 mm	73 mm	73 mm	76 mm	76 mm
Mounting cutout/device depth (W x H x T)	197 mm x 141 mm x 77 mm	251 mm x 166 mm x 77 mm	310 mm x 221 mm x 73 mm	395 mm x 290 mm x 73 mm	464 mm x 318 mm x 73 mm	382 mm x 241 mm / 76 mm enclosure depth	448 mm x 278 mm / 76 mm enclosure depth
Weights							
Panel PC in central design, approx.	1.5 kg	1.95 kg	2.75 kg	4 kg	5.7 kg	5.5 kg	6.5 kg

Ordering data

	Article No.
SIMATIC IPC277E (Nanopanel PC)	**6AV7882 - 0 ■ ■ ■ 0 - ■ ■ ■ 0**
Operator control unit	
• 7" touch	A
• 9" Touch	B
• 12" touch	C
• 15" touch front USB	D
• 19" touch front USB	E
• 15" multi-touch (with WES7-E only single-touch mode)	F
• 19" multi-touch (with WES7-E only single-touch mode)	G
Processor	
• Celeron N2807 (2C/2T)	A
• Celeron N2930 (4C/4T)	B
• Celeron N2807 (2C/2T) / TPM	C
• Celeron N2930 (4C/4T) / TPM	D
Work memory / NVRAM	
• 2 GB	1
• 4 GB	2
• 8 GB	3
• 2 GB / NVRAM	4
• 4 GB / NVRAM	5
• 8 GB / NVRAM	6
Operating system	
• Without OS	0
• Windows Embedded Standard 7 E SP1, English, 32-bit	1
• Windows Embedded Standard 7 E SP1, English, 64-bit	2
• Windows Embedded Standard 7 P SP1, English, 32-bit	3
• Windows Embedded Standard 7 P SP1, English, 64-bit	4
• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)	5
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	6
• Windows 10 IoT Enterprise LTSB 2016, 64-bit, MUI (en, de, fr, it, es)	7

	Article No.
SIMATIC IPC277E (continued)	**6AV7882 - 0 ■ ■ ■ 0 - ■ ■ ■ 0**
Mass storage	
• None	A
• 80 GB SSD	B
• 240 GB SSD	C
• 4 GB CFast	K
• 8 GB CFast	L
• 16 GB CFast	M
Software	
• Without SIMATIC software	A
• CPU 1507S	B
• WinCC RT Advanced V14, 128 PT	D
• WinCC RT Advanced V14, 512 PT	E
• WinCC RT Advanced V14, 2 048 PT	F
• WinCC RT Advanced V14, 4 096 PT	G
• CPU 1507S / WinCC RT Advanced V14, 128 PT	J
• CPU 1507S / WinCC RT Advanced V14, 512 PT	K
• CPU 1507S / WinCC RT Advanced V14, 2 048 PT	L
• CPU 1507S / WinCC RT Advanced V14, 4 096 PT	M

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-panel-ipc

Overview

SIMATIC IPC277D: The embedded Nanopanel PC – maintenance-free and compact with displays starting from 7"

- Offers great flexibility in the selection of rugged widescreen fronts
- From 7" to 19" for more freely configurable display area
- High resolution, large viewing angle, and up to 100% dimmable backlighting for a brilliant display with optimized power consumption
- Absolutely maintenance-free due to the use of CompactFlash and SSD as mass storage and fanless operation up to 50 °C ambient temperature
- Maximum industrial functionality due to non-volatile retentive memory
- Ready-to-use embedded bundles with visualization or/and control software

The following front installation versions are available:

- 7" touch
- 9" touch
- 12" touch
- 15" touch with USB interface on the front
- 19" touch with USB interface on the front
- All fronts as widescreen version

Technical specifications

Article number	**6AV7881-.A.0.-...0** SIMATIC IPC277D
Installation type/mounting	
Design	Panel PC, built-in unit
maximum permissible installation angle +/-	45°
Supply voltage	
Type of supply voltage	24 V DC
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Intel Atom E6x0
Drives	
Optical drives	possible as external drive via USB
Hard disk	CF or SSD
SSD	Yes; ≥ 80 GB optional
Memory	
Work memory	1 GB to 2 GB
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	128 kbyte
Interfaces	
USB port	Yes
Connection for keyboard/mouse	USB / USB
serial interface	COM1 (RS 232)
Industrial Ethernet	
• Industrial Ethernet interface	2 x Fast Ethernet
- 100 Mbps	Yes
- 1000 Mbps	Yes
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	No
• Fan	No

Article number	**6AV7881-.A.0.-...0** SIMATIC IPC277D
Degree and class of protection	
IP (at the front)	IP65
IP (rear)	IP20
Standards, approvals, certificates	
Approval	CE, cULus (508)
CE mark	Yes
cULus	Yes
Marine approval	
• Germanischer Lloyd (GL)	Yes; 7", 9", 12"
• American Bureau of Shipping (ABS)	Yes; 7", 9", 12"
• Bureau Veritas (BV)	Yes; 7", 9", 12"
• Det Norske Veritas (DNV)	Yes; 7", 9", 12"
• Lloyds Register of Shipping (LRS)	Yes; 7", 9", 12"
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 °C to 50 °C
• min.	0 °C
• max.	50 °C; 19": max. 45 °C
Operating systems	
Operating system	Windows 7 Ultimate (Multi-Language) 32-bit / 64-bit
pre-installed operating system	Yes
pre-installed operating system	
• Windows XP Professional	Yes
• Windows 7	Yes
Software	
SIMATIC Software	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX

Technical specifications (continued)

Article number	**6AV7881-1A.0.-...0** SIMATIC IPC277D, 7" TOUCH	**6AV7881-2A.0.-...0** SIMATIC IPC277D, 9" TOUCH	**6AV7881-3A.0.-...0** SIMATIC IPC277D, 12" TOUCH	**6AV7881-4A.0.-...0** SIMATIC IPC277D, 15" TOUCH	**6AV7881-5A.0.-...0** SIMATIC IPC277D, 19" TOUCH
Display					
Design of display	7" TFT touch	9" TFT touch	12" TFT touch	15" TFT touch	19" TFT touch
Screen diagonal	7 in	9 in	12 in	15 in	19 in
Resolution (pixels)					
• Horizontal image resolution	800 Pixel	800 Pixel	1 280 Pixel	1 280 Pixel	1 366 Pixel
• Vertical image resolution	480 Pixel	480 Pixel	800 Pixel	800 Pixel	768 Pixel
Backlighting					
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	80 000 h	80 000 h	80 000 h
Control elements					
Input device					
• Mouse, at front	No	No	No	No	No
Keyboard fonts					
• Function keys	No	No	No	No	No
• Numeric/alphabetical input					
- alphanumeric keyboard	No	No	No	No	No
Touch operation					
• Design as touch screen	Yes	Yes	Yes	Yes	Yes
Installation type/mounting					
Design	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit
central design	Yes	Yes	Yes	Yes	Yes
distributed design	No	No	No	No	No
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes
maximum permissible installation angle +/-	45°	45°	45°	45°	45°
Supply voltage					
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
Mains buffering					
• Mains/voltage failure stored energy time	20 ms	20 ms	20 ms	20 ms	20 ms
Power loss					
In full configuration	26.4 W	31.2 W	31.2 W	42 W	45 W
Processor					
Processor type	Intel Atom E6x0	Intel Atom E6x0	Intel Atom E6x0	Intel Atom E6x0	Intel Atom E6x0
Drives					
Optical drives	possible as external drive via USB	possible as external drive via USB	possible as external drive via USB	possible as external drive via USB	possible as external drive via USB
Hard disk	CF or SSD	CF or SSD	CF or SSD	CF or SSD	CF or SSD
SSD	Yes; ≥ 80 GB optional	Yes; ≥ 80 GB optional	Yes; ≥ 80 GB optional	Yes; ≥ 80 GB optional	Yes; ≥ 80 GB optional
Memory					
Work memory	1 GB to 2 GB	1 GB to 2 GB	1 GB to 2 GB	1 GB to 2 GB	1 GB to 2 GB
Data areas and their retentivity					
Retentive data area (incl. timers, counters, flags), max.	128 kbyte	128 kbyte	128 kbyte	128 kbyte	128 kbyte
Interfaces					
USB port	Yes	Yes	Yes	Yes	Yes
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB	USB / USB	USB / USB
serial interface	COM1 (RS 232)	COM1 (RS 232)	COM1 (RS 232)	COM1 (RS 232)	COM1 (RS 232)
Industrial Ethernet					
• Industrial Ethernet interface	2 x Fast Ethernet	2 x Fast Ethernet	2 x Fast Ethernet	2 x Fast Ethernet	2 x Fast Ethernet
- 100 Mbps	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes

Technical specifications (continued)

Article number	**6AV7881-1A.0.-...0** SIMATIC IPC277D, 7" TOUCH	**6AV7881-2A.0.-...0** SIMATIC IPC277D, 9" TOUCH	**6AV7881-3A.0.-...0** SIMATIC IPC277D, 12" TOUCH	**6AV7881-4A.0.-...0** SIMATIC IPC277D, 15" TOUCH	**6AV7881-5A.0.-...0** SIMATIC IPC277D, 19" TOUCH
Integrated Functions					
Monitoring functions					
• Temperature monitoring	Yes	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes	Yes
• Status LEDs	No	No	No	No	No
• Fan	No	No	No	No	No
Degree and class of protection					
IP (at the front)	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20	IP20	IP20
Standards, approvals, certificates					
Approval	CE, cULus (508)	CE, cULus (508)	CE, cULus (508)	CE, cULus (508)	CE, cULus (508)
CE mark	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes
Marine approval					
• Germanischer Lloyd (GL)	Yes; 7", 9", 12"	Yes; 7", 9", 12"	Yes; 7", 9", 12"	Yes; 7", 9", 12"	Yes; 7", 9", 12"
• American Bureau of Shipping (ABS)	Yes; 7", 9", 12"	Yes; 7", 9", 12"	Yes; 7", 9", 12"	Yes; 7", 9", 12"	Yes; 7", 9", 12"
• Bureau Veritas (BV)	Yes; 7", 9", 12"	Yes; 7", 9", 12"	Yes; 7", 9", 12"	Yes; 7", 9", 12"	Yes; 7", 9", 12"
• Det Norske Veritas (DNV)	Yes; 7", 9", 12"	Yes; 7", 9", 12"	Yes; 7", 9", 12"	Yes; 7", 9", 12"	Yes; 7", 9", 12"
• Lloyds Register of Shipping (LRS)	Yes; 7", 9", 12"	Yes; 7", 9", 12"	Yes; 7", 9", 12"	Yes; 7", 9", 12"	Yes; 7", 9", 12"
Ambient conditions					
Ambient temperature during operation					
• Ambient temperature during operation	0 °C to 50 °C	0 °C to 50 °C	0 °C to 50 °C	0 °C to 50 °C	0 °C to 50 °C
• min.	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	50 °C; 19": max. 45 °C	50 °C; 19": max. 45 °C	50 °C; 19": max. 45 °C	50 °C; 19": max. 45 °C	50 °C; 19": max. 45 °C
Operating systems					
Operating system	Windows 7 Ultimate (Multi-Language) 32-bit / 64-bit	Windows 7 Ultimate (Multi-Language) 32-bit / 64-bit	Windows 7 Ultimate (Multi-Language) 32-bit / 64-bit	Windows 7 Ultimate (Multi-Language) 32-bit / 64-bit	Windows 7 Ultimate (Multi-Language) 32-bit / 64-bit
pre-installed operating system	Yes	Yes	Yes	Yes	Yes
pre-installed operating system					
• Windows XP Professional	Yes	Yes	Yes	Yes	Yes
• Windows 7	Yes	Yes	Yes	Yes	Yes
Software					
SIMATIC Software	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX
Accessories					
Accessory components	Touch protective foil	Touch protective foil	Touch protective foil	Touch protective foil	Touch protective foil
Dimensions					
Operator control unit (W x H) in mm	214 mm x 158 mm	274 mm x 190 mm	330 mm x 241 mm	415 mm x 310 mm	483 mm x 337 mm
• Operator panel width	214 mm	274 mm	330 mm	415 mm	483 mm
• Operator panel height	158 mm	190 mm	241 mm	310 mm	337 mm
Install. dimensions, centralized design (W x H x D without optical drive) in mm					
• Width	197 mm	251 mm	310 mm	395 mm	464 mm
• Height	141 mm	166 mm	221 mm	290 mm	318 mm
• Depth	71 mm	71 mm	66 mm	73 mm	73 mm
Mounting cutout/device depth (W x H x T)	197 mm x 141 mm x 71 mm	251 mm x 166 mm x 71 mm	310 mm x 221 mm x 66 mm	395 mm x 290 mm x 73 mm	464 mm x 318 mm x 73 mm
Weights					
Panel PC in central design, approx.	1.5 kg	1.9 kg	2.75 kg	4 kg	5.7 kg

Ordering data

	Article No.
SIMATIC IPC277D Nanopanel PC	**6AV7881 - ■ A■ 0 0 - ■ ■ ■ 0**
Interfaces: 2 x Gbit LAN (RJ45), 1 x serial (COM1), 3 x USB	
Operator control unit	
• 7" touch TFT	**1**
• 9" touch TFT	**2**
• 12" touch TFT	**3**
• 15" touch TFT, front USB interface	**4**
• 19" touch TFT, front USB interface	**5**
Processors / memory configuration / NVRAM	
• Atom E640 (1.0 GHz), 1 GB RAM	**A**
• Atom E640 (1.0 GHz), 1 GB RAM, NVRAM	**B**
• Atom E660 (1.3 GHz), 2 GB RAM	**E**
• Atom E660 (1.3 GHz), 2 GB RAM, NVRAM	**F**
Drives	
• Without drive, with CF slot	**0**
• 2 GB SIMATIC PC CompactFlash	**1**
• 4 GB SIMATIC PC CompactFlash	**2**
• 8 GB SIMATIC PC CompactFlash	**3**
• 16 GB SIMATIC PC CompactFlash	**4**
• 240 GB solid-state drive SATA	**6**
• 80 GB solid-state drive SATA	**8**

	Article No.
SIMATIC IPC277D Nanopanel PC	**6AV7881 - ■ A■ 0 0 - ■ ■ ■ 0**
Operating system	
• Without operating system	**A**
• WES 2009 pre-installed (CF from 2 GB/SSD)	**B**
• XP Prof. MUI pre-installed on SSD	**C**
• WES 7 32 bit pre-installed (CF from 4 GB/SSD)	**D**
• Windows 7 MUI 32 bit pre-installed on SSD	**E**
Software bundles	
• Without RTX/HMI software	**A**
• RTX: WinAC RTX 2010	**B**
• RTX F: WinAC RTX F 2010	**C**
• HMI: WinCC RT Advanced 128 PT	**F**
• HMI: WinCC RT Advanced 512 PT	**G**
• HMI: WinCC RT Advanced 2 048 PT	**H**
• HMI/RTX: RT 128 PT	**M**
• HMI/RTX: RT 512 PT	**N**
• HMI/RTX: RT 2 048 PT	**P**
• HMI/RTX F: RT 128 PT	**R**
• HMI/RTX F: RT 512 PT	**S**
• HMI/RTX F: RT 2 048 PT	**T**

Please be sure to note:

The IPC277D with bundled software is always supplied with a CF card inserted.
The licenses are on the supplied USB flash drive.

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

Accessories	
Bracket clamp, long for 15", 19" and 22" widescreen, Comfort Panels, IPC, Flat Panel monitors and Thin Client (except SCD1900 19" widescreen)	**6AV6671-8XK00-0AX4**
Protective film	see "Accessories"
Touch pen	see "Accessories -> Input aids"

More information

More information can be found on the Internet at:

http://www.siemens.com/simatic-panel-pc

SIMATIC IPC477E

Overview

SIMATIC IPC477E: The powerful embedded Panel PC – maintenance-free with versatile configuration

- Embedded PC platform with extremely high industrial compatibility for demanding tasks in the field of PC-based automation
- Maintenance-free (no rotating components such as fan and hard disk)
- Rugged construction: The PC is resistant to even the harshest mechanical stress and extremely reliable in operation
- Compact design
- Battery-independent retentive memory onboard
- High degree of investment security
- Fast integration capability
- Built-in versions
  - 15" TFT touch
  - 19" TFT touch
  - 22" TFT touch
  - 15" TFT multi-touch
  - 19" TFT multi-touch
  - 22" TFT multi-touch

Technical specifications

Article number	**6AV7241-.....-....** SIMATIC IPC477E
Installation type/mounting	
Design	Panel PC, built-in unit
Supply voltage	
Type of supply voltage	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Processor	
Processor type	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB Cache); Core i3-6102E (2C/4T, 1.9 GHz, 3 MB Cache); Core i5-6442EQ (4C/4T, 1.9 (2.7) GHz, 6 MB Cache, iAMT); Xeon E3-1505L v5 (4C/8T, 2.0 (2.8) GHz, 8 MB Cache, iAMT)
Graphic	
Graphics controller	Intel HD graphics controller
Drives	
SSD	Yes
Memory	
Type of memory	DDR4 SO-DIMM
Work memory	4 GB to 16 GB, ECC optional
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional
Interfaces	
Number of Industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
Number of USB interfaces	4; USB 3.0
USB port	4x USB 3.0
Connection for keyboard/mouse	USB / USB
serial interface	Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS
Video interfaces	
• Graphics interface	2x DisplayPort
Industrial Ethernet	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 1000 Mbps	Yes

Article number	**6AV7241-.....-....** SIMATIC IPC477E
Integrated Functions	
Monitoring functions	
• Watchdog	Yes
Degree and class of protection	
IP (at the front)	IP65
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes; CE marking / EC Declaration of Conformity
CSA approval	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
• Polski Rejestr Statkow (PRS)	Yes
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 to +45°C
• min.	0 °C
• max.	45 °C
Relative humidity	
• Relative humidity	5% - 80% at 25 °C

Technical specifications (continued)

Article number	6AV7241-.....-.... SIMATIC IPC477E
Vibrations	
• Vibration load in operation	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s² (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s² (hard disk)
Shock testing	
• Shock load during operation	IEC 60068-2-27; 150 m/s², 11 ms (without hard disk); 50 m/s², 30 ms (with hard disk)

Article number	6AV7241-.....-.... SIMATIC IPC477E
Operating systems	
Operating system	Windows 7 Ultimate (Multi-Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 64 bit

Article number	6AV7241-.B...-.... SIMATIC IPC477E, 15" Touch	6AV7241-.D...-.... SIMATIC IPC477E, 19" Touch	6AV7241-.E...-.... SIMATIC IPC477E, 22" Touch
General information			
Product type designation	15" touch	19" touch	22" touch
Display			
Design of display	15" TFT touch	19" TFT touch	22" TFT touch
Screen diagonal	15.6 in	18.5 in	21.5 in
Resolution (pixels)			
• Horizontal image resolution	1 280 Pixel	1 366 Pixel	1 920 Pixel
• Vertical image resolution	800 Pixel	768 Pixel	1 080 Pixel
Backlighting			
• MTBF backlighting (at 25 °C)	80 000 h	50 000 h	30 000 h
Control elements			
Input device			
• Mouse, at front	No	No	No
Keyboard fonts			
• Numeric/alphabetical input			
- alphanumeric keyboard	No	No	No
Touch operation			
• Design as touch screen	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive
Installation type/mounting			
central design	Yes	Yes	Yes
distributed design	No	No	No
Mounting in portrait format possible	Yes	Yes	Yes
Power loss			
In full configuration	24 V DC: max. 65 W, PCIe APCB additionally 5 W	24 V DC: max. 65 W, PCIe APCB additionally 5 W	24 V DC: max. 74 W, PCIe APCB additionally 5 W
Dimensions			
Operator control unit (W x H) in mm			
• Operator panel width	415 mm	483 mm	560 mm
• Operator panel height	310 mm	337 mm	380 mm
Install. dimensions, centralized design (W x H x D without optical drive) in mm			
• Width	394 mm	464 mm	542 mm
• Height	289 mm	318 mm	362 mm
• Depth	76 mm	76 mm	83 mm
Mounting cutout/device depth (W x H x T)	396 mm x 291 mm x 76 mm		
Weights			
Panel PC in central design, approx.	6.8 kg	8.4 kg	9.5 kg

Ordering data

	Article No.
SIMATIC IPC477E 1)	**6AV7241 - ■■■■■ - ■■■■**
Processor and fieldbus	
• Celeron G3902E; 3 x Gigabit Ethernet (IE/PN)	**1**
• Core i3-6102E; 3 x Gigabit Ethernet (IE/PN)	**2**
• Core i5-6442EQ; 3 x Gigabit Ethernet (IE/PN)	**5**
• Xeon E3-1505L; 3 x Gigabit Ethernet (IE/PN)	**7**
Operator control unit	
• 15" Single-touch (1 280 x 800) with front USB	**B**
• 19" Single-touch (1 366 x 768) with front USB	**D**
• 22" Single-touch (1 920 x 1 080) with front USB	**E**
• 15" Multi-touch (1 366 x 768), single-touch mode only with WES7-E	**J**
• 19" Multi-touch (1 366 x 768), single-touch mode only with WES7-E	**K**
• 22" Multi-touch (1 920 x 1 080), single-touch mode only with WES7-E	**L**
Work memory/NVRAM	
• 4 GB	**A**
• 8 GB	**B**
• 16 GB	**C**
• 8 GB with ECC	**D**
• 16 GB with ECC	**E**
• 4 GB and NVRAM	**F**
• 8 GB and NVRAM	**G**
• 16 GB and NVRAM	**H**
• 8 GB with ECC and NVRAM	**J**
• 16 GB with ECC and NVRAM	**K**
Expansions/interface	
• No RS 232/RS 485, without PCIe	**0**
• No RS 232/RS 485 and one PCIe	**1**
• Second RS 232/RS 485, without PCIe	**3**
• Second RS 232/RS 485 and one PCIe	**4**
Operating system	
• Without operating system	**0**
• Windows Embedded Standard 7 SP1, English, 32-bit	**1**
• Windows Embedded Standard 7 SP1, English, 64-bit	**2**
• Windows Embedded Standard 7 P SP1, English, 64-bit, multi-touch	**3**
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	**4**
• Windows 10 IoT Enterprise 2016 LTSB (64-bit) for the Celeron, Core i3 and Core i5 processors	**7**
• Windows 10 IoT Enterprise 2016 LTSB (64-bit) for Xeon processor	**8**

	Article No.
SIMATIC IPC477E 1)	**6AV7241 - ■■■■■ - ■■■■**
Mass storage, externally accessible	
• Without external mass storage	**0**
• CFast 2 GB, without operating system	**1**
• CFast 4 GB, without operating system	**2**
• CFast 8 GB (only optionally with operating system/software if no internal mass storage or HDD)	**3**
• CFast 16 GB (only optionally with operating system/software if no internal mass storage or HDD)	**4**
• CFast 30 GB (only optionally with operating system/software if no internal mass storage or HDD)	**5**
Mass storage, internal	
• Without internal mass storage	**A**
• 80 GB solid-state drive SATA	**E**
• 240 GB solid-state drive SATA	**F**
• 480 GB solid-state drive SATA	**G**
• 320 GB HDD	**J**
SIMATIC software (bundles)	
• Without SIMATIC software	**A**
• CPU 1507S	**B**
• WinCC RT Advanced V14 SP1	
- 128 PT	**C**
- 512 PT	**D**
- 2 048 PT	**E**
- 4 096 PT	**F**
- 8 192 PT	**G**
• CPU 1507S / WinCC RT Advanced V14 SP1	
- 128 PT	**H**
- 512 PT	**J**
- 2 048 PT	**K**
- 4 096 PT	**L**
- 8 192 PT	**M**
Power supply:	
• 24 V DC industrial power supply	**0**
• 110/230 V AC industrial power supply with NAMUR; European power cable	**1**
• 110/230 V AC industrial power supply with TPM 2) (not for China or Russia) NAMUR, European power cable	**7**
• 24 V DC industrial power supply and TPM 2) (not for China or Russia)	**8**

1) For an up-to-date overview, see the SIMATIC PC online configurator: http://www.siemens.com/ipc-configurator

2) TPM = Trusted Platform Module

4

Overview

SIMATIC IPC477D: The powerful embedded Panel PC – maintenance-free with versatile configuration

- Embedded PC platform with extremely high industrial compatibility for demanding tasks in the field of PC-based automation
- Maintenance-free (no rotating components such as fan and hard disk)
- Rugged construction: The PC is resistant to even the harshest mechanical stress and is extremely reliable in operation
- Compact design
- Battery-independent retentive memory onboard
- High degree of investment security
- Fast integration capability

Now available as fully enclosed IPC477D PRO 19" (degree of protection IP65).

The following front versions are available:

- Built-in versions
  - 12" TFT touch
  - 15" TFT touch
  - 15" TFT touch/key
  - 19" TFT touch
  - 22" TFT touch
  - 15" TFT multi-touch
  - 19" TFT multi-touch
  - 22" TFT multi-touch
  - 15" TFT multi-touch with shipbuilding certificate
  - 19" TFT multi-touch with shipbuilding certificate
  - 22" TFT multi-touch with shipbuilding certificate

4

Technical specifications

Article number	**6AV7240-.....-....** SIMATIC IPC 477D
Installation type/mounting	
Mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit
Supply voltage	
Type of supply voltage	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	10 ms
Processor	
Processor type	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)
Graphic	
Graphics controller	Intel HD graphics controller

Article number	**6AV7240-.....-....** SIMATIC IPC 477D
Drives	
Optical drives	Optional: DVD±R±RW combi drive; on rear, can be operated from side
Hard disk	2.5" SATA hard disk, at least 250 GB
SSD	Yes; ≥ 80 GB, optional ≥ 160 GB
Memory	
Type of memory	DDR3-SDRAM
Work memory	1 GB to 8 GB, ECC optional
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration	
Slots	
• free slots	1x PCIe (slot with card retainer), 1x slot for CFAST card

Technical specifications (continued)

Article number	**6AV7240-.....-....** SIMATIC IPC 477D
Interfaces	
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible
Number of PROFINET interfaces	3; 3 ports (incl. switch)
USB port	4x USB 3.0 high speed/high current
Connection for keyboard/mouse	USB / USB
serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232
Video interfaces	
• Graphics interface	DVI VGA / DVI integrated
Industrial Ethernet	
• Industrial Ethernet interface	Onboard, 2 x 10/100 Mbit/s, RJ45, no plug-in card necessary
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Yes
• Monitoring function via network	Optional
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	+/-2 kV (to IEC 1000-4-4; 1995; burst); +/-1 kV (to IEC 1000-4-5; 1995; surge symm); +/-2 kV (to IEC 1000-4-5; 1995; surge asymm)
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric

Article number	**6AV7240-.....-....** SIMATIC IPC 477D
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection	
IP (at the front)	IP65
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A
• EN 61000-6-2	Yes
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 °C to +50 °C with full configuration
• min.	0 °C
• max.	50 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s^2 (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s^2 (hard disk)
Shock testing	
• Shock load during operation	IEC 60068-2-27; 150 m/s^2, 11 ms (without hard disk); 50 m/s^2, 30 ms (with hard disk)
Operating systems	
Operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32 bits or 64 bits
Software	
SIMATIC Software	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX

Technical specifications (continued)

Article number	**6AV7240-.A...-....** SIMATIC IPC 477D, 12" TOUCH	**6AV7240-.B...-....** SIMATIC IPC 477D, 15" TOUCH	**6AV7240-.C...-....** SIMATIC IPC 477D, 15" TOUCH/KEY	**6AV7240-.D...-....** SIMATIC IPC 477D, 19" TOUCH	**6AV7240-.E...-....** SIMATIC IPC 477D, 22" TOUCH
General information					
Product type designation	12" touch	15" touch	15" touch/key	19" touch	22" touch
Display					
Design of display	12" TFT touch	15" TFT touch	15" TFT touch	19" TFT touch	22" TFT touch
Screen diagonal	12 in	15 in	15 in		
Resolution (pixels)					
• Horizontal image resolution	1 280 Pixel	1 280 Pixel	1 280 Pixel	1 366 Pixel	1 920 Pixel
• Vertical image resolution	800 Pixel	800 Pixel	800 Pixel	768 Pixel	1 080 Pixel
Backlighting					
• MTBF backlighting (at 25 °C)		80 000 h	50 000 h	50 000 h	30 000 h
Control elements					
Input device					
• Mouse, at front	No	Front USB 2.0 (500mA)	Front USB 2.0 (500mA)	Front USB 2.0 (500mA)	Front USB 2.0 (500mA)
Keyboard fonts					
• Function keys	No	No	Yes	No	No
- Number of function keys with LEDs			36		
• Numeric/alphabetical input					
- alphanumeric keyboard	No		Yes	No	No
Touch operation					
• Design as touch screen	Yes	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive
Installation type/mounting					
Mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit
central design	Yes	Yes	Yes	Yes	Yes
distributed design	No	No	No	No	No
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes
Supply voltage					
Type of supply voltage	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC
Line frequency					
• Rated value 50 Hz	Yes	Yes	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes	Yes	Yes
Mains buffering					
• Mains/voltage failure stored energy time	10 ms	10 ms	10 ms	10 ms	10 ms
Power loss					
In full configuration			24 V DC: max. 56 W, PCIe APCB additionally 5 W	24 V DC: max. 65 W, PCIe APCB additionally 5 W	24 V DC: max. 74 W, PCIe APCB additionally 5 W
Processor					
Processor type	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)
Graphic					
Graphics controller	Intel HD graphics controller	Intel HD graphics controller	Intel HD graphics controller	Intel HD graphics controller	Intel HD graphics controller
Drives					
Optical drives	Optional: DVD±R±RW combi drive; on rear, can be operated from side	Optional: DVD±R±RW combi drive; on rear, can be operated from side	Optional: DVD±R±RW combi drive; on rear, can be operated from side	Optional: DVD±R±RW combi drive; on rear, can be operated from side	Optional: DVD±R±RW combi drive; on rear, can be operated from side
Hard disk	2.5" SATA hard disk, at least 250 GB	2.5" SATA hard disk, at least 250 GB	2.5" SATA hard disk, at least 250 GB	2.5" SATA hard disk, at least 250 GB	2.5" SATA hard disk, at least 250 GB
SSD	Yes; ≥ 80 GB, optional ≥ 160 GB	Yes; ≥ 80 GB, optional ≥ 160 GB	Yes; ≥ 80 GB, optional ≥ 160 GB	Yes; ≥ 80 GB, optional ≥ 160 GB	Yes; ≥ 80 GB, optional ≥ 160 GB

Technical specifications (continued)

Article number	6AV7240-.A...-.... SIMATIC IPC 477D, 12" TOUCH	6AV7240-.B...-.... SIMATIC IPC 477D, 15" TOUCH	6AV7240-.C...-.... SIMATIC IPC 477D, 15" TOUCH/KEY	6AV7240-.D...-.... SIMATIC IPC 477D, 19" TOUCH	6AV7240-.E...-.... SIMATIC IPC 477D, 22" TOUCH
Memory					
Type of memory	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM
Work memory	1 GB to 8 GB, ECC optional	1 GB to 8 GB, ECC optional	1 GB to 8 GB, ECC optional	1 GB to 8 GB, ECC optional	1 GB to 8 GB, ECC optional
Data areas and their retentivity					
Retentive data area (incl. timers, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration					
Slots					
• free slots	1x PCIe (slot with card retainer), 1x slot for CFAST card	1x PCIe (slot with card retainer), 1x slot for CFAST card	1x PCIe (slot with card retainer), 1x slot for CFAST card	1x PCIe (slot with card retainer), 1x slot for CFAST card	1x PCIe (slot with card retainer), 1x slot for CFAST card
Interfaces					
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible	Optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible	Optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible	Optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible	Optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible
Number of PROFINET interfaces	3; 3 ports (incl. switch)	3; 3 ports (incl. switch)	3; 3 ports (incl. switch)	3; 3 ports (incl. switch)	3; 3 ports (incl. switch)
USB port	4x USB 3.0 high speed/high current	4x USB 3.0 high speed/high current	4x USB 3.0 high speed/high current	4x USB 3.0 high speed/high current	4x USB 3.0 high speed/high current
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB	USB / USB	USB / USB
serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232	COM1: 1x RS 232, COM2 (optional): 1x RS 232	COM1: 1x RS 232, COM2 (optional): 1x RS 232	COM1: 1x RS 232, COM2 (optional): 1x RS 232	COM1: 1x RS 232, COM2 (optional): 1x RS 232
Video interfaces					
• Graphics interface	DVI VGA / DVI integrated	DVI VGA / DVI integrated	DVI VGA / DVI integrated	DVI VGA / DVI integrated	DVI VGA / DVI integrated
Industrial Ethernet					
• Industrial Ethernet interface	Onboard, 2 x 10/100 Mbit/s, RJ45, no plug-in card necessary	Onboard, 2 x 10/100 Mbit/s, RJ45, no plug-in card necessary	Onboard, 2 x 10/100 Mbit/s, RJ45, no plug-in card necessary	Onboard, 2 x 10/100 Mbit/s, RJ45, no plug-in card necessary	Onboard, 2 x 10/100 Mbit/s, RJ45, no plug-in card necessary
Integrated Functions					
Monitoring functions					
• Temperature monitoring	Yes	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes	Yes
• Status LEDs	Yes	Yes	Yes	Yes	Yes
• Monitoring function via network	Optional	Optional	Optional	Optional	Optional
EMC					
Interference immunity against discharge of static electricity					
• Interference immunity against discharge of static electricity	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields					
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6

Technical specifications (continued)

Article number	**6AV7240-.A...-....** SIMATIC IPC 477D, 12" TOUCH	**6AV7240-.B...-....** SIMATIC IPC 477D, 15" TOUCH	**6AV7240-.C...-....** SIMATIC IPC 477D, 15" TOUCH/KEY	**6AV7240-.D...-....** SIMATIC IPC 477D, 19" TOUCH	**6AV7240-.E...-....** SIMATIC IPC 477D, 22" TOUCH
Interference immunity to cable-borne interference					
• Interference immunity on supply cables	+/-2 kV (to IEC 1000-4-4; 1995; burst); +/-1 kV (to IEC 1000-4-5; 1995; surge symm); +/-2 kV (to IEC 1000-4-5; 1995; surge asymm)	+/-2 kV (to IEC 1000-4-4; 1995; burst); +/-1 kV (to IEC 1000-4-5; 1995; surge symm); +/-2 kV (to IEC 1000-4-5; 1995; surge asymm)	+/-2 kV (to IEC 1000-4-4; 1995; burst); +/-1 kV (to IEC 1000-4-5; 1995; surge symm); +/-2 kV (to IEC 1000-4-5; 1995; surge asymm)	+/-2 kV (to IEC 1000-4-4; 1995; burst); +/-1 kV (to IEC 1000-4-5; 1995; surge symm); +/-2 kV (to IEC 1000-4-5; 1995; surge asymm)	+/-2 kV (to IEC 1000-4-4; 1995; burst); +/-1 kV (to IEC 1000-4-5; 1995; surge symm); +/-2 kV (to IEC 1000-4-5; 1995; surge asymm)
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge					
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields					
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference					
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection					
IP (at the front)	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20	IP20	IP20
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes
• UL 508	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes
FCC	Yes	Yes	Yes	Yes	Yes
EMC	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A
• EN 61000-6-2	Yes	Yes	Yes	Yes	Yes
Marine approval					
• Germanischer Lloyd (GL)	Yes	Yes	Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes	Yes	Yes

Technical specifications (continued)

Article number	**6AV7240-.A...-....** SIMATIC IPC 477D, 12" TOUCH	**6AV7240-.B...-....** SIMATIC IPC 477D, 15" TOUCH	**6AV7240-.C...-....** SIMATIC IPC 477D, 15" TOUCH/KEY	**6AV7240-.D...-....** SIMATIC IPC 477D, 19" TOUCH	**6AV7240-.E...-....** SIMATIC IPC 477D, 22" TOUCH
Ambient conditions					
Ambient temperature during operation					
• Ambient temperature during operation	0 °C to +50 °C with full configuration	0 °C to +50 °C with full configuration	0 °C to +50 °C with full configuration	0 °C to +50 °C with full configuration	0 °C to +50 °C with full configuration
• min.	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C	50 °C
Relative humidity					
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations					
• Vibration load in operation	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s^2 (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s^2 (hard disk)	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s^2 (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s^2 (hard disk)	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s^2 (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s^2 (hard disk)	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s^2 (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s^2 (hard disk)	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s^2 (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s^2 (hard disk)
Shock testing					
• Shock load during operation	IEC 60068-2-27; 150 m/s^2, 11 ms (without hard disk); 50 m/s^2, 30 ms (with hard disk)	IEC 60068-2-27; 150 m/s^2, 11 ms (without hard disk); 50 m/s^2, 30 ms (with hard disk)	IEC 60068-2-27; 150 m/s^2, 11 ms (without hard disk); 50 m/s^2, 30 ms (with hard disk)	IEC 60068-2-27; 150 m/s^2, 11 ms (without hard disk); 50 m/s^2, 30 ms (with hard disk)	IEC 60068-2-27; 150 m/s^2, 11 ms (without hard disk); 50 m/s^2, 30 ms (with hard disk)
Operating systems					
Operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes	Yes	Yes	Yes	Yes
without operating system	Yes	Yes	Yes	Yes	Yes
pre-installed operating system					
• Windows 7	Yes; Ultimate 32 bits or 64 bits	Yes; Ultimate 32 bits or 64 bits	Yes; Ultimate 32 bits or 64 bits	Yes; Ultimate 32 bits or 64 bits	Yes; Ultimate 32 bits or 64 bits
Software					
SIMATIC Software	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX
Dimensions					
Width of the housing front		415 mm			
Height of housing front		310 mm			
Overall depth					
• additional mounting depth (optical drive)		27 mm	27 mm	27 mm	27 mm
Operator control unit (W x H) in mm			483 mm x 310 mm (19", 7 HU)		
• Operator panel width	330 mm		483 mm	483 mm	560 mm
• Operator panel height	241 mm		310 mm	337 mm	380 mm
Install. dimensions, centralized design (W x H x D without optical drive) in mm					
• Width	310 mm		450 mm	464 mm	542 mm
• Height	221 mm		290 mm	318 mm	362 mm
• Depth	83 mm		76 mm	76 mm	76 mm
Mounting cutout/device depth (W x H x T)		396 mm x 291 mm x 76 mm			
Weights					
Panel PC in central design, approx.	3 200 g	4.9 kg	5.7 kg	6 400 g	7 kg

Technical specifications (continued)

Article number	**6AV7240-.H...-....** SIMATIC IPC 477D, 15" MTOUCH	**6AV7240-.K...-....** SIMATIC IPC 477D, 19" MTOUCH	**6AV7240-.L...-....** SIMATIC IPC 477D, 22" MTOUCH
General information			
Product type designation	15" multi-touch	19" multi-touch	22" multi-touch
Display			
Design of display	15" TFT multi-touch	19" TFT multi-touch	22" TFT multi-touch
Screen diagonal	15 in		
Resolution (pixels)			
• Horizontal image resolution	1 366 Pixel	1 366 Pixel	1 920 Pixel
• Vertical image resolution	768 Pixel	768 Pixel	1 080 Pixel
Backlighting			
• MTBF backlighting (at 25 °C)	80 000 h	50 000 h	30 000 h
Control elements			
Input device			
• Mouse, at front	No	No	No
Keyboard fonts			
• Function keys	No	No	No
Touch operation			
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
Installation type/mounting			
Mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit
central design	Yes	Yes	Yes
distributed design	No	No	No
Mounting in portrait format possible	Yes	Yes	Yes
Supply voltage			
Type of supply voltage	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC
Line frequency			
• Rated value 50 Hz	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes
Mains buffering			
• Mains/voltage failure stored energy time	10 ms	10 ms	10 ms
Power loss			
In full configuration	24 V DC: max. 56 W, with a PCIe APCB additionally 5 W	24 V DC: max. 65 W, PCIe APCB additionally 5 W	24 V DC: max. 74 W, PCIe APCB additionally 5 W
Processor			
Processor type	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)
Graphic			
Graphics controller	Intel HD graphics controller	Intel HD graphics controller	Intel HD graphics controller
Drives			
Optical drives	Optional: DVD±R±RW combi drive; on rear, can be operated from side	Optional: DVD±R±RW combi drive; on rear, can be operated from side	Optional: DVD±R±RW combi drive; on rear, can be operated from side
Hard disk	2.5" SATA hard disk, at least 250 GB	2.5" SATA hard disk, at least 250 GB	2.5" SATA hard disk, at least 250 GB
SSD	Yes; ≥ 80 GB, optional ≥ 160 GB	Yes; ≥ 80 GB, optional ≥ 160 GB	Yes; ≥ 80 GB, optional ≥ 160 GB
Memory			
Type of memory	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM
Work memory	1 GB to 8 GB, ECC optional	1 GB to 8 GB, ECC optional	1 GB to 8 GB, ECC optional
Data areas and their retentivity			
Retentive data area (incl. timers, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration			
Slots			
• free slots	1x PCIe (slot with card retainer), 1x slot for CFAST card	1x PCIe (slot with card retainer), 1x slot for CFAST card	1x PCIe (slot with card retainer), 1x slot for CFAST card

Technical specifications (continued)

Article number	6AV7240-.H...-.... SIMATIC IPC 477D, 15" MTOUCH	6AV7240-.K...-.... SIMATIC IPC 477D, 19" MTOUCH	6AV7240-.L...-.... SIMATIC IPC 477D, 22" MTOUCH
Interfaces			
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible	Optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible	Optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible
Number of PROFINET interfaces	3; 3 ports (incl. switch)	3; 3 ports (incl. switch)	3; 3 ports (incl. switch)
USB port	4x USB 3.0 high speed/high current	4x USB 3.0 high speed/high current	4x USB 3.0 high speed/high current
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB
serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232	COM1: 1x RS 232, COM2 (optional): 1x RS 232	COM1: 1x RS 232, COM2 (optional): 1x RS 232
Video interfaces			
• Graphics interface	DVI VGA / DVI integrated	DVI VGA / DVI integrated	DVI VGA / DVI integrated
Industrial Ethernet			
• Industrial Ethernet interface	Onboard, 2 x 10/100 Mbit/s, RJ45, no plug-in card necessary	Onboard, 2 x 10/100 Mbit/s, RJ45, no plug-in card necessary	Onboard, 2 x 10/100 Mbit/s, RJ45, no plug-in card necessary
Integrated Functions			
Monitoring functions			
• Temperature monitoring	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes
• Status LEDs	Yes	Yes	Yes
• Monitoring function via network	Optional	Optional	Optional
EMC			
Interference immunity against discharge of static electricity			
• Interference immunity against discharge of static electricity	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields			
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference			
• Interference immunity on supply cables	+/-2 kV (to IEC 1000-4-4; 1995; burst); +/-1 kV (to IEC 1000-4-5; 1995; surge symm); +/-2 kV (to IEC 1000-4-5; 1995; surge asymm)	+/-2 kV (to IEC 1000-4-4; 1995; burst); +/-1 kV (to IEC 1000-4-5; 1995; surge symm); +/-2 kV (to IEC 1000-4-5; 1995; surge asymm)	+/-2 kV (to IEC 1000-4-4; 1995; burst); +/-1 kV (to IEC 1000-4-5; 1995; surge symm); +/-2 kV (to IEC 1000-4-5; 1995; surge asymm)
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge			
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields			
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference			
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A

Technical specifications (continued)

Article number	**6AV7240-.H...-....** SIMATIC IPC 477D, 15" MTOUCH	**6AV7240-.K...-....** SIMATIC IPC 477D, 19" MTOUCH	**6AV7240-.L...-....** SIMATIC IPC 477D, 22" MTOUCH
Degree and class of protection			
IP (at the front)	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
UL approval	Yes	Yes	Yes
• UL 508	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
FCC	Yes	Yes	Yes
EMC	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A
• EN 61000-6-2	Yes	Yes	Yes
Marine approval			
• Germanischer Lloyd (GL)	Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes
Ambient conditions			
Ambient temperature during operation			
• Ambient temperature during operation	0 °C to +50 °C with full configuration	0 °C to +50 °C with full configuration	0 °C to +50 °C with full configuration
• min.	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C
Relative humidity			
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations			
• Vibration load in operation	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s² (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s² (hard disk)	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s² (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s² (hard disk)	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s² (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s² (hard disk)
Shock testing			
• Shock load during operation	IEC 60068-2-27; 150 m/s², 11 ms (without hard disk); 50 m/s², 30 ms (with hard disk)	IEC 60068-2-27; 150 m/s², 11 ms (without hard disk); 50 m/s², 30 ms (with hard disk)	IEC 60068-2-27; 150 m/s², 11 ms (without hard disk); 50 m/s², 30 ms (with hard disk)
Operating systems			
Operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes	Yes	Yes
without operating system	Yes	Yes	Yes
pre-installed operating system			
• Windows 7	Yes; Ultimate 32 bits or 64 bits	Yes; Ultimate 32 bits or 64 bits	Yes; Ultimate 32 bits or 64 bits
Software			
SIMATIC Software	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX

Technical specifications (continued)

Article number	**6AV7240-.H...-....** SIMATIC IPC 477D, 15" MTOUCH	**6AV7240-.K...-....** SIMATIC IPC 477D, 19" MTOUCH	**6AV7240-.L...-....** SIMATIC IPC 477D, 22" MTOUCH
Dimensions			
Width of the housing front	415 mm		
Height of housing front	298 mm		
Overall depth			
• additional mounting depth (optical drive)	27 mm	27 mm	27 mm
Operator control unit (W x H) in mm			
• Operator panel width		483 mm	560 mm
• Operator panel height		337 mm	380 mm
Install. dimensions, centralized design (W x H x D without optical drive) in mm			
• Width	399 mm	464 mm	542 mm
• Height	280 mm	318 mm	362 mm
• Depth	76 mm	76 mm	76 mm
Mounting cutout/device depth (W x H x T)	399 mm x 280 mm x 76 mm		
Weights			
Panel PC in central design, approx.	4.9 kg	6 400 g	7 kg

Ordering data

	Article No.
SIMATIC IPC477D [1]	**6AV7240 - ■■■■■ - ■■■■**
Processor and fieldbus:	
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN)	**0**
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	**1**
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache) ; 2 x Gigabit Ethernet (IE/PN)	**3**
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	**4**
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	**5**
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN)	**6**
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	**7**
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 1 x Gigabit Ethernet (IE/PN) ; 1 x PROFINET (IRT, 3 ports)	**8**
Operator control unit:	
• 12" touch (1 280 x 800) (caution, restrictions regarding options: HDD, PCI, AC, DVD)	**A**
• 15" touch (1 280 x 800) with front USB	**B**
• 15" touch/key (1 280 x 800) with front USB	**C**
• 19" touch (1 366 x 768) with front USB	**D**
• 22" touch (1 920 x 1 080) with front USB	**E**
• 15" multi-touch (1 366 x 768) without front USB	**H**
• 19" multi-touch (1 366 x 768) without front USB	**K**
• 22" multi-touch (1 920 x 1 080) without front USB	**L**
• 15" multi-touch (1 366 x 768) without front USB, with shipbuilding certificate	**M**
• 19" multi-touch (1 366 x 768) without front USB, with shipbuilding certificate	**N**
• 22" multi-touch (1 920 x 1 080) without front USB with shipbuilding certificate	**P**
Work memory/NVRAM	
• 1 GB	**A**
• 2 GB	**B**
• 4 GB	**C**
• 8 GB	**D**
• 1 GB and NVRAM	**J**
• 2 GB and NVRAM	**K**
• 4 GB and NVRAM	**L**
• 8 GB and NVRAM	**M**

	Article No.
SIMATIC IPC477D [1]	**6AV7240 - ■■■■■ - ■■■■**
Expansions/interface:	
• 1 x RS 232, without PCIe	**0**
• 1 x RS 232 and one PCIe	**1**
• Two RS 232, without PCIe	**3**
• Two RS 232 and one PCIe	**4**
Operating system:	
• Without operating system	**0**
• Windows Embedded Standard 7 Professional, 32-bit, MUI	**3**
• Windows Embedded Standard 7 SP1, English, 32-bit	**4**
• Windows Embedded Standard 7 SP1, English, 64-bit	**5**
• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)	**6**
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	**7**
Externally accessible mass storage (without operating system):	
• Without external mass storage	**0**
• CFAST 2 GB, without operating system	**1**
• CFAST 4 GB [4]	**2**
• CFAST 8 GB [4]	**3**
• CFAST 16 GB [4]	**4**
• DVD	**6**
Internal mass storage:	
• Without internal mass storage	**A**
• CFAST 2 GB	**B**
• CFAST 4 GB	**C**
• CFAST 8 GB	**D**
• CFAST 16 GB	**E**
• SSD 80 GB Standard	**H**
• HDD 320 GB	**K**
• DVD	**L**
• SSD 80 GB standard with DVD	**N**
• SSD 240 GB standard without DVD	**P**
• HDD min. 320 GB with DVD	**Q**
SIMATIC software pre-installed (bundles):	
• Without SIMATIC software	**A**
• WinAC RTX 2010 [2]	**B**
• WinCC RT Advanced 128 PT	**C**
• WinCC RT Advanced 512 PT	**D**
• WinCC RT Advanced 2 048 PT	**E**
• WinCC RT Advanced 4 096 PT	**F**
• WinCC RT Advanced 128 PT, WinAC RTX [2]	**J**
• WinCC RT Advanced 512 PT, WinAC RTX [2]	**K**
• WinCC RT Advanced 2 048 PT, WinAC RTX [2]	**L**
• WinCC RT Advanced 4 096 PT, WinAC RTX [2]	**M**
• WinAC RTX 2010 F [2]	**N**
• WinCC RT Advanced 128 PT, WinAC RTX F [2]	**P**
• WinCC RT Advanced 512 PT, WinAC RTX F [2]	**Q**
• WinCC RT Advanced 2 048 PT, WinAC RTX F [2]	**R**
• WinCC RT Advanced 4 096 PT, WinAC RTX F [2]	**S**
• WinCC RT Professional Client/single-user station 128 PT	**Y**

Ordering data

Ordering data	Article No.
SIMATIC IPC477D [1)]	**6AV7240 - ■■■■■ - ■■■■**
Power supply:	
• 24 V DC industrial power supply	**0**
• 110/230 V AC industrial power supply with NAMUR; no power cable	**1**
• 110/230 V AC industrial power supply with NAMUR; European power cable	**2**
• 110/230 V AC industrial power supply with NAMUR; US power cable	**3**
• 110/230 V AC industrial power supply with NAMUR; Chinese power cable	**4**
• 110/230 V AC industrial power supply with NAMUR; Italian power cable	**5**
• 110/230 V AC industrial power supply with NAMUR; Swiss power cable	**6**
• 110/230 V AC industrial power supply with NAMUR; UK power cable	**7**
• 24 V DC industrial power supply and TPM [3)] (not for China or Russia)	**8**

1) Built to order versions with a delivery time of max. 15 working days and with identified repair.

2) Only with work memory and NVRAM.

3) TPM = Trusted Platform Module

4) Only optionally with operating system/software if no internal mass storage or HDD

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

Overview

SIMATIC IPC677D: The high-end Panel PC – with maximum performance, functional scope and expansion capability

PC platform with extremely high industrial compatibility for demanding tasks in the field of PC-based automation.

Rugged construction: The PC is resistant to even the harshest mechanical stress and is extremely reliable in operation.

- Compact design
- High degree of investment protection
- Fast integration capability

The following widescreen front variants are available:

- 15", 19" or 22" resistive single-touch color display with front USB
- 15", 19" or 22" capacitive multi-touch color display

Technical specifications

Article number	**6AV7260-.....-....** SIMATIC IPC677D
Installation type/mounting	
Mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit
maximum permissible installation angle +/-	20°
Supply voltage	
Type of supply voltage	100/240 V AC (autorange); 24 V DC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	10 ms
Processor	
Processor type	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)
Chipset	Intel DH82C226 PCH
Graphic	
Graphics controller	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)
Drives	
Optical drives	DVD±R±RW combi-drive, optional
Hard disk	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped
SSD	Yes; ≥ 240 GB optional

Article number	**6AV7260-.....-....** SIMATIC IPC677D
Memory	
Type of memory	DDR3 1600 DIMM
Work memory	2 / 4 / 8 / 16 GB; ECC optional
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration	
Slots	
• free slots	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer
Interfaces	
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622
Number of PROFINET interfaces	3; Optional
USB port	4x USB 3.0
Connection for keyboard/mouse	USB / USB
serial interface	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface	optional LPT1
Video interfaces	
• Graphics interface	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
Industrial Ethernet	
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Yes
• Fan	Yes
• Monitoring function via network	Optional

Technical specifications (continued)

Article number	6AV7260-.....-.... SIMATIC IPC677D
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection	
IP (at the front)	IP65
IP (rear)	IP20

Article number	6AV7260-.....-.... SIMATIC IPC677D
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005
• EN 61000-6-2	Yes
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	+5 °C to +45 °C with full configuration
• min.	5 °C
• max.	45 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)
Shock testing	
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s² (5 g), 30 ms, 100 shocks
Operating systems	
Operating system	Windows 7 Ultimate 32-bit/64-bit, MUI; Windows 10 IoT Enterprise LTSB 2015, 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32 bits or 64 bits
• Windows 10 IoT Enterprise	Yes; LTSB 2015, 64-bit, MUI
Software	
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX

Technical specifications (continued)

Article number	**6AV7260-0....-....** SIMATIC IPC677D, 15" Touch	**6AV7260-1....-....** SIMATIC IPC677D, 19" Touch	**6AV7260-2....-....** SIMATIC IPC677D, 22" Touch	**6AV7260-3....-....** SIMATIC IPC677D, 15" multi-touch	**6AV7260-4....-....** SIMATIC IPC677D, 19" multi-touch	**6AV7260-5....-....** SIMATIC IPC677D, 22" multi-touch
General information						
Product type designation	15" touch	19" touch	22" touch	15" multi-touch	19" multi-touch	22" multi-touch
Display						
Design of display	15" TFT touch	19" TFT touch	22" TFT touch	15" TFT multi-touch	19" TFT multi-touch	22" TFT multi-touch
Screen diagonal	15 in	19 in	22 in	15 in	19 in	22 in
Resolution (pixels)						
• Horizontal image resolution	1 280 Pixel	1 366 Pixel	1 920 Pixel	1 366 Pixel	1 366 Pixel	1 920 Pixel
• Vertical image resolution	800 Pixel	768 Pixel	1 080 Pixel	768 Pixel	768 Pixel	1 080 Pixel
Backlighting						
• MTBF backlighting (at 25 °C)	80 000 h	50 000 h	30 000 h	70 000 h	50 000 h	30 000 h
Control elements						
Input device						
• Mouse, at front	Front USB 2.0 (500mA)	Front USB 2.0 (500mA)	Front USB 2.0 (500mA)			
Touch operation						
• Design as touch screen	Yes; analog, resistive	Yes; analog, resistive	Yes; analog, resistive			
• Design as multi-touch screen				Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
Installation type/mounting						
Mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit
central design	Yes	Yes	Yes	Yes	Yes	Yes
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes
maximum permissible installation angle +/-	20°	20°	20°	20°	20°	20°
Supply voltage						
Type of supply voltage	100/240 V AC (autorange); 24 V DC	100/240 V AC (autorange); 24 V DC	100/240 V AC (autorange); 24 V DC	100/240 V AC (autorange); 24 V DC	100/240 V AC (autorange); 24 V DC	100/240 V AC (autorange); 24 V DC
Line frequency						
• Rated value 50 Hz	Yes	Yes	Yes	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes	Yes	Yes	Yes
Mains buffering						
• Mains/voltage failure stored energy time	10 ms	10 ms	10 ms	10 ms	10 ms	10 ms
Power loss						
In full configuration	155 W	155 W	165 W	155 W	155 W	165 W
Processor						
Processor type	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)
Chipset	Intel DH82C226 PCH	Intel DH82C226 PCH	Intel DH82C226 PCH	Intel DH82C226 PCH	Intel DH82C226 PCH	Intel DH82C226 PCH

Technical specifications (continued)

Article number	**6AV7260-0....-....** SIMATIC IPC677D, 15" Touch	**6AV7260-1....-....** SIMATIC IPC677D, 19" Touch	**6AV7260-2....-....** SIMATIC IPC677D, 22" Touch	**6AV7260-3....-....** SIMATIC IPC677D, 15" multi-touch	**6AV7260-4....-....** SIMATIC IPC677D, 19" multi-touch	**6AV7260-5....-....** SIMATIC IPC677D, 22" multi-touch
Graphic						
Graphics controller	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)
Drives						
Optical drives	DVD±R±RW combi-drive, optional	DVD±R±RW combi-drive, optional	DVD±R±RW combi-drive, optional	DVD±R±RW combi-drive, optional	DVD±R±RW combi-drive, optional	DVD±R±RW combi-drive, optional
Hard disk	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped
SSD	Yes; ≥ 240 GB optional	Yes; ≥ 240 GB optional	Yes; ≥ 240 GB optional	Yes; ≥ 240 GB optional	Yes; ≥ 240 GB optional	Yes; ≥ 240 GB optional
Memory						
Type of memory	DDR3 1600 DIMM	DDR3 1600 DIMM	DDR3 1600 DIMM	DDR3 1600 DIMM	DDR3 1600 DIMM	DDR3 1600 DIMM
Work memory	2 / 4 / 8 / 16 GB; ECC optional	2 / 4 / 8 / 16 GB; ECC optional	2 / 4 / 8 / 16 GB; ECC optional	2 / 4 / 8 / 16 GB; ECC optional	2 / 4 / 8 / 16 GB; ECC optional	2 / 4 / 8 / 16 GB; ECC optional
Data areas and their retentivity						
Retentive data area (incl. timers, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration						
Slots						
• free slots	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer
Interfaces						
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622	Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622	Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622	Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622	Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622	Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622
Number of PROFINET interfaces	3; Optional	3; Optional	3; Optional	3; Optional	3; Optional	3; Optional
USB port	4x USB 3.0	4x USB 3.0	4x USB 3.0	4x USB 3.0	4x USB 3.0	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB	USB / USB	USB / USB	USB / USB
serial interface	1x COM1 (RS 232), optional: 1x COM2 (RS 232)	1x COM1 (RS 232), optional: 1x COM2 (RS 232)	1x COM1 (RS 232), optional: 1x COM2 (RS 232)	1x COM1 (RS 232), optional: 1x COM2 (RS 232)	1x COM1 (RS 232), optional: 1x COM2 (RS 232)	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface	optional LPT1	optional LPT1	optional LPT1	optional LPT1	optional LPT1	optional LPT1
Video interfaces						
• Graphics interface	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
Industrial Ethernet						
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes	Yes

Technical specifications (continued)

Article number	**6AV7260-0....-....** SIMATIC IPC677D, 15" Touch	**6AV7260-1....-....** SIMATIC IPC677D, 19" Touch	**6AV7260-2....-....** SIMATIC IPC677D, 22" Touch	**6AV7260-3....-....** SIMATIC IPC677D, 15" multi-touch	**6AV7260-4....-....** SIMATIC IPC677D, 19" multi-touch	**6AV7260-5....-....** SIMATIC IPC677D, 22" multi-touch
Integrated Functions						
Monitoring functions						
• Temperature monitoring	Yes	Yes	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes	Yes	Yes
• Status LEDs	Yes	Yes	Yes	Yes	Yes	Yes
• Fan	Yes	Yes	Yes	Yes	Yes	Yes
• Monitoring function via network	Optional	Optional	Optional	Optional	Optional	Optional
EMC						
Interference immunity against discharge of static electricity						
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2					
Interference immunity against high-frequency electromagnetic fields						
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6					
Interference immunity to cable-borne interference						
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric					
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m					
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m					
Interference immunity against voltage surge						
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric					
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric					
Interference immunity to magnetic fields						
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference						
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20	IP20	IP20	IP20
Standards, approvals, certificates						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes	Yes
• UL 508	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes	Yes
FCC	Yes	Yes	Yes	Yes	Yes	Yes
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005					
• EN 61000-6-2	Yes	Yes	Yes	Yes	Yes	Yes

Technical specifications (continued)

Article number	6AV7260-0....-....	6AV7260-1....-....	6AV7260-2....-....	6AV7260-3....-....	6AV7260-4....-....	6AV7260-5....-....
	SIMATIC IPC677D, 15" Touch	SIMATIC IPC677D, 19" Touch	SIMATIC IPC677D, 22" Touch	SIMATIC IPC677D, 15" multi-touch	SIMATIC IPC677D, 19" multi-touch	SIMATIC IPC677D, 22" multi-touch
Ambient conditions						
Ambient temperature during operation						
• Ambient temperature during operation	+5 °C to +45 °C with full configu-ration	+5 °C to +45 °C with full configu-ration	+5 °C to +45 °C with full configu-ration	+5 °C to +45 °C with full configu-ration	+5 °C to +45 °C with full configu-ration	+5 °C to +45 °C with full configu-ration
• min.	5 °C	5 °C	5 °C	5 °C	5 °C	5 °C
• max.	45 °C	45 °C	45 °C	45 °C	45 °C	45 °C
Relative humidity						
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no conden-sation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no conden-sation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no conden-sation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no conden-sation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no conden-sation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no conden-sation)
Vibrations						
• Vibration load in operation	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)
Shock testing						
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s² (5 g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5 g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5 g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5 g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5 g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5 g), 30 ms, 100 shocks
Operating systems						
Operating system	Windows 7 Ultimate 32-bit/64-bit, MUI; Windows 10 IoT Enterprise LTSB 2015, 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI					
pre-installed operating system	Yes	Yes	Yes	Yes	Yes	Yes
without operating system	Yes	Yes	Yes	Yes	Yes	Yes
pre-installed operating system						
• Windows 7	Yes; Ultimate 32 bits or 64 bits	Yes; Ultimate 32 bits or 64 bits	Yes; Ultimate 32 bits or 64 bits	Yes; Ultimate 32 bits or 64 bits	Yes; Ultimate 32 bits or 64 bits	Yes; Ultimate 32 bits or 64 bits
• Windows 10 IoT Enterprise	Yes; LTSB 2015, 64-bit, MUI	Yes; LTSB 2015, 64-bit, MUI	Yes; LTSB 2015, 64-bit, MUI	Yes; LTSB 2015, 64-bit, MUI	Yes; LTSB 2015, 64-bit, MUI	Yes; LTSB 2015, 64-bit, MUI
Software						
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX
Dimensions						
Width of the housing front	415 mm	483 mm	560 mm	416.5 mm	483 mm	560 mm
Height of housing front	310 mm	337 mm	380 mm	298 mm	337 mm	380 mm
Overall depth						
• additional mounting depth (optical drive)	26 mm	26 mm	26 mm	26 mm	26 mm	26 mm
Mounting cutout/device depth (W x H x T)	396 mm x 291 mm x 112 mm	465 mm x 319 mm x 112 mm	542 mm x 362 mm x 112 mm	399 mm x 280 mm x 112 mm	465 mm x 319 mm x 112 mm	542 mm x 362 mm x 112 mm
Weights						
Panel PC in central design, approx.	12 kg	14 kg	16 kg	12 kg	14 kg	16 kg

Ordering data

	Article No.
SIMATIC IPC677D [1]	**6AV7260 - ■■■■■ - ■■■■**
HD graphics onboard; 2 x Gigabit Ethernet (IE/PN) RJ45; 4 x USB V3.0; 1x serial (COM1); RAID controller onboard; watchdog, temp./fan monitoring	
Operator control unit	
• 15" touch (1 280 x 800) with front USB	**0**
• 19" touch (1 366 x 768) with front USB	**1**
• 22" touch (1 920 x 1 080) with front USB	**2**
• 15" multi-touch (1 366 x 768)	**3**
• 19" multi-touch (1 366 x 768)	**4**
• 22" multi-touch (1 920 x 1 080)	**5**
Processor	
• Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB cache)	**A**
• Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB cache); PROFIBUS/MPI (CP 5622-compatible); 2 MB battery-backed SRAM	**B**
• Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB cache); PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB battery-backed SRAM	**C**
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x)	**D**
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); PROFIBUS/MPI (CP 5622-compatible); 2 MB battery-backed SRAM	**E**
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB battery-backed SRAM	**F**
• Xeon E3-1268Lv3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT)	**G**
• Xeon E3-1268Lv3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT); PROFIBUS/MPI (CP 5622-compatible); 2 MB battery-backed SRAM	**H**
• Xeon E3-1268Lv3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT); PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB battery-backed SRAM	**J**

	Article No.
SIMATIC IPC677D [1]	**6AV7260 - ■■■■■ - ■■■■**
Drives	
• 250 GB HDD SATA	**A**
• 250 GB HDD SATA; DVD+/-RW	**B**
• 500 GB HDD SATA	**D**
• 500 GB HDD SATA; DVD+/-RW	**E**
• RAID1 2 x 320 GB SATA (2.5")	**G**
• RAID1 2 x 320 GB SATA (2.5"); DVD+/-RW	**H**
• Swap HDD RAID1 2 x 320 GB SATA (2.5")	**K**
• Swap HDD; RAID1 2 x 320 GB SATA (2.5"); solid-state drive 240 GB	**L**
• Solid-state drive 240 GB;	**M**
• Solid-state drive 240 GB; 320 GB HDD SATA (2.5");	**N**
• Solid-state drive 240 GB; 320 GB HDD SATA (2.5"); DVD+/-RW	**P**
• 80 GB solid-state drive	**Q**
• 80 GB solid-state drive; DVD+/-RW	**R**
Memory configuration	
• 2 GB DDR3 1600 DIMM	**1**
• 4 GB DDR3 1600 DIMM	**2**
• 8 GB DDR3 1600 DIMM	**3**
• 16 GB DDR3 1600 DIMM	**4**
• 8 GB DDR3 1600 DIMM; ECC	**5**
• 16 GB DDR3 1600 DIMM; ECC	**6**
Expansions (HW)	
• 2 x PCI	**0**
• 1 x PCIe (x16); 1 x PCI	**1**
• 1 x PCIe (x16); 1 x PCIe (x4)	**2**
Expansion 2 (HW)	
• Without expansion (HW)	**0**
• 2 x USB in addition (1 slot occupied)	**1**
• COM2; LPT (1 slot occupied)	**2**
• 2 x USB in addition; COM2; LPT (2 slots occupied)	**3**
Operating system	
• Windows 7 Ultimate 32-bit, SP1, MUI (en, de, fr, it, es)	**A**
• Windows 7 Ultimate 64-bit, SP1, MUI (en, de, fr, it, es)	**B**
• Windows 10 IoT Enterprise LTSB 2015, 64-bit, MUI (Eng, Ger, Fr, It, Sp)	**C**
• Windows Embedded Standard 7 P, 32-bit, SP1, MUI (Eng, Ger, Fr, It, Sp) with SSD 80 GB option	**D**
• None	**X**

4

Ordering data

	Article No.
SIMATIC IPC677D [1]	**6AV7260 - ■■■■■ - ■■■■**
Expansions (SW)	
• SIMATIC IPC DiagMonitor V4.x enclosed	**A**
• SIMATIC IPC Image & Partition Creator V3.x enclosed	**B**
• SIMATIC IPC DiagMonitor V4.x, Image & Partition Creator V3.x enclosed	**C**
• None	**X**
• TPM [2] (not for China or Russia)	**Y**
Country-specific version / power supply	
• 100/230 V AC industrial power supply with NAMUR; power cable for Europe	**0**
• 110/230 V AC industrial power supply with NAMUR; power cable for UK	**1**
• 110/230 V AC industrial power supply with NAMUR; power cable for CH	**2**
• 110/230 V AC industrial power supply with NAMUR; power cable for the USA	**3**
• 110/230 V AC industrial power supply NAMUR; power cable for Italy	**4**
• 110/230 V AC industrial power supply with NAMUR; power cable for China	**5**
• 24 V DC industrial power supply	**6**
• 110/230 V AC industrial power supply with NAMUR; without power cable	**8**

[1] Production and delivery as per order

[2] TPM = Trusted Platform Module

	Article No.
Accessories	
Memory expansion	
• 2 GB DDR3 1600 SDRAM, DIMM	**6ES7648-2AJ50-0MA0**
• 4 GB DDR3 1600 SDRAM, DIMM	**6ES7648-2AJ60-0MA0**
• 8 GB DDR3 1600 SDRAM, DIMM	**6ES7648-2AJ70-0MA0**
• 8 GB DDR3 1600 SDRAM, DIMM, ECC	**6ES7648-2AJ70-1MA0**
Non-heating apparatus cable for SIMATIC Box and Panel PC	
SIMATIC PC power cable, 230 V AC, angled, 3 m, for:	
• Germany	**6ES7900-1AA00-0XA0**
• United Kingdom	**6ES7900-1BA00-0XA0**
• Switzerland	**6ES7900-1CA00-0XA0**
• USA	**6ES7900-1DA00-0XA0**
• Italy	**6ES7900-1EA00-0XA0**
• China	**6ES7900-1FA00-0XA0**
Touch pen	See "Accessories -> Input aids"
Expansion components	See expansion components
Communication components	See expansion components

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-panel-pc

Note

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customized modification and adaptation.

Overview

SIMATIC Industrial Tablet PC

The SIMATIC Industrial Tablet PC takes the performance of SIMATIC industry PCs to the tablet format.

With a large number of functional expansions such as a 1D/2D bar code reader or user identification by RFID, it taps diverse possibilities of use.

Der SIMATIC ITP1000: Industrial rugged

- High-quality components and modules with a high MTBF (mean time between failure), which also ensure 24-hour operation in the extended temperature range up to +45°C
- Rugged enclosure designs with high electromagnetic compatibility (EMC)
- Hardware available in the long term

Powerful and many functions on board

- Powerful notebook CPU Intel Core i5-6442EQ
- Many interfaces on board:
  LAN, SD card reader, USB interfaces, RS 232, audio
- WLAN and Bluetooth integrated
- RFID, bar code reader (1D/2D) and camera for a highly diverse range of mobile applications
- Windows 7 Ultimate 64-bit

Ordering data

	Article No.
SIMATIC ITP1000	**6AV7880 - ■■■■■ - ■■■ 2**
Operator control unit	
• 10" multi-touch (1 280 x 800) with 8 function keys	**0**
Extras	
• None	**A**
• Rear camera, 5 megapixels	**B**
• RFID reader	**C**
• Bar code reader (1D/2D)	**D**
• Camera and RFID	**E**
• Bar code reader and camera	**F**
• RFID and bar code reader	**G**
• Camera, RFID and bar code reader	**H**
Mass storage	
• 256 GB SSD	**A**
• 512 GB SSD	**B**
Operating system	
• None	**0**
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	**1**
• Windows10 IoT Enterprise 2016 LTSB, (64-bit) for Celeron i3 and i5 processors	**2**
CPU	
• Celeron G390 2E (2 MB cache, 1.60 GHz)	**1**
• Core i5-6442EQ (6 MB cache, up to 2.70 GHz)	**2**
RAM	
• 4 GB	**0**
• 8 GB	**1**
• 16 GB	**2**
Power supply	
• 110/230 V power supply unit, power cable for Europe	**A**
• 110/230 V power supply unit, power cable for UK	**B**
• 110/230 V power supply unit, power cable for CH	**C**
• 110/230 V power supply unit, power cable for the USA	**D**
• 110/230 V power supply unit, power cable for Italy	**E**
Spare software (included)	
• None	**A**
Rechargeable battery	
• High-capacity (5900 mAh rechargeable battery)	**2**

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

More information

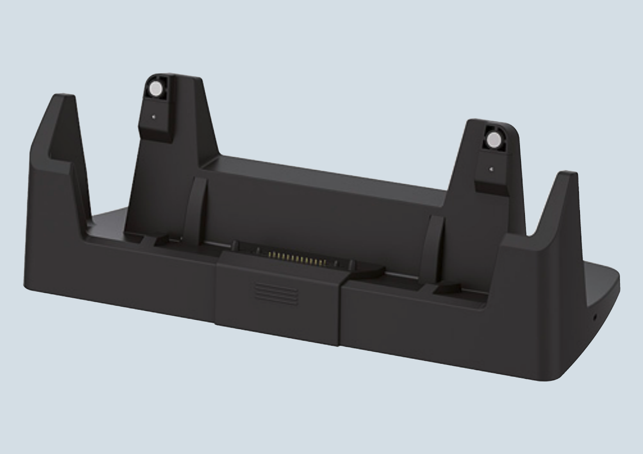
You can find more information on the Internet at:

http://www.siemens.com/

Note

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customized modification and adaptation.

Overview



Docking station

A docking station is available for the SIMATIC Industrial Tablet PC.

In addition to being able to charge the device, the docking station also features one Ethernet, one DisplayPort and two USB interfaces.

With its external monitor, mouse and keyboard, the SIMATIC ITP1000 is upgraded into the equivalent of a full-scale office workplace.

The docking station is designed for users in industry. One-hand docking makes it makes it quick and easy to insert and remove the SIMATIC ITP1000.

Ordering data

Ordering data	Article No.
System components for Tablet PC	
Docking station for SIMATIC ITP1000	**6AV7676-1AB00-0AA0**

SIMATIC Industrial Flat Panels

Overview

The Industrial Flat Panels are rugged industry-standard LCD monitors in a wide screen design.

- Installation:
  - Equally suited for installation in the machine, in control cabinets, in consoles, to gantries, or in 19" racks.
- Type of operator control:
  - Simple display devices without operator functionality
  - Optional devices with touch control
  - Optional devices with multi-touch control
  - Rear-mounted connection of I/O devices (optional)

Industrial Flat Panels are now available as fully enclosed Flat Panels.

- IFP1900 PRO (degree of protection IP65)
- Ethernet monitor IFP1900/IFP2200 for remote connection via standard Ethernet (TCP/IP)

Technical specifications

Article number	**6AV7863-2AA00-0AA0** SIMATIC FLAT PANEL 15" DISPLAY ONLY	**6AV7863-2AB10-0AA0** SIMATIC FLAT PANEL 15" DISPLAY ONLY EXT	**6AV7863-2BB10-0AA0** SIMATIC FLAT PANEL 15" TOUCH/KEY	**6AV7863-2TA00-0AA0** SIMATIC FLAT PANEL 15" TOUCH	**6AV7863-2TB10-0AA0** SIMATIC FLAT PANEL 15" TOUCH EXT
General information					
Product type designation	IFP1500	IFP1500	IFP1500	IFP1500	IFP1500
Short designation	Flat Panel 15" display	Flat Panel 15" display ext.	Flat Panel 15" touch/keys	Flat Panel 15" touch	Flat Panel 15" touch ext.
Display					
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	15.4 in	15.4 in	15.4 in	15.4 in	15.4 in
Screen diagonal [cm]	40 cm	40 cm	40 cm	40 cm	40 cm
Display width	331.2 mm	331.2 mm	331.2 mm	331.2 mm	331.2 mm
Display height	207 mm	207 mm	207 mm	207 mm	207 mm
Viewing angle	170° x 170°	170° x 170°	170° x 170°	170° x 170°	170° x 170°
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software
Number of colors	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit
Resolution (pixels)					
• Horizontal image resolution	1 280 Pixel	1 280 Pixel	1 280 Pixel	1 280 Pixel	1 280 Pixel
• Vertical image resolution	800 Pixel	800 Pixel	800 Pixel	800 Pixel	800 Pixel
• Pixel size, horizontal	0.259 mm	0.259 mm	0.259 mm	0.259 mm	0.259 mm
• Pixel size, vertical	0.259 mm	0.259 mm	0.259 mm	0.259 mm	0.259 mm
General features					
• Detachable from computer unit	5 m	30 m	5 m	5 m	5 m
• Brightness/contrast	400 cd/m² / 1000:1	400 cd/m² / 1000:1	400 cd/m² / 1000:1	400 cd/m² / 1000:1	400 cd/m² / 1000:1
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes		
Backlighting					
• Type of backlighting	LED	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Keyboard fonts					
• Function keys	No	No		No	No
- Number of function keys			36		
Touch operation					
• Monitor keyboard			Yes	Yes	Yes

Technical specifications (continued)

Article number	**6AV7863-2AA00-0AA0** SIMATIC FLAT PANEL 15" DISPLAY ONLY	**6AV7863-2AB10-0AA0** SIMATIC FLAT PANEL 15" DISPLAY ONLY EXT	**6AV7863-2BB10-0AA0** SIMATIC FLAT PANEL 15" TOUCH/KEY	**6AV7863-2TA00-0AA0** SIMATIC FLAT PANEL 15" TOUCH	**6AV7863-2TB10-0AA0** SIMATIC FLAT PANEL 15" TOUCH EXT
Installation type/mounting					
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes	Yes; Portrait mode possible	Yes; Portrait mode possible
• permissible angle to the vertical backward (console)	35°	35°	35°	35°	35°
• permissible angle to the vertical forward (ceiling mounting)	35°	35°	35°	35°	35°
Supply voltage					
Type of supply voltage	DC	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V	24 V
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V
Rated value (AC)		100 V; Up to 240V, 50/ 60 Hz	100 V; Up to 240V, 50/ 60 Hz		
permissible range, lower limit (AC)		90 V	90 V		90 V
permissible range, upper limit (AC)		264 V	264 V		264 V
Power loss					
Power loss AC					
• Typical		40 W	40 W		40 W
• Maximum		60 W	60 W		60 W
Power loss DC					
• Typical	40 W	40 W	40 W	40 W	40 W
• Maximum	65 W	65 W	65 W	65 W	65 W
Interfaces					
USB on the rear		2	1		2
USB at the front			1		
Connection for keyboard/mouse		USB	USB		USB
Video interfaces					
• DVI-D	Yes	Yes	Yes	Yes	Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces					
• USB	No	No	Yes	Yes	Yes
Degree and class of protection					
IP65 at front	Yes	Yes	Yes	Yes	Yes
Enclosure Type 4 at the front	Yes	Yes	Yes	Yes	Yes
NEMA4 at the front	No	No	No	No	No
NEMA4X at the front	No	No	No	No	No
IP20 rear	Yes	Yes	Yes	Yes	Yes
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
cULus	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes
Use in hazardous areas					
• FM Class I Division 2	Yes	No	No	Yes	No

Technical specifications (continued)

Article number	**6AV7863-2AA00-0AA0** SIMATIC FLAT PANEL 15" DISPLAY ONLY	**6AV7863-2AB10-0AA0** SIMATIC FLAT PANEL 15" DISPLAY ONLY EXT	**6AV7863-2BB10-0AA0** SIMATIC FLAT PANEL 15" TOUCH/KEY	**6AV7863-2TA00-0AA0** SIMATIC FLAT PANEL 15" TOUCH	**6AV7863-2TB10-0AA0** SIMATIC FLAT PANEL 15" TOUCH EXT
Ambient conditions					
Ambient temperature during operation					
• min.	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	50 °C; Vertical installation (horizontal)	50 °C; Vertical installation (horizontal)	50 °C; Vertical installation (horizontal)	50 °C; Vertical installation (horizontal)	50 °C; Vertical installation (horizontal)
Ambient temperature during storage/transportation					
• min.	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C	60 °C
Relative humidity					
• Operation, max.	95 %; no condensation	95 %; no condensation	95 %; no condensation	95 %; no condensation	95 %; no condensation
Vibrations					
• Vibration load in operation	1 gn	1 gn	1 gn	1 gn	1 gn
• Vibration load during transport/storage	1 gn	1 gn	1 gn	1 gn	1 gn
Shock testing					
• Shock load during operation	15 gn	15 gn	15 gn	15 gn	15 gn
• Shock load during transport/storage	15 gn	15 gn	15 gn	15 gn	15 gn
Connection method					
Connector (IEC) for cold conditions		Yes	Yes		
Mechanics/material					
Enclosure material (front)					
• Aluminum	Yes	Yes	Yes	Yes	Yes
Dimensions					
Width of the housing front	415 mm	415 mm	483 mm	415 mm	415 mm
Height of housing front	310 mm	310 mm	310 mm	310 mm	310 mm
Mounting cutout, width	396 mm; Tolerance: +1 mm	396 mm; Tolerance: +1 mm	450 mm; Tolerance: +1 mm	396 mm; Tolerance: +1 mm	396 mm; Tolerance: +1 mm
Mounting cutout, height	291 mm; Tolerance: +1 mm	291 mm; Tolerance: +1 mm	291 mm; Tolerance: +1 mm	291 mm; Tolerance: +1 mm	291 mm; Tolerance: +1 mm
Overall depth	62.5 mm	62.5 mm	62.5 mm	62.5 mm	62.5 mm
Weights					
Weight without packaging	3.9 kg	3.9 kg	4.3 kg	3.9 kg	3.9 kg
Weight incl. packaging	5 kg	5 kg	5.4 kg	5 kg	5 kg

Article number	**6AV7863-2MA00-0AA0** SIMATIC FLAT PANEL 15" MULTI-TOUCH	**6AV7863-2MA00-0SA0** SIMATIC FLAT PANEL 15" MULTI-TOUCH	**6AV7863-2MB10-0AA0** SIMATIC FLAT PANEL 15" MULTI-TOUCH EXT	**6AV7863-2MB10-0SA0** SIMATIC FLAT PANEL 15" MULTI-TOUCH EXT
General information				
Product type designation	IFP1500 MT	IFP1500 MT	IFP1500 MT	IFP1500 MT
Short designation	Flat Panel 15" multi-touch	Flat Panel 15" multi-touch ext. marine	Flat Panel 15" multi-touch ext.	Flat Panel 15" multi-touch ext. marine
Display				
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	15.6 in	15.6 in	15.6 in	15.6 in
Screen diagonal [cm]	40 cm	40 cm	40 cm	40 cm
Display width	344.2 mm	344.2 mm	344.2 mm	344.2 mm
Display height	193.5 mm	193.5 mm	193.5 mm	193.5 mm
Viewing angle	160° x 160°	160° x 160°	160° x 160°	160° x 160°
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software
Number of colors	16 777 216; 24 bit	16 777 216	16 777 216; 24 bit	16 777 216

Technical specifications (continued)

Article number	6AV7863-2MA00-0AA0 SIMATIC FLAT PANEL 15" MULTI-TOUCH	6AV7863-2MA00-0SA0 SIMATIC FLAT PANEL 15" MULTI-TOUCH	6AV7863-2MB10-0AA0 SIMATIC FLAT PANEL 15" MULTI-TOUCH EXT	6AV7863-2MB10-0SA0 SIMATIC FLAT PANEL 15" MULTI-TOUCH EXT
Resolution (pixels)				
• Horizontal image resolution	1 366 Pixel	1 366 Pixel	1 366 Pixel	1 366 Pixel
• Vertical image resolution	768 Pixel	768 Pixel	768 Pixel	768 Pixel
• Pixel size, horizontal	0.252 mm	0.252 mm	0.252 mm	0.252 mm
• Pixel size, vertical	0.252 mm	0.252 mm	0.252 mm	0.252 mm
General features				
• Detachable from computer unit	5 m	5 m	30 m	30 m
• Brightness/contrast	400 cd/m² / 900:1	400 cd/m² / 900:1	400 cd/m² / 900:1	400 cd/m² / 900:1
Backlighting				
• Type of backlighting	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	70 000 h; At 25°C	70 000 h; At 25°C	70 000 h; At 25°C	70 000 h; At 25°C
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Keyboard fonts				
• Function keys	No	No	No	No
Touch operation				
• Monitor keyboard	Yes	Yes	Yes	Yes
Installation type/mounting				
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible
• permissible angle to the vertical backward (console)	35°	35°	35°	35°
• permissible angle to the vertical forward (ceiling mounting)	35°	35°	35°	35°
Supply voltage				
Type of supply voltage	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V
Rated value (AC)				100 V; Up to 240V, 50/60 Hz
permissible range, lower limit (AC)				90 V
permissible range, upper limit (AC)				264 V
Power loss				
Power loss AC				
• Typical			40 W	40 W
• Maximum			60 W	60 W
Power loss DC				
• Typical	40 W	40 W	40 W	40 W
• Maximum	60 W	60 W	60 W	60 W
Interfaces				
USB on the rear			2	2
Connection for keyboard/mouse			USB	USB
Video interfaces				
• analog video signal (VGA)	No	No	No	No
• DVI-D	Yes	Yes	Yes	Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces				
• USB	Yes	Yes	Yes	Yes
Degree and class of protection				
IP65 at front	Yes	Yes	Yes	Yes
Enclosure Type 4 at the front	Yes	Yes	Yes	Yes
Enclosure Type 4x at the front	Yes	Yes	Yes	Yes
Enclosure Type 12 at the front	Yes	Yes	Yes	Yes
NEMA4 at the front	No	No	No	No
NEMA4X at the front	No	No	No	No
IP20 rear	Yes	Yes	Yes	Yes

Technical specifications (continued)

Article number	6AV7863-2MA00-0AA0 SIMATIC FLAT PANEL 15" MULTI-TOUCH	6AV7863-2MA00-0SA0 SIMATIC FLAT PANEL 15" MULTI-TOUCH	6AV7863-2MB10-0AA0 SIMATIC FLAT PANEL 15" MULTI-TOUCH EXT	6AV7863-2MB10-0SA0 SIMATIC FLAT PANEL 15" MULTI-TOUCH EXT
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
cULus	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes
Marine approval				
• Germanischer Lloyd (GL)	No	Yes	No	Yes
• American Bureau of Shipping (ABS)	No	Yes	No	Yes
• Bureau Veritas (BV)	No	Yes	No	Yes
• Det Norske Veritas (DNV)	No	Yes	No	Yes
• Lloyds Register of Shipping (LRS)	No	Yes	No	Yes
• Nippon Kaiji Kyokai (Class NK)	No	Yes	No	Yes
Use in hazardous areas				
• ATEX Zone 2	Yes	Yes	No	No
• ATEX Zone 22	Yes	Yes	No	No
• FM Class I Division 2	Yes	Yes	No	No
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	50 °C; Vertical installation (horizontal)	50 °C; Vertical installation (horizontal)	50 °C; Vertical installation (horizontal)	50 °C; Vertical installation (horizontal)
Ambient temperature during storage/transportation				
• min.	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C
Relative humidity				
• Operation, max.	95 %; no condensation	95 %; no condensation	95 %; no condensation	95 %; no condensation
Vibrations				
• Vibration load in operation	1 gn	1 gn	1 gn	1 gn
• Vibration load during transport/ storage	1 gn	1 gn	1 gn	1 gn
Shock testing				
• Shock load during operation	15 gn	15 gn	15 gn	15 gn
• Shock load during transport/storage	15 gn	15 gn	15 gn	15 gn
Mechanics/material				
Enclosure material (front)				
• Glass	Yes		Yes	
Dimensions				
Width of the housing front	416.5 mm	416.5 mm	416.5 mm	416.5 mm
Height of housing front	298 mm	298 mm	298 mm	298 mm
Mounting cutout, width	398 mm; Tolerance: +1 mm	398 mm; Tolerance: +1 mm	398 mm; Tolerance: +1 mm	398 mm; Tolerance: +1 mm
Mounting cutout, height	279 mm; Tolerance: +1 mm	279 mm; Tolerance: +1 mm	279 mm; Tolerance: +1 mm	279 mm; Tolerance: +1 mm
Overall depth	62.5 mm	62.5 mm	62.5 mm	62.5 mm
Weights				
Weight without packaging	4.2 kg	4.2 kg	4.2 kg	4.2 kg
Weight incl. packaging	5.3 kg	5.3 kg	5.3 kg	5.3 kg

Technical specifications (continued)

Article number	**6AV7863-3AA00-0AA0** SIMATIC FLAT PANEL 19" DISPLAY ONLY	**6AV7863-3AB10-0AA0** SIMATIC FLAT PANEL 19" DISPLAY ONLY EXT	**6AV7863-3TA00-0AA0** SIMATIC FLAT PANEL 19" TOUCH	**6AV7863-3TB10-0AA0** SIMATIC FLAT PANEL 19" TOUCH EXT
General information				
Product type designation	IFP1900	IFP1900	IFP1900	IFP1900
Short designation	Flat Panel 19" display	Flat Panel 19" display ext.	Flat Panel 19" touch	Flat Panel 19" touch ext.
Display				
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	18.5 in	18.5 in	18.5 in	18.5 in
Screen diagonal [cm]	47 cm	47 cm	47 cm	47 cm
Display width	409.8 mm	409.8 mm	409.8 mm	409.8 mm
Display height	230.4 mm	230.4 mm	230.4 mm	230.4 mm
Viewing angle	170° x 160°	170° x 160°	170° x 160°	170° x 160°
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software
Number of colors	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit
Resolution (pixels)				
• Horizontal image resolution	1 366 Pixel	1 366 Pixel	1 366 Pixel	1 366 Pixel
• Vertical image resolution	768 Pixel	768 Pixel	768 Pixel	768 Pixel
• Pixel size, horizontal	0.3 mm	0.3 mm	0.3 mm	0.3 mm
• Pixel size, vertical	0.3 mm	0.3 mm	0.3 mm	0.3 mm
General features				
• Detachable from computer unit	5 m	30 m	5 m	30 m
• Brightness/contrast	300 cd/m² / 1000:1	300 cd/m² / 1000:1	300 cd/m² / 1000:1	300 cd/m² / 1000:1
• non-reflective and tempered mineral glass screen	Yes	Yes		
Backlighting				
• Type of backlighting	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Keyboard fonts				
• Function keys	No	No	No	No
Touch operation				
• Monitor keyboard			Yes	Yes
Installation type/mounting				
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible
• permissible angle to the vertical backward (console)	35°	35°	35°	35°
• permissible angle to the vertical forward (ceiling mounting)	35°	35°	35°	35°
Supply voltage				
Type of supply voltage	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V
Rated value (AC)		100 V; Up to 240V, 50/60 Hz		100 V; Up to 240V, 50/60 Hz
permissible range, lower limit (AC)		90 V		90 V
permissible range, upper limit (AC)		264 V		264 V
Power loss				
Power loss AC				
• Typical		40 W		40 W
• Maximum		60 W		60 W
Power loss DC				
• Typical	40 W	40 W	40 W	40 W
• Maximum	65 W	65 W	65 W	65 W

4

Technical specifications (continued)

Article number	**6AV7863-3AA00-0AA0** SIMATIC FLAT PANEL 19" DISPLAY ONLY	**6AV7863-3AB10-0AA0** SIMATIC FLAT PANEL 19" DISPLAY ONLY EXT	**6AV7863-3TA00-0AA0** SIMATIC FLAT PANEL 19" TOUCH	**6AV7863-3TB10-0AA0** SIMATIC FLAT PANEL 19" TOUCH EXT
Interfaces				
USB on the rear		2		2
Connection for keyboard/mouse		USB		USB
Video interfaces				
• DVI-D	Yes	Yes	Yes	Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces				
• USB	No	No	Yes	Yes
Degree and class of protection				
IP65 at front	Yes	Yes	Yes	Yes
Enclosure Type 4 at the front	Yes	Yes	Yes	Yes
NEMA4 at the front	No	No	No	No
NEMA4X at the front	No	No	No	No
IP20 rear	Yes	Yes	Yes	Yes
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
cULus	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
Use in hazardous areas				
• FM Class I Division 2	Yes	No	Yes	Yes
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)
Ambient temperature during storage/transportation				
• min.	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C
Relative humidity				
• Operation, max.	95 %; no condensation	95 %; no condensation	95 %; no condensation	95 %; no condensation
Vibrations				
• Vibration load in operation	1 gn	1 gn	1 gn	1 gn
• Vibration load during transport/ storage	1 gn	1 gn	1 gn	1 gn
Shock testing				
• Shock load during operation	15 gn	15 gn	15 gn	15 gn
• Shock load during transport/storage	15 gn	15 gn	15 gn	15 gn
Connection method				
Connector (IEC) for cold condititons		Yes		Yes
Mechanics/material				
Enclosure material (front)				
• Aluminum	Yes	Yes	Yes	Yes
Dimensions				
Width of the housing front	483 mm	483 mm	483 mm	483 mm
Height of housing front	337 mm	337 mm	337 mm	337 mm
Mounting cutout, width	465 mm; Tolerance: +1 mm	465 mm; Tolerance: +1 mm	465 mm; Tolerance: +1 mm	465 mm; Tolerance: +1 mm
Mounting cutout, height	319 mm; Tolerance: +1 mm	319 mm; Tolerance: +1 mm	319 mm; Tolerance: +1 mm	319 mm; Tolerance: +1 mm
Overall depth	62.5 mm	62.5 mm	62.5 mm	62.5 mm
Weights				
Weight without packaging	5.5 kg	5.5 kg	5.5 kg	5.5 kg
Weight incl. packaging	6.5 kg	6.5 kg	6.5 kg	6.5 kg

Technical specifications (continued)

Article number	**6AV7863-3MA00-0AA0** SIMATIC FLAT PANEL 19" MULTI-TOUCH	**6AV7863-3MA00-0SA0** SIMATIC FLAT PANEL 19" MULTI-TOUCH	**6AV7863-3MA20-0AA0** SIMATIC FLAT PANEL 19" MT ETH	**6AV7863-3MB10-0AA0** SIMATIC FLAT PANEL 19" MULTI-TOUCH EXT	**6AV7863-3MB10-0SA0** SIMATIC FLAT PANEL 19" MULTI-TOUCH EXT
General information					
Product type designation	IFP1900	IFP1900 MT	IFP1900	IFP1900	IFP1900 MT
Short designation	Flat Panel 19" multi-touch	Flat Panel 19" multi-touch marine	Flat Panel 19" multi-touch Ethernet	Flat Panel 19" multi-touch ext.	Flat Panel 19" multi-touch ext. marine
Display					
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting		TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	18.5 in	18.5 in	18.5 in	18.5 in	18.5 in
Screen diagonal [cm]	47 cm	47 cm	47 cm	47 cm	47 cm
Display width	409.8 mm	409.8 mm	409.8 mm	409.8 mm	409.8 mm
Display height	230.4 mm	230.4 mm	230.4 mm	230.4 mm	230.4 mm
Viewing angle	170° x 160°	170° x 160°	170° x 160°	170° x 160°	170° x 160°
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software		No; Adjustable by means of software	No; Adjustable by means of software
Number of colors	16 777 216; 24 bit	16 777 216	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit
Resolution (pixels)					
• Horizontal image resolution	1 366 Pixel	1 366 Pixel	1 366 Pixel	1 366 Pixel	1 366 Pixel
• Vertical image resolution	768 Pixel	768 Pixel	768 Pixel	768 Pixel	768 Pixel
• Pixel size, horizontal	0.3 mm	0.3 mm	0.3 mm	0.3 mm	0.3 mm
• Pixel size, vertical	0.3 mm	0.3 mm	0.3 mm	0.3 mm	0.3 mm
General features					
• Detachable from computer unit	5 m	5 m		30 m	30 m
• Brightness/contrast	300 cd/m² / 1000:1	400 cd/m² / 1000:1	300 cd/m² / 1000:1	300 cd/m² / 1000:1	300 cd/m² / 1000:1
• non-reflective and tempered mineral glass screen	Yes	Yes		Yes	Yes
Backlighting					
• Type of backlighting	LED	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Keyboard fonts					
• Function keys	No		No	No	No
Touch operation					
• Monitor keyboard	Yes	Yes		Yes	Yes
Installation type/mounting					
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible
• permissible angle to the vertical backward (console)	35°	35°	35°	35°	35°
• permissible angle to the vertical forward (ceiling mounting)	35°	35°	35°	35°	35°
Supply voltage					
Type of supply voltage	DC	DC	DC	AC/DC	AC/DC
Rated value (DC)	24 V; PELV	24 V; PELV	24 V	24 V; PELV	24 V; PELV
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V
Rated value (AC)				100 V; Up to 240V, 50/60 Hz	100 V; Up to 240V, 50/60 Hz
permissible range, lower limit (AC)				90 V	90 V
permissible range, upper limit (AC)				264 V	264 V
Power loss					
Power loss AC					
• Typical	40 W			40 W	40 W
• Maximum	60 W			60 W	60 W
Power loss DC					
• Typical	40 W	40 W	40 W	40 W	40 W
• Maximum	65 W	65 W	65 W	65 W	65 W

Technical specifications (continued)

Article number	**6AV7863-3MA00-0AA0** SIMATIC FLAT PANEL 19" MULTI-TOUCH	**6AV7863-3MA00-0SA0** SIMATIC FLAT PANEL 19" MULTI-TOUCH	**6AV7863-3MA20-0AA0** SIMATIC FLAT PANEL 19" MT ETH	**6AV7863-3MB10-0AA0** SIMATIC FLAT PANEL 19" MULTI-TOUCH EXT	**6AV7863-3MB10-0SA0** SIMATIC FLAT PANEL 19" MULTI-TOUCH EXT
Interfaces					
Number of Industrial Ethernet interfaces			1; Ethernet, 1 port, RJ45		
USB on the rear			2	2	2
Connection for keyboard/mouse				USB	USB
Video interfaces					
• DVI-D	Yes	Yes		Yes	Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces					
• USB	Yes	Yes	Yes	Yes	Yes
Industrial Ethernet					
• Transmission rate, max.			1 000 Mbit/s		
Degree and class of protection					
IP65 at front	Yes	Yes	Yes	Yes	Yes
IP66 at the front			Yes		
Enclosure Type 4 at the front	Yes	Yes	Yes	Yes	Yes
Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes
Enclosure Type 12 at the front	Yes	Yes	Yes	Yes	Yes
NEMA4 at the front	No	No	No	No	No
NEMA4X at the front	No	No	No	No	No
IP20 rear	Yes	Yes	Yes	Yes	Yes
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
cULus	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)		Yes	Yes		Yes
Marine approval					
• Germanischer Lloyd (GL)	No	Yes	Yes; Available soon	No	Yes
• American Bureau of Shipping (ABS)	No	Yes	Yes; Available soon	No	Yes
• Bureau Veritas (BV)	No	Yes	Yes; Available soon	No	Yes
• Det Norske Veritas (DNV)	No	Yes	Yes; Available soon	No	Yes
• Lloyds Register of Shipping (LRS)	No	Yes	Yes; Available soon	No	Yes
• Nippon Kaiji Kyokai (Class NK)	No	Yes	Yes; Available soon	No	Yes
Use in hazardous areas					
• ATEX Zone 2	No; Available soon	No	Yes; Available soon	Yes; Available soon	No
• ATEX Zone 22	Yes; Available soon	Yes	Yes; Available soon	Yes; Available soon	No
• FM Class I Division 2	Yes	Yes	Yes; Available soon	No	No
Ambient conditions					
Ambient temperature during operation					
• min.	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)
Ambient temperature during storage/transportation					
• min.	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C	60 °C
Relative humidity					
• Operation, max.	95 %; no condensation	95 %; no condensation		95 %; no condensation	95 %; no condensation
Vibrations					
• Vibration load in operation	1 gn	1 gn	1 gn	1 gn	1 gn
• Vibration load during transport/storage	1 gn	1 gn	1 gn	1 gn	1 gn
Shock testing					
• Shock load during operation	15 gn	15 gn	15 gn	15 gn	15 gn
• Shock load during transport/storage	15 gn	15 gn	15 gn	15 gn	15 gn

Technical specifications (continued)

Article number	**6AV7863-3MA00-0AA0** SIMATIC FLAT PANEL 19" MULTI-TOUCH	**6AV7863-3MA00-0SA0** SIMATIC FLAT PANEL 19" MULTI-TOUCH	**6AV7863-3MA20-0AA0** SIMATIC FLAT PANEL 19" MT ETH	**6AV7863-3MB10-0AA0** SIMATIC FLAT PANEL 19" MULTI-TOUCH EXT	**6AV7863-3MB10-0SA0** SIMATIC FLAT PANEL 19" MULTI-TOUCH EXT
Connection method					
Connector (IEC) for cold conditions				Yes	Yes
Mechanics/material					
Enclosure material (front)					
• Glass	Yes	Yes	Yes	Yes	Yes
Dimensions					
Width of the housing front	483 mm	483 mm	483 mm	483 mm	483 mm
Height of housing front	337 mm	337 mm	337 mm	337 mm	337 mm
Mounting cutout, width	465 mm; Tolerance: +1 mm	465 mm; Tolerance: +1 mm	465 mm; Tolerance: +1 mm	465 mm; Tolerance: +1 mm	465 mm; Tolerance: +1 mm
Mounting cutout, height	319 mm; Tolerance: +1 mm	319 mm; Tolerance: +1 mm	319 mm; Tolerance: +1 mm	319 mm; Tolerance: +1 mm	319 mm; Tolerance: +1 mm
Overall depth	62.5 mm	62.5 mm	62.5 mm	62.5 mm	62.5 mm
Weights					
Weight without packaging	5.5 kg	5.5 kg	5.8 kg	5.5 kg	5.5 kg
Weight incl. packaging	6.5 kg	6.5 kg	6.8 kg	6.5 kg	6.5 kg

Article number	**6AV7863-4AA00-0AA0** SIMATIC FLAT PANEL 22" DISPLAY ONLY	**6AV7863-4AB10-0AA0** SIMATIC FLAT PANEL 22" DISPLAY ONLY EXT	**6AV7863-4TA00-0AA0** SIMATIC FLAT PANEL 22" TOUCH	**6AV7863-4TB10-0AA0** SIMATIC FLAT PANEL 22" TOUCH EXT
General information				
Product type designation	IFP2200	IFP2200	IFP2200	IFP2200
Short designation	Flat Panel 22" display	Flat Panel 22" display ext.	Flat Panel 22" touch	Flat Panel 22" touch ext.
Display				
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	21.5 in	21.5 in	21.5 in	21.5 in
Screen diagonal [cm]	56 cm	56 cm	56 cm	56 cm
Display width	476 mm	476 mm	476 mm	476 mm
Display height	268 mm	268 mm	268 mm	268 mm
Viewing angle	170° x 170°	170° x 170°	170° x 170°	170° x 170°
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software
Number of colors	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit
Resolution (pixels)				
• Horizontal image resolution	1 920 Pixel	1 920 Pixel	1 920 Pixel	1 920 Pixel
• Vertical image resolution	1 080 Pixel	1 080 Pixel	1 080 Pixel	1 080 Pixel
• Pixel size, horizontal	0.2475 mm	0.2475 mm	0.2475 mm	0.2475 mm
• Pixel size, vertical	0.2475 mm	0.2475 mm	0.2475 mm	0.2475 mm
General features				
• Detachable from computer unit	5 m	30 m	5 m	30 m
• Brightness/contrast	250 cd/m² / 1000:1	250 cd/m² / 1000:1	250 cd/m² / 1000:1	250 cd/m² / 1000:1
• non-reflective and tempered mineral glass screen	Yes	Yes		
Backlighting				
• Type of backlighting	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Keyboard fonts				
• Function keys	No	No	No	No
Touch operation				
• Monitor keyboard			Yes	Yes

4

Technical specifications (continued)

Article number	6AV7863-4AA00-0AA0 SIMATIC FLAT PANEL 22" DISPLAY ONLY	6AV7863-4AB10-0AA0 SIMATIC FLAT PANEL 22" DISPLAY ONLY EXT	6AV7863-4TA00-0AA0 SIMATIC FLAT PANEL 22" TOUCH	6AV7863-4TB10-0AA0 SIMATIC FLAT PANEL 22" TOUCH EXT
Installation type/mounting				
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible
• permissible angle to the vertical backward (console)	35°	35°	35°	35°
• permissible angle to the vertical forward (ceiling mounting)	35°	35°	35°	35°
Supply voltage				
Type of supply voltage	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V
Rated value (AC)		100 V; Up to 240V, 50/60 Hz		100 V; Up to 240V, 50/60 Hz
permissible range, lower limit (AC)		90 V		90 V
permissible range, upper limit (AC)		264 V		264 V
Power loss				
Power loss AC				
• Typical		40 W		40 W
• Maximum		60 W		60 W
Power loss DC				
• Typical	40 W	40 W	40 W	40 W
• Maximum	65 W	65 W	65 W	65 W
Interfaces				
USB on the rear		2		2
Connection for keyboard/mouse		USB		USB
Video interfaces				
• DVI-D	Yes	Yes	Yes	Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces				
• USB	No	No	Yes	Yes
Degree and class of protection				
IP65 at front	Yes	Yes	Yes	Yes
Enclosure Type 4 at the front	Yes	Yes	Yes	Yes
NEMA4 at the front	No	No	No	No
NEMA4X at the front	No	No	No	No
IP20 rear	Yes	Yes	Yes	Yes
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
cULus	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
Use in hazardous areas				
• FM Class I Division 2	Yes	No	Yes	No
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)
Ambient temperature during storage/transportation				
• min.	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C
Relative humidity				
• Operation, max.	95 %; no condensation	95 %; no condensation	95 %; no condensation	95 %; no condensation

Technical specifications (continued)

Article number	6AV7863-4AA00-0AA0 SIMATIC FLAT PANEL 22" DISPLAY ONLY	6AV7863-4AB10-0AA0 SIMATIC FLAT PANEL 22" DISPLAY ONLY EXT	6AV7863-4TA00-0AA0 SIMATIC FLAT PANEL 22" TOUCH	6AV7863-4TB10-0AA0 SIMATIC FLAT PANEL 22" TOUCH EXT
Vibrations				
• Vibration load in operation	1 gn	1 gn	1 gn	1 gn
• Vibration load during transport/ storage	1 gn	1 gn	1 gn	1 gn
Shock testing				
• Shock load during operation	15 gn	15 gn	15 gn	15 gn
• Shock load during transport/storage	15 gn	15 gn	15 gn	15 gn
Connection method				
Connector (IEC) for cold condititons		Yes		Yes
Mechanics/material				
Enclosure material (front)				
• Aluminum	Yes	Yes	Yes	Yes
Dimensions				
Width of the housing front	560 mm	560 mm	560 mm	560 mm
Height of housing front	380 mm	380 mm	380 mm	380 mm
Mounting cutout, width	542 mm; Tolerance: +1 mm	542 mm; Tolerance: +1 mm	542 mm; Tolerance: +1 mm	542 mm; Tolerance: +1 mm
Mounting cutout, height	362 mm; Tolerance: +1 mm	362 mm; Tolerance: +1 mm	362 mm; Tolerance: +1 mm	362 mm; Tolerance: +1 mm
Overall depth	62.5 mm	62.5 mm	62.5 mm	62.5 mm
Weights				
Weight without packaging	6.5 kg	6.5 kg	6.5 kg	6.5 kg
Weight incl. packaging	7.6 kg	7.6 kg	7.6 kg	7.6 kg

Article number	6AV7863-4MA00-0AA0 SIMATIC FLAT PANEL 22" MULTI-TOUCH	6AV7863-4MA00-0SA0 SIMATIC FLAT PANEL 22" MULTI-TOUCH	6AV7863-4MA20-0AA0 SIMATIC FLAT PANEL 22" MT ETH	6AV7863-4MB10-0AA0 SIMATIC FLAT PANEL 22" MULTI-TOUCH EXT	6AV7863-4MB10-0SA0 SIMATIC FLAT PANEL 22" MULTI-TOUCH EXT
General information					
Product type designation	IFP2200	IFP2200 MT	IFP2200	IFP2200	IFP2200 MT
Short designation	Flat Panel 22" multi-touch	Flat Panel 22" multi-touch marine	Flat Panel 22" multi-touch Ethernet	Flat Panel 22" multi-touch ext.	Flat Panel 22" multi-touch ext. marine
Display					
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting		TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	21.5 in	21.5 in	21.5 in	21.5 in	21.5 in
Screen diagonal [cm]	56 cm	56 cm	56 cm	56 cm	56 cm
Display width	476 mm	476 mm	476 mm	476 mm	476 mm
Display height	268 mm	268 mm	268 mm	268 mm	268 mm
Viewing angle	170° x 170°	170° x 170°	170° x 170°	170° x 170°	170° x 170°
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software		No; Adjustable by means of software	No; Adjustable by means of software
Number of colors	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit	16 777 216; 24 bit
Resolution (pixels)					
• Horizontal image resolution	1 920 Pixel	1 920 Pixel	1 920 Pixel	1 920 Pixel	1 920 Pixel
• Vertical image resolution	1 080 Pixel	1 080 Pixel	1 080 Pixel	1 080 Pixel	1 080 Pixel
• Pixel size, horizontal	0.2475 mm	0.2475 mm	0.2475 mm	0.2475 mm	0.2475 mm
• Pixel size, vertical	0.2475 mm	0.2475 mm	0.2475 mm	0.2475 mm	0.2475 mm
General features					
• Detachable from computer unit	5 m	5 m		30 m	30 m
• Brightness/contrast	250 cd/m² / 1000:1	250 cd/m² / 1000:1	250 cd/m² / 1000:1	250 cd/m² / 1000:1	250 cd/m² / 1000:1
• non-reflective and tempered mineral glass screen	Yes	Yes		Yes	Yes

Technical specifications (continued)

Article number	**6AV7863-4MA00-0AA0** SIMATIC FLAT PANEL 22" MULTI-TOUCH	**6AV7863-4MA00-0SA0** SIMATIC FLAT PANEL 22" MULTI-TOUCH	**6AV7863-4MA20-0AA0** SIMATIC FLAT PANEL 22" MT ETH	**6AV7863-4MB10-0AA0** SIMATIC FLAT PANEL 22" MULTI-TOUCH EXT	**6AV7863-4MB10-0SA0** SIMATIC FLAT PANEL 22" MULTI-TOUCH EXT
Backlighting					
• Type of backlighting	LED	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Keyboard fonts					
• Function keys	No	No	No	No	No
Touch operation					
• Monitor keyboard	Yes	Yes	Yes	Yes	Yes
Installation type/mounting					
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible
• permissible angle to the vertical backward (console)	35°	35°	35°	35°	35°
• permissible angle to the vertical forward (ceiling mounting)	35°	35°	35°	35°	35°
Supply voltage					
Type of supply voltage	DC	DC	DC	AC/DC	AC/DC
Rated value (DC)	24 V; PELV	24 V; PELV	24 V	24 V; PELV	24 V; PELV
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V
Rated value (AC)				100 V; Up to 240V, 50/60 Hz	100 V; Up to 240V, 50/60 Hz
permissible range, lower limit (AC)				90 V	90 V
permissible range, upper limit (AC)				264 V	264 V
Power loss					
Power loss AC					
• Typical	40 W			40 W	40 W
• Maximum	60 W			60 W	60 W
Power loss DC					
• Typical	40 W	40 W	40 W	40 W	40 W
• Maximum	65 W	65 W	65 W	65 W	65 W
Interfaces					
Number of Industrial Ethernet interfaces			1; Ethernet, 1 port, RJ45		
USB on the rear			2	2	2
Connection for keyboard/mouse				USB	USB
Video interfaces					
• DVI-D	Yes	Yes		Yes	Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces					
• USB	Yes	Yes	Yes	Yes	Yes
Industrial Ethernet					
• Transmission rate, max.			1 000 Mbit/s		
Degree and class of protection					
IP65 at front	Yes	Yes	Yes	Yes	Yes
IP66 at the front			Yes		
Enclosure Type 4 at the front	Yes	Yes	Yes	Yes	Yes
Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes
Enclosure Type 12 at the front	Yes	Yes	Yes	Yes	Yes
NEMA4 at the front	No	No	No	No	No
NEMA4X at the front	No	No	No	No	No
IP20 rear	Yes	Yes	Yes	Yes	Yes

Technical specifications (continued)

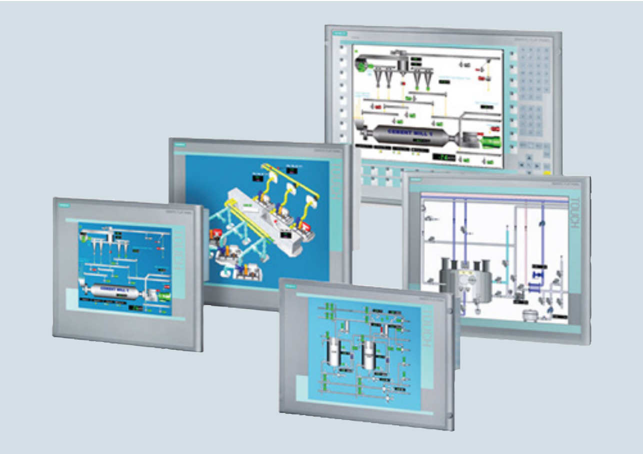
Article number	**6AV7863-4MA00-0AA0** SIMATIC FLAT PANEL 22" MULTI-TOUCH	**6AV7863-4MA00-0SA0** SIMATIC FLAT PANEL 22" MULTI-TOUCH	**6AV7863-4MA20-0AA0** SIMATIC FLAT PANEL 22" MT ETH	**6AV7863-4MB10-0AA0** SIMATIC FLAT PANEL 22" MULTI-TOUCH EXT	**6AV7863-4MB10-0SA0** SIMATIC FLAT PANEL 22" MULTI-TOUCH EXT
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
cULus	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)		Yes	Yes		Yes
Marine approval					
• Germanischer Lloyd (GL)	Yes; Available soon	Yes	Yes; Available soon	Yes; Available soon	Yes
• American Bureau of Shipping (ABS)	Yes; Available soon	Yes	Yes; Available soon	Yes; Available soon	Yes
• Bureau Veritas (BV)	Yes; Available soon	Yes	Yes; Available soon	Yes; Available soon	Yes
• Det Norske Veritas (DNV)	Yes; Available soon	Yes	Yes; Available soon	Yes; Available soon	Yes
• Lloyds Register of Shipping (LRS)	Yes; Available soon	Yes	Yes; Available soon	Yes; Available soon	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes; Available soon	Yes	Yes; Available soon	Yes; Available soon	Yes
Use in hazardous areas					
• ATEX Zone 2	Yes; Available soon	Yes; Available soon	Yes; Available soon	Yes; Available soon	Yes; Available soon
• ATEX Zone 22	Yes; Available soon	Yes; Available soon	Yes; Available soon	Yes; Available soon	Yes; Available soon
• FM Class I Division 2	Yes	Yes	Yes; Available soon	No	No
Ambient conditions					
Ambient temperature during operation					
• min.	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)
Ambient temperature during storage/transportation					
• min.	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C	60 °C
Relative humidity					
• Operation, max.	95 %; no condensation	95 %; no condensation		95 %; no condensation	95 %; no condensation
Vibrations					
• Vibration load in operation	1 gn	1 gn	1 gn	1 gn	1 gn
• Vibration load during transport/ storage	1 gn	1 gn	1 gn	1 gn	1 gn
Shock testing					
• Shock load during operation	15 gn	15 gn	15 gn	15 gn	15 gn
• Shock load during transport/storage	15 gn	15 gn	15 gn	15 gn	15 gn
Connection method					
Connector (IEC) for cold condititons				Yes	Yes
Mechanics/material					
Enclosure material (front)					
• Glass	Yes	Yes	Yes	Yes	Yes
Dimensions					
Width of the housing front	560 mm	560 mm	560 mm	560 mm	560 mm
Height of housing front	380 mm	380 mm	380 mm	380 mm	380 mm
Mounting cutout, width	542 mm; Tolerance: +1 mm	542 mm; Tolerance: +1 mm	542 mm; Tolerance: +1 mm	542 mm; Tolerance: +1 mm	542 mm; Tolerance: +1 mm
Mounting cutout, height	362 mm; Tolerance: +1 mm	362 mm; Tolerance: +1 mm	362 mm; Tolerance: +1 mm	362 mm; Tolerance: +1 mm	362 mm; Tolerance: +1 mm
Overall depth	62.5 mm	62.5 mm	62.5 mm	62.5 mm	62.5 mm
Weights					
Weight without packaging	6.5 kg	6.5 kg	6.7 kg	6.5 kg	6.5 kg
Weight incl. packaging	7.6 kg	7.6 kg	7.7 kg	7.6 kg	7.6 kg

Ordering data

Ordering data	Article No.
Industrial Flat Panel Monitor	
SIMATIC IFP1500 Flat Panel 15" display (16:10), display port/DVI port	
without touch screen, display only, 1 280 x 800 pixels, for 24 V DC	
• Standard up to 5 m, incl. DVI cable 1.8 m	**6AV7863-2AA00-0AA0**
• Extended version up to 30 m, incl. DVI/USB cable 1.8 m	**6AV7863-2AB10-0AA0**
with touch screen and pushbuttons, 1 280 x 800 pixels, for 24 V DC and 100-240 V AC	
• Extended version up to 30 m, incl. DVI/USB cable 1.8 m	**6AV7863-2BB10-0AA0**
Multi-touch, 1 366 x 768, for 24 V DC	
• Standard up to 5 m, incl. DVI/USB cable 1.8 m	**6AV7863-2MA00-0AA0**
• Standard up to 5 m, marine approval, incl. DVI/USB cable 1.8 m	**6AV7863-2MA00-0SA0**
Multi-touch, 1 366 x 768 pixels, for 24 V DC and 100-240 V AC	
• Extended version up to 30 m, incl. DVI/USB cable 1.8 m	**6AV7863-2MB10-0AA0**
• Extended version up to 30 m, marine approval, incl. DVI/USB cable 1.8 m	**6AV7863-2MB10-0SA0**
Touch, 1 280 x 800 pixels, for 24 V DC	
• Standard up to 5 m, incl. DVI cable 1.8 m	**6AV7863-2TA00-0AA0**
Touch, 1 280 x 800 pixels, for 24 V DC and 100-240 V AC	
• Extended version up to 30 m, incl. DVI/USB cable 1.8 m	**6AV7863-2TB10-0AA0**
SIMATIC IFP1900 Flat Panel 19" display (16:10), display port/DVI port	
without touch screen, display only, 1 366 x 768 pixels, for 24 V DC	
• Standard up to 5 m, incl. DVI cable 1.8 m	**6AV7863-3AA00-0AA0**
• Extended version up to 30 m, incl. DVI/USB cable 1.8 m	**6AV7863-3AB10-0AA0**
Multi-touch, 1 366 x 768, for 24 V DC	
• Standard up to 5 m, incl. DVI/USB cable 1.8 m	**6AV7863-3MA00-0AA0**
• Standard up to 5 m, marine approval, incl. DVI/USB cable 1.8 m	**6AV7863-3MA00-0SA0**
• Display port, Ethernet interface, incl. DVI/USB cable 1.8 m	**6AV7863-3MA20-0AA0**
Multi-touch, 1 366 x 768 pixels, for 24 V DC and 100-240 V AC	
• Extended version up to 30 m, incl. DVI/USB cable 1.8 m	**6AV7863-3MB10-0AA0**
• Extended version up to 30 m, marine approval, incl. DVI/USB cable 1.8 m	**6AV7863-3MB10-0SA0**
Touch, 1 366 x 768 pixels, for 24 V DC	
• Standard up to 5 m, incl. DVI cable 1.8 m	**6AV7863-3TA00-0AA0**
Touch, 1 366 x 768 pixels, for 24 V DC and 100-240 V AC	
• Extended version up to 30 m, incl. DVI/USB cable 1.8 m	**6AV7863-3TB10-0AA0**

	Article No.
SIMATIC IFP2200 Flat Panel 22" display (16:10), display port/DVI port	
without touch screen, display only, 1 920 x 1 080 pixels, for 24 V DC	
• Standard up to 5 m, incl. DVI cable 1.8 m	**6AV7863-4AA00-0AA0**
without touch screen, display only, 1 920 x 1 080 pixels, for 24 V DC and 100-240 V AC	
• Extended version up to 30 m, incl. DVI/USB cable 1.8 m	**6AV7863-4AB10-0AA0**
Multi-touch, 1 920 x 1 080 pixels, for 24 V DC	
• Standard up to 5 m, incl. DVI/USB cable 1.8 m	**6AV7863-4MA00-0AA0**
• Standard up to 5 m, marine approval, incl. DVI/USB cable 1.8 m	**6AV7863-4MA00-0SA0**
• Display port, Ethernet interface, incl. DVI/USB cable 1.8 m	**6AV7863-4MA20-0AA0**
Multi-touch, 1 920 x 1 080 pixels, for 24 V DC and 100-240 V AC	
• Extended version up to 30 m, incl. DVI/USB cable 1.8 m	**6AV7863-4MB10-0AA0**
• Extended version up to 30 m, marine approval, incl. DVI/USB cable 1.8 m	**6AV7863-4MB10-0SA0**
Touch, 1 920 x 1 080 pixels, for 24 V DC	
• Standard up to 5 m, incl. DVI cable 1.8 m	**6AV7863-4TA00-0AA0**
Touch, 1 920 x 1 080 pixels, for 24 V DC and 100-240 V AC	
• Extended version up to 30 m, incl. DVI/USB cable 1.8 m	**6AV7863-4TB10-0AA0**
Accessories	
Set of protective films for ITC/IFP/TP1500	**6AV2124-6QJ00-0AX1**
Set of protective films for ITC/IFP/TP1900	**6AV2124-6UJ00-0AX1**
Set of protective films for ITC/IFP/TP2200	**6AV2124-6XJ00-0AX1**
Touch pen Undetachable pen for operation of the touch devices, mounting of the support on the control cabinet or directly on the PRO unit	**6AV7672-1JB00-0AA0**
Accessories for standard variants up to 5 m **(6AV7863-..A0.-0AA0 and 6AV7466-1TA00-0AA0)**	
DisplayPort cable (industrial quality)	
• 3 m	**6AV7860-0DH30-0AA0**
• 5 m	**6AV7860-0DH50-0AA0**
DVI-D cable (industrial quality)	
• 3 m	**6AV7860-0BH30-0AA0**
• 5 m	**6AV7860-0BH50-0AA0**
USB cable (industrial quality)	
• 3 m	**6AV7860-0CH30-0AA0**
• 5 m	**6AV7860-0CH50-0AA0**
Accessories for extended variants up to 30 m (6AV7863-..B1.-0AA0)	
Cable set (USB/Cat5; sender module, DVI)	
• 10 m	**6AV7860-1EX21-0AA1**
• 15 m	**6AV7860-1EX21-5AA1**
• 20 m	**6AV7860-1EX22-0AA1**
• 30 m	**6AV7860-1EX23-0AA1**
Cable set 90° USB/Cat5; sender module, DVI 90° angle, 20 m	**6AV7860-1EX22-0BA1**

Overview



The Flat Panels are rugged industry-standard LCD monitors.

- Installation:
  - They are equally suited to installation in the machine, in control cabinets, consoles and gantries or in 19" racks.
  - As a device with all-round IP65 protection for mounting on a support arm/stand
- Type of operator control:
  - Simple display devices without operator functionality
  - Optional devices with touch control
  - Rear connection of I/O devices (optional)

Technical specifications

Article number	**6AV7861-1AA00-1AA0** SIMATIC FLAT PANEL 12, F. DC24V	**6AV7861-1AB00-1AA0** SIMATIC FLAT PANEL 12	**6AV7861-1AB10-1AA0** SIMATIC FLAT PANEL 12 EXTENDED	**6AV7861-1KB10-1AA0** SIMATIC FLAT PANEL 12" KEY EXTENDED	**6AV7861-1TA00-1AA0** SIMATIC FLAT PANEL 12T, F. DC24V	**6AV7861-1TB00-1AA0** SIMATIC FLAT PANEL 12T	**6AV7861-1TB10-1AA0** SIMATIC FLAT PANEL 12T EXTENDED
Display							
Design of display	TFT	TFT	TFT	TFT	TFT	TFT	TFT
Screen diagonal	12 in	12 in	12 in	12 in	12 in	12 in	12 in
Display width	246 mm	246 mm	246 mm	246 mm	246 mm	246 mm	246 mm
Display height	184.5 mm	184.5 mm	184.5 mm	184.5 mm	184.5 mm	184.5 mm	184.5 mm
Viewing angle	140° x 120°	140° x 120°	140° x 120°	140° x 120°	140° x 120°	140° x 120°	140° x 120°
On Screen Display (OSD) configuration	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of colors	262 000; 262k	262 000; 262k	262 000; 262k	262 000; 262k	262 000; 262k	262 000; 262k	262 000; 262k
Resolution (pixels)							
• Horizontal image resolution	800 Pixel	800 Pixel	800 Pixel	800 Pixel	800 Pixel	800 Pixel	800 Pixel
• Vertical image resolution	600 Pixel	600 Pixel	600 Pixel	600 Pixel	600 Pixel	600 Pixel	600 Pixel
General features							
• Brightness/contrast	> 350 cd/m² / 450:1	> 350 cd/m² / 450:1	> 350 cd/m² / 450:1	> 350 cd/m² / 450:1	> 350 cd/m² / 450:1	> 350 cd/m² / 450:1	> 350 cd/m² / 450:1
Control elements							
Input device							
• Integrated mouse cursor control	No	No	No	No	No	No	No
Keyboard fonts							
• Function keys	No	No	No	Yes	No	No	No
- Number of function keys	0	0	0		0	0	0
Installation type/mounting							
Rack mounting	No	No	No	No	No	No	No
VESA mounting	No	No	No	No	No	No	No
Supply voltage							
Type of supply voltage	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V
permissible range, lower limit (AC)	90 V	90 V	90 V	90 V	90 V	90 V	90 V
permissible range, upper limit (AC)	264 V	264 V	264 V	264 V	264 V	264 V	264 V

Technical specifications (continued)

Article number	**6AV7861-1AA00-1AA0** SIMATIC FLAT PANEL 12, F. DC24V	**6AV7861-1AB00-1AA0** SIMATIC FLAT PANEL 12	**6AV7861-1AB10-1AA0** SIMATIC FLAT PANEL 12 EXTENDED	**6AV7861-1KB10-1AA0** SIMATIC FLAT PANEL 12" KEY EXTENDED	**6AV7861-1TA00-1AA0** SIMATIC FLAT PANEL 12T, F. DC24V	**6AV7861-1TB00-1AA0** SIMATIC FLAT PANEL 12T	**6AV7861-1TB10-1AA0** SIMATIC FLAT PANEL 12T EXTENDED
Interfaces							
Video interfaces							
• analog video signal (VGA)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Degree and class of protection							
IP54 at front	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack
IP65 at front	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners
IP20 rear	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Standards, approvals, certificates							
UL approval	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	No	No	No	No	No	No	No
Marine approval							
• Germanischer Lloyd (GL)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Polski Rejestr Statkow (PRS)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ambient conditions							
Ambient temperature during operation							
• min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C
Dimensions							
Width of the housing front	400 mm	400 mm	400 mm	483 mm	400 mm	400 mm	400 mm
Height of housing front	310 mm	310 mm	310 mm	310 mm	310 mm	310 mm	310 mm
Mounting cutout, width	368 mm	368 mm	368 mm	450 mm	368 mm	368 mm	368 mm
Mounting cutout, height	290 mm	290 mm	290 mm	290 mm	290 mm	290 mm	290 mm
Overall depth	51 mm	51 mm	51 mm	49 mm	51 mm	51 mm	51 mm

Technical specifications (continued)

Article number	6AV7861-2AB10-1AA0 SIMATIC FLAT PANEL 15 EXTENDED	6AV7861-2KB10-1AA0 SIMATIC FLAT PANEL 15" KEY EXTENDED
Display		
Design of display	TFT	TFT
Screen diagonal	15 in	15 in
Viewing angle	100° x 90° (min)	100° x 90° (min)
On Screen Display (OSD) configuration	Yes	Yes
Number of colors	16 000 000; 16.2 million	
Resolution (pixels)		
• Horizontal image resolution	1 024 Pixel	1 024 Pixel
• Vertical image resolution	768 Pixel	768 Pixel
General features		
• Brightness/contrast	> 260 cd/m² / 350:1	> 260 cd/m² / 350:1
Control elements		
Input device		
• Integrated mouse cursor control	No	No
Keyboard fonts		
• Function keys		
- Number of function keys	0	
Installation type/mounting		
Rack mounting	Yes	Yes
VESA mounting	No	No
Supply voltage		
Type of supply voltage	AC/DC	AC/DC
permiss. range, lower limit (DC)	19.2 V	19.2 V
permiss. range, upper limit (DC)	28.8 V	28.8 V
permiss. range, lower limit (AC)	90 V	90 V
permiss. range, upper limit (AC)	264 V	264 V
Interfaces		
Video interfaces		
• analog video signal (VGA)	Yes	Yes
Degree and class of protection		
IP54 at front	Yes; For screw mounting in 19" rack	
IP65 at front	Yes; if mounted with the supplied latch fasteners	
Standards, approvals, certificates		
UL approval	Yes	Yes
EAC (formerly Gost-R)	No	No
Marine approval		
• Germanischer Lloyd (GL)	Yes; Optional	Yes; Optional
• American Bureau of Shipping (ABS)	Yes; Optional	Yes; Optional
• Bureau Veritas (BV)	Yes; Optional	Yes; Optional
• Det Norske Veritas (DNV)	Yes; Optional	Yes; Optional
• Lloyds Register of Shipping (LRS)	Yes; Optional	Yes; Optional
Ambient conditions		
Ambient temperature during operation		
• min.	0 °C	0 °C
• max.	50 °C	50 °C
Dimensions		
Width of the housing front	483 mm	483 mm
Height of housing front	310 mm	355 mm
Mounting cutout, width	450 mm	450 mm
Mounting cutout, height	290 mm	321 mm
Overall depth	55 mm	49 mm

Article number	6AV7861-3AA00-1AA0 SIMATIC FLAT PANEL 19, F. DC24V	6AV7861-3AB10-1AA0 SIMATIC FLAT PANEL 19 EXTENDED
Display		
Design of display	TFT	TFT
Screen diagonal	19 in	19 in
Display width	376.3 mm	376.3 mm
Display height	301.1 mm	301.1 mm
Viewing angle	170° x 170°	170° x 170°
On Screen Display (OSD) configuration	Yes	Yes
Number of colors	16 000 000; 16.7 million	
Resolution (pixels)		
• Horizontal image resolution	1 280 Pixel	1 280 Pixel
• Vertical image resolution	1 024 Pixel	1 024 Pixel
General features		
• Brightness/contrast	> 300 cd/m² / 300:1	> 300 cd/m² / 300:1
Control elements		
Input device		
• Integrat. mouse cursor control	No	No
Keyboard fonts		
• Function keys	No	No
- Number of function keys	0	0
Installation type/mounting		
Rack mounting	Yes	Yes
VESA mounting	No	No
Supply voltage		
Type of supply voltage	AC/DC	AC/DC
permiss. range, lower limit (DC)	19.2 V	19.2 V
permiss. range, upper limit (DC)	28.8 V	28.8 V
permiss. range, lower limit (AC)	90 V	90 V
permiss. range, upper limit (AC)	264 V	264 V
Interfaces		
Video interfaces		
• analog video signal (VGA)	Yes	Yes
Degree and class of protection		
IP54 at front	Yes; For screw mounting in 19" rack	
IP65 at front	Yes; if mount. with the supplied latch fasteners	
IP20 rear	Yes	Yes
Standards, approvals, certificates		
UL approval	Yes	Yes
EAC (formerly Gost-R)	No	No
Marine approval		
• Germanischer Lloyd (GL)	Yes; Optional	Yes
• American Bureau of Shipping (ABS)	Yes; Optional	Yes
• Bureau Veritas (BV)	Yes; Optional	Yes
• Det Norske Veritas (DNV)	Yes; Optional	Yes
• Lloyds Register of Shipping (LRS)	Yes; Optional	Yes
• Polski Rejestr Statkow (PRS)		Yes
Ambient conditions		
Ambient temperature during operation		
• min.	0 °C	0 °C
• max.	45 °C	45 °C
Dimensions		
Width of the housing front	483 mm	483 mm
Height of housing front	400 mm	400 mm
Mounting cutout, width	450 mm	450 mm
Mounting cutout, height	380 mm	380 mm
Overall depth	57 mm	57 mm

Ordering data

	Article No.
Flat Panel Monitor	**6AV7861 - ■ ■ ■ ■ 0 - 1 A A 0**
Display size	
• 15"	**2**
• 19"	**3**
Operator functionality:	
• Display devices without operator functionality	**A**
• Touch screen (analog/resistive)	**T**
Power supply	
• 24 VDC (not for Extended versions since these always have AC and DC)	**A**
• 100 to 230 V AC (incl. Euro power supply cable) and 24 V DC	**B**
Variant	
• Standard, can be located up to 5 m away	**0**
• Extended, can be located up to 30 m away, marine approvals Dimmable background illumination Ex22	**1**

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

	Article No.
Special versions	
Flat Panel Monitor	
• 15" key	**6AV7861-2KB10-1AA0**
• PRO 15" touch	**6AV7861-5TB10-1BA0**
• PRO 19" touch	**6AV7861-6TB10-1BA0**
Accessories	
Protective films For protecting the touch screen against dirt and scratches Pack with 10 units	
• for 15" touch	**6AV7671-4BA00-0AA0**
• for 19" touch	**6AV7672-1CE00-0AA0**
Touch pen Undetachable pen for operation of the touch devices, mounting of the support on the control cabinet or directly on the PRO unit	**6AV7672-1JB00-0AA0**
Connection cables for Standard, Extended and PRO versions	
Video (VGA)	
• 3.0 m	**6AV7860-0AH30-0AA0**
• 5.0 m	**6AV7860-0AH50-0AA0**
Video (DVI-D)	
• 3.0 m	**6AV7860-0BH30-0AA0**
• 5.0 m	**6AV7860-0BH50-0AA0**
USB for optional touch screen	
• 3.0 m	**6AV7860-0CH30-0AA0**
• 5.0 m	**6AV7860-0CH50-0AA0**
Connection cables for Extended and PRO versions	
• Cable set 10 m (DVI-D, CAT5 cable(USB), USB transmitter module)	**6AV7860-1EX21-0AA1**
• Cable set 15 m (DVI-D, CAT5 cable(USB), USB transmitter module)	**6AV7860-1EX21-5AA1**
• Cable set 20 m (DVI-D, CAT5 cable(USB), USB transmitter module)	**6AV7860-1EX22-0AA1**
• Cable set 30 m (DVI-D, CAT5 cable(USB), USB transmitter module)	**6AV7860-1EX23-0AA1**

More information

More information is available on the Internet at:

http://www.siemens.com/industrial-lcd

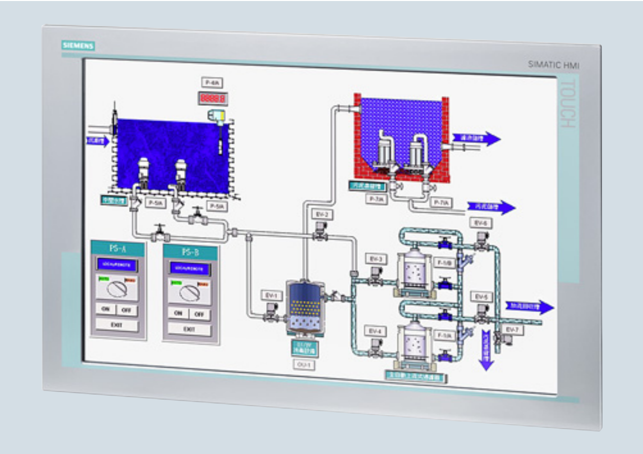
Note:

Do you need a specific modification or extension to the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customized modification and adaptation.

Examples are:

- SIMATIC SCD monitor 1900 for portrait operation
- SIMATIC Flat Panels with 6" and 10" Touch

Overview



The SIMATIC HMI SCD 1900 is a rugged, industry-standard PC monitor.

It is used as an operator control unit in all types of industrial and standard PC, including for portrait mounting. Standard interfaces permit a wide range of possible applications.

Built-in versions:

- Built-in unit (for control cabinets, control desks, and gantries)
- Built-in portrait for portrait mounting (for control cabinets, control desks and gantries)
- 19" built-in units (for 19" racks)

Type of operator control:

- Panels with touch control

Technical specifications

Article number	**6AV7862-2TA00-1AA0** SIMATIC SCD1900 19"WIDE/TOUCH/1440X900
General information	
Product type designation	SCD 1900
Short designation	Flat Panel 19" Touch
Display	
Design of display	TFT widescreen display, LED backlighting
Screen diagonal	19 in
visible area (HxV) in mm	255 x 408
Viewing angle	160° x 170°
On Screen Display (OSD) configuration	Yes
Number of colors (bit levels)	24 bit
Resolution (pixels)	
• Resolution (WxH in pixel)	1440 x 900
General features	
• Brightness/contrast	300 cd/m² / 1000:1
Backlighting	
• MTBF backlighting (up to 50%, at 25 °C)	50 000 h; At 25°C
Installation type/mounting	
Rack mounting possible	Yes
Built-in unit	Yes
VESA mounting	No
Supply voltage	
Type of supply voltage	DC
permissible range, lower limit (DC)	21.6 V
permissible range, upper limit (DC)	26.4 V

Article number	**6AV7862-2TA00-1AA0** SIMATIC SCD1900 19"WIDE/TOUCH/1440X900
Interfaces	
Video interfaces	
• analog video signal (VGA)	Yes
Touch interfaces	
• USB	Yes
Degree and class of protection	
IP65 at front	Yes
IP20 rear	Yes
Standards, approvals, certificates	
CE mark	Yes; Industry
CSA approval	No
UL approval	Yes
cULus	Yes
Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	60 °C
Shock testing	
• Shock load during operation	10 gn
• Shock load during transport/storage	10 gn
Mechanics/material	
Enclosure material (front)	
• Aluminum	Yes
Weights	
Weight without packaging	6 kg

4

SCD monitors 1900

Ordering data

Ordering data	Article No.
SCD monitor 1900	**6AV7862-2TA00-1AA0**
Portrait SCD monitor 1900	**6AV7466-2TA17-1AA0**
Accessories	
Cable for connecting to the graphics interface of the PC	
• VGA cable 3.0 m	**6AV7860-0AH30-0AA0**
• VGA cable 5.0 m	**6AV7860-0AH50-0AA0**
• DVI-D cable, 3.0 m	**6AV7860-0BH30-0AA0**
• DVI-D cable, 5.0 m	**6AV7860-0BH50-0AA0**
USB cable for connecting the touch screen	
• 3.0 m	**6AV7860-0CH30-0AA0**
• 5.0 m	**6AV7860-0CH50-0AA0**
External power supply for SCD 1900 100-230 V AC, 50-60 Hz; incl. mounting accessories for optional installation at the device.	**6AV7860-2AD06-0AA0**

More information

More information is available on the Internet at:

http://www.siemens.com/industrial-lcd

4

Overview

SIMATIC ITC Industrial Thin Clients are powerful operating units for flexible use in distributed visualization applications.

All devices are equipped with high-resolution, brilliant widescreen displays, and due to the diverse communication protocols they can be used both for challenging machine-level operator control & monitoring and for the connection to control systems, e.g. in the SCADA environment. They can be used as (additional) operator stations on a SIMATIC Industrial PC, Panel PC, or server, and on a SIMATIC Panel.

The following installation versions are available:

- SIMATIC ITC1200 – 12" Touch
- SIMATIC ITC1500 – 15" Touch
- SIMATIC ITC1900 – 19" Touch
- SIMATIC ITC2200 – 22" Touch

The SIMATIC HMI Thin Client Ex is available for hazardous areas (Zone 1/11). This device differs technically from the devices mentioned above. For more details, refer to the SIMATIC Thin Client EX chapter.

Technical specifications

Article number	**6AV6646-1AA22-0AX0** SIMATIC ITC1200	**6AV6646-1AB22-0AX0** SIMATIC ITC1500	**6AV6646-1AC22-0AX0** SIMATIC ITC1900	**6AV6646-1AD22-0AX0** SIMATIC ITC2200
Display				
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	12.1 in	15.4 in	18.5 in	21.5 in
Display width	261.1 mm	331.2 mm	409.8 mm	495.6 mm
Display height	163.2 mm	207 mm	230.4 mm	292.2 mm
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216
Resolution (pixels)				
• Horizontal image resolution	1 280 Pixel	1 280 Pixel	1 366 Pixel	1 920 Pixel
• Vertical image resolution	800 Pixel	800 Pixel	768 Pixel	1 080 Pixel
Backlighting				
• Type of backlighting	LED, dimmable	LED, dimmable	LED, dimmable	LED, dimmable
• Backlight dimmable	Yes; 5-100 %	Yes; 5-100 %	Yes; 5-100 %	Yes; 5-100 %
Control elements				
Touch operation				
• Monitor keyboard	Yes	Yes	Yes	Yes
Installation type/mounting				
Built-in unit	Yes	Yes	Yes	Yes
Supply voltage				
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V
Input current				
Current consumption, max.	1.2 A	1.5 A	1.3 A	2.2 A
Starting current inrush I^2t	0.5 $A^2 \cdot s$	0.5 $A^2 \cdot s$	0.5 $A^2 \cdot s$	0.5 $A^2 \cdot s$
Interfaces				
Number of Industrial Ethernet interfaces	1	1	1	1
USB on the rear	2	2	2	2
USB at the front	0	0	0	0
Connection for keyboard/mouse	USB	USB	USB	USB
Industrial Ethernet				
• Transmission rate, max.	1 000 Mbit/s	1 000 Mbit/s	1 000 Mbit/s	1 000 Mbit/s

Technical specifications (continued)

Article number	6AV6646-1AA22-0AX0 SIMATIC ITC1200	6AV6646-1AB22-0AX0 SIMATIC ITC1500	6AV6646-1AC22-0AX0 SIMATIC ITC1900	6AV6646-1AD22-0AX0 SIMATIC ITC2200
Protocols				
Protocols (Ethernet)				
• TCP/IP	Yes	Yes	Yes	Yes
• DHCP	Yes	Yes	Yes	Yes
• SNMP	Yes	Yes	Yes	Yes
• DCP	Yes	Yes	Yes	Yes
• LLDP	Yes	Yes	Yes	Yes
WEB characteristics				
• HTTP	Yes	Yes	Yes	Yes
• HTML	Yes; HTML5	Yes; HTML5	Yes; HTML5	Yes; HTML5
• XML	Yes	Yes	Yes	Yes
• CSS	Yes	Yes	Yes	Yes
• JavaScript	Yes	Yes	Yes	Yes
Protocols (terminal link)				
• Sm@rtServer	Yes	Yes	Yes	Yes
• RDP	Yes	Yes	Yes	Yes
• VNC viewer	Yes	Yes	Yes	Yes
• Citrix	No	No	No	No
• SINUMERIK	Yes	Yes	Yes	No
Protocols				
PROFINET IO device				
Services				
- PROFIenergy	No	No	No	No
Degree and class of protection				
IP65 at front	Yes	Yes	Yes	Yes
IP20 rear	Yes	Yes	Yes	Yes
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
Use in hazardous areas				
• cULus Class I Zone 1	No	No	No	No
• cULus Class I Zone 2, Division 2	Yes; Available soon	Yes; Available soon	Yes; Available soon	Yes; Available soon
• FM Class I Division 2	Yes; Available soon	Yes; Available soon	Yes; Available soon	Yes; Available soon
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	45 °C	45 °C
Ambient temperature during storage/transportation				
• min.	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C
Relative humidity				
• Operation, max.	90 %	90 %	90 %	90 %
Software				
Web browser	Yes	Yes	Yes	Yes
PDF reader	Yes	Yes	Yes	Yes
Configuration				
Configuration				
• On-board	Yes	Yes	Yes	Yes
• Remote administration	Yes; With Remote Configuration Center (RCC) as of V2.0	Yes; With Remote Configuration Center (RCC) as of V2.0	Yes; With Remote Configuration Center (RCC) as of V2.0	Yes; With Remote Configuration Center (RCC) as of V2.0
Languages				
Online languages				
• German	Yes	Yes	Yes	Yes
• English	Yes	Yes	Yes	Yes

Technical specifications (continued)

Article number	**6AV6646-1AA22-0AX0** SIMATIC ITC1200	**6AV6646-1AB22-0AX0** SIMATIC ITC1500	**6AV6646-1AC22-0AX0** SIMATIC ITC1900	**6AV6646-1AD22-0AX0** SIMATIC ITC2200
Peripherals/Options				
Peripherals				
• USB memory	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected
Mechanics/material				
Enclosure material (front)				
• Aluminum	Yes	Yes	Yes	Yes
Dimensions				
Width of the housing front	330 mm	415 mm	483 mm	560 mm
Height of housing front	241 mm	310 mm	337 mm	380 mm
Mounting cutout, width	310 mm	396 mm	465 mm	542 mm
Mounting cutout, height	221 mm	291 mm	319 mm	362 mm
Overall depth	82 mm	75 mm	75 mm	75 mm
Weights				
Weight without packaging	3.4 kg	5.2 kg	6.5 kg	7.1 kg
Weight incl. packaging	4.1 kg	5.7 kg	7.1 kg	7.8 kg

Ordering data

	Article No.
Industrial Thin Client	
• SIMATIC ITC1200 12" Touch device	**6AV6646-1AA22-0AX0**
• SIMATIC ITC1500 15" Touch device	**6AV6646-1AB22-0AX0**
• SIMATIC ITC1900 19" Touch device	**6AV6646-1AC22-0AX0**
• SIMATIC ITC2200 22" Touch device	**6AV6646-1AD22-0AX0**
Accessories	See accessories

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-itc

Introduction

Overview

Devices for special requirements

Fully enclosed IP65 devices

The fully enclosed IP65 SIMATIC devices (SIMATIC Industrial Flat Panel PRO, SIMATIC Flat Panel PRO, SIMATIC Thin Client PRO and SIMATIC IPC477D PRO) are specially designed for mounting on a supporting arm/pedestal. Thanks to their extremely rugged design, the devices are ideal for industrial applications in harsh environments.

Portfolio expansion for fully enclosed IP65 devices:

- SIMATIC Industrial Flat Panel PRO
- SIMATIC Flat Panel PRO
- SIMATIC Thin Client PRO
- SIMATIC IPC477D PRO (15", 19", 22" display)
- Extension Units
  - For mounting on all widescreen PRO devices
  - Slim and modern design
  - Complete flexibility in the choice and installation of operator controls
  - Multiple connection options

Devices with stainless steel fronts

The fully enclosed SIMATIC devices with stainless steel fronts (SIMATIC IPC277D 19" INOX PRO and SIMATIC IFP1900 INOX PRO) are specially designed for mounting on a support arm/pedestal. Thanks to their flat enclosures, the devices are ideally suited to space-saving use on food and beverage machinery and packaging machinery.

Devices for hazardous areas

The SIMATIC Ex devices (SIMATIC Panel PC Ex OG, SIMATIC HMI Panel PC Ex and SIMATIC HMI Thin Client Ex) are intrinsically safe Panel PCs and Thin Clients that have been specifically developed for hazardous areas "Zone 1" and "Zone 2".

Overview

IPC Pro, IFP Pro

SIMATIC IFP PRO: The new Industrial Flat Panels with all-round IP65 protection – the industrial widescreen monitors for harsh ambient conditions that can be installed directly on the machine

IFP1900 PRO and ***IFP2200 PRO*** supplement the current product range of new Industrial Flat Panels. Equipped with innovative, projected capacitive touch screen technology for the detection of multi-touch gestures with up to ten fingers and with a brilliant widescreen display and glass front.

The devices are connected by means of a DVI or DisplayPort interface and USB to PCs, in particular SIMATIC IPCs. The rugged aluminum housing of the monitor enables it to be used directly at the machine and guarantees durability, even in harsh and extreme operating environments.

- All-round IP65 protection
- Can be positioned up to 30 m away from the processor unit (IFP Extended version)
- Rugged, industry-standard 19" (1 366 x 768) and 22" (1 920 x 1 080) widescreen displays (multi-touch)
- Slim, modern design
- Can be adapted to support arm system of various manufacturers
- Fast integration capability
- Low energy requirement
- Small footprint and low weight
- Low wiring overhead and short maintenance times thanks to use of standard connecting cables
- Integration of operator controls in the new Extension Units

IFP1900 PRO and IFP2200 PRO are available in three different versions, depending on the application:

- Prepared for support arm without extension components (flange on top)
- Prepared for pedestal/extension components (flange below)
- Prepared for support arm and extension components (round tube connection)

Technical specifications

Article number	6AV7863-3MA14-0AA0 SIMATIC IFP PRO 19" MULTI-TOUCH PEDESTAL	6AV7863-3MA15-0AA0 SIMATIC IFP PRO 19" MT EXT SUPPORT ARM
General information		
Product type designation	IFP1900 PRO stand	IFP1900 PRO support arm
Short designation	Flat Panel 19" PRO multi-touch ext.	Flat Panel 19" PRO multi-touch ext.
Display		
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	19 in	19 in
Screen diagonal (cm)	47 cm	47 cm
Display width	409.8 mm	409.8 mm
Display height	230.4 mm	230.4 mm
visible area (HxV) in mm	409.8 mm x 230.4 mm	409.8 mm x 230.4 mm
Viewing angle	170° x 160°	170° x 160°
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software
Number of colors (bit levels)	24 bit	24 bit
Resolution (pixels)		
• Resolution (WxH in pixel)	1366 x 768	1366 x 768
• Pixel size, horizontal	0.3 mm	0.3 mm
• Pixel size, vertical	0.3 mm	0.3 mm
General features		
• non-reflective and tempered mineral glass screen	Yes	Yes
• Detachable from computer unit	30 m	30 m
• Brightness/contrast	300 cd/m² / 1000:1	300 cd/m² / 1000:1
Backlighting		
• Type of backlighting	LED	LED
• MTBF backlighting (up to 50%, at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %
Control elements		
Input device		
• integrated mouse cursor control	Yes; Also externally via USB	Yes; Also externally via USB
Touch operation		
• Monitor keyboard	Yes	Yes
Installation type/mounting		
Design		Support arm mounting
Rack mounting possible		No
Support arm mounting	No	Yes
Pedestal mounting	Yes	No
Built-in unit	No; IP65 fully enclosed	No; IP65 fully enclosed
• permissible angle to the vertical backward (console)	45°	45°
• permissible angle to the vertical forward (ceiling mounting)	45°	45°
VESA mounting	Yes; With VESA adapter set	Yes; With VESA adapter set
Supply voltage		
Type of supply voltage	24 V DC	24 V DC
Rated value (DC)	24 V; PELV	24 V; PELV
permissible range, lower limit (DC)	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V

Article number	6AV7863-3MA14-0AA0 SIMATIC IFP PRO 19" MULTI-TOUCH PEDESTAL	6AV7863-3MA15-0AA0 SIMATIC IFP PRO 19" MT EXT SUPPORT ARM
Power loss		
Power loss DC		
• Typical	40 W	40 W
• Maximum	65 W	65 W
Interfaces		
USB on the rear	2x onboard	2x onboard
Connection for keyboard/mouse	USB	USB
Video interfaces		
• DVI-D	Yes	Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces		
• USB	Yes	Yes
Degree and class of protection		
IP65 at front	Yes	Yes
Enclosure Type 4 at the front	Yes	Yes
Enclosure Type 4x at the front	Yes	Yes
NEMA4 at the front	Yes	Yes
NEMA4X at the front	Yes	Yes
IP65 rear	Yes	Yes
Standards, approvals, certificates		
CE mark	Yes	Yes
cULus	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes
Use in hazardous areas		
• ATEX Zone 2	Yes; Available soon	
• ATEX Zone 22	Yes; Available soon	
• FM Class I Division 2	Yes; Available soon	
Ambient conditions		
Ambient temperature during operation		
• min.	0 °C	0 °C
• max.	45 °C	45 °C
Ambient temperature during storage/transportation		
• min.	-20 °C	-20 °C
• max.	60 °C	60 °C
Relative humidity		
• Operation, max.	95 %; Non-condensing	95 %; Non-condensing
Vibrations		
• Vibration load in operation	1 gn	1 gn
• Vibration load during transport/storage	1 gn	1 gn
Shock testing		
• Shock load during operation	15 gn	15 gn
• Shock load during transport/storage	15 gn	15 gn
Connection method		
Connector (IEC) for cold condititons	Yes	Yes
Mechanics/material		
Enclosure material (front)		
• Glass	Yes; at front	Yes; at front
Weights		
Weight without packaging	6.5 kg	6.5 kg
Weight incl. packaging	10 kg	10 kg

Ordering data

Ordering data	Article No.
SIMATIC IFP1900 PRO 19" (16:9) Flat Panel, multi-touch, extended version up to 30 m, 1 366 x 768 resolution, for 24 V DC DisplayPort/DVI port, IP65 all-round protection	
• prepared for pedestal and extension components	**6AV7863-3MA14-0AA0**
• prepared for support arm without extension components	**6AV7863-3MA15-0AA0**
• prepared for support arm and extension components	**6AV7863-3MA16-0AA0**
SIMATIC IFP2200 PRO 22" (16:9) Flat Panel, multi-touch, extended version up to 30 m, 1 920 x 1 080 resolution, for 24 V DC DisplayPort/DVI port, IP65 all-round protection	
• prepared for pedestal and extension components	**6AV7863-4MA14-0AA0**
• prepared for support arm without extension components	**6AV7863-4MA15-0AA0**
• prepared for support arm and extension components	**6AV7863-4MA16-0AA0**

Note:

As in the case of the PRO Flat Panel, the adaptation to support arm/pedestal systems is possible by using the basic adapter. This is included in the scope of supply (only in the case of the "prepared for support arm and extension components" version is the basic adapter not included, as the connection is made via a round tube).

For the version "prepared for support arm and extension components", installation can alternatively take place with the Siemens flange mount or with a standard 48 mm diameter round tube.

The flange mount enables the transition from a round tube connection to the familiar mechanical interface of the basic adapter. This means you can combine different versions of the PRO devices with the same support arm or pedestal system.

More information

More information can be found on the Internet at:

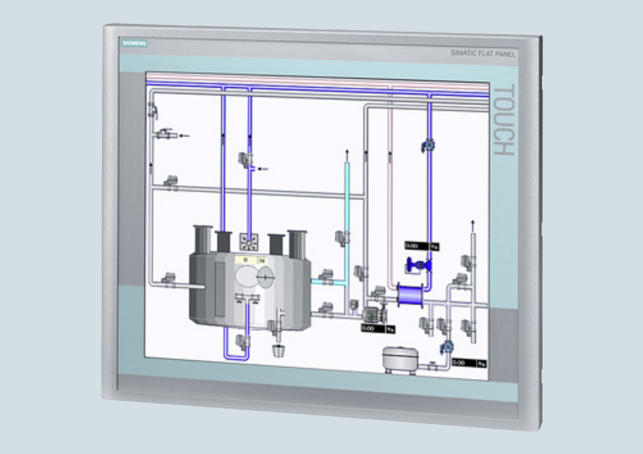
http://www.siemens.com/ip65-hmi-devices

Note:

Do you need a specific modification or option for the products described here? Then look up "Customized products", where you will find information about additional sector-specific products that can be ordered as well as about options for customized modification and adaptation.

SIMATIC Flat Panel PRO

Overview



SIMATIC Flat Panel Monitor PRO 19"

SIMATIC Flat Panel Monitor PRO 15" with extension component (rear view)

Technical specifications

Article number	**6AV7861-5TB10-1BA0** SIMATIC FLAT PANEL PRO 15 AC/DC	**6AV7861-6TB10-1BA0** SIMATIC FLAT PANEL PRO 19T
Display		
Design of display	TFT	TFT
Screen diagonal	15 in	19 in
visible area (HxV) in mm	304 x 228	376 x 301
Viewing angle	160° x 160°	160° x 160°
On Screen Display (OSD) configuration	Yes	Yes
Number of colors (bit levels)	16.7 million	16.7 million
Resolution (pixels)		
• Resolution (WxH in pixel)	1024 x 768	1280 x 1024
General features		
• Brightness/contrast	> 260 cd/m² / 350:1	> 300 cd/m² / 300:1
Control elements		
Input device		
• integrated mouse cursor control	No	No
Keyboard fonts		
• Function keys	No	No
- Number of function keys	0	0
Installation type/mounting		
Rack mounting possible	No	No
VESA mounting	Yes	Yes
Supply voltage		
Type of supply voltage	AC/DC	AC/DC
permissible range, lower limit (DC)	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V
permissible range, lower limit (AC)	90 V	90 V
permissible range, upper limit (AC)	264 V	264 V

Article number	**6AV7861-5TB10-1BA0** SIMATIC FLAT PANEL PRO 15 AC/DC	**6AV7861-6TB10-1BA0** SIMATIC FLAT PANEL PRO 19T
Interfaces		
Video interfaces		
• analog video signal (VGA)	Yes	Yes
Degree and class of protection		
IP20 at front	Yes	Yes
IP54 at front	Yes	Yes
IP65 at front	Yes	Yes
IP20 rear	Yes	Yes
IP54 rear	Yes	Yes
IP65 rear	Yes	Yes
Standards, approvals, certificates		
UL approval	Yes	Yes
EAC (formerly Gost-R)	No	No
SIBE safety certification	No	No
Marine approval		
• Germanischer Lloyd (GL)	No	No
• American Bureau of Shipping (ABS)	No	No
• Bureau Veritas (BV)	No	No
• Det Norske Veritas (DNV)	No	No
• Lloyds Register of Shipping (LRS)	No	No
• Polski Rejestr Statkow (PRS)	No	No
Ambient conditions		
Ambient temperature during operation		
• min.	0 °C	
• max.	45 °C	
Dimensions		
Width of the housing front	400 mm	483 mm
Height of housing front	310 mm	400 mm

Ordering data

Ordering data	Article No.
SIMATIC Flat Panel PRO 15" Touch	**6AV7861-5TB10-1BA0**
SIMATIC Flat Panel PRO 19" Touch	**6AV7861-6TB10-1BA0**

Note:

An adapter plate is required for mounting on the support arm systems of well-known manufacturers; see "Accessories for fully enclosed HMI devices".

More information

More information is available on the Internet at:

http://www.siemens.com/ip65-hmi-devices

Note:

Do you require a specific modification or extension to the products described here? Under "Customized products" you can find information about additional and generally available products for the sector, and about the possibilities for customized modification and adaptation.

SIMATIC Thin Client PRO

Overview

SIMATIC Thin Client PRO 15"

Technical specifications

Article number	**6AV6646-2AB21-2AX0** SIMATIC THIN CLIENT PRO 15 " TOUCH
General information	
Product type designation	PRO 15" Touch
Display	
Design of display	TFT
Screen diagonal	15.1 in
Resolution (pixels)	
• Resolution (WxH in pixel)	1024 x 768
Backlighting	
• MTBF backlighting (at 25 °C)	50 000 h
Control elements	
Control elements	Touch screen
Keyboard fonts	
• System keys	No
Connection type	
• Connection for mouse/keyboard/ barcode reader	USB / USB
Installation type/mounting	
maximum permissible angle of inclination without external ventilation	45°
Supply voltage	
Type of supply voltage	DC
Processor	
Processor type	ARM, 266 MHz
Memory	
Type of memory	Flash / RAM
Interfaces	
Interfaces/bus type	1 x Ethernet (RJ45)
USB port	1 x USB
Industrial Ethernet	
• Industrial Ethernet interface	1 x Ethernet (RJ45)
Protocols	
WEB characteristics	
• HTTP	Yes
• HTML	Yes
• CSS	Yes
Protocols (terminal link)	
• Sm@rtServer	Yes
• RDP	Yes

4

Technical specifications (continued)

Article number	6AV6646-2AB21-2AX0 SIMATIC THIN CLIENT PRO 15 " TOUCH
EMC	
Emission of radio interference acc. to EN 55 011	
• Limit class A, for use in industrial areas	Yes; EN 61000-6-4, interference emission: Intended for use in industrial areas.
Degree and class of protection	
Front	IP65, NEMA 4x, NEMA 12 (when installed)
IP (rear)	IP65
Standards, approvals, certificates	
Certifications	CE, cULus, C-TICK, NEMA 4x (Enclosure Type 4X, Type 12), NEMA 12
cULus	Yes
EMC	The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation
Suitable for safety functions	No
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	45 °C
Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	60 °C
Relative humidity	
• Operation, max.	85 %; Storage
Languages	
Online languages	
• Number of online/runtime languages	2
Dimensions	
Width of the housing front	400 mm
Height of housing front	310 mm
Weights	
Weight (without packaging)	6.5 kg

Ordering data

	Article No.
SIMATIC Thin Client PRO 15" Touch	**6AV6646-2AB21-2AX0**

Note:

An adapter plate is required for mounting on the support arm systems of well-known manufacturers; see "Accessories for fully enclosed HMI devices".

More information

More information is available on the Internet at:

http://www.siemens.com/ip65-hmi-devices

Note:

Do you require a specific modification or extension to the products described here? Under "Customized products" you can find information about additional and generally available products for the sector, and about the possibilities for customized modification and adaptation.

Overview

IPC Pro, IFP Pro

IPC Pro, rear view

Technical specifications

Article number	**6AV7250-.....-...0** SIMATIC IPC 477D PRO	**6AV7250-.....-...8** SIMATIC IPC 477D PRO WITH TPM
Installation type/mounting		
maximum permissible installation angle +/-	+/- 45 °	+/- 45 °
Supply voltage		
Type of supply voltage	24 V DC	24 V DC
Processor		
Processor type	Intel Core i7-3517UE Intel Core i3-3217UE Intel Celeron 827E	Intel Core i7-3517UE Intel Core i3-3217UE Intel Celeron 827E
Drives		
Diskette drive	No	
Optical drives	possible as external drive via USB	possible as external drive via USB
SSD	Yes; 1x ≥ 80 GB; 2.5" SATA-SSD / CFAST 2 ... 16 GB	Yes; 1x ≥ 80 GB; 2.5" SATA-SSD / CFAST 2 ... 16 GB
Memory		
Work memory	1 / 2 / 4 / 8 GB	1 / 2 / 4 / 8 GB
Interfaces		
PROFIBUS/MPI	1 x CP5611-compatible; alternatively: 1 x CP 1616 onboard with 3 ports	1 x CP5611-compatible; alternatively: 1 x CP 1616 onboard with 3 ports
Number of PROFINET interfaces	1; 3 ports (incl. switch)	1; 3 ports (incl. switch)
USB port	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)
Connection for keyboard/mouse	USB / USB	USB / USB
serial interface	COM1 (RS 232)	COM1 (RS 232)
Video interfaces		
• Graphics interface	1x DVI, 1x DisplayPort	1x DVI, 1x DisplayPort
Industrial Ethernet		
• Industrial Ethernet interface	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)
- 100 Mbps	Yes	Yes
- 1000 Mbps	Yes	Yes

Technical specifications (continued)

Article number	**6AV7250-.....-...0** SIMATIC IPC 477D PRO	**6AV7250-.....-...8** SIMATIC IPC 477D PRO WITH TPM
Monitoring functions		
Temperature	Yes	Yes
Watchdog	Yes	Yes
Degree and class of protection		
IP (at the front)	IP65 fully enclosed	IP65 fully enclosed
IP (rear)	IP65	IP65
Standards, approvals, certificates		
Approval	CE, cULus (508)	CE, cULus (508)
CE mark	Yes	Yes
cULus	Yes	Yes
KC approval	Yes	Yes
EMC	CE, EN 55011, EN 61000-6-4, EN 61000-6-2	CE, EN 55011, EN 61000-6-4, EN 61000-6-2
• EN 61000-6-2	Yes	Yes
Ambient conditions		
Ambient temperature during operation		
• Ambient temperature during operation	5 to +45°C	5 to +45°C
• min.	5 °C	5 °C
• max.	45 °C	45 °C
Relative humidity		
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
Vibrations		
• Vibration load in operation	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s^2 (1 g)	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s^2 (1 g)
Shock testing		
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s^2 (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s^2 (5g), 30 ms, 100 shocks
Operating systems		
Operating system	Windows 7 Ultimate (Multi Language) 32-bit/64-bit, Windows Embedded Standard 7 32-bit/64-bit	Windows 7 Ultimate (Multi Language) 32-bit/64-bit, Windows Embedded Standard 7 32-bit/64-bit
Additional info on operating system	Multi Language: GER, ENG, ITAL, FR, SP, KOR, CHN (Traditional), CHN (Simplified), JPN - not with XPe	Multi Language: GER, ENG, ITAL, FR, SP, KOR, CHN (Traditional), CHN (Simplified), JPN - not with XPe
pre-installed operating system	Yes	Yes
without operating system	Yes; Optional	Yes; Optional
Dimensions		
Width	475 mm	475 mm
Height	296 mm; Without basic adapter	296 mm; Without basic adapter
Depth	98 mm; Without basic adapter	98 mm; Without basic adapter

Technical specifications (continued)

Article number	6AV7250-.B...-...0	6AV7250-.B...-...8	6AV7250-.C...-...0	6AV7250-.C...-...8	6AV7250-.D...-...0	6AV7250-.D...-...8
	SIMATIC IPC477D PRO, 15" MTOUCH	SIMATIC IPC477D PRO, 15" MTOUCH WITH TPM	SIMATIC IPC 477D PRO, 15" MTOUCH	SIMATIC IPC477D PRO, 15" MTOUCH WITH TPM	SIMATIC IPC477D PRO, 15" MTouch	SIMATIC IPC477D PRO, 15" MTOUCH WITH TPM
Display						
Design of display	15" TFT multi-touch	TFT widescreen display, LED backlighting	15" TFT multi-touch	TFT widescreen display, LED backlighting	15" TFT multi-touch	TFT widescreen display, LED backlighting
Screen diagonal	15 in	15 in	15 in	15 in	15 in	15 in
Resolution (pixels)						
• Horizontal image resolution	1 366 Pixel	1 366 Pixel	1 366 Pixel	1 366 Pixel	1 366 Pixel	1 366 Pixel
• Vertical image resolution	768 Pixel	768 Pixel	768 Pixel	768 Pixel	768 Pixel	768 Pixel
Control elements						
Input device						
• Mouse, at front	No		No		No	
Touch operation						
• Design as touch screen		Yes; Projective-capacitive		Yes; Projective-capacitive		Yes; Projective-capacitive
• Design as multi-touch screen	Yes; Projective-capacitive		Yes; Projective-capacitive		Yes; Projective-capacitive	
Installation type/mounting						
Support arm mounting	Yes; Suitable for support arm without extension components	Yes; Suitable for support arm without extension components	No	No	Yes; Suitable for support arm and extension components (please refer to manual)	Yes; Suitable for support arm and extension components (please refer to manual)
Pedestal mounting	No	No	Yes	Yes	No	No
Mounting in portrait format possible	No	No	No	No	No	No
maximum permissible installation angle +/-	+/- 45 °	+/- 45 °	+/- 45 °	+/- 45 °	+/- 45 °	+/- 45 °
Power loss						
In full configuration	68 W		68 W		68 W	
Accessories						
Accessory components					6AV7674-1KF00-0AA0 - Flange mount for installation (refer to manual)	6AV7674-1KF00-0AA0 - Flange mount for installation (refer to manual)
Dimensions						
Width	475 mm	475 mm	475 mm	475 mm	475 mm	475 mm
Height	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter
Depth	98 mm; Without basic adapter	98 mm; Without basic adapter	98 mm; Without basic adapter	98 mm; Without basic adapter	98 mm; Without basic adapter	98 mm; Without basic adapter
Width of the housing front	396 mm	396 mm	396 mm	396 mm	396 mm	396 mm
Height of housing front	255 mm; Without basic adapter	255 mm; Without basic adapter	255 mm; Without basic adapter	255 mm; Without basic adapter	255 mm; Without basic adapter	255 mm
Weights						
Panel PC in central design, approx.	6.8 kg	6.8 kg	6.8 kg	6.8 kg	7.5 kg	7.5 kg

Technical specifications (continued)

Article number	**6AV7250-.E...-...0** SIMATIC IPC477D PRO, 19" MTOUCH	**6AV7250-.E...-...8** SIMATIC IPC477D PRO, 19" MTOUCH WITH TPM	**6AV7250-.F...-...0** SIMATIC IPC 477D PRO, 19" MTOUCH	**6AV7250-.F...-...8** SIMATIC IPC477D PRO, 19" MTOUCH WITH TPM
General information				
Product type designation	IPC477D PRO	IPC477D PRO with TPM	IPC477D PRO	IPC477D PRO with TPM
Display				
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	19 in	19 in	19 in	19 in
Resolution (pixels)				
• Resolution (WxH in pixel)	1366 x 768	1366 x 768	1366 x 768	1366 x 768
Installation type/mounting				
Support arm mounting	Yes	Yes	No	No
Pedestal mounting	No	No	Yes	Yes
Mounting in portrait format possible	No	No	No	No
maximum permissible installation angle +/-	+/- 45 °	+/- 45 °	+/- 45 °	+/- 45 °
Supply voltage				
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC
Processor				
Processor type	Intel Core i7-3517UE Intel Core i3-3217UE Intel Celeron 827E	Intel Core i7-3517UE Intel Core i3-3217UE Intel Celeron 827E	Intel Core i7-3517UE Intel Core i3-3217UE Intel Celeron 827E	Intel Core i7-3517UE Intel Core i3-3217UE Intel Celeron 827E
Drives				
Diskette drive	No		No	
Optical drives	possible as external drive via USB	possible as external drive via USB	possible as external drive via USB	possible as external drive via USB
SSD	Yes; 1x ≥ 80 GB; 2.5" SATA-SSD / CFAST 2 ... 16 GB	Yes; 1x ≥ 80 GB; 2.5" SATA-SSD / CFAST 2 ... 16 GB	Yes; 1x ≥ 80 GB; 2.5" SATA-SSD / CFAST 2 ... 16 GB	Yes; 1x ≥ 80 GB; 2.5" SATA-SSD / CFAST 2 ... 16 GB
Memory				
Work memory	1 GB	1 GB	1 GB	1 GB
Interfaces				
PROFIBUS/MPI	1 x CP5611-compatible; alternatively: 1 x CP 1616 onboard with 3 ports	1 x CP5611-compatible; alternatively: 1 x CP 1616 onboard with 3 ports	1 x CP5611-compatible; alternatively: 1 x CP 1616 onboard with 3 ports	1 x CP5611-compatible; alternatively: 1 x CP 1616 onboard with 3 ports
Number of PROFINET interfaces	1; 3 ports (incl. switch)	1; 3 ports (incl. switch)	1; 3 ports (incl. switch)	1; 3 ports (incl. switch)
USB port	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB	USB / USB
serial interface	COM1 (RS 232)	COM1 (RS 232)	COM1 (RS 232)	COM1 (RS 232)
Video interfaces				
• Graphics interface	1x DVI, 1x DisplayPort	1x DVI, 1x DisplayPort	1x DVI, 1x DisplayPort	1x DVI, 1x DisplayPort
Industrial Ethernet				
• Industrial Ethernet interface	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes
Monitoring functions				
Temperature	Yes	Yes	Yes	Yes
Watchdog	Yes	Yes	Yes	Yes

Technical specifications (continued)

Article number	**6AV7250-.E...-...0** SIMATIC IPC477D PRO, 19" MTOUCH	**6AV7250-.E...-...8** SIMATIC IPC477D PRO, 19" MTOUCH WITH TPM	**6AV7250-.F...-...0** SIMATIC IPC 477D PRO, 19" MTOUCH	**6AV7250-.F...-...8** SIMATIC IPC477D PRO, 19" MTOUCH WITH TPM
Degree and class of protection				
IP (at the front)	IP65 fully enclosed	IP65 fully enclosed	IP65 fully enclosed	IP65 fully enclosed
IP (rear)	IP65	IP65	IP65	IP65
Standards, approvals, certificates				
Approval	CE, cULus (508)	CE, cULus (508)	CE, cULus (508)	CE, cULus (508)
CE mark	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
EMC	CE, EN 55011, EN 61000-6-4, EN 61000-6-2	CE, EN 55011, EN 61000-6-4, EN 61000-6-2	CE, EN 55011, EN 61000-6-4, EN 61000-6-2	CE, EN 55011, EN 61000-6-4, EN 61000-6-2
• EN 61000-6-2	Yes	Yes	Yes	Yes
Ambient conditions				
Ambient temperature during operation				
• Ambient temperature during operation	5 to +45°C	5 to +45°C	5 to +45°C	5 to +45°C
• min.	5 °C	5 °C	5 °C	5 °C
• max.	45 °C	45 °C	45 °C	45 °C
Relative humidity				
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
Vibrations				
• Vibration load in operation	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s^2 (1 g)	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s^2 (1 g)	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s^2 (1 g)	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s^2 (1 g)
Shock testing				
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s^2 (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s^2 (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s^2 (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s^2 (5g), 30 ms, 100 shocks
Operating systems				
Operating system	Windows 7 Ultimate (Multi Language) 32-bit/ 64-bit, Windows Embedded Standard 7 32-bit/64-bit	Windows 7 Ultimate (Multi Language) 32-bit/ 64-bit, Windows Embedded Standard 7 32-bit/64-bit	Windows 7 Ultimate (Multi Language) 32-bit/ 64-bit, Windows Embedded Standard 7 32-bit/64-bit	Windows 7 Ultimate (Multi Language) 32-bit/ 64-bit, Windows Embedded Standard 7 32-bit/64-bit
Additional info on operating system	Multi Language: GER, ENG, ITAL, FR, SP, KOR, CHN (Traditional), CHN (Simplified), JPN - not with XPe	Multi Language: GER, ENG, ITAL, FR, SP, KOR, CHN (Traditional), CHN (Simplified), JPN - not with XPe	Multi Language: GER, ENG, ITAL, FR, SP, KOR, CHN (Traditional), CHN (Simplified), JPN - not with XPe	Multi Language: GER, ENG, ITAL, FR, SP, KOR, CHN (Traditional), CHN (Simplified), JPN - not with XPe
pre-installed operating system	Yes	Yes	Yes	Yes
without operating system	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional
Accessories				
Accessory components	Basic adapter for mounting (MLFB: 6AV7674-1KA00-0AA0)	Basic adapter for mounting (MLFB: 6AV7674-1KA00-0AA0)	Basic adapter for mounting (MLFB: 6AV7674-1KA00-0AA0)	Basic adapter for mounting (MLFB: 6AV7674-1KA00-0AA0)
Dimensions				
Width	475 mm	475 mm	475 mm	475 mm
Height	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter
Depth	98 mm; Without basic adapter	98 mm; Without basic adapter	98 mm; Without basic adapter	98 mm; Without basic adapter
Width of the housing front	475 mm	475 mm	475 mm	475 mm
Height of housing front	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter
Weights				
Panel PC in central design, approx.	7.9 kg	7.9 kg	7.9 kg	7.9 kg

Ordering data

SIMATIC IPC477D PRO [1)]	Article No. 6AV7250 - ■■■■■ - ■■■■
Processors and fieldbus	
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN)	0
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	1
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN)	3
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	4
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	5
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN)	6
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	7
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	8
Operator control unit	
• 15" multi-touch (1 366 x 768) prepared for support arm without extension components (flange on top)	B
• 15" multi-touch (1 366 x 768) prepared for pedestal/extension components (flange at bottom)	C
• 15" multi-touch (1 366 x 768) prepared for support arm and extension components (round tube)	D
• 19" multi-touch (1 366 x 768) prepared for support arm without extension components (flange on top)	E
• 19" multi-touch (1 366 x 768) prepared for pedestal/extension components (flange at bottom)	F
• 19" multi-touch (1 366 x 768) prepared for support arm and extension components (round tube)	G
• 22" multi-touch (1 920 x 1 080) prepared for support arm without extension components (flange on top)	H
• 22" multi-touch (1 920 x 1 080) prepared for pedestal/extension components (flange at bottom)	J
• 22" multi-touch (1 920 x 1 080) prepared for support arm and extension components (round tube)	K

SIMATIC IPC477D PRO [1)]	Article No. 6AV7250 - ■■■■■ - ■■■■
Work memory/NVRAM	
• 1 GB	A
• 2 GB	B
• 4 GB	C
• 8 GB	D
• 1 GB and NVRAM	J
• 2 GB and NVRAM	K
• 4 GB and NVRAM	L
• 8 GB and NVRAM	M
Expansions (HW)	
• 1 x RS 232	0
Operating system	
• Without operating system	0
• Windows Embedded Standard 7 Professional, 32-bit, MUI	3
• Windows Embedded Standard 7 SP1, English, 32-bit	4
• Windows Embedded Standard 7 SP1, English, 64-bit	5
• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)	6
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	7
Externally accessible mass storage (without operating system):	
• Without external mass storage	0
• CFAST 2 GB, without software	1
• CFAST 4 GB	2
• CFAST 8 GB	3
• CFAST 16 GB	4
Mass storage, internal	
• Without internal mass storage	A
• CFAST 2 GB	B
• CFAST 4 GB	C
• CFAST 8 GB	D
• CFAST 16 GB	E
• SSD 80 GB Standard	H
• SSD 240 GB Standard	P
• SSD 480 GB Standard	R
Software	
• Without SIMATIC software	A
Power supply	
• 24 V DC industrial power supply	0
• 24 V DC industrial power supply and TPM [2)] (not for China or Russia)	8

Note:

As with the existing 4:3 IPC477C PRO devices, adaptation to different support arm/pedestal systems is by means of the basic adapter. This is included in the scope of supply (only in the case of the "prepared for support arm and extension components" version is the basic adapter not included, as the connection is made via a round tube).

For the version "prepared for support arm and extension components", installation can alternatively take place with the Siemens flange mount or with a standard 48 mm diameter round tube. The flange mount enables the transition from a round tube connection to the familiar mechanical interface of the basic adapter. This means you can combine different versions of the PRO devices with the same support arm or pedestal system.

1) IPC477D PRO as "built to order" version (max. delivery time 15 working days)

2) TPM = Trusted Platform Module

More information can be found on the Internet at:

http://www.siemens.com/ip65-hmi-devices

4

System components for fully enclosed IP65 devices

Overview

System components for fully enclosed IP65 devices

System components for PRO devices are only suitable for SIMATIC HMI/IPC PRO devices. In combination with the SIMATIC HMI PRO basic devices, these components enable easy adaptation to individual customer requirements for operation and monitoring at the machine level, as well as offering a versatile and attractive solution for visualization and automation without a control cabinet.

The following system components are available:

- Fasteners
  - Adapter sets
  - Basic adapters
  - Flange mount
- Extension Units and operator controls
- Extension components
  - Stainless steel keyboard
  - Tool and keyboard tray
  - USB interface for PRO devices

Overview

Fasteners

Adapter sets, basic adapters and flange mount

The fasteners are required for connecting the SIMATIC HMI PRO device with the support arm head of the respective support arm system.

Since the support arm head is connected directly to the device, there is complete flexibility in the choice of support arm components.

Adapter sets are available for the VESA 75 and VESA 100 systems.

Further adapter sets can be obtained directly from the respective support arm manufacturers:

- Bernstein
- Rittal
- Rose
- Haseke and
- Rolec

For the 4:3 and 16:9 variants, basic adapters are available according to design:

- The basic adapter is included in the scope of delivery of the device for 4:3 systems (dark gray)
- The basic adapter is included in the scope of delivery of the device for 16:9 systems (silver) (the basic adapter is included in the scope of delivery as a matter of principle. It is excluded only from the version "prepared for support arm and extension components", because connection is made via a round tube.)

For the version "prepared for support arm and extension components" of the 16:9 PRO devices, installation can alternatively take place with the Siemens flange mount or with a standard 48 mm diameter round tube. The flange mount enables the transition from a round tube connection to the familiar mechanical interface of the basic adapter. This means you can combine different versions of the PRO devices with the same support arm or pedestal system.

Technical specifications

Article number	**6AV7674-1KF00-0AA0** FLANGE MOUNT FOR PRO DEVICES
General information	
Product type designation	Flange mount for PRO devices
Installation type/mounting	
Mounting	For the transition from a size 48 round tube to a flange plate (compatible with basic adapter interface).
Degree and class of protection	
IP65 (all-round)	Yes; IP65 when installed
Mechanics/material	
Material	
• Aluminum	Yes; Powder-coated, RAL 9006
Enclosure material (front)	
• Aluminum	Yes
Dimensions	
Width	76.3 mm; Width of flange plate, distance between holes 40 mm
Height	168 mm; Round tube and flange plate
Depth	80 mm; Depth of flange plate, distance between holes 63 mm
Enclosure diameter	48.3 mm; Round tube in interface area
Weights	
Weight without packaging	900 g
Weight incl. packaging	1 kg
Scope of supply	
Delivery quantity in pieces	1
Other	
Target devices	Suitable for PRO devices, prepared for support arm and extension components (round tube connection)

Ordering data

Ordering data	Article No.
VESA 100 adapter set 1)	**6AV7674-0KD00-0AA0**
VESA 75 adapter set	**6AV7674-0KE00-0AA0**
Basic adapter for 4:3 systems Spare part (dark gray, included in the scope of delivery of the device)	**6AV7674-0KA00-0AA0**
Basic adapter for 16:9 systems Spare part (silver, included in the scope of delivery of the device)	**6AV7674-1KA00-0AA0**
Flange mount for 16:9 systems Suitable for 16:9 PRO devices of the type "prepared for support arm and extension components (round tube connection)"	**6AV7674-1KF00-0AA0**

1) The VESA 100 adapter set cannot be used in combination with the 19" Flat Panel PRO.

Note:

The 48 mm internal diameter of the support arm tubes is not suitable for feeding through the standard DVI-D cable.

Scope of delivery:

- One adapter set or basic adapter, flange mount
- Fittings for mounting

More information

More information is available on the Internet at:

http://www.siemens.com/ip65-hmi-devices

Extension Units and operator controls

Overview

Extension Units

Extension Units for SIMATIC HMI PRO devices are an integral part of the system components for fully enclosed IP65 devices. They enable the expansion of the operating options on-site by the installation of various operator controls.

Extension Units for 16:9 PRO devices

Equipping an Extension Unit with operator controls

Extension Unit IFP PRO 22"

The new Extension Units for the 16:9 PRO devices are suitable for the flexible installation of various operator controls that extend the operating options on site easily and on an individual basis. They are coordinated with the design of the 16:9 PRO devices and can easily be mounted below the device by the customers themselves. They are the successors to the Extension Units for the 4:3 PRO devices.

Extension Units for 4:3 PRO devices

Thin CLIENT PRO 15" with Extension Units

The Extension Units for 4:3 PRO devices are mounted on the SIMATIC HMI 4:3 PRO device and can be equipped individually, e.g. with Key Panels (KP8), 3SB elements, emergency stop buttons, key-operated switches, RFID readers, etc.

- They can be mounted on the left or right side of the 4:3 PRO device, as required
- Direct installation of up to 2 Key Panels KP8 / KP8F
- IP65 cable routing
- Can be equipped individually
- For all 4:3 15"/19" PRO devices

Technical specifications

Article number	**6AV7674-1LA32-0AA0** Extension Unit 12" PROFINET	**6AV7674-1LA42-0AA0** Extension Unit 15" PROFINET	**6AV7674-1LA52-0AA0** Extension Unit 19" PROFINET	**6AV7674-1LA62-0AA0** Extension Unit 22" PROFINET
General information				
Product type designation	Extension Unit 12" PROFINET	Extension Unit 15" PROFINET	Extension Unit 19" PROFINET	Extension Unit 22" PROFINET
Control elements				
With parameterizable keys	Yes	Yes	Yes	Yes
Connection type				
• Connection type of the safety-related contacts (emergency stop)	8-pin connector	8-pin connector	8-pin connector	8-pin connector
Installation type/mounting				
Mounting	For mounting on a 16:9 HMI/IPC PRO device (lower part)	For mounting on a 16:9 HMI/IPC PRO device (lower part)	For mounting on a 16:9 HMI/IPC PRO device (lower part)	For mounting on a 16:9 HMI/IPC PRO device (lower part)
Mounting type	Screwed joint	Screwed joint	Screwed joint	Screwed joint
Rack mounting	No	No	No	No
Front mounting	No	No	No	No
Number of slots for command devices and signaling units	6	8	10	12
RFID reader can be installed		Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R	Yes; SIMATIC RF200 Access Control Reader RF1060R
Supply voltage				
Type of supply voltage	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V
Input current				
Current consumption (rated value)	150 mA; without load	150 mA; without load	150 mA; without load	150 mA; without load
Power				
Active power input, typ.	3 W; Additionally 0.1 W per control element with LED	3 W; Additionally 0.1 W per control element with LED	3 W; Additionally 0.1 W per control element with LED	3 W; Additionally 0.1 W per control element with LED
Interfaces				
Number of Industrial Ethernet interfaces	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch	2; For the construction of lines and rings without external switch
Number of PROFINET interfaces	2; Incl. switch	2; Incl. switch	2; Incl. switch	2; Incl. switch
Protocols				
PROFINET	Yes	Yes	Yes	Yes
MRP	Yes	Yes	Yes	Yes
Test commissioning functions				
Key and signal lamp test	Yes; Automatically when switching on	Yes; Automatically when switching on	Yes; Automatically when switching on	Yes; Automatically when switching on
Degree and class of protection				
IP65 (all-round)	Yes	Yes	Yes	Yes
Enclosure Type 4x at the front	Yes; All-round	Yes; All-round	Yes; All-round	Yes; All-round
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
Suitable for safety functions	Yes; e.g. installation of emergency stop	Yes; e.g. installation of emergency stop	Yes; e.g. installation of emergency stop	Yes; e.g. installation of emergency stop

Technical specifications (continued)

Article number	**6AV7674-1LA32-0AA0** Extension Unit 12" PROFINET	**6AV7674-1LA42-0AA0** Extension Unit 15" PROFINET	**6AV7674-1LA52-0AA0** Extension Unit 19" PROFINET	**6AV7674-1LA62-0AA0** Extension Unit 22" PROFINET
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C
Ambient temperature during storage/transportation				
• min.	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C
Air pressure acc. to IEC 60068-2-13				
• Installation altitude above sea level, max.	2 000 m	2 000 m	2 000 m	2 000 m
Relative humidity				
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
Cables				
Cable length	30 m; Max. for emergency stop	30 m; Max. for emergency stop	30 m; Max. for emergency stop	30 m; Max. for emergency stop
Mechanics/material				
Material				
• Aluminum	Yes	Yes	Yes	Yes
Enclosure material (front)				
• Aluminum	Yes; Knockout covered with black film	Yes; Knockout covered with black film	Yes; Knockout covered with black film	Yes; Knockout covered with black film
Dimensions				
Width	313 mm	396 mm	462 mm	527 mm
Height	99 mm	99 mm	99 mm	99 mm
Depth	100.65 mm	100.65 mm	100.65 mm	100.65 mm
Weights				
Weight without packaging	2.2 kg	2.5 kg	2.7 kg	2.8 kg
Scope of supply				
Delivery quantity in pieces	1	1	1	1
Components included	Power supply connectors and 8-pole plug-in connectors for safety-related inputs	Power supply connectors and 8-pole plug-in connectors for safety-related inputs	Power supply connectors and 8-pole plug-in connectors for safety-related inputs	Power supply connectors and 8-pole plug-in connectors for safety-related inputs

Article number	**6AV7674-1LA31-0AA0** Extension Unit 12" hardwired	**6AV7674-1LA41-0AA0** Extension Unit 15" hardwired	**6AV7674-1LA51-0AA0** Extension Unit 19" hardwired	**6AV7674-1LA61-0AA0** Extension Unit 22" hardwired
General information				
Product type designation	Extension Unit 12" Hardwired	Extension Unit 15" hardwired	Extension Unit 19" hardwired	Extension Unit 19" hardwired
Connection type				
• Connection type of the LED module	12-pin connector	12-pin connector	12-pin connector	12-pin connector
• Connection type of the contacts of the control elements	16-pin connector	16-pin connector	16-pin connector	16-pin connector
• Connection type of the safety-related contacts (emergency stop)	8-pin connector	8-pin connector	8-pin connector	8-pin connector
Installation type/mounting				
Mounting	For mounting on a 16:9 HMI/IPC PRO device (lower part)	For mounting on a 16:9 HMI/IPC PRO device (lower part)	For mounting on a 16:9 HMI/IPC PRO device (lower part)	For mounting on a 16:9 HMI/IPC PRO device (lower part)
Mounting type	Screwed joint	Screwed joint	Screwed joint	Screwed joint
Rack mounting	No	No	No	No
Front mounting	No	No	No	No
Number of slots for command devices and signaling units	6	8	10; Max. 8 control elements + 1 emergency stop button can be mounted (refer to manual)	10; Max. 8 control elements + 1 emergency stop button can be mounted (refer to manual)

Technical specifications (continued)

Article number	**6AV7674-1LA31-0AA0** Extension Unit 12" hardwired	**6AV7674-1LA41-0AA0** Extension Unit 15" hardwired	**6AV7674-1LA51-0AA0** Extension Unit 19" hardwired	**6AV7674-1LA61-0AA0** Extension Unit 22" hardwired
Supply voltage				
Type of supply voltage	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V
Input current				
Current consumption (rated value)	10 mA; without load	10 mA; without load	10 mA; without load	10 mA; without load
Output current				
per output	500 mA; max.	500 mA; max.	500 mA; max.	500 mA; max.
Power				
Active power input, typ.	0.1 W	0.1 W	0.1 W	0.1 W
Emitted active power	5 W	5 W	5 W; Max. with lamp load	5 W; Max. with lamp load
Degree and class of protection				
IP65 (all-round)	Yes	Yes	Yes	Yes
Enclosure Type 4 at the front	Yes	Yes	Yes	Yes
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
Suitable for safety functions	Yes; e.g. installation of emergency stop	Yes; e.g. installation of emergency stop	Yes; e.g. installation of emergency stop	Yes; e.g. installation of emergency stop
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C
Ambient temperature during storage/transportation				
• min.	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C
Air pressure acc. to IEC 60068-2-13				
• Installation altitude above sea level, max.	2 000 m	2 000 m	2 000 m	2 000 m
Relative humidity				
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation	90 %; no condensation
Cables				
Cable length	30 m	30 m	30 m	30 m
Mechanics/material				
Material				
• Aluminum	Yes	Yes	Yes	Yes
Enclosure material (front)				
• Aluminum	Yes; Knockout covered with black film	Yes; Knockout covered with black film	Yes; Knockout covered with black film	Yes; Knockout covered with black film
Dimensions				
Width	313 mm	396 mm	462 mm	527 mm
Height	99 mm	99 mm	99 mm	99 mm
Depth	100.65 mm			
Thickness		100.65 mm	100.65 mm	100.65 mm
Weights				
Weight without packaging	2.2 kg	2.5 kg	2.7 kg	2.8 kg
Scope of supply				
Delivery quantity in pieces	1	1	1	1
Components included	All connectors required for customer interfaces	All connectors required for customer interfaces	All connectors required for customer interfaces	All connectors required for customer interfaces

Ordering data

	Article No.
Extension Units for 16:9 PRO devices	
Extension Unit Hardwired	
• 12"	**6AV7674-1LA31-0AA0**
• 15"	**6AV7674-1LA41-0AA0**
• 19"	**6AV7674-1LA51-0AA0**
• 22"	**6AV7674-1LA61-0AA0**
Extension Unit PROFINET	
• 12"	**6AV7674-1LA32-0AA0**
• 15"	**6AV7674-1LA42-0AA0**
• 19"	**6AV7674-1LA52-0AA0**
• 22"	**6AV7674-1LA62-0AA0**
Operator controls	
Emergency stop button	**6AV7674-1MA00-0AA0**
Illuminated pushbutton	**6AV7674-1MB00-0AA0**
Indicator light	**6AV7674-1MC00-0AA0**
Selector switch	**6AV7674-1MD00-0AA0**
Key-operated switch	**6AV7674-1ME00-0AA0**

Scope of delivery of Extension Units for 16:9 PRO devices:

Extension Units Hardwired:

- 1 extension unit
- 1 plug connector, 16-pin, for interface X12
- 1 plug connector, 12-pin, for interface X11
- 1 plug connector, 8-pin, for interface X10
- 1 power supply terminal for 24 V DC
- 4 bolts M4x20 for mounting the extension unit on the SIMATIC PRO device

PROFINET Extension Units:

- 1 extension unit
- 1 plug connector, 8-pin, for interface X10
- 1 power supply connector for 24 V DC
- 4 bolts M4x20 for mounting the extension unit on the SIMATIC PRO device

Notice:

The Extension Units for 4:3 PRO devices cannot be used for 16:9 devices.

Scope of delivery of Extension Units for 4:3 PRO devices:

- 1 Extension Unit box
- 1 front plate for the Extension Unit
- 1 connecting tube
- Mounting accessories

More information is available on the Internet at:

http://www.siemens.com/ip65-hmi-devices

Note:

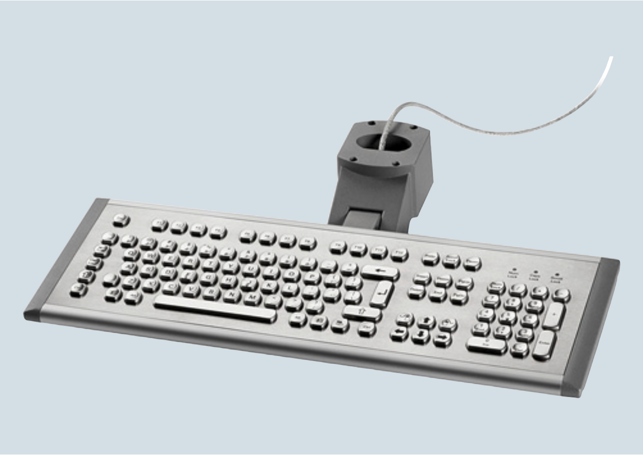
Do you require a specific modification to or option for the products described here? Under "Customized products" you can find information about additional and generally available products for the sector, and about the possibilities for customized modification and adaptation.

	Article No.
Extension Units for 4:3 PRO devices	
Extension Unit 15" For mounting on all 4:3 15" PRO devices	**6AV7674-0KG00-0AA0**
Extension Unit 15" KP8 For mounting on all 4:3 15" PRO devices for direct installation of up to 2 KP8 / KP8F	**6AV7674-0KG01-0AA0**
Starter package Extension Unit 15" with KP8 1 x Extension Unit 15" KP8, 1 x Key Panel 8 PN, 1 x blank front [1]	**6AV7674-0KG11-0AA0**
Extension Unit 19" right • For support arm mounting from above; mounting of the Extension Unit on the right side of the 4:3 19" PRO device • For support arm mounting from below; mounting of the Extension Unit on the left side of the 4:3 19" PRO device	**6AV7674-0KJ00-0AA0**
Extension Unit 19" KP8 right For direct installation of up to 2 KP8 / KP8F • For support arm mounting from above; mounting of the Extension Unit on the right side of the 4:3 19" PRO device • For support arm mounting from below; mounting of the Extension Unit on the left side of the 4:3 19" PRO device	**6AV7674-0KJ01-0AA0**
Starter package Extension Unit 19" with KP8 right 1 x Extension Unit 19" KP8 right, 1 x Key Panel 8 PN, 1 x blank front [1]	**6AV7674-0KJ11-0AA0**
Extension Unit 19" left • For support arm mounting from above; mounting of the Extension Unit on the left side of the 19" PRO device • For support arm mounting from below; mounting of the Extension Unit on the right side of the 19" PRO device	**6AV7674-0KH00-0AA0**
Starter package Extension Unit 19" with KP8 left 1 x Extension Unit 19" KP8 left, 1 x Key Panel 8 PN, 1 x blank front	**6AV7674-0KH11-0AA0**
Extension Unit 19" KP8 left For direct installation of up to 2 KP8 / KP8F • For support arm mounting from above; mounting of the Extension Unit on the left side of the 4:3 19" PRO device • For support arm mounting from below; mounting of the Extension Unit on the right side of the 4:3 19" PRO device	**6AV7674-0KH01-0AA0**
Accessories	
Front plate KP8 for Extension Unit For installing up to two KP8s in one Extension Unit Fits all 4:3 Extension Units 15" and 19"	**6AV7674-0KH30-0AB0**
Blank front KP8 design in combination with front panel KP8	**6AV3688-3XY38-3AX0**
Spare front plate for the Extension Unit Fits all 4:3 Extension Units 15" and 19", required if the front plate supplied with the Extension Unit has to be replaced	**6AV7674-0KH30-0AA0**

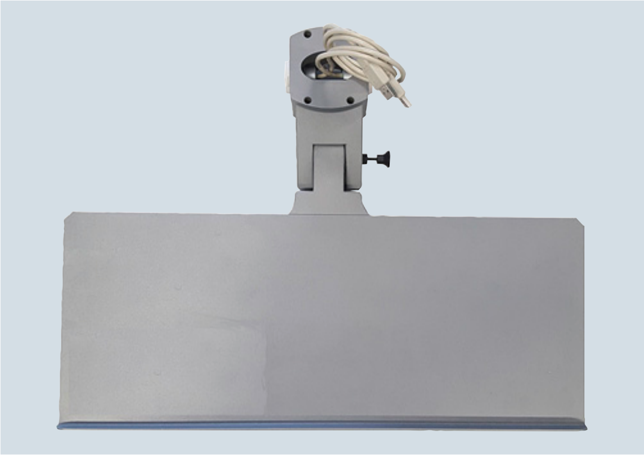
[1] Suitable for 4:3 PRO devices only

Overview

Stainless steel keyboard and keyboard tray



HMI accessories, metal keyboard



HMI accessories, tray

Extension components

The extension components are part of the system components for PRO devices and complement the portfolio of devices with all-round protection. These components in combination with the basic devices enable customers to implement a large variety of operating scenarios.

The following products are available as extension components:

- Stainless steel keyboard
- Tool and keyboard tray
- USB interface for PRO devices

Technical specifications

Article number	**6AV7674-0NE00-0AA0** KEYBOARD FOR 19" PRO DEVICES; 483 MM WIDTH	**6AV7674-1NE00-0AA0** IP65 KEYBOARD FOR 16:9 PRO DEVICES	**6AV7674-1LX00-0AA0** USB INTERFACE FOR PRO DEVICES
General information			
Product type designation	USB-INOX keyboard PRO, mouse keys	USB-INOX keyboard PRO, mouse keys	USB interface for PRO devices
Keyboard fonts			
• Design	Keyboard with short-stroke keys	Keyboard with short-stroke keys	
• Keyboard assignment	English	English	
• Color of the buttons	Stainless steel	Stainless steel	
• Color of the key inscription	Black	Black	
• Key illumination	No	No	
• Function keys			
- Number of function keys	12	12	
• Number pad	Yes; Free-standing	Yes; Free-standing	
• Status LED displays	Yes; Num, Caps and Scroll	Yes; Num, Caps and Scroll	
- for number pad	Yes	Yes	
- for Shift keys	Yes	Yes	
Connection type			
• USB	Yes; Type A	Yes; Type A	Yes; USB 2.0 type A
• PS/2	No	No	
• Cable length	1.5 m; Typical	1.5 m; Typical	0.5 m

Technical specifications (continued)

Article number	6AV7674-0NE00-0AA0 KEYBOARD FOR 19" PRO DEVICES; 483 MM WIDTH	6AV7674-1NE00-0AA0 IP65 KEYBOARD FOR 16:9 PRO DEVICES	6AV7674-1LX00-0AA0 USB INTERFACE FOR PRO DEVICES
Frame size/design			
• Standard	Yes; For industrial applications	Yes; For industrial applications	
• Ergonomic	Yes; 90° adjustable / tiltable	Yes; 90° adjustable / tiltable	
Ergonomics			
• Trackball rest	No	No	
• Adjustable height	Yes; By adjusting inclination angle 0° to 90°	Yes; By adjusting inclination angle 0° to 90°	
Installation type/mounting			
Mounting	Max. load bearing capacity of 2 kg	Max. load bearing capacity of 2 kg	Integrated by means of cover on the side of the basic adapter.
Mounting type	Suitable for PRO devices	Suitable for PRO devices	
Mounting position	Horizontal	Horizontal	
maximum permissible angle of inclination without external ventilation	90°; Between 0° and 90° in steps of 15°	90°; Between 0° and 90° in steps of 15°	
Supply voltage			
Type of supply voltage	via USB	via USB	
Input current			
Current consumption (rated value)	100 mA; Typical	100 mA; Typical	
EMC			
Emission of radio interference acc. to EN 55 011			
• Limit class A, for use in industrial areas			Yes
Degree and class of protection			
IP65 (all-round)	Yes	Yes	Yes; IP65 fully enclosed (when protective cover is closed)
IP (at the front)			IP20 when protective cover is open
Splashproof	Yes	Yes	
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
RoHS conformity	Yes	Yes	
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	50 °C
• Operation (vertical installation)			
- For vertical installation, min.	0 °C	0 °C	
- For vertical installation, max.	45 °C	45 °C	
• Operation (max. tilt angle)			
- At maximum tilt angle, min.	0 °C	0 °C	
- At maximum tilt angle, min.	45 °C	45 °C	
• Operation (max. tilt angle, portrait format)			
- At maximum tilt angle, min.	0 °C	0 °C	
- At maximum tilt angle, min.	45 °C	45 °C	

Technical specifications (continued)

Article number	6AV7674-0NE00-0AA0 KEYBOARD FOR 19" PRO DEVICES; 483 MM WIDTH	6AV7674-1NE00-0AA0 IP65 KEYBOARD FOR 16:9 PRO DEVICES	6AV7674-1LX00-0AA0 USB INTERFACE FOR PRO DEVICES
Ambient temperature during storage/transportation			
• min.	0 °C	0 °C	-20 °C
• max.	50 °C	50 °C	60 °C
Air pressure acc. to IEC 60068-2-13			
• Installation altitude above sea level, max.			3 500 m
Relative humidity			
• Operation, max.	80 %; no condensation	80 %; no condensation	90 %
• Condensation permissible	No; Condensation not permissible	No; Condensation not permissible	No
Runs under operating system			
• Windows CE	Yes	Yes	
• Windows Vista	Yes	Yes	
• Windows XP	Yes	Yes	
• Windows 7	Yes	Yes	
• Windows 8	Yes	Yes	
Cables			
Cable length			0.5 m
Mechanics/material			
Material			Brass, nickel-plated
• Aluminum	Yes; Powder-coated, RAL 9023	Yes; Powder-coated, RAL 9006	
• Stainless steel	Yes; Keyboard itself	Yes; Keyboard itself	
Enclosure material (front)			USB cover: Anodized aluminum, cover for basic adapter: Aluminum, powder-coated, RAL 9006
Enclosure color (front)			Silver-metallic
Service life			
• Number of operating cycles, keys	10 000 000; Operations (minimum)	10 000 000; Operations (minimum)	1 500; Insertion cycles
Dimensions			
Width	481 mm	481 mm	
Height	20 mm	20 mm	
Depth	171.6 mm	171.6 mm	
Enclosure diameter			22.5 mm; Hole diameter in the cover for the basic adapter
Overall depth			20 mm
Weights			
Weight without packaging	3 600 g	3 700 g	0.25 kg
Weight incl. packaging	5 300 g	5 300 g	0.53 g
Scope of supply			
Delivery quantity in pieces	1; With support arm bracket	1; With support arm bracket	1
Components included		A basic adapter is required for mounting. This must be ordered separately.	USB socket with cable and connector, cover for the basic adapter, bolts for fastening
Other			
Target devices	Merchandise suitable for 4:3 PRO devices	Merchandise suitable for 16:9 PRO devices	
Note:		Trade goods: Sasse 1580.9906433	

Article number	6AV7674-0NE01-0AA0 SHELF FOR PRO INCL. USB	6AV7674-1NE01-0AA0 SHELF FOR 16:9 PRO DEVICES
General information		
Product type designation	SIMATIC HMI PRO rack incl. USB	SIMATIC HMI PRO rack incl. USB
Connection type		
• USB	Yes; USB 2.0	Yes; USB 2.0
• PS/2	No	No
• Cable length	500 mm; Typical	500 mm; Typical
Frame size/design		
• Standard	Yes; For industrial applications	Yes; For industrial applications
• Ergonomic	Yes; 90° adjustable / tiltable	Yes; 90° adjustable / tiltable

Technical specifications (continued)

Article number	6AV7674-0NE01-0AA0 SHELF FOR PRO INCL. USB	6AV7674-1NE01-0AA0 SHELF FOR 16:9 PRO DEVICES
Ergonomics		
• Trackball rest	No	No
• Adjustable height	Yes; By adjusting inclination angle 0° to 90°	Yes; By adjusting inclination angle 0° to 90°
Installation type/mounting		
Mounting	Max. load bearing capacity of 2 kg	Max. load bearing capacity of 2 kg
Mounting type	Suitable for PRO devices	Suitable for PRO devices
Mounting position	Horizontal	Horizontal
maximum permissible angle of inclination without external ventilation	90°; Between 0° and 90° in steps of 15°	90°; Between 0° and 90° in steps of 15°
Interfaces		
Number of USB interfaces	2; USB 2.0	2; USB 2.0
Degree and class of protection		
IP65 (all-round)	Yes; IP65 fully enclosed (when protective cover is closed)	Yes; IP65 fully enclosed (when protective cover is closed)
Standards, approvals, certificates		
RoHS conformity	Yes	Yes
Ambient conditions		
Ambient temperature during operation		
• min.	0 °C	0 °C
• max.	45 °C	45 °C
• Operation (vertical installation)		
- For vertical installation, min.	0 °C	0 °C
- For vertical installation, max.	45 °C	45 °C
• Operation (max. tilt angle)		
- At maximum tilt angle, min.	0 °C	0 °C
- At maximum tilt angle, min.	45 °C	45 °C
• Operation (max. tilt angle, portrait format)		
- At maximum tilt angle, min.	0 °C	0 °C
- At maximum tilt angle, min.	45 °C	45 °C
Ambient temperature during storage/transportation		
• min.	0 °C	0 °C
• max.	50 °C	50 °C
Relative humidity		
• Operation, max.	80 %; no condensation	80 %; no condensation
• Condensation permissible	No; Condensation not permissible	No; Condensation not permissible
Mechanics/material		
Material		
• Aluminum	Yes; Powder-coated, RAL 9023	Yes; Powder-coated, RAL 9006
Dimensions		
Width	500 mm	500 mm
Height	64 mm	64 mm
Depth	200 mm	200 mm
Weights		
Weight without packaging	3 000 g	3 000 g
Weight incl. packaging	4 600 g	4 600 g
Scope of supply		
Delivery quantity in pieces	1; With support arm bracket, without keyboard	1; With support arm bracket, without keyboard
Components included		A basic adapter is required for mounting. This must be ordered separately.
Other		
Target devices	Merchandise suitable for 4:3 PRO devices	Merchandise suitable for 16:9 PRO devices
Note:		Trade goods: Sasse 1580.9906434

Extension components

Ordering data

	Article No.
IP65 stainless steel keyboard 19" with numeric keypad; US layout; tiltable; color: Dark gray; For mounting on	
• *4:3* 19" SIMATIC HMI PRO devices	**6AV7674-0NE00-0AA0**
• *16:9* SIMATIC HMI PRO devices	**6AV7674-1NE00-0AA0**
Tool and keyboard tray Tiltable, incl. 2-way USB interface; color: Silver; For mounting on	
• *4:3* 19" SIMATIC HMI PRO devices	**6AV7674-0NE01-0AA0**
• *16:9* SIMATIC HMI PRO devices	**6AV7674-1NE01-0AA0**
USB interface for PRO devices Cable and connector, USB 2.0 type A. IP65 degree of protection if protective cover is closed. Integrated via cover on the side of the basic adapter	**6AV7674-1LX00-0AA0**

Overview

Configured Nanopanel PC in fully enclosed stainless steel housing with high degree of protection for machine-level operation and monitoring in the food and beverage, pharmaceutical and fine chemicals industries and in other areas of hygiene.

The device has been developed on the basis of EN 1672-2 "Food processing machinery – Safety and hygiene requirements".

With its fully enclosed design and optional expansion modules, the SIMATIC PRO devices are eminently suitable for industrial and machine-level use.

The INOX PRO devices feature stainless steel housing and a compact, hygienic design, and are equipped to meet the high requirements presented by the food and beverage production environment. IP66K degree of protection protects against water, even with a jet strength of 100 l/min at 10 bar from a distance of 2.5 m to 3 m.

The optimized profile and minimal housing depth allow liquids to run off.

The high quality requirements in the food and beverages industry demand a high standard of the food processing machinery. There are many relevant regulations, directives, ordinances, standards and laws. Essential here is that all equipment and components are easy to clean and disinfect.

The INOX PRO devices with stainless steel front have a 240 grit hairline finish, and are thus suitably smooth to allow micro-organisms to be sufficiently removed during cleaning.
On the front, the membrane covering the display cutout is tested with regard to its resistance to chemicals, has minimal grooves and gaps in which micro-organisms could settle, and also provides shatter protection for the display. The rear covers have an innovative sealing design with replaceable compression seals. This prevents liquids from seeping through.

Technical specifications

	IPC277E 19" INOX PRO	
Special features	**Pedestal mounting**	**Support arm mounting**
General features		
Display	18.5" TFT widescreen display	18.5" TFT widescreen display
Resolution (pixels)	1 366 x 768	1 366 x 768
MTBF of backlit display (at 25°C)	50 000 h	50 000 h
Power supply	24 V DC	24 V DC
Equipment		
Touch	Analog-resistive touch	Analog-resistive touch
Option	External, USB interface on rear with captive stainless steel lock	External, USB interface on rear with captive stainless steel lock
Special features	Flange adapter for pedestal	Flange adapter for support arm
Configuration / interfaces		
	Based on SIMATIC IPC277E, configured (6AV7882-0EB30-2LA0)	Based on SIMATIC IPC277E, configured (6AV7882-0EB30-2LA0)
	Celeron N2930, 8 GB RAM 8 GB CFAST	Celeron N2930, 8 GB RAM 8 GB CFAST
	WES 7 SP1 64-bit, English	WES 7 SP1 64-bit, English
	Without RTX/HMI software	Without RTX/HMI software
	2 x 10/100/1000 Mbps Ethernet RJ45	2 x 10/100/1000 Mbps Ethernet RJ45
	1 x USB 3.0, 2 x USB V2.0; without serial (COM1)	1 x USB 3.0, 2 x USB V2.0; without serial (COM1)
	CFAST slot	CFAST slot
Enclosure		
Front	Stainless steel 1.4301, polyester-based membrane	Stainless steel 1.4301, polyester-based membrane
Material	Stainless steel 1.4301	Stainless steel 1.4301
Surface	Hairline finish, 240 grit abrasive grain	Hairline finish, 240 grit abrasive grain
Device seals	FPM, molded parts, replaceable	FPM, molded parts, replaceable
Special features	Decorative display membrane; without USB port on front	Decorative display membrane; without USB port on front

Technical specifications (continued)

	IPC277E 19" INOX PRO	
Ambient conditions		
Degree of protection, fully enclosed	IP66K, enclosure type 4 and 4x (indoor use only)	IP66K, enclosure type 4 and 4x (indoor use only)
Ambient temperature during operation	0 ... +45 °C	0 ... +45 °C
Relative humidity during operation	Max. 95 %, no condensation	Max. 95 %, no condensation
Transport temperature / storage temperature / humidity	- 20°C … + 60°C / 10 % to 90 % without condensation	- 20°C … + 60°C / 10 % to 90 % without condensation
Approvals and inspections	CE, UL Hygiene inspection on the basis of EN 1672-2	CE, UL Hygiene inspection on the basis of EN 1672-2
Approvals (planned)	RCM (previously C-Tick)/KC/CUL	RCM (previously C-Tick)/KC/CUL
Sector	Food & beverages, pharmaceuticals industry, cosmetics industry, fine chemicals, other hygiene areas	Food & beverages, pharmaceuticals industry, cosmetics industry, fine chemicals, other hygiene areas
Dimensions		
External dimensions (W x H x D in mm)	544 x 430.7 x 136	544 x 430.7 x 136
Depth of enclosure only (without flange and operator controls) in mm	80	80
Weight, net	15.5 kg	15.5 kg
Special features	Flange adapter for pedestal	Flange adapter for support arm

Ordering data

Ordering data	Article No.
SIMATIC IPC277E 19" INOX PRO for pedestal mounting Device with accessory pack. Accessory pack comprising: operating system license, product information, terminals in the accessory pack, Quickinstall Guide	6AV7484-5AB00-0AA0
SIMATIC IPC277E 19" INOX PRO for support arm mounting Device with accessory pack. Accessory pack comprising: operating system license, product information, terminals in the accessory pack, Quickinstall Guide	6AV7484-5AB10-0AA0
Accessories	
Assembly kit for pedestal mounting Assembly kit comprising tube, straight, 40 mm internal diameter, 500 mm long with welded flange, seal, screws and product information	6AV7675-1GB00-0AA0
Assembly kit for support arm mounting Assembly kit comprising tube, straight, 40 mm internal diameter, 500 mm long with welded flange, adapter to support arm, 2 x flange seals for support arm, 8 x screws for flange, plus product information	6AV7675-1GB10-0AA0
Service pack for devices with pedestal mounting Service pack comprising seal for SERVICE FLAP, seal for stand flange, screws, connecting terminals 24 V DC, I/O	6AV7675-1JD20-0AA0
Service pack for devices with support arm mounting Service pack comprising seal for SERVICE FLAP, flange seal, adapter seal, screws, connecting terminals 24 V DC, I/O	6AV7675-1JD20-1AA0
Service Pack 2 Service Pack 2 comprising rear cover seal, flange seal, 4 x screws for flange mounting and 4 x replacement screws for rear cover, connecting terminal 24 V DC	6AV7675-1JD21-0AA0

More information

Customized modifications

- Customized design (logo, type designation and membrane color)
- More display sizes
- Further certificates and approvals

Quotation preparation

SIMATIC HMI specialists define the product modifications precisely in accordance with customer requirements. The quotation is then prepared with:

- Non-recurring costs, prototype costs, serial device prices and
- The general conditions in the form of a product agreement (e.g. minimum quantity).
- The defined device can then be ordered easily using this product agreement and a customized order number.

More information can be found on the Internet at:

http://www.siemens.com/inox-pro-hmi-devices

Overview

SIMATIC ITC1900 INOX

The Industrial Thin Client with touch screen and stainless steel front is designed for use in the food and beverage industry, the pharmaceuticals industry, fine chemicals and in other hygiene areas for machine-level operation and monitoring.

For this reason, the devices with stainless steel front have been developed in compliance with EN 1672-2 "Food processing machinery – Safety and hygiene requirements".

Technical specifications

SIMATIC ITC1900 INOX (the other specifications correspond to the SIMATIC ITC1900)	
General features	
Display	18.5" TFT widescreen display
Resolution (pixels)	1366 x 768
MTBF of backlighting (at 25 °C)	approx. 50 000 h
Power supply	24 V DC
Front	
Material	Stainless steel 1.4301, polyester-based membrane
Surface	Hairline finish, 240 grit abrasive grain
Device seal	EPDM, molded part
Special features	Decorative membrane drawn across the display
Environmental conditions	
Degree of protection	At the front: IP66K, enclosure type 4 and 4x (indoor use only) At the rear: IP20
Ambient temperature in operation	0 ... 45 °C
Relative humidity	max. 70 % (no condensation)
Transport/storage temperature	-20 °C … +45 °C
Approvals	CE, C-Tick, KC, cUL, CFM
Industry	Food & beverages, pharmaceuticals industry, other hygiene areas
Dimensions	
External dimensions (W x H x D in mm)	483 x 337
Mounting cutout (W x H x D in mm)	465 x 319
Mounting depth, in mm	74
Weight	approx. 6.5 kg
Special features	INOX clamping frame, cast aluminum mounting clamp

Please note the ambient conditions that differ from those of the SIMATIC.

Ordering data

	Article No.
SIMATIC ITC1900 INOX With accessory pack comprising: • Clamping frame • Device seal • Clamp • Terminal • Installation instructions	**6AV6646-8AC10-0AA0**

The device seals can be replaced using the corresponding service packages from the accessories.

More information

Customized modifications

- Customized design (logo, type designation and membrane color)
- Protection against condensation and corrosive gases

Quotation preparation

Customized automation specialists define the product modifications precisely in accordance with customer requirements.

The quotation is then prepared with:

- Non-recurring costs
- Prototype costs
- Serial device prices and
- The general conditions in the form of a product agreement (e.g. minimum quantity).

The defined device can then be ordered easily using this product agreement and a customized order number.

SIMATIC IFP1900 INOX PRO

Overview

SIMATIC IFP1900 INOX PRO

Industrial Flat Panel in fully enclosed stainless steel housing with high degree of protection for machine-level operation and monitoring in the food and beverage, pharmaceutical and fine chemicals industries and in other areas where hygienic requirements are high.

The device has been developed on the basis of EN 1672-2 "Food processing machinery – Safety and hygiene requirements".

With its fully protected design and optional expansion modules, the SIMATIC PRO devices are eminently suitable for industrial and machine-level use.

The INOX PRO devices with their stainless steel housing are compact and hygienically designed and feature integrated operating elements. They are also even better equipped to meet the high requirements presented by the food and beverage production environment. IP66K degree of protection protects against water, even with a jet strength of 100 l/min at 10 bar from a distance of 2.5 m to 3 m.

The optimized profile and minimal housing depth allow liquids to run off.

The high quality requirements in the food and beverages industry require a high standard of the food processing machinery. There are many relevant regulations, directives, ordinances, standards and laws. Essential here is that all equipment and components are easy to clean and disinfect so that cross-contamination of foodstuffs can be avoided.

Technical specifications

	IFP1900 INOX PRO	
	Pedestal mounting	**Support arm mounting**
Special features	Pedestal mounting	Support arm mounting
General features		
Display	18.5" TFT widescreen display	
Resolution (pixels)	1 366 x 768	
MTBF of backlit display (at 25°C)	50,000 h	
Power supply	24 V DC	
Equipment		
Touch	Analog-resistive touch (single touch)	
Control elements	2 x illuminated pushbutton with LED (red, green), 1 x emergency off; permanently wired on terminals	
Option	External, USB interface on rear with captive stainless steel lock	
Special features	Flange adapter for pedestal	Flange adapter for support arm
Configuration / interfaces		
	Based on SIMATIC IFP1900 (6AV7863-3MA20-0AA0)	
	1 x DisplayPort interface	
	1 x Ethernet interface (RJ45) up to 1 Mbit/s	
	2 x USB interface For connecting to an IPC427D with these system requirements: • Configuration 1:1, without multi-monitor mode • RAM min. 2 GB • Operating systems Windows 7, WES7 • Ethernet with min. 100 Mbit/s	
Enclosure		
Front	Stainless steel 1.4301, polyester-based membrane	
Material	Stainless steel 1.4301	
Surface	Hairline finish, 240 grit abrasive grain	
Device seals	FPM, molded parts, replaceable	
Special features	Decorative display membrane; without USB port on front	

Technical specifications (continued)

	IFP1900 INOX PRO	
	Pedestal mounting	**Support arm mounting**
Ambient conditions		
Degree of protection, complete	IP66K, enclosure type 4 and 4x (indoor use only)	
Ambient temperature during operation	0 ... +45 °C	
Relative humidity during operation	Max. 95 %, no condensation	
Transport temperature / storage temperature / humidity	- 20°C … + 60°C / 10 % to 90 % without condensation	
Approvals and inspections	CE; hygiene testing according to EN 1672-2	
Approvals (planned)	RCM (previously C-Tick)/KC/CUL	
Sector	Food & beverages, pharmaceuticals industry, cosmetics industry, fine chemicals, other hygiene areas	
Dimensions		
External dimensions (W x H x D in mm)	544 x 430.7 x 136	544 x 430.7 x 136
Depth of enclosure only (without flange and operator controls) in mm	80	80
Weight, net	15.5 kg	15.5 kg
Special features	Flange adapter for pedestal	Flange adapter for support arm
The other specifications correspond to the basic unit (MLFB)	SIMATIC IFP1900 (6AV7863-3MA20-0AA0)	

Ordering data

	Article No.
SIMATIC IFP1900 INOX PRO for pedestal mounting 19"; with accessory pack comprising: Documentation and driver CD, product information; terminals; Quickinstall Guide	**6AV7484-6AB00-0AA0**
SIMATIC IFP1900 INOX PRO for support arm mounting 19"; with accessory pack comprising: Documentation and driver CD, product information; terminals; Quickinstall Guide	**6AV7484-6AB10-0AA0**

	Article No.
Accessories Mounting packages are provided as accessories for mounting the devices on the support system. The device seals can be replaced using the corresponding service packages from the accessories.	See "System components for devices with all-round IP65 protection"

More information

More information is available on the Internet at:

http://www.siemens.com/inox-pro-hmi-devices

For other languages:

http://www.siemens.com/inox-pro-hmi-devices

Customized modifications

- Customized design (logo, type designation and membrane color)
- Other display sizes
- Changes to the operator controls
- Further certificates and approvals

Quotation preparation

Customized automation specialists define the product modifications precisely in accordance with customer requirements.

The quotation is then prepared with:

- Non-recurring costs
- Prototype costs
- Serial device prices and
- The general conditions in the form of a product agreement (e.g. minimum quantity).

The defined device can then be ordered easily using this product agreement and a customized order number.

SIMATIC Panel PC Ex OG

Overview

SIMATIC Panel PC Ex OG with international approvals for operator control and monitoring in hazardous areas.

Technical specifications

	SIMATIC Panel PC Ex OG
General features	
Design	Panel PC, stand-alone device for use outdoors
Front	15" 4:3 or 21.5" 16:9
Resolution	1 024 x 768 or 1 920 x 1 080
No. of colors	16.7 million
Brightness	• Standard display 350 cd/m² • Sunlight readable display 21.5” 1000 cd/m² • Sunlight readable display 15" 1200 cd/m²
MTBF backlight	LED backlight approx. 50,000 h (70,000 h at 25 °C)
Multi-touch	Capacitive
Keys	8 function keys (capacitive)
Computing unit	
Processor	Intel Core i7-3517UE with 1.7 GHz
Work memory	4 GB or 8 GB RAM
Operating system	
Windows 7 Ultimate	Pre-installed
WES 7 P	Pre-installed
Drives	
Mass storage	SSD with • 80 GB • 240 GB • 480 GB
Interfaces	
Ethernet	• 2 x Ethernet 10/100/1000 Base Tx (Ex e) or • FO 100 Base Fx 100 Mb (Ex op is)
USB	1 x USB (Ex e). 3 x USB (Ex ia)
Serial	1x RS 232 / RS422 / RS 485 (Ex e)
DVI	1 x DVI Out (Ex e)
Barcode	1 x reader interface (external barcode scanner / reader)
Bluetooth	1 x (optional)

	SIMATIC Panel PC Ex OG
Power supply • 230 V AC • 24 V DC	• Standard (100 - 240 V AC) • Optional
Ambient conditions	
Temperature	• Running operation: -10°C to +65°C • Optional: -40°C to +65°C • Storage: -40°C to +70°C
Relative humidity during operation	>95% at +65 °C in accordance with IEC 60068-2-30
Degree of protection	IP66 / 4X all-round
Vibration	Operation: 3 Hz to 22 Hz: 1 mm 22 to 500 Hz: 9.8 m/s² = 1 g In accordance with EN 60068-2-6 and DNV Marine approval vibration class A
Shock	Operation: 15 g / 11 mS
Miscellaneous	
Power consumption at 24 V DC	4.6 A (6.9 A in heating mode), (recommended fuses 12 A)
Weight / Size	
Weights	15" zone 1; < 22.6 kg 21.5" zone 1; < 34 kg
Dimensions (W x H x D)	15": 380 x 394 x 137 mm 21.5": 553 x 458 x 141 mm
Approvals	
ATEX, IECEx	• Gas: II 2 (1) G Ex e q [ia op is Ga] IIC T4 Gb • Dust: II 2 (1) D Ex tb [ia op is Da] IIIC T115°C Db
More, such as UL, NEC, CSA, coming soon	

Ordering data

	Article No.
SIMATIC HMI Panel PC Ex OG	**6AV7200 - 2 ■ ■ ■ ■ - ■ ■ A 0**
Display	
• 15", 1 024 x 768, format 4:3; Zone 1	**A**
• 21.5" FullHD, 1 920 x 1 080, format 16:9; Zone 1	**B**
• 15", 1 024 x 768, format 4:3; Zone 2 and non-Ex	**C**
• 21.5" FullHD, 1 920 x 1 080, format 16:9; Zone 2 and non-Ex	**D**
Network	
• 1 x 1000 Base TX – copper Ethernet in combination with WLAN	**A**
• 2 x 1000 Base TX – copper Ethernet not in combination with WLAN	**B**
• 2x 1000 Base FX - fiber-optic Ethernet not in combination with WLAN	**C**
Mass storage/work memory	
• 80 GB SSD, 4 GB RAM	**1**
• 240 GB SSD, 8 GB RAM	**2**
• 480 GB SSD, 8 GB RAM	**3**
Operating system	
• Windows 7 Ultimate	**1**
• WES7 P	**2**
Display options	
• Standard TFT, not touch; for 15" display only	**1**
• Sunlight-readable display 15", not touch	**2**
• Sunlight-readable display 21.5", not touch	**3**
• Standard TFT, capacitive glass touch, for 15" display only	**4**
• Sunlight-readable display 15", capacitive glass touch	**5**
• Sunlight-readable display 21.5", capacitive glass touch	**6**

	Article No.
SIMATIC HMI Panel PC Ex OG	**6AV7200 - 2 ■ ■ ■ ■ - ■ ■ A 0**
Optional expansions [1]	
• No WLAN, no Bluetooth, no RFID	**A**
• WLAN 2.4 GHz, no Bluetooth, no RFID	**B**
• WLAN 2.4 GHz and 5 GHz, no Bluetooth, no RFID	**C**
• No WLAN, Bluetooth, no RFID	**D**
• WLAN 2.4 GHz, Bluetooth, no RFID	**E**
• WLAN 2.4 GHz and 5 GHz, Bluetooth, no RFID	**F**
• No WLAN, no Bluetooth, RFID, not for 15" display	**G**
• WLAN 2.4 GHz, no Bluetooth, RFID, not for 15" display	**H**
• WLAN 2.4 GHz and 5 GHz, no Bluetooth, RFID, not for 15" display	**J**
• No WLAN, Bluetooth, RFID, not for 15" display	**K**
• WLAN 2.4 GHz, Bluetooth, RFID, not for 15" display	**L**
• WLAN 2.4 GHz and 5 GHz, Bluetooth, RFID, not for 15" display	**M**
Additional options	
• 24 V power supply	**-A01**
• CAN bus interface open CAN Ex e	**-B01**
• VESA 200 and table pedestal and bracket SS 316L material	**-C01**
• Outdoor design E01, F01, G01 and H01 now listed under accessories	**-D01**

[1] RFID option only with 21.5" display

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

An adapter plate is required for mounting on the support arm systems of well-known manufacturers; see "System components for devices with all-round IP65 protection".

Accessories	
Digital KVM for HMI Thin Client Ex monitor option With 2 x USB, 2 x PS/2, 1 x VGA/DVI-i	**6AV7675-0EX00-0AA0**
USB drive	
• Intrinsically safe, 16 GB	**6AV7675-0FX00-0AA0**
• Intrinsically safe, 16 GB with recovery function	**6AV7675-0FX10-0AA0**
• NON-intrinsically safe, 16 GB with recovery and backup function	**6AV7675-0FX20-0AA0**
Ethernet switch With FOC 4 x 100 Base Tx, 1 x 100 Base (MTRJ) Fx Ex op is	**6AV7675-0PX00-0AA0**
Stand	**6AV7675-0KA00-0AA0**
Yoke mount fixing bracket	**6AV7675-0KB00-0AA0**
Sun roof	
• For 15"	**6AV7675-0KC00-0AA0**
• For 21.5"	**6AV7675-0KD00-0AA0**

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-hmi-ex

Overview

SIMATIC HMI Panel PC Ex with international approvals for operation and monitoring in hazardous areas.

Notice:

Effective immediately, the SIMATIC Panel PC Ex will be supplied with a Quad-Core Intel Atom Processor E3845, thus enabling it to offer around four times the performance of the current Intel Atom N270 systems.
A new ordering configurator with the Article No. 6AV7200-4....-.... has been created.

More information is available on the Internet at:

http://www.siemens.com/simatic-hmi-ex

And in the Industry Mall:

https://mall.industry.siemens.com

Technical specifications

	SIMATIC HMI Panel PC Ex2
General features	
Design	Panel PC built-in unit, protective enclosure available as an option
Front	15" and 19", optional 15" sunlight-readable displays
Operation	Touch with 8 function keys
Processor	Intel Atom E3845 with 1.91 GHz
Work memory	4 GB DDR2 SDRAM
Operating system, pre-installed and configured	Windows 7 MUI, Windows 7 Ultimate, WES7 E
Mass storage	32 GB SSD, 128 GB SSD
Power supply	24 V DC, max. 2.1 A (19")
Interfaces	
Ethernet	10/100 Mbit Ex e, or fiber-optics 100 Mbit (SC) Ex op is
USB 2.0	2 x Ex i, 2 x Ex e (Zone 1) or 2 x Ex nA (Zone 2)
Serial	1 x RS 232 or 1 x RS422/485
Ambient conditions	
Degree of protection	IP66 at front, IP65 at rear, IP66 in protective enclosure
Ambient temperature during operation	- 20 °C ... + 50 °C (cold start -10 °C) with optional auxiliary heater down to - 30 °C
Relative humidity during operation	90 % at + 40 °C, no condensation

4

Technical specifications (continued)

	SIMATIC HMI Panel PC Ex2
Approvals/directives	
Devices in version "Zone 1"	
ATEX directive 94/9/EC	
• Network 10/100 Base-Tx	II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66
• Network 10/100 Base-Fx	II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
IECEx	
• Network 10/100 Base-Tx	Ex d e ia ib mb [ia ib] IIC T4 Gb Ex ia tb [ia ib] IIIC T80°C Db IP66
• Network 10/100 Base-Fx	Ex d e ia ib mb [ia ib op is] IIC T4 Gb Ex ia tb [ia ib op is] IIIC T80°C Db IP66
GOST-R	
• Network 10/100 Base-Tx	2 Ex d e ia ib mb [iaib] IIC T4 DIP A21 TA80°C, IP66
• Network 10/100 Base-Fx	2 Ex d e ia ib mb [iaibopis] IIC T4 DIP A21 TA80°C, IP66
CSA	Ex d e ia ib mb [ia ib] IIC T4 Gb, Type 4X, IP66 Class II, Division 1, Groups E, F, G, T80°C Ex ia tb [ia ib] IIIC T80°C Db, IP66
KGS	Ex d e ia ib mb [ia ib] IIC T4 Ex ia tb [ia ib] IIIC T80°C Db IP66
InMetro	
• Network 10/100 Base-Tx	Ex d e ia ib mb [ia ib] IIC T4 Gb Ex ia tb [ia ib] IIIC T80°C Db IP66
• Network 10/100 Base-Fx	Ex d e ia ib mb [ia ib op is] IIC T4 Gb Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Device version "UL Class 1, Division 2"	Class 1, Division 2, Groups A, B, C, D Class 2, Division 2, Groups F, G Class 3, Hazardous Locations

	SIMATIC HMI Panel PC Ex2
Devices in version "Zone 2"	
ATEX directive 94/9/EC	
• Network 10/100 Base-Tx	II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc II3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66
• Network 10/100 Base-Fx	II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
IECEx	
• Network 10/100 Base-Tx	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66
• Network 10/100 Base-Fx	Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
GOST-R	
• Network 10/100 Base-Tx	2 Ex d e ia ib mb nA [ib][ic] IIC T4 DIP A21 TA80°C, IP66
• Network 10/100 Base-Fx	2 Ex d e ia ib mb nA [ib opis][ic] IIC T4 DIP A21 TA80°C, IP66
CSA	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc, Type 4X, IP66 Class II, Division 2, Groups E, F, G, T80°C; Ex ia tc [ib ic] IIIC T80°C Dc, IP66
InMetro	
• Network 10/100 Base-Tx	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66
• Network 10/100 Base-Fx	Ex d e ia ib mb nA [ib op is Gb] IIC T4 Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Device version "UL Class 1, Division 2"	Class 1, Division 2, Groups A, B, C, D Class 2, Division 2, Groups F, G Class 3, Hazardous Locations
Dimensions	
Mounting dimensions (W x H x D)	15": 427.5 mm x 327.5 mm x 165 mm 19": 522.5 mm x 412.5 mm x 165 mm
Front dimensions (W x H)	15": 440 mm x 340 mm 19": 535 mm x 425 mm
Weight	15": 15 kg 19": 23 kg

Ordering data

	Article No.
SIMATIC HMI Panel PC Ex2	**6AV7200 - 4 ■ ■ ■ ■ - ■ ■ A 0**
SIMATIC HMI Panel PC Ex; 4 x USB 2.0, 2 x RS 232/422; power supply 24 V DC; Intel Atom E3845; 1.91 GHz	
Design / display size	
• Zone 2: 15" touch with 8 function keys	A
• Zone 2: 19" touch with 8 function keys	B
• Zone 1: 15" touch with 8 function keys	C
• Zone 1: 19" touch with 8 function keys	D
• Zone 2: 15" touch, sunlight-readable with 8 function keys	E
• Zone 1: 15" touch, sunlight-readable with 8 function keys	F
Network	
• 10/100 base Tx, Ex e	A
• 100 base Fx FOC (SC), Ex op is	B
Mass storage	
• SSD 32 GB, 4 GB RAM	0
• SSD 128 GB MLC, 4 GB RAM	1
Operating system (pre-installed)	
• Windows 7 Ultimate (64-bit)	0
• Windows 7 Embedded Standard 7 E 64-bit	1
• None	2

	Article No.
SIMATIC HMI Panel PC Ex2	**6AV7200 - 4 ■ ■ ■ ■ - ■ ■ A 0**
Enclosure options	
• Without protective enclosure	0
• Stainless steel enclosure for:	
- Wall mounting	1
- Stand (incl. coupling, 300° rotation possible)	2
- Suspension bracket (incl. coupling, 300° rotation possible)	3
- Support arm (incl. coupling, 300° rotation possible)	4
- Swivel arm from above (incl. coupling, 300° rotation possible)	5
External keyboard	
• Without	A
• QWERTZ keyboard, mounted on protective enclosure	B
• QWERTY keyboard, mounted on protective enclosure	C
• AZERTY keyboard, mounted on protective enclosure	D
• QWERTZ keyboard with trackball, mounted on protective enclosure	E
• QWERTY keyboard with trackball, mounted on protective enclosure	F
• AZERTY keyboard with trackball, mounted on protective enclosure	G
Further options together with stainless steel enclosure	
• Breather glands (to avoid build-up of condensation)	-z A01
• Heater (2 x 50 W incl. temp. controller, only in protective enclosure)	-z B01
• Handles, mounted (only in protective enclosure)	-z C01
• Front USB (bottom) (only in protective enclosure)	-z D01
• NPT thread for stand mounting (only in protective enclosure)	-z G01

Accessories	
Digital KVM for HMI Thin Client Ex	**6AV7675-0EX00-0AA0**
USB drive	
• Intrinsically safe, 16 GB	**6AV7675-0FX00-0AA0**
• Intrinsically safe, 16 GB with recovery function	**6AV7675-0FX10-0AA0**
• Non-intrinsically safe,16 GB with recovery and backup function	**6AV7675-0FX20-0AA0**
Ethernet switch With FOC 4 x 100 Base Tx, 1 x 100 Base (MTRJ) Fx Ex op is	**6AV7675-0PX00-0AA0**

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-hmi-ex

Overview

SIMATIC HMI Thin Client Ex with international approvals for operation and monitoring in hazardous areas.

Technical specifications

	SIMATIC HMI Thin Client Ex
General features	
Design	Thin Client built-in unit, available in protective enclosure as an option
Front	15", 19", and 15" sunlight readable display
Operation	Touch with 8 function keys
MTBF backlight	50 000 h
Operating system	Closed system on Windows XP Embedded basis
Mass storage	Integrated
Power supply	24 V DC, max. 2.1 A (19")
Interfaces	
Ethernet	100 Mbit Ex e, or alternatively fiber-optics 100 Mbit (SC) Ex op is
USB 2.0	2 x Ex i, 2 x Ex e (Zone 1) or 2 x Ex nA (Zone 2)
Serial	1 x RS 232 or 1 x RS422/485
Ambient conditions	
Degree of protection	IP66 at front, IP65 at rear, IP66 in protective enclosure
Ambient temperature during operation	- 20 °C ... + 50 °C, cold start -10 °C, with optional additional heating down to -30 °C
Relative humidity during operation	90 % at 40 °C, no condensation

4

Technical specifications (continued)

	SIMATIC HMI Thin Client Ex
Approvals/directives	
Devices in "Zone 1" version	
ATEX directive 94/9/EC	
• Network 10/100 Base-Tx	II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66
• Network 10/100 Base-Fx	II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
IECEx	
• Network 10/100 Base-Tx	Ex d e ia ib mb [ia ib] IIC T4 Gb Ex ia tb [ia ib] IIIC T80°C Db IP66
• Network 10/100 Base-Fx	Ex d e ia ib mb [ia ib op is] IIC T4 Gb Ex ia tb [ia ib op is] IIIC T80°C Db IP66
GOST-R	
• Network 10/100 Base-Tx	2 Ex d e ia ib mb [iaib] IIC T4 DIP A21 TA80°C, IP66
• Network 10/100 Base-Fx	2 Ex d e ia ib mb [iaibopis] IIC T4 DIP A21 TA80°C, IP66
CSA	Ex d e ia ib mb [ia ib] IIC T4 Gb, Type 4X, IP66 Class II, Division 1, Groups E, F, G, T80°C Ex ia tb [ia ib] IIIC T80°C Db, IP66
KGS	Ex d e ia ib mb [ia ib] IIC T4 Ex ia tb [ia ib] IIIC T80°C Db IP66
InMetro	
• Network 10/100 Base-Tx	Ex d e ia ib mb [ia ib] IIC T4 Gb Ex ia tb [ia ib] IIIC T80°C Db IP66
• Network 10/100 Base-Fx	Ex d e ia ib mb [ia ib op is] IIC T4 Gb Ex ia tb [ia ib op is] IIIC T80°C Db IP66

	SIMATIC HMI Thin Client Ex
Devices in version "Zone 2"	
ATEX directive 94/9/EC	
• Network 10/100 Base-Tx	II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc II3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66
• Network 10/100 Base-Fx	II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
IECEx	
• Network 10/100 Base-Tx	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66
• Network 10/100 Base-Fx	Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
GOST-R	
• Network 10/100 Base-Tx	2 Ex de i a ib mb nA [ib][ic] IIC T4 DIP A21 TA80°C, IP66
• Network 10/100 Base-Fx	2 Ex de i a ib mb nA [ibopis][ic] IIC T4 DIP A21 TA80°C, IP66
CSA	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc, Type 4X, IP66 Class II, Division 2, Groups E, F, G, T80°C; Ex ia tc [ib ic] IIIC T80°C Dc, IP66
InMetro	
• Network 10/100 Base-Tx	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66
• Network 10/100 Base-Fx	Ex d e ia ib mb nA [ib op is Gb] IIC T4 Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Protocols	RDP, RealVNC
Digital KVM switch	Input: DVI / VGA, PS/2 / USB, output: RJ45 (IP network)
Dimensions	
Mounting dimensions (W x H x D) in mm	15": 427.5 x 327.5 x 165 19": 522.5 x 412.5 x 165
Front dimensions in mm	15": 440 x 340 19": 535 x 425
Weight	15": 15 kg, 19": 23 kg

Ordering data

	Article No.
SIMATIC HMI Thin Client Ex	**6AV7200 - 0 ■ ■ 0 0 - ■ ■ A 0**
Design / display size	
• Zone 2: 15" touch with function keys	**A**
• Zone 2: 19" touch with function keys	**B**
• Zone 1: 15" touch with function keys	**D**
• Zone 1: 19" touch with function keys	**E**
• Zone 2: 15" touch, sunlight-readable with function keys	**G**
• Zone 1: 15" touch, sunlight-readable with function keys	**H**
Communication interfaces	
• 10/100 base Tx, Ex e	**A**
• 100 base Fx FOC (SC), Ex op is	**B**
Enclosure options (device is delivered already fitted)	
• without	**0**
• Stainless steel enclosure for:	
- Wall mounting	**2**
- Stand (incl. coupling, 300° rotation possible)	**3**
- Suspension bracket (incl. coupling, 300° rotation possible)	**4**
- Support arm (incl. coupling, 300° rotation possible)	**5**
- Swivel arm from above (incl. coupling, 300° rotation possible)	**6**
External keyboard for enclosure (incl. keyboard enclosure)	
• without	**A**
• QWERTZ keyboard	**B**
• QWERTY keyboard	**C**
• AZERTY keyboard	**D**
• QWERTZ keyboard with trackball	**E**
• QWERTY keyboard with trackball	**F**
• AZERTY keyboard with trackball	**G**
Further options together with stainless steel enclosure	
• Breather glands	**-z A01**
• Heating (requires breather glands)	**-z B01**
• Handles	**-z C01**
• Front USB (bottom)	**-z D01**

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

	Article No.
Accessories	
Digital KVM for HMI Thin Client Ex	**6AV7675-0EX00-0AA0**
USB drive	
• Intrinsically safe, 8 GB	**6AV7675-0FX00-0AA0**
• Intrinsically safe, 8 GB with recovery function	**6AV7675-0FX10-0AA0**
Ethernet switch With FOC 4 x 100 Base Tx, 1 x 100 Base (MTRJ) Fx Ex op is	**6AV7675-0PX00-0AA0**

More information

More information is available on the Internet at:

http://www.siemens.com/simatic-hmi-ex

Introduction

Overview

SIMATIC industrial PCs offer users a wide range of designs and systems which are perfectly matched to industrial applications and meet the stringent demands for ruggedness.

These include e.g.:

- Wide temperature range up to 60 °C
- High resistance to vibration/shock
- Rugged housing design
- Special degrees of protection up to IP65, NEMA 4
- High electromagnetic compatibility (EMC)
- UL, CE industry certification
- Integral industrial power supplies (NAMUR)
- Easy-to-service design for rapid replacement of faulty components

Higher system availability

A graded concept is available for effective early detection of potential failures and minimization of actual downtimes.

It consists of software developed specifically for the SIMATIC IPCs, which enables system availability to be individually increased according to the safety requirements.

Reduced costs

Special backup mechanisms reduce the risk of data loss and allow the introduction of new concepts at initial or repeated commissioning.
The remote control and automatic self-diagnostics options reduce travel expenditure and time spent on on-site service calls, allowing service measures to be planned more efficiently. Downtimes are minimized or eliminated altogether.

The SIMATIC IPC software products thus help to significantly reduce the total cost of ownership (TCO) of the installation according to the motto: "Small effort, great effect".

The following components are available:

SIMATIC IPC Image & Partition Creator

- Software tool for preventive data backup of hard disk contents
- High-speed restoring of system and data partitions with bit accuracy; user software and special installations are also backed up
- Secure processing of hard disk partitions
- Creation of bootable and password-protected USB flash drives
- Secure deletion of data storage media

SIMATIC IPC DiagMonitor

- Diagnostic and alarm software for monitoring SIMATIC IPCs
- Comprehensive monitoring of temperature, fans, hard disks (SMART, RAID, CompactFlash, CFast, SSD), watchdog
- Operating hours counter for preventive maintenance
- Event logging and task planning
- Data exchange via OPC, email, text messages or SNMP
- Integrated BIOS Manager

SIMATIC IPC Remote Manager

- Efficient remote maintenance and operation of SIMATIC IPCs
- Use of the Intel Active Management Technology (Intel AMT) for SIMATIC IPCs
- Remote access to desktop, BIOS and power management
- Booting of a remote PC by means of a local ISO image

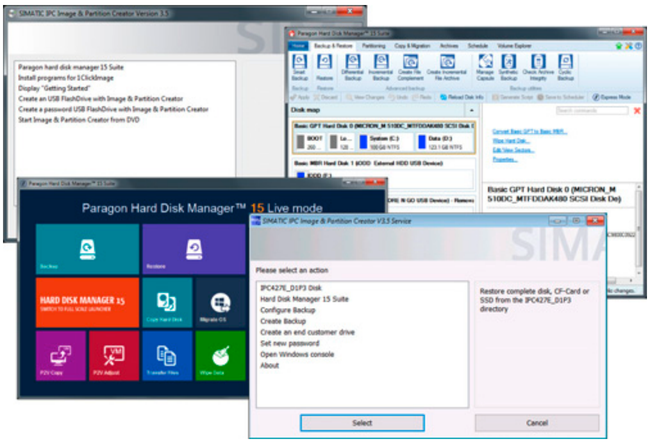
SIMATIC IPC BIOS Manager

Software tool for BIOS management for specific SIMATIC IPCs.

SIMATIC IPC Support Package for VxWorks V1.1

- VxWorks Support Package for SIMATIC embedded and high-end IPCs of D generation and above (except IPC227D)
- Use of the PROFINET and PROFIBUS interfaces, as well as other hardware-level functions under the VxWorks V6.9 real-time operating system

Overview



SIMATIC IPC Image & Partition Creator is the software tool for easy, preventive backup and restoring of hard disk contents (images of individual partitions or complete hard disks). This software can be ordered using the SIMATIC IPC Configurator, or separately as a single license.

- Can run on all SIMATIC IPCs, regardless of the computer configuration
- Direct starting from the CD possible (no installation required)
- Complete backup by means of a mouse double-click with "1ClickImage" (must be installed)
- Menu-driven creation of a bootable USB flash drive as an alternative start medium from which SIMATIC IPC Image & Partition Creator can be started
- Independent of the operating system thanks to ability to start from the bootable SIMATIC IPC Image & Partition Creator DVD or bootable USB flash drive with Image & Partition Creator
- Extremely easy system restore using end customer's USB flash drive
  https://support.industry.siemens.com/cs/ww/en/view/109740914

Ordering data

Ordering data	Article No.
SIMATIC IPC Image & Partition Creator V3.5	Can be ordered using the SIMATIC IPC Configurator
SIMATIC IPC Image & Partition Creator V3.5 Software tool for very easy preventive data backup and efficient partition management on SIMATIC IPCs	**6ES7648-6AA03-5YA0**

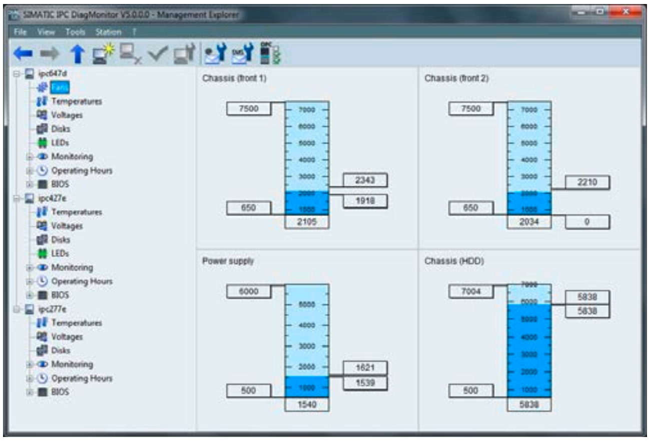
Note:

SIMATIC IPC Image & Partition Creator is also available together with the SIMATIC IPC BIOS Manager pre-installed on the SIMATIC IPC Service USB flash drive.

4

SIMATIC IPC DagMonitor

Overview



The SIMATIC IPC DiagMonitor permits intelligent and comprehensive monitoring and diagnostics of SIMATIC Industrial PCs.

It detects potential hardware and software faults at an early stage, visualizes operating states and offers various options for access and data exchange.

The SIMATIC IPC DiagMonitor supports not only local diagnostics, but also access via the network to SIMATIC IPC. When installed on a standard PC, all remote functions required for remote access are available.

Only the following SIEMENS products are supported:

- SIMATIC IPC227D / IPC277D
- SIMATIC IPC427D / IPC477D
- SIMATIC IPC627D / IPC647D / IPC677D
- SIMATIC IPC827D / IPC847D
- SIMATIC IPC227E / IPC277E
- SIMATIC IPC427E / IPC477E
- SIMATIC IPC547E
- SIMATIC IPC547G

The software can be ordered as:

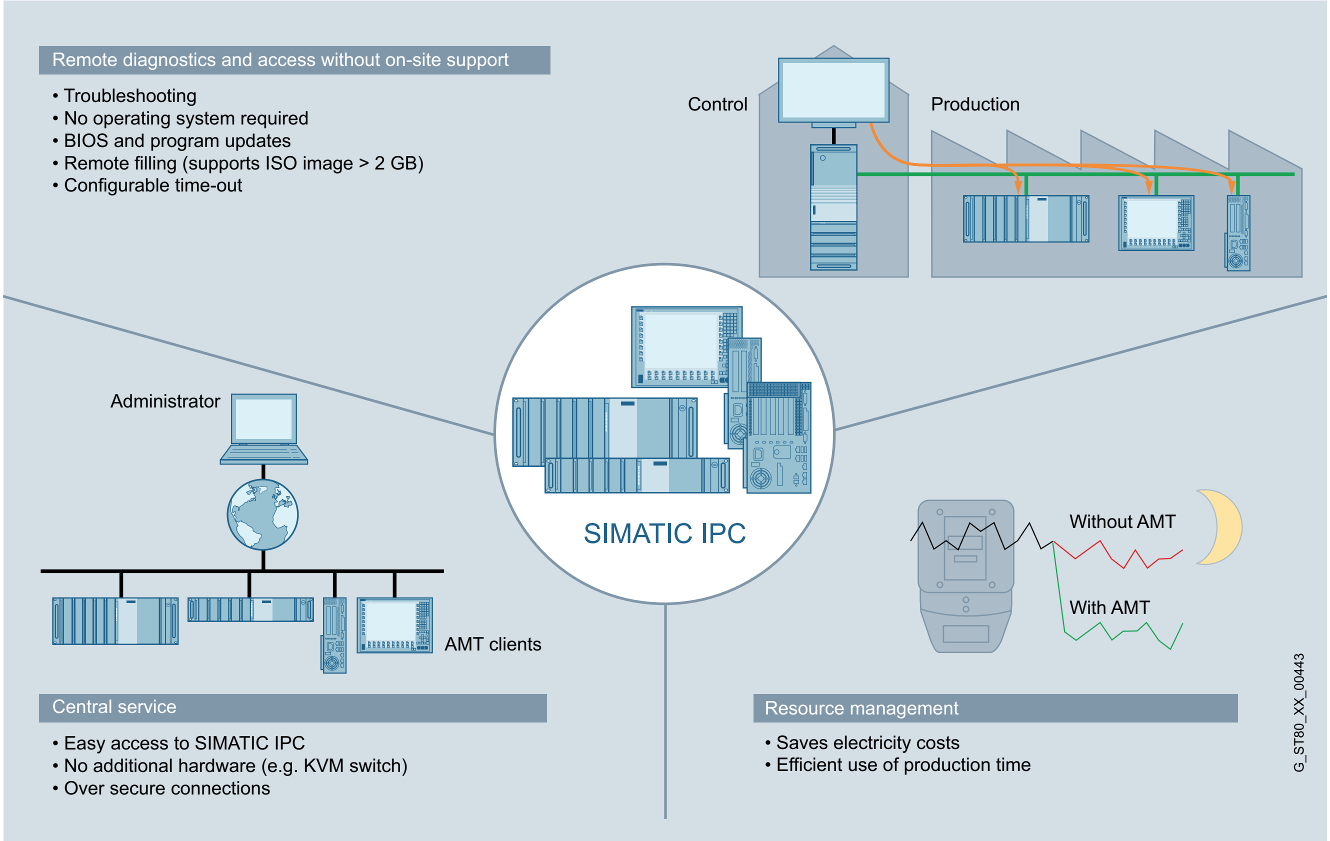
- Individual product from stock (e.g. for server applications on third-party PCs or immediate integration in new systems) or
- Option ordered according to the SIMATIC IPC Configurator (Internet, Industry Mall).

https://support.industry.siemens.com/cs/ww/en/view/109740915

Ordering data

Ordering data	Article No.
SIMATIC IPC DiagMonitor V5.0	Can be ordered using the SIMATIC IPC Configurator
SIMATIC IPC DiagMonitor V5.0 Software tool for monitoring the SIMATIC IPC, incl. manual on CD-ROM (English, German), single license	**6ES7648-6CA05-0YX0**

Overview



SIMATIC IPC Remote Manager

Efficient remote maintenance and management of SIMATIC IPCs.

With the SIMATIC IPC Remote Manager you can use functions of the Intel Active Management Technology (Intel AMT) for SIMATIC IPCs. Intel AMT is used for remote management of PCs.

Intel AMT offers a range of functions, such as:

- Remote reboot
- IDE redirection
- Keyboard video mouse redirection
- Power on / off / reset, and
- An integrated web server.

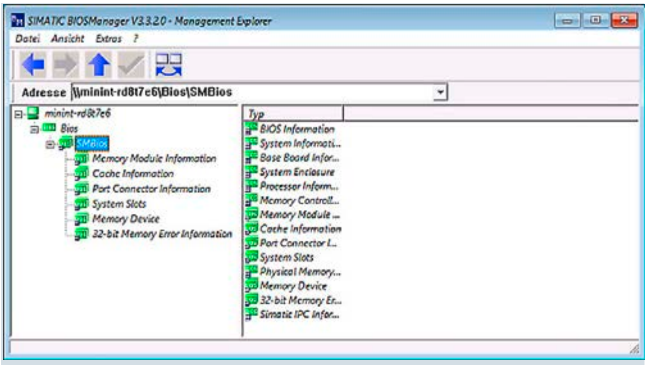
https://support.industry.siemens.com/cs/ww/en/view/109744024

Ordering data

Ordering data	Article No.
SIMATIC IPC Remote Manager V1.3 Software tool for remote maintenance and management of SIMATIC IPC, incl. manual on CD-ROM (English, German), single license	**6ES7648-6EA01-3YA0**

SIMATIC IPC BIOS Manager

Overview



The SIMATIC IPC BIOS Manager V3.3 (WinPE) is a software tool for the management and processing of SIMATIC IPC BIOS data.

https://support.industry.siemens.com/cs/ww/en/view/68849050

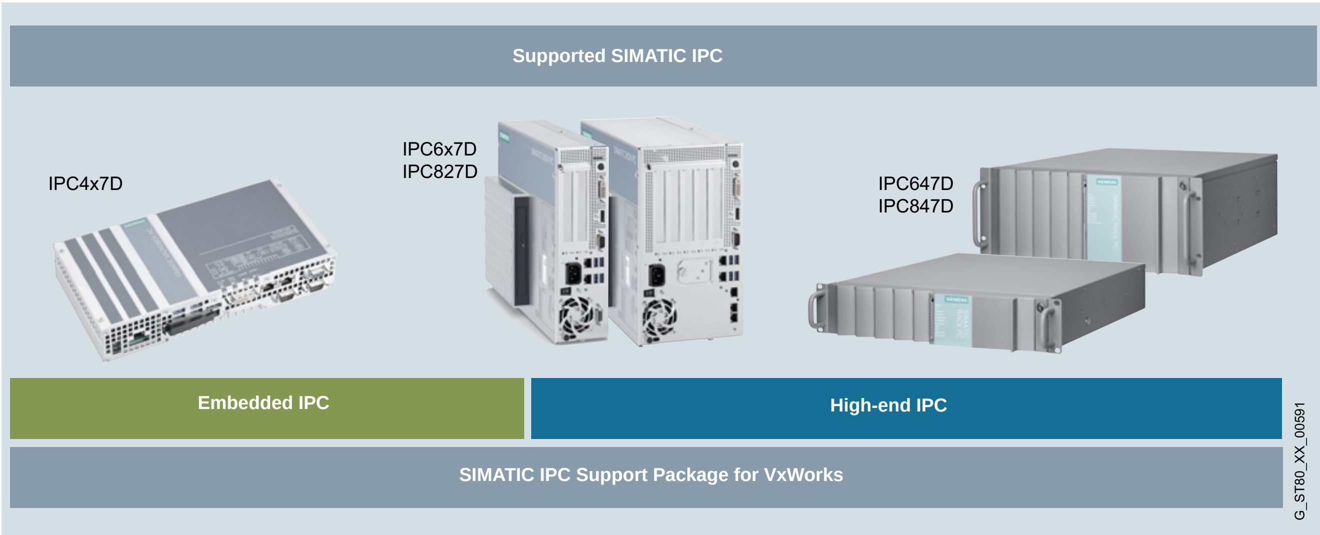
Ordering data

	Article No.
SIMATIC IPC BIOS Manager Software tool for the management and processing of SIMATIC IPC BIOS data	
• Pre-installed on the SIMATIC IPC USB flash drive	**6ES7648-0DC60-0AA0**
• Pre-installed on the SIMATIC IPC Service USB flash drive	**6AV7672-8JD02-0AA0**

4

Overview

SIMATIC IPC Support Package for VxWorks V1.1



The SIMATIC embedded and high-end IPC devices of the D generation (except IPC227D) are supported with the SIMATIC IPC Support Package for VxWorks.
The following SIMATIC IPCs can therefore now be operated along with their PROFINET, PROFIBUS and hardware-based functions with the real time VxWorks V6.9 operating system:

- IPC647D
- IPC847D
- IPC227E
- IPC627D
- IPC827D
- IPC277E

VxWorks V7 is now also supported in compatibility mode V6.9, 32-bit.

The PROFINET onboard interfaces of the SIMATIC IPCs offer diverse options for the integration of real-time solutions with SIMATIC IPC into PROFINET networks. PROFINET RT (real-time) is supported by the standard Ethernet interface of the IPC; PROFINET IRT (isochronous real-time) is supported by the onboard PROFINET interface.

Technical specifications

Development system	
Component	**Requirements**
Hardware	PC
Operating system	Windows 7 (32-bit or 64-bit)
Configuration software for PROFIBUS DP	STEP 7 as of version 5.5 SP3 Hotfix 3 (optional) from TIA V13 (optional) NCM PC from Version 5.5 SP3 (optional)
Configuration software for PROFINET	STEP 7 from Version 5.5 SP3 (optional) from TIA V12 (optional) NCM PC from Version 5.5 SP3 (optional)
Development tools	Workbench V3.3 for VxWorks V6.9

Target system	
Component	**Requirements**
Hardware	SIMATIC IPC647D or SIMATIC IPC847D or SIMATIC IPC227E or SIMATIC IPC427D or SIMATIC IPC627D or SIMATIC IPC827D or SIMATIC IPC277D
Operating system	VxWorks V6.9 (32-bit)

Ordering data

Ordering data	**Article No.**
SIMATIC IPC Support Package for VxWorks SIMATIC IPC Support Package for VxWorks V1.1, supports IPC647D, IPC847D, IPC227E, IPC427D, IPC627D, IPC827D and IPC277E incl. DP and PN, as well as diagnostic functions	**6ES7648-6VA01-0YA0**

Embedded bundles/software packages

Overview

The fast and efficient way to get started with PC-based automation

Our ***embedded bundles*** for PC-based automation are based on rugged, fan-free embedded industrial PCs:

- Nanobox PC SIMATIC IPC227 and Microbox PC SIMATIC IPC427 or
- Panel PC SIMATIC IPC277 and SIMATIC IPC477

They are pre-installed, configured, and ready-to-use with the SIMATIC S7-1507S / SIMATIC WinAC RTX (F) Software Controller and/or a version of the SIMATIC WinCC Advanced visualization software.

Software packages with SIMATIC WinAC RTX (F), SIMATIC WinCC (SCADA, Advanced, Professional) are available for all SIMATIC IPCs.

Ordering the automation software together with an industrial PC results in significant price savings.

Embedded bundles

Embedded bundles are embedded IPC configurations with pre-installed software, specially designed for automation and visualization tasks.

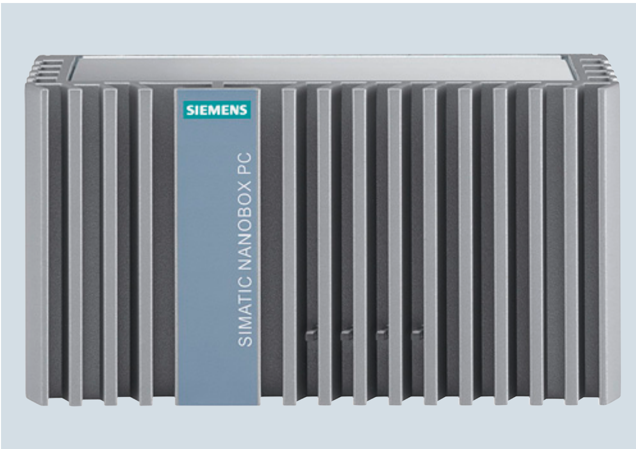
- All embedded bundles are based on rugged, fanless SIMATIC IPCs.
- Various CPU performance classes are available for different applications. From Intel Atom CPUs for simple open-loop control and visualization tasks all the way to Intel Xeon CPUs for complex automation solutions.
- Optionally pre-installed and configured with the SIMATIC S7-1507S (for IPC227E / 277E / IPC427E / IPC477E) / SIMATIC WinAC RTX (F) Software Controller and/or SIMATIC WinCC RT Advanced visualization software.

More information

More information is available on the Internet at:

http://www.automation.siemens.com/mcms/pc-based-automation/en/embedded-bundles

Overview



SIMATIC IPC227E (Nanobox PC): The Box PC with optimized performance in compact design – maintenance-free and rugged

The SIMATIC IPC227E Nanobox PC is an extremely compact and flexible embedded industrial PC.

Thanks to its closed, dust-protected all-metal enclosure, the IPC227E offers maximum industrial functionality for flexible use under harsh conditions – while remaining maintenance-free.

Modern interfaces and the option for expansion via a PCIe slot mean this Box PC can be easily integrated into the automation system.

The latest Intel Dual-Core and Quad-Core processors ensure excellent performance here in an ultra-compact design.

Ordering data

	Article No.
SIMATIC IPC227E	**6ES7647 - 8 B■■■ - ■■■■**
Processor	
• Celeron N2807 (2C/2T)	A
• Celeron N2930 (4C/4T)	B
• Celeron N2807 (2C/2T) / TPM (not for China)	C
• Celeron N2930 (4C/4T) / TPM (not for China)	D
Work memory / NVRAM	
• 2 GB	1
• 4 GB	2
• 8 GB	3
• 2 GB / NVRAM	4
• 4 GB / NVRAM	5
• 8 GB / NVRAM	6
Device version / interface	
• Basic without COM	1
• Basic with COM1/2	2
• PCIe without COM	3
• PCIe with COM1/2	4
Operating system	
• Without OS	0
• Windows Embedded Standard 7 E SP1, English, 32-bit	1
• Windows Embedded Standard 7 E SP1, English, 64-bit	2
• Windows Embedded Standard 7 P SP1, English, 32-bit	3
• Windows Embedded Standard 7 P SP1, English, 64-bit	4
• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)	5
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	6
• Windows 10 IoT Enterprise LTSB 2016, 64-bit, MUI (en, de, fr, it, es)	7

	Article No.
SIMATIC IPC227E	**6ES7647- 8 B■■■ - ■■■■**
Mass storage	
• None	A
• 80 GB SSD	B
• 240 GB SSD	C
• 4 GB CFast	K
• 8 GB CFast	L
• 16 GB CFast	M
• 320 GB HDD	R
Software	
• Without SIMATIC software	A
• CPU 1507S	B
• WinCC RT Advanced V14, 128 PT	D
• WinCC RT Advanced V14, 512 PT	E
• WinCC RT Advanced V14, 2 048 PT	F
• WinCC RT Advanced V14, 4 096 PT	G
• CPU 1507S / WinCC RT Advanced V14, 128 PT	J
• CPU 1507S / WinCC RT Advanced V14, 512 PT	K
• CPU 1507S / WinCC RT Advanced V14, 2 048 PT	L
• CPU 1507S / WinCC RT Advanced V14, 4 096 PT	M
Mounting accessories	
• Standard rail	1
• Wall mounting	2
• Portrait mounting	3
• Standard rail mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	4
• Wall mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	5
• Portrait mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	6

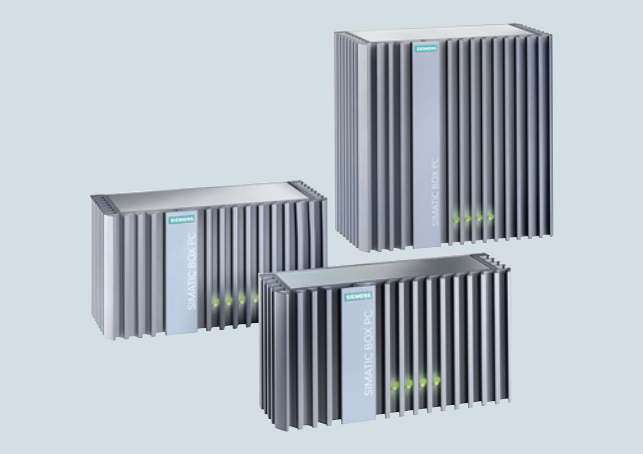
Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

More information is available on the Internet at:

http://www.siemens.com/simatic-ipc

Overview



- A quick start in automation solutions with embedded PC platforms
  - SIMATIC WinAC RTX or SIMATIC WinAC RTX F pre-installed on SIMATIC IPC227D and ready for use
  - PROFINET RT and Industrial Ethernet pre-configured for use in a SIMATIC environment
  - Optional WinCC RT Advanced for visualization tasks in parallel with SIMATIC WinAC RTX
  - Configuration and programming with SIMATIC STEP 7 via Industrial Ethernet or PROFINET
- Safety requirements up to SIL 3 in accordance with IEC 61508/62061 or EN ISO 13849-1 up to PL e can be implemented with WinAC RTX F
- Rugged operation
  - Hard-disk-free operation with CompactFlash card (CF card) or solid-state drive and Windows Embedded Standard 2009 or Windows Embedded Standard 7, 32-bit
  - Fan-free operation
  - 128 KB of retentive data for WinAC RTX, also without uninterruptible power supply (UPS)
- Flexibility of a PC-based automation environment
  - Use of WinAC ODK with SIMATIC WinAC RTX or SIMATIC WinAC RTX F (read-only for fail-safe program section)
  - Connection option for USB devices, flat panel monitor or screen
  - PCIe cards can be plugged in

Ordering data

	Article No.
SIMATIC IPC227D	**6ES7647 - 8 A■■■ - ■■■■**
1 x DVI-D graphics interface 2 x 10/100/1 000 Mbps Ethernet RJ45 4 x USB V2.0 (high current) CompactFlash slot 24 V DC industrial power supply	
Processors / memory configuration / NVRAM	
• Atom E620 (600 MHz), 512 MB RAM	A
• Atom E620 (600 MHz), 512 MB RAM, NVRAM	B
• Atom E640 (1.0 GHz), 1 GB RAM	E
• Atom E640 (1.0 GHz), 1 GB RAM, NVRAM	F
• Atom E660 (1.3 GHz), 2 GB RAM	G
• Atom E660 (1.3 GHz), 2 GB RAM, NVRAM	H
Drives	
• Without drive, with CF slot	0
• 320 GB HDD SATA	1
• 240 GB solid-state drive SATA	2
• 80 GB solid-state drive SATA	4
• 2 GB SIMATIC IPC CompactFlash	5
• 4 GB SIMATIC IPC CompactFlash	6
• 8 GB SIMATIC IPC CompactFlash	7
• 16 GB SIMATIC IPC CompactFlash	8
COM interface	
• COM1: RS 232	0
• COM1: RS 485	1
• COM1: CAN	2

	Article No.
SIMATIC IPC227D	**6ES7647 - 8 A■■■ - ■■■■**
Operating system	
• Without operating system	0
• Windows Embedded Standard 2009 pre-installed (CF from 2 GB/SSD/HD)	1
• XP Prof. MUI pre-installed on SSD/HD	2
• Windows Embedded Standard 7 (32-bit) pre-installed (CF from 4 GB/SSD/HD)	3
• Windows 7 (32-bit) MUI pre-installed on SSD/HD	4
Software bundles	
• Without RTX/HMI software	A
• RTX: WinAC RTX 2010	B
• RTX F: WinAC RTX F 2010	C
• HMI: WinCC RT Advanced 128 PT	F
• HMI: WinCC RT Advanced 512 PT	G
• HMI: WinCC RT Advanced 2 048 PT	H
• HMI/RTX: RT 128 PT	M
• HMI/RTX: RT 512 PT	N
• HMI/RTX: RT 2 048 PT	P
• HMI/RTX F: RT 128 PT	R
• HMI/RTX F: RT 512 PT	S
• HMI/RTX F: RT 2 048 PT	T
Device versions	
• Device version: Base line	A
• Device version: PCIe (1 slot)	B
• Device version: COM (COM2-4: RS 232)	D
• Device version: IO (4x dig. inputs/outputs each)	E
Mounting accessories	
• Standard mounting rail	1
• Wall mounting	2
• Portrait mounting	3
• Side mounting	4

Release for individual order variants: See releases in the ordering procedure.

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

Accessories	
Cable strain relief set for IPC227D Packing unit: 5 units	**6ES7648-1AA50-0XL0**
Dust protection set for IPC227D	**6ES7648-1AA50-0XG0**

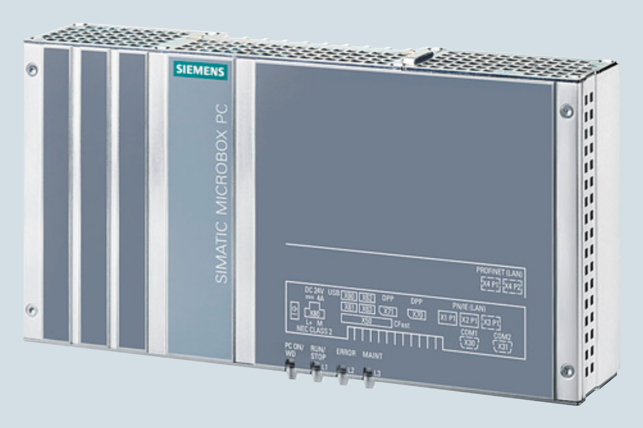
More information

Delivery

Production and delivery of the devices will typically be completed within 15 business days after receipt of order. The hardware and mass memory with the complete, pre-installed, ready-to-use software are supplied fully assembled.

SIMATIC IPC427E bundles

Overview



SIMATIC IPC427E (Microbox PC): The powerful embedded IPC – maintenance-free with versatile configuration

Ready-to-run, complete solution:

- Ultra-compact
- Maintenance-free
- Intel Core i technology of the sixth generation

Ordering data

	Article No.
SIMATIC IPC427E (Box PC) [1)]	**6AG4141 - ■■■■■ - ■■■■**
Processor and fieldbus	
• Celeron G3902E; 2 x Gigabit Ethernet (IE/PN)	0
• Celeron G3902E; 3 x Gigabit Ethernet (IE/PN)	1
• Core i3-6102E; 3 x Gigabit Ethernet (IE/PN)	3
• Core i5-6442EQ; 3 x Gigabit Ethernet (IE/PN)	5
• Xeon E3-1505L; 3 x Gigabit Ethernet (IE/PN)	7
Mounting accessories/ATEX	
• DIN rail mounting	B
• Wall mounting	C
• Portrait mounting	D
• DIN rail mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	F
• Wall mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	G
• Portrait mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	H
Work memory/NVRAM/ECC	
• 4 GB	A
• 8 GB	B
• 16 GB	C
• 8 GB with ECC	D
• 16 GB with ECC	E
• 4 GB and NVRAM	F
• 8 GB and NVRAM	G
• 16 GB and NVRAM	H
• 8 GB with ECC and NVRAM	J
• 16 GB with ECC and NVRAM	K

	Article No.
SIMATIC IPC427E (Box PC) [1)]	**6AG4141 - ■■■■■ - ■■■■**
Expansions/interface	
• No RS 232/RS 485, without PCIe	0
• No RS 232/RS 485 and one PCIe	1
• No RS 232/RS 485 and two PCIe	2
• Two RS 232/RS 485, without PCIe	3
• Two RS 232/RS 485 and one PCIe	4
• Two RS 232/RS 485 and two PCIe	5
Operating system	
• Without operating system	0
• Windows Embedded Standard 7 SP1, English, 32-bit	1
• Windows Embedded Standard 7 SP1, English, 64-bit	2
• Windows Embedded Standard 7 SP1, English, 64-bit, multi-touch	3
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	4
• Windows 10 IoT Enterprise 2016 LTSB (64-bit) for the Celeron, Core i3 and Core i5 processors	7
• Windows 10 IoT Enterprise 2016 LTSB (64-bit) for Xeon processor	8

Ordering data

	Article No.
SIMATIC IPC427E (Box PC) [1)]	**6AG4141 - ■■■■■ - ■■■■**
Mass storage, externally accessible	
• Without external mass storage	**0**
• CFast 2 GB without operating system	**1**
• CFast 4 GB without operating system	**2**
• CFast 8 GB (only optionally with operating system/software if no internal mass storage or HDD)	**3**
• CFast 16 GB (only optionally with operating system/software if no internal mass storage or HDD)	**4**
• CFast 30 GB (only optionally with operating system/software if no internal mass storage or HDD)	**5**
Mass storage, internal	
• Without internal mass storage	**A**
• CFast 8 GB	**B**
• CFast 16 GB	**C**
• CFast 30 GB	**D**
• 80 GB solid-state drive SATA	**E**
• 240 GB solid-state drive SATA	**F**
• 400 GB solid-state drive SATA	**G**
• 320 GB HDD	**J**

	Article No.
SIMATIC IPC427E (Box PC) [1)]	**6AG4141 - ■■■■■ - ■■■■**
SIMATIC software (bundles)	
• Without SIMATIC software	**A**
• CPU 1507S	**B**
• WinCC RT Advanced V14 SP1, 128 PT	**C**
• WinCC RT Advanced V14 SP1, 512 PT	**D**
• WinCC RT Advanced V14 SP1, 2 048 PT	**E**
• WinCC RT Advanced V14 SP1, 4 096 PT	**F**
• WinCC RT Advanced V14 SP1, 8 192 PT	**G**
• CPU 1507S / WinCC RT Advanced V14 SP1, 128 PT	**H**
• CPU 1507S / WinCC RT Advanced V14 SP1, 512 PT	**J**
• CPU 1507S / WinCC RT Advanced V14 SP1, 2 048 PT	**K**
• CPU 1507S / WinCC RT Advanced V14 SP1, 4 096 PT	**L**
• CPU 1507S / WinCC RT Advanced V14 SP1, 8 192 PT	**M**
Power supply	
• 24 V DC industrial power supply	**0**
• 24 V DC and TPM [2)] (not for China or Russia)	**8**

1) For an up-to-date overview, see the SIMATIC PC online configurator: http://www.siemens.com/ipc-configurator

2) TPM = Trusted Platform Module

4

Overview

SIMATIC IPC427D (Microbox PC): The powerful embedded IPC – maintenance-free with versatile configuration

Ready-to-run, complete solutions (software is already installed and preconfigured) for visualization and automation in connection with WinCC RT Advanced and/or WinAC RTX.

- Ultra-compact
- Maintenance-free
- Intel Core i technology of the third generation
- Current product versions of the pre-installed software:
  - SIMATIC WinCC RT Advanced V13
  - SIMATIC WinAC RTX 2010
  - SIMATIC Net V12.1

Ordering data

	Article No.
SIMATIC IPC427D (Box PC) 1) 2)	**6AG4140 - ■ ■ ■ ■ ■ - ■ ■ ■ ■**
Processor and fieldbus	
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN)	**0**
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	**1**
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); CAN interface	**2**
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN)	**3**
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	**4**
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	**5**
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN) (optional ECC only here)	**6**
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	**7**
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	**8**
Mounting accessories:	
• Without mounting accessories	**A**
• DIN rail mounting	**B**
• Wall mounting	**D**
• Portrait mounting	**E**
• Mounting onto standard rail with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	**M**
• Wall mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	**N**
• Vertical mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	**P**

	Article No.
SIMATIC IPC427D (Box PC) 1) 2)	**6AG4140 - ■ ■ ■ ■ ■ - ■ ■ ■ ■**
Work memory/NVRAM/ECC:	
• 1 GB	**A**
• 2 GB	**B**
• 4 GB	**C**
• 8 GB	**D**
• 4 GB with ECC (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	**G**
• 8 GB with ECC (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	**H**
• 1 GB and NVRAM	**J**
• 2 GB and NVRAM	**K**
• 4 GB and NVRAM	**L**
• 8 GB and NVRAM	**M**
• 4 GB with ECC and NVRAM (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	**N**
• 8 GB with ECC and NVRAM (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	**P**
Expansions/interface:	
• One RS 232, without PCIe	**0**
• One RS 232 and one PCIe	**1**
• One RS 232 and two PCIe	**2**
• Second RS 232, without PCIe	**3**
• Second RS 232 and one PCIe	**4**
• Second RS 232 and second PCIe	**5**
Operating system:	
• Without operating system	**0**
• Windows Embedded Standard 7 Professional, 32-bit, MUI	**3**
• Windows Embedded Standard 7 SP1, English, 32-bit	**4**
• Windows Embedded Standard 7 SP1, English, 64-bit	**5**
• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)	**6**
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	**7**

Ordering data

	Article No.		
SIMATIC IPC427D (Box PC) 1) 2)	**6AG4140 - ■ ■ ■ ■ ■ - ■ ■ ■ ■**		
Mass storage, externally accessible:			
• Without external mass storage		**0**	
• CFast 2 GB Without operating system		**1**	
• CFast 4 GB (only optionally with operating system if no internal mass storage)		**2**	
• CFast 8 GB (only optionally with operating system if no internal mass storage)		**3**	
• CFast 16 GB (only optionally with operating system if no internal mass storage)		**4**	
Internal mass storage:			
• Without internal mass storage			**A**
• CFast 2 GB, without software			**B**
• CFast 4 GB, without software			**C**
• CFast 8 GB, without software			**D**
• CFast 16 GB, without software			**E**
• 80 GB solid-state drive (standard)			**H**
• 320 GB HDD			**K**
• 240 GB solid-state drive (standard)			**P**

	Article No.		
SIMATIC IPC427D (Box PC) 1) 2)	**6AG4140 - ■ ■ ■ ■ ■ - ■ ■ ■ ■**		
SIMATIC software pre-installed (bundles, only with Windows Embedded Standard 7):			
• Without SIMATIC software		**A**	
• WinAC RTX 2010 3)		**B**	
• WinCC RT Advanced, 128 PT		**C**	
• WinCC RT Advanced, 512 PT		**D**	
• WinCC RT Advanced, 2 048 PT		**E**	
• WinCC RT Advanced, 4 096 PT		**F**	
• WinCC RT Advanced 128 PT, WinAC RTX 2010 3)		**J**	
• WinCC RT Advanced 512 PT, WinAC RTX 2010 3)		**K**	
• WinCC RT Advanced 2 048 PT, WinAC RTX 2010 3)		**L**	
• WinCC RT Advanced 4 096 PT, WinAC RTX 2010 3)		**M**	
• WinAC RTX F 2010 3)		**N**	
• WinCC RT Advanced 128 PT, WinAC RTX F 2010 3)		**P**	
• WinCC RT Advanced 512 PT, WinAC RTX F 2010 3)		**Q**	
• WinCC RT Advanced 2 048 PT, WinAC RTX F 2010 3)		**R**	
• WinCC RT Advanced 4 096 PT, WinAC RTX F 2010 3)		**S**	
• WinCC RT Professional Client/single-user station 128 PT		**Y**	
Power supply:			
• 24 V DC industrial power supply			**0**
• 24 V DC and TPM 4) (not for China or Russia)			**8**

1) Built to order versions with a delivery time of max. 15 working days and with identified repair, if not preferred type.

2) For an up-to-date overview, see the SIMATIC PC online configurator: http://www.siemens.com/ipc-configurator

3) Only with "work memory and NVRAM".

4) TPM = Trusted Platform Module

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

Bundles with SIMATIC software only with Windows Embedded Standard 7, work memory and NVRAM (with RTX and RTX F), and CFast mass storage of 4 GB or more / SSD.

More information

Delivery

Production and delivery of the devices will typically be completed within 15 business days after receipt of order. The hardware and mass memory with the complete, pre-installed, ready-to-use software are supplied fully assembled.

Commissioning

Before the control or visualization application is complete, simply perform the following steps:

- Optional: Installation and setup of additional hardware on the device
- Optional: Installation and setup of other software on the device
- Transfer of the engineering projects from STEP 7 or WinCC Advanced
- Transfer of the supplied license keys for SIMATIC software
- Backup of the installed software and protection of the flash-based mass memory by switching on the Enhance Write filter

SIMATIC IPC277E bundles

Overview

SIMATIC IPC277E: The Panel PC with optimized performance – maintenance-free and compact with displays from 7"

The SIMATIC IPC277E Nanopanel PC is a flexible embedded industrial PC with rugged and durable displays.

Technologically it is based on the IPC227E Nanobox PC and thus offers maximum industrial functionality for flexible use even under harsh conditions – all without the need for maintenance.

The Panel PC is characterized by modern interfaces and a high degree of flexibility in the selection of the display. The latest Intel Dual-Core and Quad-Core processors ensure excellent performance here for visualization and control tasks.

Ordering data

	Article No.
SIMATIC IPC277E (Nanopanel PC)	**6AV7882 - 0 ■ ■ ■ 0 - ■ ■ ■ 0**
Operator control unit	
• 7" touch	A
• 9" Touch	B
• 12" touch	C
• 15" touch front USB	D
• 19" touch front USB	E
• 15" multi-touch (with WES7-E only single-touch mode)	F
• 19" multi-touch (with WES7-E only single-touch mode)	G
Processor	
• Celeron N2807 (2C/2T)	A
• Celeron N2930 (4C/4T)	B
• Celeron N2807 (2C/2T) / TPM	C
• Celeron N2930 (4C/4T) / TPM	D
Work memory / NVRAM	
• 2 GB	1
• 4 GB	2
• 8 GB	3
• 2 GB / NVRAM	4
• 4 GB / NVRAM	5
• 8 GB / NVRAM	6
Operating system	
• Without OS	0
• Windows Embedded Standard 7 E SP1, English, 32-bit	1
• Windows Embedded Standard 7 E SP1, English, 64-bit	2
• Windows Embedded Standard 7 P SP1, English, 32-bit	3
• Windows Embedded Standard 7 P SP1, English, 64-bit	4
• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)	5
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	6
• Windows 10 IoT Enterprise LTSB 2016, 64-bit, MUI (en, de, fr, it, es)	7

	Article No.
SIMATIC IPC277E (continued)	**6AV7882 - 0 ■ ■ ■ 0 - ■ ■ ■ 0**
Mass storage	
• None	A
• 80 GB SSD	B
• 240 GB SSD	C
• 4 GB CFast	K
• 8 GB CFast	L
• 16 GB CFast	M
Software	
• Without SIMATIC software	A
• CPU 1507S	B
• WinCC RT Advanced V14, 128 PT	D
• WinCC RT Advanced V14, 512 PT	E
• WinCC RT Advanced V14, 2 048 PT	F
• WinCC RT Advanced V14, 4 096 PT	G
• CPU 1507S / WinCC RT Advanced V14, 128 PT	J
• CPU 1507S / WinCC RT Advanced V14, 512 PT	K
• CPU 1507S / WinCC RT Advanced V14, 2 048 PT	L
• CPU 1507S / WinCC RT Advanced V14, 4 096 PT	M

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

More information is available on the Internet at:

http://www.siemens.com/simatic-panel-ipc

Overview

SIMATIC IPC277D for implementing simple visualization and control tasks

- High degree of flexibility when selecting rugged widescreen fronts from 7" to 19" for more freely configurable display area
- High resolution, large viewing angle and up to 100% dimmable backlighting for brilliant display with optimized power consumption
- Absolutely maintenance-free due to the use of CompactFlash and SSD as mass storage and fanless operation up to 50 °C ambient temperature
- Maximum industrial functionality due to non-volatile retentive memory for battery-free operation
- Ready-to-run embedded bundles with visualization or/and control software

The following front installation versions are available:

- 7" Touch
- 9" Touch
- 12" Touch
- 15" Touch with front USB interface
- 19" Touch with front USB interface
- All fronts in widescreen design

Ordering data

	Article No.
SIMATIC IPC277D Nanopanel PC	**6AV7881 - ■ A ■ 0 0 - ■ ■ ■ 0**
Interfaces: 2 x Gbit LAN (RJ45), 1 x serial (COM1), 3 x USB	
Operator control unit	
• 7" touch TFT	**1**
• 9" touch TFT	**2**
• 12" touch TFT	**3**
• 15" touch TFT, front USB interface	**4**
• 19" touch TFT, front USB interface	**5**
Processors / memory configuration / NVRAM	
• Atom E640 (1.0 GHz), 1 GB RAM	**A**
• Atom E640 (1.0 GHz), 1 GB RAM, NVRAM	**B**
• Atom E660 (1.3 GHz), 2 GB RAM	**E**
• Atom E660 (1.3 GHz), 2 GB RAM, NVRAM	**F**
Drives	
• Without drive, with CF slot	**0**
• 2 GB SIMATIC PC CompactFlash	**1**
• 4 GB SIMATIC PC CompactFlash	**2**
• 8 GB SIMATIC PC CompactFlash	**3**
• 16 GB SIMATIC PC CompactFlash	**4**
• 240 GB solid-state drive SATA	**6**
• 80 GB solid-state drive SATA	**8**

	Article No.
Nanopanel PC SIMATIC IPC277D	**6AV7881 - ■ A ■ 0 0 - ■ ■ ■ 0**
Operating system	
• Without operating system	**A**
• WES 2009 pre-installed (CF from 2 GB/SSD)	**B**
• XP Prof. MUI pre-installed on SSD	**C**
• WES 7 32 bit pre-installed (CF from 4 GB/SSD)	**D**
• Windows 7 MUI 32 bit pre-installed on SSD	**E**
Software bundles	
• Without RTX/HMI software	**A**
• RTX: WinAC RTX 2010	**B**
• RTX F: WinAC RTX F 2010	**C**
• HMI: WinCC RT Advanced 128 PT	**F**
• HMI: WinCC RT Advanced 512 PT	**G**
• HMI: WinCC RT Advanced 2 048 PT	**H**
• HMI/RTX: RT 128 PT	**M**
• HMI/RTX: RT 512 PT	**N**
• HMI/RTX: RT 2 048 PT	**P**
• HMI/RTX F: RT 128 PT	**R**
• HMI/RTX F: RT 512 PT	**S**
• HMI/RTX F: RT 2 048 PT	**T**

Ordering data

Ordering data	Article No.
Accessories	
Bracket clamp, long for 15", 19" and 22" widescreen, Comfort Panels, IPC, Flat Panel monitors and Thin Client (except SCD1900 19" widescreen)	**6AV6671-8XK00-0AX4**
Protective film	see "Accessories"
Touch pen	see "Accessories -> Input aids"

Please be sure to note:

The IPC277D with bundled software is always supplied with a CF card inserted.
The licenses are on the supplied USB flash drive.

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

More information

Delivery

Production and delivery of the devices will typically be completed within 15 working days after receipt of order. The hardware and mass memory with the complete, pre-installed, ready-to-use software are supplied fully assembled.

Overview

SIMATIC IPC477E: The powerful embedded Panel PC – maintenance-free with versatile configuration

- Embedded PC platform with extremely high industrial compatibility for demanding tasks in the field of PC-based automation
- Maintenance-free (no rotating components such as fan and hard disk)
- Rugged construction: The PC is resistant to even the harshest mechanical stress and extremely reliable in operation
- Compact design
- Battery-independent retentive memory onboard
- High degree of investment security
- Fast integration capability
- Built-in versions
  - 15" TFT Touch
  - 19" TFT Touch
  - 22" TFT Touch
  - 15" TFT Multi-touch
  - 19" TFT Multi-touch
  - 22" TFT Multi-touch

Ordering data

	Article No.
SIMATIC IPC477E [1]	**6AV7241 - ■■■■■ - ■■■■**
Processor and fieldbus	
• Celeron G3902E; 3 x Gigabit Ethernet (IE/PN)	1
• Core i3-6102E; 3 x Gigabit Ethernet (IE/PN)	2
• Core i5-6442EQ; 3 x Gigabit Ethernet (IE/PN)	5
• Xeon E3-1505L; 3 x Gigabit Ethernet (IE/PN)	7
Operator control unit	
• 15" Single-touch (1 280 x 800) with front USB	B
• 19" Single-touch (1 366 x 768) with front USB	D
• 22" Single-touch (1 920 x 1 080) with front USB	E
• 15" Multi-touch (1 366 x 768), single-touch mode only with WES7-E	J
• 19" Multi-touch (1 366 x 768), single-touch mode only with WES7-E	K
• 22" Multi-touch (1 920 x 1 080), single-touch mode only with WES7-E	L
Work memory/NVRAM	
• 4 GB	A
• 8 GB	B
• 16 GB	C
• 8 GB with ECC	D
• 16 GB with ECC	E
• 4 GB and NVRAM	F
• 8 GB and NVRAM	G
• 16 GB and NVRAM	H
• 8 GB with ECC and NVRAM	J
• 16 GB with ECC and NVRAM	K

	Article No.
SIMATIC IPC477E [1]	**6AV7241 - ■■■■■ - ■■■■**
Expansions/interface	
• No RS 232/RS 485, without PCIe	0
• No RS 232/RS 485 and one PCIe	1
• Second RS 232/RS 485, without PCIe	3
• Second RS 232/RS 485 and one PCIe	4
Operating system	
• Without operating system	0
• Windows Embedded Standard 7 SP1, English, 32-bit	1
• Windows Embedded Standard 7 SP1, English, 64-bit	2
• Windows Embedded Standard 7 P SP1, English, 64-bit, multi-touch	3
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	4
• Windows 10 IoT Enterprise 2016 LTSB (64-bit) for the Celeron, Core i3 and Core i5 processors	7
• Windows 10 IoT Enterprise 2016 LTSB (64-bit) for Xeon processor	8

Ordering data

	Article No.
SIMATIC IPC477E [1]	**6AV7241 - ■■■■■ - ■■■■**
Mass storage, externally accessible	
• Without external mass storage	**0**
• CFast 2 GB, without operating system	**1**
• CFast 4 GB, without operating system	**2**
• CFast 8 GB (only optionally with operating system/software if no internal mass storage or HDD)	**3**
• CFast 16 GB (only optionally with operating system/software if no internal mass storage or HDD)	**4**
• CFast 30 GB (only optionally with operating system/software if no internal mass storage or HDD)	**5**
Mass storage, internal	
• Without internal mass storage	**A**
• 80 GB solid-state drive SATA	**E**
• 240 GB solid-state drive SATA	**F**
• 480 GB solid-state drive SATA	**G**
• 320 GB HDD	**J**

	Article No.
SIMATIC IPC477E [1]	**6AV7241 - ■■■■■ - ■■■■**
SIMATIC software (bundles)	
• Without SIMATIC software	**A**
• CPU 1507S	**B**
• WinCC RT Advanced V14 SP1	
- 128 PT	**C**
- 512 PT	**D**
- 2 048 PT	**E**
- 4 096 PT	**F**
- 8 192 PT	**G**
• CPU 1507S / WinCC RT Advanced V14 SP1	
- 128 PT	**H**
- 512 PT	**J**
- 2 048 PT	**K**
- 4 096 PT	**L**
- 8 192 PT	**M**
Power supply:	
• 24 V DC industrial power supply	**0**
• 110/230 V AC industrial power supply with NAMUR; European power cable	**1**
• 110/230 V AC industrial power supply with TPM [2] (not for China or Russia) NAMUR, European power cable	**7**
• 24 V DC industrial power supply and TPM [2] (not for China or Russia)	**8**

[1] For an up-to-date overview, see the SIMATIC PC online configurator: http://www.siemens.com/ipc-configurator

[2] TPM = Trusted Platform Module

Overview

SIMATIC IPC477D: The powerful embedded Panel PC – maintenance-free with versatile configuration

Ready-to-run, complete solutions (software is already installed and preconfigured) for visualization and automation in connection with WinCC RT Advanced and/or WinAC RTX.

- Embedded PC platform with extremely high industrial compatibility for demanding tasks in the field of PC-based automation
- Maintenance-free (no rotating components such as fan and hard disk)
- Rugged construction: The PC is resistant to even the harshest mechanical stress and extremely reliable in operation
- Compact design
- Battery-independent retentive memory onboard
- High degree of investment security
- Fast integration capability
- Safety requirements up to SIL 3 in accordance with IEC 61508/62061 or EN ISO 13849-1 up to PL e can be implemented with WinAC RTX F

The following front versions are available:

- Built-in versions
  - 12" TFT Touch
  - 15" TFT Touch
  - 19" TFT Touch
  - 22" TFT Touch
  - 15" TFT Touch/Key

Ordering data

	Article No.
SIMATIC IPC477D 1)	**6AV7240 - ■■■■■ - ■■■■**
Processor and fieldbus:	
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN)	**0**
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	**1**
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN)	**3**
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	**4**
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	**5**
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN)	**6**
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	**7**
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	**8**

	Article No.
SIMATIC IPC477D 1)	**6AV7240 - ■■■■■ - ■■■■**
Operator control unit:	
• 12" touch (1 280 x 800) (caution, restrictions regarding options: HDD, PCI, AC, DVD)	**A**
• 15" touch (1 280 x 800) with front USB	**B**
• 15" touch/key (1 280 x 800) with front USB	**C**
• 19" touch (1 366 x 768) with front USB	**D**
• 22" touch (1 920 x 1 080) with front USB	**E**
• 15" multi-touch (1 366 x 768) without front USB	**H**
• 19" multi-touch (1 366 x 768) without front USB	**K**
• 22" multi-touch (1 920 x 1 080) without front USB	**L**
• 15" multi-touch (1 366 x 768) without front USB, with shipbuilding certificate	**M**
• 19" multi-touch (1 366 x 768) without front USB, with shipbuilding certificate	**N**
• 22" multi-touch (1 920 x 1 080) without front USB, with shipbuilding certificate	**P**
Work memory/NVRAM	
• 1 GB	**A**
• 2 GB	**B**
• 4 GB	**C**
• 8 GB	**D**
• 1 GB and NVRAM	**J**
• 2 GB and NVRAM	**K**
• 4 GB and NVRAM	**L**
• 8 GB and NVRAM	**M**

Ordering data

	Article No.
SIMATIC IPC477D [1]	**6AV7240 - ■■■■■ - ■■■■**
Expansions/interface:	
• 1 x RS 232, without PCIe	0
• 1 x RS 232 and one PCIe	1
• Two RS 232, without PCIe	3
• Two RS 232 and one PCIe	4
Operating system:	
• Without operating system	0
• Windows Embedded Standard 7 Professional, 32-bit, MUI	3
• Windows Embedded Standard 7 SP1, English, 32-bit	4
• Windows Embedded Standard 7 SP1, English, 64-bit	5
• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)	6
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	7
Externally accessible mass storage (without operating system):	
• Without external mass storage	0
• CFAST 2 GB, without operating system	1
• CFAST 4 GB [4]	2
• CFAST 8 GB [4]	3
• CFAST 16 GB [4]	4
• DVD	6
Internal mass storage:	
• Without internal mass storage	A
• CFAST 2 GB	B
• CFAST 4 GB	C
• CFAST 8 GB	D
• CFAST 16 GB	E
• SSD 80 GB standard	H
• HDD 320 GB	K
• DVD	L
• SSD 80 GB standard with DVD	N
• SSD 240 GB standard without DVD	P
• HDD min. 320 GB with DVD	Q

	Article No.
SIMATIC IPC477D [1]	**6AV7240 - ■■■■■ - ■■■■**
SIMATIC software pre-installed (bundles):	
• Without SIMATIC software	A
• WinAC RTX 2010 [2]	B
• WinCC RT Advanced 128 PT	C
• WinCC RT Advanced 512 PT	D
• WinCC RT Advanced 2 048 PT	E
• WinCC RT Advanced 4 096 PT	F
• WinCC RT Advanced 128 PT, WinAC RTX [2]	J
• WinCC RT Advanced 512 PT, WinAC RTX [2]	K
• WinCC RT Advanced 2 048 PT, WinAC RTX [2]	L
• WinCC RT Advanced 4 096 PT, WinAC RTX [2]	M
• WinAC RTX 2010 F [2]	N
• WinCC RT Advanced 128 PT, WinAC RTX F [2]	P
• WinCC RT Advanced 512 PT, WinAC RTX F [2]	Q
• WinCC RT Advanced 2 048 PT, WinAC RTX F [2]	R
• WinCC RT Advanced 4 096 PT, WinAC RTX F [2]	S
• WinCC RT Professional Client/single-user station 128 PT	Y
Power supply:	
• 24 V DC industrial power supply	0
• 110/230 V AC industrial power supply with NAMUR; no power cable	1
• 110/230 V AC industrial power supply with NAMUR; European power cable	2
• 110/230 V AC industrial power supply with NAMUR; US power cable	3
• 110/230 V AC industrial power supply with NAMUR; Chinese power cable	4
• 110/230 V AC industrial power supply with NAMUR; Italian power cable	5
• 110/230 V AC industrial power supply with NAMUR; Swiss power cable	6
• 110/230 V AC industrial power supply with NAMUR; UK power cable	7
• 24 V DC industrial power supply and TPM [3] (not for China or Russia)	8

1) Built-to-order versions with a delivery time of max. 15 working days and with identified repair.

2) Only with work memory and NVRAM.

3) TPM = Trusted Platform Module

4) Only optionally with operating system/software if no internal mass storage or HDD

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

Overview

Software packages with SIMATIC IPC

Software packages with SIMATIC WinCC or SIMATIC WinAC together with the corresponding SIMATIC IPC.

The following are available:

- SIMATIC IPC packages with WinCC V7
- SIMATIC IPC packages with WinCC RT Advanced (TIA Portal)
- SIMATIC IPC packages with WinCC RT Professional (TIA Portal)
- SIMATIC IPC packages with WinAC RTX (F)

A software package can only be supplied if the same number of SIMATIC industrial PCs is ordered together with the software. It cannot be ordered subsequently.

Ordering data

Ordering data	Article No.
WinCC V7.4 Runtime 1) 2) 3)	
• WinCC package V7.4, Client	**6AV6382-2AA07-4AX0**
• WinCC package V7.4, RT 128 PowerTags	**6AV6382-2CA07-4AX0**
• WinCC package V7.4, RT 512 PowerTags	**6AV6382-2DA07-4AX0**
• WinCC package V7.4, RT 2 048 PowerTags	**6AV6382-2EA07-4AX0**
• WinCC package V7.4, RT 8 192 PowerTags	**6AV6382-2HA07-4AX0**
• WinCC package V7.4, RT 65 536 PowerTags	**6AV6382-2FA07-4AX0**
WinCC V7.3 Runtime 1)	
• WinCC package V7.3, RT 128 PowerTags	**6AV6382-2CA07-3AX0**
• WinCC package V7.3, RT 512 PowerTags	**6AV6382-2DA07-3AX0**
• WinCC package V7.3, RT 2 048 PowerTags	**6AV6382-2EA07-3AX0**
• WinCC package V7.3, RT 8 192 PowerTags	**6AV6382-2HA07-3AX0**
• WinCC package V7.3, RT 65 536 PowerTags	**6AV6382-2FA07-3AX0**
WinCC Runtime Advanced V14 1) 2)	
Software and documentation on DVD, including WinCC Archives and WinCC Recipes. Single license, license key on USB flash drive for:	
• 128 PowerTags	**6AV2114-2BA04-0AA0**
• 512 PowerTags	**6AV2114-2DA04-0AA0**
• 2 048 PowerTags	**6AV2114-2FA04-0AA0**
• 4 096 PowerTags	**6AV2114-2HA04-0AA0**
• 8 192 PowerTags	**6AV2114-2KA04-0AA0**
WinCC Runtime Professional V14 1) 2) 3)	
• WinCC Client for RT Professional	**6AV2117-2DB04-0AA0**
• 128 PowerTags	**6AV2115-2BA04-0AA0**
• 512 PowerTags	**6AV2115-2DA04-0AA0**
• 2 048 PowerTags	**6AV2115-2FA04-0AA0**
• 4 096 PowerTags	**6AV2115-2HA04-0AA0**
• 8 192 PowerTags	**6AV2115-2KA04-0AA0**
• 65 536 PowerTags	**6AV2115-2MA04-0AA0**
SIMATIC WinAC RTX (F) package	
• SIMATIC WinAC RTX 1) 2) 4) 5)	**6ES7671-0RC08-6YA0**
• SIMATIC WinAC RTX F 1) 2) 4) 5)	**6ES7671-1RC08-6YA0**

1) Only if ordered together with a SIMATIC IPC
2) The current version is always supplied
3) IPC227E and 277E only as WinCC Client
4) For 32-bit operating systems only
5) Not for Rack IPC347

Note:

For ordering data for Panel PCs and accessories, see configurators in "SIMATIC Panel PCs".

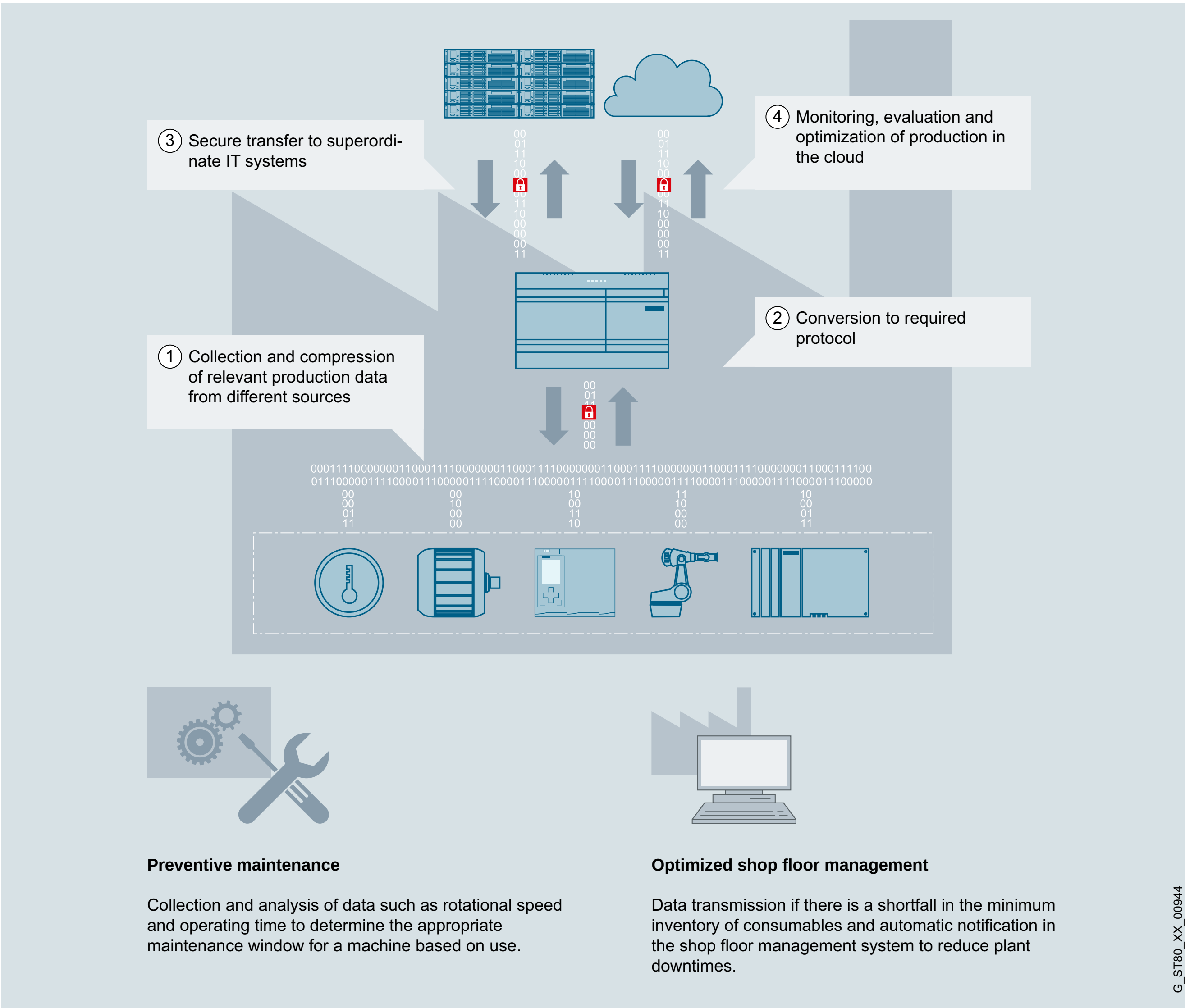
More information

More information is available on the Internet at:

http://www.automation.siemens.com/simatic-hmi

SIMATIC IOT2000

Overview



SIMATIC IOT2000

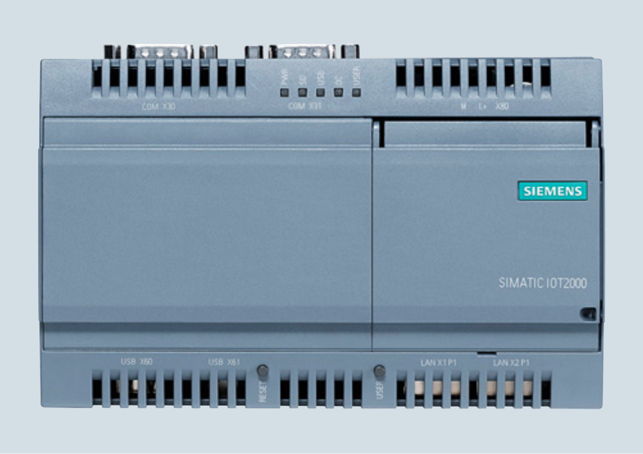
The SIMATIC IOT2000 is the reliable, open platform designed for the acquisition, processing and transfer of data directly in the production environment.

It is ideally suited for use as a gateway between the cloud or company IT level and production.

It can serve as an interface in both directions. It can also transfer evaluated data from the cloud to production control. This continuous exchange of data closes the control loop for optimizing the production process.

The openness of the system in supporting numerous communication protocols and programming in high-level languages enables tailored solutions.

Overview



SIMATIC IOT2040

The SIMATIC IOT2040 is the reliable, open platform designed for the acquisition, processing and transfer of data directly in the production environment.

It is ideally suited for use as a gateway between the cloud or company IT level and production.

The openness of the system in supporting numerous communication protocols and programming in high-level languages enables tailored solutions.

Openness for industrial IOT applications

- Wide range of options for programming in high-level languages
- Implementation of flexible communication solutions with different protocols, from Modbus RTU, OPC UA to cloud protocols such as MQTT/AMQP
- Use of open source application examples and libraries
- Yocto Linux support

More information

More information is available on the Internet at:
http://siemens.com/iot2000

Technical specifications

Article number	**6ES7647-0AA00-1YA2** SIMATIC IOT2040
Installation type/mounting	
Design	IoT Gateway, built-in unit
Supply voltage	
Type of supply voltage	24 V DC (9 ... 36 V)
Mains buffering	
• Mains/voltage failure stored energy time	5 ms
Processor	
Processor type	Intel Quark X1020
Drives	
Hard disk	1x microSD card slot
Memory	
Type of memory	DDR3-SDRAM
Work memory	1 GB
Hardware configuration	
Slots	
• free slots	1x Arduino, 1x mPCIe
Interfaces	
Number of Industrial Ethernet interfaces	2
USB port	1x USB 2.0, 1x USB client
Connection for keyboard/mouse	USB / USB
serial interface	2x COM ports (RS 232, RS 485)
Industrial Ethernet	
• Industrial Ethernet interface	2 x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	No
Integrated Functions	
Monitoring functions	
• Temperature monitoring	No
• Watchdog	Yes
• Status LEDs	Yes
• Fan	No

Article number	**6ES7647-0AA00-1YA2** SIMATIC IOT2040
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 1 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 150 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±2 kV in accordance with IEC 61000-4-4, burst, length > 30 m
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8

Technical specifications (continued)

Article number	**6ES7647-0AA00-1YA2** SIMATIC IOT2040
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-4:2007 +A1:2011
Degree and class of protection	
IP (at the front)	IP20
Standards, approvals, certificates	
Approval	CE (industry), UL, cULus
CE mark	Yes
UL approval	Yes
cULus	Yes
KC approval	Yes
EMC	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005, EN 61000-6-3:2007 +A1:2011, EN 61000-6-1:2007
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 °C to 50 °C
• min.	0 °C
• max.	50 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested according to IEC 60068-2-6: 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 200 Hz: 9.8 m/s²
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s², 11 ms
Operating systems	
without operating system	Yes
Dimensions	
Width	144 mm
Height	90 mm
Depth	53 mm

Ordering data

	Article No.
SIMATIC IOT2040 2 x 10/100 Mbps Ethernet RJ45; 1 x USB 2.0, 1 x USB client; SD card slot; 24 V DC industrial power supply	**6ES7647-0AA00-1YA2**
Accessories	
Power supply	
LOGO!Power 24 V	
Stabilized power supply Input: 100 – 240 V AC	
• Output: 24 V DC / 0.6 A	**6EP3330-6SB00-0YA0**
• Output: 24 V DC / 1.3 A	**6EP3331-6SB00-0YA0**

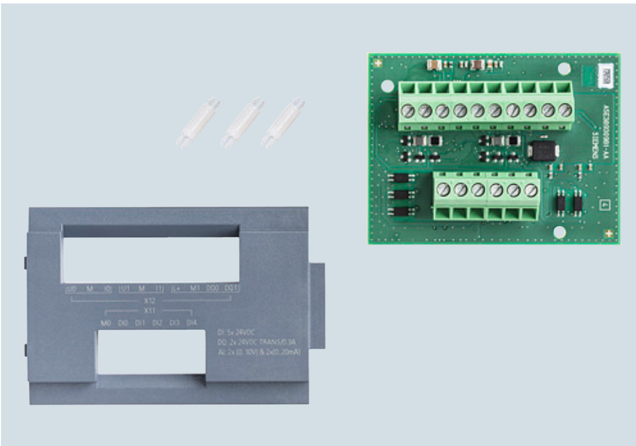
More information

More information is available on the Internet at:

http://siemens.com/iot2000

http://siemens.com/logo-power

Overview



IO shield for SIMATIC IOT2000 industrial IoT gateway

The ***SIMATIC IOT2000 IO shield*** allows for direct connection of non-time-critical sensor data to the SIMATIC IOT2000 via digital and analog IOs.

Essential highlights:

- High degree of industrial functionality
- Arduino shield with 5x DI, 2x DO, 2x AI
- Rapid installation since suitable cover and fixing accessories supplied
- Industrial design
- For use in standard industrial voltage ranges (e.g. 24 V with digital In)
- Tested environmental conditions as for IOT2040 (e.g. for 0 ... 50° C)
- Approvals as for IOT2040 (CE UL)
- Developed and tested for 24/7 operation
- Extremely versatile application creation
- Module addressing via GPIOs allows wide choice of programming language and development environment.

Target applications:

- Direct connection of
  - Sensors
  - Actuators (especially lamps, horns)
- Distribution of data to higher-level units, such as clouds

Technical specifications

Product features of the SIMATIC IOT2000 Input/Output Module in detail

SIMATIC IOT2000 Input/Output Module	
Interfaces	
Arduino	GPIO (I2C and SPI free)
Digital inputs	5 x DI (24V)
• DI speed	20 Hz, delay < 1.5 ms
• Electrical isolation	Yes
Digital outputs	2x DO
• Type	Transistor
• Electrical isolation	Yes
• Short-circuit protection	Yes, 1 A
• Speed	10 Hz
Analog inputs	2x AI (0 ... 10 V or 0 … 20 mA can be selected)
Resolution	9-bit
Electrical isolation	-

Ordering data

Ordering data	**Article No.**
SIMATIC IOT2000 Input/Output Module 5x DI, 2x AI, 2x DO, Arduino shield for SIMATIC IOT2020 and IOT2040	**6ES7647-0KA01-0AA2**

More information

Technical support:

Technical and application support for the SIMATIC IOT2000 Input/Output Module is exclusively via the moderated Siemens Industry Online Forum:
IOT2000 Forum link:

https://support.industry.siemens.com/tf/de/en/search/main-search/?text=IOT2000

Here you can find Getting Started, FAQs, etc.

Application examples are continually being added.

CPU 1507S

Overview

SIMATIC S7-1500 Software Controller

- SIMATIC S7-1500 software controller for implementing control tasks with SIMATIC IPC
- High system availability thanks to innovative real-time system
- Available as standard and fail-safe version
- Improved know-how and copy protection
- Integrated web server for diagnostics with the option of creating user-defined web pages
- SIMATIC ODK 1500S for the development and integration of control functions with the high-level language C/C++
- SIMATIC Target 1500™ for the development of control functions using Matlab Simulink®

Overview CPU 1507S

- Software Controller for implementing the functions of a SIMATIC S7-1500 Controller on a SIMATIC IPC
- Optimized for PC-based control tasks with the IPC427E Microbox PC and the IPC477E Panel PC
- Can also be used in IPC227E, IPC477D, IPC627D and IPC827D Box PCs, IPC277E, IPC477D and IPC677D Panel PCs, and IPC647D and IPC847D Rack PCs
- C/C++ Runtime for the execution of functions and algorithms implemented in C/C++ under Windows and locally in the CPU 1507S
- Used as a PC-based controller in machines with distributed I/O via PROFINET and PROFIBUS
- Use of the IPC onboard interfaces and PC plug-in cards for PROFINET and PROFIBUS connections
- Integrated Motion Control functionalities for controlling speed-controlled and positioning axes as well as synchronous operation, support for external encoders, precise position gearing between axes, cams/cam tracks and probes
- Integrated web server for diagnostics with the option of creating user-defined web pages

Ordering data

	Article No.
SIMATIC S7-1500 Software Controller CPU 1507S For implementing the function of an S7-1500 Controller on SIMATIC IPCs Target system: Optimized for Microbox PC IPC427E, Panel PC IPC477E; can also be used with Panel PC IPC277E, Panel PC IPC477D, Panel PC IPC677D, Box PC IPC227E, Box PC IPC427D, Box PC IPC627D, Box PC IPC827D, Rack PC IPC647D, Rack PC IPC847D Requirement: Windows 7 / Windows Embedded Standard 7 Type of delivery: English, German, Chinese, Italian, French, Spanish	
• Single license for one installation; software and documentation on DVD, license key on USB flash drive	**6ES7672-7AC01-0YA0**
• Single license for one installation; software download including license key [1]	**6ES7672-7AC01-0YG0**

	Article No.
Accessories	
Upgrade of SIMATIC S7-1500 Software Controller CPU 1507S From V 1.8 to V 2.1; software download incl. documentation and license key. Email address required for delivery	**6ES7672-7AC01-0YK0**
SIMATIC IPC	
• SIMATIC IPC427E Microbox PC	**6AG4141-.....-....**
• SIMATIC IPC477E Panel PC	**6AV7241-.....-....**
• SIMATIC IPC427D Microbox PC	**6AG4140-.....-....**
• SIMATIC IPC227E Nanobox PC	**6ES7647-8B...-....**
• SIMATIC IPC277E Panel PC	**6AV7882-0...0-...0**
• SIMATIC IPC477D Panel PC	**6AV7240-.....-....**
• SIMATIC IPC677D Panel PC	**6AV7260-.....-....**
• SIMATIC IPC627D Box PC	**6AG4131-2....-....**
• SIMATIC IPC827D Box PC	**6AG4132-2....-....**
• SIMATIC IPC647D Rack PC	**6AG4112-2....-....**
• SIMATIC IPC847D Rack PC	**6AG4114-2....-....**
For further information, see respective IPC	
CP 5622 communications processor PCI Express x1 card (32 bit) for connection of a programming device or PC to PROFIBUS	**6GK1562-2AA00**
CP 5623 communications processor PCI Express x1 card (32 bit) for connection to PROFIBUS incl. DP-Base software with NCM PC; DP-RAM interface for DP master or DP slave, incl. PG and FDL protocols; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, Class A, for operating system support see SIMATIC NET software; English/German	**6GK1562-3AA00**

[1] For up-to-date information and download availability, see:
http://www.siemens.com/tia-online-software-delivery

4

CPU 1507S F

Overview

- Software Controller for implementing the functions of a SIMATIC S7-1500 Controller on a SIMATIC IPC
- Can be used for safety functions up to SIL 3 according to IEC 61508 and up to PLe according to ISO 13849
- Optimized for PC-based control tasks with the IPC427 Microbox PC and the IPC477D Panel PC
- Can be used on SIMATIC IPC2x7E and IPC4x7D
- C/C++ Runtime for the execution of functions and algorithms implemented in C/C++ under Windows and locally in the CPU 1507S
- Used as a PC-based controller in machines with distributed I/O via PROFINET and PROFIBUS
- Supports PROFIsafe in centralized and distributed configurations
- Use of the IPC onboard interfaces and PC plug-in cards for PROFINET and PROFIBUS connections
- Integrated Motion Control functionalities for controlling speed-controlled and positioning axes as well as synchronous operation, support for external encoders, precise position gearing between axes, cams/cam tracks and probes
- Integrated web server for diagnostics with the option of creating user-defined web pages

Ordering data

Ordering data	Article No.
SIMATIC S7-1500 Software Controller CPU 1507S F For implementing the function of a fail-safe S7-1500 Controller on a SIMATIC IPC Target system: Optimized for PC-based control tasks with the Microbox PC IPC427 and Panel PC IPC477D; can be used with SIMATIC IPC2x7E and IPC4x7D Requirement: Windows 7 / Windows Embedded Standard 7 Type of delivery: English, German, Chinese, Italian, French, Spanish	
• Single license for one installation; software and documentation on DVD, license key on USB flash drive	**6ES7672-7FC01-0YA0**
• Single license for one installation; software download including license key [1]	**6ES7672-7FC01-0YG0**
Accessories	
Upgrade of SIMATIC S7-1500 Software Controller CPU 1507S From V 1.8 to V 2.1; software download incl. documentation and license key.[1]. Email address required for delivery	**6ES7672-7AC01-0YK0**
SIMATIC IPC	
• SIMATIC IPC427E Microbox PC	**6AG4141-.....-....**
• SIMATIC IPC477E Panel PC	**6AV7241-.....-....**
• SIMATIC IPC427D Microbox PC	**6AG4140-.....-....**
• SIMATIC IPC227E Nanobox PC	**6ES7647-8B...-....**
• SIMATIC IPC277E Panel PC	**6AV7882-0...0-...0**
• SIMATIC IPC477D Panel PC	**6AV7240-.....-....**
• SIMATIC IPC677D Panel PC	**6AV7260-.....-....**
• SIMATIC IPC627D Box PC	**6AG4131-2....-....**
• SIMATIC IPC827D Box PC	**6AG4132-2....-....**
• SIMATIC IPC647D Rack PC	**6AG4112-2....-....**
• SIMATIC IPC847D Rack PC	**6AG4114-2....-....**
For more information, see respective IPC	
CP 5622 communications processor PCI Express x1 card (32 bit) for connection of a programming device or PC to PROFIBUS	**6GK1562-2AA00**
CP 5623 communications processor PCI Express x1 card (32 bit) for connection to PROFIBUS incl. DP-Base software with NCM PC; DP-RAM interface for DP master or DP slave, incl. PG and FDL protocols; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, Class A, for operating system support see SIMATIC NET software; English/German	**6GK1562-3AA00**

[1] For up-to-date information and download availability, see: http://www.siemens.com/tia-online-software-delivery

4

Overview

- For developing dynamically loadable function libraries for the S7-1500 Software Controller and S7-1500 CPU 1518 ODK:
  - Implementation of function libraries by means of high-level programming with C/C++.
  - Execution of the library functions under Windows or in the real-time context of the software controllers.
  - Calling the functions directly from the PLC program.
- Development environment for real-time library functions included in the scope of delivery.
- Development of Windows library functions with MS Visual Studio.
- Automatic creation of function blocks for calling the library functions.
- Simple integration of the function blocks into STEP 7 by importing.
- Simple use of the library functions in the controller without specific high-level language know-how.

System requirements

The SIMATIC ODK 1500S can be used on PC platforms with the following requirements:

- Operating systems Windows 7/8.1/10
- Min. 150 MB hard drive memory
- Min. 4 GB work memory
- Mouse, keyboard, monitor

Ordering data

Ordering data	Article No.
SIMATIC ODK 1500S	
• Open Development Kit for support in developing Windows and real-time library functions for S7-1500 Software Controllers; supplied on DVD	**6ES7806-2CD02-0YA0**
• Open Development Kit for support in developing Windows and real-time library functions for S7-1500 Software Controllers; software download including license key [1)] Email address required for delivery	**6ES7806-2CD02-0YG0**

1) For up-to-date information and download availability, see: http://www.siemens.com/tia-online-software-delivery

4

ODK 1500S SQL driver, ODK 1500S XML Data Access driver

Overview

Note

This catalog entry contains non-binding information on supplementary application software for the SIMATIC S7-1500 Software Controller and the SIMATIC ET 200SP Open Controller.

ODK 1500S SQL driver

The ODK 1500S SQL driver enables direct access to an SQL database from the PLC program.

In this case the database can be installed on the same computer as the S7-1500 Software Controller or in the network.

- Direct data exchange with SQL-based database by means of SQL commands from the PCL program
- Connection to SQL-based database on the same PC or to database servers in the network

Technical specifications

Supported SQL commands	• SELECT • INSERT • UPDATE • DELETE
Supported data types	All standard SQL data types
System requirements	
• Runtime PC	SIMATIC IPC with S7-1500 Software Controller or SIMATIC ET 200SP Open Controller
• Engineering	STEP 7 in the TIA Portal V13 SP1

If you are interested, please contact your sales representative:
http://www.automation.siemens.com/partner/

You can find Service and Support at:
https://support.industry.siemens.com/cs/ww/en/view/109479140

ODK 1500S XML Data Access driver

With the function blocks of the ODK 1500S XML Data Access driver it is possible to access specific information in XML files in the Windows file system from the PLC program.

XPath expressions are used for accessing XML file elements since they provide the highest possible flexibility for processing XML data. This means that extremely large XML files can be edited, too.

The driver offers the following functionality:

- XML data can be read into and processed in the PLC.
- XML data can be modified and written back to the XML file.

Technical specifications

System requirements	
• Runtime PC	SIMATIC IPC with S7-1500 Software Controller or SIMATIC ET 200SP Open Controller
• Engineering	STEP 7 in the TIA Portal V13 SP1

If you are interested, please contact your sales representative:
http://www.automation.siemens.com/partner/

You can find Service and Support at:
https://support.industry.siemens.com/cs/ww/en/view/109479496

Overview

ODK 1500S FileServer

The ODK 1500S FileServer enhances the file functions of the SIMATIC S7-1500 Software Controller with an option enabling direct access to the Windows file system of the PC from the STEP 7 program.

The driver enables reading and writing of data blocks in/from files in structured form. Various file formats are supported.

There are also FBs available for handling files (e.g. renaming, deleting).

Technical specifications

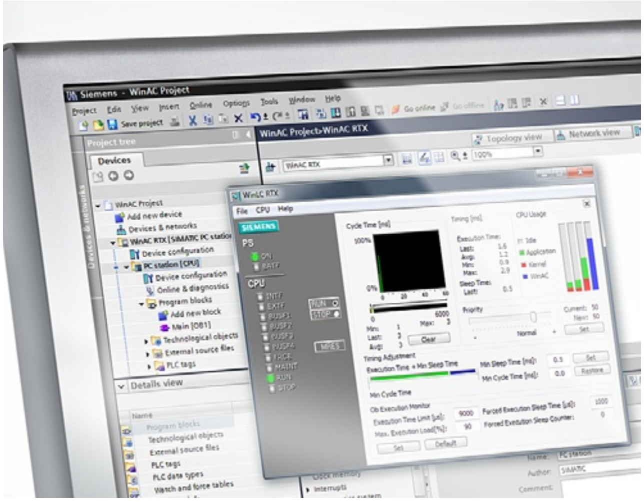
Supported file formats	• CSV • ASCII • Windows INI • XML [1)] • Binary
System requirements	
• Runtime PC	SIMATIC IPC with S7-1500 Software Controller or SIMATIC ET 200SP Open Controller
• Engineering	STEP 7 im TIA Portal V13 SP1

[1)] The XML format is predefined. A DB can be saved and read in as an XML file. It is not possible to parse any particular XML file.

If you are interested, please contact your sales representative:
http://www.automation.siemens.com/partner/

You can find Service and Support at:
https://support.industry.siemens.com/cs/ww/en/view/109479497

Overview



Siemens has developed a wide range of coordinated hardware and software components for PC-based Automation.

SIMATIC WinAC RTX is the right, proven solution for you if you are looking for an open, flexible and reliable controller for your PC-based automation task.

All automation tasks, such as open/closed-loop control, HMI and Motion Control, can be implemented on a single platform on the PC. PC-based Automation is your first choice wherever PC applications have to be handled in addition to classic PLC tasks.

SIMATIC PC-based Control

- Adds PC-based controllers to the SIMATIC S7 controller family
- Especially suitable where a variety of tasks such as data processing, communication, visualization, technology and control have to be integrated in one PC.

Versions

- **SIMATIC WinAC Software PLC**
  for tasks requiring a high level of flexibility and integration capability.
- **SIMATIC WinAC ODK**
  allows PC solutions for technological tasks to be integrated flexibly and powerfully into the controller.

Properties:

- Runs on standard PCs under Windows XP or Windows 7 (32-bit).
- Code-compatible with SIMATIC S7-300/-400:
  Programmed with SIMATIC industrial software, created programs can also be used for SIMATIC S7.
- Uses standard interfaces for integration into the office environment.
- Open interfaces for the integration of solution-specific technological hardware and software.

Catalog ST 70:

You can also find information about SIMATIC PC-based controllers in **Catalog ST 70:**

http://www.automation.siemens.com/salesmaterial-as/catalog/en/simatic-st70-chap08-english-2017.pdf

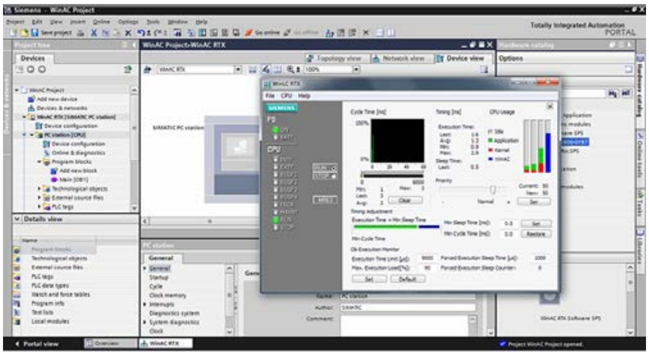
More information

Brochures

Information material for downloading can be found on the Internet:

http://www.siemens.com/simatic/printmaterial

Overview



- SIMATIC WinAC RTX:
  Optimized for applications that require a high degree of flexibility and integration capability.
- The software solution for tasks that require hard deterministic behavior and high performance.
- With real-time expansion for assuring deterministic behavior for the control section.

Ordering data

	Article No.
SIMATIC WinAC RTX 2010 Software PLC for PC-based automation tasks with stringent deterministic requirements; PROFIBUS and PROFINET; CD-ROM with electronic documentation d, e, f; executable under Windows XP SP2 and SP3 as well as Windows 7 (32 bit)	
• Single license for one installation; software and documentation on DVD, license key on USB flash drive	**6ES7671-0RC08-0YA0**
• Single license for one installation; software download including license key [1]	**6ES7671-0RC08-0YG0**
SIMATIC WinAC RTX 2010 Upgrade For upgrading from basic/RTX V3.x, V4.0, V4.1 2005, 2008 and 2009; single license, executable under Windows XP SP2 and SP3 and Windows 7 (32 bit)	**6ES7671-0RC08-0YE0**
CP 5612 communications processor PCI card (32 bit) for connection of a programming device or PC to PROFIBUS	**6GK1561-2AA00**
CP 5622 communications processor PCI Express x1 card (32 bit) for connection of a programming device or PC to PROFIBUS	**6GK1562-2AA00**
CP 5603 Microbox Package Comprising CP 5603 module and Microbox expansion rack	**6GK1560-3AU00**

	Article No.
CP 5613 A3 communications processor PCI card (32-bit; 3.3 V/5 V) for connection to PROFIBUS incl. DP-Base software; DP-RAM interface for DP master, incl. PG and FDL protocols; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for operating system support see SIMATIC NET software V12; English/German	**6GK1561-3AA02**
CP 5623 communications processor PCI Express x1 card (32 bit) for connection to PROFIBUS incl. DP-Base software with NCM PC; DP-RAM interface for DP master or DP slave, incl. PG and FDL protocols; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, Class A, for operating system support see SIMATIC NET software; English/German	**6GK1562-3AA00**
CP 1616 communications processor PCI card (32-bit; 3.3/5 V universal key) with ASIC ERTEC 400 for connecting PCs to PROFINET IO with 4-port real-time switch (RJ45); incl. IO-Base software for PROFINET IO Controller (RT operation) and NCM PC; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32 bit Windows XP Professional; English/German	**6GK1161-6AA02**

[1] For up-to-date information and download availability, see:
http://www.siemens.com/tia-online-software-delivery

4

SIMATIC WinAC RTX F

Overview

- SIMATIC WinAC RTX F:
  Optimized for applications that demand a high degree of flexibility and integration capability and that must also satisfy safety requirements up to SIL 3 (IEC 61508).
- The software solution for tasks that require hard deterministic behavior and high performance.
- With real-time expansion for assuring deterministic behavior for the control section.
- Distributed I/O can be connected over PROFIBUS and/or PROFINET, also safety-related over PROFIsafe.

Ordering data

	Article No.
SIMATIC WinAC RTX F 2010 Fail-safe software PLC for PC-based automation tasks with stringent deterministic requirements; PROFIBUS and PROFINET; DVD with electronic documentation d, e; executable under Windows XP SP2 and SP3 as well as Windows 7 (32 bit)	
• Single license for one installation; software and documentation on DVD, license key on USB flash drive	**6ES7671-1RC08-0YA0**
• Single license for one installation; software download including license key [1]	**6ES7671-1RC08-0YG0**
SIMATIC WinAC RTX F 2010 upgrade For upgrading from WinAC RTX F version 2009; single license, executable under Windows XP SP2 and SP3 and Windows 7 (32 bit)	**6ES7671-1RC08-0YE0**
CP 5612 communications processor PCI card (32 bit) for connection of a programming device or PC to PROFIBUS	**6GK1561-2AA00**
CP 5622 communications processor PCI Express x1 card (32 bit) for connection of a programming device or PC to PROFIBUS	**6GK1562-2AA00**
CP 5603 Microbox Package Comprising CP 5603 module and Microbox expansion rack	**6GK1560-3AU00**

	Article No.
CP 5613 A3 communications processor PCI card (32-bit; 3.3 V/5 V) for connection to PROFIBUS incl. DP-Base software; DP-RAM interface for DP master, incl. PG and FDL protocols; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for operating system support see SIMATIC NET software V12; English/German	**6GK1561-3AA02**
CP 5623 communications processor PCI Express x1 card (32 bit) for connection to PROFIBUS incl. DP-Base software with NCM PC; DP-RAM interface for DP master or DP slave, incl. PG and FDL protocols; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, Class A, for operating system support see SIMATIC NET software; English/German	**6GK1562-3AA00**
CP 1616 communications processor PCI card (32-bit; 3.3/5 V universal key) with ASIC ERTEC 400 for connecting PCs to PROFINET IO with 4-port real-time switch (RJ45); incl. IO-Base software for PROFINET IO Controller (RT operation) and NCM PC; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32 bit Windows XP Professional; English/German	**6GK1161-6AA02**

[1] For up-to-date information and download availability, see:
http://www.siemens.com/tia-online-software-delivery

Overview

- SIMATIC WinAC software PLCs support powerful interfaces which permit close meshing of the control task with PC-based applications.
- WinAC ODK allows the user to develop applications or to integrate already existing applications into the control task.

Ordering data

Ordering data	Article No.
SIMATIC WinAC ODK V4.2 For integration of C/C++ code in WinAC PLCs, executable under Windows XP SP2 or SP3; CD-ROM with electronic documentation Single license	**6ES7806-1CC03-0BA0**

Overview

Compact and powerful

The SIMATIC ET 200SP Open Controller is the first controller of this type to combine the functions of an ET 200SP Controller with visualization and PC applications in one rugged, compact control system with central I/Os (inputs/outputs).

In addition to the standard (non-fail-safe) S7-1500 Software Controllers, there are also fail-safe versions available with the functionality of the fail-safe S7-1500 Software Controllers. This means that the functions of the fail-safe S7-1500 Controllers can now also be implemented on the CPU 1515SP PC.

Features	CPU 1515SP PC (F)	CPU 1515SP PC (F)	CPU 1515SP PC (F) +HMI
DDR3 DRAM	4 GB	4 GB	4 GB
CFast card	8 GB	16 GB	16 GB
Operating system	WES 7E 32-bit	WES 7P 64-bit	WES 7P 64-bit
WinCC RT Advanced V14	No	No	Yes
Work memory for program, integrated	1 MB (1.5 MB for F)		
Work memory for data, integrated	5 MB		
Load memory	320 MB		
Command execution times			
• Bit operations	10 ns		
• Word operations	12 ns		
• Fixed-point operations	16 ns		
• Floating-point operations	64 ns		
Bit memories, timers, counters			
S7 counters/timers	2048		
IEC counter	Arbitrary (only limited by the work memory)		
IEC timer	Arbitrary (only limited by the work memory)		
Bit memory	16 KB		
I/O address range			
Inputs	32 KB (all inputs are stored in the process image)		
Outputs	32 KB (all inputs are stored in the process image)		
Motion			
No. of axes	Up to 6		
Communication			
PtP	Yes (via CM)		
PROFINET IO	1 x PN IO IRT (2-port switch)		
PROFIBUS DP	Yes (via CM DP)		
Web server	Yes		
GB-Ethernet	Yes, 1 x via GB-Ethernet RJ45 interface		

More information and downloads

Manuals

The ET 200SP Open Controller manuals can be downloaded free of charge from the Internet (SIMATIC Customer Support).

https://support.industry.siemens.com/cs/ww/en/ps/13891/man

General information

http://www.siemens.com/open-controller

SIMATIC Selection Tool

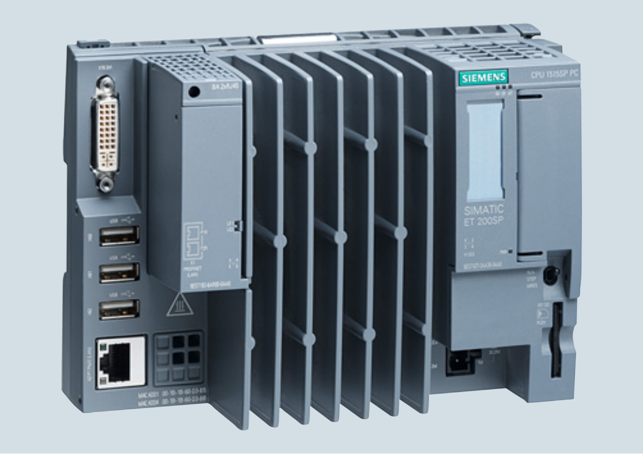
http://www.siemens.com/tia-selection-tool

Brochures

Information material for downloading can be found on the Internet:

http://www.siemens.com/simatic/printmaterial

Overview



- Turnkey, all-in-one solution with pre-installed SIMATIC S7-1500 Software Controller or fail-safe, optionally pre-installed WinCC Runtime Advanced
- Fail-safe versions make it possible to control machines or plants in a fail-safe environment. This makes it possible to address applications which require an SIL3 (Safety Integrity Level) safety class according to IEC 61508 2nd Edition or a PL e (Performance Level) according to ISO 13849.
- Central expansion via ET 200SP modules (station width up to 1 m or up to 64 modules)
- SIMATIC Hypervisor: for separating Windows systems from control functions
- Dual-core processor for optimal use of the Hypervisor
- Swappable flash memory (CFast card) for operating system, runtime and project data
- Integrated DVI-I graphics connection; 3x USB 2.0 connection
- 2 PROFINET interfaces: X1 via PN-IO bus adapter (RJ45 or FC) with 2 ports; X2: GB-Ethernet interface (RJ45)
- PROFINET IRT
- Open Ethernet communication (TCP/IP, UDP, Iso-on-TCP)
- Web server functionality for information, status, diagnostics and user-defined webpages
- PROFIBUS DP communication optionally via CM DP module as DP master
- Configuration control (option handling)
- Improved know-how and copy protection; Security Integrated
- Integrated system diagnostics
- Integrated Motion Control functionalities for controlling speed-controlled and positioning axes with support for external encoders
- Trace function
- Especially suitable for high data volumes and user-specific, open applications
- Integration of control functions and applications implemented in C/C++ (using SIMATIC ODK 1500S Open Development Kit)

Ordering data

Ordering data	Article No.
SIMATIC ET 200SP Open Controller CPU 1515SP PC (F) (+ HMI) ET 200SP CPU with Windows Embedded Standard 7 and pre-installed SIMATIC S7-1500 Software Controller (optionally with WinCC RT Advanced) Type of delivery: English, German, Chinese, Italian, French, Spanish	
Windows embedded Standard 7 E 32-bit, 8 GB CFast card	
• **CPU 1515SP PC (4 GB RAM)**	**6ES7677-2AA31-0EB0**
• **CPU 1515SP PC F (4 GB RAM)**	**6ES7677-2FA31-0EB0**
Windows embedded Standard 7 P 64-bit (multi-touch), 16 GB CFast card	
• **CPU 1515SP PC (4 GB RAM)**	**6ES7677-2AA41-0FB0**
• **CPU 1515SP PC + HMI 128 PT (4 GB RAM)**	**6ES7677-2AA41-0FK0**
• **CPU 1515SP PC + HMI 512PT (4 GB RAM)**	**6ES7677-2AA41-0FL0**
• **CPU 1515SP PC + HMI 2 048 PT (4 GB RAM)**	**6ES7677-2AA41-0FM0**
• **CPU 1515SP PC F (4 GB RAM)**	**6ES7677-2FA41-0FB0**
• **CPU 1515SP PC F + HMI 128 PT (4 GB RAM)**	**6ES7677-2FA41-0FK0**
• **CPU 1515SP PC F + HMI 512PT (4 GB RAM)**	**6ES7677-2FA41-0FL0**
• **CPU 1515SP PC F + HMI 2 048 PT (4 GB RAM)**	**6ES7677-2FA41-0FM0**

Ordering data

	Article No.
Accessories	
Upgrade from SIMATIC S7-1500 Software Controller CPU 1505SP to SIMATIC Open Controller From V 1.x to V 2.0; software download incl. documentation and license key. Email address required for delivery	**6ES7672-5DC01-0YK0**
BusAdapter BA 2xRJ45	**6ES7193-6AR00-0AA0**
BusAdapter BA 2xFC	**6ES7193-6AF00-0AA0**
BusAdapter BA 2xSCRJ	**6ES7193-6AP00-0AA0**
BusAdapter BA SCRJ/RJ45	**6ES7193-6AP20-0AA0**
BusAdapter BA SCRJ/FC for increased vibration and EMC loads	**6ES7193-6AP40-0AA0**
CM DP for ET 200SP CPU PROFIBUS DP master with electrical interface for connecting the ET 200SP CPUs to PROFIBUS at up to 12 Mbit/s	**6ES7545-5DA00-0AB0**
Server module Spare part	**6ES7193-6PA00-0AA0**
Power supply connector Spare part; for connecting the 24 V DC supply voltage; with push-in terminals (10 units)	**6ES7193-4JB00-0AA0**
Reference identification label 10 sheets of 16 labels	**6ES7193-6LF30-0AW0**
Labeling strips	
• 500 labeling strips on roll, light gray, for inscription with thermal transfer roll printer	**6ES7193-6LR10-0AA0**
• 1000 labeling strips DIN A4, light gray, card, for inscription with laser printer	**6ES7193-6LA10-0AA0**

	Article No.
STEP 7 Professional V14 SP1 Target system: SIMATIC S7-1200, S7-1500, S7-300, S7-400, WinAC Requirement: Windows 7 Professional SP1 (64 bit), Windows 7 Enterprise SP1 (64 bit), Windows 7 Ultimate SP1 (64 bit), Windows 8.1 Professional (64 bit), Windows 8.1 Enterprise (64 bit), Windows 10 Professional Version 1607, Windows 10 Enterprise Version 1607, Windows 10 Enterprise 2016 LTSB, Windows 10 Enterprise 2015 LTSB, Windows Server 2008 R2 StdE (full installation), Windows Server 2012 StdE (full installation), Windows Server 2016 Standard (full installation); Type of delivery: English, German, Chinese, Italian, French, Spanish	
• STEP 7 Professional V14 SP1, floating license	**6ES7822-1AA04-0YA5**
• STEP 7 Professional V14 SP1, floating license, software download incl. license key [1)] Email address required for delivery	**6ES7822-1AE04-0YA5**
SIMATIC ODK 1500S	
• Open Development Kit for support in developing Windows and real-time library functions for S7-1500 Software Controllers; supplied on DVD	**6ES7806-2CD02-0YA0**
• Open Development Kit for support in developing Windows and real-time library functions for S7-1500 Software Controllers; software download including license key [1)] Email address required for delivery	**6ES7806-2CD02-0YG0**
SIMATIC WinCC Advanced V14 Engineering software for the configuration and simulation of SIMATIC Panels; SIMATIC WinCC Runtime Advanced electronic documentation in English, German, French, Italian, Spanish, Chinese	
• Software and documentation on DVD, floating license, license key on USB flash drive	**6AV2102-0AA04-0AA5**
• As download [1)], software and license key download, floating license, email address required for delivery	**6AV2102-0AA04-0AH5**

1) For up-to-date information and download availability, see: http://www.siemens.com/tia-online-software-delivery

Overview

- For developing dynamically loadable function libraries for the S7-1500 Software Controller and S7-1500 CPU 1518 ODK:
  - Implementation of function libraries by means of high-level programming with C/C++.
  - Execution of the library functions under Windows or in the real-time context of the software controllers.
  - Calling the functions directly from the PLC program.
- Development environment for real-time library functions included in the scope of delivery.
- Development of Windows library functions with MS Visual Studio.
- Automatic creation of function blocks for calling the library functions.
- Simple integration of the function blocks into STEP 7 by importing.
- Simple use of the library functions in the controller without specific high-level language know-how.

System requirements

The SIMATIC ODK 1500S can be used on PC platforms with the following requirements:

- Operating systems Windows 7/8.1/10
- Min. 150 MB hard drive memory
- Min. 4 GB work memory
- Mouse, keyboard, monitor

Ordering data

Ordering data	Article No.
SIMATIC ODK 1500S	
• Open Development Kit for support in developing Windows and real-time library functions for S7-1500 Software Controllers; supplied on DVD	**6ES7806-2CD02-0YA0**
• Open Development Kit for support in developing Windows and real-time library functions for S7-1500 Software Controllers; software download including license key [1)] Email address required for delivery	**6ES7806-2CD02-0YG0**

1) For up-to-date information and download availability, see: http://www.siemens.com/tia-online-software-delivery

1-phase, 24 V DC

Overview

The one-phase SITOP smart are the universal and powerful standard power supplies for machinery and plant engineering. Despite their compact design, they offer an excellent overload response:

Thanks to a power boost of 150%, loads with high power consumption can be connected without any problems and the permanent overload capability of 120% offers power reserves in case of expansions.

The high degree of efficiency results in low energy consumption and minimal heat generation inside the control cabinet.

To further increase 24 V availability, the SITOP smart power supplies can be combined with **buffer**, **DC UPS**, **redundancy** and **selectivity modules**.

Main product highlights

- 1-phase, 24 V DC/2.5 A, 5 A, 10 A and 20 A
- Input voltage 120 V and 230 V AC with automatic range switching
- Compact design - no lateral clearances required
- Extra power with 1.5 times the rated current (5 s/min) for brief functional overload
- Permanent overload capability with 1.2 times the rated current up to 45 °C ambient temperature
- Adjustable output voltage for compensating voltage drops
- Signaling contact for easy integration in the plant monitoring system
- Wide temperature range from -25 or 0 to +70 °C
- Comprehensive certifications, such as cULus, cCSAus, ATEX, IECEx and GL

Ordering data

Ordering data	Article No.
SITOP PSU100S 1-phase, 24 V DC/2.5 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/2.5 A	**6EP1332-2BA20**
SITOP PSU100S 1-phase, 24 V DC/5 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/5 A	**6EP1333-2BA20**
SITOP PSU100S 1-phase, 24 V DC/10 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/10 A	**6EP1334-2BA20**
SITOP PSU100S 1-phase, 24 V DC/20 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/20 A	**6EP1336-2BA10**

Select the appropriate power supply quickly and easily with the SITOP Selection Tool:

http://www.siemens.com/sitop-selection-tool

Overview

The three-phase SITOP smart are the universal and powerful standard power supplies for machinery and plant engineering. Despite their compact design, they offer an excellent overload response:

Thanks to a power boost of 150%, loads with high power consumption can be connected without any problems and the permanent overload capability of 120% offers power reserves in case of expansions. The high degree of efficiency results in low energy consumption and minimal heat generation inside the control cabinet.

To further increase 24 V availability, the SITOP smart power supplies can be combined with **buffer**, **DC UPS**, **redundancy** and **selectivity modules**.

Main product highlights

- 3-phase, 24 V DC/5 A, 10 A, 20 A and 40 A
- Wide-range input from 340 to 550 V AC for global use
- Compact design - no lateral clearances required
- Extra power with 1.5 times the rated current (5 s/min) for brief functional overload
- Permanent overload capability with 1.2 times the rated current up to 45 °C ambient temperature
- Adjustable output voltage for compensating voltage drops
- Signaling contact for easy integration in the plant monitoring system
- Wide temperature range from -25 or 0 to +70 °C
- Comprehensive certifications, such as cULus, cCSAus, ATEX, IECEx and GL

Ordering data

	Article No.
SITOP PSU300S 3-phase, 24 V DC/5 A Stabilized power supply Input: 400 … 500 V 3 AC Output: 24 V DC/5 A	**6EP1433-2BA20**
SITOP PSU300S 3-phase, 24 V DC/10 A Stabilized power supply Input: 400 … 500 V 3 AC Output: 24 V DC/10 A	**6EP1434-2BA20**
SITOP PSU300S 3-phase, 24 V DC/20 A Stabilized power supply Input: 400 … 500 V 3 AC Output: 24 V DC/20 A	**6EP1436-2BA10**
SITOP PSU300S 3-phase, 24 V DC/40 A Stabilized power supply Input: 400 … 500 V 3 AC Output: 24 V DC/40 A	**6EP1437-2BA20**

Select the appropriate power supply quickly and easily with the SITOP Selection Tool:

http://www.siemens.com/sitop-selection-tool

DC UPS with capacitors

Overview

SITOP 24 V power supplies can be expanded with a SITOP UPS500 uninterruptible DC power supply (DC UPS) for bridging short-term power failures in the order of minutes.

For PC-based automation solutions, the high-capacity double-layer capacitors of the SITOP UPS500 supply enough energy to back up the operation and application data and to shut down software applications in a defined manner.

You can increase the buffer times using SITOP PSU501S expansion modules (up to 3).

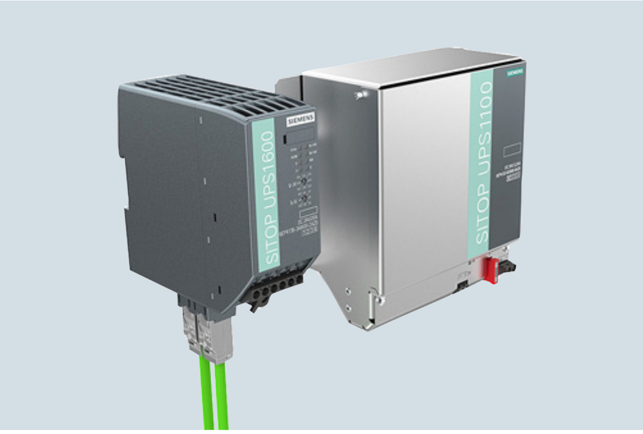
The IP65 version SITOP UPS500P in long metal housing is ideally suited to distributed use.

Ordering data

Ordering data	Article No.
SITOP UPS500S	
DC UPS basic device 15 A	
• with USB interface and 2.5 kW	**6EP1933-2EC41**
• with USB interface and 5 kW	**6EP1933-2EC51**
SITOP UPS501S	
Expansion module 5 kW for UPS500S	**6EP1935-5PG01**
SITOP UPS500P	
DC UPS basic device 7 A	
• with USB interface and 5 kW	**6EP1933-2NC01**
• with USB interface and 10 kW	**6EP1933-2NC11**

The SITOP Selection Tool offers detailed selection guidance according to criteria such as the required buffer time, nominal current or peak current. Available at:
http://www.siemens.com/sitop-selection-tool

Overview



By combining one SITOP UPS1600 DC UPS module with at least one UPS1100 battery module and a SITOP power supply unit, longer power failures can be bridged without any interruption.

The intelligent battery management automatically detects the UPS1100 energy storage unit, ensures optimized temperature-specific charging and continuous monitoring.

The compact DC UPS modules have overload capability, for example, to supply the inrush current of industrial PCs. In stand-alone mode, they support starting from the battery.

The DC UPS communicates openly over a USB or Ethernet/ PROFINET port. It is easily integrated into the PC or PLC environment over the two Ethernet/PROFINET ports. Total integration in TIA provides user-friendly engineering in the TIA Portal and is supported with ready-to-use function blocks for S7 user programs and WinCC faceplates for fast visualization.

SITOP UPS Manager supports easy monitoring and configuration in PC systems, e.g. shutdown of several PCs in accordance with the master-slave principle.

The UPS1600 modules with Ethernet/PROFINET ports have an OPC UA server, with which the DC UPS can communicate with both PCs and PLCs, even from different manufacturers, thanks to the open communication standard. Parameter assignment and the diagnostics of the uninterruptible power supply is possible via the open interface.

The integrated web server supports remote monitoring of the DC UPS.

Ordering data

Ordering data	Article No.
SITOP UPS1600 24 V/ 10 A	
• With USB interface	**6EP4134-3AB00-0AY0**
• With 2 Ethernet/ Profinet interfaces	**6EP4134-3AB00-1AY0**
	6EP4134-3AB00-2AY0
SITOP UPS1600, 24 V/ 20 A	**6EP4136-3AB00-0AY0**
• With USB interface	**6EP4136-3AB00-1AY0**
• With 2 Ethernet/ Profinet interfaces	**6EP4136-3AB00-2AY0**
SITOP UPS1600 24 V/ 40 A	**6EP4137-3AB00-0AY0**
• With USB interface	**6EP4137-3AB00-1AY0**
• With 2 Ethernet/ Profinet interfaces	**6EP4137-3AB00-2AY0**

SITOP UPS1100 battery modules

Overview

Maintenance-free SITOP UPS1100 battery modules with 1.2 Ah up to 12 Ah and various types of energy storage (lead, pure lead, lithium iron phosphate = LiFePo) for SITOP UPS1600 DC UPS modules.

The intelligent UPS1600 battery management charges the UPS1100 with the optimal, temperature-controlled charging characteristics and monitors the status (operating data and diagnostics information) of the connected battery modules via the energy storage link. For longer buffer times, up to six battery modules can be connected in parallel. These can be mounted onto a standard mounting rail or directly to the wall.

Ordering data

Ordering data	Article No.
SITOP UPS1100 battery module 1.2 Ah With maintenance-free, sealed rechargeable lead-acid batteries for DC UPS module SITOP UPS1600, 10 A	**6EP4131-0GB00-0AY0**
SITOP UPS1100 battery module 3.2 Ah With maintenance-free, sealed rechargeable lead-acid batteries for DC UPS module SITOP UPS1600, 10 A and 20 A	**6EP4133-0GB00-0AY0**
SITOP UPS1100 battery module 5 Ah, LiFePo With maintenance-free, sealed rechargeable lithium iron phosphate batteries for DC UPS module SITOP UPS1600, 10 A and 20 A	**6EP4133-0JB00-0AY0**
SITOP UPS1100 battery module 7 Ah With maintenance-free, sealed rechargeable lead-acid batteries for DC UPS module SITOP UPS1600, 10 A, 20 A and 40 A	**6EP4134-0GB00-0AY0**
SITOP UPS1100 battery module 12 Ah With maintenance-free, sealed rechargeable lead-acid batteries for DC UPS module SITOP UPS1600, 20 A and 40 A	**6EP4135-0GB00-0AY0**
SITOP UPS1100 battery module 2.5 Ah, high temperature With maintenance-free, sealed rechargeable pure lead batteries for DC UPS module SITOP UPS1600, 10 A and 20 A	**6EP4132-0GB00-0AY0**

Overview

The operating systems listed in the table refer exclusively to the communication products specified!

Please refer to the description of the relevant IPC for the operating system that is available and has been released for that IPC.

Communication hardware	Communication software	Operating system environment of the communication software								SIMATIC Industrial PC/ Field PG									Embedded Systems: Operating system		Embedded Systems: SIMATIC Industrial-PC	
		Windows 7 Professional / Ultimate SP1	Windows 8.1 Pro / Enterprise	Windows Server 2008 R2 SP1	Windows Server 2012 R2	Windows Server 2008 + SP1/2	Windows XP Pro + SP3	Windows Server 2003 R2 / SP2	other operating systems	Field PG M4	SIMATIC IPC227D + IPC 277D	SIMATIC IPC427D + IPC 477D	SIMATIC IPC547E	SIMATIC IPC627D	SIMATIC IPC647D	SIMATIC HMI IPC677D	SIMATIC IPC827D	SIMATIC IPC847D	Windows Embedded Standard 2009	Windows Embedded Standard 7 + SP1	SIMATIC IPC427D + 477D + IPC 227D/277D	SIMATIC S7 modular Embedded Controller
CPs and software for Industrial Ethernet																						
CP 1613 A2 (PCI 32 Bit)	HARDNET-IE S7	●	●	●	●	●	●	●					●	●	●	●	●	●	●			
	HARDNET-IE S7-REDCONNECT 1)	●	●	●	●	●	●	●					●	○ 4)5)	●	○ 4)5)	●	●	●			
	S7 OPC Redundancy for Industrial Ethernet			●									●	●	●		●	●				
CP 1623 (PCIe x1)	HARDNET-IE S7	●	●	●	●	●	●	●				○ 5)	●	○ 5)	●	○ 5)	●	●	●	●	●	
	HARDNET-IE S7-REDCONNECT 1)	●	●	●	●	●	●	●				○ 4)5)	●	○ 4)5)	●	○ 4)5)	●	○ 5)	●	●	○ 4)5)	
	S7 OPC Redundancy for Industrial Ethernet			●									●		●			●				
CP 1628 (PCIe x1)	HARDNET-IE S7	●	●	●	●							○ 5)	●	○ 5)	●	○ 5)	●	●	●	●	●	
	HARDNET-IE S7-REDCONNECT 1)	●	●	●	●							○ 4)5)	●	○ 4)5)	●	○ 4)5)	●	○ 5)	●	●	○ 4)5)	
	S7 OPC Redundancy for Industrial Ethernet			●									●		●			●				
CP 1612 A2 (PCI 32 Bit)	SOFTNET-IE S7	●		●		●	●	●					●	●	●	●	●	●	●			
	SOFTNET-IE S7 Lean	●		●		●	●	●					●	●	●	●	●	●	●			
	SOFTNET-IE PG	●		●		●	●	●					●	●	●	●	●	●	●			
	S7 OPC Redundancy for Industrial Ethernet			●									●		●			●				
SIMATIC PG/PC with integral Ethernet interface	SOFTNET-IE S7	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●
	SOFTNET-IE S7 Lean	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●
	SOFTNET-IE PG	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●
	S7 OPC Redundancy for Industrial Ethernet			●									●		●			●				
CPs and software for PROFINET																						
CP 1616 1) (PCI 32 Bit)	DK-16xx PN IO	●	●				●		○ 8)			○ 6)7)	○	○ 6)	○ 6)	○	○ 6)	○ 6)	○			
CP 1604 1) (PCI-104)	DK-16xx PN IO	●	●				●		○ 8)										○			
SIMATIC PG/PC with integral Ethernet interface	SOFTNET PN IO	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●
	Support package SIMATIC IPC for VxWorks								●			●		●	●		●	●				

1) and integrated CP1616-compatible onboard 3-port PROFINET interface
2) possible with restrictions, if necessary, depending on memory expansion and processor capacity
3) requires at least 2 PCI or 2 PCIe slots for redundant connection (4-way redundancy requires 4 free PCI or 4 PCIe slots!); hybrid configurations with CP 1613 A2 (PCI) and CP 1623 (PCIe) are possible depending on PC expansion
4) without 4-way redundancy as there are only 2 slots
5) observe restrictions for some PC versions: Number of slots and tolerable maximum heat loss/ power consumption per slot and in total
6) integrated CP1616-compatible onboard 3-port PROFINET interface is optional
7) only with integrated interface
8) portioning DL-16xx PN IO

Notes
- please always note the supplementary conditions for the specified SIMATIC NET products that you can view on the Internet pages shown below.
- for further details on XP embedded, see http://support.automation.siemens.com/WW/view/en/21661049
- further details on system requirements and operating environments can be found in the Readme file of the communication products on the SIMATIC NET PC Software DVD
- updates and supplements to the catalog entries as well as the above tables can be viewed at http://www.siemens.com/simatic-net/ik-info

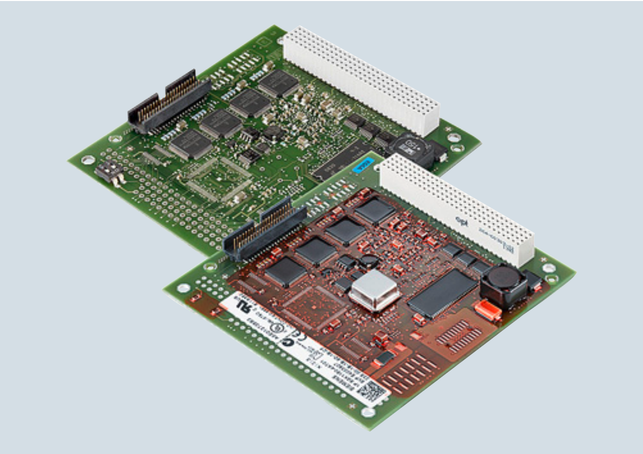
● suitable
not suitable
○ suitable under certain conditions

G_IK10_XX_10225

Connection options of Industrial Ethernet CPs to PG/PC/IPC

CP 1604

Overview



ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
	●	●	●				

G_IK10_XX_10159

- PCI-104 module for connecting PCI-104 systems to PROFINET IO
- Full/half duplex with autonegotiation
- With Ethernet real-time ASIC ERTEC 400
- Integral 4-port real-time switch
- Communication services:
  - PROFINET IO Controller and/or PROFINET IO device
  - Support of IRT in Motion Control applications
  - Support of PROFIenergy functionality
- High performance through direct memory access
- Integration in network management systems through the support of SNMP
- Comprehensive diagnostics possibilities for installation, start-up and operation of the module
- Powerful configuration tools are part of the scope of delivery of the module
- The CP 1604 EEC (Enhanced Environmental Conditions) is suitable for use in extremely harsh industrial environments

Ordering data

Ordering data	Article No.
CP 1604 communications processor PCI-104 card (32-bit) with ASIC ERTEC 400 for connecting PCI-104 systems to PROFINET IO with 4-port real-time switch (RJ45); incl. IO-Base software for PROFINET IO Controller and NCM PC; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32-bit Windows XP Professional and Windows 7; other operating systems using DK-16xx PN IO Development Kit English/German	
Product version CP 1604	**6GK1160-4AA01**
Product version CP 1604 EEC	**6GK1160-4AT01**
Accessories	
Connection board for CP 1604 Connection board for CP 1604 with four RJ45 sockets incl. connecting cable	**6GK1160-4AC00**
Power supply for CP 1604 Redundant power supply for CP 1604 for operating the integral 4-port switch of the CP 1604 with the PC-104 system switched off; includes connecting cable	**6GK1160-4AP00**
Development Kit DK-16xx PN IO Software Development Kit for CP 1616/CP 1604; driver and IO-Base software for CP 1616/CP 1604 as PN IO Controller and PN IO device in source code for transfer to other PC-based operating systems; incl. executable sample code for SUSE Linux 10, Windows XP Professional and Windows 7	See https://support.industry.siemens.com/cs/en/en/view/109480928
IE TP Cord RJ45/RJ45 TP cable 4 x 2 with 2 RJ45 connectors	
• 0.5 m	**6XV1870-3QE50**
• 1 m	**6XV1870-3QH10**
• 2 m	**6XV1870-3QH20**
• 6 m	**6XV1870-3QH60**
• 10 m	**6XV1870-3QN10**
SCALANCE X204IRT Managed Industrial Ethernet switches; isochronous real time, LED diagnostics, error signaling contact with SET button, redundant power supply; 4 x 10/100 Mbps RJ45 ports	**6GK5204-0BA00-2BA3**

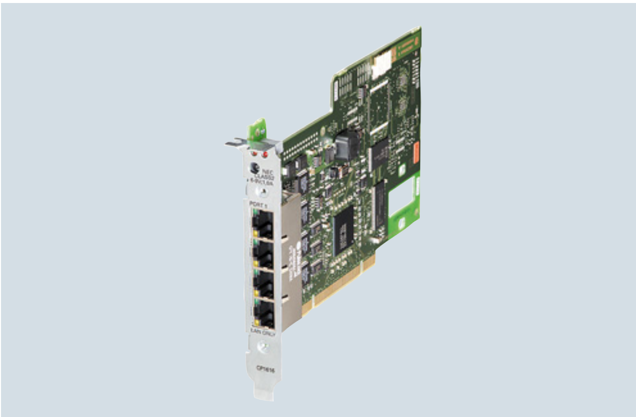
Note:

You can find order information for software under System connections – software overview

The DK-16xx PN IO Development Kit is available on the Internet at:
https://support.industry.siemens.com/cs/de/en/view/109480928

4

Overview



ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
	●	●	●				

- PCI module for connecting PCs and SIMATIC PGs/PCs to PROFINET IO (universal keyed 3.3 V and 5 V; 33 MHz/66 MHz; 32-bit, runs in 64-bit PCI-X systems)
- Full/half duplex with autonegotiation
- With Ethernet real-time ASIC ERTEC 400
- Integral 4-port real-time switch
- Communication services:
  - PROFINET IO Controller and/or PROFINET IO device
  - Support of IRT in Motion Control applications
- High performance through direct memory access
- Integration in network management systems through the support of SNMP
- Comprehensive diagnostics possibilities for installation, start-up and operation of the module
- Powerful configuration tools are part of the scope of delivery of the module

Ordering data

Ordering data	Article No.
CP 1616 communications processor PCI card (32 bit; 3.3/5 V universal keyed) with ASIC ERTEC 400 for connecting PCs to PROFINET IO with 4-port real-time switch (RJ45); incl. IO-Base software for PROFINET IO Controller and NCM PC; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32-bit Windows XP Professional and Windows 7; other operating systems via Development Kit DK-16xx PN IO; English/German	**6GK1161-6AA02**
Accessories	
Development Kit DK-16xx PN IO Software Development Kit for CP 1616/CP 1626/ CP 1604; driver and IO-Base software for CP 1616/CP 1604 as PN IO Controller and IO device in source code for transfer to other PC-based operating systems; including executable example code for SUSE Linux 10, Windows XP Professional and Windows 7	see http://www.siemens.com/simatic-net/dk16xx
IE TP Cord RJ45/RJ45 TP cable 4 x 2 with 2 RJ45 connectors	
• 0.5 m	**6XV1870-3QE50**
• 1 m	**6XV1870-3QH10**
• 2 m	**6XV1870-3QH20**
• 6 m	**6XV1870-3QH60**
• 10 m	**6XV1870-3QN10**
SCALANCE X204IRT Managed Industrial Ethernet switches; isochronous real time, LED diagnostics, error signaling contact with SET button, redundant power supply; 4 x 10/100 Mbps RJ45 ports	**6GK5204-0BA00-2BA3**

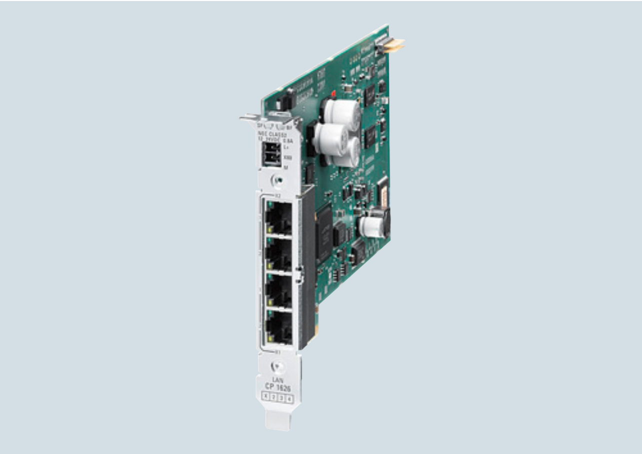
Note:

You can find order information for software under System connections – software overview

The DK-16xx PN IO Development Kit is available on the Internet at: http://www.siemens.com/simatic-net/dk16xx

CP 1626

Overview



ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
	●	●	●				

- PCI Express module for connecting PCs and SIMATIC PGs/PCs to PROFINET IO (3.3 V/12 V)
- Optimized for PROFINET IO
- With Ethernet real-time ASICs
- 2 integrated 2-port real-time switches
- Communication services:
  - PROFINET IO Controller and/or PROFINET IO device
- Support of IRT in Motion Control applications
- High performance through direct memory access
- Supply disconnection between IO Controller and IO device IP subnet
- PROFIenergy functions for switching the host PC on and off
- Integration in network management systems through the support of SNMP
- Comprehensive diagnostics possibilities for installation, start-up and operation of the module
- Powerful configuration tools are part of the scope of delivery of the module

Ordering data

Ordering data	Article No.
CP 1626 communications processor CP 1626 communications processor PCI Express card for connecting PC/IPC to Industrial Ethernet/PROFINET; PROFINET IO controller and IO device, network disconnection, series machines	**6GK1162-6AA01**
Accessories	
Development Kit DK-16xx PN IO Software Development Kit for CP 1626/CP 1604; driver and IO-Base software for CP 1626/CP 1604 as PN IO Controller and IO device in source code for transfer to other PC-based operating systems; including executable example code for SUSE Linux 10, Windows XP Professional and Windows 7	see http://www.siemens.com/simatic-net/dk16xx
IE TP Cord RJ45/RJ45 TP cable 4 x 2 with 2 RJ45 connectors	
• 0.5 m	**6XV1870-3QE50**
• 1 m	**6XV1870-3QH10**
• 2 m	**6XV1870-3QH20**
• 6 m	**6XV1870-3QH60**
• 10 m	**6XV1870-3QN10**
SCALANCE X204IRT Managed Industrial Ethernet switches; isochronous real time, LED diagnostics, error signaling contact with SET button, redundant power supply; 4 x 10/100 Mbps RJ45 ports	**6GK5204-0BA00-2BA3**

Note:

You can find order information for software under System connections – software overview

More information on the topic of industrial security is available on the Internet at:
http://www.siemens.com/industrialsecurity

Overview

ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●	●	●		●	●	●	●

- PCI card (32 bit; 33 MHz/66 MHz; 3.3 V/5 V universal key) for the connection of PG/PC to Industrial Ethernet
- 1 x 10/100/1000 Mbps RJ45 port, electrical
- Automatic data transmission rate detection (10/100/1000 Mbps), with autosensing and autocrossover function
- Communication services via
  - PROFINET
  - ISO or TCP/IP transport protocol
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
- Designed for use in industrial environments
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communication software

Ordering data

Ordering data	Article No.
CP 1612 A2 communications processor PCI card (32 bit, 33 MHz/66 MHz; 3.3 V/5 V universal keyed) for connection to Industrial Ethernet (10/100/1000 Mbps) with RJ45 interface, incl. driver for 32-bit Windows XP Professional SP2/3, 32/64-bit Windows 7, 2003 R2 Server SP2, Vista Business/ Ultimate SP1, Windows 2008 Server; English/German	**6GK1161-2AA01**
Accessories	
IE TP Cord RJ45/RJ45 TP cable 4 x 2 with 2 RJ45 connectors	
• 0.5 m	**6XV1870-3QE50**
• 1 m	**6XV1870-3QH10**
• 2 m	**6XV1870-3QH20**
• 6 m	**6XV1870-3QH60**
• 10 m	**6XV1870-3QN10**

Note:

You can find order information for software under System connections – software overview

CP 1613 A2

Overview

ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●	●			●	●	●	●

G_IK10_XX_10158

- PCI card (32 bit; 33 MHz/66 MHz; 3.3 V/5 V universal key) with microprocessor for connection of PG/PC to Industrial Ethernet with 10/100 Mbps autosensing/autonegotiation
- Communication services using
  - Open IE communication (TCP/IP and UDP)
  - ISO transport protocol
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
- 15-pole ITP connection
- RJ45 connection
- Time synchronization
- ISO and TCP/IP transport protocol onboard
- SNMP-supported diagnostics
- The appropriate OPC server and configuration tools are included in the respective scope of supply of the communication software

Ordering data

Ordering data	Article No.
CP 1613 A2 communications processor PCI card (32-bit, 33 MHz/66 MHz; 3.3 V/5 V universal keyed) for connection to Industrial Ethernet (10/100 Mbps) with ITP and RJ45 connection over HARDNET-IE S7/S7-1613 and S7-REDCONNECT. For operating system support see SIMATIC NET Software	**6GK1161-3AA01**
Accessories	
IE TP Cord RJ45/RJ45	
TP cable 4 x 2 with 2 RJ45 connectors	
• 0.5 m	**6XV1870-3QE50**
• 1 m	**6XV1870-3QH10**
• 2 m	**6XV1870-3QH20**
• 6 m	**6XV1870-3QH60**
• 10 m	**6XV1870-3QN10**

Note:

You can find order information for software under System connections – software overview

Overview

ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●	●			●	●	●	●

G_IK10_XX_10158

- PCI Express card (PCIe x1) with an internal microprocessor for connection of PG/PC to Industrial Ethernet
- 10/100/1000 Mbps (autosensing/autocrossover/autonegotiation)
- Integrated 2-port switch (2 x RJ45 connection)
- Communication services via
  - Open IE communication (TCP/IP and UDP)
  - ISO transport protocol
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
- Time synchronization
- ISO and TCP/IP transport protocol on board
- Integration into network management systems through the support of SNMP (V1)
- The appropriate OPC server and configuration tools are included in the scope of supply of the respective communication software

Ordering data

Ordering data	Article No.
CP 1623 communications processor PCI Express x1 card for connection to Industrial Ethernet (10/100/1000 Mbps), with 2-port switch (RJ45) via HARDNET-IE S7/S7-1613 and S7-REDCONNECT. For operating system support, see SIMATIC NET Software	**6GK1162-3AA00**
Accessories	
IE TP Cord RJ45/RJ45 TP cable 4 x 2 with 2 RJ45 connectors	
• 0.5 m	**6XV1870-3QE50**
• 1 m	**6XV1870-3QH10**
• 2 m	**6XV1870-3QH20**
• 6 m	**6XV1870-3QH60**
• 10 m	**6XV1870-3QN10**

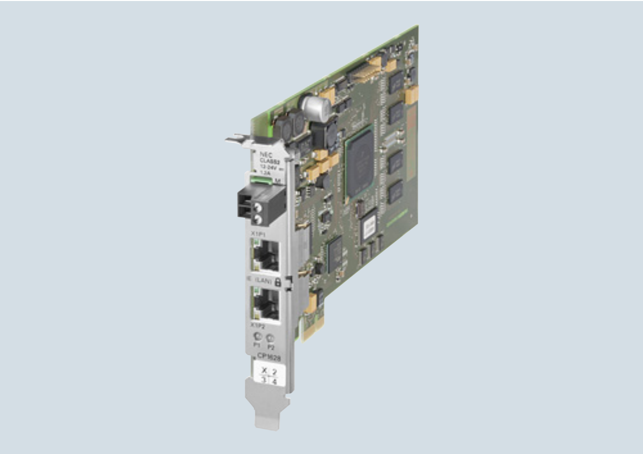
Note:

You can find order information for software under System connections – software overview

4

CP 1628

Overview



ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●	●			●	●	●	●

- PCI Express card (PCIe x1) with internal microprocessor and integrated 2-port switch (2 x RJ45 connection, 10/100/1000 Mbps) for connecting a PG/PC to Industrial Ethernet
- Integrated security mechanisms (e.g. firewall, VPN)
- ISO and TCP/IP transport protocol on board
- Communication services via:
  - Open IE communication (TCP/IP and UDP)
  - ISO transport protocol
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
- Integration into network management systems through the support of SNMP (V1/V3)

Ordering data

Ordering data	Article No.
CP 1628 communications processor PCI Express x1 card for connection to Industrial Ethernet (10/100/1 000 Mbps), with 2-port switch (RJ45) and integrated security (firewall, VPN) via HARDNET-IE S7 and S7-REDCONNECT. For operating system support, see SIMATIC NET Software	**6GK1162-8AA00**
Accessories	
IE TP Cord RJ45/RJ45 TP cable 4 x 2 with 2 RJ45 connectors	
• 0.5 m	**6XV1870-3QE50**
• 1 m	**6XV1870-3QH10**
• 2 m	**6XV1870-3QH20**
• 6 m	**6XV1870-3QH60**
• 10 m	**6XV1870-3QN10**

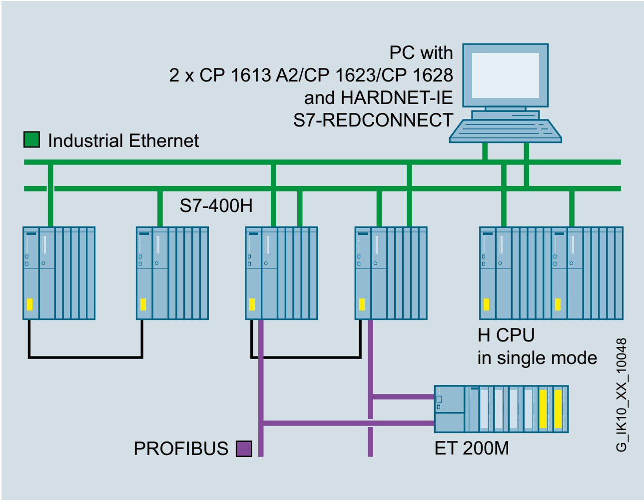
Note:

You can find order information for software under System connections – software overview

More information on the topic of industrial security is available on the Internet at:
http://www.siemens.com/industrialsecurity

Overview

- For connecting PCs over redundant Industrial Ethernet to the SIMATIC S7-400H
- Protected from communication failures arising from a fault in the double bus or in redundant rings
- For redundant Layer 2 or Layer 3 Industrial Ethernet
- Can also be implemented in non-redundant networks
- No additional programming overhead for the PC and in H systems
- The appropriate OPC server and configuration tools are included in the scope of supply of the respective communication software
- Enhanced redundancy over 4-way communication (STEP 7 V5.1 + SP4 and higher)



System configuration for S7-REDCONNECT

ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●				●	●	●	

Ordering data

	Article No.
HARDNET-IE S7-REDCONNECT Software for fail-safe S7 communication via redundant networks, incl. S7 OPC server, HARDNET-IE S7, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A *For CP 1613 A2, CP 1623, CP 1628*	
HARDNET-IE S7-REDCONNECT V13 For 32/64-bit: Windows 7 SP1 Professional/Ultimate; For 64 bit: Windows 8.1 Pro; For 64 bit: Windows Server 2008 R2 SP1; For 64 bit: Windows Server 2012 R2; English/German; single license for one installation	
• On DVD	**6GK1716-0HB13-0AA0**
• Download [1]	**6GK1716-0HB13-0AK0**

	Article No.
Software Update Service For 1 year with automatic extension; requirement: current software version	**6GK1716-0HB00-3AL0**
Upgrade	
• From Edition 2006 to S7-REDCONNECT Edition 2008 or HARDNET-IE S7-REDCONNECT V13	**6GK1716-0HB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to S7-REDCONNECT Edition 2008 or HARDNET-IE S7-REDCONNECT V13	**6GK1716-0HB00-3AE1**
For CP 1613 A2, CP 1623, CP 1628	

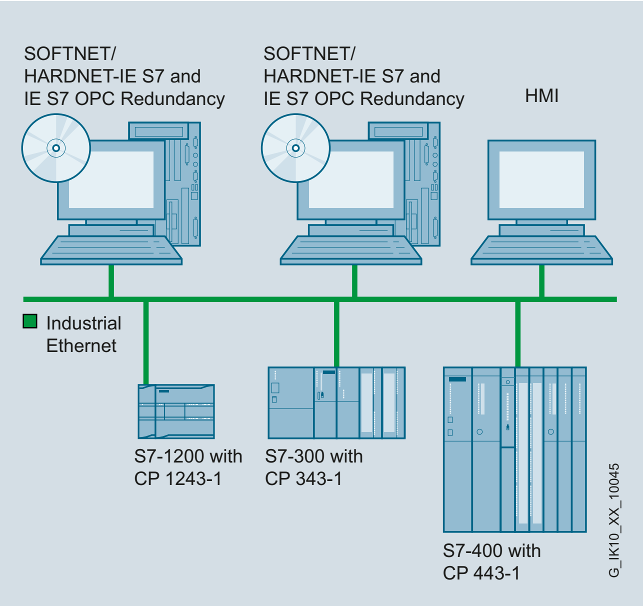
4

Ordering data

	Article No.
HARDNET-IE S7-REDCONNECT Power Pack For expansion from HARDNET-IE S7 to HARDNET-IE S7-REDCONNECT / from S7-1613 to S7-REDCONNECT, single license for one installation, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A	
HARDNET-IE S7-REDCONNECT Power Pack V13 For 32/64-bit: Windows 7 SP1 Professional/Ultimate; For 64 bit: Windows 8.1 Pro; For 64 bit: Windows Server 2008 R2 SP1; For 64 bit: Windows Server 2012 R2; English/German	
• On DVD	**6GK1716-0HB13-0AC0**
• Download [1]	**6GK1716-0HB13-0AK1**
CP 1613 A2 communications processor PCI card (32-bit, 33 MHz/66 MHz; 3.3 V/5 V universal keyed) for connection to Industrial Ethernet (10/100 Mbps) with ITP and RJ45 connection over HARDNET-IE S7 and S7-REDCONNECT. For operating system support see SIMATIC NET Software	**6GK1161-3AA01**
CP 1623 communications processor PCI Express x1 card for connection to Industrial Ethernet (10/100/1000 Mbps), with 2-port switch (RJ45) via HARDNET-IE S7 and S7-REDCONNECT. For operating system support, see SIMATIC NET Software	**6GK1162-3AA00**
CP 1628 communications processor PCI Express x1 card for connection to Industrial Ethernet (10/100/1 000 Mbps), with 2-port switch (RJ45) and integrated security (firewall, VPN) via HARDNET-IE S7 and S7-REDCONNECT. For operating system support, see SIMATIC NET Software	**6GK1162-8AA00**

[1] For more details of online software delivery, visit: http://www.siemens.com/tia-online-software-delivery under Ordering Data.

Overview



System configuration SOFTNET for Industrial Ethernet

ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●	●			●	●	●	

- Software for coupling programming devices/PCs/workstations to automation systems
- Communication services:
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
- Can be used with
  - Layer 2 Ethernet card (PCI/PCIe), e.g. CP 1612 A2
  - Integrated Industrial Ethernet interface
  - Modem/ISDN (Remote Access Service RAS)
- Complete protocol stack as a software package
- Increased availability thanks to additional option packages such as OPC server redundancy

Selection and ordering data

SOFTNET S7 for Industrial Ethernet	
Software for S7 and open communication, incl. OPC server, PG/OP communication, and NCM PC/STEP 7 Professional V12, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A	
SOFTNET-IE S7 V13	
For 32/64-bit: Windows 7 SP1 Professional/Ultimate; For 64 bit: Windows 8.1 Pro; For 64 bit: Windows Server 2008 R2 SP1; For 64 bit: Windows Server 2012 R2; English/German	
Up to 64 connections; single license for one installation	
• On DVD	**6GK1704-1CW13-0AA0**
• Download [1]	**6GK1704-1CW13-0AK0**
Software Update Service	**6GK1704-1CW00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 to Edition 2008 or V13	**6GK1704-1CW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to Edition 2008 or V13	**6GK1704-1CW00-3AE1**

Ordering data

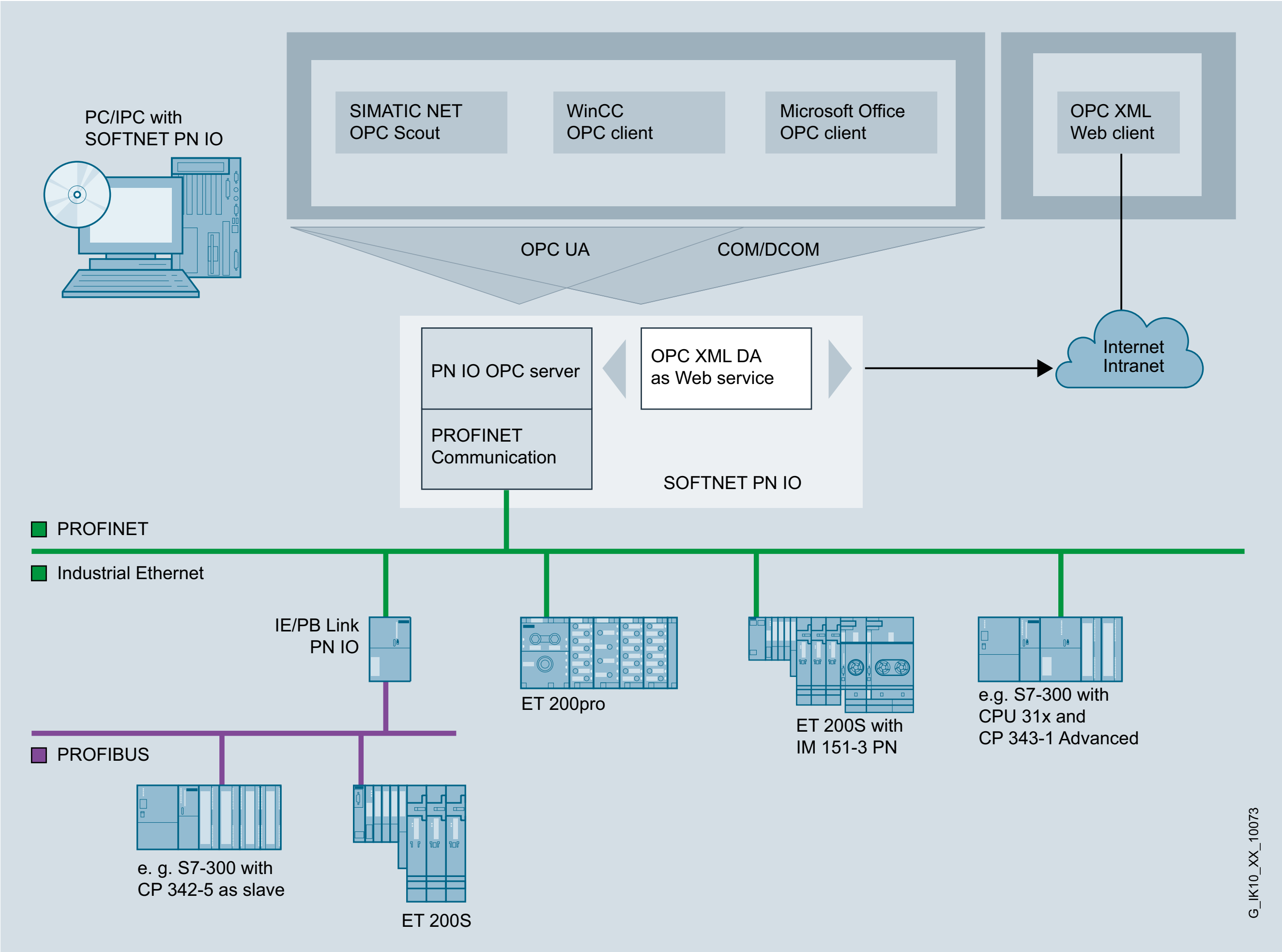
	Article No.
SOFTNET-IE S7-REDCONNECT VM V13	
Software for fail-safe S7 communication via redundant networks, incl. S7 OPC server, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A For 32/64-bit: Windows 7 SP1 Professional/Ultimate; For 64 bit: Windows 8.1 Pro; For 64 bit: Windows Server 2008 R2 SP1; For 64 bit: Windows Server 2012 R2; English/German	
• Single license for one installation	**6GK1704-0HB13-0AA0**
SOFTNET-IE S7 Lean Edition V13	
For 32/64-bit: Windows 7 SP1 Professional/Ultimate; For 64 bit: Windows 8.1 Pro; For 64 bit: Windows Server 2008 R2 SP1; For 64 bit: Windows Server 2012 R2; Up to eight connections; English/German; single license for one installation	
• On DVD	**6GK1704-1LW13-0AA0**
• Download [1]	**6GK1704-1LW13-0AK0**
Software Update Service	**6GK1704-1LW00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 to Edition 2008 or V13	**6GK1704-1LW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to Edition 2008 or V13	**6GK1704-1LW00-3AE1**

	Article No.
IE S7 OPC Redundancy	
Software for redundant OPC servers in the environment of Industrial Ethernet software, S7 products, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A	
IE S7 OPC Redundancy V13	
For 64-bit: Windows 2008 Server R2 SP1; English/German	
• Single license for one installation	**6GK1706-1CW13-0AA0**

[1] For more details of online software delivery, visit: http://www.siemens.com/tia-online-software-delivery under Ordering Data.

4

Overview



PC with SOFTNET PN IO as PROFINET IO Controller

ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
	●	●		●			

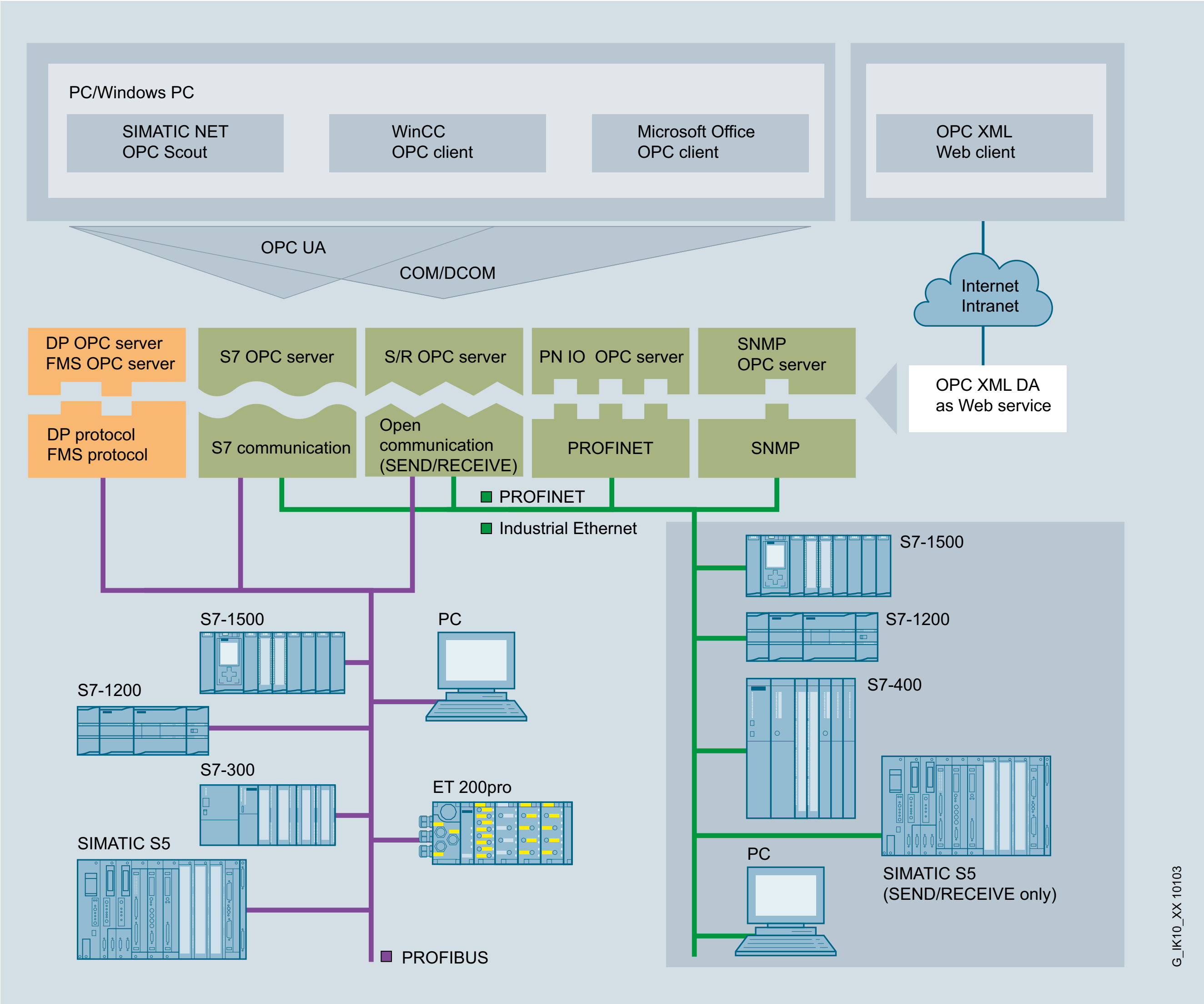
- Software with PROFINET IO Controller function for coupling PG/PC and IPC with PROFINET IO devices
- Possible applications:
  - PC-based control systems
  - HMI systems
  - Test applications
- Communication services:
  - PROFINET IO Controller
- Can be used with
  - Layer 2 Ethernet card (PCI/PCIe), e.g. CP 1612 A2
  - Integral Industrial Ethernet interfaces of SIMATIC programming devices/PCs
- Cost-effective solution for the low-end performance range
- OPC server for I/O connection over PROFINET included in scope of delivery

Ordering data

Ordering data	Article No.
SOFTNET PN IO	
Software for PROFINET IO Controller with OPC server and NCM PC / STEP7 Professional V12, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A	
SOFTNET-IE PN IO V12	
For 32/64-bit Windows 7 Professional/Ultimate; for Windows 2008 Server R2; for 32/64 Bit Windows 8 Pro; for Windows Server 2012 English/German	
• Single license for one installation	**6GK1 704-1HW12-0AA0**
Software Update Service	**6GK1704-1HW00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 to SOFTNET PN IO Edition 2008 or V12	**6GK1704-1HW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET PN IO Edition 2008 or V12	**6GK1704-1HW00-3AE1**

OPC server for Industrial Ethernet

Overview



System integration with OPC server

OPC (**O**penness, **P**roductivity & **C**ollaboration) is a standardized, open, and vendor-independent interface that is widely used in automation.

A fundamental distinction is made between the classic OPC and its consistent further development OPC UA (**U**nified **A**rchitecture). Smooth migration to the new OPC UA standard is easily possible; this offers further value added, such as security. The SIMATIC NET OPC servers offer the two interfaces OPC UA and classic OPC for SIMATIC S7 and PROFINET.

- The corresponding OPC servers are included in the scope of supply of the respective communication software
- Standardized, open, multi-vendor interface
- Interfacing of OPC-capable Windows applications to S7 communication, open communication (SEND/RECEIVE), PROFINET, and SNMP
- Increased availability thanks to additional option packages such as OPC server redundancy
- OPC Scout with browser functionality as an OPC client and OCX Data Control/.NET Data Control for simple OPC client creation

Ordering data

Ordering data	Article No.
SNMP OPC Server Status monitoring of SNMP-capable devices in any OPC client systems; e.g. SIMATIC WinCC/PCS 7	See SNMP OPC server
S7 OPC Redundancy Software for redundant OPC servers in the environment of Industrial Ethernet software, S7 products, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A	
S7 OPC Redundancy V13 For 64-bit: Windows 2008 Server R2 SP1; English/German	
• Single license for one installation	**6GK1706-1CW13-0AA0**
Software Update Service For 1 year with automatic extension; requirement: current software version	**6GK1706-1CW00-3AL0**

Overview

OPC (**O**penness, **P**roductivity & **C**ollaboration) is a standardized, open, and vendor-independent interface that is widely used in automation. OPC UA (**U**nified **A**rchitecture) is the result of consistent further development of this standard, offering additional functions such as security or redundancy.

S7 OPC Redundancy is a software product compliant with the OPC UA standard that enables redundant configuration of OPC UA servers for SIMATIC S7.

The availability of automation data to operator control and monitoring systems is ensured thanks to the redundant use of OPC UA servers. This requires neither additional cabling for synchronizing the redundant OPC UA servers, nor additional programming effort on the PC. The OPC UA servers are synchronized via high-performance Industrial Ethernet network accesses at 10/100 and 1000 Mbps. S7 OPC Redundancy represents an integrated customer solution for all SIMATIC NET S7 SOFTNET and HARDNET software products in the automation world.

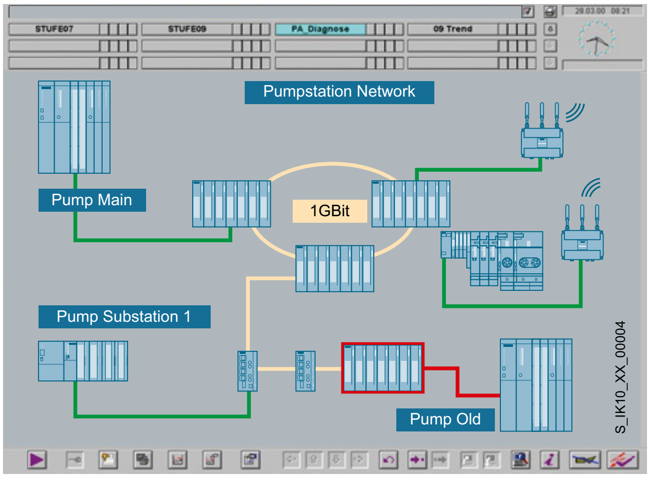
Ordering data

Ordering data	Article No.
S7 OPC Redundancy	
Software for redundant OPC servers in the environment of Industrial Ethernet software, S7 products, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A	
S7 OPC Redundancy V13 for Industrial Ethernet	
For 64-bit: Windows 2008 Server R2; English/German	
• Single license for one installation	**6GK1706-1CW13-0AA0**

4

SNMP OPC server

Overview



- Status monitoring of SNMP-capable devices in any OPC client systems; e.g. SIMATIC WinCC/PCS 7
- Easy access to SNMP-capable devices over the OPC interface
- Devices without SNMP agents can be monitored using the ping mechanism
- Configuration with STEP 7 (up to STEP 7 V5.5) or NCM PC
- Ready-to-use SNMP diagnostics profiles for Siemens devices, e.g. SCALANCE X/W
- Generation of any SNMP diagnostics profiles by means of the integral MIB compiler
- Easy setup of the monitored devices with the help of an Autodiscovery function

Ordering data

Ordering data	Article No.
SNMP OPC Server	
Including MIB compiler; single license for one installation of runtime software; software and electronic manual on CD-ROM; license key on USB flash drive, Class A	
SNMP OPC Server Basic	
Administration of up to 20 IP addresses	
• **Basic V13** For 32/64 bit: Windows 7 SP1 Professional/Ultimate; For 64 bit: Windows 8.1 Pro; For 64 bit: Windows Server 2008 R2 SP1; For 64 bit: Windows Server 2012 R2; single license for one installation	**6GK1706-1NW13-0AA0**
Software Update Service SNMP OPC Server Basic	**6GK1706-1NW00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade SNMP OPC Server Basic	
• From Edition 2006 to Edition 2008 or V13	**6GK1706-1NW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to Edition 2008 or V13	**6GK1706-1NW00-3AE1**
SNMP OPC Server Extended	
Administration of up to 200 IP addresses	
• **Extended V13** For 32/64-bit: Windows 7 SP1 Professional/Ultimate; For 64 bit: Windows 8.1 Pro; For 64 bit: Windows Server 2008 R2 SP1; For 64 bit: Windows Server 2012 R2; single license for one installation	**6GK1706-1NX13-0AA0**
Software Update Service SNMP OPC Server Extended	**6GK1706-1NX00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade SNMP OPC Server Extended	
• From Edition 2006 to Edition 2008 or V13	**6GK1706-1NX00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to Edition 2008 or V13	**6GK1706-1NX00-3AE1**
SNMP OPC Server Power Pack	
For upgrade from SNMP OPC Server Basic to SNMP OPC Server Extended	
Power Pack V13	**6GK1706-1NW13-0AC0**

Overview

The SINEMA server software has been specially developed for industrial applications. It enables you to fully visualize and monitor networks. Using SNMP and simultaneous diagnostics via SIMATIC and PROFINET mechanisms, many aspects of plant diagnostics can be portrayed in a single tool. Captured data is stored in a long-term archive and can be evaluated and presented as required.

The predefined network diagnosis can also be seamlessly integrated into HMI/SCADA systems (e.g. WinCC, PCS 7) via OPC UA and Web mechanisms.

Main features:

- **Inventory:** Inventorying of all network subscribers
- **Topology:** Topological representation of the network
- **Monitoring:** Read-out of status information
- **Diagnostics:** Evaluation and presentation of diagnostic states
- **Reporting:** Presentation of statistics for any time period
- **Validation:** Validation of network parameters
- **Propagation:** Forwarding of data to other systems
- **Management:** Configuration of devices via CLI / firmware management

Ordering data

Ordering data	Article No.
SINEMA Server V14 Network monitoring software for Industrial Ethernet and PROFINET networks, runtime software, software and electronic manual on DVD (not with download), license key on USB flash drive (not with download); software for installation on PC hardware with Windows 7 Professional/Ultimate/ Enterprise SP1 (64-bit), Windows Server 2008 R2 + SP1 (64-bit), Windows 10 Pro/Enterprise 1607/1703 (64-bit) English/German/French/Chinese. Other languages possible on request.	
For 50 devices that can be identified via IP address	
• On DVD	**6GK1781-1BA14-0AA0**
• Download [1]	**6GK1781-1BA14-0AK0**
For 100 devices that can be identified via IP address	
• On DVD	**6GK1781-1DA14-0AA0**
• Download [1]	**6GK1781-1DA14-0AK0**
For 250 devices that can be identified via IP address	
• On DVD	**6GK1781-1JA14-0AA0**
• Download [1]	**6GK1781-1JA14-0AK0**
For 500 devices that can be identified via IP address	
• On DVD	**6GK1781-1TA14-0AA0**
• Download [1]	**6GK1781-1TA14-0AK0**
Upgrade SINEMA Server V13 to V14	
• On DVD	**6GK1781-2AA14-0AA0**
• Download [1]	**6GK1781-2AA14-0AK0**

[1] For more details of online software delivery, visit: http://www.siemens.com/tia-online-software-delivery under Ordering Data.

4

Connection options to SIMATIC PCs

Overview

Communication hardware	Communication software	Operating system environment of the communication software							PG	Rack PC				Box PC					Panel PC			
		Windows 7 Professional / Ultimate / Enterprise SP1	Windows 8.1 Update 1Pro	Windows 10 64 Bit	Windows Server 2008 R2 SP1 Standard / Enterprise	Windows Server 2012 R2 Standard Edition	Windows Server 2016 Standard Edition	other operating systems	Field PG M5	SIMATIC IPC347E	SIMATIC IPC547G	SIMATIC IPC647D	SIMATIC IPC847D	SIMATIC IPC227E	SIMATIC IPC327E	SIMATIC IPC427E	SIMATIC IPC627D	SIMATIC IPC827D	SIMATIC IPC277E	SIMATIC IPC377E	SIMATIC IPC477E	SIMATIC IPC677D
CPs and software for PROFIBUS																						
CP 5613 A3, CP 5614 A3 (PCI 32 Bit)	CP with DP-Base	●	●	●	●	●	●			●	●	●	●				○4)	●				○4)
	HARDNET-PB DP DK							○1)														
	HARDNET-PB DP	●	●	●	●	●	●			●	●	●	●				○4)	●				○4)
	HARDNET-PB S7	●	●	●	●	●	●			●	●	●	●				○4)	●				○4)
CP 5623, CP 5624 (PCIe x1)	CP with DP-Base	●	●	●	●	●	●			●	●	●	●			○4)	○4)	●			○4)	○4)
	HARDNET-PB DP DK							○1)														
	HARDNET-PB DP	●	●	●	●	●	●			●	●	●	●			○4)	○4)	●			○4)	○4)
	HARDNET-PB S7	●	●	●	●	●	●			●	●	●	●			○4)	○4)	●			○4)	○4)
CP 5612 (PCI 32 Bit)	SOFTNET-PB DP	●	●	●	●	●	●			●	●	●	●				○4)	●				○4)
	SOFTNET-PB DP Slave	●	●	●	●	●	●			●	●	●	●				○4)	●				○4)
	SOFTNET-PB S7	●	●	●	●	●	●			●	●	●	●				○4)	●				○4)
CP 5622 (PCIe x1)	SOFTNET-PB DP	●	●	●	●	●	●			●	●	●	●	○3)		○4)	○4)	●			○4)	○4)
	SOFTNET-PB DP Slave	●	●	●	●	●	●			●	●	●	●	○3)		○4)	○4)	●			○4)	○4)
	SOFTNET-PB S7	●	●	●	●	●	●			●	●	●	●	○3)		○4)	○4)	●			○4)	○4)
CP 5711 (USB V2.0)	SOFTNET-PB DP	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●
	SOFTNET-PB DP Slave	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●
	SOFTNET-PB S7	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●
SIMATIC PG/PC	SOFTNET-PB DP	●	●	●	●	●	●		●			○2)	○2)				○2)	○2)				○2)
	SOFTNET-PB DP Slave	●	●	●	●	●	●		●			○2)	○2)				○2)	○2)				○2)
	SOFTNET-PB S7	●	●	●	●	●	●		●			○2)	○2)				○2)	○2)				○2)

1) In order to use these CPs in other operating system environments, it is required to port HARDNET DP Development Kits (DK-5613) into the respective operating system. You can request the HARDNET DP DK on the Internet at www.siemens.com/simatic-net/dk5613.
2) integrated PROFIBUS interface is optional
3) slot is optional
4) observe restrictions for some PC versions: Number of slots and tolerable maximum heat loss/ power consumption per slot and in total

Notes
- please always note the supplementary conditions for the specified SIMATIC NET products that you can view on the Internet pages shown below.
- further details on system requirements and operating environments can be found in the Readme file of the communication products on the SIMATIC NET PC Software DVD
- updates and supplements to the catalog entries, as well as the above tables can be viewed at http://www.siemens.com/simatic-net/ik-info

● suitable
not suitable
○ suitable under certain conditions

G_IK10_XX_50025

Connection options of PROFIBUS CPs to PG/PC

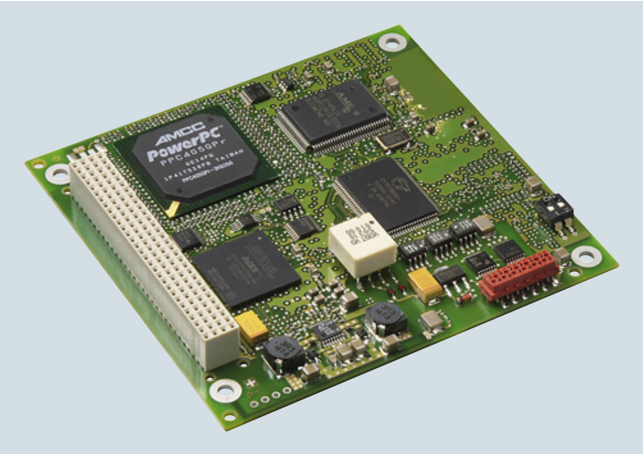
Note:

The operating systems listed refer exclusively to the communication products specified!

For the actual operating system that is available and has been released, please refer to the description of the corresponding IPC.

4

Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●	●	●	●	●

G_IK10_XX_10165

- PCI-104 interface card with own microprocessor for connecting embedded systems with PCI-104 interface to PROFIBUS at up to 12 Mbps
- Function compatible with CP 5613 A2
- Communication services:
  - PROFIBUS DP master Class 1 and 2 or DP slave according to IEC 61158/61784
  - PG/OP communication with STEP 5 and STEP 7
  - S7 communication with HARDNET-PB S7 software package
  - Open communication (SEND/RECEIVE) based on the FDL interface
  - PROFIBUS FMS according to IEC 61158/61784 with FMS-5613 software package
- Extensive diagnostics options for installation, commissioning and operation of the module
- Event and filter mechanism for reducing the load on the host CPU
- Multiprotocol operation and parallel operation of up to three CPs
- The appropriate OPC server and configuration tools are included in the scope of delivery of the respective communication software
- Development Kit with driver sources for integration into "non-Windows" environments

Note:

FMS-5613 supports up to two CP 5603/CP 5613 A2/5614 A2/CP 5623/CP 5624 processors

4

CP 5603

Ordering data

	Article No.
CP 5603 communications processor PCI-104 card for connection to PROFIBUS incl. DP-Base software with NCM PC; DP-RAM interface for DP master or DP slave, incl. PG and FDL protocols; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for operating system support see SIMATIC NET software; English/German	**6GK1560-3AA00**
CP 5603 Microbox Package For use of CP 5603 in Microbox 420/427B/427C; consisting of CP 5603 module and Microbox expansion frame	**6GK1560-3AU00**
CP 5603 expansion rack For use in Microbox 420/427B/427C with mounting material	**6GK1560-3AA00-0AU0**
CP 5603 mEC Package For use of CP 5603 in SIMATIC S7-MEC; consisting of CP 5603 and withdrawable unit for CP 5603 for installation in the EM PCI-104 expansion module of the SIMATIC S7-MEC	**6GK1560-3AE00**
CP 5603 insert plate Metal plate with RS 485 cutout for inserting for the S7 modular embedded controller	**6GK1560-3AA00-0AE0**
HARDNET-PB DP Development Kit HARDNET-PB DP Development Kit software for CP 5603, CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; for integration into other operating system environments on systems with a PCI slot	see http://www.siemens.com/simatic-net/dk5613

	Article No.
HARDNET-PB DP Software for DP, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for CP 5603, CP 5613 A2, CP 5623, CP 5614 A2, CP 5624	
HARDNET-PB DP V8.2 For 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 English/German	
• Single license for one installation	**6GK1713-5DB08-2AA0**
DP-5613 Edition 2008 For 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German	
• Single license for one installation	**6GK1713-5DB71-3AA0**
Software Update Service For 1 year with automatic extension; requirement: current software version	**6GK1713-5DB00-3AL0**
Upgrade	
• From Edition 2006 or 2007 to DP-5613 Edition 2008 or HARDNET-PB DP V8.1	**6GK1713-5DB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008 or HARDNET-PB DP V8.1	**6GK1713-5DB00-3AE1**

Ordering data

	Article No.
HARDNET-PB S7	
Software for S7 communication, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for CP 5603, CP 5613 A2, CP 5623, CP 5614 A2, CP 5624	
HARDNET-PB S7 V8.2	
For 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 English/German	
• Single license for one installation	**6GK1713-5CB08-2AA0**
S7-5613 Edition 2008	
For 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German	
• Single license for one installation	**6GK1713-5CB71-3AA0**
Software Update Service	**6GK1713-5CB00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 or 2007 to S7-5613 Edition 2008 or HARDNET-PB S7 V8.1	**6GK1713-5CB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008 or HARDNET-PB S7 V8.1	**6GK1713-5CB00-3AE1**
FMS-5613 Edition 2008	
Software for FMS protocol incl. PG/OP communication; FDL, FMS-OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5603, CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; English/German	
• Single license for one installation	**6GK1713-5FB71-3AA0**
Software Update Service	**6GK1713-5FB00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 or 2007 to FMS-5613 Edition 2008	**6GK1713-5FB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to FMS-5613 Edition 2008	**6GK1713-5FB00-3AE1**

	Article No.
Accessories	
PROFIBUS FastConnect bus connector RS 485 Plug 180	**6GK1500-0FC10**
With 180° cable outlet, insulation displacement	
PROFIBUS FC Standard Cable GP	**6XV1830-0EH10**
Standard type with special design for quick assembly, 2-core, shielded, sold in meters; max. length 1000 m, minimum order 20 m	
PROFIBUS FastConnect Stripping Tool	**6GK1905-6AA00**
Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables	
PROFIBUS bus terminal 12M	**6GK1500-0AA10**
Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long	

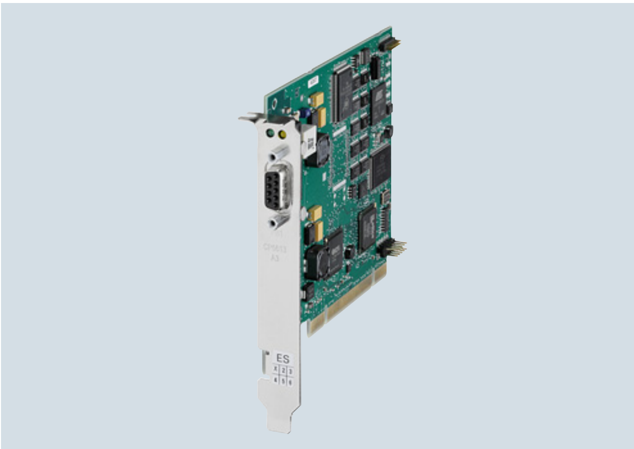
Note:

You can find order information for software for communication with PC systems under System connections – software overview

You can find the HARDNET-PB DP Development Kit on the Internet at:
http://www.siemens.com/simatic-net/dk5613

CP 5613 A3

Overview



DP–M	DP–S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

- PCI card (universal keyed 5 V/3.3 V) with own microprocessor for connection of PCs and SIMATIC PG/PC to PROFIBUS at up to 12 Mbps
- Communication services:
  - PROFIBUS DP master according to IEC 61158/61784 on one PCI card
  - PG/OP communication with STEP 7
  - S7 communication with HARDNET-PB S7 software package
  - Open communication (SEND/RECEIVE) based on the FDL interface
- Comprehensive diagnostics possibilities for installation, commissioning and operation of the module
- High performance over direct dual-port RAM access
- Event and filter mechanisms to reduce the loading on the host CPU
- Multiprotocol operation and parallel operation of up to four CPs
- Implementation in Motion Control applications is possible because a constant bus cycle time is supported
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communications software

Ordering data

Ordering data	Article No.
CP 5613 A3 communications processor PCI card (32-bit; 3.3 V/5 V) for connection to PROFIBUS incl. DP-Base software; DP-RAM interface for DP master, incl. PG and FDL protocols; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for operating system support see SIMATIC NET software V12; English/German	**6GK1561-3AA02**
HARDNET-PB DP Development Kit HARDNET-PB DP Development Kit software for CP 5613 A2/CP 5614 A2/ CP 5613 A3/ CP 5614 A3/ CP 5603/ CP 5623/ CP 5624 for integration into other operating system environments	see http://www.siemens.com/simatic-net/dk5613
HARDNET-PB DP Software for DP, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for CP 5613 A2/ CP 5614 A2/ CP 5613 A3/ CP 5614 A3/ CP 5603/ CP 5623/ CP 5624	
HARDNET-PB DP V12 For 32/64-bit: Windows 7 Professional/Ultimate; for 32/64-bit: Windows 8 Pro for 64-bit: Windows 2008 Server R2 for 64-bit: Windows 2012 Server English/German	
• Single license for one installation	**6GK1713-5DB12-0AA0**
Software Update Service For 1 year with automatic extension; requirement: current software version	**6GK1713-5DB00-3AL0**
Upgrade	
• From Edition 2006 or 2007 to DP-5613 Edition 2008 or HARDNET-PB DP V12	**6GK1713-5DB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008 or HARDNET-PB DP V12	**6GK1713-5DB00-3AE1**

Ordering data

	Article No.
HARDNET-PB S7	
Software for S7 communication, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for CP 5603, CP 5613 A2/A3, CP 5623, CP 5614 A2/A3, CP 5624	
HARDNET-PB S7 V12	
For 32/64-bit: Windows 7 Professional/Ultimate; for 32/64-bit: Windows 8 Pro for 64-bit: Windows 2008 Server R2 for 64-bit: Windows 2012 Server English/German	
• Single license for one installation	**6GK1713-5CB12-0AA0**
Software Update Service For 1 year with automatic extension; requirement: current software version	**6GK1713-5CB00-3AL0**
Upgrade	
• From Edition 2006 or 2007 to S7-5613 Edition 2008 or HARDNET-PB S7 V12	**6GK1713-5CB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008 or HARDNET-PB S7 V12	**6GK1713-5CB00-3AE1**

	Article No.
Accessories	
PROFIBUS FC Standard Cable GP Standard type with special design for quick assembly, 2-core, shielded, sold in meters; delivery unit max. 1000 m, minimum order 20 m	
PROFIBUS FastConnect bus connector RS 485 Plug 180 With 180° cable outlet, insulation displacement	**6GK1500-0FC10**
PROFIBUS bus terminal 12M Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long	**6GK1500-0AA10**
PROFIBUS FastConnect Stripping Tool Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables	**6GK1905-6AA00**

Note:

You can find order information for software for communication with PC systems under System connections – software overview

You can find the HARDNET-PB DP Development Kit on the Internet at:

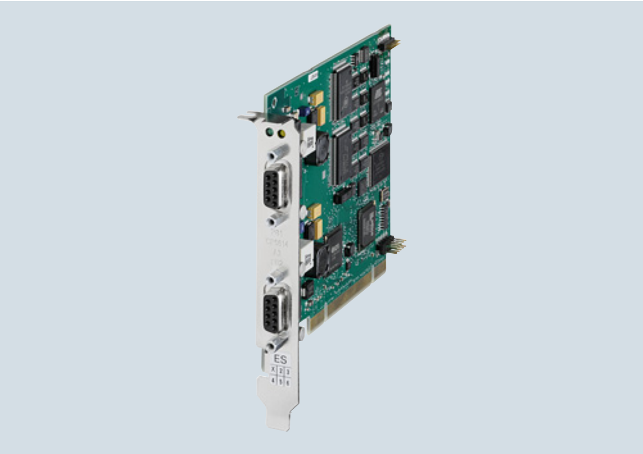
http://www.siemens.com/simatic-net/dk5613

The CP 5613 A3 module can also be used under the LINUX and UNIX operating systems. Information on the available LINUX distributors and UNIX operating systems can be found at:

http://www.siemens.com/simatic-net/ik-info

CP 5614 A3

Overview



DP–M	DP–S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

- PCI card (universal keyed 5 V/3.3 V) with own microprocessor for connection of PCs and SIMATIC PG/PC to PROFIBUS at up to 12 Mbps
- Communication services:
  - PROFIBUS DP master and slave interface according to IEC 61158/61784 on one PCI card
  - PG/OP communication with STEP 5 and STEP 7
  - S7 communication with HARDNET-PB S7 software package
  - Open communication (SEND/RECEIVE) based on the FDL interface
- Comprehensive diagnostics possibilities for installation, commissioning and operation of the module
- High performance over direct dual-port RAM access
- Event and filter mechanisms to reduce the loading on the host CPU
- Multiprotocol operation and parallel operation of up to four CPs
- Implementation of Motion Control applications is possible because a constant bus cycle time is supported
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communications software

Ordering data

Ordering data	Article No.
CP 5614 A3 communications processor PCI card (32-bit; 3.3 V/5 V) master and slave connection to PROFIBUS incl. DP-Base software; DP-RAM interface for DP master, incl. PG and FDL protocols; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for operating system support see SIMATIC NET software V12; English/German	**6GK1561-4AA02**
HARDNET-PB DP Development Kit HARDNET-PB DP Development Kit software for CP 5613 A2/ CP 5614 A2/ CP 5613 A3/ CP 5614 A3/ CP 5603/ CP 5623/ CP 5624 for integration into other operating system environments	see http://www.siemens.com/simatic-net/dk5613
HARDNET-PB DP Software for DP, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for CP 5613 A2/ CP 5614 A2/ CP 5613 A3/ CP 5614 A3/ CP 5603/ CP 5623/ CP 5624	
HARDNET-PB DP V12 For 32/64-bit: Windows 7 Professional/Ultimate; for 32/64-bit: Windows 8 Pro for 64-bit: Windows 2008 Server R2 for 64-bit: Windows 2012 Server English/German	
• Single license for one installation	**6GK1713-5DB12-0AA0**
Software Update Service For 1 year with automatic extension; requirement: current software version	**6GK1713-5DB00-3AL0**
Upgrade	
• From Edition 2006 or 2007 to DP-5613 Edition 2008 or HARDNET-PB DP V12	**6GK1713-5DB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008 or HARDNET-PB DP V12	**6GK1713-5DB00-3AE1**

Ordering data

	Article No.
HARDNET-PB S7	
Software for S7 communication incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A; for CP 5613 A2/ CP 5614 A2/ CP 5613 A3/ CP 5614 A3/ CP 5603/ CP 5623/ CP 5624	
HARDNET-PB S7 V12	
For 32/64-bit: Windows 7 Professional/Ultimate; for 32/64-bit: Windows 8 Pro for 64-bit: Windows 2008 Server R2 for 64-bit: Windows 2012 Server English/German	
• Single license for one installation	**6GK1713-5CB12-0AA0**
Software Update Service	
For 1 year with automatic extension; requirement: current software	**6GK1713-5CB00-3AL0**
Upgrade	
• From Edition 2006 or 2007 to S7-5613 Edition 2008 or HARDNET-PB S7 V12	**6GK1713-5CB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008 or HARDNET-PB S7 V12	**6GK1713-5CB00-3AE1**

	Article No.
Accessories	
PROFIBUS FastConnect bus connector RS 485 Plug 180 With 180° cable outlet, insulation displacement	**6GK1500-0FC10**
PROFIBUS FC Standard Cable GP Standard type with special design for fast mounting, 2-core, shielded, sold in meters; max. delivery unit 1000 m, minimum order quantity 20 m	**6XV1830-0EH10**
PROFIBUS FastConnect Stripping Tool Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables	**6GK1905-6AA00**
PROFIBUS bus terminal 12M Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long	**6GK1500-0AA10**

Note:

You can find order information for software for communication with PC systems under System connections – software overview

You can find the HARDNET-PB DP Development Kit on the Internet at:

http://www.siemens.com/simatic-net/dk5613

The CP 5614 A3 module can also be used under the LINUX and UNIX operating systems. Information on the available LINUX distributors and UNIX operating systems can be found at:

http://www.siemens.com/simatic-net/ik-info

CP 5623

Overview

DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●	●	●	●	●

- PCI Express card (PCIe x1) with own microprocessor for connecting PCs and SIMATIC PG/PC to PROFIBUS at up to 12 Mbps
- Communication services:
  - PROFIBUS DP master Class 1 and 2 or DP slave according to IEC 61158/61784 on one PCI card
  - PG/OP communication with STEP 5 and STEP 7
  - S7 communication with HARDNET-PB S7 software package
  - Open communication (SEND/RECEIVE) based on the FDL interface
  - PROFIBUS FMS according to IEC 61158/61784 with FMS-5613 software package
- Extensive diagnostics options for installation, commissioning and operation of the module
- Event and filter mechanism for reducing the load on the host CPU
- Multiprotocol operation and parallel operation of up to four CPs
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communication software

Ordering data

Ordering data	Article No.
CP 5623 communications processor PCI Express x1 card (32 bit) for connection to PROFIBUS incl. DP-Base software with NCM PC; DP-RAM interface for DP master or DP slave, incl. PG and FDL protocols; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for operating system support see SIMATIC NET software; English/German	**6GK1562-3AA00**
HARDNET-PB DP Development Kit HARDNET-PB DP Development Kit software for CP 5603, CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; for integration into other operating system environments on systems with a PCI or PCI Express slot	see http://www.siemens.com/simatic-net/dk5613
HARDNET-PB DP Software for DP, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for CP 5603, CP 5613 A2, CP 5623, CP 5614 A2, CP 5624	
HARDNET-PB DP V8.2 For 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 English/German	
• Single license for one installation	**6GK1713-5DB08-2AA0**
DP-5613, Edition 2008 For 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German	
• Single license for one installation	**6GK1713-5DB71-3AA0**
Software Update Service For 1 year with automatic extension; requirement: current software version	**6GK1713-5DB00-3AL0**
Upgrade	
• From Edition 2006 or 2007 to DP-5613 Edition 2008 or HARDNET-PB DP V8.1	**6GK1713-5DB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008 or HARDNET-PB DP V8.1	**6GK1713-5DB00-3AE1**

Ordering data

	Article No.
HARDNET-PB S7	
Software for S7 communication, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for CP 5603, CP 5613 A2, CP 5623, CP 5614 A2, CP 5624	
HARDNET-PB S7 V8.2	
For 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 English/German	
• Single license for one installation	**6GK1713-5CB08-2AA0**
S7-5613 Edition 2008	
For 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German	
• Single license for one installation	**6GK1713-5CB71-3AA0**
Software Update Service	**6GK1713-5CB00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 or 2007 to S7-5613 Edition 2008 or HARDNET-PB S7 V8.1	**6GK1713-5CB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008 or HARDNET-PB S7 V8.1	**6GK1713-5CB00-3AE1**
FMS-5613 Edition 2008	
Software for FMS protocol incl. PG/OP communication; FDL, FMS-OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5603, CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; English/German	
• Single license for one installation	**6GK1713-5FB71-3AA0**
Software Update Service	**6GK1713-5FB00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 or 2007 to FMS-5613 Edition 2008	**6GK1713-5FB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to FMS-5613 Edition 2008	**6GK1713-5FB00-3AE1**

	Article No.
Accessories	
PROFIBUS FastConnect bus connector RS 485 Plug 180	**6GK1500-0FC10**
With 180° cable outlet, insulation displacement	
PROFIBUS FC Standard Cable GP	**6XV1830-0EH10**
Standard type with special design for quick assembly, 2-core, shielded, sold in meters; max. length 1000 m, minimum order 20 m	
PROFIBUS FastConnect Stripping Tool	**6GK1905-6AA00**
Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables	
PROFIBUS bus terminal 12M	**6GK1500-0AA10**
Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long	

Note:

You can find order information for software for communication with PC systems under System connections – software overview

You can find the HARDNET-PB DP Development Kit on the Internet at:

http://www.siemens.com/simatic-net/dk5613

The CP 5623 module can also be used under LINUX and UNIX operating systems. Information on the available LINUX distributors and UNIX operating systems can be found at:
http://www.siemens.com/simatic-net/ik-info

CP 5624

Overview

DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●	●	●	●	●

- PCI Express card (PCIe x1) with own microprocessor for connecting PCs and SIMATIC PG/PC to PROFIBUS at up to 12 Mbps
- Two 9-pin sub-D sockets for parallel operation as DP master and DP slave
- Communication services:
  - PROFIBUS DP master and slave interface according to IEC 61158/61784 on one PCI card
  - PG/OP communication with STEP 5 and STEP 7
  - S7 communication with HARDNET-PB S7 software package
  - Open communication (SEND/RECEIVE) based on the FDL interface
  - PROFIBUS FMS according to IEC 61158/61784 with FMS-5613 software package
- Extensive diagnostics options for installation, commissioning and operation of the module
- Event and filter mechanism for reducing the load on the host CPU
- Multiprotocol operation and parallel operation of up to four CPs
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communication software

Ordering data

Ordering data	Article No.
CP 5624 communications processor	**6GK1562-4AA00**
PCI Express x1 card (32 bit) for master and slave connection to PROFIBUS incl. DP-Base software with NCM PC; DP-RAM interface for DP master, incl. PG and FDL protocols; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for operating system support see SIMATIC NET software; English/German	
HARDNET-PB DP Development Kit	see http://www.siemens.com/simatic-net/dk5613
HARDNET-PB DP Development Kit software for CP 5603, CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; for integration into other operating system environments on systems with a PCI or PCI Express slot	
HARDNET-PB DP	
Software for DP, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for CP 5603, CP 5613 A2, CP 5623, CP 5614 A2, CP 5624	
HARDNET-PB DP V8.2	
For 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 English/German	
• Single license for one installation	**6GK1713-5DB08-2AA0**
DP-5613, Edition 2008	
For 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German	
• Single license for one installation	**6GK1713-5DB71-3AA0**
Software Update Service	**6GK1713-5DB00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 or 2007 to DP-5613 Edition 2008 or HARDNET-PB DP V8.1	**6GK1713-5DB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008 or HARDNET DP V8.1	**6GK1713-5DB00-3AE1**

Ordering data

	Article No.
HARDNET-PB S7	
Software for S7 communication, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for CP 5603, CP 5613 A2, CP 5623, CP 5614 A2, CP 5624	
HARDNET-PB S7 V8.2	
For 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 English/German	
• Single license for one installation	**6GK1713-5CB08-2AA0**
S7-5613 Edition 2008	
For 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German	
• Single license for one installation	**6GK1713-5CB71-3AA0**
Software Update Service	**6GK1713-5CB00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 or 2007 to S7-5613 Edition 2008 or HARDNET-PB S7 V8.1	**6GK1713-5CB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008 or HARDNET-PB S7 V8.1	**6GK1713-5CB00-3AE1**

	Article No.
FMS-5613 Edition 2008	
Software for FMS protocol incl. PG/OP communication; FDL, FMS-OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5603, CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; English/German	
• Single license for one installation	**6GK1713-5FB71-3AA0**
Software Update Service	**6GK1713-5FB00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 or 2007 to FMS-5613 Edition 2008	**6GK1713-5FB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to FMS-5613 Edition 2008	**6GK1713-5FB00-3AE1**
Accessories	
PROFIBUS FastConnect bus connector RS 485 Plug 180	**6GK1500-0FC10**
With 180° cable outlet, insulation displacement	
PROFIBUS FC Standard Cable GP	**6XV1830-0EH10**
Standard type with special design for quick assembly, 2-core, shielded, sold in meters; max. length 1000 m, minimum order 20 m	
PROFIBUS FastConnect Stripping Tool	**6GK1905-6AA00**
Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables	
PROFIBUS bus terminal 12M	**6GK1500-0AA10**
Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long	

Note:

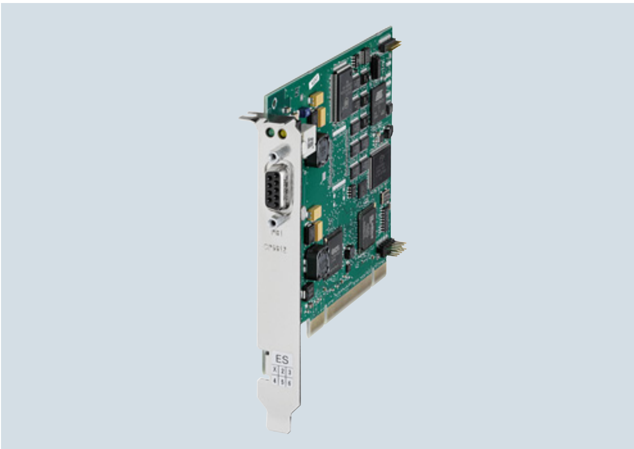
You can find order information for software for communication with PC systems under System connections – software overview

You can find the HARDNET-PB DP Development Kit on the Internet at:

http://www.siemens.com/simatic-net/dk5613

CP 5612

Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

- PCI card (universal keyed 5 V/3.3 V) for connection of PCs and SIMATIC PG/PC to PROFIBUS at up to 12 Mbps and to the MPI interface of SIMATIC S7
- Communication services:
  - PROFIBUS DP master Class 1 incl. acyclic DP expansions with SOFTNET-PB DP software package
  - PROFIBUS DP master Class 2 incl. acyclic DP expansions with SOFTNET-PB DP software package
  - PROFIBUS DP slave with SOFTNET-PB DP slave software package
  - PG/OP communication with STEP 7
  - S7 communication with SOFTNET-PB S7 software package
  - Open communication (SEND/RECEIVE on basis of FDL interface) with SOFTNET-PB DP or SOFTNET-PB S7 software package
- Can be used with:
  - STEP 7, STEP 7 Micro/Win, SIMATIC PDM (for PG/OP communication)
  - SOFTNET-PB S7 (for S7 communication)
  - SOFTNET-PB DP, SOFTNET-PB DP slave (for DP)
- Corresponding OPC servers and configuration tools are included in the scope of delivery of the respective communication software

Ordering data

Ordering data	Article No.
CP 5612 communications processor • PCI card (32-bit) for connection of a programming device or PC to PROFIBUS	**6GK1561-2AA00**
SOFTNET-PB S7	
Software for S7 communication, incl. FDL protocol with OPC server and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A; for CP 5512, CP 5611, CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711	
SOFTNET-PB S7 V8.2	
For 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 English/German	
• Single license for one installation	**6GK1704-5CW08-2AA0**
Software Update Service	**6GK1704-5CW00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 to SOFTNET-S7 Edition 2008 or V8.1	**6GK1704-5CW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-S7 Edition 2008 or V8.1	**6GK1704-5CW00-3AE1**
SOFTNET-PB DP	
Software for DP protocol (master Class 1 and 2), incl. FDL protocol with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive; for CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711	
SOFTNET-PB DP V8.2	
For 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 English/German	
• Single license for one installation	**6GK1704-5DW08-2AA0**
Software Update Service	**6GK1704-5DW00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 to SOFTNET-DP Edition 2008 or V8.1	**6GK1704-5DW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Edition 2008 or V8.1	**6GK1704-5DW00-3AE1**

Ordering data

	Article No.
SOFTNET-PB DP Slave	
Software for DP slave, with DP OPC server and NCM PC, single license for one installation, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A; for CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711	
SOFTNET-PB DP Slave V8.2	
For 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 English/German	
• Single license for one installation	**6GK1704-5SW08-2AA0**
Software Update Service	**6GK1704-5SW00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 to SOFTNET-DP Slave Edition 2008 or V8.1	**6GK1704-5SW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Slave Edition 2008 or V8.1	**6GK1704-5SW00-3AE1**

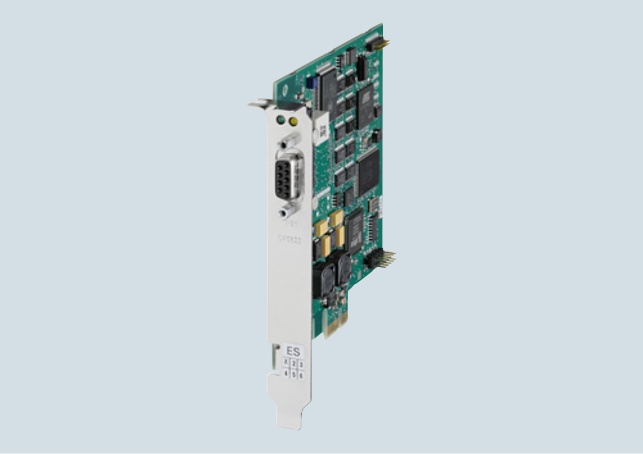
	Article No.
Accessories	
PROFIBUS FastConnect bus connector RS 485 Plug 180	**6GK1500-0FC10**
With 180° cable outlet, insulation displacement	
PROFIBUS FC Standard Cable GP	**6XV1830-0EH10**
Standard type with special design for quick assembly, 2-core, shielded, sold in meters; max. length 1000 m, minimum order 20 m	
PROFIBUS FastConnect Stripping Tool	**6GK1905-6AA00**
Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables	
PROFIBUS bus terminal 12M	**6GK1500-0AA10**
Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long	

Note:

You can find order information for software for communication with PC systems under System connections – software overview

CP 5622

Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

G_IK10_XX_10182

- PCI Express card (PCIe x1) for connection of PCs and SIMATIC PG/PC to PROFIBUS at up to 12 Mbps and to the MPI interface of SIMATIC S7
- Communication services:
  - PROFIBUS DP master Class 1 incl. acyclic DP expansions with SOFTNET-PB DP software package
  - PROFIBUS DP master Class 2 incl. acyclic DP expansions with SOFTNET-PB DP software package
  - PROFIBUS DP slave with SOFTNET-PB DP slave software package
  - PG/OP communication with STEP 7
  - S7 communication with SOFTNET-PB S7 software package
  - Open communication (SEND/RECEIVE on basis of FDL interface) with SOFTNET-PB DP or SOFTNET-PB S7 software package
- Can be used with:
  - STEP 7, STEP 7 Micro/Win, SIMATIC PDM (for PG/OP communication)
  - SOFTNET-PB S7 (for S7 communication)
  - SOFTNET-PB DP, SOFTNET-PB DP slave (for DP)
- Corresponding OPC servers and configuration tools are included in the scope of delivery of the respective communication software

Ordering data

Ordering data	Article No.
CP 5622 communications processor • PCI Express x1 card (32-bit) for connection of a PG or PC to PROFIBUS	**6GK1562-2AA00**
SOFTNET-PB S7	
Software for S7 communication, incl. FDL protocol with OPC server and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A; for CP 5512, CP 5611, CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711	
SOFTNET-PB S7 V8.2	
For 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 English/German	
• Single license for one installation	**6GK1704-5CW08-2AA0**
Software Update Service	**6GK1704-5CW00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 to SOFTNET-S7 Edition 2008 or V8.1	**6GK1704-5CW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-S7 Edition 2008 or V8.1	**6GK1704-5CW00-3AE1**

Ordering data

	Article No.
SOFTNET-PB DP	
Software for DP protocol (master Class 1 and 2), incl. FDL protocol with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive; for CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711	
SOFTNET-PB DP V8.2	
For 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 English/German	
• Single license for one installation	**6GK1704-5DW08-2AA0**
Software Update Service	**6GK1704-5DW00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 to SOFTNET-DP Edition 2008 or V8.1	**6GK1704-5DW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Edition 2008 or V8.1	**6GK1704-5DW00-3AE1**
SOFTNET-PB DP Slave	
Software for DP slave, with DP OPC server and NCM PC, single license for one installation, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A; for CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711	
SOFTNET-PB DP Slave V8.2	
For 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 English/German	
• Single license for one installation	**6GK1704-5SW08-2AA0**
Software Update Service	**6GK1704-5SW00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 to SOFTNET-DP Slave Edition 2008 or V8.1	**6GK1704-5SW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Slave Edition 2008 or V8.1	**6GK1704-5SW00-3AE1**

	Article No.
Accessories	
PROFIBUS FastConnect bus connector RS 485 Plug 180	**6GK1500-0FC10**
With 180° cable outlet, insulation displacement	
PROFIBUS FC Standard Cable GP	**6XV1830-0EH10**
Standard type with special design for quick assembly, 2-core, shielded, sold in meters; max. length 1000 m, minimum order 20 m	
PROFIBUS FastConnect Stripping Tool	**6GK1905-6AA00**
Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables	
PROFIBUS bus terminal 12M	**6GK1500-0AA10**
Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long	

Note:

You can find order information for software for communication with PC systems under System connections – software overview

CP 5711

Overview

DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

- USB adapter for the connection of PCs and SIMATIC PG/PC to PROFIBUS DP or MPI via USB 2.0
- Operation in extended temperature range of -20 °C to +60 °C
- Active PROFIBUS termination to supply the PROFIBUS network as end station of a segment
- Robust USB connection due to mechanical locking of the USB connector to the CP 5711 housing
- Communication services:
  - PROFIBUS DP master Class 1 and 2 according to IEC 61158/61784 with SOFTNET-PB DP software package
  - PROFIBUS DP slave with SOFTNET-PB DP slave software package
  - PG/OP communication with STEP 5 or STEP 7 software package
  - S7 communication with SOFTNET-PB S7 software package
  - Open communication (SEND/RECEIVE on basis of FDL interface) with SOFTNET-PB DP or SOFTNET-PB S7 software package
- PROFIBUS connection with up to 12 Mbps
- Can be used with:
  - STEP 7, STEP 7 Micro/WIN, WinCC/WinCC flexible, NCM PC, SIMATIC PDM (for PG/OP communication)
  - SOFTNET-PB S7 (for S7 communication)
  - SOFTNET-PB DP, SOFTNET-PB DP slave (for DP)
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communication software

Odering data

Odering data	Article No.
CP 5711 communications processor	
For connection of a programming device or notebook to PROFIBUS or MPI, under 32 bit in connection with PROFIBUS SOFTNET software or STEP 7; English/German	
• USB V2.0 adapter	**6GK1571-1AA00**
Mounting rail support for CP 5711	**6GK1571-1AA00-0AH0**
Compartment for CP 5711 enclosure; fastened mechanically to 35 mm DIN rail	
SOFTNET-PB S7	
Software for S7 communication, incl. FDL protocol with OPC server and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A; for CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711	
SOFTNET-PB S7 V8.2	
For 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 English/German	
• Single license for one installation	**6GK1704-5CW08-2AA0**
SOFTNET-S7 Edition 2008 (V7.1)	
For 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German	
• Single license for one installation	**6GK1704-5CW71-3AA0**
Software Update Service	**6GK1704-5CW00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 to SOFTNET-S7 Edition 2008 or V8.1	**6GK1704-5CW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-S7 Edition 2008 or V8.1	**6GK1704-5CW00-3AE1**

Ordering data

	Article No.
SOFTNET-PB DP	
Software for DP protocol (master Class 1 and 2), incl. FDL protocol with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive; for CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711	
SOFTNET-PB DP V8.2	
For 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 English/German	
• Single license for one installation	**6GK1704-5DW08-2AA0**
SOFTNET-DP Edition 2008 (V7.1)	
For Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German	
• Single license for one installation	**6GK1704-5DW71-3AA0**
Software Update Service	**6GK1704-5DW00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 to SOFTNET-DP Edition 2008 or V8.1	**6GK1704-5DW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Edition 2008 or V8.1	**6GK1704-5DW00-3AE1**
SOFTNET-PB DP Slave	
Software for DP slave, with DP OPC server and NCM PC, single license for one installation, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A; for CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711	
SOFTNET-PB DP Slave V8.2	
For 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 English/German	
• Single license for one installation	**6GK1704-5SW08-2AA0**

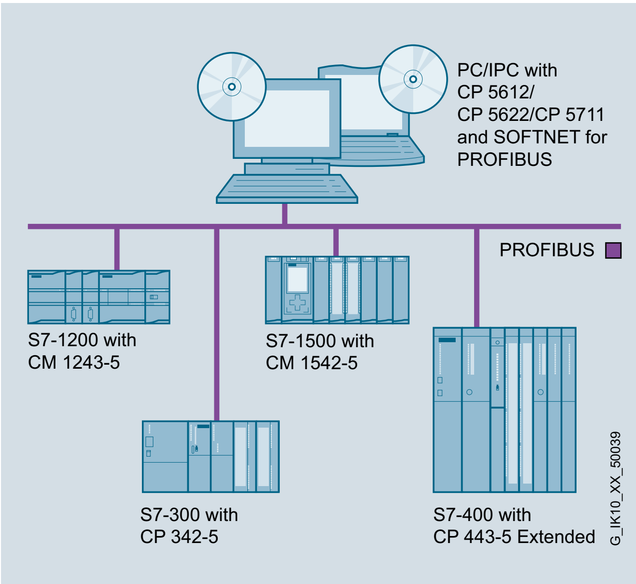
	Article No.
SOFTNET-DP Slave Edition 2008 (V7.1)	
For 32 bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German	
• Single license for one installation	**6GK1704-5SW71-3AA0**
Software Update Service	**6GK1704-5SW00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 to SOFTNET-DP Slave Edition 2008 or V8.1	**6GK1704-5SW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Slave Edition 2008 or V8.1	**6GK1704-5SW00-3AE1**
Accessories	
PROFIBUS FastConnect bus connector RS 485 Plug 180	**6GK1500-0FC10**
With 180° cable outlet, insulation displacement	
PROFIBUS FC Standard Cable GP	**6XV1830-0EH10**
Standard type with special design for quick assembly, 2-core, shielded, sold in meters; max. length 1000 m, minimum order 20 m	
PROFIBUS FastConnect Stripping Tool	**6GK1905-6AA00**
Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables	
PROFIBUS bus terminal 12M	**6GK1500-0AA10**
Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long	
Mounting rail support	**6GK1571-1AA00-0AH0**
Compartment for CP 5711 enclosure; fastened mechanically to 35 mm DIN rail	

Note:

You can find order information for software for communication with PC systems under System connections – software overview

SOFTNET for PROFIBUS

Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

- Software for connecting PCs/programming devices and notebooks to automation systems
- Communication services:
  - PROFIBUS DP master Class 1 and 2 with acyclic expansions
  - PROFIBUS DP slave
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE) based on the FDL interface
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communications software

Ordering data

Ordering data	Article No.
SOFTNET-PB S7	
Software for S7 communication, incl. FDL protocol with OPC server and configuration tool, runtime software, software and electronic manual on DVD-ROM, license key on USB flash drive, Class A; for CP 5612 (Win 7 and higher), CP 5622 (Win 7 and higher), CP 5711	
SOFTNET-PB S7 V13	
For 32/64-bit: Windows 7 SP1 Professional/Ultimate; For 64 bit: Windows 8.1 Pro; For 64 bit: Windows Server 2008 R2 SP1; For 64 bit: Windows Server 2012 R2; English/German	
• Single license for one installation	**6GK1704-5CW13-0AA0**
Software Update Service	**6GK1704-5CW00-3AL0**
For 1 year, with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 to SOFTNET-S7 Edition 2008 or V13	**6GK1704-5CW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-S7 Edition 2008 or V13	**6GK1704-5CW00-3AE1**
SOFTNET-PB DP	
Software for DP protocol (master Class 1 and 2), incl. FDL protocol with OPC server and configuration tool; runtime software, software and electronic manual on DVD-ROM, license key on USB flash drive; for CP 5612 (Win 7 and higher), CP 5622 (Win 7 and higher), CP 5711	
SOFTNET-PB DP V13	
For 32/64-bit: Windows 7 SP1 Professional/Ultimate; For 64 bit: Windows 8.1 Pro; For 64 bit: Windows Server 2008 R2 SP1; For 64 bit: Windows Server 2012 R2; English/German	
• Single license for one installation	**6GK1704-5DW13-0AA0**
Software Update Service	**6GK1704-5DW00-3AL0**
For 1 year, with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 to SOFTNET-DP Edition 2008 or V13	**6GK1704-5DW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Edition 2008 or V13	**6GK1704-5DW00-3AE1**

Ordering data

	Article No.
SOFTNET-PB DP-Slave	
Software for DP slave, with OPC server and configuration tool, single license for one installation, runtime software, software and electronic manual on DVD-ROM, license key on USB flash drive, Class A; for CP 5612 (Win 7 and higher), CP 5622 (Win 7 and higher), CP 5711	
SOFTNET-PB DP Slave V13	
For 32/64-bit: Windows 7 SP1 Professional/Ultimate; For 64 bit: Windows 8.1 Pro; For 64 bit: Windows Server 2008 R2 SP1; For 64 bit: Windows Server 2012 R2; English/German	
• Single license for one installation	**6GK1704-5SW13-0AA0**

	Article No.
Software Update Service	**6GK1704-5SW00-3AL0**
For 1 year, with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 to SOFTNET-DP Slave Edition 2008 or V13	**6GK1704-5SW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Slave Edition 2008 or V13	**6GK1704-5SW00-3AE1**

Note

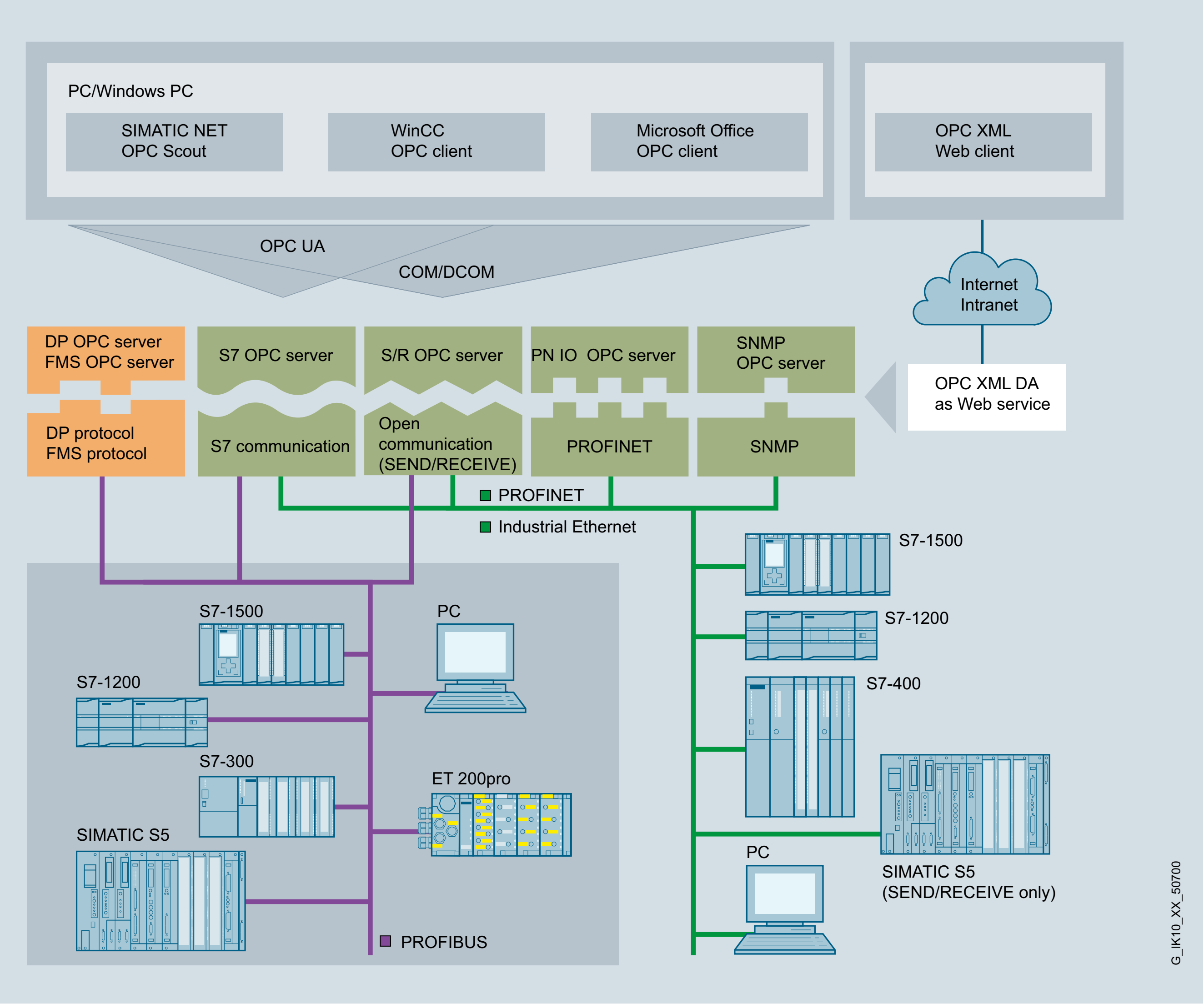
The Windows XP software version is still available for older CPs; see the Industry Mall:
http://www.siemens.com/industrymall.

4

OPC server for PROFIBUS

Overview

- Standardized, open multi-vendor interface
- Interfacing of OPC-capable Windows applications to DP, FMS, S7 communication and open communication (SEND/RECEIVE) based on the FDL interface
- OPC Scout with browser functionality as an OPC client and OCX Data Control/.NET Data Control for simple OPC client creation
- The relevant OPC servers are supplied with each communication software package



System integration with OPC server

Overview

OPC (**O**penness, **P**roductivity & **C**ollaboration) is a standardized, open, and vendor-independent interface that is widely used in automation.

OPC UA (**U**nified **A**rchitecture) is the result of consistent further development of this standard, offering additional functions such as security or redundancy.

S7 OPC Redundancy is a software product compliant with the OPC UA standard that enables redundant configuration of OPC UA servers for SIMATIC S7.

The availability of automation data to operator control and monitoring systems is ensured thanks to the redundant use of OPC UA servers. This requires neither additional cabling for synchronizing the redundant OPC UA servers, nor additional programming effort on the PC.

The OPC UA servers are synchronized via high-performance Industrial Ethernet network accesses at 10/100 and 1000 Mbps. S7 OPC Redundancy represents an integrated customer solution for all SIMATIC NET S7 SOFTNET and HARDNET software products in the automation world.

Ordering data

Ordering data	Article No.
S7 OPC Redundancy	
Software for redundant OPC servers, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A	
S7 OPC Redundancy V13 for PROFIBUS	
For 64-bit Windows 2008 server R2; English/German	
• Single license for one installation	**6GK1706-5CW13-0AA0**
Software Update Service	
For 1 year, with automatic extension; requirement: current software version	**6GK1706-5CW00-3AL0**

4

PC adapter USB A2

Overview

DP-M	DP-S	FMS	PG/OP	S7/S5	
			●		

USB adapter for the connection of PCs/notebooks and SIMATIC PG/PC to the SIMATIC S7 automation system via USB interface.

- For connection to USB 1.1, 2.0 and 3.0 interfaces
- Power supply from the USB interface
- PROFIBUS connection with up to 12 Mbps
- Support for routing
- Automatic transmission rate and profile search
- Can be used as of Windows XP SP2
- As of Windows 7, can also be used with 64-bit systems
- Scope of delivery:
  - PC adapter USB A2
  - CD with drivers for the PC adapter USB A2
  - USB cable
  - MPI cable 0.3 m

Ordering data

Ordering data	Article No.
PC adapter USB A2 For connecting a PG/PC or notebook to PROFIBUS or MPI; USB cable included in scope of delivery	**6GK1571-0BA00-0AA0**

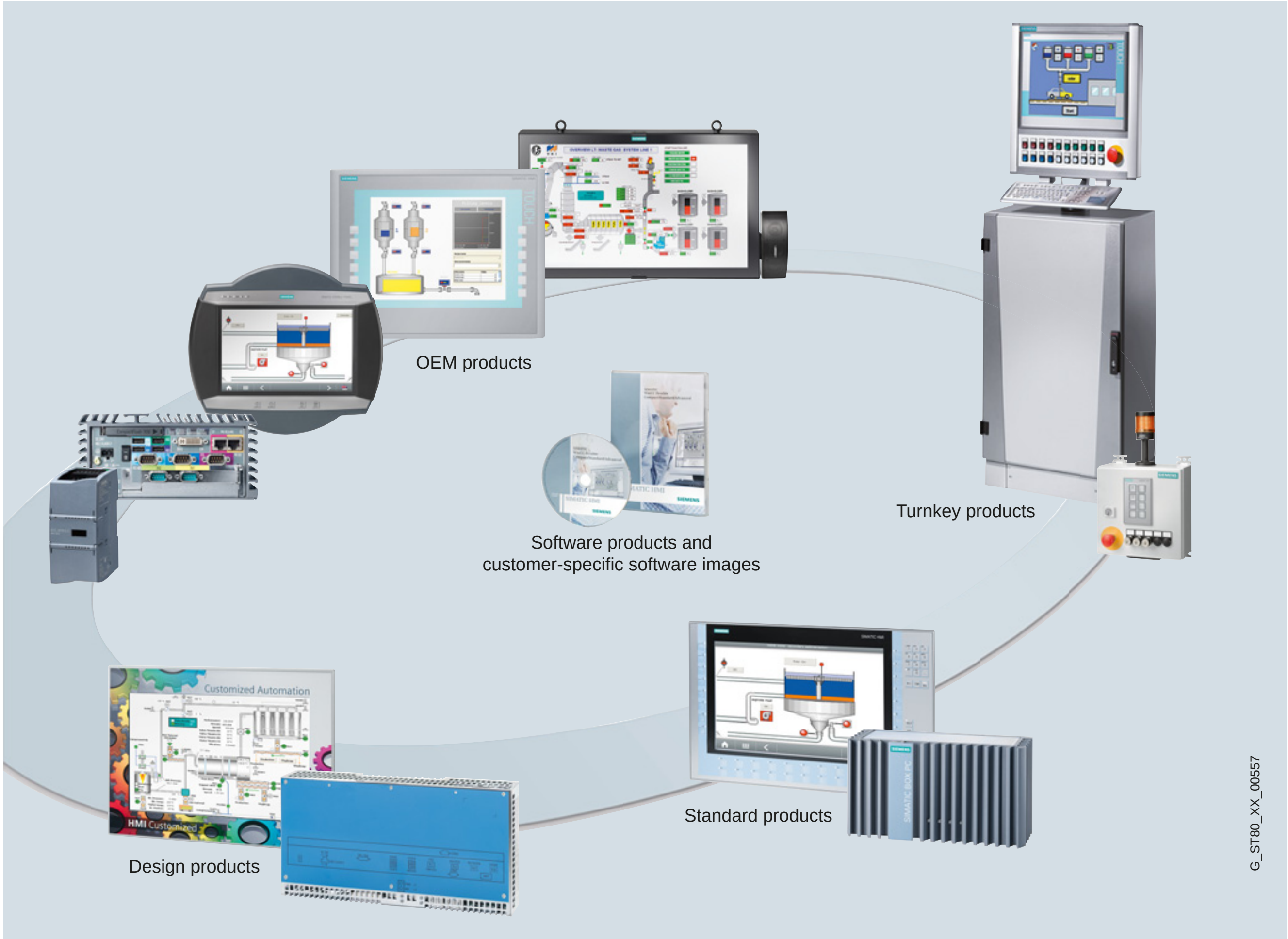
4

Customized Automation

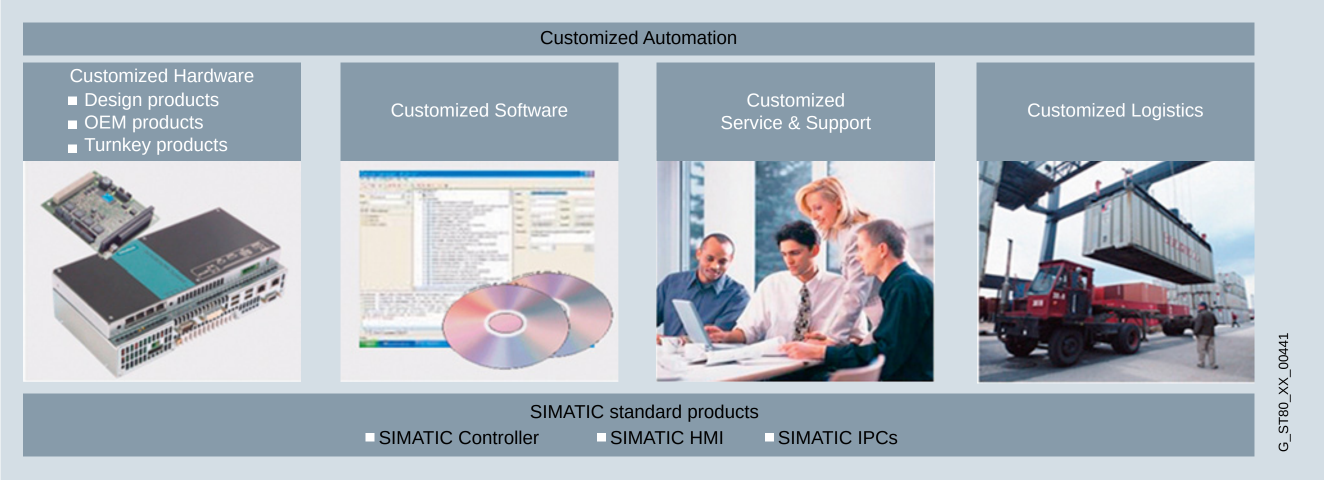
5

Introduction

Overview



Customized Automation - Hardware



Customized Automation - overview

With Siemens Customized Automation, Siemens provides customized products based on the Siemens automation portfolio.

We modify our proven, successful standard products to satisfy your requirements: from slight design modifications up to OEM hardware and software systems.

This change portfolio ranges from individual design modifications, software filling of customer images, special tests and certifications, to changes in the service, support and logistics.

Benefits

Time savings

- You can use our comprehensive customization expertise and our long years of experience with the Siemens components
- You do not have to build up any additional know-how, leaving you to concentrate completely on your own core competence
- Close cooperation with our expert team to implement all our requests and changes quickly to produce a tailor-made solution

Increase in profitability

- You invest your money and resources selectively in your core competence
- You implement reliable material requirements and logistics planning, tailored to your needs, thanks to our logistics services
- You have maximum investment security thanks to highest quality, long-term availability and continuity with SIMATIC, SIMATIC IPC and SIMATIC HMI

Increase in competitive edge for the machine

- Components perfectly matched to the expected application environment, including detection of and protection against unwanted modifications to software and hardware
- You receive customized products with Siemens Customized Automation that fit outstandingly well into the "Totally Integrated Automation" (TIA) concept
- You can draw attention not only to your exceptional technology but also to the individual design of your machine, by printing a logo on the front of the enclosure, for example.

Customized hardware:

Customized products are modified SIMATIC HMI standard products. According to the necessary degree of modification of the hardware, these types of product are separately identified as:

- Design products
- OEM products
- Turnkey products

Customized modifications are available in all performance classes, starting with Push Button Panels or Key Panels, Basic Panels, Comfort Panels up to Rack/Box/Panel PCs.

Customized software:

In the case of customer-specific products, the software can also be individually installed. This includes the generation of operating systems and also the integration and installation of driver software and images – for complete, turnkey systems. A software change can also be implemented to increase system protection against theft of know-how and service piracy.

Customized software products:

- Remote Operate Software
  for implementation of multi-user systems with HMI IPC and clients on the basis of MP 377 and HMI IPC477
- Open Modbus for SIMATIC systems
  provides the capability of connecting systems from various manufacturers to SIMATIC automation systems

Customized service, support and logistics

Special additional services for proven Siemens products can be implemented with Siemens Customized Automation. These include new certifications and approvals, such as for marine or country-specific releases. Individual project planning, repair concepts and delivery agreements can also be made for each product. Customized Automation also offers the option of a design freeze or extended availability for individual products.

Customized products from various industries

SIMATIC HMI products are provided with additional features in order to facilitate optimum use in specific sectors of industry. Stainless steel front panels for the food, beverages and tobacco industry are one such example. With the exception of their front panels, the devices are identical to standard products in respect of function and technology.

We can offer products for the following industries:

- Renewable energy
- Automotive industry – HMI for factory automation
- General mechanical engineering
- Food and beverages industry/pharmaceuticals
- Oil & gas/chemicals and shipbuilding

Customized products for various industries are developed and produced in conjunction with a customized product agreement.

More information

Additional information is available on the Internet at:
http://www.siemens.com/customized-automation

Overview

Customized products are standard Siemens automation products which have been modified.

A distinction is made according to the degree of hardware modification:

- Design products
- OEM products
- Integrated solutions

More information can be found on the Internet at:

http://www.siemens.com/customized-automation

Customized hardware

Design products

Customized design means modifying the design and visual impact of Siemens products for seamless adaptation into the customer's individual machine and plant design and special operator philosophy.

The modification options are:

- Changing the company logo and the device type designation
- Changing the keyboard color scheme, the key labeling, or the key symbols
- Changing the enclosure color (front frame)

Design products are fully compatible with the standard products in technology and functionality, and can thus be fully integrated into the Totally Integrated Automation environment. Identical technology enables, for example, replacement using standard devices in the event of a fault in case the machine or plant supplier does not currently have a customized product in the spare parts warehouse.

OEM products

Product modifications for OEM (Original Equipment Manufacturer) customers are suitable for individual, industrial automation solutions that cannot be fulfilled with the help of standard products, or can only be handled with design-modified panels.

OEM products are individual solutions based on standard Siemens components. They are specified, offered, developed and supplied individually in consultation with the customer.

As in a system of building blocks, the standard components, customized components and additionally required software/ function extensions are combined to create an OEM device.

Integrated solutions

The customized integrated solutions house the automation system, together with HMI and operator controls, in a single enclosure. The system is developed and manufactured according to customer requirements in the usual Siemens quality.

The product is then a ready to start device that can be installed directly in a machine.

Overview

Customized software

In the case of customer-specific products, the software can also be individually installed. This includes the generation of operating systems and also the integration and installation of driver software and images – for complete, turnkey systems.

The customized software suite comprises:

- Generation of operating systems
  - for Windows XP embedded, for example
  - and the RMOS3 real-time operating system from Siemens
  - for customized LINUX installation
- Integration and installation of driver software and pre-installed images
  - for additional cards, controllers, or memory media, for example
  - for completely turnkey systems

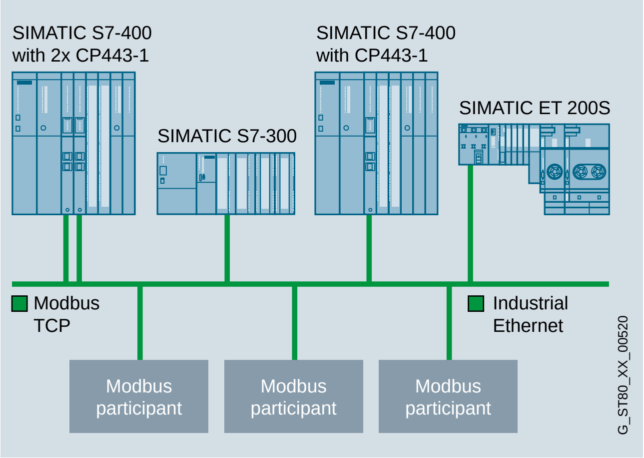
In addition, customized software products based on our experience in the industrial automation offer an opportunity to set up multi-user systems and industrial remote operation and the possibility of integrating SIMATIC S7 into building automation:

Remote Operate Software

The HMI Remote Operate Software is an industrial remote control system based on Ethernet.

The software (server) enables the creation of a multi-user system with HMI IPC. Up to 6 operator stations (slaves) based on clients with MP 377 and HMI IPCs. The clients can also be assigned to several servers.

SIMATIC Modbus/TCP



- Software for communication between SIMATIC S7 and devices that support the Modbus/TCP protocol
- Expansion or upgrade of existing plants with SIMATIC automation systems
- Connection of controllers and systems from different manufacturers

Benefits

- Easy coupling of systems from different manufacturers with SIMATIC automation systems over Industrial Ethernet
- No specialized Modbus know-how required
- Engineering with the standard tool SIMATIC STEP 7
- Fast configuration with the help of a wizard (only available for specific versions)

Application

Modbus is a protocol that is widely used internationally, open to all users and supported by many manufacturers. Modbus/TCP was developed from it for use in modern networks.

This protocol is now an open Internet draft standard that was introduced by IEFT (Internet Engineering Task Force), the organization for Internet standardization. This openness means that every manufacturer and user is able to use this protocol – a possibility that many leading manufacturers have already availed of.

The increasing expansion of Ethernet communication into industrial areas as well as the office environment has extended the use of Modbus/TCP in every sector. Heterogeneous system landscapes are the typical areas of use.

Design

Communication with the Modbus/TCP stations is performed via a communications processor (CP) or via the integrated PN interface of the SIMATIC S7 CPU.

A SIMATIC S7 Controller can communicate with more than one Modbus/TCP station simultaneously, depending on the number of connection resources of the S7 CPU.

SIMATIC Modbus/TCP CP and Redundant V2 support the following CPs of the SIMATIC S7:

- S7 300
  - CP 343-1
- S7 400
  - CP 443-1

Use is possible only on CPs that support the function AG_CNTRL.

SIMATIC Modbus/TCP PN CPU, SIMATIC Modbus/TCP PN Red and SIMATIC Modbus/TCP SENTRON PAC support the following CPUs of the SIMATIC S7:

- ET 200
  - IM 151-8 PN/DP CPU
  - IM 154-8 PN/DP CPU
- S7 300/400
  - CPU 314C-2 PN/DP
  - CPU 315-2 PN/DP
  - CPU 317-2 PN/DP
  - CPU 319-3 PN/DP
  - CPU 412-2 PN
  - CPU 414-3 PN/DP
  - CPU 416-3 PN/DP
- S7-400 H (SIMATIC Modbus/TCP PN CPU and SIMATIC Modbus/TCP PN Red only)
  - CPU 412-5H
  - CPU 414-5H
  - CPU 416-5H
  - CPU 417-5H
  - CPU 410-5H
- Soft PLC (SIMATIC Modbus/TCP PN CPU only)
  - SIMATIC WinAC RTX
- SENTRON PAC (for SIMATIC Modbus/TCP SENTRON PAC)
  - PAC 3200, as of FW V2.2.1
  - PAC 4200, as of FW V1.5.1

The Modbus/TCP products have been released for standard CPUs, for F-CPUs, and for (PN)-(H) CPUs.

Mode of operation

The Modbus block functions according to the client/server principle. The client is the active station and the server is the passive station in the communication process. Data is exchanged between the communication partners by means of various different function codes. The S7 can be operated as a client as well as a server during transmission.

In the initialization phase, it is determined on which S7 data blocks the Modbus registers and coils should be represented.

A distinction is made between client and server functionality during cyclic operation:

- If the S7 is operating as a client, when a task is activated, a Modbus frame is generated from the specified current parameters and sent to the coupling partner over the TCP/IP connection. After the response has been received and the data has been checked and found to be consistent, the required actions, such as reading or writing data, will be performed. Any errors that occur during evaluation or processing are indicated on the Modbus block.
- If the S7 is operating as a server, the block waits for a request from the client. If a frame is received from a client, it is checked and evaluated. After the frame has been checked, the response is generated and the required actions, such as reading or writing data, will be performed. A processed request or any errors that have occurred during evaluation are indicated on the Modbus block.

Technical specifications

	2XV9450-1MB00	2XV9450-1MB02	6AV6676-6MB30-3AX0	6AV6676-6MB10-0AX0
Client/server functionality	• / •	• / •	• / •	• / •
Function codes	1, 2, 3, 4, 5, 6, 15 and 16	1, 2, 3, 4, 5, 6, 15 and 16	1, 2, 3, 4, 5, 6, 15 and 16	1, 2, 3, 4, 5, 6, 15 and 16
Modbus address range	0 - 65535	0 - 65535	0 - 65535	0 - 65535
Data volume				
Read register	125	125	125	125
Write register	123	123	123	123
Read bits	2000	2000	2000	2000
Write bits	1968	1968	1968	1968
Capable of multi-instance	•	•	•	•
Max. number of parallel block calls	• CPU-dependent • Client: No limit to the number of block calls; maximum number of simultaneously active blocks limited by the CPU (AG_SEND/AG_RECV) • Server: limited by the max. number of AG_SEND/AG_RECV calls of the CPU	• Unlimited number of block calls; • Number of simultaneously established connections is dependent on the CPU	• CPU-dependent • Client: No limit to the number of block calls; maximum number of simultaneously active blocks limited by the CPU (AG_SEND/ AG_RECV) • Server: limited by the max. number of AG_SEND/AG_RECV calls of the CPU	• Unlimited number of block calls; • Number of simultane-ously established con-nections is dependent on the CPU
Connection configuration	Static connections over NetPro	Dynamic connections over TCON and TDISCON	Static connections over NetPro	Dynamic connections over TCON and TDISCON
Communication	AG_(L)SEND/ AG_(L)RECV	TSEND/ TRCV	AG_(L)SEND/ AG_(L)RECV	TSEND/ TRCV
Work memory requirement				
FB (Client/Server)	16 KB	19 KB	20 KB	17 KB
IDB	approx. 1 KB	approx. 1 KB	approx. 1 KB	approx. 1 KB
Can be used in CFC/PCS 7	•	•	•	•
Use with older CPs that do not support the AG_CNTRL	No	-	No	-
Multiplexing of TCP connections	CP-dependent	-	CP-dependent	-
Redundancy functions	-	-	Single-sided or two-sided redundancy is possible	Single-sided or two-sided redundancy is possible
Bit memories/timers can be used	No	No	No	No

Ordering data

	Article No.
Modbus/TCP PN RED Single license, redundant Modbus communication via the integrated PN interface of the S7-400 PN(H) CPU and S7-300 PN CPU, valid for 1 PN-H CPU pair or 1 single PN-CPU	**6AV6676-6MB10-0AX0**
Modbus/TCP CP RED Single license, redundant Modbus communication via a communica-tions processor (CP) in the S7-400 PN(H) CPU or the S7-300 PN CPU, valid for 1 H CPU pair or 1 single CPU	**6AV6676-6MB30-3AX0**
Modbus/TCP 20 SENTRON PAC Single license	**6AV6676-6MA30-0AX0**
Modbus/TCP 100 SENTRON PAC Single license	**6AV6676-6MA30-1AX0**
Modbus/TCP 512 SENTRON PAC Single license, communication via the integrated PN interface for reading out values from PAC 3200 and PAC 4200 devices, valid for 1 CPUe	**6AV6676-6MA30-2AX0**

	Article No.
Modbus/TCP CP Task: Software for coupling Modbus/TCP devices to SIMATIC S7 via a communications processor (CP) Type of delivery: Function blocks for SIMATIC S7, example projects, documentation on CD	**2XV9450-1MB00**
Modbus/TCP PN CPU Task: Software for coupling ModbusTCP devices to SIMATIC S7 via the integrated PN interface Type of delivery: Function blocks for SIMATIC S7, example projects, documentation on CD	**2XV9450-1MB02**

Introduction

Overview

SIMATIC HMI products are provided with additional features in order to facilitate optimum use in specific sectors of industry. Stainless steel front panels for the food, beverages and tobacco industry are one such example. With the exception of their front panels, the devices are identical to standard products in respect of function and technology.

We can offer products for the following sectors:

- ***Renewable energy***
- ***Automotive*** - HMI for factory automation
- ***General mechanical engineering***
- ***Food and beverages***, ***pharmaceuticals***
- ***Oil & gas***, ***chemicals*** and ***shipbuilding***

Customized products for various industries are developed and produced in association with a customized product agreement.

Examples:

- Area of application ***renewable energy***:
  - SIMATIC Rack PC with flexible expansion
  - SIMATIC Box PC: 627/427 with QNX
- Area of application ***automotive***:
  - HMI operator stations
  - Front panel for Panel PCs, 15" with arrow keys on the side
  - Mobile Panel 277 10" Remote Operate
- Area of application ***general mechanical engineering***:
  - Touch and Key front panel 15" for Panel PCs, resistant to honing oil
  - Flat Panels 10.4" for Panel PCs – Flat Panel SCD1900 portrait
- Areas of application ***food and beverages*** and ***pharmaceuticals***:
  - Panels and Panel PCs with stainless steel fronts
  - HMI Panels as rear-mounted devices
  - Flat Panels with stainless steel fronts
  - HMI stainless steel operator stations
- Areas of application ***oil & gas***, ***chemicals*** and ***shipbuilding***:
  - MP 377 15" Touch daylight readable

Overview

Renewable energy

SIMATIC HMI products are provided with additional features in order to facilitate use in specific sectors.

Solar plants

Photovoltaic plants are subject to hardly any mechanical stress and therefore require little maintenance. This also requires reliable and low-maintenance devices in the automation system.

With the wide operating temperature range at a high computing power, with their various mounting styles, as well as options for diagnostics and data backup, SIMATIC Panels and IPCs meet these requirements.

Wind farms

Wind farms can be used in all climatic zones and also in poorly accessible areas, e.g. offshore.

The requirements regarding the control systems are accordingly diverse, and complete freedom from maintenance of the devices is required.

The industrial PCs of the 427 series can meet these requirements. Versions of the Microbox treated by special paint processes can also be used in salt-laden air.

Solar plants

Compared to other power plants, photovoltaic plants are subject to hardly any mechanical stress and therefore require little maintenance. The same also applies for solar and solar-thermal systems.

This also reduces the maintenance overhead on the devices. The SIMATIC Industrial PCs and Panels meet these requirements through the targeted selection of high-quality components and special production processes.

5

Solar plants

Benefits

SIMATIC Box PC family with mounting bracket for front mounting in portrait format

- Long service life
- Extra long spare parts availability
- Adapted computing power
- High system availability
- Individually adaptable

Application

All SIMATIC Panels and IPCs are developed for especially demanding environments and also for long service life. Spare parts availability for many years secures use in sound solar and photovoltaic plants.

- ***Rugged***:
  Ambient temperatures of 0 °C to +55 °C offer high flexibility in the choice of installation location. Use of a TEK is recommended for increasing the temperature range (see Chapter: Temperature Extension Kit).
- ***Innovative and flexible***:
  - We meet the ever-increasing demand for more computing power by using the current generation of processors from Intel®. Based on the current chipsets, devices are available with CeleronM, Core2Solo, Core2Duo and Core2Quad. This makes power-saving applications (e.g. simple data acquisition) just as possible as power-hungry applications (such as the software PLC in real-time WinAC RTX) and server systems.
  - The SIMATIC IPCs fit into any control cabinet. Different mounting methods enable a host of installation variants.

Optimized equipping of the panels and IPCs for more system availability is one of the simplest options for increasing productivity by means of reducing standstill times.

Electromechanical components often cause malfunctions in PCs. Since hard disks and fans in the industrial PC usually operate continuously, they are subject to an especially high rate of wear and tear. Software options for diagnostics and data backup, such as SIMATIC IPC DiagMonitor or SIMATIC IPC Image Creator, are particularly effective here, in addition to the use of high-quality industrial grade components.

Overview

Wind farms

Wind farms can be used to produce electrical power in all climatic zones, at sea, and in all types of terrain. The requirements regarding the control systems for wind turbines and wind parks are as diverse as the installation locations.

These locations are increasingly difficult to reach. This means the equipment must be completely maintenance-free. The Industrial PCs of the 427 series can meet these requirements. By selecting high-quality components and special production procedures, all the SIMATIC IPCs and Panels can be used for several years without requiring servicing.

Benefits

SIMATIC IPC427C with expansion frame

- Suitable for special temperature requirements
- Maintenance-free for offshore use
- Can handle high mechanical load
- High system availability
- Individually adaptable

Application

All SIMATIC Panels and IPCs are developed for especially demanding environments.

The devices are optimally equipped to deal with vibration in wind turbines: rugged enclosures, special hard disk brackets, and interlocks are just a few examples of standard features on SIMATIC devices.

- Rugged:
  - The SIMATIC IPCs fit into any control cabinet. Different mounting methods enable a host of installation variants. Ambient temperatures of 0 °C to +55 °C are supported on the IPC427C, with much higher temperatures in some applications. Use of a TEK is recommended for extreme temperatures (see Chapter: Temperature Extension Kit).
  - Salt-laden atmospheres are hard on the devices. SIMATIC Panels are also available in the IP65 type and are thus eminently suitable for offshore use. Versions of the Microbox 427C also enable use in salt-laden atmospheres: this is made possible by special paint processes that have been in use for many years.
- Innovative and flexible:
  We meet the ever-increasing demand for more computing power by using the current generation of processors from Intel®. Based on current chipsets, devices with Celeron M, Core2 Solo, Core2 Duo and Core2 Quad are available. This makes power-saving applications (e.g. simple data acquisition) just as possible as power-hungry applications (such as the software PLC in real-time WinAC RTX) and server systems.

Optimized equipping of the IPC and the Panel for more system availability is one of the simplest options for increasing productivity by means of reducing standstill times. Electromechanical components often cause malfunctions in PCs.

Since hard disks and fans in the industrial PC usually operate continuously, they are subject to an especially high rate of wear and tear. Software options for diagnostics and data backup, such as SIMATIC IPC DiagMonitor or SIMATIC IPC Image Creator, are particularly effective here, in addition to the use of high-quality industrial grade components.

Overview

Controllers for electric overhead conveyors (EOC) with different communication types.

For its portfolio of electric overhead conveyors (EOC), Siemens makes products available for rail communication systems and for displays that can be read from a considerable distance. The products can also be used for other applications besides suspended monorail applications.

The controllers intended for this purpose are the new SIMATIC S7-1200 and S7-1500, which are both programmed using standard Siemens software.

On the drive end, frequency converters (SINAMICS) and drives (SIMOGEAR) from Siemens, which are also programmed using standard Siemens software, will be used.

The controllers are generally differentiated based on the communication between carriage and plant.

EMS400S communicates by means of power signal booster communication (full duplex pulse code communication via the rail with 4x16-bits/sec)

Further systems will follow.

Overview EMS400S

EMS400S family for S7-1200

PSB-C and PSB-S power signal boosters with S7-1200

- Device family for the low-cost transmission of pulse-encoded commands via contact wire for transport EOCs
- Bidirectional communication between vehicle and system control with a transmission rate of 16 bits/250 ms
- Control via S7-1200; programmable via TIA Portal

Overview

EMS451S controller, front view

- The EMS451S controller is part of the EMS400S family and consists of an enclosure with the following integrated components:
- S7-1212 DC/DC/DC
- SITOP power supply SITOP PSU 300E 6EP1433-0AA00, 400 V AC / 50 Hz – three-phase / 24 V DC / 5 A
- SINAMICS V20 frequency inverter
- SIMATIC PSB-C module for sending and receiving pulse-encoded signals on the rail
- Display unit with three 7-segment displays for depicting the control states

Technical specifications

	EMS451S
Display	See IR-DU
Power supply	
Rated voltage	Three-phase alternating current 400 V AC, 50 / 60 Hz
Power consumption, typical	Approx. 0.4 A (400 V AC)
Environmental conditions	
Degree of protection	
Without fan: Front/Rear/Bottom side	IP65/IP65
With fan: Front/Rear/Bottom side	IP65/IP54
Ambient temperature	
Without fan: During operation	0 °C … +45 °C
With fan: During operation	0 °C … +50 °C
Relative humidity	10% ... 90%, without condensation
Transport / storage temperature	-20 °C ... +60 °C
Data interfaces	
Programming interface	PROFINET
Signal on RAIL A and RAIL B	48 V modulated
Certifications	CE, others on request
Dimensions	
Exterior overall dimensions (W x H x D) in mm	
• Without fan	
- Without connector	400 x 230 x 153
- incl. connector	468 x 230 x 153
• incl. fan	
- Without connector	400 x 250 x 153
- incl. connector	468 x 250 x 153
Weight	
• Without fan	9.2 kg
• incl. fan	10 kg

Ordering data

	Article No.
EOC control EMS451S	
• With S7-1200 and PSB-C, with integrated frequency inverter SINAMICS V20, 0 ... 45 °C	**6ES7212-0AA51-0AA0**
• With S7-1200 and PSB-C, with integrated frequency inverter SINAMICS V20 and external PN interface, 0 ... 50 °C	**6ES7212-0AA51-0AB0**

5

SIMATIC EMS400S PSB-C module

Overview

EMS400S rail signal booster

The PSB-C (***power signal booster carrier***) module is employed in the cart and establishes the communication between it and the segment control.

The module is connected on the right of the S7-1200 as an I/O module.

The PSB-C module can operate one rail channel.

Other interfaces:
- Analog velocity setpoint
- RS 232 interface for the IR-DU display module

Technical specifications

	SIMATIC EMS400S PSB-C module
Power supply	
Rated voltage	24 V DC
Power consumption, typical	Approx. 0.1 A
Analog output	
Number of outputs	1
Output	Voltage, 0-10 V DC
Resolution	10 bit
RAIL interface	
Quantity	1
Type	Differential, 48 V AC
Data rate	16 bits / 250 ms
Display unit interface	
Quantity	1
Type	RS 232-based
Ambient conditions	
Degree of protection	
Front / Rear	IP20
Ambient temperature	
In operation, vertical installation	0 °C to +45 °C
In operation, horizontal installation	0 °C to +55 °C
Relative humidity	10% to 95%, no condensation
Storage temperature	-40 °C to +70 °C
Certifications	CE, cULus
Dimensions	
Dimensions (W x H x D) in mm	70 x 100 x 75
Weight	Approx. 210 g

Ordering data

Ordering data	Article No.
SIMATIC EMS400S PSB-C module PSB-C power signal booster, 1 x AQ, 0 ... 10 V DC, RS 232, rail signal 48 V DC	**6ES7228-1RC51-0AA0**

5

Overview

EMS400S rail signal booster

The PSB-S (***power signal booster segment***) module is used for segment control and establishes the communication between it and the cart.

The module is connected on the right of the S7-1200 as an I/O module.

The PSB-S module can operate 3 rail channels. Up to 8 PSB-S modules can be connected on the right-hand side of the S7-1200 CPU.

Other interfaces:

- SYNC input
- Digital inputs

Technical specifications

	SIMATIC EMS400S PSB-S module
Power supply 1	
Rated voltage	24 V DC
Power consumption, typical	Approx. 0.1 A
Power supply 2	
Rated voltage	48 V DC
Power consumption, typical	Approx. 1.9 A
SYNC input	
Number of inputs	1
Type	Current-sinking, IEC Type 1
Rated voltage	24 V
Digital inputs	
Number of inputs	6, in a group
Type	Current-sinking, IEC Type 1
Rated voltage	24 V
RAIL interface	
Quantity	3
Type	Differential, 48 V AC, non-isolated from P48 V
Data rate	16 bits / 250 ms
Ambient conditions	
Degree of protection	
Front / Rear	IP20
Ambient temperature	
In operation, vertical installation	0 °C to +45 °C
In operation, horizontal installation	0 °C to +55 °C
Relative humidity	10% to 95%, no condensation
Storage temperature	-40 °C to +70 °C
Certifications	CE, cULus
Dimensions	
Dimensions (W x H x D) in mm	70 x 100 x 75
Weight	Approx. 230 g

Ordering data

Ordering data	**Article No.**
SIMATIC EMS400S PSB-S module PSB-S power signal booster, 6 x DI, 24 V DC, 1 x DI, 24 V DC Sync, 3 x rail signal 48 V DC	**6ES7228-1RC52-0AA0**

5

SIMATIC EMS400S IR-DU

Overview

EMS400S IR-DU infrared display unit

The EMS400S IR-DU (***infrared display unit***) module represents the HMI unit in the cart.

It contains three 7-segment displays, indicator lights and an infrared receiver.

It is controlled by the S7-1200 in the cart.

Technical specifications

	SIMATIC EMS400S IR-DU
Power supply	
Rated voltage	24 V DC
Power consumption, typical	Approx. 0.1 A
Infrared reception	
Opening angle	< 120°
Range	Min. 10 m
Interface for external infrared sensor	
Quantity	1
Data exchange interface	
Quantity	1
Type	RS 232-based
Ambient conditions	
Degree of protection	
Front	IP65
Rear	IP20
Ambient temperature	
During operation	0 °C to +60 °C
Relative humidity	10% to 95%, no condensation
Storage temperature	-20 °C to +60 °C
Certifications	CE, cUL
Dimensions	
Dimensions (W x H x D) in mm	140 x 116 x 37.5
Weight	< 350 g

Ordering data

Ordering data	Article No.
SIMATIC EMS400S IR-DU Infrared display unit	**6ES7292-0AA50-0AA0**

5

Overview

SIMATIC HMI IRD400

The SIMATIC HMI IRD400 (infrared display unit) module is an HMI unit for making status information clearly visible on a 7-segment display from a considerable distance.

It contains 3 x 7-segment displays, signal lamps and an infrared receiver and transmitter. It is controlled via PROFINET.

Technical specifications

	SIMATIC HMI IRD400
Power supply	
Rated voltage	24 V DC
Power consumption, typical	Approx. 0.1 A
Infrared reception	
Opening angle	< 120°
Range	Min. 10 m
Interface for external infrared sensor	
Quantity	1
Data exchange interface	
Quantity	1
Type	PROFINET-based
Ambient conditions	
Degree of protection	
Front	IP65
Rear	IP20
Ambient temperature	
During operation	0 °C to +60 °C
Relative humidity	10% to 95%, no condensation
Storage temperature	-20 °C to +60 °C
Certifications	CE, cUL
Dimensions	
Dimensions (W x H x D) in mm	140 x 116 x 37.5
Weight	< 350 g

Ordering data

Ordering data	Article No.
SIMATIC HMI IRD400 Infrared display unit; PROFINET interface; 3 x 7-segment displays	**6ES7292-0AA50-1AA0**

SIMATIC EMS400S IR-RC

Overview

EMS400S IR-RC infrared remote control

The EMS400S IR-RC (***infrared remote control***) module establishes the connection between the operator and the EMS400S IR-DU.

Via the EMS400S IR-DU, the encoded signals of the remote control go to the S7-1200 CPU.

Technical specifications

	SIMATIC EMS400S IR-RC
Power supply	
Rated voltage	3 V DC (2 x AA batteries)
Power consumption, typical	< 15 mA
Infrared reception	
Opening angle	< 16°
Range	Min. 10 m
Keys	
Quantity	16
Ambient conditions	
Degree of protection	
Front / Rear	IP65
Ambient temperature	
During operation	0 °C to +60 °C
Relative humidity	10% to 95%, no condensation
Storage temperature	-20 °C to +60 °C
Certifications	CE
Dimensions	
Dimensions (W x H x D) in mm	152 x 83 x 35
Weight	< 200 g

Ordering data

Ordering data	Article No.
SIMATIC EMS400S IR-RC IR-RC infrared remote control for SIMATIC S7-1200	**6ES7292-0CA50-0AA0**

5

Overview

EMS400S diagnostics unit

The EMS400S module (diagnostics unit) is a test tool for:

- System and control cabinet configuration
- Commissioning of a system, segment control, carriage
- Maintenance, troubleshooting (also while in operation)
- Operating modes:
  - Signal and frame analysis, configuration

It contains load resistors for simulating multiple PSB-C modules, and can simulate one PSB-C module and establish communica-tion for segment control.

Technical specifications

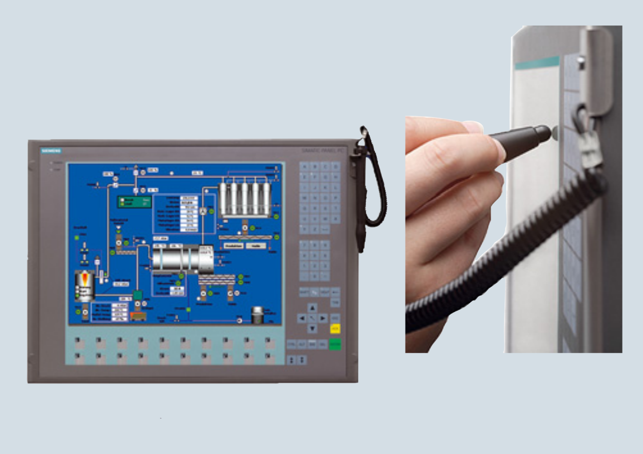
Technical specifications	SIMATIC EMS400S DU
Power supply	
Rated voltage	
Graphics	Graphic display 240 x 320 pixels color
Keyboard	16 x membrane keys
Contacting	
Contacting	• Galvanic on rail, 4 mm socket • Signal input galvanically isolated
Data interface	USB for PC communication and USB stick
Certifications	CE

Ordering data

	Article No.
SIMATIC EMS400S DU Test tool	**6ES7292-0EA50-0AA0**

Front Panel 15" Touch and Key for Panel PCs, resistant to honing oil

Overview



The Front Panel Touch and Key is designed as a front unit for Panel PCs. The combination of touch and key operation as well as the resistance to honing oil are characteristics of this product.

Complete lamination of the decorative membrane over the touch area of the display increases the resistance against contamination and welding beads, and the absence of edges and joints facilitates cleaning. Openings and cutouts in the front have been completely omitted in favor of a homogenous surface which can also be used in the environment of honing oil and similar cooling agents and lubricants.

Clear operation is achieved using the touch pen which is delivered as standard and can be stored in a front holder. Dirty or oily hands are therefore not an argument against using a touch screen. The pen has an ergonomic shape, is optimized for operations when wearing gloves, and is linked to the front using an elastic helix cable. Its "parking position" in the special stainless steel holder on the front means that it is always readily accessible.

Benefits

- Combined touch and key operation for increased efficiency
- Touch pen operation avoids contamination of the display area
- Ergonomically shaped, captive touch pen
- Simple cleaning
- Resistant to coolants and lubricants

Application

This front panel for Panel PCs with touch screen and membrane keyboard has been designed for operator control and monitoring at machine-level for mechanical engineering applications, where honing oil and lubricants are used.

The touch and key front is always used if efficient operation of the machine is associated with the following requirements:

- Intuitive operation using graphic representation on display
- Specific command inputs using fixed function keys
- Effective inputs in forms using the integrated numeric and alphanumeric keyboard

Also in applications with increased environmental influences such as dirt and oil. The homogenous foil surface without joints or edges permits easy cleaning, and is resistant to coolants and lubricants.

Application examples

- Printing machines
- Drilling, milling, honing machines
- Brake test stands
- Injection molding machines
- Building management
- Warehouse systems
- Automotive industry

Front Panel 15" Touch and Key for Panel PCs, resistant to honing oil

Design

- External dimensions and mounting cutout as for corresponding standard product
- Degree of protection IP65 at the front

Technical specifications

Type	**Front Panel 15" Touch + Key, resistant to honing oil**
Display	15.1" TFT Touch
Resolution (pixels)	1024 x 768 pixels
General features	As Front Panel 15.1" Touch for Panel PC 677
Special features	
Interfaces	Without front-sided USB interface
Connectable to Panel PC	PC 477, PC 677 compact and distributed design
Number of keys	58 system keys and alphanumeric keys 20 function keys with LED
Resistance	Tested with: Castrol Honilo 981 honing oil

More information

Quotation preparation

Product specification according to customer requirements.

Quotation preparation by SIMATIC HMI specialists, specification of:

- Non-recurring costs
- Prototype costs
- Standard unit prices
- General conditions (product agreement)

There is a minimum annual quantity/purchase quantity (minimum quantity per type: 20), which is agreed with the customer for the project.

Customized products can only be ordered in conjunction with a product agreement.

A customer-specific Article No. is specified as part of the product agreement.

http://www.siemens.com/automation/partner

Flat Panels, 10.4" for Panel PCs

Overview

- Ideal for machine-level human machine interfacing
- Especially suitable for use in machines with restricted installation space
- Can be modified in design and front mechanical components (e.g. stainless steel front for food and beverages industry)
- Distance between the Flat Panel and PC max. 30 m
- Functions correspond to the standard Flat Panels
- Available with and without touch operation
- VGA and SVGA resolution

Application

The Flat Panel 10.4" TFT Touch has been designed as display and operator control unit for industrial PCs (e.g. SIMATIC Microbox 427C) and Panel PCs (e.g. PC 677C) and can be separated from the computing unit by up to 30 m.

They supplement the SIMATIC standard products and are suitable for machine-level human machine interfacing when PC functionality is required but little space is available for installing a display. VGA and SVGA resolution also in a secondary display, e.g. Panel PC 677C.

Technical specifications

Flat Panel	**10.4"**
Resolution (pixels)	800 x 600 pixels
Input unit	Analog-resistive touch screen
MTBF (at 25 °C)	50 000 h
Power supply	24 V DC, RoHS
Front dimensions (L x W x D in mm)	335 x 275 x 75
Installation dimensions (L x W in mm)	310 x 248
Certified in accordance with	
Can be connected to	
Approx. weight in kg	0.80

Ordering data

Ordering data	**Article No.**
Flat Panel 10" Touch SIMATIC Flat Panel 10.4" TFT with analog-resistive Touch Panel, resolution 800 x 600 pixels, 24 V DC power supply, VGA, DVI-D interface, incl. VGA cable 1.8 m	**6AV7461-7TA00-0AA1**

More information

Customized modification options

- Customized design
- Modification of front design, e.g. stainless steel front

5

Overview

Hygiene areas in food and beverage production, pharmaceuticals or fine chemicals all share one requirement: The devices and equipment must be easy to clean.

The relevant directives, standards and legislative requirements must be observed, e.g. EHEDG, FDA, EN 1672-2 (Hygienic Design), GMP, LMHV, LMBG.

However, optimization and variation in the device hardware are also perfectly possible:

- Degree of protection
- Ruggedness
- Temperature resistance
- Design and installation versions
- Suitable for clean rooms
- Certification in accordance with ATEX

The aim is to find the cost-optimized solution for the specific application case.

The overview below shows different features depending on the applications areas, from packaging to the wet area in processing.

Applications				
Features	**Hygienic packaging**	**Pharmaceuticals, fine chemicals**	**Food and beverages, bottle cleaning, bottle filling, laboratories**	**Abattoirs, meat processing**
Stainless steel front	partially	x	x	x
Stainless steel control cabinet	x	x	x	x
Stainless steel fully enclosed	x	x	x	x
Simple to clean	x	x	x	x
No grooves and gaps, no projections	partially	partially	membrane-covered protective edge not always accepted	-
Increased tightness	-	-	x	x
Mechanical ruggedness, no membrane front	-	-	partially	x
Suitable for high-pressure cleaning (IP69K)	-	-	-	partially
ATEX Ex Zone 2/22	x	x	partially	-

The product examples described on the following pages cover a wide range of the most important requirements.

Benefits

- Simpler cleaning thanks to resistant and rugged stainless steel front with smooth surface, and minimal grooves and gaps
- High degree of protection IP66K (TP 177B and MP 277 additionally IP66K) on the front for increased sealing properties and ruggedness
- Food-standard sealing material and shatter protection for the display to prevent contamination of the foodstuffs
- Optimized frame design almost flush with the control cabinet so that liquids can run off
- Device front developed on the basis of EN 1672-2
- Decorative membrane tested against chemicals in accordance with DIN 42115, Part 2[1)]
- Food-standard flat seal in accordance with FDA 21 CFR 177.2006
- Rear tensioning frame (included in scope of supply) for even application pressure of the seal
- External dimensions and mounting cutout as for corresponding standard product

High degree of protection for humid environments

With low installation depth and rugged fronts, the SIMATIC HMI Standard Panels are eminently suitable for industrial and machine-level use.

Panels with stainless steel fronts are also even better equipped to meet the high requirements presented by the food and beverage production environment. IP66K degree of protection protects against water even with a jet strength of 100 l/min at 10 bar from a distance of 2.5 m to 3 m. The optimized frame profile and almost flush-mounting of the device on the control cabinet allow liquids to run off.

Installation of the operator panels in a stainless steel control cabinet as ready-to-use operator station is optionally available as a customized version.

Certificates, listings and appraisals

SIMATIC HMI products with stainless steel fronts, and the stainless steel operator station, were subjected to some or all of the tests below and are listed or appraised in accordance with:

- High degree or protection IP66K, NEMA Type 4, 4x, 12
- CE-compliant, cULus-listed
- LGA mark "Hygiene tested" (Approval document No. 5664018)
- Expert appraisal of the Munich University of Technology, Research Center Weihenstephan, in accordance with EHEDG recommendation (Report No.126/01.03.2007)
- Clean room qualification by IPA Fraunhofer Institute (test report: Examination of the clean room suitability and ESD characteristics of Panel PCs from Siemens AG, Report No. SI 0810-450 of October 2008)

[1)] Special resistance requirements must be examined separately.

Qualification for clean rooms

High-quality products such as semiconductors, medicines, food & beverages, and nanotechnology products are subject to special demands with regard to contamination with particles or bacteria.

Increased requirements for protection of the products and processes can only be met by production in clean rooms with suitable equipment under controlled conditions.

Clean rooms are classified according to particle quantities and sizes per m^3 of room air and time unit. Clean room classes in accordance with ISO 14644-1 (ISO 1 to 9) have been introduced in pharmaceuticals, for example, in accordance with EG-GMP, Annex 1 (Classes A to F), and in semiconductor production.

Example:
A person in normal clothing emits approximately 80,000 particles >= 0.5 mm per second
(in clean room clothing, this can be reduced to approximately 700 particles/s >= 0.5 mm).

- Requirements regarding equipment in clean rooms include the following:
- Surfaces that are easy to clean and disinfect
- As few adhesives as possible, e.g. electrostatic
- No emitting surfaces
- Shape favorable to air circulation, no air eddies
- Dense, as few hollow or dead spaces as possible
- Smooth, as few grooves and gaps as possible

The SIMATIC HMI products with stainless steel fronts and the stainless steel operator station have been designed for these requirements.

The stainless steel operator stations with Panel PC 677B 15" Touch INOX and MP 377 15" Touch INOX have been tested by the Fraunhofer Institute and qualified for "obvious suitability for clean rooms of ISO Class 1 in accordance with EN ISO 14644-1".

Application

Quality and hygiene are decisive competitive features in the production of food and beverages. In addition, higher volumes have to be produced in shorter times and with rising quality demands.

Objects and equipment that come into contact with food and beverages must be

- such that they are clean and can be maintained and, if necessary, disinfected, and have no adverse effect on the food and beverages
- installed in such a way that the immediate environment can be cleaned appropriately.

Objects and equipment must be clean and well maintained (extract from the German food and beverages hygiene legislation). This requires not only the innovative know-how of engineering offices, mechanical equipment manufacturers and plant builders, but also modern, powerful human machine interface systems whose hardware and software are adapted to the special requirements.

The SIMATIC Panels and Panel PCs with touch screens and stainless steel fronts have been designed for use in the food, beverages and tobacco industry and for operator control and monitoring close to food processing machines. For this reason, the devices with stainless steel fronts have been developed in compliance with EN 1672-2 "Food processing machinery – Safety and Hygiene Requirements".

Simpler cleaning and disinfecting

The high quality requirements in the food and beverages industry require a high standard of the food processing machinery. There are many relevant regulations, directives, ordinances, standards and laws. Essential here is that all equipment and components must be easy to clean and disinfect so that cross-contamination of the foodstuffs can be avoided.

The panels with stainless steel fronts have a 240 grit hairline finish, so they are suitably smooth. The membrane covering the display cutout is tested with regard to its resistance to chemicals, has minimal grooves and gaps in which micro-organisms could settle, and also provides shatter protection for the display.

Panels and Panel PCs with stainless steel fronts

Overview

TP 177B color PN/DP, MP 277 10" Touch, MP 377 15" Touch and Panel PC 677B 15"

The SIMATIC Panels with touch screens and stainless steel fronts have been designed for use in the food, beverages and tobacco industry for operator control and monitoring close to food processing machines. They have been developed in compliance with EN 1672-2 "Food processing machinery – Safety and Hygiene Requirements".

- Simple cleaning and disinfecting:
  - Stainless steel surface with 240 grade hairline finish
  - Membrane tested for resistance to chemicals
  - Minimal number of grooves and joints
  - Optimized frame profile so that liquids can run off
- Display shatter protection
- Degree of protection IP66K

Design

- External dimensions and mounting cutout as for corresponding standard product
- Optimized frame profile with a slight projection to the cabinet
- IP66K degree of protection at the front
- Surface ground with 240 grain abrasive
- Minimal number of grooves and joints
- Decorative membrane tested for resistance to chemicals
- Display shatter protection
- Food-standard seals
- Rear tensioning frame for even application pressure of the seal

Technical specifications

	Multi Panels	
	MP 277 10" Touch INOX	**MP 377 15" Touch INOX**
General features		
Power supply	24 V DC	24 V DC
Display	10.4" color TFT Touch	15.1" TFT Touch
Resolution (pixels)	640 x 480	1024 x 768
MTBF of backlighting (at 25 °C)	about 50 000 hours LED backlighting	about 50 000 hours CCFL backlighting
Front		
Material	Stainless steel 1.4301, polyester-based membrane	
Surface	Hairline finish, 240 grit abrasive grain	
Device seal	EPDM flat seal	
Special features		
Ambient conditions		
Degree of protection	on the front: IP66K, NEMA 4, 4x and 12; on the rear: IP20	
Ambient temperature during operation	0 ... 50 °C	
Relative humidity	max. 85% (no condensation)	
Transport/storage temperature	-20 °C to +60 °C	
Approvals	FM Class 1 Div 2, cULus, CE, RCM (previously C-Tick), ATEX Zone 2/22	
Sector	Food & beverages, pharmaceuticals	Food & beverages, pharmaceuticals
HMI software (to be obtained separately)		
HMI engineering software	WinCC flexible 2005 Standard and higher	WinCC flexible 2007 Standard and higher
Dimensions		
External dimensions (W x H x D in mm)	325 x 263	400 x 310
Installation cutout (W x H x D in mm)	310 x 248	368 x 290
Special features	Clamping frame	Clamping frame
Weight	Approx. 4.2 kg	Approx. 6.2 kg

	Panel PCs	Panels
	Panel PC 677B 15" Touch INOX	**TP 177B PN/DP INOX**
General features		
Power supply	100/230 V AC (autorange), 50/60 Hz or 24 V DC	24 V DC
Display	15.1" TFT Touch	5.7" color STN Touch (256 colors)
Resolution (pixels)	1024 x 768	320 x 240
MTBF of backlighting (at 25 °C)	about 50,000 hours CCFL backlighting	
Special features	Without front USB interface	1 x emergency-off, 3 x short-stroke membrane keys with LED on front, wired to terminal
Front		
Material	Stainless steel 1.4301, polyester-based membrane	
Surface	Hairline finish, 240 grit abrasive grain	
Device seal	EPDM flat seal	
Special features	on the front: IP66K, NEMA 4, 4x and 12; on the rear: IP20	Decorative membrane drawn across the display
Ambient conditions		
Degree of protection	on the front: IP66K, NEMA 4, 4x and 12; on the rear: IP20	on the front: IP66K, NEMA 4, 4x and 12; on the rear: IP20
Ambient temperature during operation	0 ... 50 °C	0 ... 50 °C
Relative humidity	max. 85% (no condensation)	
Transport/storage temperature	-20 °C to +60 °C	
Approvals	CE, cULus	FM Class 1 Div 2, cULus, CE, RCM (previously C-Tick), ATEX Zone 2/22
Sector	Food & beverages, pharmaceuticals	Food & beverages, pharmaceuticals
HMI software (to be obtained separately)		
HMI engineering software	WinCC flexible Advanced and higher	WinCC flexible 2005 Compact and higher
HMI Runtime software	WinCC flexible RT	
Dimensions		
External dimensions (W x H x D in mm)	483 x 310	212 x 156
Installation cutout (W x H x D in mm)	450 x 296	198 x 142
Special features	Clamping frame	Clamping frame
Can be connected to SIMATIC PC	On Panel PCs as well as other SIMATIC Rack and Box PCs	
Weight	Approx. 15 kg	Approx. 1.5 kg

Ordering data

Ordering data	Article No.
TP 177B color PN/DP INOX with stainless steel front, otherwise corresponding to 6AV6642-0BA01-1AX0	**6AV6642-8BA10-0AA0**
MP 277 10" Touch INOX with stainless steel front and LED backlight, otherwise corresponding to 6AV6643-0CD01-1AX1	**6AV6643-0ED01-2AX0**
MP 377 15" Touch with stainless steel front and LED backlight; otherwise corresponding to 6AV6644-0AB01-2AX0	**6AV6644-0CB01-2AX0**
Panel PC 677B 15" with stainless steel front, otherwise corresponding to Panel PC 677B Configurator 6AV6643-0CD01-1AX1	**6AV7872-2...**

More information

Customized modification options

- Customized design
  - Use of the company name instead of the Siemens logo and modification of the type designation
  - Changing the background color
- Customer-specific hardware modifications such as the design and dimensions of the front plate, selection of the display, memory capacity, drives, options
- Customer-specific Panel PC configuration as a rugged embedded hardware and software system, without hard disk and with tailor-made software
- Customer-specific software suite with choice of Windows operating systems
- Customer-specific Panel PCs with software suite with choice of Windows operating systems
- Protection against condensation and corrosive gases (for selected panels)
- Device mounted in a stainless steel cabinet as a ready-to-install and ready-to-connect operator station which is ergonomic, functional, with high degree of protection as well as tested heat dissipation (e.g. with complete IP66K degree of protection)

Quotation preparation

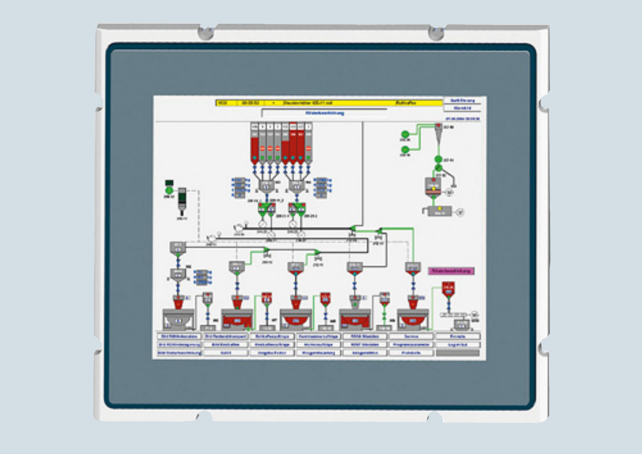
SIMATIC HMI specialists define the product modifications precisely in accordance with customer requirements.

This is followed by drafting of a quote with:

- Non-recurring costs
- Prototype costs
- Standard unit prices
- and the marginal conditions in the form of a product agreement (e.g. minimum quantity).

The defined device can then be ordered easily using this product agreement and a customer-specific Article No.

Overview



MP 377 12" Touch, rear-mounting, MP 277 8" Touch vertical, rear-mounting

The solution for installing HMI devices without "corners and edges" on the front. The devices are installed in the control cabinet enclosure from the rear and are flush with the control cabinet sheet metal at the front. They are therefore known as "rear-mounted devices".

Benefits

- Front surface flush with the control box
- Simple to clean
- No dirt-collecting edges and deposits
- Front membrane resistant to the usual cleaning agents and disinfectants
- Can be replaced with front-mounted device of the same type for service purposes (MP 377 12" Touch rear-mounting only)

Design

The front frame is modified customer-specifically on the "rear-mounted devices":

The surface with the display viewing area covered with decorative membrane, and the marginal area around the display necessary for touch operation must be flush with the control cabinet sheet metal at the front. For this purpose, the front frame with the device seal and the cutouts for the holding bolts are set back from the visible surface by the thickness of the control cabinet sheet metal. The enclosure must have a suitable number of stud bolts available. The all-round device seal thus enables a high degree of protection: IP65.

The installation cutout can be dimensioned in such a way that the rear-mounted device can be replaced with the same type of front-mounted device for service purposes.

The decorative membrane is also drawn across the visible area of the display on the rear-mounted devices, so there is no cutout with adhesive edge above the display. The decorative membrane is smooth.

For sensitive applications where the gap dimension of the control cabinet cutout has too great a tolerance, there is the option of covering the entire surface including the gap with a transparent and replaceable membrane.

Technical specifications

	MP 277 8" Touch vertical, rear-mounting	MP 377 12" Touch, rear-mounting
General features		
Power supply	24 V DC	24 V DC
Display	7.5" TFT Touch	12.1" TFT Touch
Resolution (pixels)	480 x 640 (portrait)	800 x 600
MTBF of backlighting (at 25 °C)	about 50,000 hours CCFL backlighting	
Special features	1 x emergency-off, 3 x short-stroke membrane keys with LED on front, wired to terminal	
Front		
Material	Aluminum under polyester-based membrane	
Surface	Hairline finish, 240 grit abrasive grain	
Device seal	On the enclosure, customized	On the front
Special features	Decorative membrane drawn across display	
Ambient conditions		
Degree of protection	IP65 at front; IP20 at rear	
Ambient temperature during operation	0 ... 50 °C	
Relative humidity	max. 85% (no condensation)	
Transport/storage temperature	-20 °C to +60 °C	
Approvals	CE	CE, cULus
Sector	Food & beverages, packaging systems, pharmaceuticals	
HMI software (to be obtained separately)		
HMI engineering software	From WinCC flexible 2007 Standard with add-on for portrait format	WinCC flexible 2007 Standard and higher
Dimensions		
External dimensions (W x H x D in mm)	229 x 318	As installation cut-out
Installation cutout (W x H x D in mm)	233 x 322 x 67	Compatible with standard device
Special features	Rear-mounted panel in portrait format	Rear-mounted panel; panel cutout as on standard device
Weight	Approx. 2.7 kg	Approx. 5.5 kg

Ordering data

	Article No.
MP 377 12" Touch, rear-mounting Configuration on request	**6AV6644-...**
MP 277 8" Touch vertical, rear-mounting With emergency-off button and 3 short-stroke keys with LEDs on the front Configuration on request	**6AV6643-...**

More information

Customized modification options

Customized rear-mounted versions can also be implemented:

- Customized operator controls possible on the front, e.g. membrane keys, emergency-off
- Adaptation to the design of the customized enclosure
- Customized design (logo and color scheme) on the front membrane
- Portrait mode of the display
- Increased resistance to shock and machine vibration

Quotation preparation

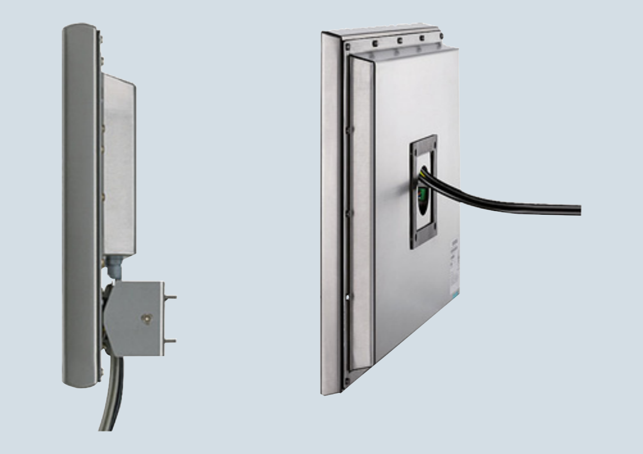
SIMATIC HMI specialists define the product modifications precisely in accordance with customer requirements.

This is followed by drafting of a quote with:

- Non-recurring costs
- Prototype costs
- Standard unit prices
- and the marginal conditions in the form of a product agreement (e.g. minimum quantity).

The defined device can then be ordered easily using this product agreement and a customer-specific Article No.

Overview



Flat Panel 15" Touch INOX,
Flat Panel 15" Touch INOX (enclosed),
Flat Panel 19" Touch INOX,
Flat Panel 19" Touch INOX (enclosed)

The Flat Panels with touch screen and stainless steel front are designed as a display and operating unit for SIMATIC PCs in the food and beverages industry, pharmaceuticals and related industries.

They are easy to clean and can be installed in production areas subjected to splashes in a suitable control cabinet.

Design

- Functions compatible with the SIMATIC HMI Standard Flat Panels
- Enclosure seal EPDM, sulfur-free
- Decorative membrane laminated over display, no display cutout
- 240 grain brushed stainless steel surface

The Flat Panels 15" Touch INOX and 19" Touch INOX VESA are fully enclosed and are suitable for space-saving mounting on a support system.

The cables are then run in the supporting tube.

Technical specifications

	Flat Panel			
	15" Touch, INOX	**15" Touch INOX fully enclosed**	**19" Touch, INOX**	**19" Touch INOX fully enclosed**
General features				
Power supply	24 V DC	24 V DC	24 V DC	24 V DC
Display	15.1" TFT Touch	15.1" TFT Touch	19.1" TFT Touch	19.1" TFT Touch
Resolution (pixels)	1024 x 768	1024 x 768	1280 x 1024	1280 x 1024
MTBF of backlighting (at 25 °C)	approx. 50 000 hours CCFL backlighting			
Special features	Without front USB interface	OSD operation not accessible; values preset	Without front USB interface	OSD operation not accessible; values preset
Front				
Material	Stainless steel 1.4301, polyester-based membrane			
Surface	Hairline finish, 240 grit abrasive grain			
Device seal	EPDM flat seal		EPDM flat seal	EPDM flat seal
Special features	Decorative membrane drawn across the display			
Ambient conditions				
Degree of protection	On the front: IP66K, NEMA 4, 4x and 12; on rear: IP20	Complete IP65, NEMA 4	On the front: IP66K, NEMA 4, 4x and 12; on rear: IP20	Complete IP66K, NEMA 4, 4x and NEMA 12
Ambient temperature during operation	0 ... 50 °C	0 ... +40 °C at an angle of up to +/- 20° from the vertical	0 ... 50 °C	0 ... +40 °C
Relative humidity	Max. 85% (no condensation)			
Transport/storage temperature	-20 °C to +60 °C			
Approvals	CE, cULus	CE, cULus	CE, cULus	CE, cULus
Sector	Food & beverages, pharmaceuticals	Pharmaceuticals	Food & beverages, pharmaceuticals	Food & beverages, pharmaceuticals
Dimensions				
External dimensions (W x H x D in mm)	483 x 310	383 x 324 x 72	483 x 400	483 x 399 x 61
Installation cutout (W x H x D in mm)	450 x 296		450 x 380	
Special features	Clamping frame	Tiltable customized flange for mounting on control cabinet, sealed by bellows	Clamping frame	Fully enclosed, VESA 100
Weight	Approx. 7 kg	Approx. 12 kg	Approx. 10 kg	Approx. 12 kg

Ordering data

	Article No.
Flat Panel 15" Touch INOX	**6AV7486-2TA10-1AA0**
Flat Panel 15" Touch INOX fully enclosed Configuration on request	**6AV7476-...**
Flat Panel 19" Touch INOX Cable 1.8 m enclosed	**6AV7486-4TA01-0AA0**
Flat Panel 19" Touch INOX fully enclosed Cable 1.8 m pre-assembled	**6AV7486-4TA11-0AA0**

More information

Customized modification options

- Customized design
- Customized flange connection
- Cable length up to 30 m

Quotation preparation

SIMATIC HMI specialists define the product modifications precisely in accordance with customer requirements.

This is followed by drafting a quotation with:

- Non-recurring costs
- Prototype costs
- Standard unit prices
- and the marginal conditions in the form of a product agreement (e.g. minimum quantity).

The defined device can then be easily ordered using this product agreement and a customized Order No.

Overview

SIMATIC HMI Panels or Panel PCs mounted in a stainless steel cabinet as a ready-to-install and ready-to-use operator station that is ergonomic and functional, and has a high degree of protection (complete IP66K degree of protection) as well as tested heat balance.

The populated and wired turnkey solutions are based on the hygienic design requirements of the food and beverages industry as well as other hygiene and wet areas, pharmaceuticals, fine chemicals and semiconductor production.

Design

- Control box completely assembled, wired, tested, with passive cooling

Design of stainless steel operator station

- For HMI Panels and Panel PCs
- Angular surfaces so that liquids can run off
- Prepared for stand mounting
- With integrated handles at sides.

High complete degree of protection

- Screwed-on rear panel
- Cable inlet through stand and flange

Simple to clean

- No sharp corners or edges
- No dead spaces
- Hairline finish of surface with 240 grade grain

More information

Customized modification options

- Other HMI devices, display sizes and resolutions
- External stainless steel keyboard, e.g. without short-stroke keys with piezo technology
- Modification of the front/enclosure design (hygiene test optional) and cable routing
- Specific flange from enclosure manufacturers
- Breather gland
- Use in extended ambient temperature range, e.g. -20 °C to +60 °C
  - Air-water heat exchanger (internal)
  - "Temperature Extension Kit" plus active heating and cooling elements

Certification/approvals

- LGA Certificate "Hygiene-tested"
- Inspection certificate of the Munich University of Technology
- IPA Fraunhofer Institute

These modifications are defined by HMI specialists in consultation with the customer who then receives a specific offer.

A product agreement with minimum quantities is required for the implementation of customized modifications. Please contact your local/national Siemens HMI representative.

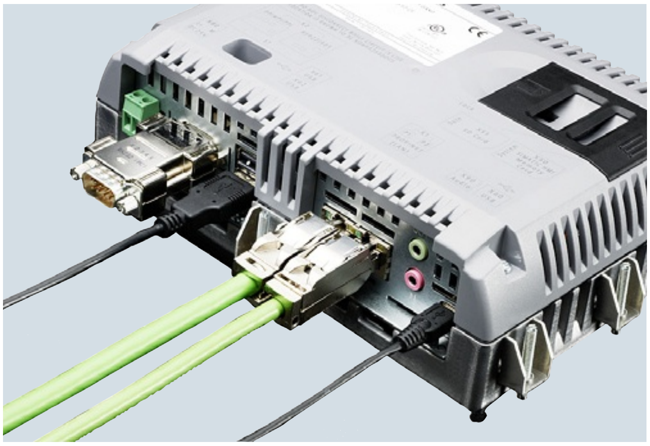
Notes

Accessories

6

Introduction

Overview



HMI accessories, connection

SIMATIC not only offers first-class panels, thin clients and IPCs, but also an extensive range of original accessories which harmonizes optimally with the core products.
We place the same quality requirements on our accessories as we do on our core products.

Because we understand that accessory parts are required over the entire service life of a product and that they are often subject to wear, we endeavor to ensure that each accessory remains available throughout the life-cycle of the core products. If we deviate from this in an exceptional case, we will inform you in a relevant product announcement in the Customer Support area. We recommend subscribing to these announcements electronically.

Tip:

The TIA Selection Tool (selection guide) automatically shows appropriate accessories for every SIMATIC product, making it even easier to find the right one.

Trade goods

To be able to react quickly and flexibly to new requirements, we are also using high quality accessories from major manufacturers and marketing these directly via our Mall.

These trade goods then only have to be qualified in a short activation test. This means that these parts are not subjected to a complete system test at Siemens, because the tests conducted by the manufacturer are typically sufficient. Keyboards, for example, must comply with certain technical requirements. These requirements are technical specifications, drivers, certificates and test verification documents. These are then provided by the manufacturer and are then also available for downloading on the Siemens SIOS pages. Introducing such products as trade goods saves having to perform time-consuming in-house tests, as well as applying for and generating our own certificates.

Note:

SIMATIC accessories are intended exclusively for industrial use. In some cases, accessories can also be used with competitor products. This use is at your own responsibility.

The range of accessories includes:

- Batteries (rechargeable buffer battery, lithium batteries, main rechargeable battery, etc.)
- Fasteners (memory card lock, wall bracket, mounting frame, mounting clips, mounting bracket, etc.)
- Labeling strips (labeling strips, front film, labeling set, protective sleeve, etc.)
- Input devices (keyboards, mice)
- Input aids (e.g. touch pens)
- HMI connecting components (converters, connectors, adapters)
- IWLAN accessories (access points, KeyPlug, power supplies, Moby D, small parts)
- Power supplies (power supply units, non-heating apparatus cable, etc.)
- Back covers (in IP20 design)
- Protective films
- Protective covers (covers, caps)
- Service sets (spare parts package with coordinated contents)
- Storage media (MM memory card, SD memory card, PC memory card, PC memory card adapter, CF memory card, USB memory stick, USB FlashDrive, memory module for push button panels, memory expansions)
- Transport and storage (bags and handles)
- Distribution boards (USB HUB, USB extensions, keyboard, video, mouse switch, Ethernet switch)
- Additional accessories (e.g. spare key)
- Process coupling
  - Connecting cables
  - Bus connector DP
  - Bus connector PN

The aim is to offer accessories as new parts throughout the entire lifecycle of the core product.

This cannot be guaranteed because the consumer market changes quickly.

Overview

HMI accessories, batteries

HMI accessories, battery, accumulator

Battery and accumulator

From a technical viewpoint, a battery is a combination of several similar galvanic cells/elements that are switched in series. There are batteries made of primary cells (non-rechargeable), and batteries made of secondary cells (rechargeable), also known as accumulators.

When a battery is charged, electrical energy is converted into chemical energy. When a load is connected to the battery, the chemical energy is converted back into electrical energy. The rated voltage typical for an electrochemical cell, the efficiency and the energy density all depend on the type of materials used.

If a battery remains unused, it loses a proportion of its stored energy over time. This process is called "self-discharge". The extent to which this occurs depends on the type of storage and the age of the battery.

The following batteries and accumulators are available:

- Rechargeable buffer battery
- Lithium batteries
- Main rechargeable battery

Note:

Accumulators are shipped with less than 30% of their maximum charging capacity to minimize risks during transport. A wide range of certificates[1)] are required for transport and import in some regions. These are available for download from our Customer Support. Before first use, accumulators should always be recharged, this also ensures the longest possible service life of the accumulators.

The device must not be disposed of in household waste (battery law, WEEE Directive).

1) Search for the "article number" and set the filter to "certificates".

6

Technical specifications

Article number	6AV6671-5AD00-0AX0 RECHARGEABLE BUFFER BATTERY MOBILE PANEL	6ES7623-1AE01-5AA0 LITHIUM BATTERY SIMATIC HMI, C7 AND S7	W79084-E1001-B2 LITHIUM BATTERY SIMATIC HMI AND C7	6AV6671-5CL00-0AX0 MAIN BATTERY MOBILE PANEL IWLAN
General information				
Product type designation	Rechargeable back-up battery Mobile Panel	Lithium battery SIMATIC HMI, C7 and S7	Lithium battery SIMATIC HMI and C7	Main battery Mobile Panel IWLAN
Installation type/mounting				
Wall mounting/direct mounting	Yes; in HMI devices, battery compartment	Yes; in HMI devices, battery compartment	Yes; in HMI devices, battery compartment	Yes; in HMI devices, battery compartment
Supply voltage				
Type of supply voltage	DC	DC	DC	DC
Rated value (DC)	3.6 V	3.6 V	3.6 V	7.2 V
Battery				
Battery charge indicator	No	No	No	No
Battery capacity	1.15 A·h	1.6 A·h	1.6 A·h	5.1 A·h
Rechargeable	Yes	Yes	Yes	Yes
Design				
• Special design	Yes; flat	Yes; 2/3 AA	Yes; 2/3 AA	Yes; bent
Technology				
• Lithium-ion	Yes; 1/CP7/34/50 01 CGA	Yes; SL-361	Yes; SL-361	Yes; 2ICR19/65-2 CGR
Accumulator				
Energy density	7; Energy density: 7 Wh at 92 grams			36.7; Energy density: 36.7 Wh at 264 grams
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
UL approval	Yes			Yes
cULus	Yes			Yes
RoHS conformity	Yes	Yes	Yes	Yes
China RoHS compliance	Yes			Yes
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C; Don't charge below	0 °C	0 °C	0 °C; Don't charge below
• max.	55 °C	55 °C	55 °C	55 °C
Ambient temperature during storage/transportation				
• min.	-20 °C; Shelf life at room temperature is 10 years with a capacity loss of 1 % per year	-20 °C; Shelf life at room temperature is 10 years with a capacity loss of 1 % per year	-20 °C; Shelf life at room temperature is 10 years with a capacity loss of 1 % per year	-20 °C; Shelf life at room temperature is 10 years with a capacity loss of 1 % per year
• max.	70 °C; Shelf life at room temperature is 10 years with a capacity loss of 1 % per year	70 °C; Shelf life at room temperature is 10 years with a capacity loss of 1 % per year	70 °C; Shelf life at room temperature is 10 years with a capacity loss of 1 % per year	70 °C; Shelf life at room temperature is 10 years with a capacity loss of 1 % per year
Relative humidity				
• Operation, max.	90 %	90 %	90 %	90 %
Dimensions				
Width	35 mm			75 mm
Height	50 mm	33 mm; Length	33 mm; Length	78 mm
Thickness	10 mm	14.7 mm; Diameter	14.7 mm; Diameter	33 mm
Weights				
Weight without packaging	38 g	14 g	12 g	320 g
Weight incl. packaging		16 g		
Scope of supply				
Delivery quantity in pieces	1; incl. 65 mm connecting cable	1; Incl. 45 mm + 210 mm connecting cable	1; incl. 220 mm connecting cable	1
Other				
Target devices	for Mobile Panel DP cabled, Mobile Panel PN cabled, Mobile Panel 277 IWLAN, Mobile Panel 277F IWLAN	for TD17, OP17, OP25, OP27, OP35, OP37, TP27, TP37, OP/TP270, MP 270, MP 270B, MP 370, C7-621, C7-623, C7-624, C7-626 and PG 7xx	For TD17, OP17, OP25, OP27, OP35, OP37, TP27, TP37, OP/TP270, MP270, MP270B, MP370	for Mobile Panel 277 IWLAN, Mobile Panel 277F IWLAN, Mobile Panel 277 IWLAN V2, Mobile Panel 277F IWLAN V2, Mobile Panel 277F IWLAN (RFID tag)

Ordering data

Ordering data	Article No.
Rechargeable buffer battery for Mobile Panel for wired Mobile Panels	**6AV6671-5AD00-0AX0**
Lithium battery for SIMATIC HMI, C7, S7 and PG including connecting cable (approx. 250 mm) and adapter cable	**6ES7623-1AE01-5AA0**
Lithium battery for SIMATIC HMI and S7 Spare part including 210 mm connecting cable.	**W79084-E1001-B2**
Main rechargeable battery for Mobile Panel IWLAN	**6AV6671-5CL00-0AX0**
Lithium battery (button cell) for SIMATIC IPC227D/IPC277D	**A5E30314053**
Lithium battery (button cell) for SIMATIC IPC227E/IPC277E	**A5E34345932**

More information

Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.
Industry Mall:

https://mall.industry.siemens.com

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

https://eb.automation.siemens.com

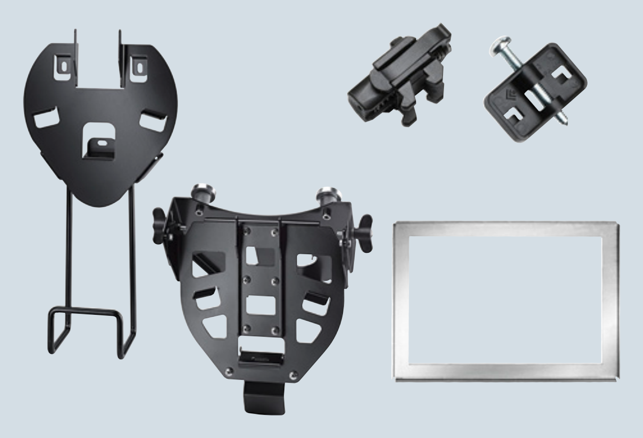
Data sheets and manufacturer declarations are available for downloading in the Online Support area.

http://support.automation.siemens.com

Informative material for downloading can be found on the Internet:

http://www.siemens.com/simatic/printmaterial

Overview



HMI accessories, fasteners

Fasteners

All parts required to install a SIMATIC device are listed here.

Depending on the device, various fasteners are available for attaching the panel.

- Memory card lock
- Wall-mounting bracket
- Mounting frame [1)]
- Mounting clip
- Mounting bracket
- Mounting boxes

1) The mounting frame for the USB HUB4 is contained in the service set (see "Service sets").

Mounting frames enable compliance with device-specific degrees of protection IP65, NEMA4x and NEMA12 if the thickness of the mounting plate is less than the minimum plate thickness specified in the operating instructions of the device. The mounting frames have been specially developed for thin plates.

Technical specifications

Article number	**6AV2181-4DM10-0AX0** MEMORY CARD LOCK 4''	**6AV2181-4XM00-0AX0** MEMORY CARD LOCK 7''- 22''
General information		
Product type designation	Memory card lock 4"	Memory card lock 7" - 22"
Installation type/mounting		
Wall mounting/direct mounting	Yes; Snap-on	Yes; Snap-on
Degree and class of protection		
IP (at the front)	IP20	IP20
Standards, approvals, certificates		
CE mark	Yes	Yes
Ambient conditions		
Ambient temperature during operation		
• min.	-40 °C	-40 °C
• max.	80 °C	80 °C
Ambient temperature during storage/transportation		
• min.	-40 °C	-40 °C
• max.	80 °C	80 °C
Relative humidity		
• Operation, max.	90 %	90 %
Mechanics/material		
Material		
• Plastic	Yes	Yes
Dimensions		
Width	25 mm	45 mm
Height	30 mm	59 mm
Thickness	10 mm	12 mm
Weights		
Weight without packaging	4 g; Per unit	6 g; Per unit
Scope of supply		
Delivery quantity in pieces	5	5
Other		
Target devices	Comfort Panel 4"	Comfort Panels 7" to 22"

Technical specifications (continued)

Article number	6AV6574-1AF04-4AA0 MOBILE PANEL WALL BRACKET, TYPE 10	6AV6645-7CX04-1WP0 MOBILE PANEL WALL BRACKET, TYPE 11	6AV6645-7CX05-1WP0 MOBILE CLIENT WALL BRACKET, TYPE 12
General information			
Product type designation	Wall-mounting bracket Mobile Panel, type 10	Wall-mounting bracket Mobile Panel, type 11	Wall-mounting bracket Mobile Client
Installation type/mounting			
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	No	No	No
Standards, approvals, certificates			
CE mark	Yes	No	Yes
RoHS conformity	Yes		
Ambient conditions			
Ambient temperature during operation			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
Ambient temperature during storage/transportation			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
Relative humidity			
• Operation, max.	90 %	90 %	90 %
Mechanics/material			
Enclosure material (front)			
• Sheet steel	Yes; Powder-coated	Yes; Powder-coated	Yes; Powder-coated
Dimensions			
Width	200 mm	200 mm	300 mm
Height	230 mm	400 mm	300 mm
Depth	25 mm; Constructive	25 mm; Constructive	100 mm; Constructive
Weights			
Weight without packaging	550 g; Without cable holder	880 g; Incl. cable holder	750 g; Without cable holder
Scope of supply			
Delivery quantity in pieces	1; Color: Black	1; Color: Black	1; Color: Black
Other			
Merchandise	Yes	Yes	Yes
Target devices	Mobile Panel 170, Mobile Panel 177, Mobile Panel 277 IWLAN, Mobile Panel 277F IWLAN V1 and V2, without mounting parts	Mobile Panel 170, Mobile Panel 177, Mobile Panel 277 IWLAN, Mobile Panel 277F IWLAN, including cable holder, without mounting parts	MOBILE CLIENT900 and Mobile Panel 170, Mobile Panel 177, Mobile Panel 277 IWLAN, Mobile Panel 277F IWLAN
Note:	The trickle charge is only ensured with the 6AV6671-5CE00-0AX1 charging station.		

Technical specifications (continued)

Article number	**6AV6671-3CS00-0AX0** MOUNTING FRAME 8" TOUCH	**6AV6671-3CS01-0AX0** MOUNTING FRAME 8" KEY	**6AV6671-8XS00-0AX0** MOUNTING FRAME 10" TO 12" TOUCH DEVICES
General information			
Product type designation	Mounting frame 8" touch	Mounting frame 8" key	Mounting frame 10" to 12" touch devices
Installation type/mounting			
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
RoHS conformity	Yes	Yes	Yes
Ambient conditions			
Ambient temperature during operation			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
Ambient temperature during storage/transportation			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
Relative humidity			
• Operation, max.	90 %	90 %	90 %
Mechanics/material			
Enclosure material (front)			
• Sheet steel	Yes	Yes	Yes
Scope of supply			
Delivery quantity in pieces	1	1	1
Other			
Target devices	For MP277 8" touch	For MP 277 8" key	For KTP1000 Basic, MP277 10" touch, MP377 12" touch, Thin Client 10"

Article number	**6AV6671-8XK00-0AX2** PLASTIC MOUNTING CLIP	**6AV6671-8XK00-0AX1** SPRING MOUNTING CLIP	**6AV6671-8XK00-0AX0** ALUMINUM MOUNTING CLIP
General information			
Product type designation	Mounting clip, plastic	Mounting clip, spring	Mounting clip, aluminum
Installation type/mounting			
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes
Standards, approvals, certificates			
RoHS conformity		Yes	Yes
Ambient conditions			
Ambient temperature during operation			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
Ambient temperature during storage/transportation			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
Relative humidity			
• Operation, max.	90 %	90 %	90 %
Mechanics/material			
Enclosure material (front)			
• Plastic	Yes	Yes; For 1 ... 4 mm sheet thickness	
• Aluminum			Yes
Screw type			
• 4.5 V	Yes; Original partially Phillips screw		Yes

Technical specifications (continued)

Article number	**6AV6671-8XK00-0AX2** PLASTIC MOUNTING CLIP	**6AV6671-8XK00-0AX1** SPRING MOUNTING CLIP	**6AV6671-8XK00-0AX0** ALUMINUM MOUNTING CLIP
Dimensions			
Width	30 mm	20 mm	15 mm
Height	17 mm; Without screw	35 mm	21 mm; Without screw
Thickness	8 mm	20 mm	15 mm
Weights			
Weight without packaging	4 g; Per unit	8 g; Per unit	5 g; Per unit
Weight incl. packaging	80 g; Delivery unit		
Scope of supply			
Delivery quantity in pieces	20	20; Spring-loaded terminals	20
Other			
Target devices	for TD17, OP7, OP17, OP73, OP77A/B, TP/OP17x except TP177 4", Push Button Panel, Key Panel, empty front design, KP300 Basic mono, Basic 2nd, KTP400 Comfort, USB hub, sheet thickness 2 ... 6 mm	TP177-4", TP/OP 277-6", MP177-6, MP277-10" T, MP277-8", MP277-8"T, MP277-10"K, MP377 12-19", TC 10", TC 15", KTP400 Basic mono, KTP600, KTP1000, KTP1500, KP700 Comfort, TP700 Comfort, KP900 Comfort, TP900 Comfort, KP1200 Comfort, TP1200 Comfort and IPC 277D 7, 9, 12"	TP177-4", TP/OP277-6", MP177-6, MP277-10"T, MP277-8", MP277-8"T, MP277-10"K, MP377 12"-19", TC 10", TC 15", KTP400 Basic mono, KTP600 Basic, KTP1000 Basic, TP1500 Basic, KP700 Comfort, TP700 Comfort, KP900 Comfort, TP900 Comfort, KP1200 Comfort, TP1200 Comfort and IPC277D 7", 9", 12"

Article number	**6AV6671-8XK00-0AX3** STEEL MOUNTING CLIP	**6AV6671-8XK00-0AX4** STEEL MOUNTING CLAMP
General information		
Product type designation	Mounting clip, steel	Mounting bracket, steel
Installation type/mounting		
Mounting in portrait format possible	Yes	Yes
Mounting in landscape format possible	Yes	Yes
Ambient conditions		
Ambient temperature during operation		
• min.	-40 °C	-40 °C
• max.	80 °C	80 °C
Ambient temperature during storage/transportation		
• min.	-40 °C	-40 °C
• max.	80 °C	80 °C
Relative humidity		
• Operation, max.	90 %	90 %
Mechanics/material		
Enclosure material (front)		
• Sheet steel	Yes	Yes
Screw type		
• 4.5 V	Yes	Yes

Article number	**6AV6671-8XK00-0AX3** STEEL MOUNTING CLIP	**6AV6671-8XK00-0AX4** STEEL MOUNTING CLAMP
Dimensions		
Width	20 mm	142 mm
Height	15 mm; Without screw	18 mm; Without screw
Thickness	8 mm	8 mm
Weights		
Weight without packaging	4 g; Per unit	30 g; Per unit
Weight incl. packaging	146 g; Delivery unit	
Scope of supply		
Delivery quantity in pieces	20	10
Other		
Target devices	15", 19" and 22" widescreen - Comfort Panels, IPCs, Flat Panels and Thin Clients. Plate thicknesses up to 6 mm	15", 19" and 22" widescreen - Comfort Panels, IPCs, Flat Panels and Thin Clients, except SCD1900 19" widescreen. Plate thicknesses up to 6 mm
Note:	Function-compatible to article number 6AV6671-8XK00-0AX4	

Technical specifications (continued)

Article number	6AV6881-2AM12-1AA0 switch housing KP8F	6AV6881-2AM12-2AA0 switch housing KP8
General information		
Product type designation	Fixing element	Fixing element
Operator controls		
Version of actuating element	1x emergency stop (1 NC contact / 1 NO contact)	Without, with 2x 22.5 mm blanking plugs
Operating principle of the actuating element	Latching, rotate to unlatch	
With parameterizable keys	Yes; Retrofittable with KP8F (not included in the scope of supply)	Yes; Retrofittable with KP8 or KP8F (not included in the scope of supply)
Contact configuration	1 NC contact, 1 NO contact	Optionally retrofittable with switch, pushbutton, keyswitch, etc.
Installation type/mounting		
Mounting	For horizontal and vertical mounting	
Mounting type	Backplane mounting	
Mounting in portrait format possible	Yes	Yes
Mounting in landscape format possible	Yes	Yes
Degree and class of protection		
IP65 (all-round)	Yes; IP65 fully enclosed	
Ambient conditions		
Suited for indoor use	Yes	Yes
Suited for outdoor use	No	No
Ambient temperature during operation		
• min.	0 °C; Operating temperature KP8F must always be maintained	0 °C; Operating temperature KP8 or KP8F must always be maintained
• max.	40 °C; Operating temperature KP8F must always be maintained	40 °C; Operating temperature KP8 or KP8F must always be maintained
Ambient temperature during storage/transportation		
• min.	-20 °C	-20 °C
• max.	70 °C	70 °C
Relative humidity		
• Operation, max.	90 %	90 %
• Condensation permissible	No	No

Article number	6AV6881-2AM12-1AA0 switch housing KP8F	6AV6881-2AM12-2AA0 switch housing KP8
Mechanics/material		
Material	aluminum	aluminum
• Aluminum	Yes; Powder-coated	
Dimensions		
Width	259 mm	259 mm
Height	128 mm	128 mm
Depth	90 mm	90 mm
Scope of supply		
Delivery quantity in pieces	1; Bopla #115234 aluminum enclosure	
Components included	1x Icotek cable entry KEL-ER B4 incl. various grommets	
Other		
Merchandise	Yes	Yes
Target devices	Suitable for the installation of KP8, KP8F, do not exceed the maximum operating temperature of the KP!	
Note:	IP65 can only be attained if a key panel and a cable entry are properly installed.	

Ordering data

	Article No.
Mounts and interlocks	
Memory card lock	
• 4"	6AV2181-4DM10-0AX0
• 7" … 22"	6AV2181-4XM00-0AX0
Wall mounting bracket for Mobile Panels	
• Type 10, for Mobile Panel and Mobile Client900, without cable storage	6AV6574-1AF04-4AA0
• Type 13, for KTP Mobile Panels	6AV2181-5AG80-0AX0
For IP65 installation of panels in thin-walled mounting plates	
Mounting frame	
• 8" Touch	6AV6671-3CS00-0AX0
• 10"/12" Touch	6AV6671-8XS00-0AX0
• For 8" Key	6AV6671-3CS01-0AX0
Mounting clip/bracket for practical mounting of SIMATIC Panels, Thin Clients and IPCs	
Mounting clip	
• Plastic	6AV6671-8XK00-0AX2
• Spring	6AV6671-8XK00-0AX1
• Aluminum	6AV6671-8XK00-0AX0
• Steel	6AV6671-8XK00-0AX3
• Thin client	6AV6671-6AP00-0AX0
• Spring thin client	6AV6671-6AP00-0AX1
Mounting bracket Steel	6AV6671-8XK00-0AX4

	Article No.
Support arm adapter VESA 100/75 M6 Support arm adapter VESA 100/75 M6 for PRO devices in IP20. Can be used with all PRO devices with matching tube connector for support arm systems.	6AV6881-0AD56-0AA0
Installation enclosure for KP8 and KP8F Prefabricated IP65 installation enclosure for KP8 and KP8F, including 2 x 22.5 mm cutouts for long stroke keys or switches. Supplied with blanking covers. Max. of 4 cables can be connected in IP65, cable sleeves enclosed. The enclosure can be permanently mounted or used as a portable device. The Key Panel is not included in the scope of delivery.	6AV6881-2AM12-2AA0
Installation enclosure KP8F Prefabricated IP65 installation enclosure KP8F, including 1 x 22.5 mm cutout. Supplied with an emergency stop button. Max. of 4 cables can be connected in IP65, cable sleeves enclosed. The enclosure can be permanently mounted or used as a portable device. The Key Panel is not included in the scope of delivery.	6AV6881-2AM12-1AA0

More information

Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.
Industry Mall:

https://mall.industry.siemens.com

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

https://eb.automation.siemens.com

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

http://support.automation.siemens.com

Informative material for downloading can be found on the Internet:

http://www.siemens.com/simatic/printmaterial

Overview

HMI accessories, labeling strips

Labeling strips and printable film

Labeling strips enable keys and pushbuttons to be labeled. Print templates for the Panels and IPCs are available for downloading free of charge. These enable you to produce transparent films on your own printer.

Perforated labeling strips are available for some classic panels. In this case, make sure that a suitable printer is used.

The thickness of the films should be between 100 and 125 µm.

- Labeling strips
- Front film
- Labeling set
- Protective sleeve

Note:

Protective front films which are specially designed for holding labeling strips are available for Mobile Panel 2nd Generation. The labeling strips can be printed on standard film and attached to the front with adhesive pads. The protective film is then adhered evenly over the Mobile Front.

Technical specifications

Article number	**6AV6574-1AB00-2BA0**	**6ES7272-1BF00-7AA0**	**6AV6671-0AP00-0AX0**	**6AV6671-5BF00-0AX0**	**6AV6574-1AB04-4AA0**
	LABELING STRIPS MP 37X KEY	TD100C FRONT FILM, BLANK	TD400C FRONT FILM, BLANK	LABELING SET MOBILE PANEL 277	PROTECTIVE SLEEVE FOR LABELING STRIPS
General information					
Product type designation	Labeling strip MP 37x key	Front film TD100C, blank	Front film TD400C, blank	Labeling set Mobile Panel 277	Protective sleeve labeling strips
Installation type/mounting					
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes	Yes
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	
RoHS conformity			Yes		
Ambient conditions					
Ambient temperature during operation					
• min.	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C	80 °C	80 °C
Ambient temperature during storage/transportation					
• min.	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C	80 °C	80 °C
Relative humidity					
• Operation, max.	90 %	90 %	90 %	90 %	90 %
Dimensions					
Width	210 mm	210 mm	210 mm	210 mm	170 mm; Approximate dimension
Height	297 mm	297 mm	297 mm	297 mm	115 mm; Approximate dimension
Width of the housing front			163 mm		
Height of housing front			91 mm		

Technical specifications (continued)

Article number	**6AV6574-1AB00-2BA0** LABELING STRIPS MP 37X KEY	**6ES7272-1BF00-7AA0** TD100C FRONT FILM, BLANK	**6AV6671-0AP00-0AX0** TD400C FRONT FILM, BLANK	**6AV6671-5BF00-0AX0** LABELING SET MOBILE PANEL 277	**6AV6574-1AB04-4AA0** PROTECTIVE SLEEVE FOR LABELING STRIPS
Scope of supply					
Delivery quantity in pieces	1	10	10	2; 2 sheets with 3 labeling strips each, incl. corner seals, O-ring, replacement screw, decorative film for corner seal	5
• Number of films per sheet		6	2	6	
• Parts per unit	2	60	20	6	1
Other					
printable with laser printer	Yes	Yes	Yes	Yes	No
Target devices	For MP 370 key, MP 377 key	For TD100C	For TD400C	For Mobile Panel 277	For Mobile Panel 170, Mobile Panel 177

Ordering data

	Article No.
Labeling strips for MP 377 Key	**6AV6574-1AB00-2BA0**
Front film TD100C unprinted	**6ES7272-1BF00-7AA0**
Front film TD400C unprinted	**6AV6671-0AP00-0AX0**
Labeling set for Mobile Panel 277	**6AV6671-5BF00-0AX0**
Widescreen labeling set	
• 4" widescreen for KTP400F Mobile 4"	**6AV2181-5DJ10-0AX0**
• 7" widescreen for KTP700 Mobile, KTP700F Mobile	**6AV2181-5GJ10-0AX0**
• 9" widescreen for KTP900 Mobile, KTP900F Mobile	**6AV2181-5JJ10-0AX0**
Protective sleeve for Mobile Panel 170/177	**6AV6574-1AB04-4AA0**

More information

Notice:

The labeling strips, blank films, and protective films should be printed at a printing works. Further details on printing the films can be found in the respective Technical Specifications.

Templates can be used to create labeling strips for SIMATIC HMI devices. Alternatively, a tool for the creation of labeling strips is available.

Download templates from:

http://support.automation.siemens.com/WW/view/en/11274631 and

Label Creator Download from:

http://support.automation.siemens.com/WW/view/en/61507590

Note:

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Industry Mall:

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Overview

HMI accessories, input devices, mouse, keyboard

Input devices

Input devices are all those devices via which information can be supplied to a computer or panel. This enables interaction with a program.

SIMATIC HMI input devices are specially designed for operation on panels and industrial PCs in industrial environments.

The following input devices are available for use with IPCs and panels:

- Membrane keyboard
- Removable keyboard
- Withdrawable keyboard
- USB mouse

Tip:

Import/export certificates are available for download from the Customer Support area. To access them, enter the "article number" and set the search filter to "certificates".

Technical specifications

Article number	6AV6881-0AU14-0AA0 USB KEYBOARD GER TKL-105	6AV6881-0AU14-1AA0 USB KEYBOARD INT. US TKL-105
General information		
Product type designation	USB keyboard GERMAN	USB keyboard international US
Operator controls		
Version of actuating element	Long-stroke key with 4 mm contact travel	Long-stroke key with 4 mm contact travel
Operating principle of the actuating element	Keyboard with long-stroke keys with membrane switching contacts	Keyboard with long-stroke keys with membrane switching contacts
Keyboard fonts		
• Design	Keyboard with long-stroke keys	Keyboard with long-stroke keys
• Keyboard assignment	105 keys, German layout	105 keys, international US layout
• Color of the buttons	Black	Black
• Color of the key inscription	White	White
• Key illumination	No	No
• Function keys		
- Number of function keys	12	12
• Number pad	Yes	Yes
• Status LED displays	Yes; Num, Caps and Scroll	Yes; Num, Caps and Scroll
- for number pad	Yes	Yes
- for Shift keys	Yes	Yes
Connection type		
• USB	Yes; USB 2.0 type A	Yes; USB 2.0 type A
• PS/2	No	No
• Cable length	1.5 m	1.5 m
Frame size/design		
• Standard	Yes; For industrial applications	Yes; For industrial applications
Installation type/mounting		
Rack mounting	No; Desktop housing	No; Desktop housing
Supply voltage		
Rated value (DC)	5 V; via USB	5 V; via USB
Battery		
Battery charge indicator	No; maintenance-free	No; maintenance-free
Interfaces		
Number of USB interfaces	1; USB 2.0	1; USB 2.0
Degree and class of protection		
IP65 (all-round)	Yes; IP68 all-round and dishwasher safe	Yes; IP68 all-round and dishwasher safe
IP (at the front)	USB connector without degree of protection	USB connector without degree of protection
Standards, approvals, certificates		
CE mark	Yes	Yes
cULus	No; Available soon	No; Available soon
KC approval	No; Available soon	No; Available soon
EAC (formerly Gost-R)	No; Available soon	No; Available soon
RoHS conformity	Yes	Yes
Suitable for safety functions	No	No

Article number	6AV6881-0AU14-0AA0 USB KEYBOARD GER TKL-105	6AV6881-0AU14-1AA0 USB KEYBOARD INT. US TKL-105
Ambient conditions		
Suited for indoor use	Yes	Yes
Suited for outdoor use	No; Possible under certain conditions	No; Possible under certain conditions
Ambient temperature during operation		
• min.	0 °C	0 °C
• max.	70 °C	70 °C
Ambient temperature during storage/transportation		
• min.	-20 °C	-20 °C
• max.	60 °C	60 °C
Relative humidity		
• Operation, max.	80 %; no condensation	80 %; no condensation
• Condensation permissible	No	No
Runs under operating system		
• Windows CE	Yes	Yes
• Windows Vista	Yes	Yes
• Windows XP	Yes	Yes
• Windows 7	Yes	Yes
• Windows 10	Yes	Yes
Cables		
Cable length	1.5 m; USB	1.5 m; USB
Mechanics/material		
Material		
• Plastic	Yes; Black	Yes; Black
Enclosure material (front)		
• Plastic	Yes; ABS with antimicrobial coating	Yes; ABS with antimicrobial coating
Enclosure color (front)	Black	Black
Enclosure color (rear)	Black	Black
Service life		
• Number of operating cycles, keys	10 000 000; Operations (minimum)	10 000 000; Operations (minimum)
Dimensions		
Width	459 mm	459 mm
Height	35 mm	35 mm
Depth	174 mm	174 mm
Weights		
Weight without packaging	800 g	800 g
Weight incl. packaging	1 620 g	1 620 g
Scope of supply		
Delivery quantity in pieces	1	1
Other		
Merchandise	Yes; GETT TKL-105	Yes; GETT TKL-105
Target devices	For SIMATIC HMI devices and IPCs with the appropriate slot	For SIMATIC HMI devices and IPCs with the appropriate slot
Note:	**Corresponds to KL21203**	**Corresponds to KL24603**

Technical specifications (continued)

Article number	6GF6710-2AC PS2 FOIL KEYBOARD GER, TOUCHPAD	6GF6710-2BC PS FOIL KEYBOARD INT, TOUCHPAD
General information		
Product type designation	PS/2 membrane keyboard (GER), touchpad	PS/2 membrane keyboard (INT), touchpad
Keyboard fonts		
• Design	Membrane keyboard	Membrane keyboard
• Keyboard assignment	B3F, 101/102 or 104/105 OMRON	B3F, 101/102 or 104/105 OMRON
• Function keys		
- Number of function keys	12	12
- Programmable	Yes	Yes
• Number pad	Yes	Yes
• Status LED displays	Yes; Num, Caps and Scroll	Yes; Num, Caps and Scroll
- for number pad	Yes	Yes
- for Shift keys	Yes	Yes
Connection type		
• USB	Yes; With PS/2 USB adapter	Yes; With PS/2 USB adapter
• PS/2	Yes	Yes
• Cable length	1.75 m	1.75 m
Frame size/design		
• Standard	Yes; For industrial applications	Yes; For industrial applications
Installation type/mounting		
Rack mounting	No; Desktop housing	No; Desktop housing
Input current		
Current consumption (rated value)	25 mA; Typical	25 mA; Typical
Battery		
Battery charge indicator	No; maintenance-free	No; maintenance-free
Degree and class of protection		
IP (at the front)	IP65	IP65
Splashproof	Yes	Yes
Standards, approvals, certificates		
CE mark	Yes	Yes
RoHS conformity	Yes	Yes

Article number	6GF6710-2AC PS2 FOIL KEYBOARD GER, TOUCHPAD	6GF6710-2BC PS FOIL KEYBOARD INT, TOUCHPAD
Ambient conditions		
Ambient temperature during operation		
• min.	0 °C	0 °C
• max.	40 °C	40 °C
Ambient temperature during storage/transportation		
• min.	-10 °C	-10 °C
• max.	50 °C	50 °C
Relative humidity		
• Operation, max.	90 %; no condensation	90 %; no condensation
• Condensation permissible	No	No
Runs under operating system		
• Windows CE	Yes	Yes
• Windows Vista	Yes	Yes
• Windows XP	Yes	Yes
• Windows 7	Yes	Yes
Mechanics/material		
Material		
• Plastic	Yes; AUTOTEX (R) V150	Yes; AUTOTEX (R) V150
Service life		
• Number of operating cycles, keys	1 000 000; Operations (minimum)	1 000 000; Operations (minimum)
Dimensions		
Width	478.5 mm	478.5 mm
Height	28 mm	28 mm
Depth	180 mm	180 mm
Weights		
Weight without packaging	2 260 g	2 260 g
Weight incl. packaging	2 410 g	2 410 g
Scope of supply		
Delivery quantity in pieces	1	1
Other		
Target devices	For SIMATIC HMI devices and IPCs with the appropriate slot	For SIMATIC HMI devices and IPCs with the appropriate slot

Technical specifications (continued)

Article number	6GF6710-3BJ PS2 SLIDE-IN KEYBOARD 19" GER TRACKBALL	6GF6710-3BK PS2 SLIDE-IN KEYBOARD 19" INT TRACKBALL
General information		
Product type designation	PS/2 19” withdrawable keyboard (GER) with trackball	PS/2 19” withdrawable keyboard (INT) with trackball
Keyboard fonts		
• Design	Membrane keyboard	Membrane keyboard
• Keyboard assignment	84 (Germany (QWERTZ))	84 (US version)
• Color of the buttons	Light gray	Light gray
• Color of the key inscription	Dark gray	Dark gray
• Key illumination	No	No
• Function keys		
- Number of function keys	12	12
• Number pad	Yes; Integrated into key layout	Yes; Integrated into key layout
• Status LED displays	Yes; Num, Caps, Scroll and Pad	Yes; Num, Caps, Scroll and Pad
- for number pad	Yes	Yes
- for Shift keys	Yes	Yes
Connection type		
• Bluetooth radio standard	No	No
• USB	No	No
• PS/2	Yes	Yes
• Cable length	1.5 m	1.5 m
Frame size/design		
• Standard	Yes; For industrial applications	Yes; For industrial applications
Installation type/mounting		
Rack mounting	Yes	Yes
Wall mounting/direct mounting	No	No
maximum permissible angle of inclination without external ventilation	0°	0°
Supply voltage		
Type of supply voltage	via PS/2	via PS/2
Input current		
Current consumption (rated value)	10 mA; Typical	10 mA; Typical
Battery		
Battery charge indicator	No; maintenance-free	No; maintenance-free
Degree and class of protection		
Splashproof	No	No
Standards, approvals, certificates		
CE mark	Yes	Yes
RoHS conformity	Yes	Yes

Article number	6GF6710-3BJ PS2 SLIDE-IN KEYBOARD 19" GER TRACKBALL	6GF6710-3BK PS2 SLIDE-IN KEYBOARD 19" INT TRACKBALL
Ambient conditions		
Ambient temperature during operation		
• min.	0 °C	0 °C
• max.	50 °C	50 °C
Ambient temperature during storage/transportation		
• min.	-40 °C	-40 °C
• max.	65 °C	65 °C
Relative humidity		
• Operation, max.	80 %; no condensation	80 %; no condensation
• Condensation permissible	No	No
Runs under operating system		
• Windows CE	Yes	Yes
• Windows Vista	Yes	Yes
• Windows XP	Yes	Yes
• Windows 7	Yes	Yes
• Windows 8	Yes	Yes
Mechanics/material		
Material		
• Plastic	Yes; Keyboard itself	Yes; Keyboard itself
• Sheet steel	Yes; Powder-coated drawer	Yes; Powder-coated drawer
Service life		
• Number of operating cycles, keys	20 000 000; Operations (approx.)	20 000 000; Operations (approx.)
Dimensions		
Width	370 mm; Keyboard	370 mm; Keyboard
Height	20 mm; Keyboard	20 mm; Keyboard
Depth	138.5 mm; Keyboard	138.5 mm; Keyboard
Width of the housing front	485 mm; Keyboard incl. drawer	485 mm; Keyboard incl. drawer
Height of housing front	45 mm; Keyboard incl. drawer	45 mm; Keyboard incl. drawer
Enclosure diameter	465 mm; Mounting depth drawer	465 mm; Mounting depth drawer
Weights		
Weight without packaging	8 000 g; Without accessories	8 000 g; Without accessories
Weight incl. packaging	9 300 g	9 300 g
Scope of supply		
Delivery quantity in pieces	1; Keyboard incl. drawer	1; Keyboard incl. drawer
Other		
Target devices	Suitable for IPC and HMI devices with the corresponding interfaces (see manual)	Suitable for IPC and HMI devices with the corresponding interfaces (see manual)

Technical specifications (continued)

Article number	6GF6710-3AE PS2 cabinet keyboard GER, touchpad	6GF6710-3BG PS2 CABINET KEYBOARD 19" INT TRACKBALL	6GF6710-3BE PS2 cabinet keyboard INT, touchpad
General information			
Product type designation	PS/2 membrane keyboard (GER), touchpad	PS/2 19" removable keyboard (INT), with trackball	PS/2 membrane keyboard (INT), touchpad
Keyboard fonts			
• Design	Membrane keyboard	Membrane keyboard	Membrane keyboard
• Keyboard assignment	B3F, 101/102 or 104/105 OMRON	B3F, 101/102 or 104/105 OMRON	B3F, 101/102 or 104/105 OMRON
• Color of the buttons		Light gray	
• Color of the key inscription		Black	
• Key illumination		No	
• Function keys			
- Number of function keys	12	12	12
- Programmable	Yes	Yes	Yes
• Number pad	Yes	Yes; Free-standing	Yes
• Status LED displays		Yes; Num, Caps and Scroll	
- for number pad		Yes	
- for Shift keys		Yes	
Connection type			
• USB		Yes	Yes; With PS/2 USB adapter
• PS/2	Yes	Yes	Yes
Frame size/design			
• Standard	Yes; For industrial applications	Yes; For industrial applications	Yes; For industrial applications
Installation type/mounting			
Rack mounting		No	
Front mounting		Yes	
Wall mounting/direct mounting		No	
Input current			
Current consumption (rated value)	25 mA; Typical	35 mA; Typical	25 mA; Typical
Battery			
Battery charge indicator	No; maintenance-free	No; maintenance-free	No; maintenance-free
Degree and class of protection			
IP (at the front)	IP65	IP65	IP65
Splashproof	Yes	Yes	Yes
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
RoHS conformity	Yes	Yes	Yes
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	40 °C	40 °C	40 °C
Ambient temperature during storage/transportation			
• min.	-10 °C	-10 °C	-10 °C
• max.	50 °C	50 °C	50 °C
Relative humidity			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
• Condensation permissible	No	No	No
Mechanics/material			
Material			
• Sheet steel	Yes	Yes	Yes
Enclosure material (front)			
• Plastic	Yes; AUTOTEX (R) V150	Yes; AUTOTEX (R) V150	Yes; AUTOTEX (R) V150
Service life			
• Number of operating cycles, keys	1 000 000; Operations (minimum)	1 000 000; Operations (minimum)	1 000 000; Operations (minimum)

Technical specifications (continued)

Article number	6GF6710-3AE PS2 cabinet keyboard GER, touchpad	6GF6710-3BG PS2 CABINET KEYBOARD 19" INT TRACKBALL	6GF6710-3BE PS2 cabinet keyboard INT, touchpad
Dimensions			
Width	482.6 mm	482.6 mm	482.6 mm
Height	42.5 mm	38 mm	42.5 mm
Depth	177.8 mm	177.8 mm	177.8 mm
Weights			
Weight without packaging	1 480 g	1 490 g	1 480 g
Weight incl. packaging	1 665 g	1 735 g	1 665 g
Scope of supply			
Delivery quantity in pieces	1; Built-in keyboard rack mounting	1; Removable keyboard with stud bolts	1; Built-in keyboard rack mounting
Other			
Target devices	Suitable for IPC and HMI devices with the corresponding interfaces (see manual)	Suitable for IPC and HMI devices with the corresponding interfaces (see manual)	Suitable for IPC and HMI devices with the corresponding interfaces (see manual)

Article number	6AV2181-8AT00-0AX0 SIMATIC USB MOUSE
General information	
Product type designation	SIMATIC HMI USB mouse
Operator controls	
With parameterizable keys	No; 5 including scroll wheel
Input device	
• Scroll wheel	Yes; Vertical and horizontal scrolling
• Movement tracking	Microsoft - proprietary BlueTrack™ Technology
• Movement resolution	1 000 dpi; 8 000 images/second
• Speed	1 829 mm/s; 1.829 m/s
Connection type	
• USB	Yes
Frame size/design	
• Standard	Yes; For industrial applications
Supply voltage	
Rated value (DC)	5 V; via USB
Input current	
Current consumption (rated value)	100 mA; USB-compatible
Battery	
Battery charge indicator	No; Without battery
Interfaces	
Number of USB interfaces	1
Standards, approvals, certificates	
CE mark	Yes; WEEE (European Union) available
cULus	Yes; ICES-003 (Canada) available
RCM (formerly C-TICK)	No; EIP / EPUP available
KC approval	Yes
FCC Class B	Yes; FCC ID available
BSMI	Yes
Suitable for safety functions	No
Marine approval	
• Nippon Kaiji Kyokai (Class NK)	No; Only VCCI available

Article number	6AV2181-8AT00-0AX0 SIMATIC USB MOUSE
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	40 °C
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	60 °C
Relative humidity	
• Operation, max.	80 %; 65 % for storage
• Condensation permissible	No
Runs under operating system	
• Windows CE	Yes; Not all functions are available
• Windows Vista	Yes
• Windows XP	Yes; SP2 and higher
• Windows 7	Yes
• Windows 8	Yes
Cables	
Cable length	1 930 mm
smallest bending radius	10 mm
Color of cable sheath	
• Gray	Yes
Mechanics/material	
Material	
• Plastic	Yes; Anthracite
Dimensions	
Width	67.9 mm
Height	42.3 mm
Depth	116 mm
Weights	
Weight without packaging	131 g
Weight incl. packaging	270 g
Scope of supply	
Delivery quantity in pieces	1
Other	
Target devices	Suitable for HMI Panels and IPCs with USB interface

Ordering data

Ordering data	Article No.
Membrane keyboard IP65, German With Touchpad, PS/2 (German)	**6GF6710-2AC**
Membrane keyboard IP65, international With Touchpad, PS/2 (internal)	**6GF6710-2BC**
Removable keyboard, German 19" removable keyboard with trackball, PS/2	**6GF6710-3BJ**
Removable keyboard, international 19" removable keyboard with trackball, PS/2	**6GF6710-3BK**
Removable keyboard, touchpad, German 19" removable keyboard, 4U with touchpad, PS/2	**6GF6710-3AE**
Removable keyboard, touchpad, international 19" removable keyboard, 4U with touchpad, PS/2	**6GF6710-3BE**
Removable keyboard, trackball, international Removable keyboard with trackball, PS/2	**6GF6710-3BG**
SIMATIC HMI USB mouse For SIMATIC HMI Panels, programming devices and IPCs with corresponding interfaces. Color: Anthracite	**6AV2181-8AT00-0AX0**
SIMATIC PC keyboard	
• IP68 keyboard, black with German layout and USB connection	**6AV6881-0AU14-0AA0**
• IP68 keyboard, black with US layout and USB connection	**6AV6881-0AU14-1AA0**
IP65 stainless steel keyboard Silver IP65 stainless steel keyboard for installation on all fully enclosed PRO devices with suitable mechanics. With numeric keypad, layout: US, tiltable, mouse cursor control via integrated keys, and USB connection	**6AV7674-1NE00-0AA0**
Keyboard tray Silver tray for IP65 installation on all fully enclosed PRO devices with suitable mechanics. With 2x USB connection sockets including USB cable. Unused socket can be sealed to IP65.	**6AV7674-1NE01-0AA0**

More information

If you need to modify or supplement the products described here, we'll be pleased to provide the necessary information at: "Customized products".

Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.
Industry Mall:

https://mall.industry.siemens.com

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http://www.siemens.com/simatic/printmaterial

Overview

Optional package: Touch pens

Input aids

Input aids facilitate operation and input in difficult environments.

Touch pens are often extremely useful when operating touch displays, particularly if you are wearing gloves, because you can operate small buttons or input fields precisely despite the gloves.

Touch pens also protect the display from dirt and scratching during operation and when used in extreme environments.

The following input aids are available for operating the touch display:

- Touch pen
- Touch pen holder
- Spare caps for touch pens

Please be sure to note the correct touch system when ordering since not all touch pens are compatible with all touch types. There are touch pens available for both resistive and capacitive touch systems.

Technical specifications

Article number	**6AV7672-1JB00-0AA0** TOUCH PEN, THICK, RESISTIVE TECHNOLOGY	**6AV2181-8AV20-0AX0** Touch pen system, capacitive	**6AV2181-8AV60-0AX0** Touch pen, caps	**6AV6645-7AB14-0AS0** TOUCH PEN, THIN, RESISTIVE TECHNOLOGY
General information				
Product type designation	Touch pen, thick, resistive technology	Touch pen, capacitive technology	Touch system, accessories	Touch pen, thin, resistive technology
Frame size/design				
• Standard	Yes; For industrial applications	Yes; For industrial applications	Yes; Special cap for capacitive touch pens	Yes; For industrial applications
• Ergonomic	Yes; With holder	Yes; With holder		
Installation type/mounting				
Mounting type		Wall-mounting bracket can be mounted with mounting disk, 2x M3 screw or adhesive pads		
Mounting position		Horizontal		
Wall mounting/direct mounting	Yes; Screw-on clamping holder and elastic attachment cord	Yes	Yes; Capacitive touch system	Yes; using 40 cm retaining cord
Degree and class of protection				
IP (at the front)		IP65 (depending on mounting)		
Standards, approvals, certificates				
RoHS conformity	Yes			Yes

Technical specifications (continued)

Article number	6AV7672-1JB00-0AA0 TOUCH PEN, THICK, RESISTIVE TECHNOLOGY	6AV2181-8AV20-0AX0 Touch pen system, capacitive	6AV2181-8AV60-0AX0 Touch pen, caps	6AV6645-7AB14-0AS0 TOUCH PEN, THIN, RESISTIVE TECHNOLOGY
Ambient conditions				
Ambient temperature during operation				
• min.	-40 °C; At temperatures below 10 °C and above 30 °C, the use of suitable gloves is recommended.	-40 °C; At temperatures below 10 °C and above 30 °C, the use of suitable gloves is recommended.	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C	80 °C
Ambient temperature during storage/transportation				
• min.	-40 °C	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C	80 °C
Relative humidity				
• Operation, max.	90 %	90 %	90 %	90 %
Mechanics/material				
Material				
• Plastic	Yes; Touch pen SIMATIC HMI	Yes; Attachment cord	Yes	Yes
• Aluminum		Yes; Touch pen, wall bracket		
• Sheet steel	Yes; Mounting			
Screw type				
• Torx	Yes			No
Dimensions				
Width			8 mm	
Height	155 mm; Length	150 mm; Length	8 mm	125 mm; Length
Thickness	20 mm; Diameter	14 mm; Diameter	8 mm	8 mm; Diameter
Enclosure diameter		37 mm; Diameter wall bracket		
Mounting cutout, height		39 mm; Height wall bracket		
Weights				
Weight without packaging		0.13 kg	0.8 g	
Weight incl. packaging		0.14 kg	1.7 g	
Scope of supply				
Delivery quantity in pieces	1; Optional for Extension Units of the PRO devices	1; 1x touch pen with string, wall bracket, M6 screw, mounting disk, O-ring, adhesive pads, spare caps for touch pen	10; Caps for touch pen	5; Incl. retaining cord for Mobile Panel 277 10"
Other				
Merchandise		Yes; Function depending on touch sensitivity, not suitable for Ceran cooktops, MP377 Daylight, possibly others	Yes	Yes
Target devices	for resistive touch screens, optimized for operating while wearing gloves	For common capacitive and resistive touch systems	Pen for touch system, capacitive, aluminum	for resistive touch screens
Note:		Length of the interconnecting lead 53 cm to 100 cm		

Ordering data

Ordering data	Article No.
Touch pen, thick, resistive technology For resistive touch screen, optimized for operation with gloves, including screw-on wall bracket	**6AV7672-1JB00-0AA0**
Touch pen, thin, resistive technology For resistive touch screen, attachment cord for Mobile Panel 277 10" and other resistive touch screen displays.	**6AV6645-7AB14-0AS0**
Touch pen system aluminum capacitive technology Pen including holder 22.5 mm, screw or glue; can be used for capacitive or resistive touch screens	**6AV2181-8AV20-0AX0**
Cap for touch pen, capacitive technology Spare caps for touch pens, capacitive technology	**6AV2181-8AV60-0AX0**

More information

Note:

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Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.
Industry Mall:

https://mall.industry.siemens.com

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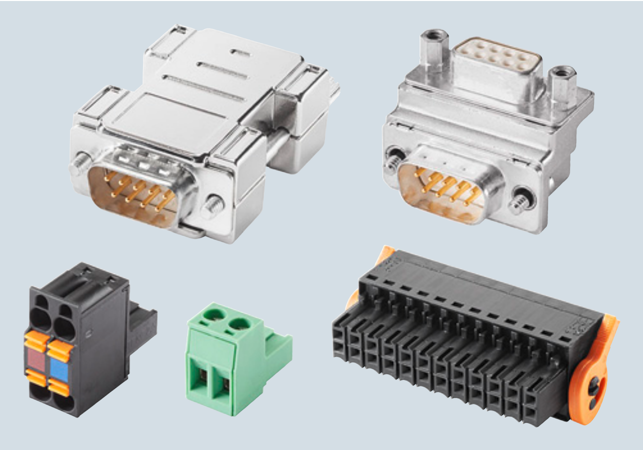
Overview



HMI accessories, connecting components

HMI connecting components

The following HMI connecting components are available for our operator panels and industrial PCs:

- Converters
  change signals from one physical system to another.
  Example: An RS 232 V.24 signal is converted to a TTY 20mA signal. The transmitted data is not affected.
- Connectors
  are used for connecting devices or expansion components to the power supply, data cables or I/O devices.
- Adapters
  can modify the pinning, as well as the output direction of a connector attached to the core product. It is also possible to implement transitions from "n"-pin" to "x"-pin.

Technical specifications

Article number	**6AV6671-8XE00-0AX0** RS 422 TO RS 232 CONVERTER	**6AV6671-8XJ00-0AX0** RS 422 TO TTY CONVERTER
General information		
Product type designation	Converter, RS 422 to RS 232	Converter RS 422 to TTY
Installation type/mounting		
Wall mounting/direct mounting	Yes; Can be screwed onto the HMI	Yes; Can be screwed onto the HMI
Interfaces		
HMI-side interface		
• Number of pins HMI-side	9; Pin (RS 422)	9; Pin (RS 422)
Device-side interface		
• Number of pins device-side	9; Pin (RS 232)	15; Socket (TTY)
Standards, approvals, certificates		
CE mark	Yes	Yes
RoHS conformity	Yes	Yes
China RoHS compliance	Yes	Yes
Ambient conditions		
Ambient temperature during operation		
• min.	0 °C	0 °C
• max.	55 °C	55 °C
Ambient temperature during storage/transportation		
• min.	-20 °C	-20 °C
• max.	70 °C	70 °C
Relative humidity		
• Operation, max.	95 %	95 %
Mechanics/material		
Enclosure material (front)		
• Plastic	Yes	Yes
Screw type		
• 4.5 V	Yes; HMI page	Yes; HMI page
Dimensions		
Width	31 mm	42 mm
Height	50 mm	62 mm
Thickness	11 mm	11 mm
Weights		
Weight without packaging	26 g	28 g
Scope of supply		
Delivery quantity in pieces	1	1
Other		
Target devices	suitable for all SIMATIC HMI RS 422 interfaces, for details refer to the operating instructions of the respective device	

Technical specifications (continued)

Article number	**6AV6671-8XA00-0AX0** CONNECTOR, FEMALE, 2-PIN	**6AV6671-3XY38-4AX0** CONNECTOR, FEMALE, 12-PIN	**6AV6671-3XY48-4AX0** CONNECTOR, FEMALE, 16-PIN	**6AV6671-3XY58-4AX0** CONNECTOR, FEMALE, 24-PIN
General information				
Product type designation	Connector, female, 2-pin, type 1	Connector, female, 12-pin	Connector, female, 16-pin	Connector, female, 24-pin
Frame size/design				
• Standard	Yes; Z shape			
Installation type/mounting				
Wall mounting/direct mounting	Yes; can be plugged into SIMATIC HMI device	Yes; can be plugged into SIMATIC HMI device	Yes; can be plugged into SIMATIC HMI device	Yes; can be plugged into SIMATIC HMI device
Supply voltage				
Rated value (DC)	24 V; DC	24 V; DC	24 V; DC	24 V; DC
Interfaces				
HMI-side interface				
• Number of pins HMI-side	2; Male	12; Female	16; Female	24; Female
Device-side interface				
• Number of pins device-side	2; Female, screw terminals	12; Female, spring-loaded terminals	16; Female, spring-loaded terminals 0.75 mm^2	24; Female, spring-loaded terminals 0.75 mm^2
Standards, approvals, certificates				
CE mark		Yes	Yes	Yes
RoHS conformity	Yes	Yes	Yes	Yes
China RoHS compliance	Yes	Yes	Yes	Yes
Use in hazardous areas				
• ATEX Zone 2	Yes; Device-dependent, see operating instructions			
• ATEX Zone 22	Yes; Device-dependent, see operating instructions			
• IECEx Zone 2	Yes; Device-dependent, see operating instructions			
• IECEx Zone 22	Yes; Device-dependent, see operating instructions			
• cULus Class I Zone 1	Yes; Device-dependent, see operating instructions			
• cULus Class I Zone 2, Division 2	Yes; Device-dependent, see operating instructions			
• FM Class I Division 2	Yes; Device-dependent, see operating instructions			
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C	55 °C
Ambient temperature during storage/transportation				
• min.	-20 °C	-20 °C	-20 °C	-20 °C
• max.	70 °C	70 °C	70 °C	70 °C
Relative humidity				
• Operation, max.	95 %	95 %	95 %	95 %
Mechanics/material				
Material				
• Plastic	Yes; Green			
Enclosure material (front)				
• Plastic	Yes; Contact spacing 5.08 mm	Yes; Spring-loaded terminals 1.5 mm^2	Yes; Spring-loaded terminals 1.5 mm^2	Yes; Spring-loaded terminals 1.5 mm^2
Screw type				
• 4.5 V	Yes; Screw terminals			
Dimensions				
Width	10 mm	16 mm	16 mm	16 mm
Height	15 mm	20 mm	28 mm	54 mm
Thickness	27 mm	20 mm	20 mm	20 mm
Scope of supply				
Delivery quantity in pieces	10	10; Without ejector	10; Without ejector	4; with ejector
Other				
Target devices	for Comfort Panel, IPC, Flat Panel, Thin Client	for KP8 PN	for KP8F PN, KP32F PN	for KP32F PN

Technical specifications (continued)

Article number	6ES7193-4JB00-0AA0 CONNECTOR, FEMALE, 2X2-PIN
General information	
Product type designation	Connector, female, 2x2-pin
Installation type/mounting	
Wall mounting/direct mounting	Yes; can be plugged into SIMATIC HMI device
Supply voltage	
Rated value (DC)	24 V; DC
Interfaces	
HMI-side interface	
• Number of pins HMI-side	2; Outgoing side jumpered internally, color-coded
Device-side interface	
• Number of pins device-side	4; Female, spring-loaded terminals 0.75 mm²
Standards, approvals, certificates	
CE mark	Yes
RoHS conformity	Yes
China RoHS compliance	Yes
Mechanics/material	
Design of housing	plastic
Dimensions	
Width	10 mm
Height	22 mm
Thickness	25 mm
Scope of supply	
Delivery quantity in pieces	10
Other	
Note:	for ET 200S, interface module, KP32F, PN-to-PN coupler
Usable in the following products	
• Product 1	6AV3688-3EH47-0AX0
• Product 2	6ES7158-3AD00-0XA0
• Product 3	6ES7158-3AD01-0XA0

Article number	6AV6671-8XD00-0AX0 RIGHT ANGLE ADAPTER, 1:1
General information	
Product type designation	90 degree angle adapter, 1:1
Installation type/mounting	
Wall mounting/direct mounting	Yes; Can be screwed onto the HMI
Interfaces	
HMI-side interface	
• Number of pins HMI-side	9; Male
Device-side interface	
• Number of pins device-side	9; Female
Standards, approvals, certificates	
CE mark	Yes
RoHS conformity	Yes
China RoHS compliance	Yes
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	55 °C
Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	70 °C
Relative humidity	
• Operation, max.	95 %
Mechanics/material	
Enclosure material (front)	
• Aluminum casting	Yes
Screw type	
• 4.5 V	Yes; HMI page
Dimensions	
Width	31 mm
Height	25 mm
Thickness	25 mm
Weights	
Weight without packaging	34 g
Scope of supply	
Delivery quantity in pieces	1
Other	
Target devices	suitable for all appropriate interfaces

Ordering data

Ordering data	Article No.
Converters	
RS 422 to RS 232 converter 9-pin male contact (on HMI) to 9-pin male contact, to be screwed onto HMI RS 422 interface, cable outlet 180 degrees, for connection of non-Siemens PLC	**6AV6671-8XE00-0AX0**
RS 422 to TTY converter 9-pin male contact (on HMI) to 15-pin female contact, to be screwed onto HMI RS 422 interface, 180 degree cable outlet, for the connection to SIMATIC S5	**6AV6671-8XJ00-0AX0**
Connectors	
24 V DC connector (2-pin) for all SIMATIC HMI Panels, without screw mounting, loop-through not possible. Approved for all SIMATIC HMI Panels except Key Panels.	**6AV6671-8XA00-0AX0**
Connector, female, 2-pin, type 2 24 V DC for IPCs and Thin Client	**A5E03604831**
Connector, female, 2-pin, type 3 24 V DC for IPCs, with screw mounting	**A5E02717632**
Connector, female, 3-pin, type 1 24 V DC for IPCs, PCUs and Flat Panels	**A5E03404000**
24 V DC connector (2-pin) (can be looped through) for all SIMATIC HMI Panels, without screw mounting, loop through possible, even if connector is unplugged. Approved for Key Panels.	**6ES7193-4JB00-0AA0**
12-pin cable connector 12-pin, 24 V DC for SIMATIC HMI Key Panel KP8 PN	**6AV6671-3XY38-4AX0**
16-pin cable connector 16-pin, 24 V DC for SIMATIC HMI Key Panel KP8F PN and Key Panel KP32F PN	**6AV6671-3XY48-4AX0**
24-pin cable connector 24-pin, 24 V DC for SIMATIC HMI Key Panel KP32F PN	**6AV6671-3XY58-4AX0**
Adapters	
90 degree angle adapter 9-pin male contact (on HMI) to 9-pin female contact, 1:1 connection, to be screwed onto the RS 485/422/232 HMI interface, or any other suitable interface	**6AV6671-8XD00-0AX0**
VGA and DVI adapters for onboard interfaces and PCI-Express graphics card NVS 295	
• Display port to VGA adapter	**6ES7648-3AG00-0XA0**
• Display port to DVI-D adapter	**6ES7648-3AF00-0XA0**

More information

Note:

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Accessories

IWLAN accessories

Overview

HMI accessories, IWLAN access point

Moby D data card transponder

Ordering data

	Article No.
SCALANCE	
SCALANCE W761-1 RJ45 Access Points	
• National approvals for operation outside the U.S.	**6GK5761-1FC00-0AA0**
• National approvals for operation in the USA	**6GK5761-1FC00-0AB0**
SCALANCE W774-1 RJ45 Access Points [1)]	
• National approvals for operation outside the U.S.	**6GK5774-1FX00-0AA0**
• National approvals for operation in the USA	**6GK5774-1FX00-0AB0**
SCALANCE W774-1 M12 EEC Access Points [1)]	
• National approvals for operation outside the U.S.	**6GK5774-1FY00-0TA0**
• National approvals for operation in the USA	**6GK5774-1FY00-0TB0**
SCALANCE W788-1 RJ45 Access Points [1)]	
• National approvals for operation outside the U.S.	**6GK5788-1FC00-0AA0**
• National approvals for operation in the USA	**6GK5788-1FC00-0AB0**
SCALANCE W788-2 RJ45 Access Points [1)]	
• National approvals for operation outside the U.S.	**6GK5788-2FC00-0AA0**
• National approvals for operation in the USA	**6GK5788-2FC00-0AB0**
SCALANCE W788-1 M12 Access Points [1)]	
• National approvals for operation outside the U.S.	**6GK5788-1GD00-0AA0**
• National approvals for operation in the USA	**6GK5788-1GD00-0AB0**

	Article No.
SCALANCE W788-2 M12 Access Points [1)]	
• National approvals for operation outside the U.S.	**6GK5788-2GD00-0AA0**
• National approvals for operation in the USA	**6GK5788-2GD00-0AB0**
SCALANCE W788-2 M12 EEC Access Points [1)]	
• National approvals for operation outside the U.S.	**6GK5788-2GD00-0TA0**
• National approvals for operation in the USA	**6GK5788-2GD00-0TB0**
SCALANCE W786-1 RJ45 Access Points [1)]	
• National approvals for operation outside the U.S.	**6GK5786-1FC00-0AA0**
• National approvals for operation in the USA	**6GK5786-1FC00-0AB0**
SCALANCE W786-2 RJ45 Access Points [1)]	
• National approvals for operation outside the U.S.	**6GK5786-2FC00-0AA0**
• National approvals for operation in the USA	**6GK5786-2FC00-0AB0**
SCALANCE W786-2IA RJ45 Access Points [1)]	
• National approvals for operation outside the U.S.	**6GK5786-2HC00-0AA0**
• National approvals for operation in the USA	**6GK5786-2HC00-0AB0**
SCALANCE W786-2 SFP Access Points [1)]	
• National approvals for operation outside the U.S.	**6GK5786-2FE00-0AA0**
• National approvals for operation in the USA	**6GK5786-2FE00-0AB0**

Ordering data

Ordering data	Article No.
KEY-PLUG W780 iFeatures	**6GK5907-8PA00**
PS791-2DC power supply 24 V DC power supply for installation in SCALANCE W-786 products; operating instructions in English/German	**6GK5791-2DC00-0AA0**
PS791-2AC power supply 110 V AC to 230 V AC power supply for installation in SCALANCE W-786 products; operating instructions in English/German	**6GK5791-2AC00-0AA0**
MOBY D accessories	
MOBY D, MDS D100 1 unit, minimum order quantity: 50 units	**6GT2600-0AD10**
RFID cards for Mobile Panels Packing unit with 10 x MDS D100 10 x spacers 10 x fixing pockets	**6GT2600-0AD11**
Spacer 1 unit	**6GT2190-0AA00**
Fixing pocket 1 unit	**6GT2190-0AB00**

[1] iFeatures can be optionally connected using KEY-PLUG W780 iFeatures

More information

Note:

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Power supply units

Overview


HMI accessories, power supply unit


HMI accessories, power cables

Power supply unit and connecting cables

The external power supply unit is intended for laboratory and office operation only.

The following power supply units and non-heating apparatus cables are available:

- Mobile Panel IWLAN power supply unit without non-heating apparatus cable
- Mobile Panel IWLAN power supply unit with non-heating apparatus cable
- Non-heating apparatus cable for Box and Panel PCs

Technical specifications

Article number	**6AV6671-5CN00-0AX3** POWER SUPPLY, EXT., MOBILE PANEL IWLAN
General information	
Product type designation	Power supply, connecting cable
Supply voltage	
Type of supply voltage	100 - 240 V AC
Rated value (DC)	12 V; Output side
Input current	
Current consumption (rated value)	1.4 A; 50 - 60 Hz
Output current	
per output	5 A
Power	
Emitted active power	60 W; max.
Interfaces	
HMI-side interface	Connector 5.5 mm jack (-) / 2.1 mm pin (+) 12 V DC
EMC	
Emission of radio interference acc. to EN 55 011	
• Limit class A, for use in industrial areas	Yes; EN61000-4-2,3,4,5,6,8,11 light industry level
Standards, approvals, certificates	
CE mark	Yes; UL69950, TÜVEN600950-1, BSMI CNS14336, CCC GB4942 approved
UL approval	Yes; cULus, cUL
cULus / KC approval / EAC (formerly Gost-R)	Yes / Yes / Yes
CCC / FCC Class B / China RoHS compliance	Yes / Yes / Yes
Ambient conditions	
Ambient temperature during operation	
• min. / max.	-10 °C / 50 °C
Ambient temperature during storage/transportation	
• min. / max.	-20 °C / 85 °C
Relative humidity	
• Operation, max.	90 %
Cables	
Cable length	0.9 m
Mechanics/material	
Material: Plastic	Yes
Enclosure color (front)	Black
Enclosure color (rear)	Black
Dimensions	
Width x Height x Thickness	125 mm x 50 mm x 31.5 mm
Weights	
Weight without packaging	265 g
Weight incl. packaging	445 g
Scope of supply	
Delivery quantity in pieces	1; Incl. AC and DC connecting cable
Other	
Merchandise	Yes; MeanWell GST60A12-P1J
Target devices	for Mobile Panel IWLAN
Usable in the following products	
• Product 1	6AV6645-0DD01-0AX0
• Product 2	6AV6645-0DE01-0AX0
• Product 3	6AV6645-0DB01-0AX0
• Product 4	6AV6645-0DC01-0AX0
• Product 5	6AV6645-0DD01-0AX1
• Product 6	6AV6645-0DE01-0AX1
• Product 7	6AV6645-0EB01-0AX1
• Product 8	6AV6645-0EC01-0AX1

Technical specifications (continued)

Article number	**6ES7900-1AA00-0XA0** Power cord, Germany	**6ES7900-1BA00-0XA0** Power cord, United Kingdom	**6ES7900-1CA00-0XA0** Power cord, Switzerland	**6ES7900-1DA00-0XA0** Power cord, USA	**6ES7900-1EA00-0XA0** Power cord, Italy	**6ES7900-1FA00-0XA0** Power cord, China
Standards, approvals, certificates						
CE mark	Yes					
RoHS conformity	Yes	Yes	Yes	Yes	Yes	Yes
Ambient conditions						
Ambient temperature during operation						
• min.	-10 °C	-10 °C	-10 °C	-10 °C	-10 °C	-10 °C
• max.	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C
Ambient temperature during storage/transportation						
• min.	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C
• max.	85 °C	85 °C	85 °C	85 °C	85 °C	85 °C
Relative humidity						
• Operation, max.	90 %	90 %	90 %	90 %	90 %	90 %
Cables						
Cable length	3 m	3 m	3 m	3 m	3 m	3 m
Color of cable sheath	Black	Black	Black	Black	Black	Black
Weights						
Weight without packaging	290 g	300 g	260 g	230 g	255 g	280 g
Weight incl. packaging	290 g	300 g	260 g	230 g	255 g	280 g
Scope of supply						
Delivery quantity in pieces	1; AC cable for DE, FR, ES, NL, BE, SE, AT, FI	1; AC cable for GB	1; AC cable for CH	1; AC cable for US	1; AC cable for IT	1; AC cable for CN

Ordering data

	Article No.
Power supply units	
Power supply unit, external, Mobile Panel IWLAN without non-heating apparatus cable Suitable only for operation under laboratory/office conditions.	**6AV6671-5CN00-0AX3**
Power supply unit, external, Mobile Panel IWLAN with non-heating apparatus cable Suitable only for operation under laboratory/office conditions.	
• Power supply unit with non-heating apparatus cable for Germany, France, Spain, the Netherlands, Belgium, Sweden, Austria, Finland	**6AV2181-5AL10-0AX0**
• Power supply unit with non-heating apparatus cable for the United Kingdom	**6AV2181-5AL20-0AX0**
• Power supply unit with non-heating apparatus cable for Switzerland	**6AV2181-5AL30-0AX0**
• Power supply unit with non-heating apparatus cable for USA	**6AV2181-5AL40-0AX0**
• Power supply unit with non-heating apparatus cable for Italy	**6AV2181-5AL50-0AX0**
• Power supply unit with non-heating apparatus cable for China	**6AV2181-5AL60-0AX0**

	Article No.
Power supply cable	
Power supply cable 230 V AC, angled For Box PCs and Panel PCs	
• For Germany, France, Spain, the Netherlands, Belgium, Sweden, Austria, Finland	**6ES7900-1AA00-0XA0**
• For the United Kingdom	**6ES7900-1BA00-0XA0**
• For Switzerland	**6ES7900-1CA00-0XA0**
• For the USA	**6ES7900-1DA00-0XA0**
• For Italy	**6ES7900-1EA00-0XA0**
• For China	**6ES7900-1FA00-0XA0**

More information

Notice:

The technical specifications remain unchanged; however, the power supply cable now has to be ordered separately.

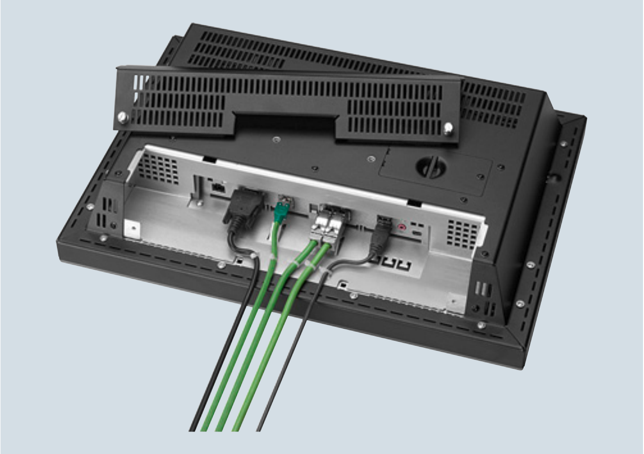
Suitable SITOP power supplies are available for use with machinery and plants.

Network cables for the connection of IPC systems for various countries are also available.

The replacement type has the article number: 6AV6671-5CN00-0AX3

Overview

Back cover IP20, side view



Back cover IP20, partly installed

The back covers in IP20 design are ideal for simple mounting of Panels, Panel PCs, Flat Panels and industrial Thin Clients on VESA 100 brackets.

They are screwed onto the device and implement low-cost wall-mounting or connection to a supporting arm system.

Back covers are available for display size 15", 19" and 22" for the following SIMATIC HMI devices:

- Touch Panels
- Panel PC IPC477D [1)] and IPC277D
- Flat Panels
- Thin Clients

1) IPC477D 15" is only available as a single touch version.

Technical specifications

Back cover display diagonal	15"	19"	22"
General features			
Design/mounting			
• Vertical installation (portrait format) possible	No	No	No
• Horizontal mounting (landscape format) possible	Yes	Yes	Yes
Degree of protection and protection class			
IP (rear)	As installed device	As installed device	As installed device
Standards, approvals, certificates			
CE	Yes	Yes	Yes
Ambient conditions			
Operating temperature			
• Operating temperature, min.	As installed device	As installed device	As installed device
• Operating temperature, max.	40 °C	40 °C	40 °C
Storage/transport temperature			
• Min.	-20 °C	-20 °C	-20 °C
• Max.	60 °C	60 °C	60 °C
Relative humidity			
• Max.	95 % non-condensing	95 % non-condensing	95 % non-condensing
Mechanics/material			
Aluminum	Yes	Yes	Yes

Technical specifications (continued)

Back cover display diagonal	15"	19"	22"
Dimensions			
Width	415 mm	483 mm	560 mm
Height	310 mm	337 mm	380 mm
Depth (cover only)	90 mm	90 mm	90 mm
Weight	Approx. 1.6 kg	Approx. 1.9 kg	Approx. 2.2 kg
Scope of delivery	• 1 x back cover IP20 Suitably designed for the devices in the different display sizes, and provided with an interface adapter suitable for the device family • 1 x product information "IP20 back cover" • 1 x accessory kit Contains screws for mounting and an identification plate for labeling the interface. The plate is device-dependent and is enclosed with every Comfort Panel and Industrial Thin Client • 1 x packaging Also used for transporting and protecting the IPC installed in the back cover. Therefore, do not dispose of the packaging.		

Ordering data

	Article No.
Back covers IP20	
15" devices	
• IPC277D 15"	**6AV7675-1RB00-0AA0**
• IPC477D 15" [1]	**6AV7675-2RB00-0AA0**
• IPC477D 15" MT [1]	**6AV7675-2RH00-0AA0**
• IFP1500	**6AV7675-4RB00-0AA0**
• IFP1500 MT	**6AV7675-4RH00-0AA0**
• TP1500 / ITC1500	**6AV7675-8RB00-0AA0**
19" devices	
• IPC277D 19"	**6AV7675-1RD00-0AA0**
• IPC477D 19" [1]	**6AV7675-2RD00-0AA0**
• IFP1900, black	**6AV7675-4RD00-0AA0**
• IFP1900, gray	**6AV7675-4RD00-0AA1**
• TP1900 / ITC1900	**6AV7675-8RD00-0AA0**
22" devices	
• IPC477D 22" [1]	**6AV7675-2RE00-0AA0**
• IFP2200	**6AV7675-4RE00-0AA0**
• TP2200 / ITC2200	**6AV7675-8RE00-0AA0**

[1] Without DVD/PCIe expansion

More information

Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.
Industry Mall:

https://mall.industry.siemens.com

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Protective films

Overview

HMI accessories, protective film for display

Protective films

Protective films are available for almost all SIMATIC HMI devices. They protect the display from dirt and scratching during operation and in harsh environments.

The SIMATIC protective films are non-reflective and are only adhesive at the edges. This ensures that the display is always easy to read, even when using protective films. The protective film can be removed without damaging the resistive touch-sensitive films. It is therefore not possible to trim these films.

For complete protection of the front side in harsh environments, protective covers and full-width adhesive protective films are also available.

Benefits of protective films/protective covers:

- Reduced reflections
- Lightweight, thin and frameless design
- Simple and fast to attach
- Residue-free removal
- Dust-resistant

The protective film only has to cover the display completely. For compatibility reasons, not all protective films extend as far as the edge of the enclosure. This does not in any way impair the function of protecting the display.

Technical specifications

Article number	**6AV6671-2EC00-0AX0** PROTECT. FILM 4" TOUCH DEVICE	**6AV6671-2XC00-0AX0** PROTECT. FILM 6" TOUCH DEVICE, TYPE 3	**6AV6574-1AD04-4AA0** PROTECT. FILM 6" TOUCH DEVICE, TYPE 10	**6AV6671-5BC00-0AX0** PROTECT. FILM 8" TOUCH DEVICE, TYPE 10	**6AV6645-7AB15-0AS0** PROTECT. FILM 10" TOUCH DEVICE, TYPE 10
General information					
Product type designation	Protective film 4" touch devices	Protective film 6" touch devices, type 3	Protective film 6" touch devices, type 10	Protective film 8" touch devices, type 10	Protective film 10" touch devices, type 10
Installation type/mounting					
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes	Yes
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
RoHS conformity	Yes				
Ambient conditions					
Ambient temperature during operation					
• min.	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C	80 °C	80 °C
Ambient temperature during storage/transportation					
• min.	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C	80 °C	80 °C
Relative humidity					
• Operation, max.	90 %	90 %	90 %	90 %	90 %

Technical specifications (continued)

Article number	6AV6671-2EC00-0AX0 PROTECT. FILM 4" TOUCH DEVICE	6AV6671-2XC00-0AX0 PROTECT. FILM 6" TOUCH DEVICE, TYPE 3	6AV6574-1AD04-4AA0 PROTECT. FILM 6" TOUCH DEVICE, TYPE 10	6AV6671-5BC00-0AX0 PROTECT. FILM 8" TOUCH DEVICE, TYPE 10	6AV6645-7AB15-0AS0 PROTECT. FILM 10" TOUCH DEVICE, TYPE 10
Mechanics/material					
Material					
• Plastic	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting
Dimensions					
Width	120 mm	179.4 mm	120.5 mm	155.5 mm	223.17 mm
Height	105 mm	141.4 mm	91 mm	117.7 mm	170.37 mm
Thickness	0.125 mm	0.125 mm	0.125 mm	0.3 mm	0.3 mm
Scope of supply					
Delivery quantity in pieces	10	10	10	2	10
Other					
printable with laser printer	Yes	Yes	Yes	Yes	Yes
Merchandise	Yes				
Target devices	for TP 177B 4", KTP 400 Basic	for TP 177micro, TP 177A, TP 177B, OP 177B, KTP 600 Basic	For Mobile Panel 170, Mobile Panel 177	for Mobile Panel 277 8"	for Mobile Panel 277 10"

Article number	6AV2181-5DJ00-0AX0 PROTECT. FILM 4" TOUCH DEVICE, TYPE 13	6AV2181-5GJ00-0AX0 PROTECT. FILM 7" TOUCH DEVICE, TYPE 13	6AV2181-5JJ00-0AX0 PROTECT. FILM 9" TOUCH DEVICE, TYPE 13
General information			
Product type designation	Protective film for 4" widescreen, Type 13	Protective film for 7" widescreen, Type 13	Protective film for 9" widescreen, Type 13
Installation type/mounting			
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
Ambient conditions			
Ambient temperature during operation			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
Ambient temperature during storage/transportation			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
Relative humidity			
• Operation, max.	90 %	90 %	90 %
• Condensation permissible	No	No	No
Mechanics/material			
Material			
• Plastic	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting
Dimensions			
Width	110.1 mm	169.5 mm	214.6 mm
Height	68.9 mm	108.5 mm	134.6 mm
Thickness	0.125 mm	0.125 mm	0.125 mm
Scope of supply			
Delivery quantity in pieces	10	10	10
Other			
printable with laser printer	No	No	No
Target devices	KTP400F Mobile 4"	KTP700 Mobile, KTP700F Mobile	KTP900 Mobile, KTP900F Mobile

Technical specifications (continued)

Article number	**6AV6671-3DC00-0AX0** PROTECT. FILM 10" TOUCH DEVICE, TYPE 1	**6AV6671-3DC00-0AX5** PROTECT. FILM 10" TOUCH DEVICE, TYPE 2	**6AV6574-1AD00-4EX0** PROTECT. FILM 15" TOUCH DEVICE
General information			
Product type designation	Protective film 10" Thin Client and MP277 up to ES14	Protective film 10" Key Panel, Thin Client and MP277 as of ES15	Protective film 15" TP1500B, MP370/377 and ThinClient
Installation type/mounting			
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
RoHS conformity		Yes	
Ambient conditions			
Ambient temperature during operation			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	50 °C
Ambient temperature during storage/transportation			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
Relative humidity			
• Operation, max.	90 %	90 %	90 %
Mechanics/material			
Material			
• Plastic	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting
Dimensions			
Width	292 mm	299.8 mm	362 mm
Height	248 mm	259.9 mm	289 mm
Thickness	0.125 mm	0.125 mm	0.125 mm
Scope of supply			
Delivery quantity in pieces	10	10	10
Other			
printable with laser printer	Yes	Yes	Yes

Technical specifications (continued)

Article number	6AV2124-6DJ00-0AX0 PROTECT. FILM 4" WIDESCREEN	6AV2124-6GJ00-0AX0 PROTECT. FILM 7" WIDESCREEN	6AV2124-6JJ00-0AX0 PROTECT. FILM 9" WIDESCREEN	6AV2181-3JJ20-0AX0 PROTECT. FILM 9" WIDESCREEN, TYPE 2	6AV2124-6MJ00-0AX0 PROTECT. FILM 12" WIDESCREEN	6AV2181-3MJ20-0AX0 PROTECT. FILM 12" WIDESCREEN, TYPE 2
General information						
Product type designation	Protective film 4" widescreen	Protective film 7" widescreen	Protective film 9" widescreen	Protective film 9" widescreen	Protective film 12" widescreen	Protective film 12" widescreen
Installation type/mounting						
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes	Yes	Yes
Standards, approvals, certificates						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
RoHS conformity	Yes	Yes	Yes		Yes	
Ambient conditions						
Ambient temperature during operation						
• min.	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C	80 °C	80 °C	80 °C
Ambient temperature during storage/transportation						
• min.	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C	80 °C	80 °C	80 °C
Relative humidity						
• Operation, max.	90 %	90 %	90 %	90 %	90 %	90 %
• Condensation permissible	No	No	No	No	No	No
Mechanics/material						
Material						
• Plastic	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting
Dimensions						
Width	131.4 mm	205.4 mm	265.4 mm	258.4 mm	321.4 mm	321.4 mm
Height	107.4 mm	149.4 mm	181.4 mm	173.4 mm	232.4 mm	236.8 mm
Thickness	0.125 mm	0.125 mm	0.125 mm	0.125 mm	0.125 mm	0.125 mm
Scope of supply						
Delivery quantity in pieces	10	10	10	10	10	10
Other						
printable with laser printer	Yes	Yes	Yes	Yes	Yes	Yes
Target devices	For KTP400 Basic, KTP400 Basic 2nd, KTP400 Comfort, KTP400F Mobile	for KTP700 Basic 2nd, TP700 Comfort, IPC277D	for TP900 Comfort, IPC277D	for KTP900 Basic	for TP1200 Comfort, IPC277D	for KTP1200 Basic

Technical specifications (continued)

Article number	6AV2124-6QJ00-0AX1 PROTECT. FILM 15" WIDESCREEN	6AV2124-6UJ00-0AX1 PROTECT. FILM 19" WIDESCREEN	6AV2124-6XJ00-0AX1 PROTECT. FILM 22" WIDESCREEN
General information			
Product type designation	Protective film 15" widescreen	Protective film 19" widescreen	Protective film 22" widescreen
Installation type/mounting			
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes
Ambient conditions			
Suited for indoor use	Yes	Yes	Yes
Suited for outdoor use	No	No	No
Ambient temperature during operation			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
Ambient temperature during storage/transportation			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
Relative humidity			
• Operation, max.	90 %	90 %	90 %
Mechanics/material			
Material			
• Plastic	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting
Dimensions			
Width	368 mm	451 mm	518 mm
Height	231 mm	285 mm	334 mm
Thickness	0.125 mm	0.125 mm	0.125 mm
Weights			
Weight without packaging	26 g; Per unit	34 g; Per unit	44 g; Per unit
Scope of supply			
Delivery quantity in pieces	10; Units per set	10; Units per set	10; Units per set
Other			
printable with laser printer	Yes	Yes	Yes
Merchandise	Yes	Yes	Yes
Target devices	for Comfort Panel, IPC, Flat Panel, Thin Client	for Comfort Panel, IPC, Flat Panel, Thin Client	for Comfort Panel, IPC, Flat Panel, Thin Client
Note:	Not suitable for multi-touch (glass front)	Not suitable for multi-touch (glass front)	Not suitable for multi-touch (glass front)

Technical specifications (continued)

Article number	6AV6574-1AD00-4AX0 PROTECT. FILM 6" TOUCH DEVICE, TYPE 1	6AV6574-1AD00-4CX0 PROTECT. FILM 10" TO 12" TOUCH DEVICE	6AV6574-1AD00-4DX0 PROTECT. FILM 6" TOUCH DEVICE, TYPE 2
General information			
Product type designation	Protective film 6" touch devices, type 1	Protective film 10" - 12" TP/MP 270/370/377 and C7-636	Protective film 6" touch devices, type 2
Installation type/mounting			
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
Ambient conditions			
Ambient temperature during operation			
• min.	-40 °C	-40 °C	-40 °C
• max.	50 °C	50 °C	50 °C
Ambient temperature during storage/transportation			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
Relative humidity			
• Operation, max.	90 %	90 %	90 %
Mechanics/material			
Material			
• Plastic	Yes; Nonreflecting	Yes; Polyester; non-reflecting	Yes; Nonreflecting
Dimensions			
Width	118.4 mm	297.4 mm	178.4 mm
Height	89 mm	254.4 mm	135.4 mm
Thickness	0.125 mm	0.125 mm	0.125 mm
Scope of supply			
Delivery quantity in pieces	10	10	10
Other			
printable with laser printer	Yes	Yes	Yes
Target devices	For TP070, TP170micro, TP170A/B, C7-635 touch		For TP270 6", TP277 6", MP177 6" touch, MP270B 6" touch

Technical specifications (continued)

Article number	6AV6671-3CC00-0AX0 PROTECT. FILM 8" TOUCH DEVICE, TYPE 1	6AV6671-3CC00-0AX5 PROTECT. FILM 8" TOUCH DEVICE, TYPE 2	6AV7672-1CE00-0AA0 PROTECT. FILM 19" TOUCH DEVICE
General information			
Product type designation	Protective film 8" touch devices, type 1	Protective film 8" touch devices, type 2	Protective film 19" MP377, panel PC and Flat Panel
Installation type/mounting			
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
RoHS conformity		Yes	
Ambient conditions			
Ambient temperature during operation			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
Ambient temperature during storage/transportation			
• min.	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C
Relative humidity			
• Operation, max.	90 %	90 %	90 %
Mechanics/material			
Material			
• Plastic	Yes; Nonreflecting	Yes; Nonreflecting	Yes; Nonreflecting
Dimensions			
Width	207 mm	217 mm	378 mm
Height	165 mm	217 mm	302.5 mm
Thickness	0.125 mm	0.125 mm	0.2 mm
Scope of supply			
Delivery quantity in pieces	10	10	10
Other			
printable with laser printer	Yes	Yes	Yes
Target devices	For MP277 8" touch up to product version "ES 14"	For MP277 8" touch in product version "ES 15" and later	

Ordering data

Ordering data	Article No.
Protective films 4"	
• Touch devices	**6AV6671-2EC00-0AX0**
• Widescreen	**6AV2124-6DJ00-0AX0**
• Widescreen, Type 13	**6AV2181-5DJ00-0AX0**
Protective films 6"	
• Touch devices, Type 4	**6AV6671-2XC00-0AX0**
• Touch devices, Type 10	**6AV6574-1AD04-4AA0**
• Touch devices, Type 1	**6AV6574-1AD00-4AX0**
• Touch devices, Type 2	**6AV6574-1AD00-4DX0**
Protective films 7"	
• Widescreen	**6AV2124-6GJ00-0AX0**
• Widescreen, Type 13	**6AV2181-5GJ00-0AX0**
• Widescreen, Type 20	**6AV2181-8GJ10-0AX0**
Protective films 8"	
• Touch devices, Type 1	**6AV6671-3CC00-0AX0**
• Touch devices, Type 2	**6AV6671-3CC00-0AX5**
• Touch devices, Type 10	**6AV6671-5BC00-0AX0**
Protective films 9"	
• Widescreen, Type 1	**6AV2124-6JJ00-0AX0**
• Widescreen, Type 2	**6AV2181-3JJ20-0AX0**
• Widescreen, Type 13	**6AV2181-5JJ00-0AX0**
Protective films 10"	
• Touch devices, Type 1	**6AV6671-3DC00-0AX0**
• Touch devices, Type 2	**6AV6671-3DC00-0AX5**
• Touch devices, Type 10	**6AV6645-7AB15-0AS0**
Protective films for 10" to 12" touch devices	**6AV6574-1AD00-4CX0**
Protective films 12"	
• Widescreen, Type 1	**6AV2124-6MJ00-0AX0**
• Widescreen, Type 2	**6AV2181-3MJ20-0AX0**
Protective films 15"	
• Touch devices	**6AV6574-1AD00-4EX0**
• Widescreen	**6AV2124-6QJ00-0AX1**
• Widescreen, Type 20	**6AV2181-8QJ10-0AX0**
Protective films 19"	
• Touch devices	**6AV7672-1CE00-0AA0**
• Widescreen	**6AV2124-6UJ00-0AX1**
• Widescreen "full-surface bonding"	**6AV6881-0UJ20-0AA0**
Protective films 22"	
• Widescreen	**6AV2124-6XJ00-0AX1**

More information

Note:

Photos and product images may differ from the actual product.

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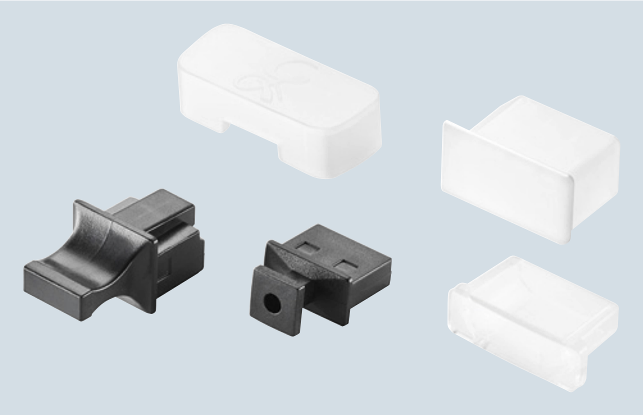
Protective covers and caps

Overview



HMI accessories, protective covers and dust caps

Protective covers and dust caps

Protective covers

With a protective cover the complete panel front can be additionally protected. This gives IP65 degree of protection to the complete panel front.

Protective covers with IP65 degree of protection provide complete frontal protection of the panel and IPC against dirt and scratches.

If the protective cover is now attacked by corrosive substances, the actual front of the device remains unaffected. If it is damaged, the protective cover can easily be replaced at any time.

Self-adhesive protective films are available for simple display protection.

The protective covers can be kept clean using high-pressure cleaning equipment.

Ready-made templates can be downloaded to help you create and print out your own low-cost frame designs between panel and protective cover.

Unfortunately, no protective covers are available for the Basic and Comfort Panels, or the IPCs.

Dust caps

It is also possible to dustproof unused or rarely used interfaces on the back or underside of the device.

For this purpose we offer dust caps.

Technical specifications

Article number	6AV6574-1AE00-4AX0 PROTECTIVE COVER 6" TOUCH DEVICES	6AV6671-1AJ00-0AX0 PROTECTIVE COVER OP 77	6AV6671-2DJ00-0AX0 PROTECTIVE COVER OP 177	6AV6671-3CK01-0AX0 PROTECTIVE COVER MP 277 8" TOUCH	6AV6671-3CK00-0AX0 PROTECTIVE COVER MP 277 10" TOUCH
General information					
Product type designation	Protective cover 6" touch devices	Protective cover OP77	Protective cover OP177	Protective cover MP277 8" touch	Protective cover MP277 10" touch
Installation type/mounting					
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes	Yes	Yes
Degree and class of protection					
IP (at the front)	IP65	IP65	IP65	IP65	IP65
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
Ambient conditions					
Ambient temperature during operation					
• min.	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C	80 °C	80 °C
Ambient temperature during storage/transportation					
• min.	-40 °C	-40 °C	-40 °C	-40 °C	-40 °C
• max.	80 °C	80 °C	80 °C	80 °C	80 °C
Relative humidity					
• Operation, max.	95 %	95 %	95 %	95 %	95 %
Mechanics/material					
Material					
• Plastic	Yes	Yes	Yes	Yes	Yes
Dimensions					
Width	242.3 mm	178.6 mm	274.3 mm	270.8 mm	355.8 mm
Height	186.3 mm	214.6 mm	243.26 mm	211 mm	294 mm
Thickness	10 mm	7.8 mm	7.8 mm	7.8 mm	7.8 mm
Mounting cutout, width	198 mm	135 mm	229 mm	226 mm	310 mm
Mounting cutout, height	142 mm	171 mm	196 mm	166 mm	248 mm
Weights					
Weight without packaging	750 g	750 g	750 g	750 g	750 g
Scope of supply					
Delivery quantity in pieces					
• Parts per unit	2; 2 cover frames, 2 base frames, 2 protective covers, molded (for TP070, TP170micro, TP170A/B), 2 protective covers, smooth (for TP177micro, TP177A/B, TP270 6", MP177 6" touch, MP270 6" touch)	2; 2 cover frames, 2 base frames, 2 protective covers	2; 2 cover frames, 2 base frames, 2 protective covers	2; 2 cover frames, 2 base frames, 2 protective covers	2; 2 cover frames, 2 base frames, 2 protective covers
Other					
Target devices	For TP070, TP170A, TP170B, TP170micro, TP177micro, TP177A, TP177B, TP270 6 ", TP277 6 ", MP270 6" touch	for OP 77A, OP 77B	For OP177B	For MP277 8" touch as far as product version "ES 14" with narrow frame	For MP277 10" touch up to product version "ES 14 ", Thin Client 10" up to "ES 03" (6AV6646-0AA21-2AX0) with narrow frame

Ordering data

Ordering data	Article No.
Protective covers for 6" touch devices for TP 070, TP 170micro, TP 177micro, TP 170A/B, TP 177A/B, TP 270 6", TP 277 6" MP 177 6" touch, MP 270 6" touch	**6AV6574-1AE00-4AX0**
Protective covers for OP 77 for OP77 and OP77B	**6AV6671-1AJ00-0AX0**
Protective covers for OP 177 for OP177B	**6AV6671-2DJ00-0AX0**
Protective covers for MP 277 8" touch devices Only suitable for MP 277 8" touch up to E14 [1] (for devices with a narrow frame geometry)	**6AV6671-3CK01-0AX0**
Protective covers for MP 277 10" touch devices Only suitable for MP 277 10" touch up to E14 [1] and 10" Thin Client up to E03 [2] (for devices with a narrow frame geometry)	**6AV6671-3CK00-0AX0**
Dust protection set for USB and RJ45 interfaces SIMATIC PC, dust protection set accessory, interfaces for Panels, Thin Clients and IPCs with suitable USB or RJ45 (LAN) interface	**6ES7648-1AA50-0XG0**

[1] E14 = Product version 14

[2] E03 = Product version 03

More information

Note:

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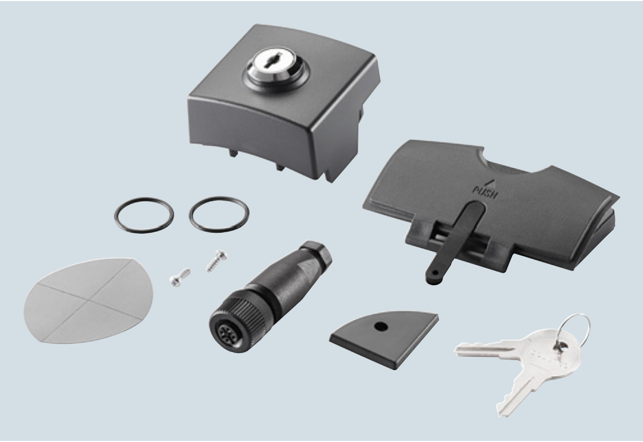
Overview



HMI accessories, service set family

Service sets

A service set contains all the typical parts that are required for a core product.

If several identical parts are required, e.g. mounting clips, it makes more sense to order these separately.

Detailed information and quantities can be obtained from the relevant technical specifications. The number and contents are optimized in terms of functionality and cost. For this reason, accessories can only be obtained in the specified pack sizes.

Technical specifications

Article number	**6AV6671-2EA00-0AX0** SERVICE SET FOR 4" AND 6" DEVICES	**6AV6675-3AA00-0AX0** SERVICE SET FOR 10" DEVICES, TYPE 2	**6AV6671-4CA00-0AX0** SERVICE SET FOR 15" DEVICES
General information			
Product type designation	Service set 4" and 6" devices	Service set 10" devices, Type 2	Service set 15" devices
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
RoHS conformity	Yes		Yes
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C
Ambient temperature during storage/transportation			
• min.	-20 °C	-20 °C	-20 °C
• max.	70 °C	70 °C	70 °C
Relative humidity			
• Operation, max.	95 %	95 %	95 %
Scope of supply			
Delivery quantity in pieces			
• Parts per unit	1; Content: 2 x seal KTP 400-TP 177B 4", 2 x seal for KTP 600, 7 x aluminum mounting clip, 1 x 2-pin female connector	1; Content: 1x installation seal, 10x cast aluminum mounting clips, 1x 2-pin female connector, 1x Allen key	1; Content: 1 x mounting seal, 1 x memory card lock, 12 x cast aluminum mounting clip, 1 x 2-pin female connector, 1 x Allen key
Other			
Target devices	for KTP 400 Basic, KTP 600 Basic, TP 177B 4"	For MP277 10" touch with stainless steel front	For MP377 15" touch with stainless steel front

6

Technical specifications (continued)

Article number	**6AV6574-1AA04-4AA0** SERVICE SET MOBILE PANEL	**6AV6671-5CA00-0AX1** SERVICE SET MOBILE PANEL 277(F) IWLAN V1	**6AV6671-5CA00-0AX2** SERVICE SET MOBILE PANEL 277(F) IWLAN V2
General information			
Product type designation	Service set Mobile Panel	Service set Mobile Panel 277 (F) IWLAN V1	Service set Mobile Panel 277 (F) IWLAN V2
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
Ambient conditions			
Ambient temperature during operation			
• min.		0 °C	0 °C
• max.		55 °C	55 °C
Ambient temperature during storage/transportation			
• min.		-20 °C	-20 °C
• max.		70 °C	70 °C
Relative humidity			
• Operation, max.		95 %	95 %
Scope of supply			
Delivery quantity in pieces			
• Parts per unit	1; Content: 1x blanking plug, 2x PG cable gland A-box, 1x screw set cover A-box, 2x 12-pin terminal box, 1x 3-pin terminal box, 1x dummy cap A-box, 2x corner seal l/r and O-ring, 4x decorative film corner seal l/r	1; Content: 2x covers for charging station l/r, 1x connector for charging station, 2x corner seals l/r, 2x gasket corner seals, 4x decorative film corner seals l/r, 1x backup battery 3.6 V / 1.5 Ah including cover, 1x spare key for charging cradle	1; Content: 1x battery slot cover device with seal, 2x cover charging station l/r, 1x circular connector charging station, 2x corner seal l/r, 2x O-ring seal, 4x decorative foil, 1x charging tray spare key incl. lock and lock holder, screws
Other			
Target devices	For Mobile Panel 170, Mobile Panel 177	for Mobile Panel 277 IWLAN V1, Mobile Panel 277F IWLAN V1	for Mobile Panel 277 IWLAN V2, Mobile Panel 277F IWLAN V2

Article number	**6AV6671-3EA01-0AX0** SERVICE SET FOR INDUSTRIAL USB HUB 4	**6AV6671-1XA00-0AX0** SERVICE SET FOR OP73MICRO, OP73, OP77	**6AV3678-3XC30** SERVICE PACKAGE F. PP7, PP17 I, PP17 II	**6AV3678-1CC10** SERVICE PACKAGE F. OP7/17 AND TD17
General information				
Product type designation	Service set Industrial USB Hub 4	Service set OP73micro, OP73, OP77	Service set Push Button Panel	Service set TD17, OP7/17
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
RoHS conformity	Yes			
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C	55 °C
Ambient temperature during storage/transportation				
• min.	-20 °C	-20 °C	-20 °C	-20 °C
• max.	70 °C	70 °C	70 °C	70 °C
Relative humidity				
• Operation, max.	95 %	95 %	95 %	95 %
Scope of supply				
Delivery quantity in pieces				
• Parts per unit	1; Content: 1 x mounting seal, 1 x mounting frame, 5 x plastic mounting clip, 1 x 2-pin female connector	1; Content: 1 x mounting seal OP73, 1 x mounting seal OP77, 4 x plastic mounting clip, 1 x 2-pin female connector	1; Content: 1 x mounting seal PP7, 1 x mounting seal PP17, 5 x plastic mounting clip, 1 x 2-pin female connector, 1 x 3-pin female connector, 1 x 4-pin female connector, 2 x 16-pin female connector	1; Content: 1 x mounting seal TD17, 1 x mounting seal OP7, 1 x mounting seal TD/OP17, 5 x plastic mounting clip
Other				
Target devices	For the Industrial USB Hub 4			
Note:		for OP73micro, OP73, OP77A, OP77B	for PP7, PP17-I, PP17-II	for TD17, OP7, OP17

6

Technical specifications (continued)

Article number	6AV6574-1AA00-4AX0 SERVICE SET FOR 6" DEVICES, TYPE 1	6AV2181-8XA80-0AX0 SERVICE SET FOR 6" DEVICES, TYPE 2	6AV6671-2XA00-0AX0 SERVICE SET FOR 6" DEVICES, TYPE 3	6AV6574-1AA00-2CX0 SERVICE SET FOR 10" TO 15" DEVICES	6AV6574-1AA00-2DX0 SERVICE SET FOR 10" DEVICES, TYPE 1
General information					
Product type designation	Service set 6" devices, Type 1	Service set 6" devices, Type 2	Service set 6" devices, Type 3	Service set 10" to 15" devices	Service set 10" devices, Type 1
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
RoHS conformity		Yes			
Ambient conditions					
Ambient temperature during operation					
• min.	0 °C	0 °C	0 °C		
• max.	55 °C	55 °C	55 °C		
Ambient temperature during storage/transportation					
• min.	-20 °C	-20 °C	-20 °C		
• max.	70 °C	70 °C	70 °C		
Relative humidity					
• Operation, max.	95 %	95 %	95 %		
Scope of supply					
Delivery quantity in pieces					
• Parts per unit	1; Content: 3 x mounting seal, 2 x labeling strip, 7 x plastic mounting clip, 1 x 2-pin female connector	1; Content: 3 x mounting seal, 2 x labeling strip, 7 x plastic mounting clip, 20 x aluminum mounting clip, 1 x 2-pin female connector	1; Content: 1 x mounting seal TP 177, 1 x mounting seal OP 177, 7 x plastic mounting clip, 1 x 2-pin female connector	1; Content: 10x aluminum mounting clips, 1x 2-pin female connector, 1x CF card interlock, 1x PC card interlock, 1x installation seal, C7-636, TP/MP270(B), MP370-12"T, 1x installation seal for MP370-15"T, all other panels have a non-replaceable foam seal	1; Content: 1x slide-in label strip for OP270 10" and MP270 10" key, 1x installation seal for OP270 10" and MP270 10" key, 10x cast aluminum mounting clips, 1x 2-pin female connector, 1x Allen key
Other					
Target devices	For TP070, TP170A/B, OP170B, TP170micro, OP270 6", TP270 6", MP270B 6" touch	For TP070, TP170A/B, OP170B, TP170micro, OP/TP270 6", MP177 6"T, MP270B 6" touch	for TP 177micro, TP 177A, TP 177B, OP 177B	For C7-636 touch, TP270 10", MP270B 10" touch, MP370 12" touch, MP370 15" touch	for OP 270 10", MP 270B key

6

Technical specifications (continued)

Article number	6AV6671-3XA01-0AX0 SERVICE SET FOR 6" TO 10" DEVICES	6AV6671-3XA01-0AX1 SERVICE SET FOR 8" TO 10" DEVICES	6AV6574-1AA00-2BX0 SERVICE SET FOR 12" DEVICES	6AV6671-4XA00-0AX0 SERVICE SET FOR 12" TO 19" DEVICES
General information				
Product type designation	Service set 6" to 10" devices	Service set 8" to 10" devices	Service set 12" devices	Service set 12" to 19" devices
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
RoHS conformity		Yes		Yes
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C	55 °C
Ambient temperature during storage/transportation				
• min.	-20 °C	-20 °C	-20 °C	-20 °C
• max.	70 °C	70 °C	70 °C	70 °C
Relative humidity				
• Operation, max.	95 %	95 %	95 %	95 %
Scope of supply				
Delivery quantity in pieces				
• Parts per unit	1; Content: 6x device-specific seals, 15x aluminum mounting clips, 1x 2-pin female connector, 1x product information clamp	1; Content: 14x spring mounting clip, 1x 2-pin female connector	1; Content: 2x labeling strips, 6x aluminum mounting clips, 1x 2-pin female connector, 1x Allen key, 2x memory card interlocks	1; Content: 1x mounting seal MP377 12" key, 1x mounting seal MP377 12" touch, 1x mounting seal MP377 15" touch, 1x mounting seal MP377 19" touch, 18x aluminum mounting clip, 1x 2-pin female connector
Other				
Target devices	For TP/OP277 6", MP277 8" touch, MP277 8" key, MP277 10" key product version "ES 14" and later, MP277 10" touch product version "ES 14" and later	For MP277 8" touch, MP277 8" key product version "ES 15" and later, MP277 10" touch product version "ES 15" and later	for MP 370 12" key	For MP377 12" key, MP377 12" touch, MP377 15" touch, MP377 19" touch

Ordering data

Ordering data	Article No.
Service sets For contents and matching devices, see Technical Specifications in the Mall	
For 4" and 6" devices	**6AV6671-2EA00-0AX0**
For 10" devices, Type 2	**6AV6675-3AA00-0AX0**
For 15" devices	**6AV6671-4CA00-0AX0**
For Mobile Panels	**6AV6574-1AA04-4AA0**
For Mobile Panel 277(F) IWLAN V1	**6AV6671-5CA00-0AX1**
For Mobile Panel 277(F) IWLAN V2	**6AV6671-5CA00-0AX2**
For Industrial USB Hub 4	**6AV6671-3EA01-0AX0**
For Push Button Panels	**6AV3678-3XC30**
For TD17, OP7/17	**6AV3678-1CC10**
For OP73 micro, OP73, OP77	**6AV6671-1XA00-0AX0**
For 6" devices, Type 1	**6AV6574-1AA00-4AX0**
For 6" devices, Type 2	**6AV2181-8XA80-0AX0**
For 6" devices, Type 3	**6AV6671-2XA00-0AX0**
For 10" to 15" devices	**6AV6574-1AA00-2CX0**
For 10", Type 1	**6AV6574-1AA00-2DX0**
For 6" to 10" devices	**6AV6671-3XA01-0AX0**
For 8" to 10" devices	**6AV6671-3XA01-0AX1**
For 12" devices	**6AV6574-1AA00-2BX0**
For 12" to 19" devices	**6AV6671-4XA00-0AX0**
KTP Mobile covers For cable inlet and USB, as well as key recess	**6AV6881-5AA00-0AA0**

More information

Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.
Industry Mall:

https://mall.industry.siemens.com

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

https://eb.automation.siemens.com

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

http://support.automation.siemens.com

Informative material for downloading can be found on the Internet:

http://www.siemens.com/simatic/printmaterial

Overview

HMI accessories, storage media

Storage media

Storage devices, memory cards and USB flash drive tested and approved by Siemens ensure the best possible functionality and compatibility.

SIMATIC HMI storage media are suitable for industry and optimized for the requirements in industrial environments. Special formatting and write algorithms ensure fast read/write cycles and a long service life of the memory cells.

MultiMediaCards can also be used in operator panels with SD slots. Detailed information on usability can be found in the storage media and panels technical specifications.

The actual memory capacity of the memory cards or USB flash drives may change depending on production factors. This means that the specified memory capacity may not always be 100% available to the user. When selecting or searching for core products using the SIMATIC selection guide, accessories appropriate to the core product are always automatically displayed or offered.

Due to the nature of the technology used, the reading/writing speed can diminish over time. This is always dependent on the environment, the size of the files saved, the extent to which the card is filled and a number of additional factors. SIMATIC Memory Cards, however, are always designed so that typically all of the data is reliably written to a card even when the device is being switched off.
Further information can be taken from the operating instructions of the respective devices.

The following storage media are available:

- **M**ulti **M**edia **C**ard
- **S**ecure **D**igital Memory **C**ard
- SD memory card Outdoor
- PC memory card (**PC** Card)
- PC memory card adapter (**PC** Card Adapter)
- **C**ompact**F**lash Card
- CFast memory card
- SIMATIC HMI USB memory stick
- SIMATIC HMI USB FlashDrive
- Pushbutton Panel memory module
- IPC memory expansions

Note:

Do **not** use SIMATIC S7 Memory Cards from S7 controllers in operator panels or PC systems. When used in this way, these memory cards lose their functionality and can then no longer be used with S7 controllers.

Cyclic archiving may place very high stress on the memory and could lead to failure. In this case, it is necessary to calculate the write cycles in respect of the frequency and size of the data volume in advance. Network drives are more suitable for archiving larger data volumes at short to very short intervals.

This rules out any repair or replacement.

Technical specifications

Article number	6AV6671-1CB00-0AX2 SIMATIC HMI MM MEMORY CARD 128 MB	6AV6671-8XB10-0AX1 SIMATIC HMI SD MEMORY CARD 512 MB	6AV2181-8XP00-0AX0 SIMATIC HMI SD MEMORY CARD 2 GB	6AV6574-2AC00-2AA1 SIMATIC HMI CF MEMORY CARD 512 MB
General information				
Product type designation	SIMATIC HMI MM memory card, 128 MB	SIMATIC HMI SD memory card, 512 MB	SIMATIC HMI SD memory card, 2 GB	SIMATIC CF memory card 512 MB
Connection type				
• USB	No	No	No	
Frame size/design				
• Standard	Yes; Typically 10 000 insertion cycles	Yes; Typically 10 000 insertion cycles	Yes; Typically 10 000 insertion cycles	Yes
• Flat	Yes	Yes	Yes	
Installation type/mounting				
Mounting position	Any, dependent on target device	Any, dependent on target device	Any, dependent on target device	Any, dependent on target device
Mounting in portrait format possible	Yes	Yes	Yes	
Mounting in landscape format possible	Yes	Yes	Yes	
Supply voltage				
Type of supply voltage	DC	DC	DC	DC
Rated value (DC)	3.3 V; Max 3.6 V	3.3 V; Max 3.6 V	3.3 V; Max 3.6 V	3.3 V; Selectable power supply: 3.3 V ±10% or 5.0 V ±10%
Input current				
Current consumption (rated value)	80 mA; Typical, maximum value	100 mA; Typical, maximum value	100 mA; Typical, maximum value	75 mA
Memory				
Type of memory	MultiMediaCard	Secure Digital memory card	Secure Digital memory card	CompactFlash memory CF type I
Design				CompactFlash
Memory size	128 Mbyte	512 Mbyte	2 048 Mbyte; Larger internal memory	512 Mbyte
Transmission rate for reading, max.	0 kbit/s; No value available	1.6 Mbit/s; Minimum, typical for newly formatted memory	1.6 Mbit/s; Minimum, typical for newly formatted memory	
Transmission rate for writing, max.	300 kbit/s; Minimum, typical for newly formatted memory	1.6 Mbit/s; Minimum, typical for newly formatted memory	1.6 Mbit/s; Minimum, typical for newly formatted memory	
SLC flash write cycles				2; Millions, consumer quality
Wear leveling (distributed writing)	Yes; > 100 000 write/read cycles per cell and > 3 000 000 write/read cycles per card	Yes; > 100 000 write/read cycles per cell and > 3 000 000 write/read cycles per card	Yes; > 100 000 write/read cycles per cell and > 3 000 000 write/read cycles per card	
Write protection switch	No	Yes; Effectiveness depends on the device	Yes; Effectiveness depends on the device	No
Interfaces				
Device-side interface				
• Number of pins device-side	7	9	9	

Technical specifications (continued)

Article number	6AV6671-1CB00-0AX2 SIMATIC HMI MM MEMORY CARD 128 MB	6AV6671-8XB10-0AX1 SIMATIC HMI SD MEMORY CARD 512 MB	6AV2181-8XP00-0AX0 SIMATIC HMI SD MEMORY CARD 2 GB	6AV6574-2AC00-2AA1 SIMATIC HMI CF MEMORY CARD 512 MB
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
UL approval			Yes	
cULus			Yes	
RoHS conformity		Yes	Yes	Yes
China RoHS compliance		Yes	Yes	Yes
Marine approval				
• Germanischer Lloyd (GL)	Yes; Always comply with the operating instructions of the target device.			
• American Bureau of Shipping (ABS)	Yes; Always comply with the operating instructions of the target device.			
• Bureau Veritas (BV)	Yes; Always comply with the operating instructions of the target device.			
• Det Norske Veritas (DNV)	Yes; Always comply with the operating instructions of the target device.			
• Lloyds Register of Shipping (LRS)	Yes; Always comply with the operating instructions of the target device.			
• Nippon Kaiji Kyokai (Class NK)	Yes; Always comply with the operating instructions of the target device.			
• Polski Rejestr Statkow (PRS)	Yes; Always comply with the operating instructions of the target device.			
• Chinese Classification Society (CCS)	Yes; Always comply with the operating instructions of the target device.			
• Compass working clearance	5 m	5 m	5 m	
Use in hazardous areas				
• ATEX Zone 2	Yes; Always comply with the operating instructions of the target device.			
• ATEX Zone 22	Yes; Always comply with the operating instructions of the target device.			
• IECEx Zone 2	Yes; Always comply with the operating instructions of the target device.			
• IECEx Zone 22	Yes; Always comply with the operating instructions of the target device.			
• cULus Class I Zone 2, Division 2	Yes; Always comply with the operating instructions of the target device.			
• FM Class I Division 2	Yes; Always comply with the operating instructions of the target device.			
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C; Indoor	0 °C; Indoor	-30 °C; Indoor/outdoor	0 °C; Any mounting angle
• max.	50 °C; Indoor	50 °C; Indoor	60 °C; Indoor/outdoor	50 °C; Any mounting angle
Ambient temperature during storage/transportation				
• min.	-20 °C	-20 °C	-40 °C	-20 °C
• max.	60 °C	60 °C	80 °C	60 °C
Relative humidity				
• Operation, max.	90 %	90 %	90 %	90 %
• Condensation permissible	No; Condensation not permissible	No; Condensation not permissible	No; Condensation not permissible	No
Operating systems				
pre-installed operating system				
• Windows CE			No; Preinstalled system files	
Runs under operating system				
• Windows CE	Yes	Yes	Yes	Yes
• Windows Vista	Yes	Yes	Yes	Yes
• Windows XP	Yes	Yes	Yes	Yes
• Windows 7	Yes	Yes	Yes	Yes
• Windows 8	Yes	Yes	Yes	Yes
• Windows 10	Yes	Yes	Yes	
• Linux	No	No	No	No
• other				No

Technical specifications (continued)

Article number	6AV6671-1CB00-0AX2 SIMATIC HMI MM MEMORY CARD 128 MB	6AV6671-8XB10-0AX1 SIMATIC HMI SD MEMORY CARD 512 MB	6AV2181-8XP00-0AX0 SIMATIC HMI SD MEMORY CARD 2 GB	6AV6574-2AC00-2AA1 SIMATIC HMI CF MEMORY CARD 512 MB
Mechanics/material				
Enclosure material (front)				
• Plastic	Yes; Gold contacts	Yes; Gold contacts	Yes; Gold contacts	Yes
Enclosure color (front)	RAL 6034 (color deviation possible)	RAL 6034 (color deviation possible)	RAL 6034 (color deviation possible)	
Service life				
• Number of operating cycles, keys	10; Min. data storage without loss (in years)	10; Min. data storage without loss (in years)	10; Min. data storage without loss (in years)	
Dimensions				
Width	24 mm	24 mm	24 mm	42.8 mm
Height	32 mm	32 mm	32 mm	36.4 mm
Thickness	2.1 mm	2.1 mm	2.1 mm	3.3 mm
Weights				
Weight without packaging	3 g	3 g	3 g	10 g
Weight incl. packaging	6 g	6 g	6 g	15 g
Scope of supply				
Delivery quantity in pieces	1	1	1	1
Other				
Target devices	for OP 77B, TP177B, OP 177B, TP 277, OP 277, C7-635, MP 177, MP 277, MP 377, Mobile Panel 177, Mobile Panel 277, Comfort Panel	for MP 177, MP 277, MP 377 and Mobile Panel 277, WinCC flexible 2008 SP1 and higher for OP 77, TP/OP 177, TP/OP 277, Mobile Panel 177, with SD/MMC slot	Specifically for KTP Mobile Panels 2nd Generation and Comfort Panels, but also for all other panels (except for Classis Panels) and PCs with suitable slot	for SIMATIC HMI devices with CF slot
Note:			Not suitable for MP177, MP277, MP377, Mobile Panel 277, OP77, TP/OP177, TP/OP277 and Mobile Panel 177	

Technical specifications (continued)

Article number	6AV6574-2AC00-2AF1 PC MEMORY CARD 512 MB	6AV6574-2AF00-8AX0 PC CARD ADAPTER FOR CF MEMORY CARD	6AV2181-8AS20-0AX0 SIMATIC HMI USB MEMORY STICK 8GB
General information			
Product type designation	PC memory card, 512 MB	PC card adapter for CF memory card	SIMATIC HMI USB memory stick, 8 GB
Connection type			
• USB	No	No	Yes; USB 2.0 type A
Frame size/design			
• Standard	Yes	Yes	Yes
• Flat	Yes	Yes	Yes
Installation type/mounting			
Mounting position	Any, dependent on target device	Any, dependent on target device	Any, dependent on target device
Mounting in portrait format possible	Yes	Yes	Yes
Mounting in landscape format possible	Yes	Yes	Yes
Supply voltage			
Type of supply voltage	DC	none	DC
Rated value (DC)	3.3 V		5 V
Input current			
Current consumption (rated value)	75 mA	0 mA; No additional power consumption	100 mA; Typical
Memory			
Type of memory	Personal computer memory card type II	Personal computer memory card type II	SLC
Memory size	512 Mbyte		8 Gbyte
Speed class			Up to: read: 25 MB/s, write: 19 MB/s
File format			FAT32
Write protection switch	No	No	No
Type of output			
LED colors			
• red			Yes; Shows read/write access
Interfaces			
Number of USB interfaces			1; USB 2.0 type A
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
UL approval			Yes
cULus			Yes
RoHS conformity	Yes	Yes	
China RoHS compliance	Yes	Yes	
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C
Ambient temperature during storage/transportation			
• min.	-20 °C	-20 °C	-40 °C
• max.	60 °C	60 °C	70 °C
Relative humidity			
• Operation, max.	90 %	90 %	85 %
• Condensation permissible	No	No	No
Runs under operating system			
• Windows CE	Yes	Yes	Yes
• Windows Vista	Yes	Yes	No
• Windows XP	Yes	Yes	No
• Windows 7	Yes	Yes	No
• Windows 8	Yes	Yes	No
• Windows 10			No
• Linux	No	No	No

Technical specifications (continued)

Article number	6AV6574-2AC00-2AF1 PC MEMORY CARD 512 MB	6AV6574-2AF00-8AX0 PC CARD ADAPTER FOR CF MEMORY CARD	6AV2181-8AS20-0AX0 SIMATIC HMI USB MEMORY STICK 8GB
Mechanics/material			
Enclosure material (front)			
• Plastic	Yes		
• Aluminum			Yes
• Sheet steel		Yes	
Dimensions			
Width	54 mm	54 mm	16.7 mm
Height	85.6 mm	85.6 mm	59.1 mm
Thickness	5 mm	5 mm	7 mm
Weights			
Weight without packaging	34 g	24 g	12 g
Weight incl. packaging			16 g
Scope of supply			
Delivery quantity in pieces	1; Content: CF memory card, 512 MB, and PC card adapter	1	1
Other			
Target devices	for SIMATIC HMI devices with PC card slot	for SIMATIC HMI devices with PC card slot	For all HMI Panels with suitable USB interface
Note:			TP1500 Comfort Outdoor, TP700 Comfort Outdoor: Observe the temperature range

Article number	6ES7648-2BF02-0XF0 COMPACTFLASH 2 GB INDUSTRIAL GRADE	6ES7648-2BF02-0XG0 COMPACTFLASH DIAG, 4 GB INDUSTRIAL GRADE	6ES7648-2BF02-0XH0 COMPACTFLASH 8 GB INDUSTRIAL GRADE	6ES7648-2BF02-0XJ0 COMPACTFLASH DIAG, 16 GB INDUSTRIAL GRADE
General information				
Product type designation	SIMATIC CF memory card, 2 GB	SIMATIC CF memory card, 4 GB	SIMATIC CF memory card, 8 GB	SIMATIC CF memory card, 16 GB
Frame size/design				
• Standard	Yes	Yes	Yes	Yes
Installation type/mounting				
Mounting position	Any, dependent on target device	Any, dependent on target device	Any, dependent on target device	Any, dependent on target device
Supply voltage				
Type of supply voltage	DC	DC	DC	DC
Rated value (DC)	3.3 V; Selectable power supply: 3.3 V ±10% or 5.0 V ±10%	3.3 V; Selectable power supply: 3.3 V ±10% or 5.0 V ±10%	3.3 V; Selectable power supply: 3.3 V ±10% or 5.0 V ±10%	3.3 V; Selectable power supply: 3.3 V ±10% or 5.0 V ±10%
Power				
Active power input, typ.	1 W	1 W	1 W	1 W
Memory				
Type of memory	CompactFlash memory CF type I	CompactFlash memory CF type I	CompactFlash memory CF type I	CompactFlash memory CF type I
Design	SLC flash	SLC flash	SLC flash	SLC flash
Memory size	2 Gbyte; 1 year (data retention)	4 Gbyte; 1 year (data retention)	8 Gbyte; 1 year (data retention)	16 Gbyte; 1 year (data retention)
Speed class	Write speed: up to 16 MB/s (UDMA4), read speed: up to 36 MB/s (UDMA4)			
SLC flash write cycles	2; Millions, industrial quality	2; Millions, industrial quality	2; Millions, industrial quality	2; Millions, industrial quality
Write protection switch	No	No	No	No
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
RoHS conformity	Yes	Yes	Yes	Yes
China RoHS compliance	Yes	Yes	Yes	Yes

Technical specifications (continued)

Article number	6ES7648-2BF02-0XF0 COMPACTFLASH 2 GB INDUSTRIAL GRADE	6ES7648-2BF02-0XG0 COMPACTFLASH DIAG, 4 GB INDUSTRIAL GRADE	6ES7648-2BF02-0XH0 COMPACTFLASH 8 GB INDUSTRIAL GRADE	6ES7648-2BF02-0XJ0 COMPACTFLASH DIAG, 16 GB INDUSTRIAL GRADE
Ambient conditions				
Ambient temperature during operation				
• min.	-40 °C; Any mounting angle	-40 °C; Any mounting angle	-40 °C; Any mounting angle	-40 °C; Any mounting angle
• max.	85 °C; Any mounting angle	85 °C; Any mounting angle	85 °C; Any mounting angle	85 °C; Any mounting angle
Ambient temperature during storage/transportation				
• min.	-50 °C	-50 °C	-50 °C	-50 °C
• max.	100 °C	100 °C	100 °C	100 °C
Relative humidity				
• Operation, max.	85 %	85 %	85 %	85 %
• Condensation permissible	No	No	No	No
Runs under operating system				
• Windows CE	Yes	Yes	Yes	Yes
• Windows Vista	Yes	Yes	Yes	Yes
• Windows XP	Yes	Yes	Yes	Yes
• Windows 7	Yes	Yes	Yes	Yes
• Windows 8	Yes	Yes	Yes	Yes
• Linux	No	No	No	No
• other	Yes; Bootable	Yes; Bootable	Yes; Bootable	Yes; Bootable
Mechanics/material				
Enclosure material (front)				
• Plastic	Yes	Yes	Yes	Yes
Dimensions				
Width	42.8 mm	42.8 mm	42.8 mm	42.8 mm
Height	36.4 mm	36.4 mm	36.4 mm	36.4 mm
Thickness	3.3 mm	3.3 mm	3.3 mm	3.3 mm
Weights				
Weight without packaging	10 g	10 g	10 g	10 g
Weight incl. packaging	15 g	15 g	15 g	15 g
Scope of supply				
Delivery quantity in pieces	1	1	1	1
Other				
Target devices	For SIMATIC HMI devices and IPCs with the appropriate slot	For SIMATIC HMI devices and IPCs with the appropriate slot	For SIMATIC HMI devices and IPCs with the appropriate slot	For SIMATIC HMI devices and IPCs with the appropriate slot

Technical specifications (continued)

Article number	6ES7648-2BF10-0XF0 CFAST, 2 GB, INDUSTRIAL GRADE	6ES7648-2BF10-0XG0 CFAST, 4 GB, INDUSTRIAL GRADE	6ES7648-2BF10-0XH0 CFAST, 8 GB, INDUSTRIAL GRADE	6ES7648-2BF10-0XJ0 CFAST, 16 GB, INDUSTRIAL GRADE	6ES7648-2BF10-0XK0 CFAST, 32 GB, INDUSTRIAL GRADE
General information					
Product type designation	SIMATIC CFAST memory card, 2 GB	SIMATIC CFAST memory card, 4 GB	SIMATIC CFAST memory card, 8 GB	SIMATIC CFAST memory card, 16 GB	SIMATIC CFAST memory card, 32 GB
Frame size/design					
• Standard	Yes; Serial ATA	Yes; Serial ATA	Yes; Serial ATA	Yes; Serial ATA	Yes; Serial ATA
Installation type/mounting					
Mounting position	Any	Any	Any	Any	Any
Supply voltage					
Type of supply voltage	Selectable power supply: 3.3 V ±5 %	Selectable power supply: 3.3 V ±5 %	Selectable power supply: 3.3 V ±5 %	Selectable power supply: 3.3 V ±5 %	Selectable power supply: 3.3 V ±5 %
Power					
Active power input, typ.	0.7 W; Inactive 0.3 W	0.7 W; Inactive 0.3 W	0.7 W; Inactive 0.3 W	0.7 W; Inactive 0.3 W	0.7 W; Inactive 0.3 W
Memory					
Type of memory	CFast Type I	CFast Type I	CFast Type I	CFast Type I	CFast Type I
Design	SLC NAND flash	SLC NAND flash	SLC NAND flash	SLC NAND flash	SLC NAND flash
Memory size	2 Gbyte; 1 year (data retention)	4 Gbyte; 1 year (data retention)	8 Gbyte; 1 year (data retention)	16 Gbyte; 1 year (data retention)	32 Gbyte; 1 year (data retention)
Speed class	Write speed: up to 60 MB/s (UDMA6), read speed: up to 100 MB/s (UDMA6)				
SLC flash write cycles	4; Terabytes, industrial quality	4.5; Terabytes, industrial quality	4; Terabytes, industrial quality	17; Terabytes, industrial quality	17; Terabytes, industrial quality
Number of write/delete operations, min.	4; Terabytes, write capability	4.5; Terabytes, write capability	8; Terabytes, write capability	17; Terabytes, write capability	17; Terabytes, write capability
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
Ambient conditions					
Ambient temperature during operation					
• min.	-40 °C; Any mounting angle	-40 °C; Any mounting angle	-40 °C; Any mounting angle	-40 °C; Any mounting angle	-40 °C; Any mounting angle
• max.	85 °C; Any mounting angle	85 °C; Any mounting angle	85 °C; Any mounting angle	85 °C; Any mounting angle	85 °C; Any mounting angle
Ambient temperature during storage/transportation					
• min.	-50 °C	-50 °C	-50 °C	-50 °C	-50 °C
• max.	100 °C	100 °C	100 °C	100 °C	100 °C
Relative humidity					
• Operation, max.	85 %	85 %	85 %	85 %	85 %
• Condensation permissible	No	No	No	No	No
Runs under operating system					
• Windows CE	No	No	No	No	No
• Windows Vista	Yes	Yes	Yes	Yes	Yes
• Windows XP	No	No	No	No	No
• Windows 7	Yes	Yes	Yes	Yes	Yes
• Windows 8	Yes	Yes	Yes	Yes	Yes
• Linux	Yes	Yes	Yes	Yes	Yes
Mechanics/material					
Enclosure material (front)					
• Plastic	Yes	Yes	Yes	Yes	Yes
Dimensions					
Width	42.8 mm	42.8 mm	42.8 mm	42.8 mm	42.8 mm
Height	36.4 mm	36.4 mm	36.4 mm	36.4 mm	36.4 mm
Thickness	3.6 mm	3.6 mm	3.6 mm	3.6 mm	3.6 mm
Weights					
Weight without packaging	10 g	10 g	10 g	10 g	10 g
Scope of supply					
Delivery quantity in pieces	1	1	1	1	1
Other					
Target devices	For SIMATIC HMI devices and IPCs with the appropriate slot				
Note:	Bootable, real-time capable, error correction, wear leveling, power loss protection and diagnostics-capable				

Technical specifications (continued)

Article number	6ED1056-1BA00-0AA0 MEMORY MODULE FOR PUSHBUTTON PANEL
General information	
Product type designation	Memory module for Push Button Panel
Connection type	
• USB	No
Frame size/design	
• Standard	No; Only suitable for Push Button Panels
• Flat	No
Installation type/mounting	
Mounting position	Any, dependent on target device
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
Supply voltage	
Type of supply voltage	DC
Memory	
Type of memory	Retentive memory module
Write protection switch	No
Type of output	
LED colors	
• red	No
Standards, approvals, certificates	
CE mark	Yes

Article number	6ED1056-1BA00-0AA0 MEMORY MODULE FOR PUSHBUTTON PANEL
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	55 °C
Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	70 °C
Relative humidity	
• Operation, max.	95 %
• Condensation permissible	No
Runs under operating system	
• Windows CE	No
• Windows Vista	No
• Windows XP	No
• Windows 7	No
• Windows 8	No
• Linux	No
Mechanics/material	
Material	
• Aluminum	No
Enclosure material (front)	
• Plastic	Yes; Yellow
Dimensions	
Width	14 mm
Height	20 mm
Thickness	8 mm
Weights	
Weight without packaging	3 g
Weight incl. packaging	5 g
Scope of supply	
Delivery quantity in pieces	1
Other	
Target devices	for Push Button Panel 7 /17, system memory with retentivity, suitable for duplication, can also be used for duplication of the LOGO! switching program for LOGO! order numbers ... 0BA1, ... 0BA2, ... 0BA3)

Technical specifications (continued)

Article number	6ES7648-0DC60-0AA0 SIMATIC IPC USB FLASHDRIVE 16GB
General information	
Product type designation	SIMATIC USB flash drive, 16 GB
Connection type	
• USB	Yes; USB 3.0 type A
Frame size/design	
• Standard	Yes
• Flat	Yes
Installation type/mounting	
Mounting position	Any, dependent on target device
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
Supply voltage	
Type of supply voltage	DC
Rated value (DC)	5 V
Input current	
Current consumption (rated value)	100 mA; Typical
Memory	
Type of memory	Multi-level cell (MLC)
Memory size	16 Gbyte
Speed class	Up to: read: 75 MB/s, write: 21 MB/s
File format	FAT32
Write cycles MLC flash	3 000; PROGRAM/ERASE cycle
Write protection switch	No
Type of output	
LED colors	
• red	Yes; LED indicator: Busy, Waiting, Off
Interfaces	
Number of USB interfaces	1; USB 3.0 type A
Standards, approvals, certificates	
CE mark	Yes

Article number	6ES7648-0DC60-0AA0 SIMATIC IPC USB FLASHDRIVE 16GB
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	50 °C
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Relative humidity	
• Operation, max.	85 %
• Condensation permissible	No
Runs under operating system	
• Windows CE	Yes
• Windows Vista	No
• Windows XP	Yes
• Windows 7	Yes
• Windows 8	Yes
• Linux	Yes
Mechanics/material	
Enclosure material (front)	
• Aluminum	Yes
Dimensions	
Width	16.7 mm
Height	59.1 mm
Thickness	7 mm
Weights	
Weight without packaging	12 g
Weight incl. packaging	170 g
Scope of supply	
Delivery quantity in pieces	1
Other	
Target devices	Suitable for IPC and HMI devices (Basic 2nd, Comfort) with the corresponding interfaces (see manual)
Note:	TP1500 Comfort Outdoor, TP700 Comfort Outdoor: Observe the temperature range

Technical specifications (continued)

Article number	**6AV7675-0FX00-0AA0** USB DRIVE, INTRINSICALLY SAFE, 16GB	**6AV7675-0FX10-0AA0** USB DRIVE, INTRINS. SAFE, 16GB, RECOVERY
General information		
Product type designation	SIMATIC USB flash drive, 16 GB, Ex	SIMATIC USB flash drive, 16 GB, REx
Connection type		
• USB	Yes	No
Frame size/design		
• Standard	No; Special enclosure for screw mounting	No; Special enclosure for screw mounting
• Flat	No	No
• Space-saving	Yes; Suitable for hazardous zones with locking screw	Yes; Suitable for hazardous zones with locking screw
Installation type/mounting		
Mounting position	Any, dependent on target device	Any, dependent on target device
Mounting in portrait format possible	Yes	Yes
Mounting in landscape format possible	Yes	Yes
Supply voltage		
Type of supply voltage	DC	DC
Rated value (DC)	5.9 V	5.9 V
Input current		
Current consumption (rated value)	3 A	3 A
Power		
Active power input, typ.	6 W	6 W
Memory		
Type of memory	USB drive	USB drive 16 GB with recovery function
Memory size	16 Gbyte	16 Gbyte
Write protection switch	No	No
Standards, approvals, certificates		
CE mark	Yes	Yes
RoHS conformity	Yes	Yes
Use in hazardous areas		
• ATEX Zone 2	Yes; Up to Zone 1, TÜV (German Technical Inspectorate) 06 ATEX 7342, IECEx TUR 13.0005	Yes; Up to Zone 1, TÜV (German Technical Inspectorate) 06 ATEX 7342, IECEx TUR 13.0005
• ATEX Zone 22	Yes; Up to Zone 1, TÜV (German Technical Inspectorate) 06 ATEX 7342, IECEx TUR 13.0005	Yes; Up to Zone 1, TÜV (German Technical Inspectorate) 06 ATEX 7342, IECEx TUR 13.0005
• cULus Class I Zone 1	Yes; CSA Class II No. 2649448	Yes; CSA Class II No. 2649448
• cULus Class I Zone 2, Division 2	Yes; CSA Class II No. 2649448	Yes; CSA Class II No. 2649448
• FM Class I Division 2	Yes; CSA Class II No. 2649448	Yes; CSA Class II No. 2649448

Technical specifications (continued)

Article number	**6AV7675-0FX00-0AA0**	**6AV7675-0FX10-0AA0**
	USB DRIVE, INTRINSICALLY SAFE, 16GB	USB DRIVE, INTRINS. SAFE, 16GB, RECOVERY
Ambient conditions		
Ambient temperature during operation		
• min.	-20 °C	-20 °C
• max.	70 °C	70 °C
Ambient temperature during storage/transportation		
• min.	-20 °C	-20 °C
• max.	70 °C	70 °C
Relative humidity		
• Condensation permissible	No	No
Runs under operating system		
• Windows CE	Yes	No
• Windows Vista	Yes	Yes
• Windows XP	Yes	Yes
• Windows 7	Yes	Yes
• Windows 8	Yes	Yes
• Linux	Yes	Yes
Mechanics/material		
Material		
• Aluminum	Yes	Yes
Dimensions		
Width	25 mm	25 mm
Height	110 mm	110 mm
Thickness	15 mm	15 mm
Weights		
Weight without packaging	70 g	70 g
Weight incl. packaging	90 g	90 g
Scope of supply		
Delivery quantity in pieces	1	1
Other		
Merchandise	Yes	Yes
Target devices	ATEX certified for operating on xx6 USB Ex-i and non-Ex interfaces, Zones 1, 2, 21<(>&<)>22 Gas Zones: II 2 G Ex is IIC T4 Dust Zones: II 2 D Ex ibD 21 T110 degrees C	ATEX certified for operating on xx6 USB Ex-i and non-Ex interfaces, Zones 1, 2, 21<(>&<)>22 Gas Zones: II 2 G Ex is IIC T4 Dust Zones: II 2 D Ex ibD 21 T110 degrees C
Note:	TP1500 Comfort Outdoor, TP700 Comfort Outdoor: Observe the temperature range	

Ordering data

	Article No.
Memory cards	
Indoor use only	
SIMATIC HMI MM memory card 128 MB	**6AV6671-1CB00-0AX2**
SIMATIC HMI SD memory card 512 MB	**6AV6671-8XB10-0AX1**
SIMATIC HMI SD memory card 2 GB	**6AV2181-8XP00-0AX0**
SIMATIC HMI CF memory card 512 MB	**6AV6574-2AC00-2AA1**
PC memory card, 512 MB (PCMCIA)	**6AV6574-2AC00-2AF1**
PC card adapter for CF memory card	**6AV6574-2AF00-8AX0**
SIMATIC HMI USB memory stick, 8 GB Can be used for SIMATIC HMI Classic Panels, e.g. TPs, OPs and Multi Panels with a USB interface.	**6AV2181-8AS20-0AX0**
Can be used indoors and outdoors	
SIMATIC HMI SD memory card, Outdoor 2 GB	**6AV2181-8AQ10-0AX0**
SIMATIC IPC USB FlashDrive 16 GB, USB 3.0, metal enclosure, boot capability, (SIMATIC IPC BIOS Manager on enclosed CD) For current and new SIMATIC HMI Panels and IPCs. Note: This memory stick does not support Classic Panels such as TPs, OPs, and Multi Panels.	**6ES7648-0DC60-0AA0**

	Article No.
SIMATIC IPC Service USB FlashDrive 16 GB, USB 3.0, metal enclosure, boot capability, SIMATIC IPC Image & Partition Creator V3.3.2 and SIMATIC IPC BIOS Manager V3.3 (Win PE) preinstalled, including CD	**6AV7672-8JD02-0AA0**
SIMATIC HMI USB FlashDrive Ex 16 GB, explosion protection, for HMI devices and IPCs with the corresponding slot.	**6AV7675-0FX00-0AA0**
SIMATIC IPC CompactFlash	
• 2 GB	**6ES7648-2BF02-0XF0**
• 4 GB	**6ES7648-2BF02-0XG0**
• 8 GB	**6ES7648-2BF02-0XH0**
• 16 GB	**6ES7648-2BF02-0XJ0**
SIMATIC IPC CFast	
• 2 GB	**6ES7648-2BF10-0XF0**
• 4 GB	**6ES7648-2BF10-0XG0**
• 8 GB	**6ES7648-2BF10-0XH0**
• 16 GB	**6ES7648-2BF10-0XJ0**
• 30 GB	**6ES7648-2BF10-0XK1**
SIMATIC HMI USB FlashDrive, 16 GB, explosion protection For HMI devices and IPCs with the corresponding slot.	**6AV7675-0FX00-0AA0**
SIMATIC HMI USB FlashDrive, 16 GB, explosion protection, with recovery function For HMI devices and IPCs with the corresponding slot.	**6AV7675-0FX10-0AA0**

More information

Note:

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.
Industry Mall:

https://mall.industry.siemens.com

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

https://eb.automation.siemens.com

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

http://support.automation.siemens.com

Informative material for downloading can be found on the Internet:

http://www.siemens.com/simatic/printmaterial

Overview

Transport and storage bags

Transport and storage bags are perfectly suited for tablet PCs and industrial tablet PCs such as the ITP100.

The basic transport bag was created especially for mobile operation of a tablet PC with all of the required accessories, such as a power supply unit, mouse, keyboard, etc. It can be modularly expanded. Various add-on pockets are available for this purpose.

Additional expansion pockets can easily be connected to the basic bag. Covered holes allow the tablet to be connected to the power supply unit even during transport without the cable visibly hanging out of the bag. This ensures particularly fast access times when used. The basic bag features a hook-and-loop strip and a wrist rest for using an optional Bluetooth keyboard. The rear part of the transport bag can be opened to allow the tablet PC to be optimally set up in the bag as well. The outer fabric straps can be used for securing anything from tools to writing materials, meaning that everything is at your fingertips during a service call.

Optimal ventilation during operation is also provided for. Thick, elastic material ribs not only protect against small impacts, but also against over-heating. A rugged shoulder strap, a double carrying handle, and side reflective strips round off the well thought out transport bag.

A case with all-round protection meant purely for storage purposes is also available for tablet PCs.

Note:

The expansion module pockets must be ordered separately. 1 to 3 small add-on pockets or 1 small and 1 medium add-on pocket can be attached to one basic bag at the same time.

Ordering data

	Article No.
Basic transport bag for tablet PC Multifunctional transport bag suitable for the ITP1000 tablet PC. Can be expanded. Can be used as stand, with carrying strap. Quantity and content: See technical specifications.	**6AV6881-0AW11-3AA0**
Small expansion pocket for tablet PC Expansion pocket, small, suitable for transport bag ITP1000. Quantity and content: See technical specifications.	**6AV6881-0AW12-3AA0**
Medium expansion pocket for tablet PC Expansion pocket, medium-size, suitable for transport bag ITP1000. Can be used instead of 2 small ones. Quantity and content: See technical specifications.	**6AV6881-0AW13-3AA0**
Storage bag for tablet PC Universal storage bag, suitable for all tablet PCs. Quantity and content: See technical specifications.	**6AV6881-0AW11-2AA0**

More information

Note:

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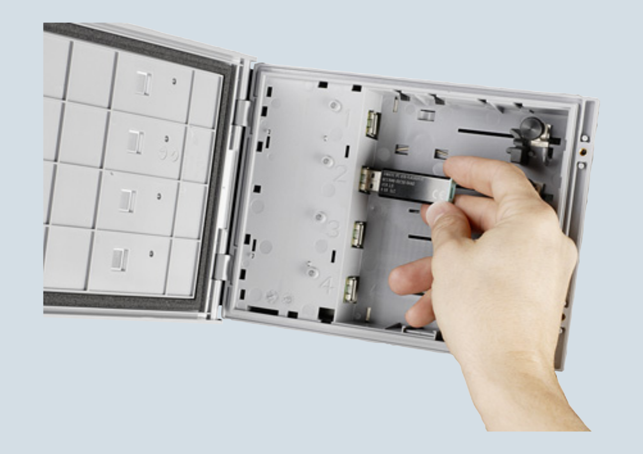
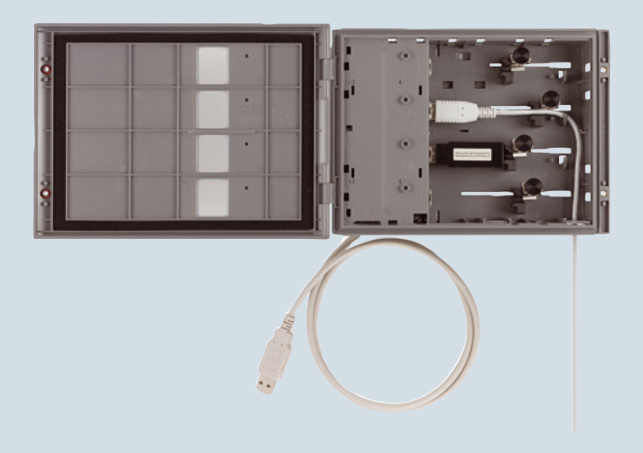
Overview





Industrial USB Hub 4, opened

Distribution boards

Industrial distribution boards are used for extending and/or multiplying interfaces. The distribution boards offered here are optimized for SIMATIC devices and intended for industrial use.

This also includes the interface extensions. A USB device port with IP65 protection is provided on the front of the cabinet or console.

USB extension

Installation of an external USB interface is practical if external input devices or mass storage devices are frequently connected to a SIMATIC HMI PRO device. The USB interface can optionally be mounted at the top or bottom of the device. Use of the USB interface increases the availability of the system to be operated. It is also no longer necessary to open the backplane of the SIMATIC HMI PRO device to connect I/O.

Further benefits:

- Accessible to any operator without the need for tools
- Also suitable for retrofitting in enclosure
- Mountable on the front
- Increased degree of protection at front if protective cover is closed

Industrial USB Hub 4

The use of the Industrial USB Hub 4

- Permits the simultaneous connection of up to four I/O devices such as USB stick, USB flash drive, mouse, keyboard, printer or barcode reader to a central USB interface.
- Increases the availability of the system to be operated. The control cabinet door no longer has to be opened in order to connect I/O devices. Operation is possible at any time from the Panel or PC.

In addition, the Industrial USB Hub 4 has the following features:

- Inspection window on each interface
- Vibration-proof restraint of connected USB cables and USB sticks
- One LED indicator per interface for checking the data traffic
- Sufficient interior space for attaching USB sticks and connectors
- For control cabinet installation or standard DIN rail
- Interface duplicators

Technical specifications

Article number	**6AV6671-3AH00-0AX0** INDUSTRIAL USB HUB 4
General information	
Product type designation	Industrial USB Hub 4
Installation type/mounting	
Rail mounting	Yes; Standard - DIN rail
Mounting in landscape format possible	Yes
Supply voltage	
Type of supply voltage	24 V DC
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Interfaces	
Number of USB interfaces	4; Type USB 2.0, 500 mA each; e.g. connection of mouse, keyboard, printer, USB stick, USB IPC flash drive
Degree and class of protection	
IP (at the front)	IP65
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes
cULus	Yes; UL for US, UL for Canada
RCM (formerly C-TICK)	Yes; C-Tick
KC approval	No
Suitable for safety functions	No
Ambient conditions	
Ambient temperature during operation	
• Operation (vertical installation)	0 to +50 °C
- For vertical installation, min.	0 °C
- For vertical installation, max.	50 °C
Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	60 °C
Relative humidity	
• Operation, max.	90 %
Mechanics/material	
Enclosure material (front)	
• Plastic	Yes
Dimensions	
Width of the housing front	212 mm
Height of housing front	156 mm
Overall depth	50 mm
Weights	
Weight without packaging	460 g
Scope of supply	
Delivery quantity in pieces	1; Content: 1 X USB Hub 4, 10 x plastic mounting clip, 1 x female 2-pin connector
Other	
Target devices	for access to the USB interface of a built-in device without having to open the control cabinet, mounting on standard DIN rail possible, suitable for standard USB interfaces
Note:	TP1500 Comfort Outdoor, TP700 Comfort Outdoor: Observe the temperature range

Ordering data

	Article No.
Industrial USB Hub 4 Use of standard USB interface four times simultaneously without having to open the control cabinet, standard DIN rail mounting possible, suitable up to and including USB 2.0 standard.	**6AV6671-3AH00-0AX0**
USB extension, Type 1 1-port USB interface for Fully Enclosed HMI devices:	**6AV7674-0LX00-0AA0**
USB extension, Type 2 2-port USB interface for Fully Enclosed HMI devices:	**6AV7674-0LX01-0AA0**

More information

Note:

Modifications or additions to the products described here can be found and ordered under "Customer-specific products". It is also still possible to request special sector-specific products for customer-specific modification and adaptation.

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.
Industry Mall:

https://mall.industry.siemens.com
If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

https://eb.automation.siemens.com

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Informative material for downloading can be found on the Internet:

http://www.siemens.com/simatic/printmaterial

Overview

Spare key for Mobile Panel

SIMATIC small components are also perfected for the industrial environment and optimally matched to the SIMATIC HMI devices.

In order to achieve attractive prices, it is only possible in some cases to order packages containing larger quantities.

Note:

Keys for KTP Mobile come with a preset breaking point. This ensures that a key can still always be removed from a KTP Mobile lock even if it breaks off.

Technical specifications

Article number	**6AV6574-1AG04-4AA0** SPARE KEY FOR MOBILE PANEL, TYPE 10	**6AV2181-5AR80-0AX0** SPARE KEY FOR KTP MOBILE PANEL
General information		
Product type designation	Spare key Mobile Panel 1st Generation	Spare key Mobile Panel 2nd Generation
Standards, approvals, certificates		
CE mark	Yes	Yes
RoHS conformity	Yes	
Ambient conditions		
Ambient temperature during operation		
• min.	-40 °C	-40 °C
• max.	80 °C	80 °C
Ambient temperature during storage/transportation		
• min.	-40 °C	-40 °C
• max.	80 °C	80 °C
Relative humidity		
• Operation, max.	90 %	90 %
Mechanics/material		
Material		
• Sheet steel	Yes; Handle made of plastic	Yes; Handle made of plastic
Dimensions		
Width	35 mm	15 mm
Height	18 mm	35 mm
Thickness	4 mm	4 mm
Weights		
Weight without packaging	30 g	5 g
Scope of supply		
Delivery quantity in pieces	10; Coupled with key ring	5; Quantity
Other		
Merchandise	Yes	
Target devices	For Mobile Panel 1st Generation	For Mobile Panel 2nd Generation

Ordering data

Ordering data	Article No.
Spare key for Mobile Panel, Type 10 For key-operated switch of the Mobile Panel.	**6AV6574-1AG04-4AA0**
Spare key for Mobile Panel, Type 13 For key-operated switch of the Mobile Panel 2nd Generation.	**6AV2181-5AR80-0AX0**

More information

Note:

Photos and product images may differ from the actual product.

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Connecting cables

Overview

Connecting cables

Connecting cable PN (PROFINET) for Mobile Panels

Connecting cable DP (PROFIBUS) for Mobile Panels

Key

P = PROCESS COUPLING

K = optional process coupling (option required)

D = DOWNLOAD (update operating system, project, ...)

U = booting (factory setting in the case of a missing or damaged operating system)

MBP = Mobile Panel

Overview (continued)

Overview of SIMATIC HMI connection options

	RS 232 external (15/9-pole)	TD-PPI (incl. voltage)	RS 232 Null modem	RS 232/PPI multi-master cable	USB/PPI multi-master cable	MPI (PG-S7) up to 187.5 kbaud
	6XV1440-2Kxxx	6ES7901-3EB10-0XA0	6ES7901-1BF00-0XA0	6ES7901-3CB30-0XA0	6ES7901-3DB30-0XA0	6ES7901-0BF00-0AA0
Key Panel KP8/KP8F, KP32F	-	-	-	-	-	-
PP7, PP17-I, PP17-II	-	-	-	-	-	-
KTP400 Basic mono PN	-	-	-	-	-	-
KTP600 Basic mono PN	-	-	-	-	-	-
KTP600 Basic color DP	-	-	-	D/U	D/U	P/D
KTP600 Basic color PN	-	-	-	-	-	-
KTP1000 Basic color DP	-	-	-	D/U	D/U	P/D
KTP1000 Basic color PN	-	-	-	-	-	-
KTP1500 Basic color PN	-	-	-	-	-	-
K(T)P400 Comfort	-	-	-	-	-	P/D
K(T)P700 - KP1500 Comfort	-	-	-	-	-	P/D
TP700 -TP2200 Comfort	-	-	-	-	-	P/D
MBP 177	-	-	-	D/U	-	-
MBP 277	-	-	-	D/U	-	-
TD200	-	P	-	D/U	-	P
TD400C	-	P	-	D/U	-	P
OP73micro	-	P	-	D/U	D/U	P
TP177micro	-	-	-	D/U	D/U	-
OP73	-	P	-	D/U	D/U	P/D
OP77A	-	-	-	D/U	D/U	P/D
OP77B	P	-	D/U	-	-	P/D
TP177A	-	-	-	D/U	D/U	P/D
TP177B	P [1)]	-	-	D/U	-	P/D
TP177B 4"	P [1)]	-	D	D	-	P/D
OP177B	P [1)]	-	-	D/U	-	P/D
TP277-6	P [1)]	-	-	D/U	-	P/D
OP277-6	P [1)]	-	-	D/U	-	P/D
MP177-6 T	P [1)]	-	-	D/U	-	P/D
MP277-8 T	P [1)]	-	-	D/U	-	P/D
MP277-10 T	P [1)]	-	-	D/U	-	P/D
MP377-12 T	P [1)]	-	-	D	-	P/D
MP377-15 T	P [1)]	-	-	D	-	P/D
MP377-19 T	P [1)]	-	-	D	-	P/D

[1)] Only in conjunction with the RS 422/232 converter

6

Overview (continued)

	DP PtP	DP Standard	DP (Mobile Panel)	PN (cross cable) [2] Point-to-point	PN (standard cable) [2]	PN (Mobile Panel)	RS 422 to RS 232 converter	RS 232 to TTY converter (20 mA)	90° angular (9-pin 1:1)
	6XV1830-0Axxx	Standard PROFIBUS (2-contact)	6XV1440-4Axxx	6XV1870-3RH20	Standard Ethernet CAT5	6XV1440-4Bxxx	6AV6671-8XE00-0AX0	6ES5734-1BD20	6AV6671-8XD00-0AX0
Key Panel KP8/KP8F, KP32F	-	-	-	P/D	P/D	-	-	-	-
PP7, PP17-I, PP17-II	P	P	-	-	-	-	-	-	-
KTP400 Basic mono PN	-	-	-	P/D/U	P/D/U	-	-	-	-
KTP600 Basic mono PN	-	-	-	P/D/U	P/D/U	-	-	-	-
KTP600 Basic color DP	P/D	P/D	-	-	-	-	-	-	P/D/U
KTP600 Basic color PN	-	-	-	P/D/U	P/D/U	-	-	-	-
KTP1000 Basic color DP	P/D	P/D	-	-	-	-	-	-	P/D/U
KTP1000 Basic color PN	-	-	-	P/D/U	P/D/U	-	-	-	-
KTP1500 Basic color PN	-	-	-	P/D/U	P/D/U	-	-	-	-
K(T)P400 Comfort	P/D	P/D	-	P/D/U	P/D/U	-	-	-	P/D/U
K(T)P700 - TP1500 Comfort	P/D	P/D	-	P/D/U	P/D/U	-	-	-	P/D/U
TP700 -TP2200 Comfort	P/D	P/D	-	P/D/U	P/D/U	-	-	-	P/D/U
MBP 177 DP	P/D	P/D	P/D	-	-	-	-	-	-
MBP 177 PN	-	-	-	-	-	P/D	-	-	-
MBP 277	P/D	P/D	P/D	-	-	P/D	-	-	-
TD200	-	-	-	-	-	-	-	-	-
TD400C	-	-	-	-	-	-	-	-	-
OP73micro	P	-	-	-	-	-	-	-	-
TP177micro	P	P	-	-	-	-	-	-	P/D/U
OP73	P	P	-	-	-	-	-	-	-
OP77A	P	P	-	-	-	-	-	-	P/D/U
OP77B	P/D	P/D	-	-	-	-	-	P	P/D/U
TP177A	P	P	-	-	-	-	-	-	P/D/U
TP177B DP	P/D	P/D	-	-	-	-	P	P [4]	P/D/U
TP177B PN/DP	P/D	P/D	-	P/D	P/D	-	P	P [4]	P/D/U
TP177B 4"	P/D	P/D	-	P/D/U	P/D/U	-	P	P [4]	P/D/U
OP177B DP	P/D	P/D	-	-	-	-	P	P [4]	P/D/U
OP177B PN/DP	P/D	P/D	-	P/D	P/D	-	P	P [4]	P/D/U
TP277-6	P/D	P/D	-	P/D	P/D	-	P	P [4]	P/D/U
OP277-6	P/D	P/D	-	P/D	P/D	-	P	P [4]	P/D/U

[1] With gender changer

[2] PROFINET IRT (Isochronous Runtime); isochronous mode only possible with IRT-enabled switch

[3] Only in conjunction with RS 422/RS 232 converter 6AV6671-8XE00-0AX0

[4] WinCC flexible 2008 SP2 and higher

Overview (continued)

	DP PtP	**DP Standard**	**DP (Mobile Panel)**	**PN (cross cable) 2)** **Point-to-point**	**PN (standard cable) 2)**	**PN (Mobile Panel)**	**RS 422 to RS 232 converter**	**RS 232 to TTY converter (20 mA)**	**90° angular (9-pin 1:1)**
MP177-6 T	P/D	P/D	-	P/D	P/D	-	P	P 4)	P/D/U
MP277-8 T	P/D	P/D	-	P/D	P/D	-	P	P 4)	P/D/U
MP277-8 K	P/D	P/D	-	P/D	P/D	-	P	P 4)	P/D/U
MP277-10 T	P/D	P/D	-	P/D	P/D	-	P	P 4)	P/D/U
MP277-10 K	P/D	P/D	-	P/D	P/D	-	P	P 4)	P/D/U
MP377-12 T	P/D	P/D	-	P/D/U	P/D/U	-	P	P 4)	P/D
MP377-12 K	P/D	P/D	-	P/D/U	P/D/U	-	P	P 4)	P/D
MP377-15 T	P/D	P/D	-	P/D/U	P/D/U	-	P	P 4)	P/D
MP377-19 T	P/D	P/D	-	P/D/U	P/D/U	-	P	P 4)	P/D

1) With gender changer
2) PROFINET IRT (Isochronous Runtime); isochronous mode only possible with IRT-enabled switch
3) Only in conjunction with RS 422/RS 232 converter 6AV6671-8XE00-0AX0
4) WinCC flexible 2008 SP2 and higher

Note:
This table is for basic orientation only. Technical characteristics are described in the communication manual or the respective user manual.

6

Connecting cables

Technical specifications

Article number	**6XV1440-4BH20** CONNECTING CABLE PN FOR MOBILE PANELS, 2 M	**6XV1440-4BH50** CONNECTING CABLE PN FOR MOBILE PANELS, 5 M	**6XV1440-4BH80** CONNECTING CABLE PN FOR MOBILE PANELS, 8 M
General information			
Product type designation	PN connecting cable	PN connecting cable	PN connecting cable
Supply voltage			
Rated value (DC)	24 V; DC	24 V; DC	24 V; DC
Degree and class of protection			
IP (at the front)	IP65	IP65	IP65
IP (rear)	IP65	IP65	IP65
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
Suitable for safety functions	Yes; e.g. emergency stop, acknowledgment button	Yes; e.g. emergency stop, acknowledgment button	Yes; e.g. emergency stop, acknowledgment button
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C
Ambient temperature during storage/transportation			
• min.	-40 °C	-40 °C	-40 °C
• max.	70 °C	70 °C	70 °C
Relative humidity			
• Operation, max.	85 %	85 %	85 %
Cables			
Cable length	2 m	5 m	8 m
smallest bending radius	45 mm	45 mm	45 mm
Color of cable sheath	Green	Green	Green
Oil resistance of outer sheath	Yes; Hydrolysis-resistant and oil-resistant acc. to VDE 0472 Part 803/B, also resistant to commercially available lubricants and hydraulic oils		
Resistance to MEK, xylene, toluene, isopropanol	Yes	Yes	Yes
Mechanics/material			
Material of cable sheath	Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963	Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963	Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963
Dimensions			
Thickness	9 mm	9 mm	9 mm
Scope of supply			
Delivery quantity in pieces	1	1	1
Other			
Merchandise	Yes	Yes	Yes

Technical specifications (continued)

Article number	**6XV1440-4BN10** CONNECTING CABLE PN FOR MOBILE PANELS, 10 M	**6XV1440-4BN15** CONNECTING CABLE PN FOR MOBILE PANELS, 15 M	**6XV1440-4BN20** CONNECTING CABLE PN FOR MOBILE PANELS, 20 M	**6XV1440-4BN25** CONNECTING CABLE PN FOR MOBILE PANELS, 25 M
General information				
Product type designation	PN connecting cable	PN connecting cable	PN connecting cable	PN connecting cable
Supply voltage				
Rated value (DC)	24 V; DC	24 V; DC	24 V; DC	24 V; DC
Degree and class of protection				
IP (at the front)	IP65	IP65	IP65	IP65
IP (rear)	IP65	IP65	IP65	IP65
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
Suitable for safety functions	Yes; e.g. emergency stop, acknowledgment button	Yes; e.g. emergency stop, acknowledgment button	Yes; e.g. emergency stop, acknowledgment button	Yes; e.g. emergency stop, acknowledgment button
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C	55 °C
Ambient temperature during storage/transportation				
• min.	-40 °C	-40 °C	-40 °C	-40 °C
• max.	70 °C	70 °C	70 °C	70 °C
Relative humidity				
• Operation, max.	85 %	85 %	85 %	85 %
Cables				
Cable length	10 m	15 m	20 m	25 m
smallest bending radius	45 mm	45 mm	45 mm	45 mm
Color of cable sheath	Green	Green	Green	Green
Oil resistance of outer sheath	Yes; Hydrolysis-resistant and oil-resistant acc. to VDE 0472 Part 803/B, also resistant to commercially available lubricants and hydraulic oils	Yes; Hydrolysis-resistant and oil-resistant acc. to VDE 0472 Part 803/B, also resistant to commercially available lubricants and hydraulic oils	Yes; Hydrolysis-resistant and oil-resistant acc. to VDE 0472 Part 803/B, also resistant to commercially available lubricants and hydraulic oils	Yes; Hydrolysis-resistant and oil-resistant acc. to VDE 0472 Part 803/B, also resistant to commercially available lubricants and hydraulic oils
Resistance to MEK, xylene, toluene, isopropanol	Yes	Yes	Yes	Yes
Mechanics/material				
Material of cable sheath	Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963	Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963	Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963	Special PUR, flame-resistant acc. to VDE 0472 Part 804 Test Type B, Shore A 88 Flame-Retardant UR Style 20963
Dimensions				
Thickness	9 mm	9 mm	9 mm	9 mm
Scope of supply				
Delivery quantity in pieces	1	1	1	1
Other				
Merchandise	Yes	Yes	Yes	Yes

Article number	**6ES7901-0BF00-0AA0** S7 MPI CABLE, 5M	**6ES7901-1BF00-0XA0** RS 232 / ZERO MODEM CABLE, 6 M
Cables		
Cable length	5 m	6 m
Weights		
Weight, approx.	293 g	272 g

Ordering data

	Article No.
Connecting cables	
SIMATIC S7 connecting cables	
MPI cable between SIMATIC S7 and programming device via MPI max. 187.5 kBaud, standard length 5.0 m	**6ES7901-0BF00-0AA0**
Connecting cable between HMI adapter and PC/TS Adapter (RS 232 cable/ null-modem cable) for OP 77B, TP 177A/B, OP 177B, standard length 5.0 m	**6ES7901-1BF00-0XA0**
Connecting cables 6XV1440-2A 2) Connecting cable between TD/TP/OP and AG S5 95U to -155U, 1 000 m max.	**6XV1440-2A...**
PROFIBUS connecting cable 830-1T For connection of data terminals, pre-assembled with two sub-D connectors, 9-pin terminated at both ends for PP, OP 73micro, OP 73, TP 177micro, OP 77A/B, TP 177A, TP/OP 177B	
• 1.5 m	**6XV1830-1CH15**
• 3.0 m	**6XV1830-1CH30**
USB/PPI multi-master cable For connecting the S7-200 to a serial PC/OP interface Standard length 5 m	**6ES7901-3DB30-0XA0**
PROFIBUS FC Standard Cable 2) For connection to PPI; standard type with special design for quick mounting, 2-wire, shielded, sold by the meter, max. delivery unit 1000 m, minimum ordering quantity 20 m	**6XV1830-0E...**

	Article No.
Industrial Ethernet TP XP Cord RJ45/RJ45 Crossed TP cable 4 x 2, pre-assembled with 2 x RJ45 connectors	
• 1.0 m	**6XV1870-3RH10**
• 6.0 m	**6XV1870-3RH60**
• 10.0 m	**6XV1870-3RN10**
DP connecting cable (MPI/PROFIBUS) For wired Mobile Panels 177, Mobile Panels 277, standard lengths	
• 2 m	**6XV1440-4AH20**
• 5 m	**6XV1440-4AH50**
• 8 m	**6XV1440-4AH80**
• 10 m	**6XV1440-4AN10**
• 15 m	**6XV1440-4AN15**
• 20 m	**6XV1440-4AN20**
• 25 m 1)	**6XV1440-4AN25**
PN connecting cable (PROFINET) For wired Mobile Panels 177, Mobile Panels 277, standard lengths	
• 2 m	**6XV1440-4BH20**
• 5 m	**6XV1440-4BH50**
• 8 m	**6XV1440-4BH80**
• 10 m	**6XV1440-4BN10**
• 15 m	**6XV1440-4BN15**
• 20 m	**6XV1440-4BN20**
• 25 m 1)	**6XV1440-4BN25**
Connecting cable for KTP Mobile Panels	
• 2 m	**6AV2181-5AF02-0AX0**
• 5 m	**6AV2181-5AF05-0AX0**
• 8 m	**6AV2181-5AF08-0AX0**
• 10 m	**6AV2181-5AF10-0AX0**
• 15 m	**6AV2181-5AF15-0AX0**
• 20 m	**6AV2181-5AF20-0AX0**
• 25 m	**6AV2181-5AF25-0AX0**

1) Instead of using longer cables, we recommend that you use additional connection boxes.

2) See length code.

Selection and ordering data (continued)

Length key for connecting cables

With connecting cables whose length is freely selectable according to the following lists, the blanks (…) in the Article No. must be completed in accordance with the length codes given. The different length keys must be taken into account here! Other lengths on request.

Length key for 6XV connecting cables

6XV. ... connecting cables

Length of the connecting cable = Multiplier x length key	Article No. supplement of the connecting cable 6XV….-…..
Multiplier	
• 0.01 m	6XV….-..E..
• 0.1 m	6XV….-..H..
• 1.0 m	6XV….-..N..
• 10.0 m	6XV….-..T..
• 100.0 m	6XV….-..U..
Length digit	
• 10	6XV….-…10
• 12	6XV….-…12
• 15	6XV….-…15
• 16	6XV….-…16
• 20	6XV….-…20
• 25	6XV….-…25
• 32	6XV….-…32
• 40	6XV….-…40
• 50	6XV….-…50
• 60	6XV….-…60
• 63	6XV….-…63
• 80	6XV….-…80

Ordering example:

The 6XV1404-0A… connecting cable must be 16 m long.
Multiplier 1.0 m (N) x length digit 16 (16) gives a length of 16 m.
The Article No. supplement is N16. Enter this in the blank spaces of the Article No.
The complete Article No. for the 16-m-long connecting cable is then: **6XV1404-0AN16**
.

More information

Note:

Cable pin assignments can be found on the Internet in the Online Help of WinCC flexible and under FAQs.

http://support.automation.siemens.com

Photos and product images may differ from the actual product.

Detailed technical specifications, content information, quantities and compatible core products are listed online in the technical specifications of the respective accessory.
Industry Mall:

https://mall.industry.siemens.com

If you use the TIA Selection Tool (selection guide) to find your core product, the appropriate accessories are also displayed automatically. This facilitates selection of suitable accessories.

https://eb.automation.siemens.com

Data sheets and manufacturer declarations are available for downloading in the Online Support area.

http://support.automation.siemens.com

Informative material for downloading can be found on the Internet:

http://www.siemens.com/simatic/printmaterial

RS 485 bus connector

Overview

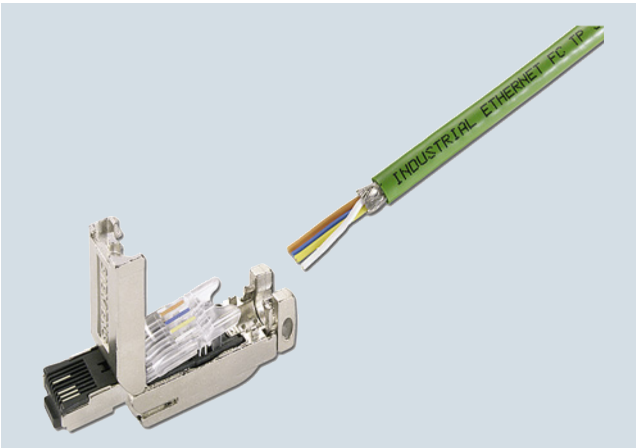
- Used for connecting PROFIBUS nodes to the PROFIBUS bus cable
- Easy installation
- FastConnect plugs ensure extremely short assembly times due to their insulation-displacement technology
- Integrated terminating resistors (not in the case of 6ES7972-0BA30-0XA0)
- Connectors with Sub-D socket permit PG connection without the additional installation of network nodes

Ordering data

	Article No.
RS 485 bus connector with axial cable outlet (180°)	**6GK1500-0EA02**
For industrial PC, SIMATIC HMI OP, OLM; max. transmission rate 12 Mbps	
SIPLUS DP PB RS 485 connector with axial cable outlet (180°)	**6AG1500-0EA02-2AA0**
For exposure to media; Based-on 6GK1 500-0EA02	
RS 485 bus connector with cable outlet (90°)	
With screw-terminals, max. transmission rate 12 Mbps	
• Without PG interface	**6ES7972-0BA12-0XA0**
• With PG interface	**6ES7972-0BB12-0XA0**
SIPLUS DP PB RS 485 connector with 90° cable outlet	
For extended temperature range -25 … +60 °C	
• Without PG interface Based on 6ES7 972-0BA12-0XA0	**6AG1972-0BA12-2XA0**
• With PG interface Based on 6ES7 972-0BB12-0XA0	**6AG1972-0BB12-2XA0**
RS 485 bus connector with angled cable outlet (35°)	
With screw-terminals, max. transmission rate 12 Mbps	
• Without PG interface	**6ES7972-0BA42-0XA0**
• With PG interface	**6ES7972-0BB42-0XA0**
SIPLUS DP PB RS 485 connector with inclined cable outlet (35°)	
For extended temperature range -25 … +60 °C	
• Without PG interface Based on 6ES7 942-0BA42-0XA0	**6AG1972-0BA42-7XA0**
• With PG interface Based on 6ES7 942-0BB42-0XA0	**6AG1972-0BB42-7XA0**
RS 485 bus connector with cable outlet (30°)	**6ES7972-0BA30-0XA0**
With screw-terminals, low-cost variant, max. transmission rate 1.5 Mbps	

	Article No.
PROFIBUS RS 485 bus connector with FastConnect technology	
PROFIBUS FastConnect RS 485 bus connector with 90° cable outlet	
With insulation displacement, max. transmission rate 12 Mbps	
Without PG interface	
• 1 unit	**6ES7972-0BA52-0XA0**
• 100 units	**6ES7972-0BA52-0XB0**
With PG interface	
• 1 unit	**6ES7972-0BB52-0XA0**
• 100 units	**6ES7972-0BB52-0XB0**
Without PG interface, grounding via control cabinet cover	
• 1 unit	**6ES7972-0BA70-0XA0**
With PG interface, grounding via control cabinet cover	
• 1 unit	**6ES7972-0BB70-0XA0**
PROFIBUS FastConnect RS 485 bus connector with angled cable outlet (35°)	
With insulation displacement, max. transmission rate 12 Mbps	
• Without PG interface	**6ES7972-0BA61-0XA0**
• With PG interface	**6ES7972-0BB61-0XA0**
PROFIBUS FastConnect RS 485 bus connector Plug 180	**6GK1500-0FC10**
With insulation displacement terminals, with 180° cable outlet, for industrial PC, SIMATIC HMI OP, OLM; max. transmission rate 12 Mbps	
SIMATIC S5/S7 connecting cable for PROFIBUS	**6ES7901-4BD00-0XA0**
Pre-assembled with two 9-pin sub D connectors; max. transmission rate 12 Mbps; 3 m	
SIMATIC NET Manual Collection	**6GK1975-1AA00-3AA0**
Electronic manuals for communication systems, communication protocols, and communication products; on DVD; German/English	

Overview



- Implementation of direct device connections over distances of up to 100 m with Industrial Ethernet FC installation cable 2 x 2 without patching
- Easy connection (insulation displacement contacts) for 4-wire Twisted Pair installation cables (100 Mbps) without the need for special tools
- Error-preventing connection technique thanks to visible connection area as well as colored blade terminals
- Industry-compatible design (rugged metal housing, no easily lost small parts)
- Excellent EMC shielding and deflection (metal housing)
- Integrated strain-relief for installation cables
- Compatible to the EN 50173 (RJ45) / ISO IEC 11801 standard
- Additional strain and bending relief of plug connector possible through latching of plug on device housing, e.g. with SCALANCE X, SCALANCE S, ET 200S.

Ordering data

Ordering data	Article No.
IE FC RJ45 plugs	
RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables	
IE FC RJ45 Plug 180	
180° cable outlet; for network components and CPs/CPUs with Industrial Ethernet interface	
• 1 pack = 1 unit	**6GK1901-1BB10-2AA0**
• 1 pack = 10 units	**6GK1901-1BB10-2AB0**
• 1 pack = 50 units	**6GK1901-1BB10-2AE0**
IE FC RJ45 Plug 90	
90° cable outlet; e.g. for ET 200S	
• 1 pack = 1 unit	**6GK1901-1BB20-2AA0**
• 1 pack = 10 units	**6GK1901-1BB20-2AB0**
• 1 pack = 50 units	**6GK1901-1BB20-2AE0**
IE FC RJ45 Plug 145	
145° cable outlet; e.g. for SIMOTION and SINAMICS	
• 1 pack = 1 unit	**6GK1901-1BB30-0AA0**
• 1 pack = 10 units	**6GK1901-1BB30-0AB0**
• 1 pack = 50 units	**6GK1901-1BB30-0AE0**
IE RJ45 Port Lock	
RJ45 Port Lock for network components and data terminal equipment with RJ45 Industrial Ethernet interface	
• 1 pack = 1 unit + key	**6GK1901-1BB50-0AA0**
IE FC Stripping Tool	**6GK1901-1GA00**
Pre-adjusted stripping tool for fast stripping of Industrial Ethernet FC cables	

	Article No.
IE FC TP standard cable GP 2 x 2 (Type A)	
4-wire, shielded TP installation cable for connection to IE FC outlet RJ45/ IE FC RJ45 plug; PROFINET-compatible; with UL approval;	
Sold by the meter	
max. length 1000 m; minimum order 20 m	**6XV1840-2AH10**
Preferred length	
• 20 m	**6XV1840-2AN20**
• 50 m	**6XV1840-2AN50**
• 100 m	**6XV1840-2AT10**
• 200 m	**6XV1840-2AT20**
• 500 m	**6XV1840-2AT50**
• 1000 m	**6XV1840-2AU10**
IE FC TP flexible cable GP 2 x 2 (Type B)	**6XV1870-2B**
4-wire, shielded TP installation cable for connection to IE FC outlet RJ45/ IE FC RJ45 plug for occasional movement; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m	
IE FC TP trailing cable GP 2 x 2 (Type C)	**6XV1870-2D**
4-wire, shielded TP installation cable for connection to IE FC outlet RJ45/ IE FC RJ45 plug for use as trailing cable; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m	

IE FC RJ45 plug 2 x 2

Ordering data

	Article No.
IE FC TP trailing cable 2 x 2 (Type C) 4-wire, shielded TP installation cable for connection to IE FC outlet RJ45/ IE FC RJ45 plug 180/90 for use in trailing cables; PROFINET-compatible; without UL approval; sold by the meter; max. length 1000 m, minimum order 20 m	**6XV1840-3AH10**
IE TP torsion cable GP 2 x 2 (Type C) 4-wire, shielded TP installation cable for connection to IE FC outlet RJ45/ IE FC RJ45 plug for use with robots; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m	**6XV1870-2F**
IE FC TP marine cable 2 x 2 (Type B) 4-wire, shielded TP installation cable for connection to IE FC outlet RJ45/ IE FC RJ45 plug 180/90; marine approval; max. length 1000 m, minimum order 20 m	**6XV1840-4AH10**
IE FC TP FRNC cable GP 2 x 2 (Type B) 4-wire, shielded, halogen-free TP installation cable for connection to IE FC outlet RJ45/ IE FC RJ45 plug for occasional movement; PROFINET-compliant; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m	**6XV1871-2F**
IE FC TP festoon cable GP 2 x 2 (Type B) 4-wire, shielded TP installation cable for connection to IE FC outlet RJ45/IE FC RJ45 plug 180/90 for use in festoon applications; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order 20 m	**6XV1871-2S**

	Article No.
IE FC TP food cable GP 2 x 2 (Type C) 4-wire, shielded TP installation cable for connection to IE FC outlet RJ45/ IE FC RJ45 plug 180/90 for the food and beverages industry; PROFINET-compatible; sold by the meter; max. length 1000 m, minimum order 20 m	**6XV1871-2L**
IE TP ground cable 2x2 (Type C) 4-wire, shielded TP installation cable for connection to IE FC outlet RJ45/ IE FC RJ45 plug 180/90 (after removal of additional outer sheath) for laying in soil; PROFINET-compatible; sold by the meter; max. length 1000 m, minimum order 20 m	**6XV1871-2G**
IE TP train cable GP 2x2 (Type C) 4-wire, shielded TP installation cable for connection to IE FC outlet RJ45/IE FC RJ45 plug 180/90 for railway applications; PROFINET-compatible; sold by the meter; max. length 1000 m, minimum order 20 m	**6XV1871-2T**
IE FC blade cassettes (5 mm) Replacement blade cassette for the Industrial Ethernet stripping tool; for use with IE FC RJ45 plugs and Modular Outlet, 5 items	**6GK1901-1GB01**

Appendix

7

Your benefit from practical training directly from the manufacturer

SITRAIN – Training for Industry – provides you with comprehensive support in solving your tasks.

Training directly from the manufacturer enables you to make correct decisions with confidence.

Increased profits and lower costs:

- Shorter times for commissioning, maintenance and servicing
- Optimized production operations
- Reliable configuration and commissioning
- Shortened startup times, reduced downtimes, and faster troubleshooting
- Exclude expensive planning errors right from the outset
- Flexible plant adaptation to market requirements
- Compliance with quality standards in production
- Increased employee satisfaction and motivation
- Shorter familiarization times following changes in technology and staff

Contact

Visit our site on the Internet at:
www.siemens.com/sitrain

or let us advise you personally. You can request our latest training catalog from:

SITRAIN – Training for Industry
SITRAIN Customer Support Germany:

Tel.: +49 911 895-7575
Fax: +49 911 895-7576

Email: info@sitrain.com

Your benefits with SITRAIN – Training for Industry

Certified top trainers

Our trainers are skilled specialists with practical experience. Course developers have close contact with product development, and pass on their knowledge to the trainers and then to you.

Practical application with practice

Practice, practice, practice! We have designed the trainings with an emphasis on practical exercises. They take up to half of the course time in our trainings. You can therefore implement your new knowledge in practice even faster.

300 courses in more than 60 countries

We offer a total of about 300 classroom-based courses. You can find us at more than 50 locations in Germany, and in 62 countries worldwide. You can find which course is offered at which location at:
www.siemens.com/sitrain

Skills development

Do you want to develop skills and fill in gaps in your knowledge?

Our solution:
We will provide a program tailored exactly to your personal requirements.

After an individual requirements analysis, we will train you in our training centers near you or directly at your offices.

You will practice on the most modern training equipment with special exercise units. The individual training courses are optimally matched to each other and help with the continuous development of knowledge and skills. After finishing a training module, the follow-up measures make success certain, as well as the refreshment and deepening of the knowledge gained.

Operating system licenses for SIMATIC PC/PG

The accompanying operating system license is only valid for installation on the supplied SIMATIC PC/PG.

Installation can only be performed on these SIMATIC systems in accordance with Microsoft OEM licensing regulations.

Standards UL (U) and CSA (C)

All HMI products comply with the standards UL (U) and CSA (C), or the approval procedure has been applied for.

Products which have no approval are specially marked (see ordering data of the products).

CE marking

The electronic products described in this catalog comply with the requirements and protection objectives of the following EC-directives insofar as they relate to the product concerned. They also comply with the corresponding harmonized European standards (EN) published for these products in the Official Journals of the European Community.

- Directive 2004/108/EC of the European Parliament and Council on the approximation of the laws of the Member States relating to electromagnetic compatibility (EMC Directive)
- Directive 2006/95/EC of the European Parliament and of the Council on the harmonization of the laws of the Member States relating to electrical equipment designed for use within certain voltage limits (Low Voltage Directive)
- Directive 94/9/EC of the European Parliament and the Council on approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres (ATEX Directive)
- Directive 1999/5/EC of the European Parliament and of the Council on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity (RTTE Directive)

The originals of the declarations of conformity are kept available for the responsible supervisory authorities at:

SIMATIC PLC / HMI:

Siemens Aktiengesellschaft
DF FA MF QM
Postfach 4848
90327 Nürnberg
Germany

SIMATIC IPC:

Siemens Aktiengesellschaft
DF FA AS DH KHE
Oestliche Rheinbrueckenstr. 50
76187 Karlsruhe
Germany

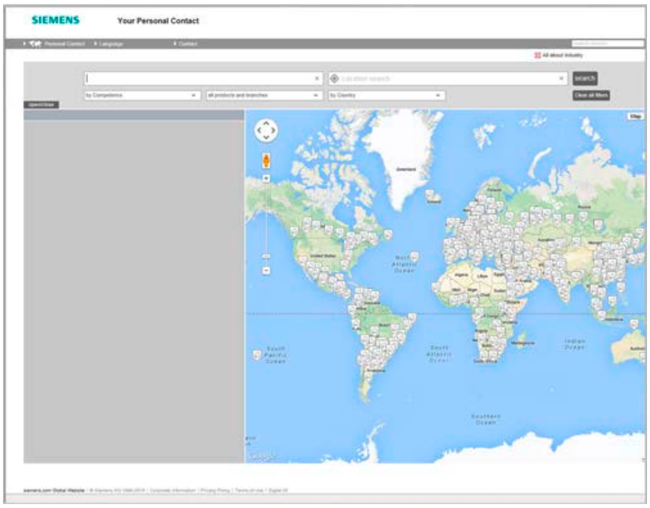
SIMATIC NET:

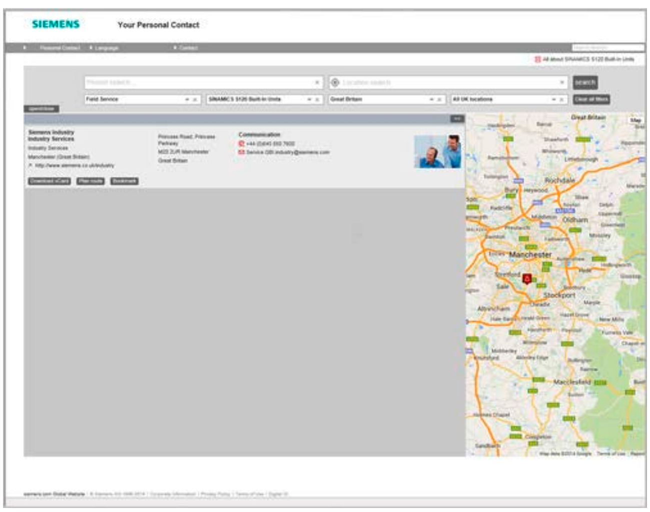
Siemens Aktiengesellschaft
Industry Sector
PD PA CI
Postfach 4848
90327 Nürnberg
Germany

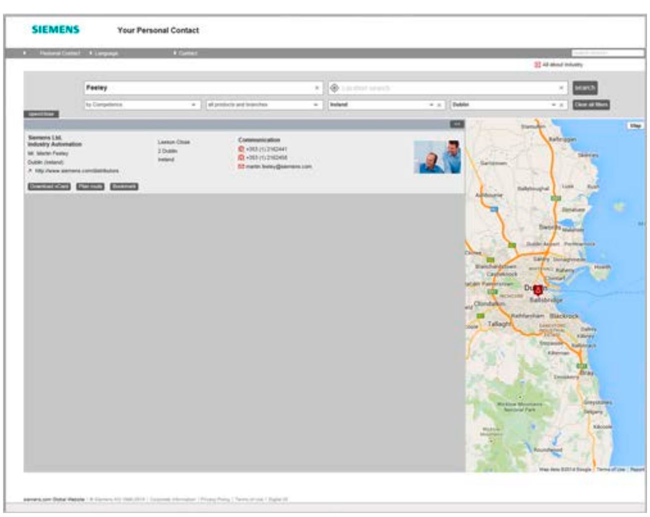
Note on the EMC Directive:

The installation instructions in the manuals must be adhered to when installing and operating the products described in this catalog. These contain, for example, important information on installation in cabinets and on the use of shielded cables.

Overview







At Siemens we are resolutely pursuing the same goal: long-term improvement of your competitive ability.
We are committed to this goal. Thanks to our commitment, we continue to set new standards in automation and drive technology. In all industries – worldwide.

At your service locally, around the globe for consulting, sales, training, service, support, spare parts on the entire portfolio of Digital Factory and Process Industries and Drives.

Your partner can be found in our Personal Contacts Database at:
www.siemens.com/automation-contact

You start by selecting

- the required competence,
- products and branches,
- a country,
- a city

or by a

- location search or
- person search.

Overview

The WinCC Competence Centers are Siemens-internal partners. They offer a wide range of products and services designed to make optimal economic and system-oriented use of the openness and integration capability of WinCC.

In addition to the development of standard solutions/add-on products, they are authorized to implement customized/industry-specific solutions in the areas of application development and system integration on the basis of WinCC.

The portfolio is rounded off with consulting services, project-related training, and workshops for decision-makers and users.

Sector competence in addition to automation expertise and WinCC system know-how ensure professional and efficient solutions. The software is, of course, developed in compliance with recognized standards on the basis of certified quality management in accordance with ISO 9001.

You can find more information on the Internet at:
www.siemens.com/wincc-competence-center

Siemens Partner Program

Overview

Siemens Solution and Approved Partners

Highest competence in automation and drive technology as well as power distribution

Siemens works closely together with selected partner companies around the world in order to ensure that customer requirements for all aspects of automation and drives, as well as power distribution, are fulfilled as best as possible – wherever you are, and whatever the time. It is for this reason that we systematically train and keep our partners well prepared, in addition to certifying them in specific technologies. It is our declared intention and goal to train and prepare our partners to the same standards as our own employees.

This approach is based on contractually agreed quality criteria as well as optimum support for our partners by providing clearly-defined processes. This ensures that they possess all the qualities to meet customer requirements optimally. The partner emblem is the guarantee and indicator of proven quality.

Solution Partners and Approved Partners

The Siemens Partner Program distinguishes between Solution Partners and Approved Partners.

At present we are working with more than 1,400 Solution Partners worldwide. They represent countless tailored and future-proof automation and drive solutions in the most diverse industries.

With their extensive technical product knowledge, Siemens Approved Partners offer a combination of goods and services that include specialist technologies, customized modifications and the provision of high-quality system and product packages. They also provide qualified technical support and assistance

Partner Finder

In the Siemens global Partner program, customers are certain to find the optimum partner for their specific requirements - with no great effort. The Partner Finder is basically a comprehensive database that showcases the profiles of all our solution partners.

Easy selection:
Set filters in the search screen form according to the criteria that are relevant to you. You can also directly enter the name of an existing partner.

Skills at a glance:
Gain a quick insight into the specific competencies of any particular partner with the reference reports.

Direct contact option:
Use our electronic query form:

www.siemens.com/partnerfinder

Additional information on the Siemens Partner Program is available online at:

www.siemens.com/partner-program

Automation and drive technology training made easy

Unique support for educators and students in educational institutions

Siemens Automation Cooperates with Education (SCE) offers a global system for sustained support of technical skills. SCE supports educational institutions in their teaching assignment in the industrial automation sector and offers added value in the form of partnerships, technical expertise, and know-how. As the technological leader, our comprehensive range of services can support you in the knowledge transfer for Industry 4.0.

Our services at a glance

- Training curriculums for your lessons
- Trainer packages for hands-on learning
- Courses convey up-to-date specialist knowledge
- Support for your projects / textbooks
- Complete didactic solutions from our partners
- Personal contact for individual support

Training curriculums for your lessons

Use our profound industrial know-how for practiceoriented and individual design of your course. We offer you more than 100 didactically prepared training curriculums on the topics of automation and drives technology free of charge. These materials are perfectly matched to your curricula and syllabuses, and optimally suited for use with our trainer packages. This takes into account all aspects of a modern industrial solution: installation, configuration, programming, and commissioning. All documents, including projects, can be individually matched to your specific requirements.

Particular highlights:

- The new SIMATIC PCS 7 curriculums and trainer packages. Using plant simulation, you can pass on basic, practice-oriented PCS 7 knowledge at universities within about 60 hours (= 1 semester).
- The new TIA Portal training materials for SIMATIC S7-1500 / S7-1200 / S7-300 are available in English, German, French, Italian, Spanish, Portuguese and Chinese for download.

www.siemens.com/sce/curriculums

Trainer packages for hands-on learning

Our SCE trainer packages offer a specific combination of original industrial automation and drives components which are perfectly matched to your requirements and can be conveniently used in your course. These price-reduced bundles available exclusively to schools include innovative and flexible hardware and software packages.
We currently offer more than 80 SCE trainer packages including the complete accessories. These cover both the factory and process automation sectors. You can use them to impart the complete course contents on industrial automation at a very low cost.

Trainer packages are available for:

- Introduction to automation technology with LOGO! logic module
- PLC engineering with SIMATIC S7 hardware and STEP 7 software (S7-1500, S7-1200, S7-300 and TIA Portal)
- Operator control and monitoring with SIMATIC HMI
- Industrial networking over bus systems with SIMATIC NET (PROFINET, PROFIBUS, IO-Link)
- Sensor systems with VISION, RFID and SIWAREX
- Process automation with SIMATIC PCS 7
- Networked drive and motion technologies with SINAMICS/SIMOTION
- Power Monitoring Devices SENTRON PAC 4200
- Motor Management SIMOCODE
- CNC programming with SinuTrain

Important ordering notes:

Only the following institutions are authorized to obtain trainer packages: vocational colleges, vocational training institutes, schools for technicians, technical schools, universities and universities of applied sciences, non-profit research institutions and in-house initial vocational training centers.

To purchase a trainer package, you require a specific end-use certificate, which you can obtain from your regional sales office.

www.siemens.com/sce/tp

Automation and drive technology training made easy

Unique support for educators and students in educational institutions (continued)

Courses convey up-to-date specialist knowledge

Profit from our excellent know-how as the leader in industrial technologies. We offer you specific courses for automation and drive technology worldwide. These support you in the practice-oriented transferring of product and system know-how, are in conformance with curriculums, and derived from the training fields. Compact technical courses especially for use at universities are also available.

Our range of courses comprises a wide variety of training modules based on the principle of Totally Integrated Automation (TIA). The focus is on the same subject areas as with the SCE trainer packages.

Every PLC and drive course is oriented on state-of-the-art technology. Your graduates can thus be prepared optimally for their future professional life.

In some countries we are offering classes based on our training curriculums. Please inquire with your SCE contact partner.

www.siemens.com/sce/courses

Support for your projects/textbooks

Automation and drive technology is characterized by continuous and rapid developments. Service and Support therefore play an important role.

We can provide you with consulting for selected projects and support from your personal SCE contact as well as our regional Customer Support.

As a particular service, SCE supports technical authors with our know-how as well as with intensive technical consulting. Siemens library of special textbooks covering the industrial automation sector provides an additional resource for you and your students. These can be found at the SCE web site.

www.siemens.com/sce/contact
www.siemens.com/sce/books

Complete didactic solutions from our partners

Our partners for learning systems offer a wide range of training systems and solutions for use in your courses or laboratory.

These models have been designed based on our trainer packages and thus save you the time and cost of selfconstruction of individual components. The Partner systems provide you with simple and effective help in the fulfillment of your teaching assignment.

www.siemens.com/sce/partner

Contact for individual support

You can find your personal SCE contact on our Internet site. Your local SCE Promoter will answer all your questions concerning the complete SCE offering, and provide you with timely and competent information about innovations. When you encounter challenges, you can profit from our global team of excellence.

If a direct SCE contact is not listed for your country, please contact your local Siemens office.

www.siemens.com/sce/contact

SCE Support Finder for your Internet request

You are an educator and need support on the topic of industry automation? Send us your request:

www.siemens.com/sce/supportfinder

Discover
SCE

The Future of Manufacturing on the Internet

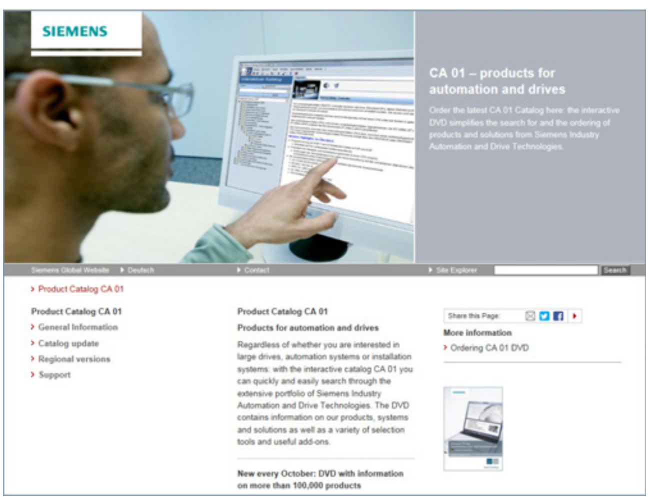
Detailed knowledge of the range of products and services available is essential when planning and engineering automation systems. It goes without saying that this information must always be as up-to-date as possible.

Industry is on the threshold of the fourth industrial revolution as digitization now follows after the automation of production. The goals are to increase productivity and efficiency, speed, and quality. In this way, companies can remain competitive on the path to the future of industry.

You will find everything you need to know about products, systems and services on the internet at:

www.siemens.com/industry

Product Selection Using the Interactive CA 01 Automation and Drives Catalog



Detailed information together with user-friendly interactive functions:
The CA 01 interactive catalog covers more than 100,000 products, thus providing a comprehensive overview of the product range provided by Siemens.

You will find everything you need here for solving tasks in the fields of automation, switching, installation and drives.
All information is provided over a user interface that is both user-friendly and intuitive.

You can order the CA 01 product catalog from your Siemens sales contact or in the Information and Download Center:

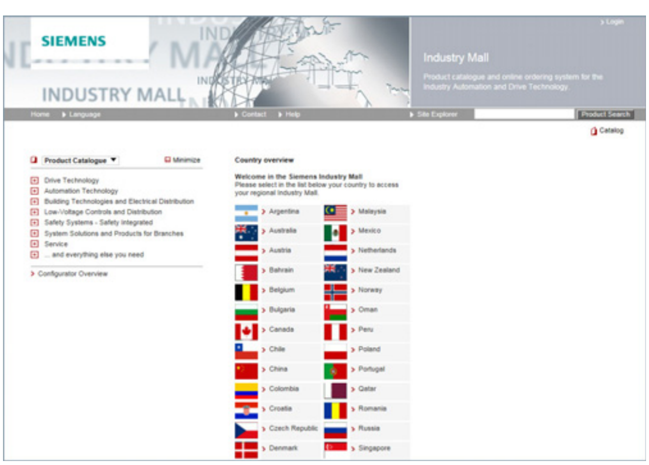
www.siemens.com/industry/infocenter

Information about the CA 01 interactive catalog can be found on the Internet at:

www.siemens.com/automation/ca01

or on DVD.

Easy Shopping with the Industry Mall



The Industry Mall is the electronic ordering platform of Siemens AG on the Internet. Here you have online access to a huge range of products presented in an informative and attractive way.

Data transfer via EDIFACT allows the whole procedure, from selection through ordering to tracking and tracing, to be carried out online. Availability checks, customer-specific discounts and bid creation are also possible.

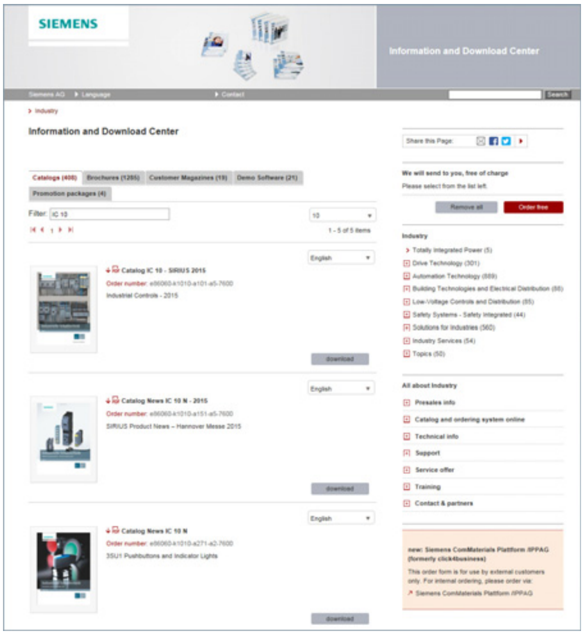
Numerous additional functions are provided for your support. For example, powerful search functions make it easy to select the required products. Configurators enable you to configure complex product and system components quickly and easily. CAx data types are also provided here.

You can find the Industry Mall on the Internet at:

www.siemens.com/industrymall

Information and Download Center, Social Media, Mobile Media

Downloading Catalogs



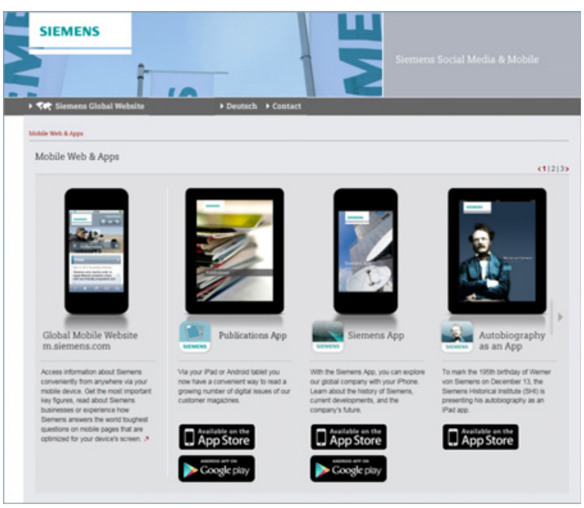
In addition to numerous other useful documents, you can also find the catalogs listed on the back inside cover of this catalog in the Information and Download Center. You can download these catalogs in PDF format without having to register.

The filter dialog above the first catalog displayed makes it possible to carry out targeted searches. If you enter "MD 3" for example, you will find both the MD 30.1 and MD 31.1 catalogs. If you enter "IC 10", both the IC 10 catalog and the associated news or add-ons are displayed.

Visit us at:

www.siemens.com/industry/infocenter

Social and Mobile Media



Connect with Siemens through social media: visit our social networking sites for a wealth of useful information, demos on products and services, the opportunity to provide feedback, to exchange information and ideas with customers and other Siemens employees, and much, much more. Stay in the know and follow us on the ever-expanding global network of social media.

To find out more about Siemens' current social media activities, visit us at:

www.siemens.com/socialmedia

Or via our product pages at:

www.siemens.com/automation or www.siemens.com/drives

Here you can read all the news on the future of the industry, watch current videos and obtain information about all the latest industry developments.

www.siemens.com/future-of-manufacturing

Discover the "mobile" world of Siemens.

We are also constantly expanding our offering of cross-platform apps for smartphones and tablets. You will find the current Siemens apps at the App Store (iOS) or at Google Play (Android):

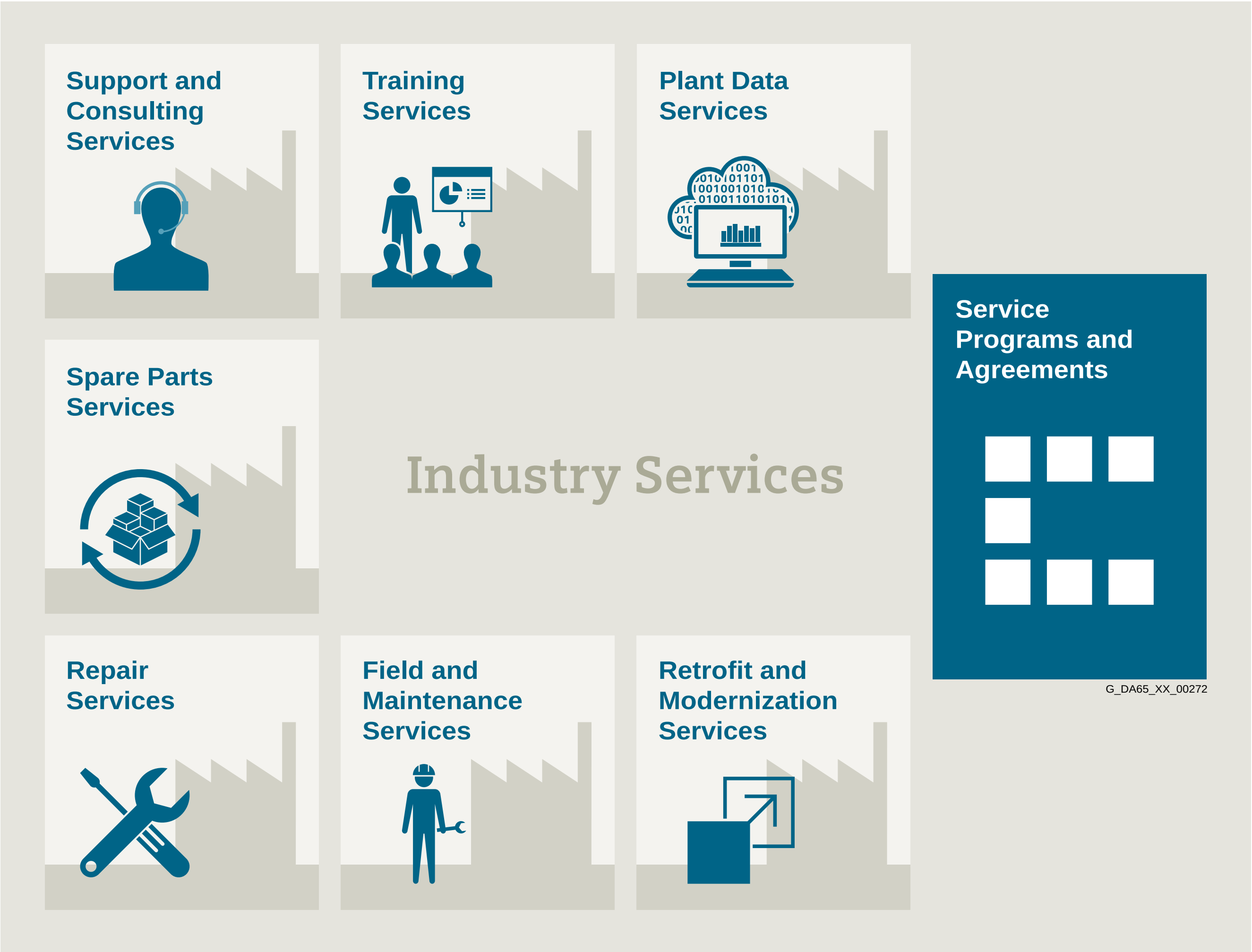
https://itunes.apple.com/en/app/siemens/id452698392?mt=8

https://play.google.com/store/search?q=siemens

The Siemens app, for example, tells you all about the history, latest developments and future plans of the company – with informative pictures, fascinating reports and the most recent press releases.

Overview

Unleash potential – with services from Siemens



Increase your performance – with Industry Services

Optimizing the productivity of your equipment and operations can be a challenge, especially with constantly changing market conditions. Working with our service experts makes it easier. We understand your industry's unique processes and provide the services needed so that you can better achieve your business goals.

You can count on us to maximize your uptime and minimize your downtime, increasing your operations' productivity and reliability. When your operations have to be changed quickly to meet a new demand or business opportunity, our services give you the flexibility to adapt. Of course, we take care that your production is protected against cyber threats. We assist in keeping your operations as energy and resource efficient as possible and reducing your total cost of ownership. As a trendsetter, we ensure that you can capitalize on the opportunities of digitalization and by applying data analytics to enhance decision making: You can be sure that your plant reaches its full potential and retains this over the longer lifespan.

You can rely on our highly dedicated team of engineers, technicians and specialists to deliver the services you need – safely, professionally and in compliance with all regulations. We are there for you, where you need us, when you need us.

Industry Services – Portfolio overview

Overview

Plant Data Services

Make your industrial processes transparent to gain improvements in productivity, asset availability, and energy efficiency.

Production data is generated, filtered and translated with intelligent analytics to enhance decision-making.

This is done whilst taking data security into consideration and with continuous protection against cyber attack threats.

www.industry.siemens.com/services/global/en/portfolio/plant-data-services/Pages/index.aspx

Support and Consulting Services

Industry Online Support site for comprehensive information, application examples, FAQs and support requests.

Technical and Engineering Support for advice and answers for all inquiries about functionality, handling, and fault clearance.

Information & Consulting Services, e.g. SIMATIC System Audit; clarity about the state and service capability of your automation system or Lifecycle Information Services; transparency on the lifecycle of the products in your plants.

www.industry.siemens.com/services/global/en/portfolio/support-consulting/Pages/index.aspx

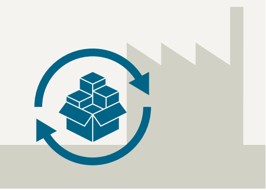
Training Services

From the basics and advanced to specialist skills, SITRAIN courses provide expertise right from the manufacturer – and encompass the entire spectrum of Siemens products and systems for the industry.

Worldwide, SITRAIN courses are available wherever you need a training course in more than 170 locations in over 60 countries.

www.industry.siemens.com/services/global/en/portfolio/training/Pages/index.aspx

Spare Parts Services



Are available worldwide for smooth and fast supply of spare parts – and thus optimal plant availability. Genuine spare parts are available for up to ten years. Logistic experts take care of procurement, transport, custom clearance, storage and order management. Reliable logistics processes ensure that components reach their destination as needed.

Asset optimization services help you design a strategy for parts supply where your investment and carrying costs are reduced and the risk of obsolescence is avoided.

www.industry.siemens.com/services/global/en/portfolio/spare_parts/Pages/index.aspx

Overview (continued)

Are offered on-site and in regional repair centers for fast restoration of faulty devices' functionality.

Also available are extended repair services, which include additional diagnostic and repair measures, as well as emergency services.

www.industry.siemens.com/services/global/en/portfolio/repair_services/Pages/index.aspx

Provide a cost-effective solution for the expansion of entire plants, optimization of systems or upgrading existing products to the latest technology and software, e.g. migration services for automation systems.

Service experts support projects from planning through commissioning and, if desired over the entire extended lifespan, e.g. Retrofit for Integrated Drive Systems for an extended lifetime of your machines and plants

www.industry.siemens.com/services/global/en/portfolio/retrofit-modernization/Pages/index.aspx

Siemens specialists are available globally to provide expert field and maintenance services, including commissioning, functional testing, preventive maintenance and fault clearance.
All services can be included in customized service agreements with defined reaction times or fixed maintenance intervals.

www.industry.siemens.com/services/global/en/portfolio/field_service/Pages/index.aspx

A technical Service Program or Agreement enables you to easily bundle a wide range of services into a single annual or multi-year agreement.

You pick the services you need to match your unique requirements or fill gaps in your organization's maintenance capabilities.
Programs and agreements can be customized as KPI-based and/or performance-based contracts.

www.industry.siemens.com/services/global/en/portfolio/service_programs/Pages/index.aspx

Online Support

Overview

Online Support is a comprehensive information system for all questions relating to products, systems, and solutions that Siemens has developed for industry over time. With more than 300,000 documents, examples and tools, it offers users of automation and drive technology a way to quickly find up-to-date information. The 24-hour service enables direct, central access to detailed product information as well as numerous solution examples for programming, configuration and application.

The content, in six languages, is increasingly multimedia-based – and now also available as a mobile app. Online support's "Technical Forum" offers users the opportunity to share information with each other. The "Support Request" option can be used to contact Siemens' technical support experts.
The latest content, software updates, and news via newsletters and Twitter ensure that industry users are always up to date.

www.siemens.com/industry/onlinesupport

Online Support App

Using the Online Support app, you can access over 300,000 documents covering all Siemens industrial products – anywhere, any time. Regardless of whether you need help implementing your project, fault-finding, expanding your system or are planning a new machine.

You have access to FAQs, manuals, certificates, characteristic curves, application examples, product notices (e.g. announcements of new products) and information on successor products in the event that a product is discontinued.

Just scan the product code printed on the product directly using the camera of your mobile device to immediately see all technical information available on this product at a glance.
The graphical CAx information (3D model, circuit diagrams or EPLAN macros) is also displayed. You can forward this information to your workplace using the e-mail function.

The search function retrieves product information and articles and supports you with a personalized suggestion list. You can find your favorite pages – articles you need frequently – under "mySupport". You also receive selected news on new functions, important articles or events in the News section.

Scan the QR code for information on our Online Support app.

The app is available free of charge from the Apple App Store (iOS) or from Google Play (Android).

https://support.industry.siemens.com/cs/ww/en/sc/2067

Siemens Service Option for SIMATIC IPC

The expanded hardware service for SIMATIC IPC products

Purchasing and registering this additional agreement for a SIMATIC IPC extends the time period for free repairs of this device to 36 months after delivery.

Scope of services of the service option within the period of service (36 months):

- Free[1)] repair during the period of service at one of our authorized repair centers near you
  The addresses of our worldwide partners can be found on the Internet at www.siemens.com/asis
- Within the agreed contractual period, Siemens will bear the costs that are incurred in the repair center (labor and materials/replacement parts), which are needed to restore the functions[2)] of the hardware
- Siemens will also assume the return shipping costs of the repaired device from the repair center to the customer

1) Wear and tear as well as problems that arise due to improper handling of the devices are not included.

2) For hard disk defects that require the system to be restored, the repair service will only cover restoring the installation to its original condition exworks. The uploading of additional application software, drivers and setting up the operating software are not covered by the free repair service.

Product family	Article No. Service Option	Article designation
SIMATIC Rack PC	**A5E00510072**	36 months service option for SIMATIC Rack PC and Box PC
• SIMATIC IPC547		
• SIMATIC IPC647		
• SIMATIC IPC847		
SIMATIC Box PC		
• SIMATIC IPC227		
• SIMATIC IPC427		
• SIMATIC IPC627		
• SIMATIC IPC827		
SIMATIC Panel PC	**A5E00509961**	36 months service option for SIMATIC Panel PC
• SIMATIC IPC277		
• SIMATIC IPC477		
• SIMATIC IPC577		
• SIMATIC IPC677		

Ordering and registering the additional agreement:

- Select the appropriate article number for the optional package based on the family of products and place your order
- Scope of delivery:
  Description of services in 4 languages + service device label with a license number for identifying the additional agreement on the device
- Activation of the service license number for a SIMATIC PC/SIMATIC PG via the Internet (www.siemens.com/ped):
  The registration must be completed within the first 90 days after initial delivery of the device!

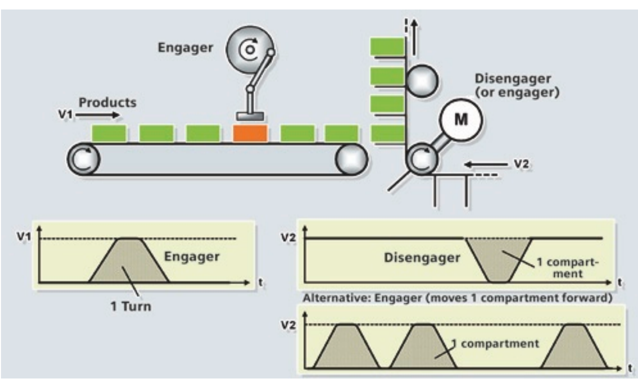
Overview

Expertise and services relating to all aspects of PC-based Automation

Do you require support with the dimensioning and options of a PC-based Automation project, or even engineering support?

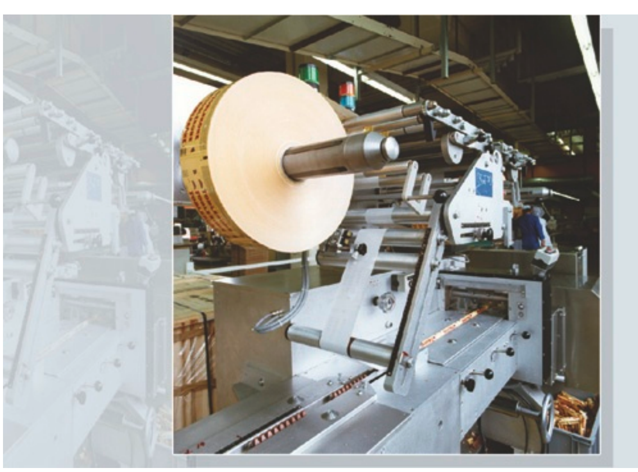
Specifically for this purpose, Siemens has established a team of specialists in Cologne and Milan who work closely with Development and Product Marketing and can thus provide our sales departments worldwide with competent support in PC-based Automation.

Our core competencies



- Design of PC-based Automation systems from Siemens
- Integrated, customer-specific technology (add-ons) using high-level languages (C++) in Windows or real-time environments
- Knowledge transfer/workshops for the integration of third-party components, as well as for applications using the Open Development Kit (ODK)
- Technology and application know-how
- Development of add-ons for WinAC and WinCC flexible

Reference applications



- Fast recording of measured values
- Software blocks for drives library
- Customer-specific communications via Ethernet (OPC/ActiveX, TCP socket)
- Synchronous operation, flying shear, table interpolation for electric and hydraulic axes
- Integration of PCI cards into PC-based Automation applications (e.g. WinAC and ASi-Bus)
- Customer-specific development and integration of C++ programs
- Database connections
- Integration of complex control algorithms

Contacts

Activation of the Competence Centers for your application via your regional contact.

If you do not yet have a contact person in your region, just go to:
http://www.siemens.com/automation/partner

The latest information about the workshops offered can be found on the Internet:
http://www.siemens.com/pc-based

Overview

Software types

Software requiring a license is categorized into types.
The following software types have been defined:

- Engineering software
- Runtime software

Engineering software

This includes all software products for creating (engineering) user software, e.g. for configuring, programming, parameterizing, testing, commissioning or servicing.

Data generated with engineering software and executable programs can be duplicated for your own use or for use by third-parties free-of-charge.

Runtime software

This includes all software products required for plant/machine operation, e.g. operating system, basic system, system expansions, drivers, etc.

The duplication of the runtime software and executable programs created with the runtime software for your own use or for use by third-parties is subject to a charge.

You can find information about license fees according to use in the ordering data (e.g. in the catalog). Examples of categories of use include per CPU, per installation, per channel, per instance, per axis, per control loop, per variable, etc.

Information about extended rights of use for parameterization/configuration tools supplied as integral components of the scope of delivery can be found in the readme file supplied with the relevant product(s).

License types

Siemens Industry Automation & Drive Technologies offers various types of software license:

- Floating license
- Single license
- Rental license
- Rental floating license
- Trial license
- Demo license
- Demo floating license

Floating license

The software may be installed for internal use on any number of devices by the licensee. Only the concurrent user is licensed. The concurrent user is the person using the program. Use begins when the software is started.
A license is required for each concurrent user.

Single license

Unlike the floating license, a single license permits only one installation of the software per license.

The type of use licensed is specified in the ordering data and in the Certificate of License (CoL). Types of use include for example per instance, per axis, per channel, etc.

One single license is required for each type of use defined.

Rental license

A rental license supports the "sporadic use" of engineering software. Once the license key has been installed, the software can be used for a specific period of time (the operating hours do not have to be consecutive).
One license is required for each installation of the software.

Rental floating license

The rental floating license corresponds to the rental license, except that a license is not required for each installation of the software. Rather, one license is required per object (for example, user or device).

Trial license

A trial license supports "short-term use" of the software in a non-productive context, e.g. for testing and evaluation purposes.
It can be transferred to another license.

Demo license

The demo license support the "sporadic use" of engineering software in a non-productive context, for example, use for testing and evaluation purposes. It can be transferred to another license. After the installation of the license key, the software can be operated for a specific period of time, whereby usage can be interrupted as often as required.

One license is required per installation of the software.

Demo floating license

The demo floating license corresponds to the demo license, except that a license is not required for each installation of the software. Rather, one license is required per object (for example, user or device).

Certificate of License (CoL)

The CoL is the licensee's proof that the use of the software has been licensed by Siemens. A CoL is required for every type of use and must be kept in a safe place.

Downgrading

The licensee is permitted to use the software or an earlier version/release of the software, provided that the licensee owns such a version/release and its use is technically feasible.

Delivery versions

Software is constantly being updated.
The following delivery versions

- PowerPack
- Upgrade

can be used to access updates.

Existing bug fixes are supplied with the ServicePack version.

PowerPack

PowerPacks can be used to upgrade to more powerful software. The licensee receives a new license agreement and CoL (Certificate of License) with the PowerPack. This CoL, together with the CoL for the original product, proves that the new software is licensed.
A separate PowerPack must be purchased for each original license of the software to be replaced.

Upgrade

An upgrade permits the use of a new version of the software on the condition that a license for a previous version of the product is already held.
The licensee receives a new license agreement and CoL with the upgrade. This CoL, together with the CoL for the previous product, proves that the new version is licensed.
A separate upgrade must be purchased for each original license of the software to be upgraded.

Software licenses

Overview

ServicePack

ServicePacks are used to debug existing products. ServicePacks may be duplicated for use as prescribed according to the number of existing original licenses.

License key

Siemens Industry Automation & Drive Technologies supplies software products with and without license keys.

The license key serves as an electronic license stamp and is also the "switch" for activating the software (floating license, rental license, etc.).

The complete installation of software products requiring license keys includes the program to be licensed (the software) and the license key (which represents the license).

Software Update Service (SUS)

As part of the SUS contract, all software updates for the respective product are made available to you free of charge for a period of one year from the invoice date. The contract will automatically be extended for one year if it is not canceled three months before it expires.

The possession of the current version of the respective software is a basic condition for entering into an SUS contract.

You can download explanations concerning license conditions from www.siemens.com/automation/salesmaterial-as/catalog/en/terms_of_trade_en.pdf

1. General Provisions

By using this catalog you can acquire hardware and software products described therein from Siemens AG subject to the following Terms and Conditions of Sale and Delivery (hereinafter referred to as "T&C"). Please note that the scope, the quality and the conditions for supplies and services, including software products, by any Siemens entity having a registered office outside Germany, shall be subject exclusively to the General Terms and Conditions of the respective Siemens entity. The following T&C apply exclusively for orders placed with Siemens Aktiengesellschaft, Germany.

1.1 For customers with a seat or registered office in Germany

For customers with a seat or registered office in Germany, the following applies subordinate to the T&C:

- the "General Terms of Payment"[1] and,
- for software products, the "General License Conditions for Software Products for Automation and Drives for Customers with a Seat or Registered Office in Germany"[1] and,
- for other supplies and services, the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry"[1].

1.2 For customers with a seat or registered office outside Germany

For customers with a seat or registered office outside Germany, the following applies subordinate to the T&C:

- the "General Terms of Payment"[1] and,
- for software products, the "General License Conditions for Software Products for Automation and Drives for Customers with a Seat or Registered Office outside of Germany"[1] and
- for other supplies and/or services, the "General Conditions for Supplies of Siemens Industry for Customers with a Seat or Registered Office outside of Germany"[1].

2. Prices

The prices are in € (Euro) ex point of delivery, exclusive of packaging.

The sales tax (value added tax) is not included in the prices. It shall be charged separately at the respective rate according to the applicable statutory legal regulations.

Prices are subject to change without prior notice. We will charge the prices valid at the time of delivery.

To compensate for variations in the price of raw materials (e.g. silver, copper, aluminum, lead, gold, dysprosium and neodym), surcharges are calculated on a daily basis using the so-called metal factor for products containing these raw materials. A surcharge for the respective raw material is calculated as a supplement to the price of a product if the basic official price of the raw material in question is exceeded.

The metal factor of a product indicates the basic official price (for those raw materials concerned) as of which the surcharges on the price of the product are applied, and with what method of calculation.

An exact explanation of the metal factor can be downloaded at:

www.siemens.com/automation/salesmaterial-as/catalog/en/terms_of_trade_en.pdf

To calculate the surcharge (except in the cases of dysprosium and neodym), the official price from the day prior to that on which the order was received or the release order was effected is used.

To calculate the surcharge applicable to dysprosium and neodym ("rare earths"), the corresponding three-month basic average price in the quarter prior to that in which the order was received or the release order was effected is used with a one-month buffer (details on the calculation can be found in the explanation of the metal factor).

3. Additional Terms and Conditions

The dimensions are in mm. In Germany, according to the German law on units in measuring technology, data in inches apply only to devices for export.

Illustrations are not binding.

Insofar as there are no remarks on the individual pages of this catalog - especially with regard to data, dimensions and weights given - these are subject to change without prior notice.

4. Export regulations

We shall not be obligated to fulfill any agreement if such fulfillment is prevented by any impediments arising out of national or international foreign trade or customs requirements or any embargoes and/or other sanctions.

Export of goods listed in this catalog may be subject to licensing requirements. We will indicate in the delivery details whether licenses are required under German, European and US export lists. Goods labeled with "AL" not equal to "N" are subject to European or German export authorization when being exported out of the EU. Goods labeled with "ECCN" not equal to "N" are subject to US re-export authorization.

The export indications can be viewed in advance in the description of the respective goods on the Industry Mall, our online catalog system. Only the export labels "AL" and "ECCN" indicated on order confirmations, delivery notes and invoices are authoritative.

Even without a label, or with label "AL:N" or "ECCN:N", authorization may be required i .a. due to the final disposition and intended use of goods.

If you transfer goods (hardware and/or software and/or technology as well as corresponding documentation, regardless of the mode of provision) delivered by us or works and services (including all kinds of technical support) performed by us to a third party worldwide, you must comply with all applicable national and international (re-)export control regulations.

If required for the purpose of conducting export control checks, you (upon request by us) shall promptly provide us with all information pertaining to the particular end customer, final disposition and intended use of goods delivered by us respectively works and services provided by us, as well as to any export control restrictions existing in this relation.

The products listed in this catalog may be subject to European/German and/or US export regulations. Any export requiring approval is therefore subject to authorization by the relevant authorities.

Errors excepted and subject to change without prior notice.

[1] The text of the Terms and Conditions of Siemens AG can be downloaded at www.siemens.com/automation/salesmaterial-as/catalog/en/terms_of_trade_en.pdf

Catalogs

Digital Factory, Process Industries and Drives and Energy Management

Further information can be obtained from our branch offices listed at www.siemens.com/automation-contact

Interactive Catalog on DVD	*Catalog*
Products for Automation and Drives	**CA 01**

Building Control	
GAMMA Building Control	ET G1

Drive Systems	
SINAMICS G130 Drive Converter Chassis Units SINAMICS G150 Drive Converter Cabinet Units	D 11
SINAMICS GM150, SINAMICS SM150 Medium-Voltage Converters	D 12
SINAMICS PERFECT HARMONY GH180 Medium-Voltage Air-Cooled Drives (Germany Edition)	D 15.1
SINAMICS G180 Converters – Compact Units, Cabinet Systems, Cabinet Units Air-Cooled and Liquid-Cooled	D 18.1
SINAMICS S120 Chassis Format Units and Cabinet Modules SINAMICS S150 Converter Cabinet Units	D 21.3
SINAMICS S120 and SIMOTICS	D 21.4
SINAMICS DCM DC Converter, Control Module	D 23.1
SINAMICS Inverters for Single-Axis Drives and SIMOTICS Motors	D 31
Digital: SINAMICS G120P and SINAMICS G120P Cabinet pump, fan, compressor converters	*D 35*
LOHER VARIO High Voltage Motors Flameproof, Type Series 1PS4, 1PS5, 1MV4 and 1MV5 Frame Size 355 to 1000, Power Range 80 to 7100 kW	D 83.2
Three-Phase Induction Motors SIMOTICS HV, SIMOTICS TN	D 84.1
High Voltage Three-phase Induction Motors SIMOTICS HV Series A-compact PLUS	D 84.9
Three-Phase Induction Motors SIMOTICS HV, Series H-compact	D 86.1
Synchronous Motors with Permanent-Magnet Technology, HT-direct	D 86.2
DC Motors	DA 12
SIMOREG DC MASTER 6RA70 Digital Chassis Converters	DA 21.1
SIMOREG K 6RA22 Analog Chassis Converters	DA 21.2
Digital: SIMOREG DC MASTER 6RM70 Digital Converter Cabinet Units	*DA 22*
SIMOVERT PM Modular Converter Systems	DA 45
SIEMOSYN Motors	DA 48
MICROMASTER 420/430/440 Inverters	DA 51.2
MICROMASTER 411/COMBIMASTER 411	DA 51.3
<u>Low-Voltage Three-Phase-Motors</u>	
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SIMOTICS Low-Voltage Motors	D 81.1
SIMOTICS FD Low-Voltage Motors	D 81.8
LOHER Low-Voltage Motors	D 83.1
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SIMOGEAR Electric-monorail geared motors Light-load and heavy-load applications	MD 50.8
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FLENDER High Performance Couplings	MD 10.2
FLENDER Backlash-free Couplings	MD 10.3
FLENDER SIP Standard industrial planetary gear units	MD 31.1

Process Instrumentation and Analytics	
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Digital: Display Recorders SIREC D	*MP 20*
Digital: SIPART Controllers and Software	*MP 31*
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Process Analytical Instruments	AP 01
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Low-Voltage Power Distribution and Electrical Installation Technology	*Catalog*
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SIMOTION Equipment for Production Machines	PM 21
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Industrial Communication	IK PI

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Please note the section "Downloading catalogs" on page "Online services" in the appendix of this catalog.

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Security information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions only form one element of such a concept.

Customer is responsible to prevent unauthorized access to its plants, systems, machines and networks. Systems, machines and components should only be connected to the enterprise network or the internet if and to the extent necessary and with appropriate security measures (e.g. use of firewalls and network segmentation) in place.

Additionally, Siemens' guidance on appropriate security measures should be taken into account.
For more information about industrial security, please visit
http://www.siemens.com/industrialsecurity

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends to apply product updates as soon as available and to always use the latest product versions.
Use of product versions that are no longer supported, and failure to apply latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under
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