



4/3	Industrial PC	4/195	Devices for hazardous areas
4/3	Introduction	4/199	SIMATIC HMI Panel PC Ex NG
4/5	<u>Rack PC</u>	4/197	SIMATIC HMI Panel PC Ex OG
4/5	Introduction	4/202	SIMATIC HMI Panel PC Ex
4/9	SIMATIC IPC347E	4/205	SIMATIC HMI Thin Client Ex NG
4/13	SIMATIC IPC547G	4/207	SIMATIC HMI Thin Client Ex OG
4/19	SIMATIC IPC647E NEW	4/210	SIMATIC HMI Thin Client Ex2
4/23	SIMATIC IPC647D	4/212	<u>IPC software</u>
4/29	SIMATIC IPC847E NEW	4/213	SIMATIC IPC Image & Partition Creator
4/34	SIMATIC IPC847D	4/214	SIMATIC IPC DiagMonitor
4/40	SIMATIC IPC1047 NEW	4/215	SIMATIC IPC Remote Manager
4/43	<u>Box PC</u>	4/216	SIMATIC IPC BIOS-Manager
4/43	Introduction	4/217	SIMATIC Industrial OS NEW
4/49	SIMATIC IPC127E NEW	4/218	<u>Embedded Bundles/SW packages</u>
4/54	SIMATIC IPC227E	4/218	Introduction
4/57	SIMATIC IPC327E	4/219	SIMATIC IPC227E bundles
4/60	SIMATIC IPC427E	4/220	SIMATIC IPC427E bundles and starter systems
4/63	SIMATIC IPC427D	4/222	SIMATIC IPC277E bundles
4/66	SIMATIC IPC627E NEW	4/223	SIMATIC IPC477E bundles and starter systems
4/70	SIMATIC IPC627D	4/225	SIMATIC IPC477E PRO bundles NEW
4/74	SIMATIC IPC827D	4/226	Software packages for SIMATIC IPCs
4/78	<u>Panel PC</u>	4/228	Industrial IoT Gateway
4/78	Introduction	4/228	SIMATIC IOT2000
4/83	SIMATIC IPC277E	4/229	SIMATIC IOT2040
4/86	SIMATIC IPC377E	4/231	SIMATIC IOT2000 Input/Output Module
4/90	SIMATIC IPC477E	4/233	SIMATIC IOT2000 Input Module
4/93	SIMATIC IPC477D		Sink/Source NEW
4/98	SIMATIC IPC677D	4/235	Software Controllers
4/102	<u>Tablet PC</u>	4/235	<u>SIMATIC S7-1500 Software Controllers</u>
4/102	SIMATIC Industrial Tablet PC	4/236	CPU 1507S
4/105	System components for Tablet PC	4/237	CPU 1508S NEW
4/106	<u>Industrial monitors and Thin Clients</u>	4/238	CPU 1507S F
4/106	Flat Panels	4/239	CPU 1508S F NEW
4/106	SIMATIC IFP Basic NEW	4/240	ODK 1500S
4/108	SIMATIC Industrial Flat Panel	4/241	Add-on Applications
4/128	SIMATIC Flat Panels	4/241	ODK 1500S SQL driver
4/133	Thin Clients	4/241	ODK 1500S XML Data Access driver
4/133	SIMATIC Industrial Thin Client	4/241	ODK 1500S FileServer
4/138	<u>Devices for special requirements</u>	4/242	PC-based Controllers
4/139	Fully-enclosed IP65 devices	4/242	<u>SIMATIC ET 200SP Open Controllers</u>
4/139	SIMATIC Industrial Flat Panel PRO	4/243	CPU 1515SP PC
4/148	SIMATIC Industrial Thin Client PRO	4/245	CPU 1515SP PC2
4/158	SIMATIC Thin Client PRO	4/247	CPU 1515SP PC F
4/160	SIMATIC IPC477E PRO	4/249	CPU 1515SP PC2 F
4/163	SIMATIC IPC477D PRO	4/251	CPU 1515SP PC2 T NEW
4/166	System components for fully-enclosed IP65 devices	4/253	CPU 1515SP PC2 TF NEW
4/167	Fasteners		
4/169	Extension Units and operator components		
4/184	Extension components		
4/186	Devices with stainless steel front		
4/187	Industrial Thin Client INOX		
4/189	Ind. Flat Panel IFP1900 INOX PRO		
4/191	Ind. Flat Panel IFP2200 INOX MT ETH		
4/193	SIMATIC IPC277E 19" INOX PRO		

Power supply and communication see next page

PC-based Automation



4/255	SITOP power supply
4/255	<u>SITOP smart</u>
4/255	1-phase, 24 V DC
4/256	3-phase, 24 V DC
4/257	<u>DC UPS with capacitors</u>
4/257	SITOP UPS500S, SITOP UPS501S, SITOP UPS500P
4/258	<u>DC UPS with battery modules</u>
4/258	SITOP UPS1600
4/259	SITOP UPS1100 battery modules
4/260	Communication
4/260	<u>Industrial Ethernet</u>
4/260	CP 1604
4/261	CP 1616
4/262	CP 1612 A2
4/263	CP 1623
4/264	CP 1625
4/265	CP 1626
4/266	CP 1628
4/267	HARDNET-IE S7-REDCONNECT
4/268	SOFTNET for Industrial Ethernet
4/269	SOFTNET PN IO
4/274	OPC server for Industrial Ethernet
4/272	S7 OPC Redundancy for Industrial Ethernet
4/273	SNMP OPC server
4/274	SINEMA server
4/275	<u>PROFIBUS</u>
4/275	CP 5603
4/276	CP 5613 A3
4/277	CP 5614 A3
4/278	CP 5623
4/279	CP 5624
4/280	CP 5612
4/281	CP 5622
4/282	CP 5711
4/283	SOFTNET for PROFIBUS
4/284	S7 OPC Redundancy for PROFIBUS
4/285	PC adapter USB A2

Overview



SIMATIC IPC647E, IPC547E, IPC227E, IPC427E, IPC627E, IPC677E

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 HMI 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 operator control and monitoring in the food and beverages industry.

<http://www.siemens.com/inox-hmi-devices>

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 Industrial OS

Embedded bundles and starter systems 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.

The starter systems are based on the Windows 10 operating system and also contain pre-installed and pre-configured SIMATIC visualization and control software. They are efficient, cost-effective, ready-to-run overall packages that enable clearly faster commissioning.

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>

PC-based Automation

Industrial PC

Introduction

Benefits

Reduction in standstill times thanks to high system availability

- Assured 24-hour operation as a result of high-quality parts and components (high MTBF, speed-controlled fans)
- Efficient self-diagnostics for avoidance of potential failures (front status LEDs, SIMATIC IPC DiagMonitor diagnostics software for condition monitoring, local and remote)
- Minimum downtimes thanks to mirror disk systems and preventive data backup with SIMATIC IPC Image Creator
- Restore USB FlashDrive or restore DVD for restoration of the delivery state
- Installed and activated Microsoft operating systems for time savings during installation

High degree of investment security for long-term automation concepts

- Availability of 3 to 6 years (at least 1.5 years for Rack PC IPC547)
- 5-year repair and spare parts service (3 years for Rack PC IPC547) after expiration of the active marketing period
- Long-term concepts are implementable and reduce future engineering costs
- System-tested SIMATIC software (WinCC, WinAC, etc.) and connection options for distributed I/Os via an optional PROFIBUS or PROFINET interface on board link the industrial PCs with Totally Integrated Automation
- Certificates for worldwide marketing (cULus), the CE mark for use in industrial areas and in domestic, business and commercial environments
- Compatibility in hardware and software thanks to, for example, unchanged mechanical dimensions or the use of existing user software on all devices of the same generation
- Worldwide service and support (e.g. 24-hour SIMATIC Hotline)

Application

SIMATIC IPCs are the ideal platform for PC-based Automation and are used both in the production and process industry, as well as in industry-oriented sectors such as traffic engineering, building management, warehouse systems.

Typical applications include:

- Instrumentation and control tasks (e.g. with SIMATIC Software Controller, also failsafe)
- Operator control and monitoring (e.g. with SIMATIC WinCC flexible, WinCC RT Advanced or WinCC)
- Data acquisition
- Image processing
- Communication, gateways

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 (with IPC547G, IPC647D and IPC847D only)
- Restore USB FlashDrive or restore DVD (with IPC547G, IPC647D and IPC847D only) for fast and easy restoration of the PC delivery status
- "SIMATIC IPC Documentation and Drivers" on restore USB FlashDrive or DVD (with IPC547G, IPC647D and IPC847D only)
- Compact Operating Instructions (German/English/French/Spanish/Italian/Chinese)
- Electronic manual on "IPC Documentation and Drivers" data carrier (German/English)

Additional 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 at an attractive price

SIMATIC IPC647 – maximum compactness combined with maximum industrial functionality

SIMATIC IPC847 – maximum expandability and industrial functionality

SIMATIC IPC1047 – maximum performance and expandability

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 2 TB for large volumes of data
- SSD (solid-state drive) SATA, 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 or USB flash drive
- High flexibility and expandability of components
- PCI and PCI Express expansion slots
- Independent industrial product design

PC-based Automation

Industrial PC

Rack PC

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
- 7 configurations available ex stock at short notice
- Availability approx. 3 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 bay
- 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 approx. 3 years
- Guaranteed spare parts availability for at least 3 years

SIMATIC IPC647E – 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 8th Generation and Xeon
- ECC memory, optional
- SSD (solid-state drive) M.2 NVMe
- Front LED concept for efficient self-diagnostics, e.g. monitoring of hard disks in RAID1 configurations, fans or the status display for Ethernet
- 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 IPC847E – 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 8th Generation and Xeon
- Optional RAID5 configuration (striping with parity) in hot swap drive bay
- RAID1 and RAID5 configurations with additional hot spare hard disk or SSD SATA optional
- ECC memory, optional
- SSD (solid-state drive) M.2 NVMe
- Front LED concept for efficient self-diagnostics, e.g. monitoring of hard disks in RAID1 configurations, fans or the status display for Ethernet
- 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 IPC1047 – maximum performance and expandability

- Maximum computing capacity due to two Intel® Xeon® CPUs
- Maximum graphic capacity
- Product design for industrial environment

Technical specifications

Rack PC	6AG4012-1....-..... SIMATIC IPC347E	6AG4104-4....-..... SIMATIC IPC547G	6AG4112-3....-..... SIMATIC IPC647E	6AG4114-3....-..... SIMATIC IPC847E
Design				
19" rack	4 U	4 U	2 U	4 U
Housing depth	463 mm	447 mm or 357 mm	444 mm	444 mm
Prepared for telescopic rails	•	•	•	•
Horizontal/vertical installation	• / -	• / •	• / -	• / •
19" mounting bracket can be removed from outside	•	•	•	•
Tower kit (optional)	-	•	-	•
General features				
Processor	<ul style="list-style-type: none"> Intel Pentium Dual Core G3420 (2C/2T, 3.2 GHz) Intel Core i5-4570S (4C/4T, 2.9 (3.6) GHz) 	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz) Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz) Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz) Intel Core i3-8100 (4C/4T, 3.6 GHz) 	<ul style="list-style-type: none"> Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz) Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz) Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz) Intel Core i3-8100 (4C/4T, 3.6 GHz)
Main memory	<ul style="list-style-type: none"> 2/4/8 GB, expandable up to 16 GB 	<ul style="list-style-type: none"> 4 GB, expandable up to 64 GB ¹⁾ 	<ul style="list-style-type: none"> 4 GB, expandable up to 64 GB, optional ECC 	<ul style="list-style-type: none"> 4 GB, expandable up to 64 GB, optional ECC
Slots for expansions (all lengths up to 312 mm)	7 slots: <ul style="list-style-type: none"> 1 x PCI Express x16 (16 lanes) 1 x PCI Express x8 (2 lanes) 1 x PCI x1 (1 lane) 4 x PCI 	7 slots: <ul style="list-style-type: none"> 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 7 slots: <ul style="list-style-type: none"> 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 slots: <ul style="list-style-type: none"> 1x PCI-Express (x16) (16 lanes) 1x PCI-Express (x16) (4 lanes) or 4 slots: <ul style="list-style-type: none"> 2x PCI 2x PCI-Express (x16) (8 lanes) or 4 slots: <ul style="list-style-type: none"> 2x PCI-Express (x16) (8 lanes) 1x PCI-Express (x16) (4 lanes) 1x PCI-Express (x16) (1 lane) 	9 slots: <ul style="list-style-type: none"> 7x PCI 2x PCI-Express (x16) (8 lanes) or 11 slots: <ul style="list-style-type: none"> 3x PCI 1x PCI-Express (x16) (8 lanes) 5x PCI-Express (x16) (4 lanes) 2x PCI-Express (x4) (4 lanes) or 11 slots: <ul style="list-style-type: none"> 3x PCI 1x PCI-Express (x16) (16 lanes) 3x PCI-Express (x16) (4 lanes) 2x PCI-Express (x16) (1 lane) 2x PCI-Express (x4) (4 lanes)
Onboard graphics	<ul style="list-style-type: none"> 1 x DVI-D 1 x VGA 	<ul style="list-style-type: none"> 1 x or 2 x ¹⁾ DisplayPort (VGA/DVI-D via DP adapter cable, optional) 1 x DVI-D 	<ul style="list-style-type: none"> 2 x DisplayPort (VGA/DVI-D via DP adapter cable, optional) 1 x DVI-D 	<ul style="list-style-type: none"> 2 x DisplayPort (VGA/DVI-D via DP adapter cable, optional) 1 x DVI-D
Graphics card (optional)	-	Graphics card NVIDIA NVS 315 PCIe x16, dual head (2x DVI-D/VGA via adapter)	Graphics card NVIDIA Quadro P400 PCIe x16, triple head (3x mini DisplayPort, DisplayPort/DVI-D/VGA via adapter)	Graphics card NVIDIA Quadro P400 PCIe x16, triple head (3x mini DisplayPort, DisplayPort/DVI-D/VGA via adapter)
Operating system				
None	•	•	•	•
Preinstalled and activated, supplied on restore medium	<ul style="list-style-type: none"> Windows 7 Ultimate, multi-language (64-bit) 	<ul style="list-style-type: none"> Windows 7 Ultimate, multi-language (32-bit/64-bit) Windows 10 Enterprise 2016, LTSB, multi-language (64-bit) Windows 10 Enterprise 2015, LTSB, 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 Server 2016 incl. 5 clients, multi-language (64-bit) 	<ul style="list-style-type: none"> Windows 10 Enterprise 2016, LTSB, multi-language, (64-bit) Windows Server 2016 Standard Edition incl. 5 clients, multi-language (64-bit) 	<ul style="list-style-type: none"> Windows 10 Enterprise 2016, LTSB, multi-language, (64-bit) Windows Server 2016 Standard Edition incl. 5 clients, multi-language (64-bit)
Project-specific on request	-	<ul style="list-style-type: none"> Linux ³⁾ Other 	-	-

PC-based Automation

Industrial PC

Rack PC

Technical specifications (continued)

Rack PC	6AG4012-1....-.... SIMATIC IPC347E	6AG4104-4....-.... SIMATIC IPC547G	6AG4112-3....-.... SIMATIC IPC647E	6AG4114-3....-.... SIMATIC IPC847E
Interfaces				
Ethernet	2 x Realtek 10/100/1 000 Mbps (RJ45)	2 x Intel 10/100/1 000 Mbps (RJ45, teaming-capable)	3 x Intel 10/100/1 000 Mbps (RJ45, teaming-capable)	3 x Intel 10/100/1 000 Mbps (RJ45, teaming-capable)
USB 3.0 / 3.1 Gen.1 (high current)	2 x type A on the rear	6 x ¹⁾ or 4 x type A, 2 of which at front	2 x type A on the front	2 x type A on the front
USB 3.1 Gen. 2 (high current)			4x type A, 2x type C on the rear; 1x type A internal, e.g. for software dongle with optional interlocking;	4x type A, 2x type C on the rear; 1x type A internal, e.g. for software dongle with optional interlocking;
USB 2.0 (high current)	5 x type A, of which 2 x on the front 1 x type A internal, 2 x type A on the rear	4 x type A on the rear, 1 x internal ¹⁾ e.g. for software dongle with optional lock	-	-
VGA	•	• optionally via DP adapter cable	• optionally via DP adapter cable	• optionally via DP adapter cable
DVI	•	•	•	•
DisplayPort	-	•	•	•
COM port (serial)	-	COM1, COM2 (optional)	COM1, COM2 (optional)	COM1, COM2 (optional)
LPT port (parallel)	-	LPT1 (optional)	-	-
PS/2	•	•	-	-
Audio	•	•	•	•
Drives				
SATA hard disks				
• Internal installation	•	•	•	•
• Installation at the front in the removable drive bay	-	•	•	•
• Internal installation in drive cage (shock and vibration-damped)	-	•	•	•
RAID1/5 configuration with onboard RAID with SATA hard disks	-	• ¹⁾ / • ¹⁾	• / -	• / •
RAID configuration with additional hot spare hard disk	-	• ¹⁾	-	•
SSD (solid-state drive) SATA	•	•	•	•
RAID1 configuration with solid-state drive, SATA	-	• ¹⁾	•	•
SSD (solid-state drive), M.2 NVMe	-	-	•	•
Optical drives				
DVD±R/RW	-	• (Slim)	-	-
Power supply				
Standard AC	•	• (with fan monitoring)	• (with fan monitoring)	• (with fan monitoring)
Redundant AC (optional)	-	•	• (with module monitoring)	• (with module monitoring)
Ambient conditions ⁴⁾				
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 in the Siemens manufacturer's declaration "Suitable for Linux" (Linux is a trademark owned by Linus Torvald); see also: <http://support.automation.siemens.com/WWW/view/en/10805661/134200>

⁴⁾ Restrictions when using DVD±R/RW, SAS HDDs, SATA Enterprise HDDs and hard disks in removable drive bay

Additional information is available on the Internet at:

<http://www.siemens.com/simatic-pc>

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	6AG4012-1AA21-0XX0	6AG4012-1AA21-0BX0	6AG4012-1CA21-0XX0	6AG4012-1CA21-0BX0	6AG4012-1CB31-0BX0	6AG4012-1CE31-0BX0
	SIMATIC IPC347E (Rack PC, 19", 4U)	SIMATIC IPC347E (Rack PC, 19", 4U)	SIMATIC IPC347E (Rack PC, 19", 4U)	SIMATIC IPC347E (Rack PC, 19", 4U)	SIMATIC IPC347E (Rack PC, 19", 4U)	SIMATIC IPC347E (Rack PC, 19", 4U)	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	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 PC, 19", 4U	Rack PC, 19", 4U
Rack mounting	Yes	Yes	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	100 - 240 V AC	100 - 240 V AC
Line frequency							
• Rated value 50 Hz	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Processor							
Processor type	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)			
Drives							
Hard disk	500 GB HDD	500 GB HDD	500 GB HDD	500 GB HDD	500 GB HDD	1 TB HDD	
SSD							Yes; 256 GB
Memory							
Type of memory	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM
Main 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	8 GB (Pre-installed), support up to 16 GB	8 GB (Pre-installed), support up to 16 GB
Hardware configuration							
Slots							
• free slots	4x PCI, 1x PCIe (x1), 1x PCIe (x8) (2 Lanes), 1x PCIe (x16) (16 Lanes)	4x PCI, 1x PCIe (x1), 1x PCIe (x8) (2 Lanes), 1x PCIe (x16) (16 Lanes)	4x PCI, 1x PCIe (x1), 1x PCIe (x8) (2 Lanes), 1x PCIe (x16) (16 Lanes)	4x PCI, 1x PCIe (x1), 1x PCIe (x8) (2 Lanes), 1x PCIe (x16) (16 Lanes)	4x PCI, 1x PCIe (x1), 1x PCIe (x8) (2 Lanes), 1x PCIe (x16) (16 Lanes)	4x PCI, 1x PCIe (x1), 1x PCIe (x8) (2 Lanes), 1x PCIe (x16) (16 Lanes)	4x PCI, 1x PCIe (x1), 1x PCIe (x8) (2 Lanes), 1x PCIe (x16) (16 Lanes)

PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC347E

Technical specifications (continued)

Article number	6AG4012-1AA10-0XX0 SIMATIC IPC347E (Rack PC, 19", 4U)	6AG4012-1AA21-0XX0 SIMATIC IPC347E (Rack PC, 19", 4U)	6AG4012-1AA21-0BX0 SIMATIC IPC347E (Rack PC, 19", 4U)	6AG4012-1CA21-0XX0 SIMATIC IPC347E (Rack PC, 19", 4U)	6AG4012-1CA21-0BX0 SIMATIC IPC347E (Rack PC, 19", 4U)	6AG4012-1CB31-0BX0 SIMATIC IPC347E (Rack PC, 19", 4U)	6AG4012-1CE31-0BX0 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)	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	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		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)	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	Yes	Yes
• Microphone In	Yes	Yes	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	1x VGA; 1x DVI-D	1x VGA; 1x DVI-D
Industrial Ethernet							
• Industrial Ethernet interface	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Integrated Functions							
Monitoring functions							
• Status LEDs	POWER, HDD	POWER, HDD	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						
Interference immunity against high-frequency electromagnetic fields							
• Interference immunity against high frequency radiation	10 V/m for 80 - 1 000 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 > 30 m	±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge						
• Interference immunity on signal cables < 30 m	±1 kV acc. to IEC 61000-4-4, Burst						

Technical specifications (continued)

Article number	6AG4012-1AA10-0XX0 SIMATIC IPC347E (Rack PC, 19", 4U)	6AG4012-1AA21-0XX0 SIMATIC IPC347E (Rack PC, 19", 4U)	6AG4012-1AA21-0BX0 SIMATIC IPC347E (Rack PC, 19", 4U)	6AG4012-1CA21-0XX0 SIMATIC IPC347E (Rack PC, 19", 4U)	6AG4012-1CA21-0BX0 SIMATIC IPC347E (Rack PC, 19", 4U)	6AG4012-1CB31-0BX0 SIMATIC IPC347E (Rack PC, 19", 4U)	6AG4012-1CE31-0BX0 SIMATIC IPC347E (Rack PC, 19", 4U)
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	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	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						
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						
Degree and class of protection							
IP (at the front)	IP20	IP20	IP20	IP20	IP20	IP20	IP20
IP (rear)	IP20	IP20	IP20	IP20	IP20	IP20	IP20
Standards, approvals, certificates							
CE mark	Yes	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FCC	Yes	Yes	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					
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	+5 °C to +40 °C	+5 °C to +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 condensation), Storage: 5% to 95% at 25 °C (no condensation)						
Operating systems							
pre-installed operating system without operating system	Yes	Yes	Yes	Yes	Yes	Yes	Yes
pre-installed operating system							
• Windows 7			Yes; Ultimate 64 bit		Yes; Ultimate 64 bit	Yes; Ultimate 64 bit, SP1	Yes; Ultimate 64 bit, SP1
Mechanics/material							
Enclosure material (front)							
• Aluminum	Yes	Yes	Yes	Yes	Yes		
Dimensions							
Width	430 mm	430 mm	430 mm	430 mm	430 mm	430 mm	430 mm
Height	177 mm	177 mm	177 mm	177 mm	177 mm	177 mm	177 mm
Depth	463 mm	463 mm	463 mm	463 mm	463 mm	463 mm	463 mm

PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC347E**Ordering data****Article No.****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

• 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

• 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

• 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

6AG4012-1AA10-0XX0**6AG4012-1AA21-0XX0****6AG4012-1CA21-0XX0****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

• Configuration 6

Intel Core i5-4570S (4C/4T, to 3.6 GHz, 6 MB cache); 1 TB HDD SATA, internal; 8 GB DDR3 SDRAM (1 x 8 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

• Configuration 7

Intel Core i5-4570S (4C/4T, up to 3.6 GHz, 6 MB cache); 256 GB SSD SATA, internal; 8 GB DDR3 SDRAM (1 x 8 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**6AG4012-1CB31-0BX0****6AG4012-1CE31-0BX0**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".

Additional 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

Article number	6AG4104-4....-.... SIMATIC IPC547G
Installation type/mounting	
Mounting	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)
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
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	Xeon E3-1275 v5 (4C/8T, 3.6 (4.0) GHz, 8 MB Cache); Core i7-6700 (4C/8T, 3.4 (4.0) GHz, 8 MB Cache); Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB Cache); Pentium G4400 (2C/2T, 3.3 GHz, 3 MB Cache)
Chipset	Intel C236 / Intel H110
Graphic	
Graphics controller	Onboard Intel HD graphics P530 / 530 / 510 integrated in processor; graphics card PCIe (x16) (dual head: 2x VGA or 2x DVI-D) (optional)
Drives	
Optical drives	DVD±R/RW (SlimLine)
Hard disk	Internal installation: 1 TB HDD, 2x 1 TB HDD, RAID1 (2x 1 TB HDD), RAID1 (2x 1 TB HDD (Enterprise)); for front mounting in low-profile removable drive bay trays (hot-swap in RAID configuration): 1 TB HDD, 2x 1 TB HDD, RAID1 (2x 1 TB HDD), RAID1 (2x 1 TB HDD (Enterprise)), RAID1 (2x 2 TB HDD (Enterprise)), RAID1 (2x 2 TB HDD (Enterprise)) + 1x 2 TB HDD (Enterprise) as hot spare, RAID1 (2x 2 TB HDD (Enterprise)) + 1x 480 GB SSD, RAID5 (3x 2 TB HDD (Enterprise)), RAID5 (3x 2 TB HDD (Enterprise)) + 1x 2 TB HDD (Enterprise) as hot spare
SSD	Yes; 1x 240 GB, 1x 480 GB SSD, 2x 480 GB SSD, RAID1 (2x 480 GB SSD)
Slot for drives	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)

PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC547G

Technical specifications (continued)

Article number	6AG4104-4....-.... SIMATIC IPC547G
Memory	
Main memory	4 GB to 64 GB DDR4 2133 SDRAM
Hardware configuration	
Slots	
• free slots	7 spare slots for expansions (all long); mainboard with H110 chipset: 1x PCIe (x16) Gen 3, 1x PCIe (x16) (1 lane) Gen 2, 1x PCIe (x8) (1 lane) Gen 2, 1x PCIe (x4) (1 lane) Gen 2, 1x PCIe (x4) (1 lane) Gen 2, 2x PCI; mainboard with C236 chipset: 1x PCIe (x16) Gen 3, 1x PCIe (x16) (4 lanes) Gen 3, 1x PCIe (x8) (1 lane) Gen 3, 1x PCIe (x4) (4 lane) Gen 3, 1x PCIe (x4) (1 lane) Gen 3, 2x PCI
Interfaces	
Interfaces/bus type	Interfaces mainboard (H110 chipset): 2x Intel Gigabit Ethernet (RJ45, teaming-capable), 4x USB 3.0: 2x on rear, 2x on front, 4x USB 2.0: 4x on rear, 1x DisplayPort V1.2, 1x DVI-D, 2x PS/2, audio: Line in, line out, micro; interfaces mainboard (C236 chip set): 2x Intel Gigabit Ethernet (RJ45, teaming-capable), 6x USB 3.0: 4x on rear, 2x on front, 5x USB 2.0: 4x on rear, 1x internal e.g. for software dongle with optional interlock, 2x DisplayPort V1.2, 1x DVI-D, 1x COM1, 2x PS/2, audio: line in, line out, micro
USB port	Mainboard (H110 chipset): 4x USB 3.0: 2x on rear, 2x on front, 4x USB 2.0: 4x on rear; mainboard (C236 chipset): 6x USB 3.0: 4x on rear, 2x on front, 5x USB 2.0: 4x on rear, 1x internal e.g. for software dongle with optional interlock
Connection for keyboard/mouse serial interface	2x PS/2 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-D onboard; 1x VGA via DP-VGA adapter cable (optional); graphics card PCIe (x16), Dual Head (2x VGA or 2x DVI-D), 1 GB graphics memory (optional)
Industrial Ethernet	
• Industrial Ethernet interface	2x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes

Article number	6AG4104-4....-.... SIMATIC IPC547G
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	POWER, HDD, TEMP, FAN, HDD0 ALARM, HDD1 ALARM, HDD2 ALARM, HDD3 ALARM
• Fan	Yes
• Monitoring function via network	Optional
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 - 1 000 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 > 30 m	±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge
• Interference immunity on signal cables < 30 m	±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	30 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)	IP30
IP (rear)	IP20

Technical specifications (continued)

Article number	6AG4104-4....-.... SIMATIC IPC547G
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 +40 °C in full configuration (no burner mode), at +5 °C to +35 °C without limitation
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 resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s ² (0.2 g)
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27; half-sine: 9.8 m/s ² (1 g), 20 ms, 100 shocks per axis

Article number	6AG4104-4....-.... SIMATIC IPC547G
Operating systems	
Operating system	Windows 7 Ultimate, multi-language (32-bit/64-bit), Windows 10 Enterprise 2015 LTSC, multi-language (64-bit), Windows 10 Enterprise 2016 LTSC, multi-language (64-bit), Windows Server 2008 R2 Standard Edition incl. 5 clients, multi-language (64-bit); Windows Server 2012 R2 Standard Edition incl. 5 clients, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 clients, multi-language (64-bit)
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	446 mm; Device with short enclosure: 356 mm

PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC547G

Ordering data

Article No.

SIMATIC IPC547G

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)
- 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)
- 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)
- 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)
- 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)
- 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)
- 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)

6AG4104 - 4 ■ ■ ■ ■ - ■ ■ ■ ■

A

C

D

E

G

H

J

SIMATIC IPC547G

Drives (SATA)

- 1 x 1 TB HDD, internal
 (0.2 g vibration, 1 g shock)
- 2 x 1 TB HDD, internal
 (0.2 g vibration, 1 g shock)
- 1 x 240 GB SSD, internal
- 1 x 480 GB SSD, internal
- 2 x 480 GB SSD, internal
- RAID1, 1 TB (2 x 1 TB HDD),
 internal (0.2 g vibration,
 1 g shock)¹⁾
- RAID1, 1 TB (2 x 1 TB HDD
 [Enterprise]), internal
 (0.2 g vibration, 1 g shock)¹⁾
- 1 x 1 TB HDD in removable drive
 bay, on the front ²⁾
- 2 x 1 TB HDD in removable drive
 bay, on the front ²⁾
- 1 x 480 GB SSD in removable
 drive bay, on the front ²⁾
- 2 x 480 GB SSD in removable
 drive bay, on the front ²⁾
- RAID1, 480 GB (2 x 480 GB SSD)
 in removable drive bay,
 hot-swappable, front-mounted ¹⁾²⁾
- RAID1, 1 TB (2 x 1 TB HDD)
 in removable drive bay,
 hot-swappable, front-mounted ¹⁾²⁾
- RAID1, 1 TB (2 x 1 TB HDD
 [Enterprise]) in removable drive
 bay, hot-swappable,
 front-mounted ¹⁾²⁾
- RAID1, 2 TB (2 x 2 TB HDD
 [Enterprise]) in removable drive
 bay, hot-swappable,
 front-mounted ¹⁾²⁾
- 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⁾
- 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⁾
- RAID5, 4 TB (3 x 2 TB HDD
 [Enterprise]) in removable
 drive bay, hot-swappable,
 front-mounted ¹⁾²⁾
- 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⁾

Article No.

6AG4104 - 4 ■ ■ ■ ■ - ■ ■ ■ ■

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Ordering data	Article No.	Ordering data	Article No.
SIMATIC IPC547G	6AG4104 - 4	SIMATIC IPC547G	6AG4104 - 4
<u>Memory configuration</u>		<u>Operating systems (pre-installed and activated)</u>	
<ul style="list-style-type: none"> • 4 GB DDR3 SDRAM (1 x 4 GB), single channel • 8 GB DDR3 SDRAM (2 x 4 GB), dual channel • 16 GB DDR3 SDRAM (2 x 8 GB), dual channel • 32 GB DDR3 SDRAM (2 x 16 GB), dual channel • 64 GB DDR3 SDRAM (4 x 16 GB), dual channel ¹⁾ 	0 1 2 3 4	<ul style="list-style-type: none"> • Windows 7 Ultimate, MUI (en, de, fr, it, es), 32-bit, SP1 • Windows 7 Ultimate, MUI (en, de, fr, it, es), 64-bit, SP1 • Windows 10 Enterprise 2015 LTSB, multi-language (en, de, fr, it, es), 64-bit • Windows 10 Enterprise 2016 LTSB, multi-language (en, de, fr, it, es), 64-bit (for Pentium / Core i5) • Windows 10 Enterprise 2016 LTSB, multi-language (en, de, fr, it, es), 64-bit (for Core i7 / Xeon) • Windows Server 2008 R2 Standard Edition, 64-bit SP1 incl. 5 clients, multi-language (en, de, fr, it, es) • Windows Server 2012 R2 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es) • Windows Server 2016 Standard Edition incl. 5 clients, multi-language (64-bit) • Without operating system 	A B C D E F G H X
<u>Type of enclosure / power supplies and removable media</u>		<u>Expansions (software)</u>	
<ul style="list-style-type: none"> • Enclosure (short), blue-chromat., 100/240 V AC industrial power supply, without removable media • Enclosure, blue-chromated, 100/240 V AC industrial power supply, without removable media • Enclosure, blue-chromated, 100/240 V AC industrial power supply, DVD±RW (slim) • Enclosure, blue-chromated, 2 x 100/240 V AC redundant industrial power supply, without removable media • Enclosure, blue-chromated, 2 x 100/240 V AC redundant industrial power supply, DVD±RW (slim) • Painted enclosure, 100/240 V AC industrial power supply, without removable media • Painted enclosure, 100/240 V AC industrial power supply, DVD±RW (slim) • Painted enclosure, 2 x 100/240 V AC redundant industrial power supply, without removable media • Painted enclosure, 2 x 100/240 V AC redundant industrial power supply, DVD±RW (slim) 	0 1 2 3 4 5 6 7 8	<ul style="list-style-type: none"> • SIMATIC IPC DiagMonitor software enclosed • SIMATIC IPC Image & Partition Creator software included • SIMATIC IPC DiagMonitor + Image & Partition Creator software enclosed • Without expansions (software) • Without expansions (software) / TPM 2.0 ³⁾ (not for China or Russia) 	A B C X Y
<u>Expansions (hardware)</u>		<u>Country-specific versions</u>	
<ul style="list-style-type: none"> • Without expansions (hardware), onboard graphics • Without expansions (hardware), onboard graphics; adapter cable DP to VGA for onboard graphics • Without expansions (hardware), PCIe x16 graphics card (dual head: 2 x VGA or 2 x DVI-D), 1 GB • Serial (COM2) + parallel (LPT); onboard graphics • Serial (COM2) + parallel (LPT); onboard graphics; adapter cable DP to VGA for onboard graphics • Serial (COM2) + parallel (LPT) + PCIe x16 graphics card (dual head: 2 x VGA or 2 x DVI-D), 1 GB 	0 1 2 3 4 5	<ul style="list-style-type: none"> • Without power supply cord • Power cord for Europe • Power cord for the USA • Power cord for China 	0 1 2 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 the configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC547G

Ordering data

Article No.

Preferred types (available at short notice from stock)

SIMATIC IPC547G (Rack PC, 19", 4 U)

Configuration 1

- 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

Configuration 2

- 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

Configuration 3

- 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 redundant industrial power supply
- 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
- 8 GB DDR4-2133 SDRAM
- 16 GB, DDR4-2133 SDRAM

6ES7648-2AL60-0PA0

6ES7648-2AL70-0PA0

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
- Short enclosure version

6ES7648-1AA01-0XC0

6ES7648-1AA01-0XE0

Adapter cable

- DisplayPort to DVI-D for on-board graphics
- DisplayPort to VGA for on-board graphics

6ES7648-3AF00-0XA0

6ES7648-3AG00-0XA0

Retainer

For mechanically interlocking the internal USB port

6ES7648-1AA00-0XK0

4

Additional information is available on the Internet at:

<http://www.siemens.com/ipc547g>

Overview

**SIMATIC IPC647E**

The SIMATIC IPC647E 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 8th generation

Technical specifications

Article number	6AG4112-3....-.... SIMATIC IPC647E (Rack PC)
Installation type/mounting	
Mounting	For horizontal installation; prepared for telescopic rails; 19" mounting bracket can be removed externally
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 / 60 Hz	Yes / Yes
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, Turbo Boost 2.0, VT-x/-d technology, iAMT); Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, Turbo Boost 2.0, VT-x/-d technology, iAMT); Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, Turbo Boost 2.0, VT-x/-d technology, iAMT); Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-x/-d technology)
Chipset	Intel C246
Graphic	
Graphics controller	Onboard Intel UHD graphics P630/630 integrated in processor; graphics card NVIDIA Quadro P400 PCIe (x16) triple head (optional)
Drives	
Hard disk	1x 1 TB 3.5" SATA HDD, 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SATA HDD (Enterprise)
SSD	Yes; 1x 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 480 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD
Slot for drives	Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional

Article number	6AG4112-3....-.... SIMATIC IPC647E (Rack PC)
Memory	
Main memory	4 GB to 64 GB DDR4 2666 SDRAM DIMM, ECC optional
Hardware configuration	
Slots	
• free slots	2 slots: 1x PCI Express (x16) (16 lanes), 1x PCI Express (x16) (4 lanes) or 4 slots: 2x PCI, 2x PCI Express (x16) (8 lanes) or 4 slots: 2x PCI Express (x16) (8 lanes), 1x PCI Express (x16) (4 lanes), 1x PCI Express (x16) (1 lane); expansion modules up to 312 mm in length can be used
Interfaces	
Interfaces/bus type	1x COM1, 1x COM2 (optional), 2x DisplayPort, 1x DVI-D, audio (microphone in, line in, line out), 9x USB, 3x Gigabit Ethernet
PROFIBUS/MPI	can be implemented with plug-in card
USB port	4x USB 3.1 Gen. 2 Type A, 2x USB 3.1 Gen. 2 Type C on the rear; 1x USB 3.1 Gen. 2 Type A internally, e.g. for software dongle with optional interlock, 2x USB 3.1 Gen. 1 Type A on the front, can be used with door closed
Connection for keyboard/mouse	USB
serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes
Industrial Ethernet	
• Industrial Ethernet interface	3x Gigabit Ethernet (IE/PN), RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Power, HDD, Ethernet 1, Ethernet 2, Ethernet 3, Watchdog, Temp, Fan, HDD1 alarm, HDD0 alarm
• Fan	Yes
• Monitoring function via network	Optional

PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC647E

Technical specifications (continued)

Article number	6AG4112-3....-.... SIMATIC IPC647E (Rack PC)
EMC	
Interference immunity against discharge of static electricity	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Interference immunity against high frequency radiation 	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> Interference immunity on signal cables > 30 m 	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
<ul style="list-style-type: none"> Interference immunity on signal cables < 30 m 	±1 kV acc. to IEC 61000-4-4; burst, length < 3 m
Interference immunity against voltage surge	
<ul style="list-style-type: none"> asymmetric interference 	±2 kV acc. to IEC 61000-4-5, surge asymmetric
<ul style="list-style-type: none"> symmetric interference 	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
<ul style="list-style-type: none"> Interference immunity to magnetic fields at 50 Hz 	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
<ul style="list-style-type: none"> Interference emission via line/AC current cables 	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 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	6AG4112-3....-.... SIMATIC IPC647E (Rack PC)
Standards, approvals, certificates	
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; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
UL approval	Yes; UL 61010-2-201 Second Edition, File E115352 (I.T.E.)
cULus	Yes; UL 61010-2-201 Second Edition, File E115352 (I.T.E.)
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
EMC	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> Ambient temperature during operation 	0 °C to +50 °C with full configuration
Relative humidity	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Vibration resistance during operation acc. to IEC 60068-2-6 	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/s ² (0.5 g)
Shock testing	
<ul style="list-style-type: none"> Shock load during operation 	Tested according to DIN IEC 60068-2-7: 50 m/s ² (5 g), 30 ms, 100 shocks
Operating systems	
Operating system	Windows 10 Enterprise 2016 LTSC, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 clients, multi-language (64-bit)
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
Dimensions	
Width	430 mm
Height	88 mm; 2 U
Depth	444 mm

Ordering data	Article No.	Article No.	
SIMATIC IPC647E Rack PC, 19", 2 U; Interfaces: 3x Gbit Ethernet (IE/PN), RJ45; 1x DVI-D; 2x DisplayPort; 1x COM1; audio; 4x USB 3.1, 2x USB 3.1 (type C) on the rear; 2x USB 3.0 on the front, 1x USB 3.1 internal. 1x M.2 slot internal; Temperature and fan monitoring, watchdog, card retainer <u>Processor / main board</u> <ul style="list-style-type: none"> Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d) Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L) Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d). Board 4 slots: 2x PCI, 2x PCIe x16 (8 L) Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d). Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L) Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT). Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L) Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT). Board 4 slots: 2x PCI, 2x PCIe x16 (8 L) Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT). Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L) Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT). Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L) Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT); Board 4 slots: 2x PCI, 2x PCIe x16 (8 L) Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT). Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L) Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT). Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L) Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT). Board 4 slots: 2x PCI, 2x PCIe x16 (8 L) Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT). Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L) 	6AG4112 - 3	SIMATIC IPC647E <u>Drives</u> <ul style="list-style-type: none"> 1 TB HDD 3.5" SATA 2x 1 TB HDD 3.5" SATA RAID1, 2x 1 TB HDD 3.5" SATA RAID1, 2x 1 TB HDD [Enterprise] 3.5" SATA RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA 1 TB HDD 3.5" SATA + 480 GB SSD 2.5" SATA (for operating system if M.2 SSD not ordered) 480 GB SSD 2.5" SATA 960 GB SSD 2.5" SATA 2x 480 GB SSD 2.5" SATA RAID1, 2x 480 GB SSD 2.5" SATA Without drives <u>Type of enclosure / power supplies</u> <ul style="list-style-type: none"> Enclosure with drive cage type B (for internal installation/0.5 g vibration, 5 g shock); 100/240 V AC industrial power supply Enclosure with drive cage type A (for removable frames on the front); 100/240 V AC industrial power supply Enclosure with drive cage type B (for internal installation/0.5 g vibration, 5 g shock); 2x 100/240 V AC redundant industrial power supply Enclosure with drive cage type A (for removable frames on the front); 2x 100/240 V AC redundant industrial power supply Enclosure with drive cage type B (for internal installation/0.5 g vibration, 5 g shock) + COM2 port; 100/240 V AC industrial power supply Enclosure with drive cage type A (for removable frames on the front) + COM2 interface; 100/240 V AC industrial power supply Enclosure with drive cage type B (for internal installation/0.5 g vibration, 5 g shock) + COM2 port; 2x 100/240 V AC redundant industrial power supply Enclosure with drive cage type A (for removable frames on the front) + COM2 port; 2x 100/240 V AC redundant industrial power supply 	6AG4112 - 3
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PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC647E

Ordering data

SIMATIC IPC647E

Memory configuration

- 4 GB DDR4 SDRAM (1x 4 GB), single channel
- 8 GB DDR4 SDRAM (2x 4 GB), dual channel
- 16 GB DDR4 SDRAM (2x 8 GB), dual channel
- 32 GB DDR4 SDRAM (2x 16 GB), dual channel
- 64 GB DDR4 SDRAM (4x 16 GB), dual channel
- 16 GB DDR4 SDRAM (2x 8 GB), ECC, dual channel (only with Core i3/Xeon)
- 32 GB DDR4 SDRAM (2x 16 GB), ECC, dual channel (only with Core i3/Xeon)
- 64 GB DDR4 SDRAM (4x 16 GB), ECC, dual channel (only with Core i3/Xeon)

Expansion hardware

- Without expansions
- PCIe x16 graphics card (3x mDP; 3x adapter mDP on DP) (1 slot occupied)
- 512 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system)
- 512 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system) + PCIe x16 graphics card (3x mDP; 3x adapter mDP on DP) (1 slot occupied)
- 1 024 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system)

Operating system (pre-installed and activated)

- Windows 10 Enterprise 2016 LTSB, multi-language (en, de, fr, it, sp), 64-bit [for Core i3/i5]
- Windows 10 Enterprise 2016 LTSB, multi-language (en, de, fr, it, sp), 64-bit, for Core i7/Xeon
- Windows Server 2016 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, sp)
- Without operating system

Software / adapters / security expansions

- SIMATIC IPC DiagMonitor software enclosed
- SIMATIC IPC Image & Partition Creator software included
- SIMATIC IPC DiagMonitor + Image & Partition Creator software enclosed
- Adapter cable DP to VGA for onboard graphics
- Adapter cable DP to DVI-D for onboard graphics
- Without expansions
- TPM¹⁾ 2.0 (not for China)

Cables, country-specific versions

- Without power supply cord
- Power supply cord for Europe
- Power supply cord for USA
- Power supply cord for China

Article No.

6AG4112 - 3

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Article No.

Accessories

Memory expansions

- 4 GB DDR4 2666 SDRAM, DIMM
- 8 GB DDR4 2666 SDRAM, DIMM
- 16 GB DDR4 2666 SDRAM, DIMM

6ES7648-2AL60-0QA0

6ES7648-2AL70-0QA0

6ES7648-2AL80-0QA0

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

Retainer

For mechanically interlocking the internal USB port

6ES7648-1AA00-0XK0

Adapter cable

- DisplayPort to DVI-D for on-board graphics
- DisplayPort to VGA for on-board graphics
- Mini DisplayPort to VGA for graphics card
- Mini DisplayPort to DVI-D for graphics card
- Mini DisplayPort to DVI-D for graphics card (3 per package)
- Mini DisplayPort to DisplayPort for graphics card
- Mini DisplayPort to DisplayPort for graphics card (3 per package)

6ES7648-3AF00-0XA0

6ES7648-3AG00-0XA0

6ES7648-3AL00-0XA0

6ES7648-3AK00-0XA0

6ES7648-3AK00-1XA0

6ES7648-3AJ00-0XA0

6ES7648-3AJ00-1XA0

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or the 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: <http://www.siemens.com/ipc-configurator>

Further information can be found on the Internet at:

<http://www.siemens.com/simatic-pc>

¹⁾ TPM = Trusted Platform Module

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 installation; prepared for telescopic rails; 19" mounting bracket can be removed externally
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	Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache); Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache)
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 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	
Main memory	2 GB to 32 GB DDR3 1600 DIMM, ECC optional

PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC647D**Technical specifications (continued)**

Article number	6AG4112-2....-.... SIMATIC IPC647D (Rack PC)
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
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 serial interface	2x PS/2 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), 1 GB graphics memory (optional)
Industrial Ethernet	
• Industrial Ethernet interface	2x 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

Article number	6AG4112-2....-.... SIMATIC IPC647D (Rack 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 >30 m	±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge
• Interference immunity on signal cables < 30 m	±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

Technical specifications (continued)

Article number	6AG4112-2....-.... SIMATIC IPC647D (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
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
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
Relative humidity	
• Relative humidity	Tested to IEC 60068-78, DIN IEC 68-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations	
• Vibration resistance during operation acc. to IEC 60068-2-6	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/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

Article number	6AG4112-2....-.... SIMATIC IPC647D (Rack PC)
Operating systems	
Operating system	Windows 7 Ultimate, multi-language (32-bit/64-bit), Windows 10 Enterprise 2015 LTSC, multi-language (64-bit), Windows 10 Enterprise 2016 LTSC, multi-language (64-bit), Windows Server 2008 R2 Standard Edition incl. 5 clients, multi-language (64-bit); Windows Server 2012 R2 Standard Edition incl. 5 clients, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 clients, multi-language (64-bit)
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

PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC647D

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
- Core i3-4330TE
(2C/4T, 2.4 GHz, 4 MB, VT-x);
mainboard with PROFIBUS/MPI
(CP 5622-compatible)
- Core i3-4330TE
(2C/4T, 2.4 GHz, 4 MB cache);
mainboard with PROFINET
(3 x RJ45, CP 1616-compatible)
- Core i5-4570TE
(2C/4T, 2.7 (3.3) GHz,
4 MB cache, TB, VT-d, AMT);
mainboard without fieldbus
- 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)
- 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)
- Xeon E3-1268L v3
(4C/8T, 2.3 (3.3) GHz,
8 MB cache, TB, VT-d, AMT);
mainboard without fieldbus
- 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)
- 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)

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Article No.

SIMATIC IPC647D

6AG4112 - 2 ■ ■ ■ ■ - ■ ■ ■ ■

Hard disks/SSD

- 500 GB HDD SATA, internal
(0.5 g vibration, 5 g shock)
- 1 TB HDD SATA, internal
(0.5 g vibration, 5 g shock)
- 2 x 1 TB HDD SATA, internal
(0.5 g vibration, 5 g shock)
- RAID1, 1 TB (2 x 1 TB HDD SATA,
mirror disks), internal (0.5 g
vibration, 5 g shock)
- 500 GB HDD SATA in removable
drive bay; front
- 1 TB HDD SATA in removable
drive bay; front
- 2 x 1 TB HDD SATA in removable
drive bay; front-mounted
- RAID1, 1 TB (2 x 1 TB HDD SATA,
mirror disks) in removable drive
bay, hot-swappable, front
- 240 GB SSD SATA, internal
- 240 GB SSD SATA in removable
drive bay; front
- 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)
- RAID1, 240 GB (2 x 240 GB SSD
SATA, mirror disks), in removable
drive bay, hot swap, at the front

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Memory configuration

- 2 GB DDR3 SDRAM (1 x 2 GB),
single channel
- 4 GB DDR3 SDRAM (2 x 2 GB),
dual channel
- 8 GB DDR3 SDRAM (2 x 4 GB),
dual channel
- 16 GB DDR3 SDRAM (2 x 8 GB),
dual channel
- 32 GB DDR3 SDRAM (4 x 8 GB),
dual channel
- 8 GB DDR3 SDRAM, (2 x 4 GB),
ECC, dual channel
- 16 GB DDR3 SDRAM, (2 x 8 GB),
ECC, dual channel
- 32 GB DDR3 SDRAM, (4 x 8 GB),
ECC, dual channel

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Ordering data	Article No.	Ordering data	Article No.
SIMATIC IPC647D	6AG4112 - 2	SIMATIC IPC647D	6AG4112 - 2
<u>Bus module/removable data storage media/SSD:</u>		<u>Operating system (pre-installed and activated)</u>	
• Bus module 2-slot: 2 x PCIe x16; without drives	0	• Windows 7 Ultimate, 32-bit, SP1, MUI (en, de, fr, it, es)	A
• Bus module 4-slot: 2 x PCI, 2 x PCIe x16; without drives	1	• Windows 7 Ultimate, 64-bit, SP1, MUI (en, de, fr, it, es)	B
• Bus module 4-slot: 4 x PCIe x16; without drives	2	• Windows 10 Enterprise 2015, LTSB, multi-language (en, de, fr, it, es), 64-bit	C
• Bus module 2-slot: 2 x PCIe x16; DVD±RW (slim)	3	• Windows 10 Enterprise 2016, LTSB, multi-language (en, de, fr, it, es), 64-bit (for Core i3/i5)	D
• Bus module 4-slot: 2 x PCI, 2x PCIe x16; DVD±RW (slim)	4	• Windows 10 Enterprise 2016, LTSB, multi-language (en, de, fr, it, es), 64-bit (for Xeon)	E
• Bus module 4-slot: 4 x PCIe x16; DVD±RW (slim)	5	• Windows Server 2008 R2 Standard Edition, 64-bit SP1 incl. 5 clients, multi-language (en, de, fr, it, es)	F
• Bus module 2-slot: 2 x PCIe x16/1 x 240 GB SSD (for operating system), internal	6	• Windows Server 2012 R2 Standard Edition incl. 5 clients, MUI (en, de, fr, it, es), 64-bit	G
• Bus module 4-slot: 2 x PCI, 2 x PCIe x16/1 x 240 GB SSD (for operating system), internal	7	• Windows Server 2016 Standard Edition incl. 5 clients, MUI (en, de, fr, it, es), 64-bit	H
• Bus module 4-slot: 4 x PCIe x16/1 x 240 GB SSD (for operating system), internal	8	• Without operating system	X
<u>Expansion hardware</u>		<u>Expansions (software)/Security</u>	
• Without expansions (hardware), onboard graphics;	0	• SIMATIC IPC DiagMonitor software enclosed	A
• Without expansions (hardware), onboard graphics, DVI-I adapter cable, VGA-compliant for onboard graphics;	1	• SIMATIC IPC Image Creator software included	B
• Serial (COM2) + parallel (LPT, 1 slot reserved), onboard graphics;	2	• SIMATIC IPC DiagMonitor and Image Creator software enclosed	C
• Serial (COM2) + parallel (LPT, 1 slot reserved), onboard graphics; DVI-I adapter cable, VGA-compliant for onboard graphics;	3	• Without software	X
• Serial (COM2) + parallel (LPT, 1 slot reserved) + PCIe x16 Graphics Card (Dual-Head: 2 x VGA or 2 x DVI-D), 1 GB, (1 slot occupied);	4	• TPM 1.2 ¹⁾ (not for China and Russia)	Y
• PCIe x16 graphics card (dual head: 2 x VGA or 2 x DVI-D), 1 GB, (1 slot occupied)	5	<u>Power supply, with country-specific cable</u>	
		• 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 the 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 redund. 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 the 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:

<http://www.siemens.com/ipc-configurator>

PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC647D

Ordering data	Article No.	Ordering data	Article No.
Accessories		Power cable, straight, 3 m long	
Memory expansions		<ul style="list-style-type: none"> • Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden • United Kingdom • Switzerland • USA • Italy • China 	6ES7900-0AA00-0XA0 6ES7900-0BA00-0XA0 6ES7900-0CA00-0XA0 6ES7900-0DA00-0XA0 6ES7900-0EA00-0XA0 6ES7900-0FA00-0XA0
<ul style="list-style-type: none"> • 2 GB DDR3 1600 DIMM • 4 GB DDR3 1600 DIMM • 8 GB DDR3 1600 DIMM • 8 GB DDR3 1600 DIMM, ECC 	6ES7648-2AJ50-0MA0 6ES7648-2AJ60-0MA0 6ES7648-2AJ70-0MA0 6ES7648-2AJ70-1MA0	USB retainer	6ES7648-1AA00-0XK0
Hardware accessories		Expansion components	See Expansion components
Tray for low-profile removable drive bay	6ES7648-0EG01-1BA0	Communication products	See Expansion components
For 3.5" hard drive (SATA/SAS) and 2.5" SSD (SATA), without drive			
Filter mats	A5E02396171		
for SIMATIC IPC647D (packing unit: 10 units)			
Adapter cable			
<ul style="list-style-type: none"> • Adapter cable DisplayPort to DVI-D for onboard graphics • Adapter cable DisplayPort to VGA for onboard graphics 	6ES7648-3AF00-0XA0 6ES7648-3AG00-0XA0		

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".

Additional information is available on the Internet at:

<http://www.siemens.com/simatic-pc>

Overview



SIMATIC IPC847E

SIMATIC IPC847E is a very 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 8th generation

Technical specifications

Article number	6AG4114-3....-..... SIMATIC IPC847E (Rack PC)
Installation type/mounting	
Mounting	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)
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
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	Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, Turbo Boost 2.0, VT-x/-d technology, iAMT); Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, Turbo Boost 2.0, VT-x/-d technology, iAMT); Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, Turbo Boost 2.0, VT-x/-d technology, iAMT); Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-x/-d technology)
Chipset	Intel C246
Graphic	
Graphics controller	Onboard Intel UHD graphics P630/630 integrated in processor; graphics card NVIDIA Quadro P400 PCIe (x16) triple head (optional)

PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC847E**Technical specifications** (continued)

Article number	6AG4114-3....-.... SIMATIC IPC847E (Rack PC)
Drives	
Hard disk	1x 1 TB 3.5" SATA HDD, 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD [Enterprise], RAID1 2x 2 TB 3.5" SATA HDD [Enterprise], RAID1 2x 2 TB 3.5" SATA HDD [Enterprise] + 2 TB 3.5" SATA HDD [Enterprise] as hot spare, RAID1 2x 2 TB 3.5" SATA HDD [Enterprise] + 480 GB 2.5" SATA SSD, RAID5 3x 2 TB 3.5" SATA HDD [Enterprise], RAID5 3x 2 TB 3.5" SATA HDD [Enterprise] + 2 TB 3.5" SATA HDD [Enterprise] as hot spare
SSD	Yes: 1x 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 480 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD
Slot for drives	Mounting internally in vibration/shock- absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional
Memory	
Main memory	4 GB to 64 GB DDR4 2666 SDRAM DIMM, ECC optional
Hardware configuration	
Slots	
• free slots	9 slots: 7x PCI, 2x PCI Express (x16) (8 lanes) or 11 slots: 3x PCI, 1x PCI Express (x16) (8 lanes), 5x PCI Express (x16) (4 lanes), 2x PCI Express (x4) (4 lanes) or 11 slots: 3x PCI, 1x PCI Express (x16) (16 lanes), 3x PCI Express (x16) (4 lanes), 2x PCI Express (x16) (1 lane), 2x PCI Express (x4) (4 lanes); expansion modules up to a length of 312 mm can be used

Article number	6AG4114-3....-.... SIMATIC IPC847E (Rack PC)
Interfaces	
Interfaces/bus type	1x COM1, 1x COM2 (optional), 2x DisplayPort, 1x DVI-D, audio (microphone in, line in, line out), 9x USB, 3x Gigabit Ethernet
PROFIBUS/MPI	can be implemented with plug-in card
USB port	4x USB 3.1 Gen. 2 Type A, 2x USB 3.1 Gen. 2 Type C on the rear; 1x USB 3.1 Gen. 2 Type A internally, e.g. for software dongle with optional interlock, 2x USB 3.1 Gen. 1 Type A on the front, can be used with door closed
Connection for keyboard/ mouse	USB
serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes
Video interfaces	
• Graphics interface	2x DisplayPort and 1x DVI-D onboard; 1x VGA via DP-VGA adapter cable (optional); graphics card PCIe (x16), Triple Head (3x mini DisplayPort, 2 GB graphics memory, 3x mini DisplayPort to DisplayPort adapter cable) (optional)
Industrial Ethernet	
• Industrial Ethernet interface	3x Gigabit Ethernet (IE/PN), RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM
• Fan	Yes
• Monitoring function via network	Optional

Technical specifications (continued)

Article number	6AG4114-3....-.... SIMATIC IPC847E (Rack PC)
EMC	
Interference immunity against discharge of static electricity	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Interference immunity against high frequency radiation 	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> Interference immunity on signal cables > 30 m 	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
<ul style="list-style-type: none"> Interference immunity on signal cables < 30 m 	±1 kV acc. to IEC 61000-4-4; burst, length < 3 m
Interference immunity against voltage surge	
<ul style="list-style-type: none"> asymmetric interference 	±2 kV acc. to IEC 61000-4-5, surge asymmetric
<ul style="list-style-type: none"> symmetric interference 	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
<ul style="list-style-type: none"> Interference immunity to magnetic fields at 50 Hz 	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
<ul style="list-style-type: none"> Interference emission via line/AC current cables 	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 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	6AG4114-3....-.... SIMATIC IPC847E (Rack PC)
Standards, approvals, certificates	
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; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
UL approval	Yes; UL 61010-2-201 Second Edition, File E115352 (I.T.E.)
cULus	Yes; UL 61010-2-201 Second Edition, File E115352 (I.T.E.)
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
EMC	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> Ambient temperature during operation 	0 °C to +50 °C with full configuration
Relative humidity	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Vibration resistance during operation acc. to IEC 60068-2-6 	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/s ² (0.5 g)
Shock testing	
<ul style="list-style-type: none"> 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	
Operating system	Windows 10 Enterprise 2016 LTSB, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 clients, multi-language (64-bit)
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
Dimensions	
Width	430 mm
Height	177 mm; 4U
Depth	444 mm

PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC847E

Ordering data

Article No.

SIMATIC IPC847E

6AG4114 - 3 ■ ■ ■ ■ - ■ ■ ■ ■ ■

Rack PC, 19", 4 U
 Interfaces: 3x Gbit Ethernet (IE/PN), RJ45; 1x DVI-D; 2x DisplayPort; 1x COM1; audio; 4x USB 3.1, 2x USB 3.1 (type C) on the rear; 2x USB 3.0 on the front, 1x USB 3.1 internal. Temperature and fan monitoring, watchdog, card retainer

Processors / Boards

- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d).
Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)
- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d).
Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d).
Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT); Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT); Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT); Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT); Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT); Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT); Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT); Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT); Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT); Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)

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Article No.

SIMATIC IPC847E

6AG4114 - 3 ■ ■ ■ ■ - ■ ■ ■ ■ ■

Drives

- 1 TB HDD 3.5" SATA
- 2x 1 TB HDD 3.5" SATA
- RAID1, 2x 1 TB HDD 3.5" SATA
- RAID1, 2x 1 TB HDD [Enterprise] 3.5" SATA
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as HotSpare
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 480 GB 2.5" SSD SATA (for operating system if M.2 SSD not ordered)
- RAID5, 3x 2 TB HDD [Enterprise] 3.5" SATA
- RAID5, 3x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as HotSpare
- 1 TB HDD 3.5" SATA + 480 GB SSD 2.5" SATA (for operating system if M.2 SSD not ordered)
- 480 GB SSD 2.5" SATA
- 960 GB SSD 2.5" SATA
- 2x 480 GB SSD 2.5" SATA
- RAID1, 2x 480 GB SSD 2.5" SATA
- Without drives

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Type of enclosure/power supplies

- Enclosure with drive cage type B (for internal installation / 0.5 g vibration, 5 g shock); 100/240 V AC industrial power supply
- Enclosure with drive cage type A (for removable frames on the front); 100/240 V AC industrial power supply
- Enclosure with drive cage type B (for internal installation / 0.5 g vibration, 5 g shock); 2x 100/240 V AC redundant industrial power supply
- Enclosure with drive cage type A (for removable frames on the front); 2x 100/240 V AC redundant industrial power supply
- Enclosure with drive cage type B (for internal installation / 0.5 g vibration, 5 g shock) + COM2 port; 100/240 V AC industrial power supply
- Enclosure with drive cage type A (for removable frames on the front) + COM2 interface; 100/240 V AC industrial power supply
- Enclosure with drive cage type B (for internal installation / 0.5 g vibration, 5 g shock) + COM2 port; 2x 100/240 V AC redundant industrial power supply
- Enclosure with drive cage Type A (for removable frames on the front) + COM2 port; 2x 100/240 V AC redundant industrial power supply

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Ordering data	Article No.	Article No.
SIMATIC IPC847E	6AG4114 - 3	6AG4114 - 3
<u>Memory configuration</u>		
• 4 GB DDR4 SDRAM (1x 4 GB), single channel	0	0
• 8 GB DDR4 SDRAM (2x 4 GB), dual channel	1	1
• 16 GB DDR4 SDRAM (2x 8 GB), dual channel	2	2
• 32 GB DDR4 SDRAM (2x 16 GB), dual channel	3	3
• 64 GB DDR4 SDRAM (4x 16 GB), dual channel	4	
• 16 GB DDR4 SDRAM (2x 8 GB), ECC, dual channel (only with Core i3/Xeon)	6	
• 32 GB DDR4 SDRAM (2x 16 GB), ECC, dual channel (only with Core i3/Xeon)	7	
• 64 GB DDR4 SDRAM (4x 16 GB), ECC, dual channel (only with Core i3/Xeon)	8	
<u>Expansion hardware</u>		
• Without expansion	0	
• PCIe x4 adapter card for M.2 NVMe module without SSD (1 slot occupied)	1	
• PCIe x16 graphics card (3x mDP: 3x adapter mDP on DP) (1 slot occupied)	2	
• PCIe x4 adapter card for M.2 NVMe module without SSD (1 slot occupied) + PCIe x16 graphics card (3x mDP: 3x adapter mDP on DP) (1 slot occupied)	3	
• 512 GB SSD M.2 NVMe on PCIe x4 adapter card (1 slot occupied) (for operating system)	4	
• 512 GB SSD M.2 NVMe on PCIe x4 adapter card (1 slot occupied) (for operating system) + PCIe x16 graphics card (3x mDP: 3x adapter mDP on DP) (1 slot occupied)	5	
• 1 024 GB SSD M.2 NVMe on PCIe x4 adapter card (1 slot occupied) (for operating system)	6	
<u>Operating system (pre-installed and activated)</u>		
• Windows 10 Enterprise 2016 LTSB, multi-language (en, de, fr, it, sp), 64-bit (for Core i3/i5)	A	
• Windows 10 Enterprise 2016 LTSB, multi-language (en, de, fr, it, sp), 64-bit (for Core i7/Xeon)	B	
• Windows Server 2016 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, sp)	H	
• Without operating system	X	
<u>Software / adapters / security expansions</u>		
• SIMATIC IPC DiagMonitor software enclosed	A	
• SIMATIC IPC Image & Partition Creator software included	B	
• SIMATIC IPC DiagMonitor + Image & Partition Creator software enclosed	C	
• Adapter cable DP to VGA for onboard graphics	H	
• Adapter cable DP to DVI-D for onboard graphics	J	
• Without expansions	X	
• TPM ¹⁾ 2.0 (not for China)	Y	
<u>SIMATIC IPC847E</u>		
<u>Cables, country-specific versions</u>		
• Without power supply cord	0	
• Power supply cord for Europe	1	
• Power supply cord for USA	2	
• Power supply cord for China	3	
<u>Accessories</u>		
<u>Memory expansions</u>		
• 4 GB DDR4 2666 SDRAM, DIMM	6ES7648-2AL60-0QA0	
• 8 GB DDR4 2666 SDRAM, DIMM	6ES7648-2AL70-0QA0	
• 16 GB DDR4 2666 SDRAM, DIMM	6ES7648-2AL80-0QA0	
<u>Removable drive bay</u>	6ES7648-0EH00-1BA0	
for 3.5" hard disk or 2.5" solid-state drive, SATA (without hard disk drive/ solid-state drive)		
<u>Tower Kit</u>	6ES7648-1AA01-0XC0	
To convert the computer into an industrial tower PC		
<u>Retainer</u>	6ES7648-1AA00-0XK0	
For mechanically interlocking the internal USB port		
<u>Adapter cable</u>		
• DisplayPort to DVI-D for onboard graphics	6ES7648-3AF00-0XA0	
• DisplayPort to VGA for onboard graphics	6ES7648-3AG00-0XA0	
• miniDisplayPort to VGA for graphics card	6ES7648-3AL00-0XA0	
• miniDisplayPort to DVI-D for graphics card	6ES7648-3AK00-0XA0	
• miniDisplayPort to DVI-D for graphics card (3 per package)	6ES7648-3AK00-1XA0	
• miniDisplayPort to DisplayPort for graphics card	6ES7648-3AJ00-0XA0	
• miniDisplayPort to DisplayPort for graphics card (3 per package)	6ES7648-3AJ00-1XA0	

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or the 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: <http://www.siemens.com/ipc-configurator>

Further information can be found on the Internet at:

<http://www.siemens.com/simatic-pc>

¹⁾ TPM = Trusted Platform Module

PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC847D**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	
Mounting	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)
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	Xeon E3-1275 v3 (4C/8T, 3.5 (3.9) GHz, 8 MB cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache); Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache)
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)
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)

Technical specifications (continued)

Article number	6AG4114-2....-.... SIMATIC IPC847D (Rack PC)
Memory	
Main 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 serial interface	2x PS/2 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), 1 GB graphics memory (optional)
Industrial Ethernet	
• Industrial Ethernet interface	2x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
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

Article number	6AG4114-2....-.... SIMATIC IPC847D (Rack 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 61000-4-4, 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

PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC847D**Technical specifications (continued)**

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
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 resistance during operation acc. to IEC 60068-2-6	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

Article number	6AG4114-2....-.... SIMATIC IPC847D (Rack PC)
Operating systems	
Operating system	Windows 7 Ultimate, multi-language (32-bit/64-bit), Windows 10 Enterprise 2015 LTSP, multi-language (64-bit), Windows 10 Enterprise 2016 LTSP, multi-language (64-bit), Windows Server 2008 R2 Standard Edition incl. 5 clients, multi-language (64-bit); Windows Server 2012 R2 Standard Edition incl. 5 clients, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 clients, multi-language (64-bit)
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.****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
- Core i3-4330TE
(2C/4T, 2.4 GHz, 4 MB cache,
VT-x); mainboard with PROFIBUS/
MPI (CP 5622-compatible)
- Core i3-4330TE
(2C/4T, 2.4 GHz, 4 MB cache);
mainboard with PROFINET
(3 x RJ45, CP 1616-compatible)
- Core i5-4570TE
(2C/4T, 2.7 (3.3) GHz,
4 MB cache, TB, VT-d, AMT);
mainboard without fieldbus
- 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)
- 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)
- Xeon E3-1268L v3
(4C/8T, 2.3 (3.3) GHz,
8 MB cache, TB, VT-d, AMT);
mainboard without fieldbus
- 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)
- 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)
- Xeon E3-1275 v3
(4C/8T, 3.5 (3.9) GHz, 8 MB
cache, TB, VT-d, AMT);
mainboard without fieldbus
- 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)
- 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)

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SIMATIC IPC847D**6AG4114 - 2**Drives

- 500 GB HDD SATA, internal
(0.3 g vibration, 3 g shock)
- 500 GB HDD SATA, internal
(0.5 g vibration, 5 g shock)
- 1 TB HDD SATA, internal
(0.5 g vibration, 5 g shock)
- 2 x 1 TB HDD SATA, internal
(0.5 g vibration, 5 g shock)
- RAID1, 1 TB (2 x 1 TB HDD SATA,
mirror disks), internal (0.5 g
vibration, 5 g shock)
- 500 GB HDD SATA in removable
drive bay; front
- 1 TB HDD SATA in removable
drive bay; front
- 2 x 1 TB HDD SAT in removable
drive bay; front
- RAID1, 1 TB (2 x 1 TB HDD SATA,
mirror disks) in removable drive
bay, hot-swappable, front;
- RAID5, 2 TB (3 x 1 TB HDD, SATA,
striping with parity) in removable
drive bay, hot-swappable, front
- 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
remov. drive bay, front-mounted
- 240 GB SSD SATA, internal
- 240 GB SSD SATA in removable
drive bay; front
- 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
- 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;
- RAID1, 1 TB (2 x 1 TB HDD SATA,
mirror disks) + 240 GB SSD SATA
(for operating system) in remov.
drive bay, hot-swap; front
- RAID1, 1 TB (2 x 1 TB HDD SAS,
mirror disks) in removable drive
bay, hot-swappable, front-mount-
ed; PCIe x8 RAID controller incl.
ZCMP module (2 slots occupied)
- 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 remov.
drive bay, front-mounted
- 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)
- 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
remov. drive bay, front-mounted
- RAID1, 240 GB (2 x 240 GB SSD
SATA, mirror disks), in removable
drive bay, hot swap, at the front

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PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC847D

Ordering data

Article No.

SIMATIC IPC847D	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 / removable data storage media	
• Bus module 11-slot: 7 x PCI, 3 x PCIe x4, 1 x PCIe x16; without removable data storage media	0
• Bus module 11-slot: 3 x PCI, 3 x PCIe x4, 5 x PCIe x16; without removable data storage 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 to VGA adapter 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 to VGA adapter cable 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), 1 GB, (1 slot occupied)	4

Article No.

SIMATIC IPC847D	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 Enterprise 2015, LTSB, 64-bit, MUI (en, de, fr, it, es)	C
• Windows 10 Enterprise 2016, LTSB, 64-bit, MUI (en, de, fr, it, es) (for Core i3/i5)	D
• Windows 10 Enterprise 2016, LTSB, 64-bit, MUI (en, de, fr, it, es) (for Xeon)	E
• 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
• Windows Server 2016 Standard Edition incl. 5 clients, MUI (en, de, fr, it, es), 64-bit language	H
• Without operating system	X
(Software) / security expansions	
• SIMATIC IPC DiagMonitor software enclosed	A
• SIMATIC IPC Image Creator software included	B
• SIMATIC IPC DiagMonitor and Image Creator software enclosed	C
• Without software (software)	X
• TPM 1.2 ¹⁾ (not for China and 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 the 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 the 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:

<http://www.siemens.com/ipc-configurator>

Ordering data	Article No.	Ordering data	Article No.
Accessories		Power cable, straight, 3 m long	
Memory expansions		<ul style="list-style-type: none"> • Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden • United Kingdom • Switzerland • USA • Italy • China 	6ES7900-0AA00-0XA0 6ES7900-0BA00-0XA0 6ES7900-0CA00-0XA0 6ES7900-0DA00-0XA0 6ES7900-0EA00-0XA0 6ES7900-0FA00-0XA0
<ul style="list-style-type: none"> • 2 GB DDR3 1600 DIMM • 4 GB DDR3 1600 DIMM • 8 GB DDR3 1600 DIMM • 8 GB DDR3 1600 DIMM, ECC 	6ES7648-2AJ50-0MA0 6ES7648-2AJ60-0MA0 6ES7648-2AJ70-0MA0 6ES7648-2AJ70-1MA0	Tower Kit	6ES7648-1AA00-0XD0
Hardware accessories		for converting the computer into an industrial tower PC	
Tray for low-profile removable drive bay	6ES7648-0EG01-1BA0	USB retainer	6ES7648-1AA00-0XK0
For 3.5" hard drive (SATA/SAS) and 2.5" SSD (SATA), without drive		For interlocking the internal USB port	
Filter mats	A5E01064980	Expansion components	See Expansion components
for SIMATIC IPC847D (packing unit: 10 units)		Communication products	See Expansion components
Adapter cable			
<ul style="list-style-type: none"> • DisplayPort to DVI-D for onboard graphics • DisplayPort to VGA for onboard graphics 	6ES7648-3AF00-0XA0 6ES7648-3AG00-0XA0		

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".

Additional information is available on the Internet at:

<http://www.siemens.com/simatic-pc>

PC-based Automation

Industrial PC
Rack PC

SIMATIC IPC1047

Overview



SIMATIC IPC1047

SIMATIC IPC1047 is an industrial PC for maximum computing and graphic capacity requirements with expansive expandability in 19" installation design (4 U).

It offers:

- Maximum computing capacity due to two Intel® Xeon® CPUs
- Maximum graphic capacity
- High degree of expandability
- Product design for industrial environment

Technical specifications

Article number	6BK1800-1HA01-0AA0 SIMATIC IPC1047 - CPU (Rack PC)	6BK1800-1HA02-0AA0 SIMATIC IPC1047 - GPU (Rack PC)	6BK1800-1HA03-0AA0 SIMATIC IPC1047 - Virtualize (Rack PC)
Installation type/mounting			
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 mounting	Yes	Yes	Yes
Supply voltage			
Type of supply voltage	100/240V AC (autorange) 50/60 Hz	100/240V AC (autorange) 50/60 Hz	AC redundant 100/240 V (autorange) 50 Hz/60 Hz
Line frequency			
• Rated value 50 Hz	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes
Mains buffering			
• Mains/voltage failure stored energy time	20 ms	20 ms	20 ms
Processor			
Processor type	Xeon E5-2620 v4 (8C/16T, 2.1 (3.0) GHz, 20 MB cache)	Xeon E5-2620 v4 (8C/16T, 2.1 (3.0) GHz, 20 MB cache)	Xeon E5-2658 v4 (14C/28T, 2.3 (2.8) GHz, 35 MB cache)
Chipset	Intel PCH C612	Intel PCH C612	Intel PCH C612
Graphic			
Graphics controller	Onboard VGA / 2D controller 1 920 x 1 200 @ 60 Hz 32 bpp	NVIDIA Quadro P5000, 2 560 cores, 16 GB DDR5	Onboard VGA / 2D controller 1 920 x 1 200 @ 60 Hz 32 bpp
Drives			
Hard disk	1x 480 GB SSD	1x 480 GB SSD	1x 480 GB SSD, 4x 1.9 TB SSD
SSD	Yes	Yes	Yes
Memory			
Type of memory	DDR4-SDRAM DIMM	DDR4-SDRAM DIMM	DDR4-SDRAM DIMM
Main memory	32 GB, 2 400 MHz	32 GB, 2 400 MHz	128 GB, 2 400 MHz
Hardware configuration			
Slots			
• free slots	6 slots: 3x PCIe (x16), 3x PCIe (x8)	6 slots: 3x PCIe (x16), 3x PCIe (x8)	6 slots: 3x PCIe (x16), 3x PCIe (x8)
Interfaces			
USB port	4x USB 3.0: 2x on rear, 2x on front; 2x USB 2.0: 2x on rear	4x USB 3.0: 2x on rear, 2x on front; 2x USB 2.0: 2x on rear	4x USB 3.0: 2x on rear, 2x on front; 2x USB 2.0: 2x on rear
Integrated Functions			
Monitoring functions			
• Temperature monitoring	Yes	Yes	Yes
• Status LEDs	POWER, HDD, FAN Fail	POWER, HDD, FAN Fail	POWER, HDD, FAN Fail
• Fan	Yes	Yes	Yes
• Monitoring function via network	Yes (per IPMI)	Yes (per IPMI)	Yes (per IPMI)

Technical specifications (continued)

Article number	6BK1800-1HA01-0AA0 SIMATIC IPC1047 - CPU (Rack PC)	6BK1800-1HA02-0AA0 SIMATIC IPC1047 - GPU (Rack PC)	6BK1800-1HA03-0AA0 SIMATIC IPC1047 - Virtualize (Rack PC)
EMC			
Interference immunity against discharge of static electricity			
<ul style="list-style-type: none"> 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
Interference immunity against high-frequency electromagnetic fields			
<ul style="list-style-type: none"> Interference immunity against high frequency radiation 	10 V/m for 80 - 1 000 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			
<ul style="list-style-type: none"> Interference immunity on supply cables Interference immunity on signal cables > 30 m Interference immunity on signal cables < 30 m 	±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 against voltage surge			
<ul style="list-style-type: none"> asymmetric interference symmetric interference 	±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields			
<ul style="list-style-type: none"> 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			
<ul style="list-style-type: none"> 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	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	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)	IP30	IP30	IP30
IP (rear)	IP20	IP20	IP20
Standards, approvals, certificates			
Approval	CE, cULus 60950	CE, cULus 60950	CE, cULus 60950
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)	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)	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	Yes	Yes
cULus	Yes	Yes	Yes
FCC	Yes	Yes	Yes
EMC	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	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	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered

PC-based Automation

Industrial PC

Rack PC

SIMATIC IPC1047**Technical specifications** (continued)

Article number	6BK1800-1HA01-0AA0 SIMATIC IPC1047 - CPU (Rack PC)	6BK1800-1HA02-0AA0 SIMATIC IPC1047 - GPU (Rack PC)	6BK1800-1HA03-0AA0 SIMATIC IPC1047 - Virtualize (Rack PC)
Ambient conditions			
Ambient temperature during operation			
• Ambient temperature during operation	0 °C to +50 °C in basic configuration; 0 °C to +40 °C in maximum configuration	0 to +40 °C	0 to +40 °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 resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s ² (0.2 g)		
Shock testing			
• Shock load during operation	Tested according to IEC 60068-2-27; half-sine: 9.8 m/s ² (1 g), 20 ms, 100 shocks per axis	Tested according to IEC 60068-2-27; half-sine: 9.8 m/s ² (1 g), 20 ms, 100 shocks per axis	Tested according to IEC 60068-2-27; half-sine: 9.8 m/s ² (1 g), 20 ms, 100 shocks per axis
Operating systems			
Operating system	Windows 7 Professional x64 bit	Windows 7 Professional x64 bit	Windows Server 2012 R2
pre-installed operating system	Yes	Yes	No
pre-installed operating system			
• Windows 7	Yes	Yes	Yes
Dimensions			
Width	430 mm	430 mm	430 mm
Height	176.6 mm; 4U	176.6 mm; 4U	176.6 mm; 4U
Depth	572 mm	572 mm	572 mm

Ordering data**Article No.****Article No.****SIMATIC IPC1047****SIMATIC IPC1047 CPU**

- 2x Intel Xeon E5-2620v4;
32 GB DDR4 ECC SDRAM;
- 1x system-SSD 480 GB;
2x Gbit Ethernet, IPMI, RJ45
- 1x VGA, 1x COM 1, TPM1.2
- 2x USB 3.0, 2x USB rear;
2x USB 3.0 front
- WIN 7 Professional x64bit
- ATX power supply 860 W; temp.
and fan monitoring
- SW RAID onboard

6BK1800-1HA01-0AA0**SIMATIC IPC1047 GPU**

- 2x Intel Xeon E5-2620v4;
32 GB DDR4 ECC SDRAM;
- 1x system SSD 480 GB;
1x GPU NVIDIA P5000;
- 2x Gbit Ethernet, IPMI, RJ45;
1x VGA, 1x COM 1, TPM1.2;
- 2x USB 3.0, 2x USB rear;
2x USB 3.0 front
- WIN 7 Professional x64bit
- ATX power supply 860 W;
temp. and fan monitoring
- SW RAID onboard

6BK1800-1HA02-0AA0**SIMATIC IPC1047 Virtualize**

- 2x Intel Xeon E5-2658v4;
128 GB DDR4 ECC SDRAM
- 1x system-SSD 480 GB;
4x DATA-SSD 1.9TB
- 2x Gbit Ethernet, IPMI, RJ45;
1x VGA, 1x COM 1, TPM1.2;
- 2x USB 3.0, 2x USB rear;
2x USB 3.0 front
- Windows Server 2012 R2
- 700 W redundant power supply;
temp. and fan monitoring
- HW RAID controller

6BK1800-1HA03-0AA0Note:

Request customized configurations via Siemens Customized Automation.

Further information can be found on the Internet at:

<http://www.siemens.com/simatic-pc>

Overview

**SIMATIC Box PCs**

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 IPC127E:**
The ultra-compact, flexible, rugged industrial PC and IoT gateway in one
- **SIMATIC IPC227 (Nanobox PC):**
The Box PC with optimized performance in compact design – maintenance-free and rugged
- **SIMATIC IPC327:**
Fanless Basic Box PC at an appealing price
- **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 IPC127 (Nanobox PC): Ultra-compact IoT gateway for data collection, pre-processing, and forwarding of the data

- High-performance gateway:
IoT gateway for the acquisition/collection/processing/transmission of data / integration of machinery in Cloud/Edge solutions
- For retrofitting and new systems:
Networking/retrofitting of digitizing tasks in brownfield and greenfield systems due to ultra-compact design
- Optimized price/performance ratio; ideal for high quantities

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 IPC327: Fanless Basic Box PC at an appealing price

- Low-cost platform for the industrial and industry-oriented field
- Flexible installation on the DIN rail or wall mounting, as well as simple connection of I/O devices due to a large number of interfaces
- Fanless industrial design
- Fast availability directly ex stock due to preferred variants

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

PC-based Automation

Industrial PC

Box PC

Technical specifications

Article number	6AG4021-0AA11-0AA0 SIMATIC IPC127E ¹⁾	6ES7647-8B...-.... SIMATIC IPC227E (Nanobox PC)	6AG4022-0A...-.... SIMATIC IPC327E	6AG4141-.....-.... SIMATIC IPC427E (MicroBOX PC)	6AG4131-3....-.... SIMATIC IPC627E (Box PC)	6AG4132-2....-.... SIMATIC IPC827D (Box PC)
Installation type/ mounting						
Mounting		DIN rail, wall mounting, portrait mounting	Standard mounting rail, wall mounting (horizontal and vertical)	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	Box PC, built-in unit	Box PC, built-in unit
Supply voltage						
Type of supply voltage	24 V DC	24 V DC	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	Yes
• Rated value 60 Hz				Yes	Yes	Yes
Mains buffering						
• Mains/voltage failure stored energy time	5 ms	20 ms	10 ms		20 ms	20 ms
Processor						
Processor type	Intel Atom E3930, 1.3 GHz, 2 cores	Intel Celeron N2807 / N2930	Intel Celeron N3160	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 G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d); Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, 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 C246	Intel DH82C226 PCH
Graphic						
Graphics controller				Intel HD graphics controller	Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)
Drives						
Optical drives				possible as external drive via USB		DVD±R±RW combi-drive, optional
Hard disk		2.5" SATA ≥ 320 GB	500 GB HDD	2.5" SATA ≥ 320 GB	2.5" SATA ≥ 320 GB	3.5" SATA ≥ 500 GB, optional: 3.5" SATA ≥ 1 TB; RAID1 2x 2.5" SATA ≥ 320 GB; solid-state drive (SSD) ≥ 240 GB; all hard disk drives within the enclosure are vibration-damped; RAID1 2x 2.5" SATA ≥ 320 GB byte in removable drive bay
SSD	Yes; 32 GB	Yes; ≥ 128 GB optional	Yes; 256 GB SSD	Yes; 1x 128 GB, 1x 240 GB SSD, 1x 480 GB SSD	Yes; M.2 SSD NVMe > 512 GB; SSD 2.5" SATA > 480 GB; RAID1 2x SSD 2.5" > 480 GB in removable drive bay	Yes; ≥ 240 GB optional

¹⁾ For more options see IPC127E page 4/49 or Mall

Technical specifications (continued)

Article number	6AG4021-0AA11-0AA0 SIMATIC IPC127E ¹⁾	6ES7647-8B...-.... SIMATIC IPC227E (Nanobox PC)	6AG4022-0A...-.... SIMATIC IPC327E	6AG4141-.....-.... SIMATIC IPC427E (MicroBOX PC)	6AG4131-3....-.... SIMATIC IPC627E (Box PC)	6AG4132-2....-.... SIMATIC IPC827D (Box PC)
Memory						
Type of memory	DDR4	DDR3L	DDR3L	DDR4 SO-DIMM	DDR4-2666 DIMM	DDR3 1600 DIMM
Main memory	2 GB RAM	2 / 4 / 8 GB	4 GB, 8 GB	4 GB to 16 GB, ECC optional	4 / 8 / 16 / 32 / 64 GB	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	512 kbyte	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration						
Slots						
• free slots		1x PCIe x1 (optional)	1x mPCIe (half-size), 1x mSATA (full-size)	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
Interfaces						
PROFIBUS/MPI						Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)		2; 2x RJ45 (independent)	3; Ethernet (2x RJ45, optional 3x RJ45)	3; 3x Gigabit Ethernet (IE/PN), RJ45	2; 2x RJ45 (independent)
Number of PROFINET interfaces	2					3; Optional
USB port	2x USB 3.0	1x USB 3.0 / 3x USB 2.0	4x USB 2.0, 2x USB 3.0 (high current)	4x USB 3.0	6x USB 3.1 Gen. 2 (2x type C)	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB		USB / USB	USB / USB	USB / USB
serial interface		Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS	6x COM (4x RS 232, 2x RS 232 / 422 / 485 switchable)	Without / 2x COM (RS 232 / 485 / 422; switchable)	1x COM	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface						optional LPT1
Video interfaces						
• Graphics interface	1x DisplayPort	1x DisplayPort	1x DisplayPort, 1x VGA	2x DisplayPort	2x DisplayPort; 1x DVI-D	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
Industrial Ethernet						
• Industrial Ethernet interface	2x Ethernet (RJ45)	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	2x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Gigabit Ethernet (IE/PN), RJ45	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes	Yes
Protocols						
Protocols (Ethernet)						
• TCP/IP	Yes		Yes			
Integrated Functions						
Monitoring functions						
• Temperature monitoring	Yes	Yes	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes	Yes	Yes
• Status LEDs	1x power, 3x user	Yes	POWER, HDD	Yes	Yes	Yes
• Fan	No	No	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; ±8 kV air (to IEC 1000-4-2; ESD)	±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

PC-based Automation

Industrial PC

Box PC

Technical specifications (continued)

Article number	6AG4021-0AA11-0AA0	6ES7647-8B...-....	6AG4022-0A...-....	6AG4141-.....-....	6AG4131-3.....-....	6AG4132-2.....-....
	SIMATIC IPC127E ¹⁾	SIMATIC IPC227E (Nanobox PC)	SIMATIC IPC327E	SIMATIC IPC427E (MicroBOX PC)	SIMATIC IPC627E (Box PC)	SIMATIC IPC827D (Box PC)
<ul style="list-style-type: none"> Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 - Test voltage at air discharge - Test voltage at contact discharge 	8 kV		8 kV			
<ul style="list-style-type: none"> - Test voltage at contact discharge 	6 kV		6 kV			
Interference immunity against high-frequency electromagnetic fields <ul style="list-style-type: none"> 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 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 ... 1 000 MHz, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 ... 6 GHz, 80 % AM according to IEC 61000-4-3	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m f. 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 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 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 <ul style="list-style-type: none"> Interference immunity on supply cables Interference immunity on signal cables > 30 m Interference immunity on signal cables < 30 m 	±2 kV (according to IEC 61000-4-4, burst); ±0,5 kV (acc. to IEC 61000-4-5, surge pulse/line to line); ±1 kV (according to IEC 61000-4-5, surge pulse/line to ground)	±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 (according to IEC 61000-4-4, burst); ±1 kV (according to IEC 61000-4-5, surge pulse/line to line); ±2 kV (according to IEC 61000-4-5, surge pulse/line to ground)	±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 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge	±2 kV acc. to IEC 61000-4-5, 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
	±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	±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 <ul style="list-style-type: none"> asymmetric interference symmetric 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
		±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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> Interference emission via line/AC current cables 	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), 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

Technical specifications (continued)

Article number	6AG4021-0AA11-0AA0 SIMATIC IPC127E ¹⁾	6ES7647-8B...-.... SIMATIC IPC227E (Nanobox PC)	6AG4022-0A...-.... SIMATIC IPC327E	6AG4141-.....-.... SIMATIC IPC427E (MicroBOX PC)	6AG4131-3....-.... SIMATIC IPC627E (Box PC)	6AG4132-2....-.... SIMATIC IPC827D (Box PC)
Degree and class of protection						
IP (at the front)	IP40	IP40		IP20	IP20	IP20
IP (rear)	IP40	IP40		IP20	IP20	IP20
Standards, approvals, certificates						
Approval	CE, UL					
CE mark	Yes	Yes	Yes	Yes; CE marking / EC Declaration of Conformity	Yes	Yes
UL approval	Yes	Yes	Yes	Yes		Yes
• UL 508		Yes		Yes		Yes
cULus		Yes	Yes	Yes	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition	Yes
RCM (formerly C-TICK)		Yes	Yes	Yes	Yes	Yes
KC approval		Yes		Yes	Yes	Yes
EAC (formerly Gost-R)			Yes		Yes	
FCC		Yes	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
Dust protection	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm				
Use in hazardous areas						
• ATEX Zone 2				Yes		
• IECEx Zone 2				Yes		
• cULus Class I Zone 2, Division 2				Yes		
Marine approval						
• Germanischer Lloyd (GL)		Yes		Yes		Yes
• American Bureau of Shipping (ABS)		Yes		Yes		Yes
• Bureau Veritas (BV)		Yes				Yes
• Det Norske Veritas (DNV)		Yes		Yes		Yes
• Korean Register of Shipping (KRS)				Yes		
• Lloyds Register of Shipping (LRS)		Yes		Yes		Yes
• Nippon Kaiji Kyokai (Class NK)		Yes				Yes
Ambient conditions						
Ambient temperature during operation						
• Ambient temperature during operation	0 °C up to 55 °C	0 °C up to 60 °C	0 °C to 50 °C	0 °C to +55 °C	+5 °C up to 55 °C	+5 °C up to 55 °C
Relative humidity						
• Relative humidity	5 ... 85 % at 30 °C, no condensation	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condens.), 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 condens.), 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 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)

¹⁾ For more options see IPC127E page 4/49 or Mall

PC-based Automation

Industrial PC

Box PC

Technical specifications (continued)

Article number	6AG4021-0AA11-0AA0 SIMATIC IPC127E ¹⁾	6ES7647-8B...-.... SIMATIC IPC227E (Nanobox PC)	6AG4022-0A...-.... SIMATIC IPC327E	6AG4141-.....-.... SIMATIC IPC427E (MicroBOX PC)	6AG4131-3....-.... SIMATIC IPC627E (Box PC)	6AG4132-2....-.... SIMATIC IPC827D (Box PC)
Vibrations						
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9.8 m/s ²	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 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 according to IEC 60068-2-27: 150 m/s ² , 11 ms	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s ² , 11 ms; with HDD: 9.8 m/s ² , 20 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
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 10 Enterprise 2016 LTSB, 64 bit	Windows 7 Ultimate (Multi-Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10	Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Windows 7 Ultimate, 32-bit/64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI; Windows 10 Enterprise 2015 or 2016 LTSB, 64-bit, MUI
pre-installed operating system		Yes	Yes	Yes	Yes	Yes
without operating system		Yes	Yes; Optional	Yes; Optional	Yes	Yes
pre-installed operating system						
• Windows 7	No	Yes; Ultimate 32 bit or 64 bit		Yes; Ultimate 32 bit or 64 bit		Yes; Ultimate 32 bit or 64 bit
• Windows 10 Enterprise	No	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI		Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Yes; Windows 10 Enterprise 2015 or 2016 LTSB, 64-bit, MUI
Software						
SIMATIC Software		Optional package with SIMATIC WinCC or WinAC RTX		Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle	Optional package with SIMATIC WinCC or WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX
Dimensions						
Width	85 mm	191 mm	254 mm	262 mm	314 mm	312 mm
Height	85 mm	100 mm	140 mm	139.7 mm	93 mm	155 mm; With DVD drive: 179 mm
Depth	41 mm	60 mm	75 mm	55.5 mm	301 mm; incl. mounting rail	301 mm; incl. mounting rail

¹⁾ For more options see IPC127E page 4/49 or Mall

More information is available on the Internet at:

<http://www.siemens.com/simatic-pc>

Overview



SIMATIC IPC127E: Ultra-compact IoT gateway for data collection, pre-processing, and forwarding of the data

Thanks to the ultra-compact enclosure, which has a volume of just 0.3 liters, the SIMATIC IPC127E can be easily – even subsequently – integrated into the control cabinet or directly on the machine with minimal space requirements.

The enclosed all-metal enclosure enables the new industrial PC to be used flexibly and maintenance-free even under harsh conditions. Thus the SIMATIC IPC127E makes it possible to reliably record / collect / process / transfer data directly in the production environment and can be flexibly used as an IoT gateway between the cloud or the corporate IT level and production. Thanks to pre-configured versions, the right product is available to users in a very short time.

Technical specifications

Article number	6AG4021-0AA11-0AA0 SIMATIC IPC127E	6AG4021-0AA12-0BA0 SIMATIC IPC127E	6AG4021-0AB11-0BA0 SIMATIC IPC127E	6AG4021-0AB12-0CA0 SIMATIC IPC127E
Installation type/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	24 V DC	24 V DC
Mains buffering				
• Mains/voltage failure stored energy time	5 ms	5 ms	5 ms	5 ms
Processor				
Processor type	Intel Atom E3930, 1.3 GHz, 2 cores	Intel Atom E3930, 1.3 GHz, 2 cores	Intel Atom E3940, 1.6 GHz, 4 cores	Intel Atom E3940, 1.6 GHz, 4 cores
Drives				
SSD	Yes; 32 GB	Yes; 64 GB	Yes; 64 GB	Yes; 128 GB
Memory				
Type of memory	DDR4	DDR4	DDR4	DDR4
Main memory	2 GB RAM	2 GB RAM	4 GB RAM	4 GB RAM
Interfaces				
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)	3; 3x Ethernet (RJ45)	2; 2x RJ45 (independent)	3; 3x Ethernet (RJ45)
Number of PROFINET interfaces	2	3	2	3
USB port	2x USB 3.0	4x USB 3.0	2x USB 3.0	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB	USB / USB
Video interfaces				
• Graphics interface	1x DisplayPort	1x DisplayPort	1x DisplayPort	1x DisplayPort
Industrial Ethernet				
• Industrial Ethernet interface	2x Ethernet (RJ45)	3x Ethernet (RJ45)	2x Ethernet (RJ45)	3x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes
Protocols				
Protocols (Ethernet)				
• TCP/IP	Yes	Yes	Yes	Yes
Integrated Functions				
Monitoring functions				
• Temperature monitoring	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes
• Status LEDs	1x power, 3x user	1x power, 3x user	1x power, 3x user	1x power, 3x user
• Fan	No	No	No	No

PC-based Automation

Industrial PC

Box PC

SIMATIC IPC127E

Technical specifications (continued)

Article number	6AG4021-0AA11-0AA0 SIMATIC IPC127E	6AG4021-0AA12-0BA0 SIMATIC IPC127E	6AG4021-0AB11-0BA0 SIMATIC IPC127E	6AG4021-0AB12-0CA0 SIMATIC IPC127E
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 discharge of static electricity acc. to IEC 61000-4-2				
- Test voltage at air discharge	8 kV	8 kV	8 kV	8 kV
- Test voltage at contact discharge	6 kV	6 kV	6 kV	6 kV
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 (according to IEC 61000-4-4; burst); ±0,5 kV (according to IEC 61000-4-5; surge pulse/line to line); ±1 kV (according to IEC 61000-4-5; surge pulse/line to ground)			
• 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 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 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A
Standards, approvals, certificates				
Approval	CE, UL	CE, UL	CE, UL	CE, UL
CE mark	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes
Dust protection	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm
Ambient conditions				
Ambient temperature during operation				
• Ambient temperature during operation	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C
Relative humidity				
• Relative humidity	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation
Vibrations				
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s ²			
Shock testing				
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s ² , 11 ms			
Operating systems				
pre-installed operating system				
• Windows 10 Enterprise	No	No	No	No
Dimensions				
Width	85 mm	85 mm	85 mm	85 mm
Height	85 mm	104 mm	85 mm	104 mm
Depth	41 mm	41 mm	41 mm	41 mm

Technical specifications (continued)

Article number	6AG4021-0AA11-1BA0 SIMATIC IPC127E	6AG4021-0AB11-1BA0 SIMATIC IPC127E	6AG4021-0AB11-1CA0 SIMATIC IPC127E	6AG4021-0AB12-1BA0 SIMATIC IPC127E	6AG4021-0AB12-1CA0 SIMATIC IPC127E
Installation type/mounting					
Design	Box PC, built-in unit	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	24 V DC	24 V DC	24 V DC
Mains buffering					
• Mains/voltage failure stored energy time	5 ms	5 ms	5 ms	5 ms	5 ms
Processor					
Processor type	Intel Atom E3930, 1.3 GHz, 2 cores	Intel Atom E3940, 1.6 GHz, 4 cores	Intel Atom E3940, 1.6 GHz, 4 cores	Intel Atom E3940, 1.6 GHz, 4 cores	Intel Atom E3940, 1.6 GHz, 4 cores
Drives					
SSD	Yes; 64 GB	Yes; 64 GB	Yes; 128 GB	Yes; 64 GB	Yes; 128 GB
Memory					
Type of memory	DDR4	DDR4	DDR4	DDR4	DDR4
Main memory	2 GB RAM	4 GB RAM	4 GB RAM	4 GB RAM	4 GB RAM
Interfaces					
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)
Number of PROFINET interfaces	2	2	2	3	3
USB port	2x USB 3.0	2x USB 3.0	2x 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
Video interfaces					
• Graphics interface	1x DisplayPort	1x DisplayPort	1x DisplayPort	1x DisplayPort	1x DisplayPort
Industrial Ethernet					
• Industrial Ethernet interface	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes
Protocols					
Protocols (Ethernet)					
• TCP/IP	Yes	Yes	Yes	Yes	Yes
Integrated Functions					
Monitoring functions					
• Temperature monitoring	Yes	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes	Yes
• Status LEDs	1x power, 3x user	1x power, 3x user	1x power, 3x user	1x power, 3x user	1x power, 3x user
• Fan	No	No	No	No	No
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 discharge of static electricity acc. to IEC 61000-4-2					
- Test voltage at air discharge	8 kV	8 kV	8 kV	8 kV	8 kV
- Test voltage at contact discharge	6 kV	6 kV	6 kV	6 kV	6 kV
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				

PC-based Automation

Industrial PC

Box PC

SIMATIC IPC127E

Technical specifications (continued)

Article number	6AG4021-0AA11-1BA0 SIMATIC IPC127E	6AG4021-0AB11-1BA0 SIMATIC IPC127E	6AG4021-0AB11-1CA0 SIMATIC IPC127E	6AG4021-0AB12-1BA0 SIMATIC IPC127E	6AG4021-0AB12-1CA0 SIMATIC IPC127E
Interference immunity to cable-borne interference					
• Interference immunity on supply cables	±2 kV (according to IEC 61000-4-4; burst); ±0,5 kV (according to IEC 61000-4-5; surge pulse/line to line); ±1 kV (according to IEC 61000-4-5; surge pulse/line to ground)				
• 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 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 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A				
Standards, approvals, certificates					
Approval	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL
CE mark	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes
Dust protection	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm
Ambient conditions					
Ambient temperature during operation					
• Ambient temperature during operation	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C
Relative humidity					
• Relative humidity	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation
Vibrations					
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s ²	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s ²	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s ²	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s ²	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s ²
Shock testing					
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s ² , 11 ms	Tested according to IEC 60068-2-27: 150 m/s ² , 11 ms	Tested according to IEC 60068-2-27: 150 m/s ² , 11 ms	Tested according to IEC 60068-2-27: 150 m/s ² , 11 ms	Tested according to IEC 60068-2-27: 150 m/s ² , 11 ms
Operating systems					
Operating system	Windows 10 Enterprise 2016 LTSB, 64 bit, MUI				
pre-installed operating system	Yes	Yes	Yes	Yes	Yes
pre-installed operating system					
• Windows 10	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI				
• Windows 10 Enterprise	Yes	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI
Dimensions					
Width	85 mm	85 mm	85 mm	85 mm	85 mm
Height	85 mm	85 mm	85 mm	104 mm	104 mm
Depth	41 mm	41 mm	41 mm	41 mm	41 mm

Ordering data	Article No.	Article No.	
<i>SIMATIC IPC127E</i>			
Configuration 1 <ul style="list-style-type: none"> Processor / RAM: 2 core / 2 GB RAM Box type: Base Operating system: Without Drive: 32 GB SSD 	6AG4021-0AA11-0AA0	Configuration 6 <ul style="list-style-type: none"> Processor / RAM: 4 core / 4 GB RAM Box type: Base Operating system: Windows 10 Enterprise 2016 LTSB, 64-bit, MUI Drive: 64 GB SSD 	6AG4021-0AB11-1BA0
Configuration 2 <ul style="list-style-type: none"> Processor / RAM: 2 core / 2 GB RAM Box type: Extended Operating system: Without Drive: 64 GB SSD 	6AG4021-0AA12-0BA0	Configuration 7 <ul style="list-style-type: none"> Processor / RAM: 4 core / 4 GB RAM Box type: Base Operating system: Windows 10 Enterprise 2016 LTSB, 64-bit, MUI Drive: 128 GB SSD 	6AG4021-0AB11-1CA0
Configuration 3 <ul style="list-style-type: none"> Processor / RAM: 4 core / 4 GB RAM Box type: Base Operating system: Without Drive: 64 GB SSD 	6AG4021-0AB11-0BA0	Configuration 8 <ul style="list-style-type: none"> Processor / RAM: 4 core / 4 GB RAM Box type: Extended Operating system: Windows 10 Enterprise 2016 LTSB, 64-bit, MUI Drive: 64 GB SSD 	6AG4021-0AB12-1BA0
Configuration 4 <ul style="list-style-type: none"> Processor / RAM: 4 core / 4 GB RAM Box type: Extended Operating system: Without Drive: 128 GB SSD 	6AG4021-0AB12-0CA0	Configuration 9 <ul style="list-style-type: none"> Processor / RAM: 4 core / 4 GB RAM Box type: Extended Operating system: Windows 10 Enterprise 2016 LTSB, 64-bit, MUI Drive: 128 GB SSD 	6AG4021-0AB12-1CA0
Configuration 5 <ul style="list-style-type: none"> Processor / RAM: 2 core / 2 GB RAM Box type: Base Operating system: Windows 10 Enterprise 2016 LTSB, 64-bit, MUI Drive: 64 GB SSD 	6AG4021-0AA11-1BA0		

Note:

All configurations of the SIMATIC IPC127E do not include any mounting accessories. They must be ordered separately.

Mounting accessories	
DIN rail	6AG4021-0AA20-0AA1
Wall-mount	6AG4021-0AA20-0AA2
Book-mount Base	6AG4021-0AA20-0AA3
Book-mount Extended	6AG4021-0AA20-0AA4
Book-mount DIN-Rail	6AG4021-0AA20-0AA5

Additional information is available on the Internet at:

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

PC-based Automation

Industrial PC
Box PC

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; ≥ 128 GB optional
Memory	
Type of memory	DDR3L
Main 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
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Yes
• Fan	No
• Monitoring function via network	Optional

Technical specifications (continued)

Article number	6ES7647-8B...-.... SIMATIC IPC227E (Nanobox PC)
EMC	
Interference immunity against discharge of static electricity	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Interference immunity on supply cables Interference immunity on signal cables >30m Interference immunity on signal cables < 30m 	±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 61000-4-5, surge, length > 30 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	
<ul style="list-style-type: none"> asymmetric interference symmetric interference 	±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
<ul style="list-style-type: none"> Interference immunity to magnetic fields at 50 Hz 	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
<ul style="list-style-type: none"> 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

Article number	6ES7647-8B...-.... SIMATIC IPC227E (Nanobox PC)
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
<ul style="list-style-type: none"> 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
Dust protection	Protection against foreign bodies > 1 mm
Marine approval	
<ul style="list-style-type: none"> Germanischer Lloyd (GL) American Bureau of Shipping (ABS) Bureau Veritas (BV) Det Norske Veritas (DNV) Lloyds Register of Shipping (LRS) Nippon Kaiji Kyokai (Class NK) 	Yes Yes Yes Yes Yes Yes
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> Ambient temperature during operation 	0 °C up to 60 °C
Relative humidity	
<ul style="list-style-type: none"> Relative humidity 	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condens.), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
Vibrations	
<ul style="list-style-type: none"> Vibration resistance during operation acc. to IEC 60068-2-6 	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	
<ul style="list-style-type: none"> Shock load during operation 	Tested according to IEC 60068-2-27: 150 m/s ² , 11 ms
Operating systems	
Operating system	Windows 7 Ultimate 32-bit / 64-bit, MUJ; Windows Embedded Standard 7 E/P, 32-bit / 64-bit
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
<ul style="list-style-type: none"> Windows 7 Windows 10 Enterprise 	Yes; Ultimate 32 bit or 64 bit Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUJ
Software	
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX
Dimensions	
Width	191 mm
Height	100 mm
Depth	60 mm

PC-based Automation

Industrial PC
Box PC

SIMATIC IPC227E

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 operating system							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 2016 LTSB, 64-bit, MUI (en, de, fr, it, es)							7

Article No.

SIMATIC IPC227E	6ES7647-	8 B					
Mass storage							
• None							A
• 128 GB SSD							E
• 240 GB SSD							C
• 480 GB SSD							D
• 4 GB CFAST							K
• 8 GB CFAST							L
• 16 GB CFAST							M
• 30 GB CFAST							N
• 320 GB HDD							R
Software							
• Without SIMATIC software							A
• CPU 1507S							B
• WinCC RT Advanced V14, 128 PT (V15 license package)							D
• WinCC RT Advanced V14, 512 PT (V15 license package)							E
• WinCC RT Advanced V14, 2 048 PT (V15 license package)							F
• WinCC RT Advanced V14, 4 096 PT (V15 license package)							G
• CPU 1507S/WinCC RT Advanced V14, 128 PT (V15 license package)							J
• CPU 1507S/WinCC RT Advanced V14, 512 PT (V15 license package)							K
• CPU 1507S/WinCC RT Advanced V14, 2 048 PT (V15 license package)							L
• CPU 1507S/WinCC RT Advanced V14, 4 096 PT (V15 license package)							M
Mounting accessories							
• Standard mounting 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 the configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

Additional information is available on the Internet at:

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

Overview



SIMATIC IPC327E

Based on Intel Celeron process technology, the SIMATIC IPC327E Box PC represents a new IPC platform which has been specifically developed for cost-optimized, PC-based applications in industrial and industry-oriented environments.

It is above all distinguished by a large number of interfaces for easy connection to existing and new systems, fast availability from stock as well as a fanless industrial design.

Technical specifications

Article number	6AG4022-0A...-.... SIMATIC IPC327E
Installation type/mounting	
Mounting	Standard mounting rail, wall mounting (horizontal and vertical)
Design	Box PC, built-in unit
Supply voltage	
Type of supply voltage	24 V DC
Mains buffering	
• Mains/voltage failure stored energy time	10 ms
Processor	
Processor type	Intel Celeron N3160
Drives	
Hard disk	500 GB HDD
SSD	Yes; 256 GB SSD
Memory	
Type of memory	DDR3L
Main memory	4 GB, 8 GB
Hardware configuration	
Slots	
• free slots	1x mPCIe (half-size), 1x mSATA (full-size)
Interfaces	
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)
USB port	4x USB 2.0, 2x USB 3.0 (high current)
serial interface	6x COM (4x RS 232, 2x RS 232 / 422 / 485 switchable)
Video interfaces	
• Graphics interface	1x DisplayPort, 1x VGA
Industrial Ethernet	
• Industrial Ethernet interface	2x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
Protocols	
Protocols (Ethernet)	
• TCP/IP	Yes
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	POWER, HDD
• Fan	No

PC-based Automation

Industrial PC

Box PC

SIMATIC IPC327E**Technical specifications (continued)**

Article number	6AG4022-0A...-.... SIMATIC IPC327E
EMC	
Interference immunity against discharge of static electricity	
<ul style="list-style-type: none"> Interference immunity against discharge of static electricity Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 <ul style="list-style-type: none"> - Test voltage at air discharge - Test voltage at contact discharge 	±6 kV contact; ±8 kV air (to IEC 1000-4-2; ESD) 8 kV 6 kV
Interference immunity against high-frequency electromagnetic fields	
<ul style="list-style-type: none"> Interference immunity against high frequency radiation 	10 V/m for 80 ... 1 000 MHz, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 ... 6 GHz, 80 % AM according to IEC 61000-4-3
Interference immunity to cable-borne interference	
<ul style="list-style-type: none"> Interference immunity on supply cables Interference immunity on signal cables >30m Interference immunity on signal cables < 30m 	±2 kV (according to IEC 61000-4-4, burst); ±1 kV (according to IEC 61000-4-5, surge pulse/line to line); ±2 kV (according to IEC 61000-4-5, surge pulse/line to ground) ±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge ±1 kV acc. to IEC 61000-4-4, Burst
Interference immunity against voltage surge	
<ul style="list-style-type: none"> asymmetric interference symmetric interference 	±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
<ul style="list-style-type: none"> Interference immunity to magnetic fields at 50 Hz 	100 A/m; to IEC 61000-4-8

Article number	6AG4022-0A...-.... SIMATIC IPC327E
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> Ambient temperature during operation 	0 °C to 50 °C
Relative humidity	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Vibration resistance during operation acc. to IEC 60068-2-6 	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	
<ul style="list-style-type: none"> Shock load during operation 	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s ² , 11 ms; with HDD: 9.8 m/s ² , 20 ms
Operating systems	
Operating system	Windows 7 Ultimate (Multi-Language), 64 bit; Windows 10 Enterprise 2016 LTSC, 64 bit
pre-installed operating system	Yes
without operating system	Yes; Optional
Dimensions	
Width	254 mm
Height	140 mm
Depth	75 mm

PC-based Automation

Industrial PC

Box PC

SIMATIC IPC427E

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
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	
Optical drives	possible as external drive via USB
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; 1x 128 GB, 1x 240 GB SSD, 1x 480 GB SSD
Memory	
Type of memory	DDR4 SO-DIMM
Main 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
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 / 485 / 422; switchable)
Video interfaces	
• Graphics interface	2x DisplayPort
Industrial Ethernet	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes

Technical specifications (continued)

Article number	6AG4141-.....-.... SIMATIC IPC427E (MicroBOX 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
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	6AG4141-.....-.... SIMATIC IPC427E (MicroBOX PC)
Standards, approvals, certificates	
CE mark	Yes; CE marking / EC Declaration of Conformity
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
Use in hazardous areas	
• ATEX Zone 2	Yes
• IECEx Zone 2	Yes
• cULus Class I Zone 2, Division 2	Yes
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Det Norske Veritas (DNV)	Yes
• Korean Register of Shipping (KRS)	Yes
• Lloyds Register of Shipping (LRS)	Yes
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 °C to +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 resistance during operation acc. to IEC 60068-2-6	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
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; Optional
pre-installed operating system	
• Windows 7	Yes; Ultimate 32 bit or 64 bit
• Windows 10 Enterprise	Yes; Windows 10 Enterprise 2016 LTSC, 64 bit, MUJ
Software	
SIMATIC Software	Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle
Dimensions	
Width	262 mm
Height	139.7 mm
Depth	55.5 mm

PC-based Automation

Industrial PC

Box PC

SIMATIC IPC427E

Ordering data

Article No.

Ordering data	Article No.	
SIMATIC IPC427E (Box PC) ¹⁾	6AG4141-	
<u>Processor and fieldbus</u>		
• 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	
<u>Mounting accessories/ATEX</u>		
• Standard rail mounting		B
• Wall mounting		C
• Portrait mounting		D
• Standard 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
<u>Work memory/NVRAM/ECC</u>		
• 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
<u>Expansions/interfaces</u>		
• 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	
<u>Operating system</u>		
• 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 Enterprise 2016 LTSB (64-bit) for Celeron, Core i3 and Core i5 processors	7	
• Windows 10 Enterprise 2016 LTSB (64-bit) for Xeon processors	8	

Article No.

Ordering data	Article No.	
SIMATIC IPC427E (Box PC) ¹⁾	6AG4141-	
<u>Mass storage, externally accessible</u>		
• 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	
<u>Mass storage, internal</u>		
• Without internal mass storage		A
• 128 GB solid-state drive SATA		D
• 240 GB solid-state drive SATA		F
• 480 GB solid-state drive SATA		G
• 320 GB HDD		J
<u>SIMATIC Software (bundles/starter system)</u>		
• Without SIMATIC software		A
• CPU 1507S		B
• WinCC RT Advanced V15		
- 128 PT		C
- 512 PT		D
- 2 048 PT		E
- 4 096 PT		F
- 8 192 PT		G
CPU 1507S / WinCC RT Advanced V15		
- 128 PT		H
- 512 PT		J
- 2 048 PT		K
- 4 096 PT		L
- 8 192 PT		M
• IPC starter system with CPU 1507S and WinCC RT Advanced, without licenses		S
<u>Power supply</u>		
• 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

Overview



SIMATIC IPC427D (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 third generation

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	
Design	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)	
Graphic		
Graphics controller	Intel HD Graphics, Intel HD Graphics 4000	
Drives		
Hard disk	2.5" SATA ≥ 320 GB	2.5" SATA ≥ 320 GB
SSD	Yes; 1x 240 GB SSD, 1x 480 GB SSD	
Memory		
Type of memory	DDR3 SO-DIMM	DDR3 SO-DIMM
Main memory	2 / 4 / 8 GB; ECC optional	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
Interfaces		
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5611	
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, 2x 10/100/1 000 Mbit, RJ45, no plug-in card necessary	Onboard, 2x 10/100/1 000 Mbit, RJ45, no plug-in card necessary
- 100 Mbps	Yes	Yes
- 1000 Mbps	Yes	Yes

PC-based Automation

Industrial PC

Box PC

SIMATIC IPC427D

Technical specifications (continued)

Article number	6AG4140-.....-...0 SIMATIC IPC427D (Microbox PC)	6AG4140-.....-...8 SIMATIC IPC427D (Microbox PC) with TPM
Integrated Functions		
Monitoring functions		
• Temperature monitoring	Yes	Yes
• Watchdog	Yes	Yes
• Status LEDs	Yes	Yes
• Fan	No	No
• 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	
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 >30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	
• Interference immunity on signal cables < 30 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	
• 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
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	IP20
IP (rear)	IP20	IP20

Article number	6AG4140-.....-...0 SIMATIC IPC427D (Microbox PC)	6AG4140-.....-...8 SIMATIC IPC427D (Microbox PC) with TPM
Standards, approvals, certificates		
CE mark	Yes; CE marking / EC Declaration of Conformity	
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	
Use in hazardous areas		
• ATEX Zone 2	Yes	Yes
• IECEx Zone 2	Yes	Yes
• cULus Class I Zone 2, Division 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
• Korean Register of Shipping (KRS)	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
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 resistance during operation acc. to IEC 60068-2-6	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	
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 without operating system	Yes	Yes
	Yes; Optional	Yes; Optional
pre-installed operating system		
• Windows 7	Yes; Ultimate 32 bit or 64 bit	
Software		
SIMATIC Software	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.	Article No.
SIMATIC IPC427D (Box PC) ¹⁾²⁾	6AG4140-	SIMATIC IPC427D (Box PC) ¹⁾²⁾
<u>Processor and fieldbus</u>		<u>Expansions/interfaces:</u>
<ul style="list-style-type: none"> Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN) Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12 Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); CAN interface Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN) Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12 Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports) Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN) (optional ECC only here) Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12 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) 	0 1 2 3 4 5 6 7 8	<ul style="list-style-type: none"> One RS 232, without PCIe One RS 232 and one PCIe One RS 232 and two PCIe Second RS 232, without PCIe Second RS 232 and one PCIe Second RS 232 and second PCIe
		0 1 2 3 4 5
<u>Mounting accessories:</u>		<u>Operating system:</u>
<ul style="list-style-type: none"> Without mounting accessories Standard DIN rail mounting Wall mounting Portrait mounting Standard DIN rail mounting with ATEX/IECEX Cat 3G Zone 2 / cULus Class I Div. 2 Wall mounting with ATEX/IECEX Cat 3G Zone 2 / cULus Class I Div. 2 Portrait mounting with ATEX/IECEX Cat 3G Zone 2/cULus Class I Div. 2 	A B D E M N P	<ul style="list-style-type: none"> Without operating system Windows Embedded Standard 7 Professional, 32-bit, MUI Windows Embedded Standard 7 SP1, English, 32-bit Windows Embedded Standard 7 SP1, English, 64-bit Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es) Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)
		0 3 4 5 6 7
<u>Work memory/NVRAM/ECC:</u>		<u>Mass storage, externally accessible:</u>
<ul style="list-style-type: none"> 1 GB 2 GB 4 GB 8 GB 4 GB with ECC (only with Core i7, 2 x Gigabit Ethernet (IE/PN)) 8 GB with ECC (only with Core i7, 2 x Gigabit Ethernet (IE/PN)) 1 GB and NVRAM 2 GB and NVRAM 4 GB and NVRAM 8 GB and NVRAM 4 GB with ECC and NVRAM (only with Core i7, 2 x Gigabit Ethernet (IE/PN)) 8 GB with ECC and NVRAM (only with Core i7, 2 x Gigabit Ethernet (IE/PN)) 	A B C D G H J K L M N P	<ul style="list-style-type: none"> Without external mass storage CFast 2 GB Without operating system CFast 4 GB (only optionally with operating system if no internal mass storage) CFast 8 GB (only optionally with operating system if no internal mass storage) CFast 16 GB (only optionally with operating system if no internal mass storage)
		0 1 2 3 4
		<u>Internal mass storage:</u>
		<ul style="list-style-type: none"> Without internal mass storage CFast 2 GB, without software CFast 4 GB, without software CFast 8 GB, without software CFast 16 GB, without software 320 GB HDD 240 GB solid-state drive (standard) 480 GB solid-state drive (standard)
		A B C D E K P R
		<u>SIMATIC software preinstalled:</u>
		<ul style="list-style-type: none"> Without SIMATIC software
		A
		<u>Power supplies:</u>
		<ul style="list-style-type: none"> 24 V DC industrial power supply 24 V DC and TPM ⁴⁾ (not for China or Russia)
		0 8

4

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 the configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

PC-based Automation

Industrial PC

Box PC

SIMATIC IPC627E**Overview**

SIMATIC IPC627E (Box PC): The high-end IPC with maximum performance, functional scope, and expansion capability

It offers:

- Maximum performance in the smallest space
- Intel Core i technology
- Removable hard disks (RAID1)

Technical specifications

Article number	6AG4131-3....-.... SIMATIC IPC627E (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 G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d); Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT)
Chipset	Intel C246
Graphic	
Graphics controller	Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)
Drives	
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; M.2 SSD NVMe > 512 GB; SSD 2.5" SATA > 480 GB; RAID1 2x SSD 2.5" > 480 GB in removable drive bay
Memory	
Type of memory	DDR4-2666 DIMM
Main memory	4 / 8 / 16 / 32 / 64 GB
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte
Hardware configuration	
Slots	
• free slots	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer
Interfaces	
Number of industrial Ethernet interfaces	3; 3x Gigabit Ethernet (IE/PN), RJ45
USB port	6x USB 3.1 Gen. 2 (2x type C)
Connection for keyboard/mouse	USB / USB
serial interface	1x COM
Video interfaces	
• Graphics interface	2x DisplayPort; 1x DVI-D
Industrial Ethernet	
• Industrial Ethernet interface	3x Gigabit Ethernet (IE/PN), RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes

Technical specifications (continued)

Article number	6AG4131-3....-.... SIMATIC IPC627E (Box PC)	Article number	6AG4131-3....-.... SIMATIC IPC627E (Box PC)
Integrated Functions		Standards, approvals, certificates	
Monitoring functions		CE mark	Yes
• Temperature monitoring	Yes	cULus	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
• Watchdog	Yes	RCM (formerly C-TICK)	Yes
• Status LEDs	Yes	KC approval	Yes
• Fan	Yes	EAC (formerly Gost-R)	Yes
• Monitoring function via network	Optional	FCC	Yes
EMC		EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
Interference immunity against discharge of static electricity		Ambient conditions	
• 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	Ambient temperature during operation	
Interference immunity against high-frequency electromagnetic fields		• Ambient temperature during operation	+5 °C up to 55 °C
• Interference immunity against high frequency radiation	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6	Relative humidity	
Interference immunity to cable-borne interference		• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condens.), Storage: 5% to 95% at 25 °C (no condensation)
• 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	Vibrations	
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	• Vibration resistance during operation acc. to IEC 60068-2-6	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)
• 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	Shock testing	
Interference immunity against voltage surge		• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s ² (5 g), 30 ms, 100 shocks
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric	Operating systems	
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric	Operating system	Windows 10 Enterprise 2016 LTSPB, 64 bit, MUI
Interference immunity to magnetic fields		pre-installed operating system	Yes
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	without operating system	Yes
Emission of conducted and non-conducted interference		pre-installed operating system	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	• Windows 10 Enterprise	Yes; Windows 10 Enterprise 2016 LTSPB, 64 bit, MUI
Degree and class of protection		Dimensions	
IP (at the front)	IP20	Width	314 mm
IP (rear)	IP20	Height	93 mm
		Depth	301 mm; incl. mounting rail

Ordering data	Article No.
Accessories	
Memory expansion	
• 4 GB DDR4 2666 SDRAM, DIMM	6ES7648-2AL60-0QA0
• 8 GB DDR4 2666 SDRAM, DIMM	6ES7648-2AL70-0QA0
• 16 GB DDR4 2666 SDRAM, DIMM	6ES7648-2AL80-0QA0
Assembly kit for portrait mounting	
• Upward or downward interface outlet	6ES7648-1AA10-2YA0
• Interface outlet to the front	6ES7648-1AA10-2YB0
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

Further information can be found on the Internet at:

<http://www.siemens.com/simatic-pc>

PC-based Automation

Industrial PC

Box PC

SIMATIC IPC627D**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 ≥ 500 GB, optional; 3.5" SATA ≥ 1 TB; RAID1 2x 2.5" SATA ≥ 320 GB; solid-state drive (SSD) ≥ 240 GB; all hard disk drives within the enclosure are vibration-damped; RAID1 2x 2.5" SATA ≥ 320 GB byte in removable drive bay
SSD	Yes; ≥ 240 GB optional
Memory	
Type of memory	DDR3 1600 DIMM
Main 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

Technical specifications (continued)

Article number	6AG4131-2....-.... SIMATIC IPC627D (Box PC)
Interfaces	
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbit/s, comp. with CP 5622
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)
Number of PROFINET interfaces	3; Optional
USB port	4x USB 3.0
Connection for keyboard/mouse serial interface	USB / USB
parallel 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 / 1000 Mbps	Yes / Yes
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

Article number	6AG4131-2....-.... SIMATIC IPC627D (Box PC)
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 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
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
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 resistance during operation acc. to IEC 60068-2-6	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 to DIN IEC 60068-2-29: 50 m/s ² (5 g), 30 ms, 100 shocks
Operating systems	
Operating system	Windows 7 Ultimate, 32-bit/64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI; Windows 10 Enterprise 2015 or 2016 LTSP, 64-bit, MUI
pre-installed operating system without operating system	Yes
pre-installed operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32 bit or 64 bit
• Windows 10 Enterprise	Yes; Windows 10 Enterprise 2015 or 2016 LTSP, 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.	More information
Accessories		
Memory expansion		
• 2 GB DDR3 1600 SDRAM, DIMM	6ES7648-2AJ50-0MA0	Additional information is available on the Internet at: http://www.siemens.com/simatic-pc
• 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	

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or the configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

PC-based Automation

Industrial PC

Box PC

SIMATIC IPC827D**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 ≥ 500 GB, optional: 3.5" SATA ≥ 1 TB; RAID1 2x 2.5" SATA ≥ 320 GB; solid-state drive (SSD) ≥ 240 GB; all hard disk drives within the enclosure are vibration-damped; RAID1 2x 2.5" SATA ≥ 320 GB byte in removable drive bay
SSD	Yes; ≥ 240 GB optional
Memory	
Type of memory	DDR3 1600 DIMM
Main 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

Technical specifications (continued)

Article number	6AG4132-2....-.... SIMATIC IPC827D (Box PC)
Interfaces	
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)
Number of PROFINET interfaces	3; Optional
USB port	4x USB 3.0
Connection for keyboard/mouse serial interface	USB / USB
parallel 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/1000 Mbps	Yes/Yes
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	±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

Article number	6AG4132-2....-.... SIMATIC IPC827D (Box PC)
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 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
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
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condens.), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations	
• Vibration resistance during operation acc. to IEC 60068-2-6	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 to DIN IEC 60068-2-29: 50 m/s ² (5 g), 30 ms, 100 shocks
Operating systems	
Operating system	Windows 7 Ultimate, 32-bit/64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI; Windows 10 Enterprise 2015 or 2016 LTSB, 64-bit, MUI
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32 bit or 64 bit
• Windows 10 Enterprise	Yes; Windows 10 Enterprise 2015 or 2016 LTSB, 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.	More information
Accessories		
Memory expansion		
• 2 GB DDR3 1600 SDRAM, DIMM	6ES7648-2AJ50-0MA0	Additional information is available on the Internet at: http://www.siemens.com/simatic-pc
• 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 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	

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or the configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

PC-based Automation

Industrial PC

Panel 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"
- 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 IPC377: The industrial Basic Panel PC at an appealing price

- Low-cost platform for visualization in the industrial and industry-oriented field
- Flexible installation in the control cabinet or via VESA, as well as simple connection of I/O devices due to a large number of interfaces
- Fanless industrial design
- Available directly ex stock

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 onboard (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	6AV7230-0...-.... SIMATIC IPC377E	6AV7241-.....-.... SIMATIC IPC 477E	6AV7260-.....-.... SIMATIC IPC677D
General information				
Product type designation	IPC277E	IPC377E		IPC677D
Installation type/mounting				
Mounting		Panel mount and VESA, horizontal and vertical	For horizontal and vertical mounting	For horizontal and vertical mounting
Design maximum permissible installation angle +/-	Panel PC, built-in unit 45°	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit 20°
Supply voltage				
Type of supply voltage	24 V DC	24 V DC	100/240 V AC (autorange) 50/60 Hz; optional 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		10 ms
Processor				
Processor type	Intel Celeron N2807 / N2930	Intel Celeron N3160	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			possible as external drive via USB	DVD±R±RW combi-drive, optional
Hard disk		500 GB HDD	2.5" SATA hard disk, at least 320 GB	3.5" SATA ≥ 500 GB, optional: 3.5" SATA ≥ 1 TB; RAID1 2x 2.5" SATA ≥ 320 GB; solid-state drive (SSD) ≥ 240 GB; all hard disk drives within the enclosure are vibration- damped; RAID1 2x 2.5" SATA ≥ 320 GB byte in removable drive bay
SSD	Yes; ≥ 128 GB optional	Yes; 256 GB SSD	Yes; 1x 128 GB, 1x 240 GB SSD, 1x 480 GB SSD	Yes; ≥ 240 GB optional
Memory				
Type of memory	DDR3L	DDR3L	DDR4 SO-DIMM	DDR3 1600 DIMM
Main memory	2 / 4 / 8 GB	4 GB, 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

PC-based Automation

Industrial PC

Panel PC

Technical specifications (continued)

Article number	6AV7882-0...0-...0	6AV7230-0....-....	6AV7241-.....-....	6AV7260-.....-....
	SIMATIC IPC277E	SIMATIC IPC377E	SIMATIC IPC 477E	SIMATIC IPC677D
Hardware configuration				
Slots				
• free slots		1x mPCIe (half-size), 1x mSATA (full-size)	1x PCIe (slot with card retainer), 1x slot for CFAST card	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer
Interfaces				
PROFIBUS/MPI				
Number of industrial Ethernet interfaces		2; 2x RJ45 (independent)	3; 3x Ethernet (RJ45)	2; 2x RJ45 (independent)
Number of PROFINET interfaces				3; Optional
USB port	1x USB 3.0 / 3x USB 2.0 (7*/9*: 2x USB 2.0)	2x USB 2.0, 2x USB 3.0 (high current)	4x USB 3.0	4x USB 3.0
Connection for keyboard/mouse serial interface	USB / USB 1x COM (1x RS 232 / 422 / 485), selectable in the BIOS		USB / USB Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS	USB / USB 1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface				optional LPT1
Video interfaces				
• Graphics interface	1x DisplayPort	1x DisplayPort, 1x VGA	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	2x Ethernet (RJ45)	3x Ethernet (RJ45)	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes
Protocols				
Protocols (Ethernet)				
• TCP/IP		Yes		
Integrated Functions				
Monitoring functions				
• Temperature monitoring	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes
• Status LEDs	No	POWER, HDD		Yes
• Fan	No	No	No	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 acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact; ±8 kV air (to IEC 1000-4-2; ESD)	±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 for 80 ... 1 000 MHz, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 ... 6 GHz, 80 % AM according to IEC 61000-4-3	10 V/m, 80 ... 2 000 MHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 ... 2.7 GHz; 10 V, 10 kHz ... 80 MHz 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	6AV7882-0...0...0 SIMATIC IPC277E	6AV7230-0...-.... SIMATIC IPC377E	6AV7241-.....-.... SIMATIC IPC 477E	6AV7260-.....-.... SIMATIC IPC677D
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 (according to IEC 61000-4-4, burst); ±1 kV (according to IEC 61000-4-5, surge pulse/line to line); ±2 kV (according to IEC 61000-4-5, surge pulse/line to ground)	±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 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge	±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	±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
• 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	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	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
IP (rear)	IP20	IP40	IP20	IP20
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes; CE marking / EC Declaration of Conformity	Yes
CSA approval			Yes	
UL approval	Yes	Yes	Yes	Yes
• UL 508	Yes		Yes	Yes
cULus	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes		Yes	Yes
EAC (formerly Gost-R)		Yes		
FCC	Yes	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
Dust protection		Protection against foreign bodies > 1 mm		
Use in hazardous areas				
• ATEX Zone 2			Yes	
• IECEx Zone 2			Yes	
• cULus Class I Zone 2, Division 2			Yes	
Marine approval				
• Germanischer Lloyd (GL)	Yes; 7", 9", 12" ST; 12", 15", 19" MT		Yes	
• American Bureau of Shipping (ABS)	Yes; 7", 9", 12" single-touch		Yes	
• Bureau Veritas (BV)	Yes; 7", 9", 12" single-touch			
• Det Norske Veritas (DNV)	Yes; 7", 9", 12" ST; 12", 15", 19" MT		Yes	
• Korean Register of Shipping (KRS)			Yes	
• Lloyds Register of Shipping (LRS)	Yes; 7", 9", 12" ST; 12", 15", 19" MT		Yes	
• Nippon Kaiji Kyokai (Class NK)	Yes; 7", 9", 12" single-touch			

PC-based Automation

Industrial PC

Panel PC

Technical specifications (continued)

Article number	6AV7882-0...0...0	6AV7230-0...-....	6AV7241-....-....	6AV7260-....-....
	SIMATIC IPC277E	SIMATIC IPC377E	SIMATIC IPC 477E	SIMATIC IPC677D
Ambient conditions				
Ambient temperature during operation				
• Ambient temperature during operation	0 °C to 50 °C	0 to +45°C	0 to +45°C	+5 °C to +45 °C with full configuration
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: 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 resistance during operation acc. to IEC 60068-2-6	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/s ²	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)	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)	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: 50 m/s ² , 30 ms	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s ² , 11 ms; with HDD: 9.8 m/s ² , 20 ms	IEC 60068-2-27; 150 m/s ² , 11 ms (without hard disk); 50 m/s ² , 30 ms (with hard disk)	Tested to DIN IEC 60068-2-29: 50 m/s ² (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 10 Enterprise 2016 LTSB, 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 Embedded Standard 7 P, 32-bit, MUI; Windows 10 Enterprise 2015 or 2016 LTSB, 64-bit, MUI
pre-installed operating system without operating system	Yes Yes	Yes Yes	Yes Yes; Optional	Yes Yes
pre-installed operating system				
• Windows 7	Yes; Ultimate 32 bit or 64 bit		Yes; Ultimate 64 bit	Yes; Ultimate 32 bit or 64 bit
• Windows 10 Enterprise	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI		Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Yes; Windows 10 Enterprise 2015 or 2016 LTSB, 64-bit, MUI
Software				
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX		Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle	Optional package with SIMATIC WinCC or WinAC RTX

Additional information is available on the Internet at:

<http://www.siemens.com/simatic-panel-pc>

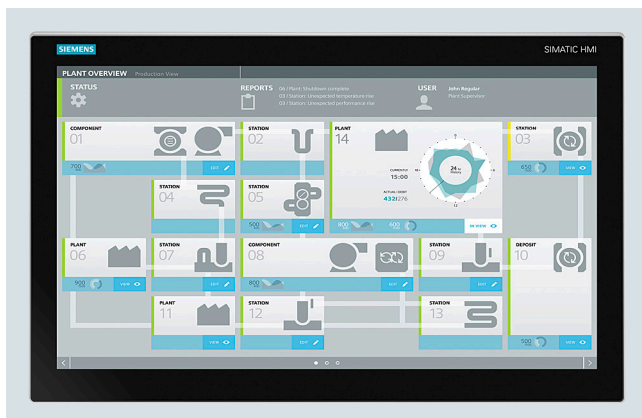
Note:

Do you need a specific modification or extension to the products described here? Then refer to "Customized Automation". There you will find information about additional and generally available sector-specific products as well as options for customer-specific 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
General information	
Product type designation	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; ≥ 128 GB optional
Memory	
Type of memory	DDR3L
Main 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 serial interface	USB / USB 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
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	No
• 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, 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

PC-based Automation

Industrial PC

Panel PC

SIMATIC IPC277E**Technical specifications (continued)**

Article number	6AV7882-0...0-...0 SIMATIC IPC277E
Interference immunity to cable-borne interference	
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> Interference immunity on signal cables >30m 	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> asymmetric interference 	±2 kV acc. to IEC 61000-4-5, surge asymmetric
<ul style="list-style-type: none"> symmetric interference 	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
<ul style="list-style-type: none"> Interference immunity to magnetic fields at 50 Hz 	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
<ul style="list-style-type: none"> 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 style="list-style-type: none"> 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
Marine approval	
<ul style="list-style-type: none"> Germanischer Lloyd (GL) 	Yes; 7", 9", 12" ST; 12", 15", 19" MT
<ul style="list-style-type: none"> American Bureau of Shipping (ABS) 	Yes; 7", 9", 12" single-touch
<ul style="list-style-type: none"> Bureau Veritas (BV) 	Yes; 7", 9", 12" single-touch
<ul style="list-style-type: none"> Det Norske Veritas (DNV) 	Yes; 7", 9", 12" ST; 12", 15", 19" MT
<ul style="list-style-type: none"> Lloyds Register of Shipping (LRS) 	Yes; 7", 9", 12" ST; 12", 15", 19" MT
<ul style="list-style-type: none"> Nippon Kaiji Kyokai (Class NK) 	Yes; 7", 9", 12" single-touch

Article number	6AV7882-0...0-...0 SIMATIC IPC277E
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> Ambient temperature during operation 	0 °C to 50 °C
Relative humidity	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Vibration resistance during operation acc. to IEC 60068-2-6 	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/s ²
Shock testing	
<ul style="list-style-type: none"> Shock load during operation 	Tested according to IEC 60068-2-27: 50 m/s ² , 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	
<ul style="list-style-type: none"> Windows 7 	Yes; Ultimate 32 bit or 64 bit
<ul style="list-style-type: none"> Windows 10 Enterprise 	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI
Software	
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX

Ordering data	Article No.	Article No.	
SIMATIC IPC277E (Nanopanel PC)	6AV7882 - 0 0 0 - 0 0	SIMATIC IPC277E (Nanopanel PC)	
<u>Operating unit</u>		<u>Mass storage</u>	
<ul style="list-style-type: none"> • 7" touch • 9" touch • 12" touch • 15" touch front USB • 19" touch front USB • 12" multi-touch (with WES7-E only single-touch mode) • 15" multi-touch (with WES7-E only single-touch mode) • 19" multi-touch (with WES7-E only single-touch mode) • 15" multi-touch (1 366 x 768; ATEX/IECEx/UL HazLoc; with WES7-E only single-touch mode) • 19" multi-touch (1 366 x 768; ATEX/IECEx/UL HazLoc; with WES7-E only single-touch mode) 	A B C D E H F G J K	<ul style="list-style-type: none"> • None • 128 GB SSD • 240 GB SSD • 480 GB SSD • 4 GB CFAST • 8 GB CFAST • 16 GB CFAST • 30 GB CFAST 	A E C D K L M N
<u>Processor</u>		<u>Software</u>	
<ul style="list-style-type: none"> • Celeron N2807 (2C/2T) • Celeron N2930 (4C/4T) • Celeron N2807 (2C/2T)/TPM • Celeron N2930 (4C/4T)/TPM 	A B C D	<ul style="list-style-type: none"> • Without SIMATIC software • CPU 1507S • WinCC RT Advanced V14, 128 PT (V15 license package) • WinCC RT Advanced V14, 512 PT (V15 license package) • WinCC RT Advanced V14, 2 048 PT (V15 license package) • WinCC RT Advanced V14, 4 096 PT (V15 license package) • CPU 1507S/WinCC RT Advanced V14, 128 PT (V15 license package) • CPU 1507S/WinCC RT Advanced V14, 512 PT (V15 license package) • CPU 1507S/WinCC RT Advanced V14, 2 048 PT (V15 license package) • CPU 1507S/WinCC RT Advanced V14, 4 096 PT (V15 license package) 	A B D E F G J K L M
<u>Work memory/NVRAM</u>			
<ul style="list-style-type: none"> • 2 GB • 4 GB • 8 GB • 2 GB/NVRAM • 4 GB/NVRAM • 8 GB/NVRAM 	1 2 3 4 5 6		
<u>Operating system</u>			
<ul style="list-style-type: none"> • Without operating system • Windows Embedded Standard 7 E SP1, English, 32-bit • Windows Embedded Standard 7 E SP1, English, 64-bit • Windows Embedded Standard 7 P SP1, English, 32-bit • Windows Embedded Standard 7 P SP1, English, 64-bit • Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es) • Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es) • Windows 10 IoT Enterprise 2016 LTSB, 64-bit, MUI (en, de, fr, it, es) 	0 1 2 3 4 5 6 7		

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or the configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

Additional information is available on the Internet at:

<http://www.siemens.com/simatic-panel-pc>

PC-based Automation

Industrial PC
Panel PC

SIMATIC IPC377E

Overview



SIMATIC IPC377E

Based on Intel Celeron process technology, the SIMATIC IPC377E Box PC represents a new IPC platform which has been specifically developed for cost-optimized, PC-based applications in industrial and industry-oriented environments.

The SIMATIC IPC377E Panel PC is characterized by industrial touch displays in the sizes 12", 15" and 19" as well as a variety of interfaces. Fast availability from stock as well as the fanless industrial design complete the concept.

Technical specifications

Article number	6AV7230-0....-.... SIMATIC IPC377E
General information	
Product type designation	IPC377E
Installation type/mounting	
Mounting	Panel mount and VESA, horizontal and vertical
Design	Panel PC, built-in unit
Supply voltage	
Type of supply voltage	24 V DC
Mains buffering	
• Mains/voltage failure stored energy time	10 ms
Processor	
Processor type	Intel Celeron N3160
Drives	
Hard disk	500 GB HDD
SSD	Yes; 256 GB SSD
Memory	
Type of memory	DDR3L
Main memory	4 GB, 8 GB
Hardware configuration	
Slots	
• free slots	1x mPCIe (half-size), 1x mSATA (full-size)
Interfaces	
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)
USB port	2x USB 2.0, 2x USB 3.0 (high current)
Video interfaces	
• Graphics interface	1x DisplayPort, 1x VGA
Industrial Ethernet	
• Industrial Ethernet interface	2x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
Protocols	
Protocols (Ethernet)	
• TCP/IP	Yes
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	POWER, HDD
• Fan	No

Technical specifications (continued)

Article number	6AV7230-0....-.... SIMATIC IPC377E
EMC	
Interference immunity against discharge of static electricity	
<ul style="list-style-type: none"> Interference immunity against discharge of static electricity Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 - Test voltage at air discharge - Test voltage at contact discharge 	±6 kV contact; ±8 kV air (to IEC 1000-4-2; ESD) 8 kV 6 kV
Interference immunity against high-frequency electromagnetic fields	
<ul style="list-style-type: none"> Interference immunity against high frequency radiation 	10 V/m for 80 ... 1 000 MHz, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 ... 6 GHz, 80 % AM according to IEC 61000-4-3
Interference immunity to cable-borne interference	
<ul style="list-style-type: none"> Interference immunity on supply cables Interference immunity on signal cables >30m Interference immunity on signal cables < 30m 	±2 kV (according to IEC 61000-4-4, burst); ±1 kV (according to IEC 61000-4-5, surge pulse/line to line); ±2 kV (according to IEC 61000-4-5, surge pulse/line to ground) ±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge ±1 kV acc. to IEC 61000-4-4, Burst
Interference immunity against voltage surge	
<ul style="list-style-type: none"> asymmetric interference symmetric interference 	±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
<ul style="list-style-type: none"> Interference immunity to magnetic fields at 50 Hz 	100 A/m; to IEC 61000-4-8
Degree and class of protection	
IP (at the front)	IP65
IP (rear)	IP40

Article number	6AV7230-0....-.... SIMATIC IPC377E
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
Dust protection	Protection against foreign bodies > 1 mm
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> Ambient temperature during operation 	0 to +45°C
Relative humidity	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Vibration resistance during operation acc. to IEC 60068-2-6 	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	
<ul style="list-style-type: none"> Shock load during operation 	Tested in accordance with IEC 60068-2-27: with SSD: 150 m/s ² , 11 ms; with HDD: 9.8 m/s ² , 20 ms
Operating systems	
Operating system	Windows 7 Ultimate (Multi-Language), 64 bit; Windows 10 Enterprise 2016 LTSB, 64 bit
pre-installed operating system	Yes
without operating system	Yes

PC-based Automation

Industrial PC

Panel PC

SIMATIC IPC377E**Ordering data****Article No.****SIMATIC IPC377E****6AV7230 - 0**

1 x display port graphic
 1 x VGA port graphic
 2x 10/100/1 000 Mbps
 Ethernet RJ45; 2 x USB 3.0;
 2 x USB 2.0; 4 x serial ports (COM)

Operating unit

- 12" touch (1 280 x 800)
- 15" touch (1 366 x 768)
- 19" touch (1 366 x 768)

C
D
EProcessor

- Celeron N3160 (4C/4T)

A

Work memory

- 4 GB RAM
- 8 GB RAM

2
3Expansions/interfaces

- 1x mPCIe / 1x mSata

0

Operating system

- Without operating system
- Windows Ultimate SP1,
64-bit MUI (en, de, fr, es, it)

0
1Drives

- None
- 500 GB HDD
- 256 GB SSD

A
B
CPower supply

- 24 V DC

A

Mounting accessories

- Installation, VESA installation

0

Article No.

*Preferred variants (available
 directly ex stock)*

SIMATIC IPC377E**12" Configuration 1**

12" touch (analog resistive);
 Intel Celeron Quad Core N3160
 (1.6 GHz); 500 GB HDD SATA,
 internal; 4 GB RAM (1 x 4 GB);
 without operating system; 24 V DC;
 interfaces: 2 x Gbit Ethernet (RJ45),
 2 x USB 2.0; 2 x USB 3.0;
 4 x serial; 1 x Display Port,
 1 x VGA, audio

6AV7230-0CA20-0BA0**12" Configuration 2**

12" touch (analog resistive);
 Intel Celeron Quad Core N3160
 (1.6 GHz); 500 GB HDD SATA,
 internal; 4 GB RAM (1 x 4 GB);
 Windows 7 Ultimate 64-bit, SP1;
 24 V DC; interfaces: 2 x Gbit
 Ethernet (RJ45), 2 x USB 2.0;
 2 x USB 3.0; 4 x serial;
 1 x Display Port, 1 x VGA, audio

6AV7230-0CA20-1BA0**12" Configuration 3**

12" touch (analog resistive);
 Intel Celeron Quad Core N3160
 (1.6 GHz); 256 GB SSD, internal;
 4 GB RAM (1 x 4 GB); without
 operating system; 24 V DC;
 interfaces: 2 x Gbit Ethernet
 (RJ45), 2 x USB 2.0; 2 x USB 3.0;
 4 x serial; 1 x Display Port,
 1 x VGA, audio

6AV7230-0CA20-0CA0**12" Configuration 4**

12" touch (analog resistive);
 Intel Celeron Quad Core N3160
 (1.6 GHz); 256 GB SSD, internal;
 4 GB RAM (1 x 4 GB);
 Windows 7 Ultim. 64-bit, SP1;
 24 V DC; interfaces:
 2 x Gbit Ethernet (RJ45),
 2 x USB 2.0; 2 x USB 3.0; 4 x serial;
 1 x Display Port, 1 x VGA, audio

6AV7230-0CA20-1CA0**12" Configuration 5**

12" touch (analog resistive);
 Intel Celeron Quad Core N3160
 (1.6 GHz); 256 GB SSD, internal;
 4 GB RAM (1 x 4 GB);
 Windows 10 Enterprise 2016 LTSB;
 24 V DC; interfaces:
 2 x Gbit Ethernet (RJ45),
 2 x USB 2.0; 2 x USB 3.0; 4 x serial;
 1 x Display Port, 1 x VGA, audio

6AV7230-0CA20-2CA0

Ordering data	Article No.	Ordering data	Article No.
15" Configuration 1 15" touch (analog resistive); Intel Celeron Quad Core N3160 (1.6 GHz); 500 GB HDD SATA, internal; 4 GB RAM (1 x 4 GB); without operating system; 24 V DC; interfaces: 2 x Gbit Ethernet (RJ45), 2 x USB 2.0; 2 x USB 3.0; 4 x serial; 1 x Display Port, 1 x VGA, audio	6AV7230-0DA20-0BA0	19" Configuration 1 19" touch (analog resistive); Intel Celeron Quad Core N3160 (1.6 GHz); 500 GB HDD SATA, internal; 4 GB RAM (1 x 4 GB); without operating system; 24 V DC; interfaces: 2 x Gbit Ethernet (RJ45), 2 x USB 2.0; 2 x USB 3.0; 4 x serial; 1 x Display Port, 1 x VGA, audio	6AV7230-0EA20-0BA0
15" Configuration 2 15" touch (analog resistive); Intel Celeron Quad Core N3160 (1.6 GHz); 500 GB HDD SATA, internal; 4 GB RAM (1 x 4 GB); Windows 7 Ultimate 64-bit, SP1; 24 V DC; interfaces: 2 x Gbit Ethernet (RJ45), 2 x USB 2.0; 2 x USB 3.0; 4 x serial; 1 x Display Port, 1 x VGA, audio	6AV7230-0DA20-1BA0	19" Configuration 2 19" touch (analog resistive); Intel Celeron Quad Core N3160 (1.6 GHz); 500 GB HDD SATA, internal; 4 GB RAM (1 x 4 GB); Windows 7 Ultimate 64-bit, SP1; 24 V DC; interfaces: 2 x Gbit Ethernet (RJ45), 2 x USB 2.0; 2 x USB 3.0; 4 x serial; 1 x Display Port, 1 x VGA, audio	6AV7230-0EA20-1BA0
15" Configuration 3 15" touch (analog resistive); Intel Celeron Quad Core N3160 (1.6 GHz); 256 GB SSD, internal; 4 GB RAM (1 x 4 GB); without operating system; 24 V DC; interfaces: 2 x Gbit Ethernet (RJ45), 2 x USB 2.0; 2 x USB 3.0; 4 x serial; 1 x Display Port, 1 x VGA, audio	6AV7230-0DA20-0CA0	19" Configuration 3 19" touch (analog resistive); Intel Celeron Quad Core N3160 (1.6 GHz); 256 GB SSD, internal; 4 GB RAM (1 x 4 GB); without operating system; 24 V DC; interfaces: 2 x Gbit Ethernet (RJ45), 2 x USB 2.0; 2 x USB 3.0; 4 x serial; 1 x Display Port, 1 x VGA, audio	6AV7230-0EA20-0CA0
15" Configuration 4 15" touch (analog resistive); Intel Celeron Quad Core N3160 (1.6 GHz); 256 GB SSD, internal; 4 GB RAM (1 x 4 GB); Windows 7 Ultim. 64-bit, SP1; 24 V DC; interfaces: 2 x Gbit Ethernet (RJ45), 2 x USB 2.0; 2 x USB 3.0; 4 x serial; 1 x Display Port, 1 x VGA, audio	6AV7230-0DA20-1CA0	19" Configuration 4 19" touch (analog resistive); Intel Celeron Quad Core N3160 (1.6 GHz); 256 GB SSD, internal; 4 GB RAM (1 x 4 GB); Windows 7 Ultim. 64-bit, SP1; 24 V DC; interfaces: 2 x Gbit Ethernet (RJ45), 2 x USB 2.0; 2 x USB 3.0; 4 x serial; 1 x Display Port, 1 x VGA, audio	6AV7230-0EA20-1CA0
15" Configuration 5 15" touch (analog resistive); Intel Celeron Quad Core N3160 (1.6 GHz); 256 GB SSD, internal; 4 GB RAM (1 x 4 GB); Windows 10 Enterprise 2016 LTSB; 24 V DC; interfaces: 2 x Gbit Ethernet (RJ45), 2 x USB 2.0; 2 x USB 3.0; 4 x serial; 1 x Display Port, 1 x VGA, audio	6AV7230-0DA20-2CA0	19" Configuration 5 19" touch (analog resistive); Intel Celeron Quad Core N3160 (1.6 GHz); 256 GB SSD, internal; 4 GB RAM (1 x 4 GB); Windows 7 Ultim. 64-bit, SP1; 24 V DC; interfaces: 2 x Gbit Ethernet (RJ45), 2 x USB 2.0; 2 x USB 3.0; 4 x serial; 1 x Display Port, 1 x VGA, audio	6AV7230-0EA20-2CA0

Note:

The SIMATIC IPC377E has a different front panel and is not directly installation-compatible with previous SIMATIC HMI devices.

Additional information is available on the Internet at:

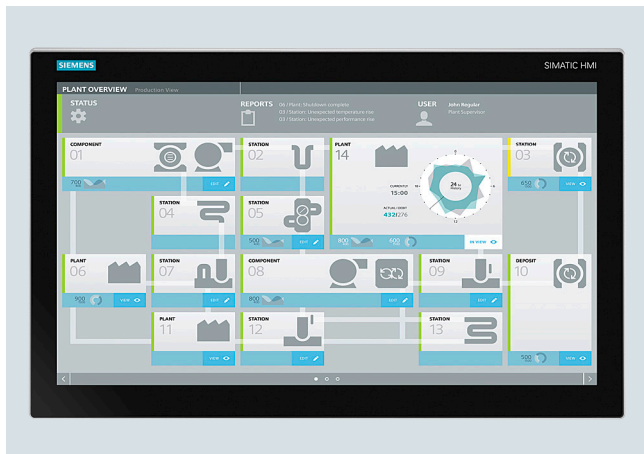
<http://www.siemens.com/simatic-panel-pc>

PC-based Automation

Industrial PC
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
 - 24" TFT multi-touch

Technical specifications

Article number	6AV7241-..... SIMATIC IPC 477E
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
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	
Optical drives	possible as external drive via USB
Hard disk	2.5" SATA hard disk, at least 320 GB
SSD	Yes; 1x 128 GB, 1x 240 GB SSD, 1x 480 GB SSD
Memory	
Type of memory	DDR4 SO-DIMM
Main 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	1x PCIe (slot with card retainer), 1x slot for CFAST card
Interfaces	
Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
USB port	4x USB 3.0
Connection for keyboard/mouse serial interface	USB / USB 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)
- 100 Mbps	Yes
- 1000 Mbps	Yes

Technical specifications (continued)

Article number	6AV7241-.....-.... SIMATIC IPC 477E
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	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, 80 ... 2 000 MHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 ... 2.7 GHz; 10 V, 10 kHz ... 80 MHz 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	6AV7241-.....-.... SIMATIC IPC 477E
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
Use in hazardous areas	
• ATEX Zone 2	Yes
• IECEx Zone 2	Yes
• cULus Class I Zone 2, Division 2	Yes
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Det Norske Veritas (DNV)	Yes
• Korean Register of Shipping (KRS)	Yes
• Lloyds Register of Shipping (LRS)	Yes
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 to +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 resistance during operation acc. to IEC 60068-2-6	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 (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; Optional
pre-installed operating system	
• Windows 7	Yes; Ultimate 64 bit
• Windows 10 Enterprise	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI
Software	
SIMATIC Software	Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle

PC-based Automation

Industrial PC

Panel PC

SIMATIC IPC477E

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)		3
• Core i5-6442EQ; 3 x Gigabit Ethernet (IE/PN)		5
• Xeon E3-1505L; 3 x Gigabit Ethernet (IE/PN)		7
Operating 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
• 24" multi-touch (1 920 x 1 080), single-touch mode only with WES7-E		R
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/interfaces		
• 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
• No RS 232, without PCIe with ATEX/IECEX Cat 3G Zone 2		5
• No RS 232 and one PCIe with ATEX/IECEX Cat 3G Zone 2		6
• Two RS 232 without PCIe with ATEX/IECEX Cat 3G Zone 2		7
• Two RS 232 and one PCIe with ATEX/IECEX Cat 3G Zone 2		8
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 Enterprise 2016 LTSC (64-bit) for Celeron, Core i3 and Core i5 processors		7
• Windows 10 Enterprise 2016 LTSC (64-bit) for Xeon processors		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
• 128 GB solid-state drive SATA		D
• 240 GB solid-state drive SATA		F
• 480 GB solid-state drive SATA		G
• 320 GB HDD		J
SIMATIC software (bundles and starter systems)		
• Without SIMATIC software		A
• CPU 1507S		B
• WinCC RT Advanced V15		
- 128 PT		C
- 512 PT		D
- 2 048 PT		E
- 4 096 PT		F
- 8 192 PT		G
• CPU 1507S / WinCC RT Advanced V15		
- 128 PT		H
- 512 PT		J
- 2 048 PT		K
- 4 096 PT		L
- 8 192 PT		M
• IPC starter system with CPU 1507S and WinCC RT Advanced, without licenses		S
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



Now available as fully-enclosed IPC477D PRO 15", 19" or 22" with 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 marine approval
 - 19" TFT multi-touch with marine approval
 - 22" TFT multi-touch with marine approval

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

PC-based Automation

Industrial PC

Panel PC

SIMATIC IPC477D**Technical specifications**

Article number	6AV7240-.....-.... SIMATIC IPC 477D	6AV7240-.....-....8 SIMATIC IPC 477D with TPM
Installation type/mounting		
Mounting	For horizontal and vertical mounting	
Design	Panel PC, built-in unit	Box PC, built-in unit
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
Line frequency		
• Rated value 50 Hz	Yes	Yes
• Rated value 60 Hz	Yes	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)	Intel Core i7-3517UE Intel Core i3-3217UE Intel Celeron 827E
Graphic		
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
Hard disk	2.5" SATA hard disk, at least 320 GB	2.5" SATA hard disk, at least 320 GB
SSD	Yes; 1x 240 GB SSD, 1x 480 GB SSD	Yes; 1x 240 GB SSD, 1x 480 GB SSD
Memory		
Type of memory	DDR3-SDRAM	DDR3-SDRAM
Main memory	2 / 4 / 8 GB; ECC optional	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	512 kbyte; 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
Interfaces		
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5611	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5611
Number of PROFINET interfaces	3; 3 ports (IRT, with switch, optional)	3; 3 ports (IRT, with switch, optional)
USB port	4x USB 3.0 high speed/high current	4x USB 3.0 high speed/high current
Connection for keyboard/mouse serial interface	USB / USB COM1: 1x RS 232, COM2 (optional): 1x RS 232	USB / USB COM1: 1x RS 232, COM2 (optional): 1x RS 232
Video interfaces		
• Graphics interface	DVI VGA / DVI integrated	DVI VGA / DVI integrated
Industrial Ethernet		
• Industrial Ethernet interface	Onboard, 2x 10/100 Mbit, RJ45, no plug-in card necessary	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
Integrated Functions		
Monitoring functions		
• Temperature monitoring	Yes	Yes
• Watchdog	Yes	Yes
• Status LEDs	Yes	Yes
• Fan	No	No
• Monitoring function via network	Optional	Optional

Technical specifications (continued)

Article number	6AV7240-.....-.... SIMATIC IPC 477D	6AV7240-.....-....8 SIMATIC IPC 477D with TPM
EMC		
Interference immunity against discharge of static electricity		
<ul style="list-style-type: none"> 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		
<ul style="list-style-type: none"> 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		
<ul style="list-style-type: none"> Interference immunity on supply cables Interference immunity on signal cables >30m Interference immunity on signal cables < 30m 	± 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 acc. to IEC 61000-4-4, burst; length > 30 m; ± 2 kV acc. to IEC 61000-4-5, surge; length > 30 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		
<ul style="list-style-type: none"> asymmetric interference symmetric interference 	± 2 kV acc. to IEC 61000-4-5, surge asymmetric ± 1 kV acc. to IEC 61000-4-5, surge symmetric	± 2 kV acc. to IEC 61000-4-5, surge asymmetric ± 1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields		
<ul style="list-style-type: none"> 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		
<ul style="list-style-type: none"> 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)	IP65	IP65
IP (rear)	IP20	IP20
Standards, approvals, certificates		
CE mark	Yes; CE marking / EC Declaration of Conformity	Yes
UL approval	Yes	Yes
<ul style="list-style-type: none"> UL 508 	Yes	Yes
cULus	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
FCC	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
Use in hazardous areas		
<ul style="list-style-type: none"> ATEX Zone 2 ATEX Zone 22 IECEX Zone 2 cULus Class I Zone 2, Division 2 	Yes; Optional Yes; Optional Yes; Optional Yes	Yes; Optional Yes; Optional Yes; Optional Yes
Marine approval		
<ul style="list-style-type: none"> Germanischer Lloyd (GL) American Bureau of Shipping (ABS) Bureau Veritas (BV) Det Norske Veritas (DNV) Korean Register of Shipping (KRS) Lloyds Register of Shipping (LRS) Nippon Kaiji Kyokai (Class NK) 	Yes Yes Yes Yes Yes Yes Yes	Yes Yes Yes Yes Yes Yes Yes

PC-based Automation

Industrial PC

Panel PC

SIMATIC IPC477D**Technical specifications** (continued)

Article number	6AV7240-.....-.... SIMATIC IPC 477D	6AV7240-.....-....8 SIMATIC IPC 477D with TPM
Ambient conditions		
Ambient temperature during operation		
• Ambient temperature during operation	0 °C to +45 °C with full configuration	0 °C to +50 °C with full configuration
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)
Vibrations		
• Vibration resistance during operation acc. to IEC 60068-2-6	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)
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
pre-installed operating system	Yes	Yes
without operating system	Yes; Optional	Yes
pre-installed operating system		
• Windows 7	Yes; Ultimate 32 bit or 64 bit	Yes; Ultimate 32 bit or 64 bit
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

Ordering data	Article No.	Article No.
SIMATIC IPC477D¹⁾	6AV7240 -	SIMATIC IPC477D¹⁾
<u>Processor and fieldbus:</u>		<u>Expansions/interfaces:</u>
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN)	0	• 1 x RS 232, without PCIe
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	1	• 1 x RS 232 and one PCIe
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN)	3	• Two RS 232, without PCIe
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	4	• Two RS 232 and one PCIe
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	5	<u>Operating system:</u>
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN)	6	• Without operating system
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	7	• Windows Embedded Standard 7 Professional, 32-bit, MUI
• 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	• Windows Embedded Standard 7 SP1, English, 32-bit
<u>Operator control unit:</u>		• Windows Embedded Standard 7 SP1, English, 64-bit
• 12" touch (1 280 x 800) (caution, restrictions regarding options: HDD, PCI, AC, DVD)	A	• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)
• 15" touch (1 280 x 800) with front USB	B	• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)
• 15" touch/key (1 280 x 800) with front USB	C	<u>Externally accessible mass storage (without operating system):</u>
• 19" touch (1 366 x 768) with front USB	D	• Without external mass storage
• 22" touch (1 920 x 1 080) with front USB	E	• CFAST 2 GB, w/o operating syst.
• 15" multi-touch (1 366 x 768) without front USB	H	• CFAST 4 GB ²⁾
• 19" multi-touch (1 366 x 768) without front USB	K	• CFAST 8 GB ²⁾
• 22" multi-touch (1 920 x 1 080) without front USB	L	• CFAST 16 GB ²⁾
• 15" multi-touch (1 366 x 768) without front USB, with marine approval	M	• DVD
• 19" multi-touch (1 366 x 768) without front USB, with marine approval	N	<u>Internal mass storage:</u>
• 22" multi-touch (1 920 x 1 080) without front USB, with marine approval	P	• Without internal mass storage
<u>Work memory/NVRAM</u>		• CFAST 2 GB
• 2 GB	B	• CFAST 4 GB
• 4 GB	C	• CFAST 8 GB
• 8 GB	D	• CFAST 16 GB
• 2 GB and NVRAM	K	• 320 GB HDD
• 4 GB and NVRAM	L	• DVD
• 8 GB and NVRAM	M	• SSD 240 GB standard without DVD
		• SSD 480 GB standard without DVD
		• HDD min. 320 GB with DVD
		<u>SIMATIC software pre-installed (bundles):</u>
		• Without SIMATIC software
		<u>Power supplies:</u>
		• 24 V DC industrial power supply
		• 110/230 V AC industrial power supply with NAMUR; without power cable
		• 110/230 V AC industrial power supply with NAMUR; European power cable
		• 110/230 V AC industrial power supply with NAMUR; US power cable
		• 110/230 V AC industrial power supply with NAMUR; Chinese power cable
		• 110/230 V AC industrial power supply with NAMUR; Italian power cable
		• 110/230 V AC industrial power supply with NAMUR; Swiss power cable
		• 110/230 V AC industrial power supply with NAMUR; UK power cable
		• 24 V DC industrial power supply and TPM ⁴⁾ (not for China or Russia)

1) Built-to-order versions with a delivery time of max. 15 working days and with identified repair.
 2) Optional operating system/software only if no internal mass storage or HDD
 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 the configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

PC-based Automation

Industrial PC
Panel PC

SIMATIC IPC677D

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
General information	
Product type designation	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 ≥ 500 GB, optional: 3.5" SATA ≥ 1 TB; RAID1 2x 2.5" SATA ≥ 320 GB; solid-state drive (SSD) ≥ 240 GB; all hard disk drives within the enclosure are vibration-damped; RAID1 2x 2.5" SATA ≥ 320 GB byte in removable drive bay
SSD	Yes; ≥ 240 GB optional
Memory	
Type of memory	DDR3 1600 DIMM
Main 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

Technical specifications (continued)

Article number	6AV7260-.....-.... SIMATIC IPC677D
Interfaces	
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)
Number of PROFINET interfaces	3; Optional
USB port	4x USB 3.0
Connection for keyboard/mouse serial interface	USB / USB
parallel interface	1x COM1 (RS 232), optional: 1x COM2 (RS 232) 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
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

Article number	6AV7260-.....-.... SIMATIC IPC677D
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 61000-6-4:2007, EN 61000-6-2:2005
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	+5 °C to +45 °C with full configuration
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 resistance during operation acc. to IEC 60068-2-6	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 to DIN IEC 60068-2-29: 50 m/s ² (5 g), 30 ms, 100 shocks
Operating systems	
Operating system	Windows 7 Ultimate, 32-bit/64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI; Windows 10 Enterprise 2015 or 2016 LTSB, 64-bit, MUI
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32 bit or 64 bit
• Windows 10 Enterprise	Yes; Windows 10 Enterprise 2015 or 2016 LTSB, 64-bit, MUI
Software	
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX

PC-based Automation

Industrial PC

Panel PC

SIMATIC IPC677D

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

Operating 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 buffered SRAM **B**
- Celeron G1820TE (2C/2T, 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 buffered SRAM **E**
- Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB buffered 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 buffered 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 buffered SRAM **J**

Drives

- 500 GB HDD SATA **A**
- 500 GB HDD SATA; DVD+/-RW **B**
- 1 TB HDD SATA **D**
- 1 TB 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**
- Exchangeable SSD RAID1 2x 240 GB SATA (2.5") **J**
- Exchangeable HDD RAID1 2 x 320 GB SATA (2.5") **K**
- Exchangeable 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**

Article No.

SIMATIC IPC677D ¹⁾

6AV7260 -

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 Enterprise 2015 LTSB, 64-bit, MUI (en, de, fr, it, es) **C**
- Windows Embedded Standard 7 P, 32-bit, SP1, MUI (en, de, fr, it, es) with SSD 80 GB option **D**
- Windows 10 Enterprise 2016 LTSB, 64-bit, MUI (en, de, fr, it, es), for Celeron and i3 processors **E**
- Windows 10 Enterprise 2016 LTSB, 64-bit, MUI (en, de, fr, it, es) for Xeon processors **F**
- None **X**

Expansion (SW)

- SIMATIC IPC DiagMonitor enclosed **A**
- SIMATIC IPC Image & Partition Creator included **B**
- SIMATIC IPC DiagMonitor, Image & Partition Creator enclosed **C**
- Without **X**
- TPM ²⁾ (not for China or Russia) **Y**

Country-specific version / power supply

- 110/230 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

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or the 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.	More information
Accessories Memory expansion <ul style="list-style-type: none"> • 2 GB DDR3 1600 SDRAM, DIMM • 4 GB DDR3 1600 SDRAM, DIMM • 8 GB DDR3 1600 SDRAM, DIMM • 8 GB DDR3 1600 SDRAM, DIMM, ECC 	6ES7648-2AJ50-0MA0 6ES7648-2AJ60-0MA0 6ES7648-2AJ70-0MA0 6ES7648-2AJ70-1MA0	Additional information is available on the Internet at: http://www.siemens.com/simatic-panel-pc
Non-heating apparatus cable for SIMATIC Box and Panel PC SIMATIC PC power cable, 230 V AC, angled, 3 m, for: <ul style="list-style-type: none"> • Germany • United Kingdom • Switzerland • USA • Italy • China 	6ES7900-1AA00-0XA0 6ES7900-1BA00-0XA0 6ES7900-1CA00-0XA0 6ES7900-1DA00-0XA0 6ES7900-1EA00-0XA0 6ES7900-1FA00-0XA0	Note: Do you need a specific modification or option for the products described here? Under "Customized products", you will find information about additional sector-specific products that can be ordered as well as about options for customer-specific modification and adaptation.
Touch pen	See "SIMATIC HMI accessories -> Accessibility"	
Expansion components	See Expansion components	
Communication components	See Expansion components	

PC-based Automation

Industrial PC

Tablet PC

SIMATIC Industrial Tablet PC

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.

SIMATIC ITP1000: Industrial rugged PC

- 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

- High-performance Intel Core i5-6442EQ or Intel Celeron G3902E notebook CPU
- Many interfaces on board: LAN, SD card reader, USB interfaces, RS232, 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 / Windows 10 IoT Enterprise 2016 LTSB (64-bit)

Technical specifications

Article number	6AV7880-.....-...2 SIMATIC ITP1000
General information	
Design of the programming device	Tablet PC
Display	
Design of display	10" multi-touch
Resolution (pixels)	
• Horizontal / vertical image resolution in pixels	1 920 / 1 200 (6AV7880-2.....-...2) or 1 280 / 800 (6AV7880-0.....-...2)
General features	
• Luminance	350 cd/m ² (6AV7880-2.....-...2) or 220 cd/m ² (6AV7880-0.....-...2)
Backlighting	
• Type of backlighting	LED
Control elements	
Keyboard fonts	
• Design	Touch
Touch operation	
• Integrated touch pad	No
Supply voltage	
Design of the power supply	External wide-range power supply; 3-pole
permissible range, lower limit (AC)	100 V; ±10 %, sinusoidal
permissible range, upper limit (AC)	240 V; ±10 %, sinusoidal
Line frequency	
• permissible range, lower limit	47 Hz
• permissible range, upper limit	63 Hz
Processor	
Processor type	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB cache); Intel Core i5-6442EQ (6 MB cache, up to 2.70 GHz, iAMT)
Hyper-threading	No
Turbo Boost Technology 2.0	Yes
Graphic	
Graphics controller	Intel® HD graphics 530
Drives	
SSD	Yes
• Memory capacity	256 Gbyte; Up to 512 GB SSD
TPM Security Chip	Yes
Memory	
Type of memory	DDR4-SDRAM SO-DIMM
Work memory	
• integrated	4 Gbyte; 8 GB or 16 GB
Accumulator	
Replaceable	Yes; Lithium-ion battery
Capacity	5 900 mA·h
Battery runtime, min.	6 h; According to MobileMark 2014

Technical specifications (continued)

Article number	6AV7880-.....-...2 SIMATIC ITP1000
Interfaces	
Number of RS 232 interfaces	1
Number of USB interfaces	3; USB 3.0
• Type A	2
• Type C	1
Bluetooth radio standard	Yes; V4.0
Multimedia card/SD card slot	2 in 1 (SDHC UHS-II, MMC)
Universal Audio Jack	Yes; Audio socket for 3.5 mm jack
Video interfaces	
• DisplayPort	Yes; DP 1.2 (Mini DisplayPort)
Industrial Ethernet	
• Industrial Ethernet interface	1x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
• IAMT (Intel Active Management Technology)	Yes
WLAN	
• Type	IEEE 802.11 a/b/g/n and ac
Integrated Functions	
Monitoring functions	
• Status LEDs	Battery charge level, device status, access to drive, WLAN active, SD card, application LED
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	Yes; ±4 kV contact discharge (to IEC 801-2/IEC 1000-4-2; ESD), ±8 kV air discharge (to IEC 801-2/IEC 1000-4-2; ESD)
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV (according to IEC 61000-4-4, burst); ±1 kV (according to IEC 61000-4-5, surge pulse/line to line); ±2 kV (according to IEC 61000-4-5, surge pulse/line to ground)
• Interference immunity on signal cables	±1 kV (according to IEC 61000-4-4, burst, length < 30 m); ±2 kV (according to IEC 61000-4-4, burst, length > 30 m); ±2 kV (according to IEC 61000-4-5, surge sym./line to ground, length > 30 m)
Degree and class of protection	
Degree of protection acc. to EN 60529	IP40
Standards, approvals, certificates	
CE mark	Yes
Conforms to MIL-STD-810G	Yes
DIN/ISO 9001	Yes

Article number	6AV7880-.....-...2 SIMATIC ITP1000
Ambient conditions	
Ambient temperature during operation	
• min.	5 °C; Max. 10 °C/h (no condensation)
• max.	45 °C; Max. 10 °C/h (no condens.)
Ambient temperature during storage/transportation	
• min.	-20 °C; Max. 20 °C/h (no condens.)
• max.	60 °C; Max. 20 °C/h (no condens.)
Relative humidity	
• Operation, min.	5 %; At 30 °C/h (no condensation); Tested according to IEC 60068-2-78, IEC 60068-2-30, IEC 60068-2-14
• Operation, max.	85 %; At 30 °C/h (no condensation); Tested according to IEC 60068-2-78, IEC 60068-2-30, IEC 60068-2-14
Vibrations	
• Operation, tested according to IEC 60068-2-6	Yes
Shock testing	
• tested according to IEC 60068-2-27	Yes
Operating systems	
Additional info on operating system	Multi-Language User Interface (MUI): 6 languages (English, German, French, Spanish, Italian, Chinese)
pre-installed operating system	
• Windows 7	Yes; Ultimate 64 bit, SP1
Software	
Preinstalled	
• STEP 7 Professional 2010	No
• STEP 7 Professional (TIA Portal)	No
• WinCC flexible Advanced 2008	No
• WinCC Advanced (TIA Portal)	No
• STEP 5	No
Mechanics/material	
Material	
• Magnesium alloy	Yes
Material of housing	metal
Socket for Kensington lock	Yes
rubber corner guards	Yes
Dimensions	
Width	330 mm
Height	32 mm
Depth	214 mm
Weights	
Weight, approx.	1.6 kg; incl. rechargeable battery
Scope of supply	
Accumulator	Yes
Power supply	Yes
Recovery media	Yes, Restore & Recovery

PC-based Automation

Industrial PC

Tablet PC

SIMATIC Industrial Tablet PC**Ordering data****Article No.****SIMATIC ITP1000****6AV7880 -**Operating unit

- 10" multi-touch (1 280 x 800) with 8 function keys
- 10" multi-touch (1 920 x 1 200) with 8 function keys

0
2Extras

- None
- Rear camera, 5 megapixels
- RFID reader
- Bar code reader (1D/2D)
- Camera and RFID
- Bar code reader and camera
- RFID and bar code reader
- Camera, RFID and bar code reader

A
B
C
D
E
F
G
HMass storage

- 256 GB SSD
- 512 GB SSD

A
BOperating system

- None
- Windows 7 Ultimate SP1, 64-bit, MUI (Eng, Ger, Fr, It, Sp)
- Windows10 IoT Enterprise 2016 LTSB, (64-bit) for Celeron i3 and i5 processors

0
1
2CPU

- Celeron G390 2E (2 MB cache, 1.60 GHz)
- Core i5-6442EQ (6 MB cache, up to 2.70 GHz)

1
2RAM

- 4 GB
- 8 GB
- 16 GB

0
1
2Power supply

- 110/230 V power supply unit, power cable for Europe
- 110/230 V power supply unit, power cable for UK
- 110/230 V power supply unit, power cable for CH
- 110/230 V power supply unit, power cable for the USA
- 110/230 V power supply unit, power cable for Italy
- 110/230 V power supply unit, power cable for China

A
B
C
D
E
FSpare software (included)

- None

A

Rechargeable battery

- High-capacity lithium ion battery

2

More information

You can find additional information on the Internet at:

<http://www.siemens.com/itp1000>

Accessories can be found under SIMATIC HMI accessories:

<https://mall.industry.siemens.com/mall/en/de/Catalog/Products/10144445?tree=CatalogTree>

"Automation technology" -> "Operator control and monitoring systems SIMATIC HMI" -> "Accessories"

Note:

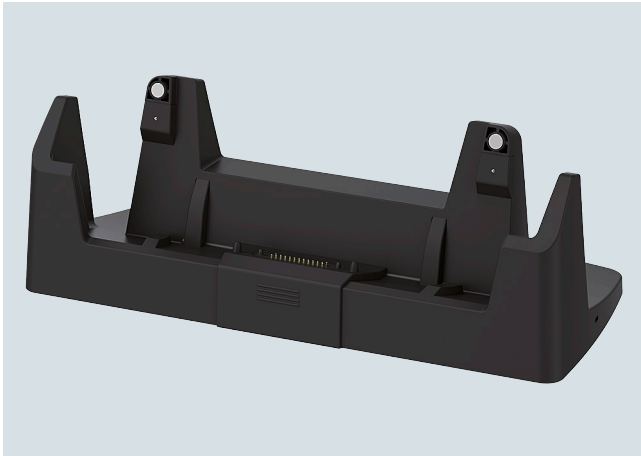
Do you require a specific modification or extension to the products described here? Then look up "Customized products", where you will find information about additional and generally available sector-specific products as well as options for customer-specific modifications and adaptations.

4

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



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 quick and easy to insert and remove the SIMATIC ITP1000.

Technical specifications

Article number	6AV7676-1AB00-0AA0 ITP1000 Docking Station
General information	
Product type designation	Docking station for ITP1000
Connection type	
• USB	Yes; USB 3.0 type A
Supply voltage	
Type of supply voltage	100 - 240 V AC
Rated value (DC)	19 V
Interfaces	
Interfaces/bus type	1x Ethernet (RJ45)
Number of USB interfaces	2
HMI-side interface	1x DisplayPort
EMC	
Emission of radio interference acc. to EN 55 011	
• Limit class A, for use in industrial areas	Yes
Degree and class of protection	
IP (all-round)	IP20
Standards, approvals, certificates	
CE mark	Yes
Ambient conditions	
Suited for indoor use	Yes
Suited for outdoor use	No
Mechanics/material	
Material	
• Plastic	Yes
Scope of supply	
Delivery quantity in pieces	1; Quantity
Other	
Target devices	SIMATIC ITP1000

Ordering data

Article No.

*System components for
Tablet PC*

**Docking station for
SIMATIC ITP1000**

6AV7676-1AB00-0AA0

More information

You can find additional information on the Internet at:

<http://www.siemens.com/itp1000>

You can find additional accessories at:

<https://mall.industry.siemens.com/mall/en/de/Catalog/Products/10144445?tree=CatalogTree>

"Catalog" -> "Automation technology" -> "Operator control and monitoring systems SIMATIC HMI" -> "Accessories"

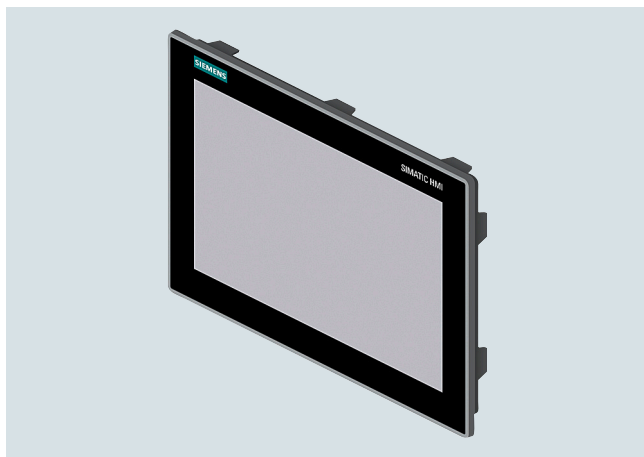
Note:

Do you require a specific modification or extension to the products described here? Then look up "Customized products", where you will find information about additional and generally available sector-specific products as well as options for customer-specific modifications and adaptations.

PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC IFP Basic**Overview****SIMATIC IFP Basic**

With the SIMATIC IFP Basic product series, the range of industrial touch monitors in the SIMATIC IFP product family has been extended by cost-effective versions.

SIMATIC IFP Basic devices feature touch operation and are available in 4 display sizes: 12", 15", 19" and 22".

Technical specifications

Article number	6AV7862-2BC00-0AA0 SIMATIC IFP1200 Basic	6AV7862-2BD00-0AA0 SIMATIC IFP1500 Basic	6AV7862-2BE00-0AA0 SIMATIC IFP1900 Basic	6AV7862-2BF00-0AA0 SIMATIC IFP2200 Basic
General information				
Product type designation	IFP1200 Basic	IFP1500 Basic	IFP1900 Basic	IFP2200 Basic
Short designation	Basic Flat Panel 12" Touch	Basic Flat Panel 15" Touch	Basic Flat Panel 19" Touch	Basic Flat Panel 22" Touch
Display				
Design of display	TFT widescreen display, LED backlighting	TFT display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	12.1 in	15.6 in	18.5 in	21.5 in
On Screen Display (OSD) configuration	No	No	No	No
Number of colors	16 000 000; 16 million	16 000 000; 16 million	16 000 000; 16 million	16 000 000; 16 million
Resolution (pixels)				
• Horizontal image resolution	1 280 Pixel	1 366 Pixel	1 366 Pixel	1 920 Pixel
• Vertical image resolution	800 Pixel	768 Pixel	768 Pixel	1 080 Pixel
General features				
• Detachable from computer unit	Up to 5 m	Up to 5 m	Up to 5 m	Up to 5 m
Backlighting				
• Type of backlighting	LED	LED	LED	LED
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h	50 000 h	30 000 h
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Touch operation				
• Design as touch screen	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive
Installation type/mounting				
VESA mounting	Yes; VESA 100 x 100 integrated	Yes; VESA 100 x 100 integrated	Yes; VESA 100 x 100 integrated	Yes; VESA 100 x 100 integrated
Mounting in portrait format possible	Yes	Yes	Yes	Yes
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible
maximum permitted forward tilt angle from vertical	45°	45°	45°	45°
maximum permitted backward tilt angle from vertical	45°	45°	45°	45°
Supply voltage				
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC
Rated value (DC)	24 V	24 V	24 V	24 V
permissible range, lower limit (DC)	20.4 V	20.4 V	20.4 V	20.4 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V
Power loss				
Power loss, typ.	13 W	17 W	19 W	24 W
Power loss, max.	60 W	60 W	60 W	60 W

Technical specifications (continued)

Article number	6AV7862-2BC00-0AA0 SIMATIC IFP1200 Basic	6AV7862-2BD00-0AA0 SIMATIC IFP1500 Basic	6AV7862-2BE00-0AA0 SIMATIC IFP1900 Basic	6AV7862-2BF00-0AA0 SIMATIC IFP2200 Basic
Interfaces				
Number of USB interfaces	2; USB 2.0 (downstream)	2; USB 2.0 (downstream)	2; USB 2.0 (downstream)	2; USB 2.0 (downstream)
USB on the rear	2	2	2	2
Video interfaces				
• DisplayPort	Yes	Yes	Yes	Yes
Touch interfaces				
• USB	Yes; USB Type A	Yes; USB Type A	Yes; USB Type A	Yes; USB Type A
Degree and class of protection				
IP (at the front)	IP65	IP65	IP65	IP65
IP65 at front	Yes	Yes	Yes	Yes
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
cULus	Yes; UL 61010-1, UL 61010-2-201	Yes; UL 61010-1, UL 61010-2-201	Yes; UL 61010-1, UL 61010-2-201	Yes; UL 61010-1, UL 61010-2-201
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes	Yes
FCC	Yes	Yes	Yes	Yes
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C	40 °C
Relative humidity				
• Operation, max.	85 %	85 %	85 %	85 %
Vibrations				
• Vibration load in operation	0.5 gn	0.5 gn	0.5 gn	0.5 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	25 gn	25 gn	25 gn
Mechanics/material				
Enclosure material (front)				
• Aluminum	Yes	Yes	Yes	Yes
Dimensions				
Width of the housing front	320 mm	406 mm	473 mm	540 mm
Height of housing front	226 mm	258 mm	297 mm	334 mm
Mounting cutout, width	302 mm	388 mm	455 mm	522 mm
Mounting cutout, height	208 mm	241 mm	279 mm	317 mm
Weights				
Weight without packaging	2.7 kg	4.1 kg	5.1 kg	6.5 kg

Ordering data

	Article No.		Article No.
<i>SIMATIC IFP Basic</i>			
SIMATIC IFP1200 Basic Flat Panel with 12" display (16:10); touch, 1 280 x 800 pixels; standard up to 5 m; for 24 V DC; DisplayPort / VGA interface	6AV7862-2BC00-0AA0	SIMATIC IFP1900 Basic Flat Panel with 19" display (16:9); touch, 1 366 x 768 pixels; standard up to 5 m; for 24 V DC; DisplayPort / VGA interface	6AV7862-2BE00-0AA0
SIMATIC IFP1500 Basic Flat Panel with 15" display (16:9); touch, 1 366 x 768 pixels; standard up to 5 m; for 24 V DC; DisplayPort / VGA interface	6AV7862-2BD00-0AA0	SIMATIC IFP2200 Basic Flat Panel with 22" display (16:9); touch, 1 920 x 1 080 pixels; standard up to 5 m; for 24 V DC; DisplayPort / VGA interface	6AV7862-2BF00-0AA0

PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC Industrial Flat Panel

Overview



The Industrial Flat Panels are rugged industry-standard LCD monitors in a widescreen 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	6AV7863-2AA0-0AA0	6AV7863-2AB10-0AA0	6AV7863-2BB10-0AA0	6AV7863-2TA00-0AA0	6AV7863-2TB10-0AA0
	SIMATIC Flat Panel 15" Display only	SIMATIC Flat Panel 15" Display only Ext	SIMATIC Flat Panel 15" Touch/Key	SIMATIC Flat Panel 15" Touch	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				
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/m ² / 1 000:1	400 cd/m ² / 1 000:1	400 cd/m ² / 1 000:1	400 cd/m ² / 1 000:1	400 cd/m ² / 1 000:1
• non-reflective and tempered mineral glass screen	Yes	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 %
Touch operation					
• Design as touch screen			Yes; Analog-resistive	Yes; Analog-resistive	Yes; Analog-resistive
• 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
maximum permitted forward tilt angle from vertical	35°	35°	35°	35°	35°
maximum permitted backward tilt angle from vertical	35°	35°	35°	35°	35°
Supply voltage					
Type of supply voltage	DC	AC/DC	AC/DC	DC	AC/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 240 V, 50/60 Hz	100 V; Up to 240 V, 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, typ.	40 W	40 W	40 W	40 W	40 W
Power loss, max.	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

PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC Industrial Flat Panel**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)
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
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

Technical specifications (continued)

Article number	6AV7863-2MA00-0AA0 SIMATIC Flat Panel 15" Multitouch	6AV7863-2MA00-0SA0 SIMATIC Flat Panel 15" Multitouch	6AV7863-2MB10-0AA0 SIMATIC Flat Panel 15" Multitouch Ext	6AV7863-2MB10-0SA0 SIMATIC Flat Panel 15" Multitouch Ext
General information				
Product type designation	IFP1500	IFP1500	IFP1500	IFP1500
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			
Number of colors	16 777 216; 24 bit	16 777 216	16 777 216; 24 bit	16 777 216
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/m ² / 900:1	400 cd/m ² / 900:1	400 cd/m ² / 900:1	400 cd/m ² / 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 %
Touch operation				
• Design as touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• 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
maximum permitted forward tilt angle from vertical	35°	35°	35°	35°
maximum permitted backward tilt angle from vertical	35°	35°	35°	35°
Supply voltage				
Type of supply voltage	DC	DC	DC	AC/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, typ.	40 W	40 W	40 W	40 W
Power loss, max.	65 W	60 W	60 W	60 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	Yes	Yes	Yes	Yes

PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC Industrial Flat Panel

Technical specifications (continued)

Article number	6AV7863-2MA00-0AA0 SIMATIC Flat Panel 15" Multitouch	6AV7863-2MA00-0SA0 SIMATIC Flat Panel 15" Multitouch	6AV7863-2MB10-0AA0 SIMATIC Flat Panel 15" Multitouch Ext	6AV7863-2MB10-0SA0 SIMATIC Flat Panel 15" Multitouch Ext
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
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
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
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
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)
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

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/m ² / 1 000:1	300 cd/m ² / 1 000:1	300 cd/m ² / 1 000:1	300 cd/m ² / 1 000:1
• 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 %
Touch operation				
• Design as touch screen			Yes; Analog-resistive	Yes; Analog-resistive
• 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
maximum permitted forward tilt angle from vertical	35°	35°	35°	35°
maximum permitted backward tilt angle from vertical	35°	35°	35°	35°
Supply voltage				
Type of supply voltage	DC	AC/DC	DC	AC/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, typ.	40 W	40 W	40 W	40 W
Power loss, max.	65 W	65 W	65 W	65 W

PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC Industrial Flat Panel**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)
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)				
• 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

Technical specifications (continued)

Article number	6AV7863-3MA00-0AA0 SIMATIC Flat Panel 19" Multitouch	6AV7863-3MA00-0SA0 SIMATIC Flat Panel 19" Multitouch	6AV7863-3MA20-0AA0 SIMATIC Flat Panel 19" MT ETH	6AV7863-3MB10-0AA0 SIMATIC Flat Panel 19" Multitouch Ext	6AV7863-3MB10-0SA0 SIMATIC Flat Panel 19" Multitouch Ext
General information					
Product type designation	IFP1900	IFP1900	IFP1900	IFP1900	IFP1900
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/m ² / 1 000:1	400 cd/m ² / 1 000:1	300 cd/m ² / 1 000:1	300 cd/m ² / 1 000:1	300 cd/m ² / 1 000:1
• 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 %
Touch operation					
• Design as touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive		Yes; Projective-capacitive	Yes; Projective-capacitive
• 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
maximum permitted forward tilt angle from vertical	35°	35°	35°	35°	35°
maximum permitted backward tilt angle from vertical	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, typ.	40 W	40 W	40 W	40 W	40 W
Power loss, max.	65 W	65 W	65 W	65 W	65 W

PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC Industrial Flat Panel**Technical specifications** (continued)

Article number	6AV7863-3MA00-0AA0 SIMATIC Flat Panel 19" Multitouch	6AV7863-3MA00-0SA0 SIMATIC Flat Panel 19" Multitouch	6AV7863-3MA20-0AA0 SIMATIC Flat Panel 19" MT ETH	6AV7863-3MB10-0AA0 SIMATIC Flat Panel 19" Multitouch Ext	6AV7863-3MB10-0SA0 SIMATIC Flat Panel 19" Multitouch 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					
IP (at the front)			IP66		
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
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
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

Technical specifications (continued)

Article number	6AV7863-3MA00-0AA0 SIMATIC Flat Panel 19" Multitouch	6AV7863-3MA00-0SA0 SIMATIC Flat Panel 19" Multitouch	6AV7863-3MA20-0AA0 SIMATIC Flat Panel 19" MT ETH	6AV7863-3MB10-0AA0 SIMATIC Flat Panel 19" Multitouch Ext	6AV7863-3MB10-0SA0 SIMATIC Flat Panel 19" Multitouch Ext
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)
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
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

PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC Industrial Flat Panel

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
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/m ² / 1 000:1	250 cd/m ² / 1 000:1	250 cd/m ² / 1 000:1	250 cd/m ² / 1 000:1
• 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 %
Touch operation				
• Design as touch screen			Yes; Analog-resistive	Yes; Analog-resistive
• 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
maximum permitted forward tilt angle from vertical	35°	35°	35°	35°
maximum permitted backward tilt angle from vertical	35°	35°	35°	35°
Supply voltage				
Type of supply voltage	DC	AC/DC	DC	AC/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, typ.	40 W	40 W	40 W	40 W
Power loss, max.	65 W	65 W	65 W	65 W

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
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)
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)				
• 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

PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC Industrial Flat Panel**Technical specifications** (continued)

Article number	6AV7863-4MA00-0AA0 SIMATIC Flat Panel 22" Multitouch	6AV7863-4MA00-0SA0 SIMATIC Flat Panel 22" Multitouch	6AV7863-4MA20-0AA0 SIMATIC Flat Panel 22" MT ETH	6AV7863-4MB10-0AA0 SIMATIC Flat Panel 22" Multitouch Ext	6AV7863-4MB10-0SA0 SIMATIC Flat Panel 22" Multitouch Ext
General information					
Product type designation	IFP2200	IFP2200	IFP2200	IFP2200	IFP2200
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	Up to 100 m Ethernet	30 m	30 m
• Brightness/contrast	250 cd/m ² / 1 000:1	250 cd/m ² / 1 000:1	250 cd/m ² / 1 000:1	250 cd/m ² / 1 000:1	250 cd/m ² / 1 000:1
• 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 %
Touch operation					
• Design as touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• 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
maximum permitted forward tilt angle from vertical	35°	35°	35°	35°	35°
maximum permitted backward tilt angle from vertical	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

Technical specifications (continued)

Article number	6AV7863-4MA00-0AA0 SIMATIC Flat Panel 22" Multitouch	6AV7863-4MA00-0SA0 SIMATIC Flat Panel 22" Multitouch	6AV7863-4MA20-0AA0 SIMATIC Flat Panel 22" MT ETH	6AV7863-4MB10-0AA0 SIMATIC Flat Panel 22" Multitouch Ext	6AV7863-4MB10-0SA0 SIMATIC Flat Panel 22" Multitouch Ext
Power loss					
Power loss, typ.	40 W	40 W	40 W	40 W	40 W
Power loss, max.	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					
IP (at the front)			IP66		
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
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
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

PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC Industrial Flat Panel**Technical specifications** (continued)

Article number	6AV7863-4MA00-0AA0 SIMATIC Flat Panel 22" Multitouch	6AV7863-4MA00-0SA0 SIMATIC Flat Panel 22" Multitouch	6AV7863-4MA20-0AA0 SIMATIC Flat Panel 22" MT ETH	6AV7863-4MB10-0AA0 SIMATIC Flat Panel 22" Multitouch Ext	6AV7863-4MB10-0SA0 SIMATIC Flat Panel 22" Multitouch Ext
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)
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
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

Technical specifications (continued)

Article number	6AV7863-5MA10-1AA0 SIMATIC Flat Panel 15" MT V1+	6AV7863-5MA10-1NA0 SIMATIC Flat Panel 15" MT V1+	6AV7863-6MA10-1AA0 SIMATIC Flat Panel 19" MT V1+	6AV7863-6MA10-1NA0 SIMATIC Flat Panel 19" MT V1+	6AV7466-8MA10-0AA0 SIMATIC Flat Panel 22" Multitouch Ext	6AV7466-8MA10-0AX0 SIMATIC Flat Panel 22" Multitouch Ext
General information						
Product type designation	IFP1500	IFP1500	IFP1900	IFP1900	IFP2200	IFP2200
Short designation	15" Flat Panel Full HD	15" Flat Panel Full HD, neutral	19" Flat Panel Full HD	19" Flat Panel Full HD, neutral	Flat Panel 22" multi-touch ext.	Flat Panel 22" multi-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	TFT widescreen display, LED backlighting
Screen diagonal	15.6 in	15.6 in	18.5 in	18.5 in	21.5 in	21.5 in
Screen diagonal [cm]	40 cm	40 cm	47 cm	47 cm	56 cm	56 cm
Display width	344.2 mm	344.2 mm	409.8 mm	409.8 mm	476 mm	476 mm
Display height	193.5 mm	193.5 mm	230.4 mm	230.4 mm	268 mm	268 mm
Viewing angle	160° x 140°	160° x 140°	178° x 178°	178° x 178°	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	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	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	1 920 Pixel
• Vertical image resolution	1 080 Pixel	1 080 Pixel	1 080 Pixel	1 080 Pixel	1 080 Pixel	1 080 Pixel
• Pixel size, horizontal	0.17925 mm	0.17925 mm	0.213 mm	0.213 mm	0.2475 mm	0.2475 mm
• Pixel size, vertical	0.17925 mm	0.17925 mm	0.213 mm	0.213 mm	0.2475 mm	0.2475 mm
General features						
• Detachable from computer unit	30 m	30 m	30 m	30 m	Up to 30 m	Up to 30 m
• Brightness/contrast	400 cd/m ² / 700:1	400 cd/m ² / 700:1	350 cd/m ² / 1 000:1	350 cd/m ² / 1 000:1	250 cd/m ² / 1 000:1	250 cd/m ² / 1 000:1
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes	Yes	Yes	Yes
Backlighting						
• Type of backlighting	LED	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	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Touch operation						
• Design as touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes	Yes	Yes	Yes	Yes
Installation type/mounting						
Design	Built-in unit	Built-in unit	Built-in unit	Built-in unit	Built-in unit	Built-in unit
VESA mounting	No	No	No	No		
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible
maximum permitted forward tilt angle from vertical	35°	35°	35°	35°	35°	35°
maximum permitted backward tilt angle from vertical	35°	35°	35°	35°	35°	35°
Supply voltage						
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC	DC	DC
Rated value (DC)	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating
permissible range, lower limit (DC)	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
Power loss						
Power loss, typ.	20 W	20 W	25 W	25 W	40 W	40 W
Power loss, max.	25 W	25 W	30 W	30 W	65 W	65 W

PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC Industrial Flat Panel

Technical specifications (continued)

Article number	6AV7863-5MA10-1AA0 SIMATIC Flat Panel 15" MT V1+	6AV7863-5MA10-1NA0 SIMATIC Flat Panel 15" MT V1+	6AV7863-6MA10-1AA0 SIMATIC Flat Panel 19" MT V1+	6AV7863-6MA10-1NA0 SIMATIC Flat Panel 19" MT V1+	6AV7466-8MA10-0AA0 SIMATIC Flat Panel 22" Multitouch Ext	6AV7466-8MA10-0AX0 SIMATIC Flat Panel 22" Multitouch Ext
Interfaces						
USB on the rear	2	2	2	2	2	2
Connection for keyboard/mouse	USB	USB	USB	USB	USB	USB
Video interfaces						
• DVI-D	Yes	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	Yes; DisplayPort V1.1
Touch interfaces						
• USB	Yes	Yes	Yes	Yes	Yes	Yes
Degree and class of protection						
IP65 at front	Yes	Yes	Yes	Yes	Yes	Yes
Enclosure Type 4 at the front	Yes	Yes	Yes	Yes	Yes	Yes
Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
Enclosure Type 12 at the front	Yes	Yes	Yes	Yes	Yes	Yes
NEMA4 at the front	No	No	No	No	No	No
NEMA4X at the front	No	No	No	No	No	No
IP20 rear	Yes	Yes	Yes	Yes	Yes	Yes
Standards, approvals, certificates						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes; cULus, cUL	Yes; cULus, cUL	Yes; cULus, cUL	Yes; cULus, cUL	Yes; cULus, cUL	Yes; cULus, cUL
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	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	No; Available soon	No; Available soon	No; Available soon	No; Available soon	Yes	Yes
Use in hazardous areas						
• ATEX Zone 2	Yes	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• ATEX Zone 22	Yes	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• FM Class I Division 2	Yes	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
Marine approval						
• Germanischer Lloyd (GL)	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• American Bureau of Shipping (ABS)	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• Bureau Veritas (BV)	No; Available soon	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	No; Available soon
• Lloyds Register of Shipping (LRS)	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
• Nippon Kaiji Kyokai (Class NK)	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon	No; Available soon
Ambient conditions						
Ambient temperature during operation						
• min.	0 °C	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)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)
Relative humidity						
• Operation, max.	95 %; no condensation	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	1 gn
• Vibration load during transport/storage	1 gn	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	15 gn
• Shock load during transport/storage	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn

Technical specifications (continued)

Article number	6AV7863-5MA10-1AA0 SIMATIC Flat Panel 15" MT V1+	6AV7863-5MA10-1NA0 SIMATIC Flat Panel 15" MT V1+	6AV7863-6MA10-1AA0 SIMATIC Flat Panel 19" MT V1+	6AV7863-6MA10-1NA0 SIMATIC Flat Panel 19" MT V1+	6AV7466-8MA10-0AA0 SIMATIC Flat Panel 22" Multitouch Ext	6AV7466-8MA10-0AX0 SIMATIC Flat Panel 22" Multitouch Ext
Mechanics/material						
Enclosure material (front)						
• Glass	Yes; at front	Yes	Yes	Yes	Yes	Yes; at front
Enclosure material (rear)	aluminum					aluminum
Dimensions						
Width of the housing front	398 mm	398 mm	464 mm	464 mm	529 mm	529 mm
Height of housing front	257 mm	257 mm	294 mm	294 mm	331 mm	331 mm
Mounting cutout, width	382 mm; Tolerance: +1 mm	382 mm; Tolerance: +1 mm	448 mm; Tolerance: +1 mm	448 mm; Tolerance: +1 mm	513 mm; Tolerance: +1 mm	513 mm; Tolerance: +1 mm
Mounting cutout, height	241 mm; Tolerance: +1 mm	241 mm; Tolerance: +1 mm	278 mm; Tolerance: +1 mm	278 mm; Tolerance: +1 mm	315 mm; Tolerance: +1 mm	315 mm; Tolerance: +1 mm
Overall depth	62.5 mm	62.5 mm	62.5 mm	62.5 mm	72 mm	72 mm
Weights						
Weight without packaging	4 kg	4 kg	5.7 kg	5.7 kg	6.7 kg	6.7 kg

Ordering data*Industrial Flat Panel Monitor***SIMATIC IFP1500**

Flat Panel 15" display (16:10),
DisplayPort/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
- Extended version up to 30 m, incl. DVI/USB cable 1.8 m

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

Multi-touch, 1 366 x 768, for
24 V DC

- Standard up to 5 m, incl. DVI/USB cable 1.8 m
- Standard up to 5 m, marine approval, incl. DVI/USB cable 1.8 m

Article No.**6AV7863-2AA00-0AA0****6AV7863-2AB10-0AA0****6AV7863-2BB10-0AA0****6AV7863-2MA00-0AA0****6AV7863-2MA00-0SA0****Article No.**

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
- Extended version up to 30 m, marine approval, incl. DVI/USB cable 1.8 m

Touch, 1 280 x 800 pixels, for
24 V DC

- Standard up to 5 m, incl. DVI cable 1.8 m

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

15" Full HD / Extended multi-touch

- Extended version up to 30 m, incl. DVI/USB cable 1.8 m
- Neutral design

6AV7863-2MB10-0AA0**6AV7863-2MB10-0SA0****6AV7863-2TA00-0AA0****6AV7863-2TB10-0AA0****6AV7863-5MA10-1AA0****6AV7863-5MA10-1NA0**

PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC Industrial Flat Panel**Ordering data****Article No.****Article No.****SIMATIC IFP1900**Flat Panel 19" display (16:10),
DisplayPort/DVI portwithout touch screen, display only,
1 366 x 768 pixels, for 24 V DC

- Standard up to 5 m, incl. DVI cable 1.8 m
- Extended version up to 30 m, incl. DVI/USB cable 1.8 m

Multi-touch, 1 366 x 768,
for 24 V DC

- Standard up to 5 m, incl. DVI/USB cable 1.8 m
- Standard up to 5 m, marine approval, incl. DVI/USB cable 1.8 m
- DisplayPort, Ethernet interface, incl. DVI/USB cable 1.8 m

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
- Extended version up to 30 m, marine approval, incl. DVI/USB cable 1.8 m

Touch, 1 366 x 768 pixels,
for 24 V DC

- Standard up to 5 m, incl. DVI cable 1.8 m

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

19" Full HD / Extended multi-touch

- Extended version up to 30 m, incl. DVI/USB cable 1.8 m
- Neutral design

6AV7863-3AA00-0AA0**6AV7863-3AB10-0AA0****6AV7863-3MA00-0AA0****6AV7863-3MA00-0SA0****6AV7863-3MA20-0AA0****6AV7863-3MB10-0AA0****6AV7863-3MB10-0SA0****6AV7863-3TA00-0AA0****6AV7863-3TB10-0AA0****6AV7863-6MA10-1AA0****6AV7863-6MA10-1NA0****SIMATIC IFP2200**Flat Panel 22" display (16:10),
DisplayPort/DVI portwithout 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

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

Multi-touch, 1 920 x 1 080 pixels,
for 24 V DC

- Standard up to 5 m, incl. DVI/USB cable 1.8 m
- Standard up to 5 m, marine approval, incl. DVI/USB cable 1.8 m
- DisplayPort, Ethernet interface, incl. DVI/USB cable 1.8 m

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
- Extended version up to 30 m, marine approval, incl. DVI/USB cable 1.8 m

Touch, 1 920 x 1 080 pixels,
for 24 V DC

- Standard up to 5 m, incl. DVI cable 1.8 m

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

SIMATIC IFP2200 with narrow borderMulti-touch, 1 920 x 1 080 pixels,
for 24 V DC

- Extended version up to 30 m, incl. DVI/USB cable 1.8 m
- Extended version up to 30 m, neutral front without logo, incl. DVI/USB cable 1.8 m

6AV7863-4AA00-0AA0**6AV7863-4AB10-0AA0****6AV7863-4MA00-0AA0****6AV7863-4MA00-0SA0****6AV7863-4MA20-0AA0****6AV7863-4MB10-0AA0****6AV7863-4MB10-0SA0****6AV7863-4TA00-0AA0****6AV7863-4TB10-0AA0****6AV7466-8MA10-0AX0****6AV7466-8MA10-0AA0**

Ordering data	Article No.
<i>Accessories</i>	
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
<i>Accessories for standard variants up to 5 m (6AV7863-..A0-0AA0 and 6AV7466-1TA00-0AA0)</i>	
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
<i>Accessories for extended variants up to 30 m (6AV7863-..B1-0AA0)</i>	
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

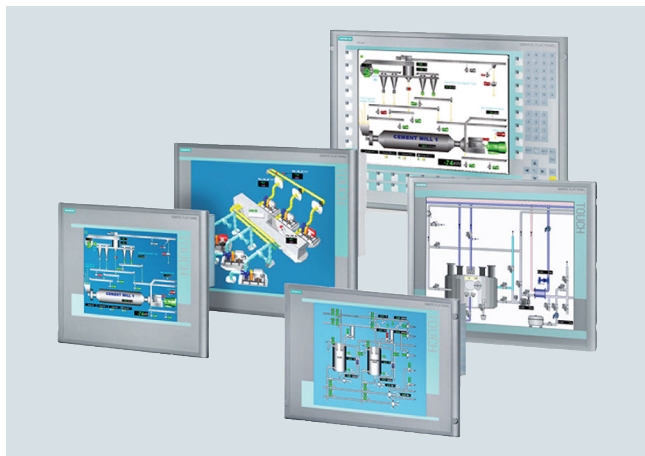
PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC Flat Panels

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.
- 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	6AV7861-2AA00-2AA0	6AV7861-2AB00-2AA0	6AV7861-2AB10-2AA0	6AV7861-2TA00-2AA0	6AV7861-2TB00-2AA0	6AV7861-2TB10-2AA0
	SIMATIC Flat Panel 15, f. DC24V	SIMATIC Flat Panel 15	SIMATIC Flat Panel 15 Extended	SIMATIC Flat Panel 15T, f. DC24V	SIMATIC Flat Panel 15T	SIMATIC Flat Panel 15T Extended
Display	TFT display, LED backlighting					
Design of display	15 in					
Screen diagonal	15 in	15 in	15 in	15 in	15 in	15 in
Display width	304.1 mm	304.1 mm	304.1 mm	304.1 mm	304.1 mm	304.1 mm
Display height	228.1 mm	228.1 mm	228.1 mm	228.1 mm	228.1 mm	228.1 mm
Viewing angle	100° x 90° (min)	100° x 90° (min)	100° x 90° (min)	100° x 90° (min)	100° x 90° (min)	100° x 90° (min)
On Screen Display (OSD) configuration	Yes	Yes	Yes	Yes	Yes	Yes
Number of colors	16 000 000; 16.2 million	16 000 000; 16.2 million	16 000 000; 16.2 million	16 000 000; 16.2 million	16 000 000; 16.2 million	16 000 000; 16.2 million
Resolution (pixels)						
• Horizontal image resolution	1 024 Pixel	1 024 Pixel	1 024 Pixel	1 024 Pixel	1 024 Pixel	1 024 Pixel
• Vertical image resolution	768 Pixel	768 Pixel	768 Pixel	768 Pixel	768 Pixel	768 Pixel
General features						
• Brightness/contrast	> 260 cd/m ² / 350:1	> 260 cd/m ² / 350:1	> 260 cd/m ² / 350:1	> 260 cd/m ² / 350:1	> 260 cd/m ² / 350:1	> 260 cd/m ² / 350:1
Backlighting						
• Type of backlighting	LED, dimmable	LED, dimmable	LED, dimmable	LED, dimmable	LED, dimmable	LED, dimmable
• 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	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Control elements						
Control elements	none	none	none	Touch	Touch	Touch
Input device						
• Integrated mouse cursor control	No	No	No	No	No	No
Touch operation						
• Design as touch screen	No	No	No	Yes	Yes	Yes

Technical specifications (continued)

Article number	6AV7861-2AA00-2AA0 SIMATIC Flat Panel 15, f. DC24V	6AV7861-2AB00-2AA0 SIMATIC Flat Panel 15	6AV7861-2AB10-2AA0 SIMATIC Flat Panel 15 Extended	6AV7861-2TA00-2AA0 SIMATIC Flat Panel 15T, f. DC24V	6AV7861-2TB00-2AA0 SIMATIC Flat Panel 15T	6AV7861-2TB10-2AA0 SIMATIC Flat Panel 15T Extended
Installation type/mounting						
Design	Built-in unit	Built-in unit	Built-in unit	Built-in unit	Built-in unit	Built-in unit
Rack mounting	Yes	Yes	Yes	Yes	Yes	Yes
VESA mounting	No	No	No	No	No	No
Built-in unit	Yes; Portrait mode possible					
maximum permitted forward tilt angle from vertical	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C
maximum permitted backward tilt angle from vertical	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C
Supply voltage						
Type of supply voltage	DC	AC/DC	AC/DC	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
permissible range, upper limit (DC)	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
permissible range, upper limit (AC)		264 V	264 V		264 V	264 V
Degree and class of protection						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
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
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
Standards, approvals, certificates						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
CSA approval	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	No	No	No	No	No	No
Marine approval						
• Germanischer Lloyd (GL)	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional
• American Bureau of Shipping (ABS)	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional
• Bureau Veritas (BV)	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional
• Det Norske Veritas (DNV)	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional
• Lloyds Register of Shipping (LRS)	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional
Ambient conditions						
Ambient temperature during operation						
• min.	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
Mechanics/material						
Enclosure material (front)						
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
Dimensions						
Width of the housing front	483 mm	483 mm	483 mm	483 mm	483 mm	483 mm
Height of housing front	310 mm	310 mm	310 mm	310 mm	310 mm	310 mm
Mounting cutout, width	450 mm	450 mm	450 mm	450 mm	450 mm	450 mm
Mounting cutout, height	290 mm	290 mm	290 mm	290 mm	290 mm	290 mm
Overall depth	55 mm	55 mm	55 mm	55 mm	55 mm	55 mm

PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC Flat Panels**Technical specifications** (continued)

Article number	6AV7861-3AA00-2AA0 SIMATIC Flat Panel 19, f. DC24V	6AV7861-3AB00-2AA0 SIMATIC Flat Panel 19	6AV7861-3AB10-2AA0 SIMATIC Flat Panel 19 Extended	6AV7861-3TA00-2AA0 SIMATIC Flat Panel 19T, f. DC24V	6AV7861-3TB00-2AA0 SIMATIC Flat Panel 19T	6AV7861-3TB10-2AA0 SIMATIC Flat Panel 19T Extended
Display						
Design of display	TFT display, LED backlighting					
Screen diagonal	19 in	19 in	19 in	19 in	19 in	19 in
Display width	376.3 mm	376.3 mm	376.3 mm	376.3 mm	376.3 mm	376.3 mm
Display height	301.1 mm	301.1 mm	301.1 mm	301.1 mm	301.1 mm	301.1 mm
Viewing angle	170° x 170°	170° x 170°	170° x 170°	170° x 170°	170° x 170°	170° x 170°
On Screen Display (OSD) configuration	Yes	Yes	Yes	Yes	Yes	Yes
Number of colors	16 000 000; 16.7 million	16 000 000; 16.7 million	16 000 000; 16.7 million	16 000 000; 16.7 million	16 000 000; 16.7 million	16 000 000; 16.7 million
Resolution (pixels)						
• Horizontal image resolution	1 280 Pixel	1 280 Pixel	1 280 Pixel	1 280 Pixel	1 280 Pixel	1 280 Pixel
• Vertical image resolution	1 024 Pixel	1 024 Pixel	1 024 Pixel	1 024 Pixel	1 024 Pixel	1 024 Pixel
General features						
• Brightness/contrast	> 300 cd/m ² / 300:1	> 300 cd/m ² / 300:1	> 300 cd/m ² / 300:1	> 300 cd/m ² / 300:1	> 300 cd/m ² / 300:1	> 300 cd/m ² / 300:1
Backlighting						
• Type of backlighting	LED, dimmable	LED, dimmable	LED, dimmable	LED, dimmable	LED, dimmable	LED, dimmable
• 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	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Control elements						
Control elements	Touch	none	none	Touch	Touch	Touch
Input device						
• Integrated mouse cursor control	No	No	No	No	No	No
Touch operation						
• Design as touch screen	No	No	No	Yes	Yes	Yes
Installation type/mounting						
Design	Built-in unit	Built-in unit	Built-in unit	Built-in unit	Built-in unit	Built-in unit
Rack mounting	Yes	Yes	Yes	Yes	Yes	Yes
VESA mounting	No	No	No	No	No	No
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible
maximum permitted forward tilt angle from vertical	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C	35°; max. 40°C
maximum permitted backward tilt angle from vertical	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C	70°; max. 40°C
Supply voltage						
Type of supply voltage	DC	AC/DC	AC/DC	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
permissible range, upper limit (DC)	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
permissible range, upper limit (AC)		264 V	264 V		264 V	264 V

Technical specifications (continued)

Article number	6AV7861-3AA00-2AA0 SIMATIC Flat Panel 19, f. DC24V	6AV7861-3AB00-2AA0 SIMATIC Flat Panel 19	6AV7861-3AB10-2AA0 SIMATIC Flat Panel 19 Extended	6AV7861-3TA00-2AA0 SIMATIC Flat Panel 19T, f. DC24V	6AV7861-3TB00-2AA0 SIMATIC Flat Panel 19T	6AV7861-3TB10-2AA0 SIMATIC Flat Panel 19T Extended
Degree and class of protection						
IP (at the front)	IP65	IP65	IP65	IP65	IP65	IP65
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
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
IP20 rear	Yes	Yes	Yes	Yes		
Standards, approvals, certificates						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
CSA approval	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	No	No	No	No	No	No
Marine approval						
• Germanischer Lloyd (GL)	Yes; Optional	Yes; Optional	Yes	Yes	Yes; Optional	Yes; Optional
• American Bureau of Shipping (ABS)	Yes; Optional	Yes; Optional	Yes	Yes	Yes; Optional	Yes; Optional
• Bureau Veritas (BV)	Yes; Optional	Yes; Optional	Yes	Yes	Yes; Optional	Yes; Optional
• Det Norske Veritas (DNV)	Yes; Optional	Yes; Optional	Yes	Yes	Yes; Optional	Yes; Optional
• Lloyds Register of Shipping (LRS)	Yes; Optional	Yes; Optional	Yes	Yes	Yes; Optional	Yes; Optional
• Polski Rejestr Statkow (PRS)			Yes	Yes		
Ambient conditions						
Ambient temperature during operation						
• min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C	45 °C	45 °C	45 °C
Mechanics/material						
Enclosure material (front)						
• Aluminum	Yes	Yes	Yes	Yes	Yes	Yes
Dimensions						
Width of the housing front	483 mm	483 mm	483 mm	483 mm	483 mm	483 mm
Height of housing front	400 mm	400 mm	400 mm	400 mm	400 mm	400 mm
Mounting cutout, width	450 mm	450 mm	450 mm	450 mm	450 mm	450 mm
Mounting cutout, height	380 mm	380 mm	380 mm	380 mm	380 mm	380 mm
Overall depth	57 mm	57 mm	57 mm	57 mm	57 mm	57 mm

PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC Flat Panels

Ordering data

Article No.

SIMATIC Flat Panels

15"

15" TFT screen
With 1 024 x 768 pixel resolution
VGA; DVI-D interface
Incl. VGA cable 1.8 m

- For 24 V DC
- For 24 V DC and 120/240 V AC
- 15" extended
15" TFT screen
With 1 024 x 768 pixel resolution
For 24 V DC and 120/240 V AC
VGA, DVI-D interface
Can be located at a distance
of up to 30 m

6AV7861-2AA00-2AA0
6AV7861-2AB00-2AA0
6AV7861-2AB10-2AA0

15" TFT screen
With 1 024 x 768 pixel resolution
VGA, DVI-D interface
Incl. VGA cable 1.8 m

- For 24 V DC
- For 24 V DC and 120/240 V AC
- 15" extended
15" TFT screen
With 1 024 x 768 pixel resolution
For 24 V DC and 120/240 V AC
VGA, DVI-D interface
Can be located at a distance
of up to 30 m

6AV7861-2TA00-2AA0
6AV7861-2TB00-2AA0
6AV7861-2TB10-2AA0

19"

19" TFT screen
With 1 280 x 1024 pixel resolution
VGA, DVI-D interface
Incl. VGA cable 1.8 m

- For 24 V DC
- For 24 V DC and 120/240 V AC
- 19" extended
19" TFT screen
With 1 280 x 1 024 pixel resolution
For 24 V DC and 120/240 V AC
VGA, DVI-D interface
Can be located at a distance
of up to 30 m

6AV7861-3AA00-2AA0
6AV7861-3AB00-2AA0
6AV7861-3AB10-2AA0

19" T Touch TFT screen
With 1 280 x 1 024 pixel resolution
VGA, DVI-D interface
Incl. VGA cable 1.8 m

- For 24 V DC
- For 24 V DC and 120/240 V AC
- 19" T Extended
19" Touch TFT screen
With 1 280 x 1 024 pixel resolution
For 24 V DC and 120/240 V AC
VGA, DVI-D interface
Can be located at a distance
of up to 30 m

6AV7861-3TA00-2AA0
6AV7861-3TB00-2AA0
6AV7861-3TB10-2AA0

Accessories

Protective films

For protecting the touch screen
against dirt and scratches
Pack with 10 units

- for 15" touch
- for 19" touch

6AV7671-4BA00-0AA0
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 (DVI-D)

- 3.0 m
- 5.0 m

6AV7860-0BH30-0AA0
6AV7860-0BH50-0AA0

USB for optional touch screen

- 3.0 m
- 5.0 m

6AV7860-0CH30-0AA0
6AV7860-0CH50-0AA0

Connection cables for Extended versions only

- Cable set 10 m
(DVI-D, CAT5 cable (USB),
USB transmitter module)
- Cable set 15 m
(DVI-D, CAT5 cable (USB),
USB transmitter module)
- Cable set 20 m
(DVI-D, CAT5 cable (USB),
USB transmitter module)
- Cable set 30 m
(DVI-D, CAT5 cable (USB),
USB transmitter module)

6AV7860-1EX21-0AA1

6AV7860-1EX21-5AA1

6AV7860-1EX22-0AA1

6AV7860-1EX23-0AA1

Additional 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 refer to "Customized Automation". There you will find information about additional and generally available sector-specific products as well as options for customer-specific modification and adaptation.

Examples are:

- SIMATIC SCD monitor 1900 for portrait operation
- SIMATIC Flat Panels with 6" and 10" Touch

Overview



SIMATIC Industrial Thin Clients are also available as glass-front, capacitive multi-touch devices in display sizes 15", 19" and 22".

- SIMATIC ITC1500 V3 – 15" Multi-touch 1 366 x 768
- SIMATIC ITC1900 V3 – 19" Multi-touch 1 366 x 768
- SIMATIC ITC2200 V3 – 22" Multi-touch 1 920 x 1 080

The following installation versions are still available with resistive single-touch:

- 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.

SIMATIC ITC Industrial Thin Clients are powerful operating units for flexible use in distributed visualization applications.

All devices are equipped with high-resolution, brilliant wide-screen 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 panels on a SIMATIC Industrial PC, Panel PC, or server, and on a SIMATIC Panel or SINUMERIK.

Technical specifications

Article number	6AV6646-1BA15-0AA0 SIMATIC ITC1500 V3	6AV6646-1BA18-0AA0 SIMATIC ITC1900 V3	6AV6646-1BA22-1AA0 SIMATIC ITC2200 V3
General information			
Product type designation	ITC1500 V3	ITC1900 V3	ITC2200 V3
Short designation	SIMATIC ITC1500 V3	SIMATIC ITC1900 V3	SIMATIC ITC2200 V3
Display			
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	15.6 in	18.5 in	21.5 in
Display width	344.2 mm	409.8 mm	495.6 mm
Display height	193.5 mm	230.4 mm	292.2 mm
Number of colors	16 777 216	16 777 216	16 777 216
Resolution (pixels)			
• Horizontal image resolution	1 366 Pixel	1 366 Pixel	1 920 Pixel
• Vertical image resolution	768 Pixel	768 Pixel	1 080 Pixel
General features			
• Detachable from computer unit	Ethernet direct, 100 m, any network	Ethernet direct, 100 m, any network	Ethernet direct, 100 m, any network
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes
Backlighting			
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	30 000 h; At 25°C
• Backlight dimmable	Yes; LED, dimmable	Yes; LED, dimmable	Yes; LED, dimmable
Touch operation			
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes	Yes

PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC Industrial Thin Client**Technical specifications** (continued)

Article number	6AV6646-1BA15-0AA0 SIMATIC ITC1500 V3	6AV6646-1BA18-0AA0 SIMATIC ITC1900 V3	6AV6646-1BA22-1AA0 SIMATIC ITC2200 V3
Installation type/mounting			
Design	Built-in unit	Built-in unit	Built-in unit
Rack mounting	Yes; With frame	Yes; With frame	No
Built-in unit	Yes	Yes	Yes
maximum permitted forward tilt angle from vertical	35°	35°	35°
maximum permitted backward tilt angle from vertical	35°	35°	35°
Supply voltage			
Type of supply voltage	24 V DC	24 V DC	24 V 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)	1.4 A	1.4 A	1.7 A
Starting current inrush I _p t	0.5 A ² ·s	0.5 A ² ·s	0.5 A ² ·s
Interfaces			
Number of industrial Ethernet interfaces	2; 2 ports (switch)	2; 2 ports (switch)	2; 2 ports (switch)
Number of USB interfaces	4; on rear	4; on rear	4; on rear
USB on the rear	4x	4x	4x
Connection for keyboard/mouse	USB	USB	USB
Industrial Ethernet			
• Transmission rate, max.	1 000 Mbit/s	1 000 Mbit/s	1 000 Mbit/s
Protocols			
Protocols (Ethernet)			
• TCP/IP	Yes	Yes	Yes
• DHCP	Yes	Yes	Yes
• SNMP		Yes	
• DCP	Yes	Yes	Yes
• LLDP	Yes	Yes	Yes
WEB characteristics			
• HTTP	Yes	Yes	Yes
• HTTPS	Yes	Yes	Yes
• HTML	Yes; HTML5	Yes; HTML5	Yes; HTML5
• XML	Yes	Yes	Yes
• CSS	Yes	Yes	Yes
• JavaScript	Yes	Yes	Yes
• Java VM	No	No	No
Protocols (terminal link)			
• Sm@rtServer	Yes	Yes	Yes
• RDP	Yes	Yes	Yes
• VNC viewer	Yes	Yes	Yes
• Citrix	Yes	Yes	Yes
• SINUMERIK	No; Available soon	No; Available soon	No; Available soon
Degree and class of protection			
IP (at the front)	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes
Enclosure Type 12 at the front	Yes	Yes	Yes
IP20 rear	Yes	Yes	Yes
IP65 rear	No	No	No
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
FM approval	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes

Technical specifications (continued)

Article number	6AV6646-1BA15-0AA0 SIMATIC ITC1500 V3	6AV6646-1BA18-0AA0 SIMATIC ITC1900 V3	6AV6646-1BA22-1AA0 SIMATIC ITC2200 V3
Use in hazardous areas			
• ATEX Zone 2	Yes	Yes	Yes
• ATEX Zone 22	Yes	Yes	Yes
• IECEx Zone 2	Yes	Yes	Yes
• IECEx Zone 22	Yes	Yes	Yes
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes
• FM Class I Division 2	Yes	Yes	Yes
Marine approval			
• Germanischer Lloyd (GL)	No; Available soon	No; Available soon	No; Available soon
• American Bureau of Shipping (ABS)	No; Available soon	No; Available soon	No; Available soon
• Bureau Veritas (BV)	No; Available soon	No; Available soon	No; Available soon
• Det Norske Veritas (DNV)	No; Available soon	No; Available soon	No; Available soon
• Korean Register of Shipping (KRS)	No	No	No
• Lloyds Register of Shipping (LRS)	No; Available soon	No; Available soon	No; Available soon
• Nippon Kaiji Kyokai (Class NK)	No; Available soon	No; Available soon	No; Available soon
• Polski Rejestr Statkow (PRS)	No	No	No
• Chinese Classification Society (CCS)	No	No	No
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	50 °C	45 °C	45 °C
Relative humidity			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
Vibrations			
• Vibration load in operation	10 m/s ²	10 m/s ²	10 m/s ²
• Vibration load during transport/storage	10 m/s ²	10 m/s ²	10 m/s ²
Shock testing			
• Shock load during operation	150 m/s ²	150 m/s ²	150 m/s ²
• Shock load during transport/storage	150 m/s ²	150 m/s ²	150 m/s ²
Software			
Web browser	Yes; HTML5, CSS	Yes; HTML5, CSS	Yes; HTML5, CSS
PDF reader	Yes	Yes	Yes
Configuration			
Configuration			
• Local	Yes	Yes	Yes
• Remote	Yes; Via web page	Yes; Via web page	Yes; Via web page
Languages			
Online languages			
• Number of online/runtime languages	3; german / english	2; german / english	3; german / english
Peripherals/Options			
Peripherals			
• Printer	No	No	No
• USB memory	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected
Additional software components loadable	No	No	No
Mechanics/material			
Enclosure material (front)			
• Aluminum	Yes	Yes	Yes
• Glass	Yes	Yes	Yes
Dimensions			
Width of the housing front	398 mm	464 mm	529 mm
Height of housing front	257 mm	294 mm	331 mm
Mounting cutout, width	382 mm	448 mm	513 mm
Mounting cutout, height	241 mm	278 mm	315 mm
Overall depth	73 mm	73 mm	73 mm
Weights			
Weight without packaging	5 kg	6.1 kg	7.2 kg

PC-based Automation

Industrial PC

Industrial monitors and Thin Clients

SIMATIC Industrial Thin Client**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
General information				
Product type designation	ITC1200	ITC1500	ITC1900	ITC2200
Display				
Design of display	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
• MTBF backlighting (at 25 °C)				30 000 h; At 25°C
• Backlight dimmable	Yes; 5-100 %	Yes; 5-100 %	Yes; 5-100 %	Yes; 5-100 %
Touch operation				
• Design as touch screen	Yes	Yes	Yes	Yes
• 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 _{st}	0.5 A ² s	0.5 A ² s	0.5 A ² s	0.5 A ² s
Interfaces				
Number of industrial Ethernet interfaces	1	1	1	1
Number of USB interfaces	2; on rear	2; on rear	2; on rear	2; on rear
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
Protocols				
Protocols (Ethernet)				
• TCP/IP	Yes	Yes	Yes	Yes
• DHCP / SNMP / DCP / LLDP	Yes / Yes / Yes / Yes	Yes / Yes / Yes / Yes	Yes / Yes / Yes / Yes	Yes / Yes / Yes / Yes
WEB characteristics				
• HTTP	Yes	Yes	Yes	Yes
• HTML	Yes; HTML5	Yes; HTML5	Yes; HTML5	Yes; HTML5
• XML / CSS / JavaScript	Yes / Yes / Yes	Yes / Yes / Yes	Yes / Yes / 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
Degree and class of protection				
IP (at the front)	IP65	IP65	IP65	IP65
Enclosure Type 4 at the front				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

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
Use in hazardous areas				
• ATEX Zone 2	Yes			
• ATEX Zone 22	Yes			
• cULus Class I Zone 2, Division 2	Yes	Yes; Available soon	Yes; Available soon	Yes; Available soon
• FM Class I Division 2	Yes	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
Relative humidity				
• Operation, max.	90 %	90 %	90 %	90 %
Software				
Web browser	Yes	Yes	Yes	Yes
PDF reader	Yes	Yes	Yes	Yes
Configuration				
Configuration				
• Local	Yes	Yes	Yes	Yes
• Remote	Yes; With Remote Configuration Center (RCC) as of V2.0			
Languages				
Online languages				
• Number of online/runtime languages	2; german / english	2; german / english	2; german / english	3; DE, EN, HU
Peripherals/Options				
Peripherals				
• Printer	No	No	No	No
• 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
Additional software components loadable	No	No	No	No
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

Ordering data
Industrial Thin Client with multi-touch
SIMATIC Industrial Thin Client V3

Capacitive touch sensor
Protocols supported: RDP, VNC, SMARTSERVER HTML5, etc., standard design, built-in unit

- SIMATIC ITC1500 V3
15" widescreen TFT display
- SIMATIC ITC1900 V3
19" widescreen TFT display
- SIMATIC ITC2200 V3
22" widescreen TFT display

Article No.
6AV6646-1BA15-0AA0
6AV6646-1BA18-0AA0
6AV6646-1BA22-1AA0
Article No.
Industrial Thin Client
Industrial Thin client V2

Touch operation
Protocols supported: RDP, VNC, SMARTSERVER, Web

- SIMATIC ITC1200 12" widescreen TFT display
- SIMATIC ITC1500 15" widescreen TFT display
- SIMATIC ITC1900 19" widescreen TFT display
- SIMATIC ITC2200 22" widescreen TFT display

6AV6646-1AA22-0AX0
6AV6646-1AB22-0AX0
6AV6646-1AC22-0AX0
6AV6646-1AD22-0AX0

Additional information is available on the Internet at:

<http://www.siemens.com/simatic-itc>

PC-based Automation

Industrial PC

Devices for special requirements

Introduction

Overview

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

Portfolio:

- Comfort Panels PRO
- SIMATIC Industrial Flat Panel PRO
- SIMATIC Industrial Thin Client PRO
- SIMATIC IPC477E PRO (15", 19", 22" display size)
- SIMATIC IPC477D PRO (15", 19", 22" display size)
- System components for IP65 all-round protection devices:
 - Fasteners
 - Extension Units and operator controls
 - Extension components

Devices with stainless steel fronts

SIMATIC devices with stainless steel fronts (SIMATIC Industrial Thin Client INOX) are designed for use in the food and beverage, pharmaceutical and fine chemicals industries and other hygienic applications for machine-level operator control and monitoring.

The fully-enclosed SIMATIC devices with stainless steel fronts (SIMATIC IPC277E 19" INOX PRO, SIMATIC IFP1900 INOX PRO) are specially designed for mounting on a support arm/pedestal. Thanks to their slim design, the devices are ideally suited to space-saving use on food and beverage machinery and packaging machinery.

Portfolio:

- SIMATIC Industrial Thin Client INOX
- SIMATIC Industrial Flat Panel IFP1900 INOX PRO
- SIMATIC Industrial Flat Panel IFP2200 INOX MT ETH
- SIMATIC IPC277E 19" INOX PRO

Devices for hazardous areas

SIMATIC HMI Ex devices are intrinsically safe Panel PCs and Thin Clients that have been specially designed for "Zone 1" and "Zone 2" hazardous areas.

Portfolio:

- SIMATIC HMI Panel PC Ex NG
- SIMATIC HMI Panel PC Ex OG
- SIMATIC HMI Panel PC Ex
- SIMATIC HMI Thin Client Ex NG
- SIMATIC HMI Thin Client Ex OG
- SIMATIC HMI Thin Client Ex2

Overview



SIMATIC IFP PRO and SIMATIC IFP PRO ETH:
The new Industrial Flat Panels with fully-enclosed IP65 protection – the industrial widescreen monitors for harsh ambient conditions that can be installed directly on the machine

SIMATIC IFP2200 PRO

The **SIMATIC IFP2200 PRO** supplements the current product range of the new Industrial Flat Panels. Equipped with innovative, projected capacitive touchscreen 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 ensures durability, even in harsh and extreme operating environments.

- Fully-enclosed IP65 protection
- Can be positioned up to 30 m away from the processor unit (IFP Extended version)
- Rugged, industrial 15", 19" and 22" 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

SIMATIC IFP PRO ETH

IFP1500 PRO ETH, IFP1900 PRO ETH and IFP2200 PRO ETH supplement the current product range of new Industrial Flat Panels with their full HD resolution (1 920 x 1 080 pixels) and neutral design fronts.

Equipped with innovative, projected capacitive touchscreen 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 DisplayPort or Ethernet 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 ensures durability, even in harsh and extreme operating environments.

PC-based Automation

Industrial PC

Devices for special requirements

Fully enclosed IP65 devices > SIMATIC Industrial Flat Panel PRO

Technical specifications

Article number	6AV7863-3MA14-1AA0 SIMATIC IFP1900 PRO pedestal and ext.	6AV7863-3MA15-1AA0 SIMATIC IFP1900 PRO support arm w/o ext.	6AV7863-3MA16-1AA0 SIMATIC IFP1900 PRO support arm and ext.
General information			
Product type designation	IFP1900 PRO	IFP1900 PRO	IFP1900 PRO
Short designation	Flat Panel 19" PRO multi-touch ext.	Flat Panel 19" PRO multi-touch ext.	Flat Panel 19" PRO multi-touch ext.
Display			
Design of display	TFT widescreen display, LED backlighting		
Screen diagonal	19 in	19 in	19 in
Screen diagonal [cm]	47 cm	47 cm	47 cm
Display width	409.8 mm	409.8 mm	409.8 mm
Display height	230.4 mm	230.4 mm	230.4 mm
Viewing angle	170° x 160°	170° x 160°	170° x 160°
On Screen Display (OSD) config.	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
Resolution (pixels)			
• Horizontal image resolution	1 366 Pixel	1 366 Pixel	1 366 Pixel
• Vertical image resolution	768 Pixel	768 Pixel	768 Pixel
• Pixel size, horizontal	0.3 mm	0.3 mm	0.3 mm
• Pixel size, vertical	0.3 mm	0.3 mm	0.3 mm
General features			
• Detachable from computer unit	30 m	30 m	30 m
• Brightness/contrast	300 cd/m ² / 1 000:1	300 cd/m ² / 1 000:1	300 cd/m ² / 1 000:1
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes
Backlighting			
• Type of backlighting	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
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Control elements			
Input device			
• Integrated mouse cursor control	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB
Touch operation			
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes	Yes
Installation type/mounting			
Design	Pedestal mounting	Support arm mounting	Support arm mounting
Support arm mounting	No	Yes; Suitable for support arm without extension components	Yes; Suitable for support arm and extension components (please refer to manual)
Stand mounting	Yes	No	No
Built-in unit	No; IP65 fully enclosed	No; IP65 fully enclosed	No; IP65 fully enclosed
maximum permitted forward tilt angle from vertical	45°	45°	45°
maximum permitted backward tilt angle from vertical	45°	45°	45°
Supply voltage			
Type of supply voltage	24 V DC	24 V DC	24 V DC
Rated value (DC)	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating
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)	2 A	2 A	2 A
Inrush current, max.	2.8 A	2.8 A	2.8 A
Starting current inrush I ² t	0.5 A ² ·s	0.5 A ² ·s	0.5 A ² ·s
Power loss			
Power loss, typ.	40 W	40 W	40 W
Power loss, max.	60 W	60 W	60 W

Technical specifications (continued)

Article number	6AV7863-3MA14-1AA0	6AV7863-3MA15-1AA0	6AV7863-3MA16-1AA0
	SIMATIC IFP1900 PRO pedestal and ext.	SIMATIC IFP1900 PRO support arm w/o ext.	SIMATIC IFP1900 PRO support arm and ext.
Interfaces			
Number of USB interfaces	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A
USB on the rear	2x onboard	2x onboard	2x onboard
Connection for keyboard/mouse	USB	USB	USB
Video interfaces			
• DVI-D	Yes	Yes	Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces			
• USB	Yes	Yes	Yes
Degree and class of protection			
IP (all-round)	IP65	IP65	IP65
IP65 at front	Yes	Yes	Yes
Enclosure Type 4 at the front	Yes	Yes	Yes
Enclosure Type 4x at the front	Yes	Yes	Yes
NEMA4 at the front	Yes	Yes	Yes
NEMA4X at the front	Yes	Yes	Yes
IP65 rear	Yes	Yes	Yes
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes
Use in hazardous areas			
• ATEX Zone 2	Yes	Yes	Yes
• ATEX Zone 22	Yes	Yes	Yes
• IECEx Zone 2	Yes	Yes	Yes
• IECEx Zone 22	Yes	Yes	Yes
• cULus Class I Zone 2, Division 2	Yes	Yes	Yes
• FM Class I Division 2	Yes	Yes	Yes
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C
Relative humidity			
• Operation, max.	95 %; no condensation	95 %; no condensation	95 %; no condensation
Vibrations			
• Vibration load in operation	1 gn	1 gn	1 gn
• Vibration load during transport/storage	1 gn	1 gn	1 gn
Shock testing			
• Shock load during operation	15 gn	15 gn	15 gn
• Shock load during transport/storage	15 gn	15 gn	15 gn
Mechanics/material			
Enclosure material (front)	In standard design	In standard design	In standard design
• Aluminum	Yes	Yes	Yes
• Glass	Yes; at front	Yes; at front	Yes; at front
Dimensions			
Width	462 mm	462 mm	462 mm
Height	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter
Depth	94 mm; Without basic adapter	94 mm; Without basic adapter	160 mm; Without basic adapter
Weights			
Weight without packaging	7.3 kg	7.3 kg	8.2 kg

PC-based Automation

Industrial PC

Devices for special requirements

Fully enclosed IP65 devices > SIMATIC Industrial Flat Panel PRO

Technical specifications (continued)

Article number	6AV7863-4MA14-1AA0 SIMATIC IFP2200 PRO pedestal and ext.	6AV7863-4MA15-1AA0 SIMATIC IFP2200 PRO support arm w/o ext.	6AV7863-4MA16-1AA0 SIMATIC IFP2200 PRO support arm and ext.
General information			
Product type designation	IFP2200 PRO	IFP2200 PRO	IFP2200 PRO
Short designation	Flat Panel 22" PRO multi-touch ext.	Flat Panel 22" PRO multi-touch ext.	Flat Panel 22" PRO multi-touch ext.
Display			
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	22 in	22 in	22 in
Screen diagonal [cm]	56 cm	56 cm	56 cm
Display width	476 mm	476 mm	476 mm
Display height	268 mm	268 mm	268 mm
Viewing angle	178° x 178°	178° x 178°	178° x 178°
On Screen Display (OSD) configuration	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
Resolution (pixels)			
• Horizontal image resolution	1 920 Pixel	1 920 Pixel	1 920 Pixel
• Vertical image resolution	1 080 Pixel	1 080 Pixel	1 080 Pixel
• Pixel size, horizontal	0.2475 mm	0.2475 mm	0.2475 mm
• Pixel size, vertical	0.2475 mm	0.2475 mm	0.2475 mm
General features			
• Detachable from computer unit	30 m	30 m	30 m
• Brightness/contrast	250 cd/m ² / 1 000:1	250 cd/m ² / 1 000:1	250 cd/m ² / 1 000:1
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes
Backlighting			
• Type of backlighting	LED	LED	LED
• MTBF backlighting (at 25 °C)	30 000 h; At 25°C	30 000 h; At 25°C	30 000 h; At 25°C
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Control elements			
Input device			
• Integrated mouse cursor control	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB
Touch operation			
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes	Yes
Installation type/mounting			
Design	Pedestal mounting	Support arm mounting	Support arm mounting
Support arm mounting	No	Yes; Suitable for support arm without extension components	Yes; Suitable for support arm and extension components (please refer to manual)
Stand mounting	Yes	No	No
Built-in unit	No; IP65 fully enclosed	No; IP65 fully enclosed	No; IP65 fully enclosed
maximum permitted forward tilt angle from vertical	45°	45°	45°
maximum permitted backward tilt angle from vertical	45°	45°	45°
Supply voltage			
Type of supply voltage	24 V DC	24 V DC	24 V DC
Rated value (DC)	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating
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)	2.5 A	2.5 A	2.5 A
Current consumption, max.	3 A	3 A	3 A
Inrush current, max.	2.8 A	2.8 A	2.8 A
Starting current inrush I _{pt}	0.5 A ² ·s	0.5 A ² ·s	0.5 A ² ·s
Power loss			
Power loss, typ.	40 W	40 W	40 W
Power loss, max.	60 W	60 W	60 W

Technical specifications (continued)

Article number	6AV7863-4MA14-1AA0 SIMATIC IFP2200 PRO pedestal and ext.	6AV7863-4MA15-1AA0 SIMATIC IFP2200 PRO support arm w/o ext.	6AV7863-4MA16-1AA0 SIMATIC IFP2200 PRO support arm and ext.
Interfaces			
Number of USB interfaces	2; USB 2.0 type A	2; USB 2.0 type A	2; USB 2.0 type A
USB on the rear	2x onboard	2x onboard	2x onboard
Connection for keyboard/mouse	USB	USB	USB
Video interfaces			
• DVI-D	Yes	Yes	Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces			
• USB	Yes	Yes	Yes
Degree and class of protection			
IP (all-round)	IP65	IP65	IP65
IP65 at front	Yes	Yes	Yes
Enclosure Type 4 at the front	Yes	Yes	Yes
Enclosure Type 4x at the front	Yes	Yes	Yes
NEMA4 at the front	Yes	Yes	Yes
NEMA4X at the front	Yes	Yes	Yes
IP65 rear	Yes	Yes	Yes
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
UL approval	Yes	Yes	Yes; cULus, cUL
cULus	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes
Use in hazardous areas			
• ATEX Zone 2	Yes; Available soon	Yes; Available soon	Yes; Available soon
• ATEX Zone 22	Yes; Available soon	Yes; Available soon	Yes; Available soon
• IECEx Zone 2	Yes; Available soon	Yes; Available soon	Yes; Available soon
• IECEx Zone 22	Yes; Available soon	Yes; Available soon	Yes; Available soon
• cULus Class I Zone 2, Division 2	Yes; Available soon	Yes; Available soon	Yes; Available soon
• FM Class I Division 2	Yes; Available soon	Yes; Available soon	Yes; Available soon
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C; Vertical installation (horizontal)
Relative humidity			
• Operation, max.	95 %; no condensation	95 %; no condensation	95 %; no condensation
Vibrations			
• Vibration load in operation	1 gn	1 gn	1 gn
• Vibration load during transport/storage	1 gn	1 gn	1 gn
Shock testing			
• Shock load during operation	15 gn	15 gn	15 gn
• Shock load during transport/storage	15 gn	15 gn	15 gn
Mechanics/material			
Enclosure material (front)	In standard design	In standard design	
• Aluminum	Yes	Yes	
• Glass	Yes; at front	Yes; at front	Yes; at front aluminum
Enclosure material (rear)			
Dimensions			
Width	527 mm	527 mm	527 mm
Height	329 mm; Without basic adapter	329 mm; Without basic adapter	329 mm; Without basic adapter
Depth	94 mm; Without basic adapter	94 mm; Without basic adapter	163 mm; Without basic adapter
Width of the housing front	527 mm	527 mm	527 mm
Height of housing front	329 mm	329 mm	329 mm
Weights			
Weight without packaging	8.1 kg	8.1 kg	9.1 kg

PC-based Automation

Industrial PC

Devices for special requirements

Fully enclosed IP65 devices > SIMATIC Industrial Flat Panel PRO

Technical specifications (continued)

Article number	6AV7466-5MA01-0AA0 SIMATIC IFP1500 PRO OEM ETH pedestal	6AV7466-5MA02-0AA0 SIMATIC IFP1500 PRO HD OEM ETH sup. arm	6AV7466-6MA01-0AA0 SIMATIC IFP1900 PRO HD OEM ETH pedestal	6AV7466-6MA02-0AA0 SIMATIC IFP1900 PRO HD OEM ETH sup. arm	6AV7466-8MA01-0AA0 SIMATIC IFP2200 PRO OEM ETH pedestal	6AV7466-8MA02-0AA0 SIMATIC IFP2200 PRO OEM ETH support arm
General information						
Product type designation	IFP1500 PRO HD	IFP1500 PRO HD	IFP1900 PRO HD	IFP1900 PRO HD	IFP2200 PRO	IFP2200 PRO
Short designation	Flat Panel 15" PRO Full HD multi-touch Ethernet monitor	Flat Panel 15" PRO Full HD multi-touch Ethernet monitor	Flat Panel 19" PRO Full HD ETH multi-touch ext.	Flat Panel 19" PRO Full HD ETH multi-touch ext.	Flat Panel 22" PRO ETH multi-touch ext.	Flat Panel 22" PRO ETH multi-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	TFT widescreen display, LED backlighting
Screen diagonal	15.6 in	15.6 in	18.5 in	18.5 in	22 in	22 in
Screen diagonal [cm]	40 cm	40 cm	47 cm	47 cm	56 cm	56 cm
Display width	344.2 mm	344.2 mm	409.8 mm	409.8 mm	475.2 mm	475.2 mm
Display height	193.5 mm	193.5 mm	230.4 mm	230.4 mm	267.3 mm	267.3 mm
Viewing angle	160° x 140°	160° x 140°	178° x 178°	178° x 178°	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	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	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	1 920 Pixel
• Vertical image resolution	1 080 Pixel	1 080 Pixel	1 080 Pixel	1 080 Pixel	1 080 Pixel	1 080 Pixel
• Pixel size, horizontal	0.17925 mm	0.17925 mm	0.213 mm	0.213 mm	0.3 mm	0.3 mm
• Pixel size, vertical	0.17925 mm	0.17925 mm	0.213 mm	0.213 mm	0.3 mm	0.3 mm
General features						
• Detachable from computer unit	Up to 100 m Ethernet	Up to 100 m Ethernet	Up to 100 m Ethernet	Up to 100 m Ethernet	Up to 100 m Ethernet	Up to 100 m Ethernet
• Brightness/contrast	400 cd/m ² / 700:1	400 cd/m ² / 700:1	350 cd/m ² / 1 000:1	350 cd/m ² / 1 000:1	300 cd/m ² / 1 000:1	300 cd/m ² / 1 000:1
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes	Yes	Yes	Yes
Backlighting						
• Type of backlighting	LED	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	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %	Yes; 0-100 %
Control elements						
Input device						
• Integrated mouse cursor control	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB	Yes; Also externally via USB
Touch operation						
• Design as touch screen			Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive				
• Monitor keyboard	Yes	Yes	Yes	Yes	Yes	Yes
Installation type/mounting						
Design	Pedestal mounting	Support arm mounting	Pedestal mounting	Support arm mounting	Pedestal mounting	Support arm mounting
Support arm mounting	No	Yes; Suitable for support arm and extension components (please refer to manual)	No	Yes; Suitable for support arm and extension components (please refer to manual)	No	Yes; Suitable for support arm and extension components (please refer to manual)
Stand mounting	Yes	No	Yes	No	Yes	No
VESA mounting	No	Yes; With VESA adapter set	No	Yes; With VESA adapter set	No	Yes; With VESA adapter set
Built-in unit	No; IP65 fully enclosed	No; IP65 fully enclosed	No; IP65 fully enclosed	No; IP65 fully enclosed	No; IP65 fully enclosed	No; IP65 fully enclosed
maximum permitted forward tilt angle from vertical	45°	45°	45°	45°	45°	45°
maximum permitted backward tilt angle from vertical	45°	45°	45°	45°	45°	45°

Technical specifications (continued)

Article number	6AV7466-5MA01-0AA0 SIMATIC IFP1500 PRO OEM ETH pedestal	6AV7466-5MA02-0AA0 SIMATIC IFP1500 PRO HD OEM ETH sup. arm	6AV7466-6MA01-0AA0 SIMATIC IFP1900 PRO HD OEM ETH pedestal	6AV7466-6MA02-0AA0 SIMATIC IFP1900 PRO HD OEM ETH sup. arm	6AV7466-8MA01-0AA0 SIMATIC IFP2200 PRO OEM ETH pedestal	6AV7466-8MA02-0AA0 SIMATIC IFP2200 PRO OEM ETH support arm
Supply voltage						
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
Rated value (DC)	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating	24 V; PELV / SELV floating
permissible range, lower limit (DC)	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
Power loss						
Power loss, typ.	25 W	25 W	30 W	30 W	40 W	40 W
Power loss, max.	30 W	30 W	30 W	30 W	65 W	65 W
Interfaces						
Number of industrial Ethernet interfaces	1; Ethernet, 1 port, RJ45	1; Ethernet, 1 port, RJ45	1; Ethernet, 1 port, RJ45	1; Ethernet, 1 port, RJ45	1; Ethernet, 1 port, RJ45	1; Ethernet, 1 port, RJ45
USB on the rear	2x onboard	2x onboard	2x onboard	2x onboard	2x onboard	2x onboard
Connection for keyboard/mouse	USB	USB	USB	USB	USB	USB
Video interfaces						
• DVI-D	No	No	No	No	No	No
• DisplayPort	Yes; DisplayPort V1.1	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	Yes
Degree and class of protection						
IP (all-round)	IP65	IP65	IP65	IP65	IP65	IP65
IP65 at front	Yes	Yes	Yes	Yes	Yes	Yes
Enclosure Type 4 at the front	Yes	Yes	Yes	Yes	Yes	Yes
Enclosure Type 4x at the front	Yes	Yes	Yes	Yes	Yes	Yes
NEMA4 at the front	Yes	Yes	Yes	Yes	Yes	Yes
NEMA4X at the front	Yes	Yes	Yes	Yes	Yes	Yes
IP65 rear	Yes	Yes	Yes	Yes	Yes	Yes
Standards, approvals, certificates						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes; In application process	Yes; In application process	Yes; In application process	Yes; In application process	Yes; In application process	Yes; In application process
cULus	Yes; In application process	Yes; In application process	Yes; In application process	Yes; In application process	Yes; In application process	Yes; In application process
RCM (formerly C-TICK)	Yes; In application process	Yes; In application process	Yes; In application process	Yes; In application process	Yes; In application process	Yes; In application process
KC approval	No	No	No	No	No	No
EAC (formerly Gost-R)	Yes; In application process	Yes; In application process	Yes; In application process	Yes; In application process	Yes; In application process	Yes; In application process
Use in hazardous areas						
• ATEX Zone 2	No	No	No	No	No	No
• ATEX Zone 22	No	No	No	No	No	No
• FM Class I Division 2	No	No	No	No	No	No
Marine approval						
• Germanischer Lloyd (GL)	No	No	No	No	No	No
• American Bureau of Shipping (ABS)	No	No	No	No	No	No
• Bureau Veritas (BV)	No	No	No	No	No	No
• Det Norske Veritas (DNV)	No	No	No	No	No	No
• Lloyds Register of Shipping (LRS)	No	No	No	No	No	No
• Nippon Kaiji Kyokai (Class NK)	No	No	No	No	No	No
• Polski Rejestr Statkow (PRS)	No	No	No	No	No	No

PC-based Automation

Industrial PC

Devices for special requirements

Fully enclosed IP65 devices > SIMATIC Industrial Flat Panel PRO

Technical specifications (continued)

Article number	6AV7466-5MA01-0AA0 SIMATIC IFP1500 PRO OEM ETH pedestal	6AV7466-5MA02-0AA0 SIMATIC IFP1500 PRO HD OEM ETH sup. arm	6AV7466-6MA01-0AA0 SIMATIC IFP1900 PRO HD OEM ETH pedestal	6AV7466-6MA02-0AA0 SIMATIC IFP1900 PRO HD OEM ETH sup. arm	6AV7466-8MA01-0AA0 SIMATIC IFP2200 PRO OEM ETH pedestal	6AV7466-8MA02-0AA0 SIMATIC IFP2200 PRO OEM ETH support arm
Ambient conditions						
Ambient temperature during operation						
• min.	0 °C	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)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)
Relative humidity						
• Operation, max.	95 %	95 %	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	1 gn
• Vibration load during transport/storage	1 gn	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	15 gn
• Shock load during transport/storage	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn
Mechanics/material						
Enclosure material (front)						
• Glass	Yes; at front	Yes; at front	Yes; at front	Yes; at front	Yes; at front	Yes; at front
Enclosure material (rear)						
Dimensions						
Width	396 mm	396 mm	462 mm	462 mm	527 mm	527 mm
Height	255 mm; Without basic adapter	255 mm	292 mm; Without basic adapter	292 mm	329 mm; Without basic adapter	329 mm
Depth	101 mm; Without basic adapter	163 mm	94 mm; Without basic adapter	163 mm	94 mm; Without basic adapter	163 mm
Weights						
Weight without packaging	4 kg	4 kg	5.7 kg	5.7 kg	6.7 kg	6.7 kg

Ordering data	Article No.	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 <ul style="list-style-type: none"> • Prepared for pedestal and extension components • Prepared for support arm without extension components • Prepared for support arm and extension components 	6AV7863-3MA14-1AA0 6AV7863-3MA15-1AA0 6AV7863-3MA16-1AA0	SIMATIC IFP1500 PRO HD ETH 15" (16:9) Flat Panel, multi-touch, Ethernet up to 100 m, 1 920 x 1 080 pixels, for 24 V DC DisplayPort/Ethernet interface, fully enclosed IP65 protection, neutral design <ul style="list-style-type: none"> • Prepared for pedestal and extension components • Prepared for support arm and extension components 	6AV7466-5MA01-0AA0 6AV7466-5MA02-0AA0
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, fully enclosed IP65 protection <ul style="list-style-type: none"> • Prepared for pedestal and extension components • Prepared for support arm without extension components • Prepared for support arm and extension components 	6AV7863-4MA14-1AA0 6AV7863-4MA15-1AA0 6AV7863-4MA16-1AA0	SIMATIC IFP1900 PRO HD ETH 19" (16:9) Flat Panel, multi-touch, Ethernet up to 100 m, 1 920 x 1 080 pixels, for 24 V DC DisplayPort/Ethernet interface, fully enclosed IP65 protection, neutral design <ul style="list-style-type: none"> • Prepared for pedestal and extension components • Prepared for support arm and extension components 	6AV7466-6MA01-0AA0 6AV7466-6MA02-0AA0
		SIMATIC IFP2200 PRO HD ETH 22" (16:9) Flat Panel, multi-touch, Ethernet up to 100 m, 1 920 x 1 080 pixels, for 24 V DC DisplayPort/Ethernet interface, fully enclosed IP65 protection, neutral design <ul style="list-style-type: none"> • Prepared for pedestal and extension components • Prepared for support arm and extension components 	6AV7466-8MA01-0AA0 6AV7466-8MA02-0AA0

Note:

As in the case of the Flat Panel PRO, adaptation to support arm/pedestal systems is possible 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 is available on the Internet at:

<http://www.siemens.com/ip65-hmi-devices>

Do you require 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.

PC-based Automation

Industrial PC

Devices for special requirements

Fully enclosed IP65 devices > SIMATIC Industrial Thin Client PRO

Overview



SIMATIC Industrial Thin Client PRO

SIMATIC Industrial Thin Client PRO with capacitive multi-touch display is suitable for mounting directly on the support arm/ pedestal.

IFP PRO, ITC PRO, IPC PRO, Comfort PRO, 22 inch, for support arm (not extendable, flange on top)

Technical specifications

Article number	6AV6646-1BB15-0AA0 SIMATIC ITC1500 V3 PRO	6AV6646-1BC15-0AA0 SIMATIC ITC1500 V3 PRO	6AV6646-1BD15-0AA0 SIMATIC ITC1500 V3 PRO
General information			
Product type designation	ITC1500 V3	ITC1500 V3	ITC1500 V3
Short designation	SIMATIC ITC1500 V3	SIMATIC ITC1500 V3	SIMATIC ITC1500 V3
Display			
Design of display	TFT widescreen display, LED backlighting		
Screen diagonal	15.6 in	15.6 in	15.6 in
Display width	344.2 mm	344.2 mm	344.2 mm
Display height	193.5 mm	193.5 mm	193.5 mm
Number of colors	16 777 216	16 777 216	16 777 216
Resolution (pixels)			
• Horizontal image resolution	1 366 Pixel	1 366 Pixel	1 366 Pixel
• Vertical image resolution	768 Pixel	768 Pixel	768 Pixel
General features			
• Detachable from computer unit	Ethernet direct, 100 m, any network	Ethernet direct, 100 m, any network	Ethernet direct, 100 m, any network
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes
Backlighting			
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
• Backlight dimmable	Yes; LED, dimmable	Yes; LED, dimmable	Yes; LED, dimmable
Touch operation			
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes	Yes
Installation type/mounting			
Design	Pedestal mounting	Support arm mounting	Support arm mounting
Support arm mounting		Yes; Suitable for support arm without extension components	Yes; Suitable for support arm and extension components (please refer to manual)
Stand mounting	Yes; Prepared for pedestal and extension components		
Built-in unit	No	No	No
maximum permitted forward tilt angle from vertical	35°	35°	35°
maximum permitted backward tilt angle from vertical	35°	35°	35°

Technical specifications (continued)

Article number	6AV6646-1BB15-0AA0 SIMATIC ITC1500 V3 PRO	6AV6646-1BC15-0AA0 SIMATIC ITC1500 V3 PRO	6AV6646-1BD15-0AA0 SIMATIC ITC1500 V3 PRO
Supply voltage			
Type of supply voltage	24 V DC	24 V DC	24 V 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)	1.4 A	1.4 A	1.4 A
Starting current inrush I ² t	0.5 A ² ·s	0.5 A ² ·s	0.5 A ² ·s
Interfaces			
Number of industrial Ethernet interfaces	2; 2 ports (switch)	2; 2 ports (switch)	2; 2 ports (switch)
Number of USB interfaces	4; on rear	4; on rear	4; on rear
USB on the rear	4x	4x	4x
Connection for keyboard/mouse	USB	USB	USB
Industrial Ethernet			
• Transmission rate, max.	1 000 Mbit/s	1 000 Mbit/s	1 000 Mbit/s
Protocols			
Protocols (Ethernet)			
• TCP/IP	Yes	Yes	Yes
• DHCP / SNMP / DCP / LLDP	Yes / Yes / Yes / Yes	Yes / Yes / Yes / Yes	Yes / Yes / Yes / Yes
WEB characteristics			
• HTTP / HTTPS	Yes / Yes	Yes / Yes	Yes / Yes
• HTML	Yes; HTML5	Yes; HTML5	Yes; HTML5
• XML / CSS / JavaScript / Java VM	Yes / Yes / Yes / No	Yes / Yes / Yes / No	Yes / Yes / Yes / No
Protocols (terminal link)			
• Sm@rtServer / RDP	Yes / Yes	Yes / Yes	Yes / Yes
• VNC viewer / Citrix	Yes / Yes	Yes / Yes	Yes / Yes
• SINUMERIK	No; Available soon	No; Available soon	No; Available soon
Degree and class of protection			
IP (all-round)	IP65	IP65	IP65
IP (at the front)	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes
Enclosure Type 12 at the front	Yes	Yes	Yes
IP65 rear	Yes	Yes	Yes
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
FM approval	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes
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
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
• Korean Register of Shipping (KRS)	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
• Chinese Classification Society (CCS)	No	No	No

PC-based Automation

Industrial PC

Devices for special requirements

Fully enclosed IP65 devices > SIMATIC Industrial Thin Client PRO

Technical specifications (continued)

Article number	6AV6646-1BB15-0AA0 SIMATIC ITC1500 V3 PRO	6AV6646-1BC15-0AA0 SIMATIC ITC1500 V3 PRO	6AV6646-1BD15-0AA0 SIMATIC ITC1500 V3 PRO
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C
Relative humidity			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
Vibrations			
• Vibration load in operation	10 m/s ²	10 m/s ²	10 m/s ²
• Vibration load during transport/ storage	10 m/s ²	10 m/s ²	10 m/s ²
Shock testing			
• Shock load during operation	150 m/s ²	150 m/s ²	150 m/s ²
• Shock load during transport/storage	150 m/s ²	150 m/s ²	150 m/s ²
Software			
Web browser	Yes; HTML5, CSS	Yes; HTML5, CSS	Yes; HTML5, CSS
PDF reader	Yes	Yes	Yes
Configuration			
Configuration			
• Local	Yes	Yes	Yes
• Remote	Yes; Via web page	Yes; Via web page	Yes; Via web page
Languages			
Online languages			
• Number of online/runtime languages	2; german / english	2; german / english	2; german / english
Peripherals/Options			
Peripherals			
• Printer	No	No	No
• USB memory	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected
Additional software components loadable	No	No	No
Mechanics/material			
Enclosure material (front)			
• Aluminum	Yes	Yes	Yes
• Glass	Yes	Yes	Yes
Dimensions			
Width of the housing front	396 mm	396 mm	396 mm
Height of housing front	256 mm; Without basic adapter	256 mm; Without basic adapter	256 mm; Without basic adapter
Overall depth	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter
Weights			
Weight without packaging	6.3 kg	6.3 kg	6.3 kg

Technical specifications (continued)

Article number	6AV6646-1BB18-0AA0 SIMATIC ITC1900 V3 PRO	6AV6646-1BC18-0AA0 SIMATIC ITC1900 V3 PRO	6AV6646-1BD18-0AA0 SIMATIC ITC1900 V3 PRO
General information			
Product type designation	ITC1900 V3	ITC1900 V3	ITC1900 V3
Short designation	SIMATIC ITC1900 V3	SIMATIC ITC1900 V3	SIMATIC ITC1900 V3
Display			
Design of display	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
Display width	409.8 mm	409.8 mm	409.8 mm
Display height	230.4 mm	230.4 mm	230.4 mm
Number of colors	16 777 216	16 777 216	16 777 216
Resolution (pixels)			
• Horizontal image resolution	1 366 Pixel	1 366 Pixel	1 366 Pixel
• Vertical image resolution	768 Pixel	768 Pixel	768 Pixel
General features			
• Detachable from computer unit	Ethernet direct, 100 m, any network	Ethernet direct, 100 m, any network	Ethernet direct, 100 m, any network
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes
Backlighting			
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
• Backlight dimmable	Yes; LED, dimmable	Yes; LED, dimmable	Yes; LED, dimmable
Touch operation			
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes	Yes
Installation type/mounting			
Design	Pedestal mounting	Support arm mounting	Support arm mounting
Support arm mounting		Yes; Suitable for support arm without extension components	Yes; Suitable for support arm and extension components (please refer to manual)
Stand mounting	Yes; Prepared for pedestal and extension components		
Built-in unit	No	No	No
maximum permitted forward tilt angle from vertical	35°	35°	35°
maximum permitted backward tilt angle from vertical	35°	35°	35°
Supply voltage			
Type of supply voltage	24 V DC	24 V DC	24 V 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)	1.4 A	1.4 A	1.4 A
Starting current inrush I st	0.5 A ² ·s	0.5 A ² ·s	0.5 A ² ·s
Interfaces			
Number of industrial Ethernet interfaces	2; 2 ports (switch)	2; 2 ports (switch)	2; 2 ports (switch)
Number of USB interfaces	4; on rear	4; on rear	4; on rear
USB on the rear	4x	4x	4x
Connection for keyboard/mouse	USB	USB	USB
Industrial Ethernet			
• Transmission rate, max.	1 000 Mbit/s	1 000 Mbit/s	1 000 Mbit/s

PC-based Automation

Industrial PC

Devices for special requirements

Fully enclosed IP65 devices > SIMATIC Industrial Thin Client PRO

Technical specifications (continued)

Article number	6AV6646-1BB18-0AA0 SIMATIC ITC1900 V3 PRO	6AV6646-1BC18-0AA0 SIMATIC ITC1900 V3 PRO	6AV6646-1BD18-0AA0 SIMATIC ITC1900 V3 PRO
Protocols			
Protocols (Ethernet)			
• TCP/IP	Yes	Yes	Yes
• DHCP	Yes	Yes	Yes
• SNMP	Yes	Yes	Yes
• DCP	Yes	Yes	Yes
• LLDP	Yes	Yes	Yes
WEB characteristics			
• HTTP	Yes	Yes	Yes
• HTTPS	Yes	Yes	Yes
• HTML	Yes; HTML5	Yes; HTML5	Yes; HTML5
• XML	Yes	Yes	Yes
• CSS	Yes	Yes	Yes
• JavaScript	Yes	Yes	Yes
• Java VM	No	No	No
Protocols (terminal link)			
• Sm@rtServer	Yes	Yes	Yes
• RDP	Yes	Yes	Yes
• VNC viewer	Yes	Yes	Yes
• Citrix	Yes	Yes	Yes
• SINUMERIK	No; Available soon	No; Available soon	No; Available soon
Degree and class of protection			
IP (all-round)	IP65	IP65	IP65
IP (at the front)	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes
Enclosure Type 12 at the front	Yes	Yes	Yes
IP65 rear	Yes	Yes	Yes
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
FM approval	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes
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
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
• Korean Register of Shipping (KRS)	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
• Chinese Classification Society (CCS)	No	No	No

Technical specifications (continued)

Article number	6AV6646-1BB18-0AA0 SIMATIC ITC1900 V3 PRO	6AV6646-1BC18-0AA0 SIMATIC ITC1900 V3 PRO	6AV6646-1BD18-0AA0 SIMATIC ITC1900 V3 PRO
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C
Relative humidity			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
Vibrations			
• Vibration load in operation	10 m/s ²	10 m/s ²	10 m/s ²
• Vibration load during transport/ storage	10 m/s ²	10 m/s ²	10 m/s ²
Shock testing			
• Shock load during operation	150 m/s ²	150 m/s ²	150 m/s ²
• Shock load during transport/storage	150 m/s ²	150 m/s ²	150 m/s ²
Software			
Web browser	Yes; HTML5, CSS	Yes; HTML5, CSS	Yes; HTML5, CSS
PDF reader	Yes	Yes	Yes
Configuration			
Configuration			
• Local	Yes	Yes	Yes
• Remote	Yes; Via web page	Yes; Via web page	Yes; Via web page
Languages			
Online languages			
• Number of online/runtime languages	2; german / english	2; german / english	2; german / english
Peripherals/Options			
Peripherals			
• Printer	No	No	No
• USB memory	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected
Additional software components loadable	No	No	No
Mechanics/material			
Enclosure material (front)			
• Aluminum	Yes	Yes	Yes
• Glass	Yes	Yes	Yes
Dimensions			
Width of the housing front	462 mm	462 mm	462 mm
Height of housing front	293 mm; Without basic adapter	293 mm; Without basic adapter	293 mm; Without basic adapter
Overall depth	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter
Weights			
Weight without packaging	7.4 kg	7.4 kg	7.4 kg

PC-based Automation

Industrial PC

Devices for special requirements

Fully enclosed IP65 devices > SIMATIC Industrial Thin Client PRO

Technical specifications (continued)

Article number	6AV6646-1BB22-1AA0 SIMATIC ITC2200 V3 PRO	6AV6646-1BC22-1AA0 SIMATIC ITC2200 V3 PRO	6AV6646-1BD22-1AA0 SIMATIC ITC2200 V3 PRO
General information			
Product type designation	ITC2200 V3	ITC2200 V3	ITC2200 V3
Short designation	SIMATIC ITC2200 V3	SIMATIC ITC2200 V3	SIMATIC ITC2200 V3
Display			
Design of display	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
Display width	475.2 mm	475.2 mm	475.2 mm
Display height	267.3 mm	267.3 mm	267.3 mm
Number of colors	16 777 216	16 777 216	16 777 216
Resolution (pixels)			
• Horizontal image resolution	1 920 Pixel	1 920 Pixel	1 920 Pixel
• Vertical image resolution	1 080 Pixel	1 080 Pixel	1 080 Pixel
General features			
• Detachable from computer unit	Ethernet direct, 100 m, any network	Ethernet direct, 100 m, any network	Ethernet direct, 100 m, any network
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes
Backlighting			
• MTBF backlighting (at 25 °C)	30 000 h; At 25°C	30 000 h; At 25°C	30 000 h; At 25°C
• Backlight dimmable	Yes; LED, dimmable	Yes; LED, dimmable	Yes; LED, dimmable
Touch operation			
• Design as multi-touch screen	Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
• Monitor keyboard	Yes	Yes	Yes
Installation type/mounting			
Design	Pedestal mounting	Support arm mounting	Support arm mounting
Support arm mounting		Yes; Suitable for support arm without extension components	Yes; Suitable for support arm and extension components (please refer to manual)
Stand mounting	Yes; Prepared for pedestal and extension components		
Built-in unit	No	No	No
maximum permitted forward tilt angle from vertical	35°	35°	35°
maximum permitted backward tilt angle from vertical	35°	35°	35°
Supply voltage			
Type of supply voltage	24 V DC	24 V DC	24 V 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)	1.7 A	1.7 A	1.7 A
Starting current inrush I st	0.5 A ² ·s	0.5 A ² ·s	0.5 A ² ·s
Interfaces			
Number of industrial Ethernet interfaces	2; 2 ports (switch)	2; 2 ports (switch)	2; 2 ports (switch)
Number of USB interfaces	4; on rear	4; on rear	4; on rear
USB on the rear	4x	4x	4x
Connection for keyboard/mouse	USB	USB	USB
Industrial Ethernet			
• Transmission rate, max.	1 000 Mbit/s	1 000 Mbit/s	1 000 Mbit/s

Technical specifications (continued)

Article number	6AV6646-1BB22-1AA0 SIMATIC ITC2200 V3 PRO	6AV6646-1BC22-1AA0 SIMATIC ITC2200 V3 PRO	6AV6646-1BD22-1AA0 SIMATIC ITC2200 V3 PRO
Protocols			
Protocols (Ethernet)			
• TCP/IP	Yes	Yes	Yes
• DHCP	Yes	Yes	Yes
• SNMP	Yes	Yes	Yes
• DCP	Yes	Yes	Yes
• LLDP	Yes	Yes	Yes
WEB characteristics			
• HTTP	Yes	Yes	Yes
• HTTPS	Yes	Yes	Yes
• HTML	Yes; HTML5	Yes; HTML5	Yes; HTML5
• XML	Yes	Yes	Yes
• CSS	Yes	Yes	Yes
• JavaScript	Yes	Yes	Yes
• Java VM	No	No	No
Protocols (terminal link)			
• Sm@rtServer	Yes	Yes	Yes
• RDP	Yes	Yes	Yes
• VNC viewer	Yes	Yes	Yes
• Citrix	Yes	Yes	Yes
• SINUMERIK	No; Available soon	No; Available soon	No; Available soon
Degree and class of protection			
IP (all-round)	IP65	IP65	IP65
IP (at the front)	IP65	IP65	IP65
Enclosure Type 4x at the front	Yes	Yes	Yes
Enclosure Type 12 at the front	Yes	Yes	Yes
IP65 rear	Yes	Yes	Yes
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
cULus	Yes	Yes	Yes
FM approval	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes
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
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
• Korean Register of Shipping (KRS)	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
• Chinese Classification Society (CCS)	No	No	No

PC-based Automation

Industrial PC

Devices for special requirements

Fully enclosed IP65 devices > SIMATIC Industrial Thin Client PRO**Technical specifications** (continued)

Article number	6AV6646-1BB22-1AA0 SIMATIC ITC2200 V3 PRO	6AV6646-1BC22-1AA0 SIMATIC ITC2200 V3 PRO	6AV6646-1BD22-1AA0 SIMATIC ITC2200 V3 PRO
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	45 °C	45 °C	45 °C
Relative humidity			
• Operation, max.	90 %; no condensation	90 %; no condensation	90 %; no condensation
Vibrations			
• Vibration load in operation	10 m/s ²	10 m/s ²	10 m/s ²
• Vibration load during transport/ storage	10 m/s ²	10 m/s ²	10 m/s ²
Shock testing			
• Shock load during operation	150 m/s ²	150 m/s ²	150 m/s ²
• Shock load during transport/storage	150 m/s ²	150 m/s ²	150 m/s ²
Software			
Web browser	Yes; HTML5, CSS	Yes; HTML5, CSS	Yes; HTML5, CSS
PDF reader	Yes	Yes	Yes
Configuration			
Configuration			
• Local	Yes	Yes	Yes
• Remote	Yes; Via web page	Yes; Via web page	Yes; Via web page
Languages			
Online languages			
• Number of online/runtime languages	2; german / english	2; german / english	2; german / english
Peripherals/Options			
Peripherals			
• Printer	No	No	No
• USB memory	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected
Additional software components loadable	No	No	No
Mechanics/material			
Enclosure material (front)			
• Aluminum	Yes	Yes	Yes
• Glass	Yes	Yes	Yes
Dimensions			
Width of the housing front	527 mm	527 mm	527 mm
Height of housing front	330 mm; Without basic adapter	330 mm; Without basic adapter	330 mm; Without basic adapter
Overall depth	101 mm; Without basic adapter	101 mm; Without basic adapter	101 mm; Without basic adapter
Weights			
Weight without packaging	8.5 kg	8.5 kg	8.5 kg

Ordering data	Article No.	Article No.
<p>SIMATIC Industrial Thin Client PRO</p> <p>SIMATIC ITC1500 V3 PRO Industrial Thin Client 15" widescreen TFT display Capacitive touch sensor Supported protocols: RDP, VNC, SMARTSERVER HTML5, etc. Standard design</p> <ul style="list-style-type: none"> • Pedestal mounting • Prepared for support arm without extension components • Prepared for support arm with extension components 	<p>6AV6646-1BB15-0AA0</p> <p>6AV6646-1BC15-0AA0</p> <p>6AV6646-1BD15-0AA0</p>	<p>SIMATIC ITC2200 V3 PRO Industrial Thin Client 22" widescreen TFT display Capacitive touch sensor Supported protocols: RDP, VNC, SMARTSERVER HTML5, etc. Standard design</p> <ul style="list-style-type: none"> • Pedestal mounting • Prepared for support arm without extension components • Prepared for support arm with extension components
<p>SIMATIC ITC1900 V3 PRO Industrial Thin Client 19" widescreen TFT display Capacitive touch sensor Supported protocols: RDP, VNC, SMARTSERVER HTML5, etc. Standard design</p> <ul style="list-style-type: none"> • Pedestal mounting • Prepared for support arm without extension components • Prepared for support arm with extension components 	<p>6AV6646-1BB18-0AA0</p> <p>6AV6646-1BC18-0AA0</p> <p>6AV6646-1BD18-0AA0</p>	<p>6AV6646-1BB22-1AA0</p> <p>6AV6646-1BC22-1AA0</p> <p>6AV6646-1BD22-1AA0</p>

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 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 this sector and options for customized modification and adaptation.

PC-based Automation

Industrial PC
Panel PC

SIMATIC IPC477E PRO

Overview

SIMATIC IPC477E PRO

The fully enclosed IP65-protected SIMATIC IPC477E PRO in 15", 19" and 22" versions extends the portfolio of PRO devices.

The robust aluminum housing allows it to be used directly on the machine even in harsh environmental conditions.

The operating unit can either be mounted on a pedestal or connected to a support arm system from above.

Technical specifications

Article number	6AV7251-.....-.... SIMATIC IPC477E PRO
Installation type/mounting	
Mounting	For mounting on stand or supporting bracket
Design	Panel PC on pedestal or supporting arm
maximum permissible installation angle +/-	±45 °
Supply voltage	
Type of supply voltage	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	
Optical drives	possible as external drive via USB
SSD	Yes; 1x 128 GB, 1x 240 GB SSD, 1x 480 GB SSD
Memory	
Type of memory	DDR4 SO-DIMM
Main 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
Interfaces	
Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
USB port	4x USB 3.0 onboard (rear)
Connection for keyboard/mouse serial interface	USB / USB 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)
- 100 Mbps	Yes
- 1000 Mbps	Yes

Article number	6AV7251-.....-.... SIMATIC IPC477E PRO
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	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, 80 ... 2 000 MHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 ... 2.7 GHz; 10 V, 10 kHz ... 80 MHz 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

Technical specifications (continued)

Article number	6AV7251-.....-.... SIMATIC IPC477E PRO
Degree and class of protection	
IP65 (all-round)	Yes; IP65 fully enclosed
IP (at the front)	IP65
IP (rear)	IP65
Standards, approvals, certificates	
CE mark	Yes; CE marking / EC Declaration of Conformity
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EMC	CE, EN 61000-6-4; CISPR 22 Class A; FCC Class A
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Det Norske Veritas (DNV)	Yes
• Korean Register of Shipping (KRS)	Yes
• Lloyds Register of Shipping (LRS)	Yes

Article number	6AV7251-.....-.... SIMATIC IPC477E PRO
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	5 to +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 resistance during operation acc. to IEC 60068-2-6	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 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	
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; Optional
pre-installed operating system	
• Windows 7	Yes; Ultimate 64 bit
• Windows 10 Enterprise	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI

PC-based Automation

Industrial PC

Panel PC

SIMATIC IPC477E PRO

Ordering data

Article No.

SIMATIC IPC477E PRO ¹⁾	6AV7251-	
CPUs and fieldbus		
• Celeron G3902E; 3x Gigabit Ethernet (IE/PN)		1
• Core i3-6102E; 3x Gigabit Ethernet (IE/PN)		3
• Core i5-6442EQ; 3x Gigabit Ethernet (IE/PN)		5
• XEON E3-1505L; 3x Gigabit Ethernet (IE/PN)		7
Operating unit		
• 15" multi-touch (1 366 x 768), for support arm (not expandable, flange on top)		B
• 15" multi-touch (1 366 x 768), for pedestal (expandable, flange below)		C
• 15" multi-touch (1 366 x 768), for support arm (expandable, round tube)		D
• 19" multi-touch (1 366 x 768), for support arm (not expandable, flange on top)		E
• 19" multi-touch (1 366 x 768), for pedestal (expandable, flange below)		F
• 19" multi-touch (1 366 x 768), for support arm (expandable, round tube)		G
• 22" multi-touch (1 920 x 1 080), for support arm (not expandable, flange on top)		H
• 22" multi-touch (1 920 x 1 080), for pedestal (expandable, flange below)		J
• 22" multi-touch (1 920 x 1 080), for support arm (expandable, round tube)		K
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/interfaces		
• No RS232/485, without PCIe		0
• Two RS232/RS485, without PCIe		3
• No RS 232 without PCIe, with ATEX/IECEX Cat 3G Zone 2 / cULus Class I Div. 2		5
• Two RS 232 without PCIe, with ATEX/IECEX Cat 3G Zone 2 / cULus Class I Div. 2		6

Note:

As with the existing 4:3 IPC477C/D PRO devices, adaptation to different support arm/pedestal systems is by means of the basic adapter. The basic adapter is included in the scope of supply (except in the case of the "prepared for support arm and extension components" version, 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.

Article No.

SIMATIC IPC477E PRO ¹⁾	6AV7251-	
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, MUI, 64-bit, multi-touch		3
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)		4
• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)		5
• Windows 10 IoT Enterprise 2016 LTSB (64-bit) for Celeron, I3 and I5		7
• Windows 10 IoT Enterprise 2016 LTSB (64-bit) for Xeon		8
Mass storage, external		
• 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
• 128 GB solid-state drive SATA		D
• 240 GB solid-state drive SATA		F
• 480 GB solid-state drive SATA		G
SIMATIC software pre-installed (bundles)		
• Without SIMATIC software		A
• IPC starter system with CPU 1507S and WinCC RT Advanced, without licenses		S
Power supply		
• 24 V DC industrial power supply		0
• 24 V DC industrial power supply and TPM ²⁾ (not for China or Russia)		8

¹⁾ IPC477E PRO as "built to order" version (max. delivery time 15 working days).

²⁾ TPM = Trusted Platform Module

This means you can combine different versions of the PRO devices with the same support arm or pedestal system.

More information is available on the Internet at:

<http://www.siemens.com/ip65-hmi-devices>

Do you need a specific modification or option for the products described here? If so, refer to "Customized Automation", where you will find information about additional and generally available sector-specific products as well as options for customer-specific modifications and adaptations.

Overview



SIMATIC IPC477D PRO: The new Multitouch Panel PC with all-round IP65 protection – powerful, maintenance-free, and can be installed directly at the machine

The IPC477D PRO in 15", 19" and 22" wide screen format extends the portfolio of glass-fronted devices. The rugged aluminum housing of the SIMATIC Panel PC enables it to be used directly at the machine and guarantees durability, even in harsh and extreme operating environments.

- All-round IP65 protection
- Embedded PC platform with extremely high industrial compatibility for demanding tasks in the field of PC-based automation
- Rugged, industrial 15", 19", and 22" widescreen displays (Multitouch)
- Maintenance-free (no rotating components such as fan and hard disk)
- Rugged construction: The PC is resistant to severe mechanical stress and is extremely reliable in operation.
- Slim, modern design
- Battery-independent retentive memory onboard
- Can be adapted to support arm system of various manufacturers
- Integration of operator controls in the new Extension Units (coming soon)
- High degree of investment security
- Fast integration capability

The IPC477D PRO 15", 19" and 22" Panel PCs are available in three different versions, depending on the application:

- Prepared for support arm and extension components (mounting by means of standard 48 mm round tube or Siemens flange adapter)
- Prepared for support arm without extension components (mounting by means of basic adapter, included in scope of delivery)
- Prepared for pedestal/extension components (mounting by means of basic adapter, included in scope of delivery)

Technical specifications

Article number	6AV7250-.....-...0	6AV7250-.....-...8
	SIMATIC IPC 477D PRO	SIMATIC IPC 477D Pro with TPM
Installation type/mounting		
Design	Panel PC on pedestal or supporting arm	
maximum permissible installation angle +/-	±45 °	±45 °
Supply voltage		
Type of supply voltage	24 V DC	24 V DC
Line frequency		
• Rated value 50 Hz	Yes	Yes
• Rated value 60 Hz	Yes	Yes
Processor		
Processor type	Intel Core i7-3517UE Intel Core i3-3217UE Intel Celeron 827E	
Graphic		
Graphics controller	Intel HD graphics controller	Intel HD graphics controller
Drives		
Optical drives	possible as external drive via USB	possible as external drive via USB
SSD	Yes; 1x 240 GB SSD, 1x 480 GB SSD	Yes; 1x 240 GB SSD, 1x 480 GB SSD
Memory		
Type of memory	DDR3-SDRAM	DDR3-SDRAM
Main memory	2 / 4 / 8 GB	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	512 kbyte; 128 KB can be stored in the buffer time
Interfaces		
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5611	1x CP5611-compatible; alternatively: 1x 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	2x Ethernet (RJ45)	2x Ethernet (RJ45)
- 100 Mbps	Yes	Yes
- 1000 Mbps	Yes	Yes

PC-based Automation

Industrial PC

Panel PC

SIMATIC IPC477D PRO

Technical specifications (continued)

Article number	6AV7250-.....-...0 SIMATIC IPC 477D PRO	6AV7250-.....-...8 SIMATIC IPC 477D Pro with TPM
Integrated Functions		
Monitoring functions		
• Temperature monitoring	Yes	Yes
• Watchdog	Yes	Yes
• Fan	No	No
• Monitoring function via network	Optional	Optional
Degree and class of protection		
IP65 (all-round)	Yes; IP65 fully enclosed	Yes; IP65 fully enclosed
IP (at the front)	IP65	IP65
IP (rear)	IP65	IP65
Standards, approvals, certificates		
Approval	CE, cULus (508)	CE, cULus (508)
CE mark	Yes; CE marking / EC Declaration of Conformity	Yes; CE marking / EC Declaration of Conformity
UL approval	Yes	Yes
• UL 508	Yes	Yes
cULus	Yes	Yes
RCM (formerly C-TICK)	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
Use in hazardous areas		
• ATEX Zone 2	Yes	Yes
• ATEX Zone 22	Yes	Yes
• IECEx Zone 2	Yes	Yes
• cULus Class I Zone 2, Division 2	Yes	Yes

Article number	6AV7250-.....-...0 SIMATIC IPC 477D PRO	6AV7250-.....-...8 SIMATIC IPC 477D Pro with TPM
Ambient conditions		
Ambient temperature during operation		
• Ambient temperature during operation	5 to +45°C	5 to +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 resistance during operation acc. to IEC 60068-2-6	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	
Operating systems		
Operating system	Windows 7 Ultimate (Multi-Language) 32-bit / 64-bit, Windows Embedded Standard 7 32-bit / 64-bit	
pre-installed operating system	Yes	Yes
Additional info on operating system	Multi-Language: GER, ENG, ITAL, FR, SP, KOR, CHN (Traditional), CHN (Simplified), JPN - not with XPe	
without operating system	Yes; Optional	Yes; Optional
pre-installed operating system		
• Windows 7	Yes; Ultimate 32 bit or 64 bit	Yes; Ultimate 32 bit or 64 bit
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

Ordering data	Article No.	Article No.	
SIMATIC IPC477D PRO ¹⁾	6AV7250-	SIMATIC IPC477D PRO ¹⁾	
<u>Processors and fieldbus</u>		<u>Work memory/NVRAM</u>	
<ul style="list-style-type: none"> Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN) Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12 Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN) Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12 Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports) Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN) Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12 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) 	0 1 3 4 5 6 7 8	<ul style="list-style-type: none"> 2 GB 4 GB 8 GB 2 GB and NVRAM 4 GB and NVRAM 8 GB and NVRAM 	B C D K L M
<u>Operating unit</u>		<u>Expansions (HW)</u>	
<ul style="list-style-type: none"> 15" multi-touch (1 366 x 768), for support arm (not expandable, flange on top) 15" multi-touch (1 366 x 768) for pedestal version (expandable, flange at bottom) 15" multi-touch (1 366 x 768) for support arm (expandable, round tube) 19" multi-touch (1 366 x 768), for support arm (not expandable, flange on top) 19" multi-touch (1 366 x 768) for pedestal version (expandable, flange at bottom) 19" multi-touch (1 366 x 768) for support arm (expandable, round tube) 22" multi-touch (1 366 x 768), for support arm (not expandable, flange on top) 22" multi-touch (1 366 x 768) for pedestal version (expandable, flange at bottom) 22" multi-touch (1 366 x 768) for support arm (expandable, round tube) 	B C D E F G H J K	<ul style="list-style-type: none"> 1 x RS232 	0
		<u>Operating system</u>	
		<ul style="list-style-type: none"> Without operating system Windows Embedded Standard 7 Professional, 32-bit, MUI Windows Embedded Standard 7 SP1, English, 32-bit Windows Embedded Standard 7 SP1, English, 64-bit Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es) Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es) 	0 3 4 5 6 7
		<u>Externally accessible mass storage (without operating system):</u>	
		<ul style="list-style-type: none"> Without external mass storage CFAST 2 GB, without software CFAST 4 GB CFAST 8 GB CFAST 16 GB 	0 1 2 3 4
		<u>Mass storage, internal</u>	
		<ul style="list-style-type: none"> Without internal mass storage CFAST 2 GB CFAST 4 GB CFAST 8 GB CFAST 16 GB SSD 240 GB Standard SSD 480 GB Standard 	A B C D E P R
		<u>Software</u>	
		<ul style="list-style-type: none"> Without SIMATIC software 	A
		<u>Power supply</u>	
		<ul style="list-style-type: none"> 24 V DC industrial power supply 24 V DC industrial power supply and TPM ²⁾ (not for China or Russia) 	0 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. The basic adapter is included in the scope of supply (except in the case of the "prepared for support arm and extension components" version, 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

Additional information is available on the Internet at:
<http://www.siemens.com/ip65-hmi-devices>

PC-based Automation

Industrial PC

Devices for special requirements

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	6AV7674-1KA00-0AA0 Basic Adapter for HMI/IPC Pro (16:9)
General information	
Product type designation	Basic adapter
Other	
Merchandise	Yes
Manufacturer name	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany
Article number	
Article number	6AV7674-1KF00-0AA0 Flange Mount for Pro Devices
General information	
Product type designation	Flange mount
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	Steel, powder coating in RAL 9006
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
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)
Article number	
Article number	6AV7674-0KA00-0AA0 Basic Adapter for Fully enclosed HMI
General information	
Product type designation	Basic adapter
Other	
Merchandise	Yes
Manufacturer name	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany

PC-based Automation

Industrial PC

Devices for special requirements

System components for fully-enclosed IP65 devices > Fasteners

Technical specifications (continued)

Article number	6AV7674-0KD00-0AA0	6AV7674-0KE00-0AA0
	Adapter Set VESA 100 Fully enclosed HMI	Adapter Set VESA 75 f. Fully Enclose HMI
General information		
Product type designation	Adapter set VESA 100	Adapter set VESA 75
Other		
Merchandise	Yes	Yes
Manufacturer name	SIEMENS AG	SIEMENS AG
Manufacturer's address	Gleiwitzerstraße 555, 90475 Nuremberg, Germany	
<hr/>		
Article number	6AV6881-0AD56-0AA0	
	Flange mount adapter VESA 100/75	
General information		
Product type designation	Fixing element	
Installation type/mounting		
Mounting	VESA 100 mm / 75 mm with M6 thread	
Mounting type	Support arm with VESA 100 mm or 75 mm	
Degree and class of protection		
IP (at the front)	IP20 (depending on mounting)	
Ambient conditions		
Suited for indoor use	Yes	
Suited for outdoor use	No	
Ambient temperature during operation		
• min.	0 °C	
• max.	55 °C	
Relative humidity		
• Operation, max.	90 %	
• Condensation permissible	No	
Mechanics/material		
Material	steel	
• Aluminum	No	
Dimensions		
Width	135 mm	
Height	120 mm	
Depth	67.5 mm	
Scope of supply		
Delivery quantity in pieces	1; VESA round tube adapter 100/75 suitable for PRO devices, max. IP20 attainable	
Other		
Merchandise	Yes; VESA 100/70 adapter	
Manufacturer name	QUERUM Maschinenbau GmbH	
Manufacturer's address	An der Autobahn L8, 91161 Hilpoltstein, Germany	
Note:	Max. load 35 kg	

Ordering data

Article No.

VESA 100 adapter set¹⁾	6AV7674-0KD00-0AA0
VESA 75 adapter set	6AV7674-0KE00-0AA0
Basic adapter for 16:9 systems	6AV7674-1KA00-0AA0
Spare part (silver, included in the scope of delivery of the device)	
Flange mount for 16:9 systems	6AV7674-1KF00-0AA0
Suitable for 16:9 PRO devices of the type "prepared for support arm and extension components (round tube connection)"	
VESA 100/75 flange mount	6AV6881-0AD56-0AA0
For SIMATIC PRO devices. Can be mounted with a 100 mm (M6) or 75 mm (M6) VESA. IP20 cable entry directly in the flange mount. Suitable for all common support arm systems with corresponding VESA coupling, load capacity and hole spacing. More information is available in the technical specifications.	

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

Additional 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.

Overview

Extension Units

12" to 22" 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.

Communication can take place via PROFINET, PROFIsafe or conventional wiring.

SIMATIC Extension Unit (BTO & Advanced)

With Customized Automation, Extension Units are built to specific customer requirements and given their own customer MLFB. BTO (built to order).

Extension Units for 16:9 PRO devices



Equipping an Extension Unit with operator controls



Equipping an Extension Unit Advanced (22" KP48, for example)

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.

Additionally, the Extension Unit box is available for the flexible installation of lower operator controls.

PC-based Automation

Industrial PC

Devices for special requirements

System components for fully-enclosed IP65 devices > Extension units and operator controls

Technical specifications

Article number	6AV7674-1LA31-0AA0	6AV7674-1LA41-0AA0	6AV7674-1LA51-0AA0	6AV7674-1LA61-0AA0
	Extension Unit 12" hardwired	Extension Unit 15" hardwired	Extension Unit 19" hardwired	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)
Supply voltage				
Type of supply voltage	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 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
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
cULus	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C
Altitude during operation relating to sea level				
• 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			
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			

System components for fully-enclosed IP65 devices > Extension units and operator controls

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
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
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
Redundancy mode				
• 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
cULus	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes

PC-based Automation

Industrial PC

Devices for special requirements

System components for fully-enclosed IP65 devices > Extension units and operator controls**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
Altitude during operation relating to sea level				
• 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

System components for fully-enclosed IP65 devices > Extension units and operator controls

Technical specifications (continued)

Article number	6AV7674-1LA33-0AA0 Extension Unit 12" PROFISAFE	6AV7674-1LA43-0AA0 Extension Unit 15" PROFISAFE	6AV7674-1LA53-0AA0 Extension Unit 19" PROFISAFE	6AV7674-1LA63-0AA0 Extension Unit 22" PROFISAFE
General information				
Product type designation	Extension Unit 12" PROFISafe	Extension Unit 15" PROFISafe	Extension Unit 19" PROFISafe	Extension Unit 22" PROFISafe
Control elements				
With parameterizable keys	Yes	Yes	Yes	Yes
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	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
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 inter- faces	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				
PROFIsafe	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor
Redundancy mode				
• MRP	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
cULus	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes

PC-based Automation

Industrial PC

Devices for special requirements

System components for fully-enclosed IP65 devices > Extension units and operator controls**Technical specifications** (continued)

Article number	6AV7674-1LA33-0AA0 Extension Unit 12" PROFISAFE	6AV7674-1LA43-0AA0 Extension Unit 15" PROFISAFE	6AV7674-1LA53-0AA0 Extension Unit 19" PROFISAFE	6AV7674-1LA63-0AA0 Extension Unit 22" PROFISAFE
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C
Altitude during operation relating to sea level				
• 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
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 connector	Power supply connector	Power supply connector	Power supply connector

Technical specifications (continued)

Article number	6AV2185-8CE01-0AA0	6AV2185-8DE01-0AA0	6AV2185-8EE01-0AA0	6AV2185-8FE01-0AA0
	Extension Unit 12" KP12 PN	Extension Unit 15" KP12 PN	Extension Unit 19" KP12 PN	Extension Unit 22" KP12 PN
General information				
Product type designation	Extension Unit 12" KP12 PN	Extension Unit 15" KP12 PN	Extension Unit 19" KP12 PN	Extension Unit 22" KP12 PN
Control elements				
Version of actuating element	1x Key Panel 12	1x Key Panel 12	1x Key Panel 12	1x Key Panel 12
Operating principle of the actuating element	Tactile feedback	Tactile feedback	Tactile feedback	Tactile feedback
Functional lighting	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow
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	3	5	6	8
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	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
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.	3.6 W; Additional 0.1 W per operator control with LED or 0.5 W per RGB illuminated pushbutton or 2.6 W per KP12	3.6 W; Additional 0.1 W per operator control with LED or 0.5 W per RGB illuminated pushbutton or 2.6 W per KP12	3.6 W; Additional 0.1 W per operator control with LED or 0.5 W per RGB illuminated pushbutton or 2.6 W per KP12	3.6 W; Additional 0.1 W per operator control with LED or 0.5 W per RGB illuminated pushbutton or 2.6 W per KP12
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
Redundancy mode				
• MRP	Yes	Yes	Yes	Yes
Degree and class of protection				
IP65 (all-round)	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

PC-based Automation

Industrial PC

Devices for special requirements

System components for fully-enclosed IP65 devices > Extension units and operator controls**Technical specifications** (continued)

Article number	6AV2185-8CE01-0AA0 Extension Unit 12" KP12 PN	6AV2185-8DE01-0AA0 Extension Unit 15" KP12 PN	6AV2185-8EE01-0AA0 Extension Unit 19" KP12 PN	6AV2185-8FE01-0AA0 Extension Unit 22" KP12 PN
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C
Altitude during operation relating to sea level				
• 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

System components for fully-enclosed IP65 devices > Extension units and operator controls

Technical specifications (continued)

Article number	6AV2185-8CE08-0AA0	6AV2185-8DE08-0AA0	6AV2185-8EE08-0AA0	6AV2185-8FE08-0AA0
	Extension Unit 12" KP24 PN	Extension Unit 15" KP36 PN	Extension Unit 19" KP36 PN	Extension Unit 22" KP48 PN
General information				
Product type designation	Extension Unit 12" KP24 PN	Extension Unit 15" KP36 PN	Extension Unit 19" KP36 PN	Extension Unit 22" KP48 PN
Control elements				
Version of actuating element	2x Key Panel 12	3x Key Panel 12	3x Key Panel 12	4x Key Panel 12
Operating principle of the actuating element	Tactile feedback	Tactile feedback	Tactile feedback	Tactile feedback
Functional lighting	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow
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	0	0	0	0
RFID reader can be installed	No	No	No	No
Supply voltage				
Type of supply voltage	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 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.	3.6 W; Additional 2.6 W per KP12	3.6 W; Additional 2.6 W per KP12	3.6 W; Additional 2.6 W per KP12	3.6 W; Additional 2.6 W per KP12
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
Redundancy mode				
• MRP	Yes	Yes	Yes	Yes
Degree and class of protection				
IP65 (all-round)	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

PC-based Automation

Industrial PC

Devices for special requirements

System components for fully-enclosed IP65 devices > Extension units and operator controls**Technical specifications** (continued)

Article number	6AV2185-8CE08-0AA0 Extension Unit 12" KP24 PN	6AV2185-8DE08-0AA0 Extension Unit 15" KP36 PN	6AV2185-8EE08-0AA0 Extension Unit 19" KP36 PN	6AV2185-8FE08-0AA0 Extension Unit 22" KP48 PN
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C
Altitude during operation relating to sea level				
• 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

Technical specifications (continued)

Article number	6AV2185-8CF01-0AA0	6AV2185-8DF01-0AA0	6AV2185-8EF01-0AA0	6AV2185-8FF01-0AA0
	Extension Unit 12" KP12F PN	Extension Unit 15" KP12F PN	Extension Unit 19" KP12F PN	Extension Unit 22" KP12F PN
General information				
Product type designation	Extension Unit 12" KP12F PN	Extension Unit 15" KP12F PN	Extension Unit 19" KP12F PN	Extension Unit 22" KP12F PN
Control elements				
Version of actuating element	1x Key Panel 12	1x Key Panel 12	1x Key Panel 12	1x Key Panel 12
Operating principle of the actuating element	Tactile feedback	Tactile feedback	Tactile feedback	Tactile feedback
Functional lighting	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow	Yes; Freely configurable colors: Red, green, blue, white, yellow
With parameterizable keys	Yes	Yes	Yes	Yes
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	3	5	6	8
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	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
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.	3.6 W; Additional 0.1 W per operator control with LED or 0.5 W per RGB illuminated pushbutton or 2.6 W per KP12	3.6 W; Additional 0.1 W per operator control with LED or 0.5 W per RGB illuminated pushbutton or 2.6 W per KP12	3.6 W; Additional 0.1 W per operator control with LED or 0.5 W per RGB illuminated pushbutton or 2.6 W per KP12	3.6 W; Additional 0.1 W per operator control with LED or 0.5 W per RGB illuminated pushbutton or 2.6 W per KP12
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				
PROFIsafe	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor	Yes; 1x SIL 2 (two-channel) or 2x SIL 3 (single-channel) emergency stop sensor
Redundancy mode				
• MRP	Yes	Yes	Yes	Yes
Degree and class of protection				
IP65 (all-round)	Yes	Yes	Yes	Yes

PC-based Automation

Industrial PC

Devices for special requirements

System components for fully-enclosed IP65 devices > Extension units and operator controls**Technical specifications** (continued)

Article number	6AV2185-8CF01-0AA0	6AV2185-8DF01-0AA0	6AV2185-8EF01-0AA0	6AV2185-8FF01-0AA0
	Extension Unit 12" KP12F PN	Extension Unit 15" KP12F PN	Extension Unit 19" KP12F PN	Extension Unit 22" KP12F PN
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C
Altitude during operation relating to sea level				
• 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
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 connector	Power supply connector	Power supply connector	Power supply connector

Technical specifications (continued)

Article number	6AV7674-1MA00-0AA0	6AV7674-1MB00-0AA0	6AV7674-1MG00-0AA0	6AV7674-1MC00-0AA0	6AV7674-1MD00-0AA0	6AV7674-1ME00-0AA0	6AV7674-1MF00-0AA0
	E-Stop Pushbutton for Ext. Unit	Illuminated Pushbutton for Ext. Unit	Illum. pushbutton for ext.unit (1NO+1NC)	Indicator Light for Ext. Unit	Selector Switch for Ext. Unit	Key-operated Switch for Ext. Unit	USB interface for extension unit
General information							
Product type designation	EMERGENCY STOP mushroom pushbutton for Extension Unit	Illuminated pushbutton for Extension Unit	Illuminated pushbutton for Extension Unit (1 NC contact / 1 NO contact)	Indicator light for Extension Unit	Selector switch for Extension Unit	Key-operated switch for Extension Unit	USB interface for Extension Unit
Control elements							
Version of actuating element	Conical mushroom pushbutton	Pushbutton with flat button	Pushbutton with flat button	Flat lens	Rotary handle, 3 switch positions	3 switch positions (withdrawal positions)	
Operating principle of the actuating element	Latching, rotate to unlatch	Momentary contact	Momentary contact		Latching	Latching	
Shape of actuating element	Round	Round	Round	Round	Round	Round	
Illuminant	No; Cannot be illuminated	Yes; Can be illuminated	Yes; Can be illuminated	Yes; Can be illuminated SMT LED	Yes; Can be illuminated SMT LED	No; Cannot be illuminated	
<ul style="list-style-type: none"> Type of light source Color of light source 		Translucent white (different colors are created using the colored disk supplied)	Translucent white (different colors are created using the colored disk supplied)	Translucent white (different colors are created using the colored disk supplied)	Translucent white		
Contact configuration	2 NC contacts	1 NO contact	1 NC contact, 1 NO contact		2 NO contacts	2 NO contacts	
Connection type							
<ul style="list-style-type: none"> USB Cable length 							Yes; USB 2.0 type A 0.7 m
Installation type/mounting							
Mounting type	Threaded ring	Threaded ring	Threaded ring	Threaded ring	Threaded ring	Threaded ring	Threaded ring
Front mounting	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices	Yes; Front plate attachment in an Extension Unit for 16:9 PRO devices
Supply voltage							
Rated value (DC)	24 V	24 V	24 V	24 V	24 V	24 V	
Input current							
Current consumption (rated value)	100 mA	100 mA	100 mA	100 mA	100 mA	100 mA	
Type of output							
LED colors							
<ul style="list-style-type: none"> red yellow green white blue 		Yes; With colored disk	Yes; With colored disk	Yes; With colored disk		Yes	

PC-based Automation

Industrial PC

Devices for special requirements

System components for fully-enclosed IP65 devices > Extension units and operator controls

Technical specifications (continued)

Article number	6AV7674-1MA00-0AA0	6AV7674-1MB00-0AA0	6AV7674-1MG00-0AA0	6AV7674-1MC00-0AA0	6AV7674-1MD00-0AA0	6AV7674-1ME00-0AA0	6AV7674-1MF00-0AA0
	E-Stop Pushbutton for Ext. Unit	Illuminated Pushbutton for Ext. Unit	Illum. pushbutton for ext.unit (1NO+1NC)	Indicator Light for Ext. Unit	Selector Switch for Ext. Unit	Key-operated Switch for Ext. Unit	USB interface for extension unit
EMC							
Emission of radio interference acc. to EN 55 011							
• Limit class A, for use in industrial areas	No	No	No	No	No	No	Yes
Degree and class of protection							
IP65 (all-round)							Yes; IP65 fully enclosed (when protective cover is closed)
IP (at the front)	IP65 (on front) to EN60529 and NEMA4	IP65 (on front) to EN60529 and NEMA4	IP65 (on front) to EN60529 and NEMA4	IP65 (on front) to EN60529 and NEMA4	IP65 (on front) to EN60529 and NEMA4	IP65 (on front) to EN60529 and NEMA4	IP20 when protective cover is open
Standards, approvals, certificates							
CE mark	Yes	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes
RCM (formerly C-TICK)	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	Yes; Only in combination with Extension Unit	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
Altitude during operation relating to sea level							
• Installation altitude above sea level, max.	3 500 m	3 500 m	3 500 m	3 500 m	3 500 m	3 500 m	3 500 m
Relative humidity							
• Operation, max.	90 %	90 %	90 %	90 %	90 %	90 %	90 %
• Condensation permissible	No	No	No	No	No	No	No
Runs under operating system							
• other							Yes; Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bit
Cables							
Cable length							0.5 m
smallest bending radius							0 mm
Mechanics/material							
Material							aluminum
• Plastic	Yes	Yes	Yes	Yes	Yes	Yes	
Material of the actuating element	plastic	plastic	plastic	plastic	plastic	plastic	
Material of the front ring	plastic	plastic	plastic	plastic	plastic	plastic	
Enclosure color (front)	Red	Colorless	Colorless	Colorless	gray	gray	Silver-metallic
Color of the front ring	Yellow	Silver-metallic	Silver-metallic	Silver-metallic	Silver-metallic	Silver-metallic	
Service life							
• Number of operating cycles, keys	50 000	1 000 000	1 000 000		300 000	50 000	1 500; Insertion cycles

Technical specifications (continued)

Article number	6AV7674-1MA00-0AA0 E-Stop Pushbutton for Ext. Unit	6AV7674-1MB00-0AA0 Illuminated Pushbutton for Ext. Unit	6AV7674-1MG00-0AA0 Illum. pushbutton for ext.unit (1NO+1NC)	6AV7674-1MC00-0AA0 Indicator Light for Ext. Unit	6AV7674-1MD00-0AA0 Selector Switch for Ext. Unit	6AV7674-1ME00-0AA0 Key-operated Switch for Ext. Unit	6AV7674-1MF00-0AA0 USB interface for extension unit
Dimensions							
Height of housing front	33.2 mm	9.85 mm	9.85 mm	9.85 mm	22.24 mm	45.1 mm	
Overall depth							10 mm
Mounting diameter	22.3 mm	22.3 mm	22.3 mm	22.3 mm	22.3 mm	22.3 mm	22.3 mm
Weights							
Weight without packaging	50 g	50 g	50 g	50 g	50 g	50 g	0.13 g
Scope of supply							
Delivery quantity in pieces	1	1	1	1	1	1; Including 2 keys	
Components included							USB socket with cable and connector, threaded ring
• Number of colored lenses		5; Colorless, red, yellow, green, blue	5; Colorless, red, yellow, green, blue	5; Colorless, red, yellow, green, blue			
Other							
Target devices	Suitable for Extension Units of the 16:9 HMI/IPC PRO devices (refer to manual)						

Ordering data**Article No.**

Extension Units for 16:9 PRO devices	Article No.
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
Extension Unit PROFIsafe	
• 12"	6AV7674-1LA33-0AA0
• 15"	6AV7674-1LA43-0AA0
• 19"	6AV7674-1LA53-0AA0
• 22"	6AV7674-1LA63-0AA0
Extension Unit box	
• 12"	6AV7674-1LA30-0AA0
• 15"	6AV7674-1LA40-0AA0
• 19"	6AV7674-1LA50-0AA0
• 22"	6AV7674-1LA60-0AA0
Extension Unit Advanced PROFINET¹⁾	
• 12" KP12 PN	6AV2185-8CE01-0AA0
• 15" KP12 PN	6AV2185-8DE01-0AA0
• 19" KP12 PN	6AV2185-8EE01-0AA0
• 22" KP12 PN	6AV2185-8FE01-0AA0
• 12" KP24 PN	6AV2185-8CE08-0AA0
• 15" KP36 PN	6AV2185-8DE08-0AA0
• 19" KP36 PN	6AV2185-8EE08-0AA0
• 22" KP48 PN	6AV2185-8FE08-0AA0
Extension Unit Advanced PROFIsafe¹⁾	
• 12" KP12F PN	6AV2185-8CF01-0AA0
• 15" KP12F PN	6AV2185-8DF01-0AA0
• 19" KP12F PN	6AV2185-8EF01-0AA0
• 22" KP12F PN	6AV2185-8FF01-0AA0

¹⁾ Max. two Extension Units possible as extension

Article No.

Operator controls	Article No.
Emergency stop button	6AV7674-1MA00-0AA0
Illuminated pushbutton	
• One NO contact	6AV7674-1MB00-0AA0
• One NO contact and one NC contact	6AV7674-1MG00-0AA0
Indicator light	6AV7674-1MC00-0AA0
Selector switch	6AV7674-1MD00-0AA0
Key-operated switch	6AV7674-1ME00-0AA0
Accessories	
USB interface for front mounting in Extension Unit	6AV7674-1MF00-0AA0
USB 2.0 type A, IP65 degree of protection with closed protective cover, cable and plug	
Insert labels for self-inscription	6AV7674-1LB30-0AA0
Label holders for self-inscription	6AV7674-1LB20-0AA0

Scope of delivery:

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

Additional information is available on the Internet at:

<https://www.siemens.com/simatic-hmi-pro>

PC-based Automation

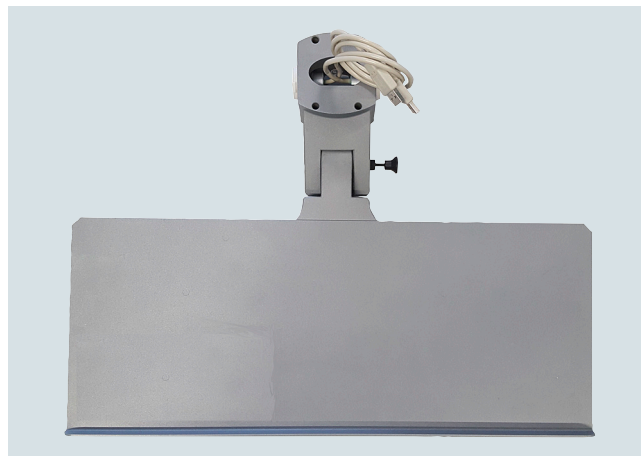
Industrial PC

Devices for special requirements

System components for fully-enclosed IP65 devices > Extension components

Overview***Stainless steel keyboard and keyboard shelf***

HMI accessories, metal keyboard



HMI accessories, shelf

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:

- Keyboard shelf for PRO devices
- Keyboard tray for PRO devices
- USB interface for PRO devices
- Handles for PRO devices

Technical specifications

Article number	6AV7674-1LX00-0AA0 USB Interface for Pro Devices
General information	
Product type designation	USB interface for PRO devices
Connection type	
• USB	Yes; USB 2.0 type A
• Cable length	0.5 m
Installation type/mounting	
Mounting	Integrated by means of cover on the side of the basic adapter.
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; IP65 fully enclosed (when protective cover is closed)
IP (at the front)	IP20 when protective cover is open
Standards, approvals, certificates	
CE mark	Yes
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	50 °C
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	3 500 m
Relative humidity	
• Operation, max.	90 %
• Condensation permissible	No

Article number	6AV7674-1LX00-0AA0 USB Interface for Pro Devices
Cables	
Cable length	0.5 m
Mechanics/material	
Material	Brass, nickel-plated
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	1 500; Insertion cycles
Dimensions	
Enclosure diameter	22.5 mm; Hole diameter in the cover for the basic adapter
Overall depth	20 mm
Weights	
Weight without packaging	0.25 kg
Scope of supply	
Delivery quantity in pieces	1
Components included	USB socket with cable and connector, cover for the basic adapter, bolts for fastening

PC-based Automation

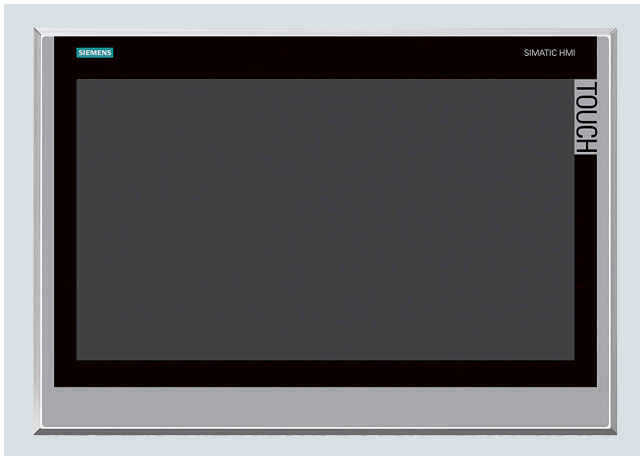
Industrial PC

Devices for special requirements

System components for fully-enclosed IP65 devices > Extension components

Ordering data	Article No.
Keyboard shelf for PRO devices Tilttable, incl. 2-way USB interface; color: silver	6AV7674-1NF01-0AA0
Keyboard tray for PRO devices Tilttable, incl. 2-way USB interface; color: silver	6AV7674-1NG00-0AA0
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
Handles for PRO devices For optimum handling and haptics when positioning and tilting the HMI PRO device. Universally adjustable from 12" to 22".	6AV7674-1LB10-0AA0

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 operator control 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

Article number	6AV6646-8AC10-0AA0 SIMATIC ITC1900 INOX
General information	
Product type designation	ITC1900 INOX
Display	
Design of display	TFT widescreen display, LED backlighting
Screen diagonal	18.5 in
Display width	409.8 mm
Display height	230.4 mm
Number of colors	16 777 216
Resolution (pixels)	
• Horizontal image resolution	1 366 Pixel
• Vertical image resolution	768 Pixel
Backlighting	
• Type of backlighting	LED, dimmable
• Backlight dimmable	Yes; 5-100 %
Touch operation	
• Design as touch screen	Yes
• Monitor keyboard	Yes
Installation type/mounting	
Built-in unit	Yes
Supply voltage	
Type of supply voltage	24 V DC
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption, max.	1.3 A
Starting current inrush I _t	0.5 A ² ·s
Interfaces	
Number of industrial Ethernet interfaces	1
Number of USB interfaces	2; on rear
Connection for keyboard/mouse	USB
Industrial Ethernet	
• Transmission rate, max.	1 000 Mbit/s

PC-based Automation

Industrial PC

Devices for special requirements

Devices with stainless steel front > SIMATIC Industrial Thin Client INOX

Technical specifications (continued)

Article number	6AV6646-8AC10-0AA0 SIMATIC ITC1900 INOX
Protocols	
Protocols (Ethernet)	
• TCP/IP	Yes
• DHCP / SNMP / DCP / LLDP	Yes / Yes / Yes / Yes
WEB characteristics	
• HTTP	Yes
• HTML	Yes; HTML5
• XML / CSS / JavaScript	Yes / Yes / Yes
Protocols (terminal link)	
• Sm@rtServer / RDP / VNC viewer	Yes / Yes / Yes
• Citrix	No
• SINUMERIK	Yes
Degree and class of protection	
IP (at the front)	IP66K
Enclosure Type 4x at the front	Yes; indoor use only
IP20 rear	Yes
Standards, approvals, certificates	
CE mark / cULus	Yes / Yes
Use in hazardous areas	
• ATEX Zone 2 / ATEX Zone 22	Yes / Yes
• IECEx Zone 2 / IECEx Zone 22	Yes / Yes
• cULus Class I Zone 2, Division 2	Yes
Ambient conditions	
Ambient temperature during operation	
• min. / max.	0 °C / 45 °C
Relative humidity	
• Operation, max.	70 %
Software	
Web browser / PDF reader	Yes / Yes
Configuration	
Configuration	
• Local	Yes
• Remote	Yes; With Remote Configuration Center (RCC) as of V2.0
Languages	
Online languages	
• Number of online/runtime languages	2; german / english
Peripherals/Options	
Peripherals	
• Printer	No
• USB memory	Yes; USB storage medium can be connected
Additional software components loadable	No
Mechanics/material	
Enclosure material (front)	
• Aluminum	No
• Stainless steel	Yes
Dimensions	
Width of the housing front	483 mm
Height of housing front	337 mm
Mounting cutout, width	465 mm
Mounting cutout, height	319 mm
Overall depth	73 mm
Weights	
Weight without packaging	8.5 kg

Ordering data

Article No.

SIMATIC ITC1900 INOX

With accessory pack comprising:

- Clamping frame
- Device seal
- Tension jack
- 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 customer-specific order number.

Overview



19" INOX PRO with pedestal, front view

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 enclosed 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 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 so that cross-contamination of foodstuffs can be avoided.

Technical specifications

IFP1900 INOX PRO		
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: <ul style="list-style-type: none"> • 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	
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 acc. 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)	

PC-based Automation

Industrial PC

Devices for special requirements

Devices with stainless steel front > SIMATIC Industrial Flat Panel IFP1900 INOX PRO

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

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 customer-specific order number.

Overview



SIMATIC Industrial Flat Panel IFP2200 INOX MT ETH

The Industrial Flat Panel (Ethernet monitor) with its projective-capacitive touch screen for multi-finger operation and stainless steel front is designed for use in the food and beverage, pharmaceutical, and fine chemicals industries as well as in other hygienic areas for machine level operator control and monitoring.

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

Technical specifications

Article number	6AV7485-6BE00-0AA0 SIMATIC FLAT PANEL 22" INOX MT ETH
General information	
Product type designation	IFP2200 INOX
Short designation	Flat Panel 22" INOX multi-touch Ethernet
Display	
Screen diagonal	21.5 in
Screen diagonal [cm]	56 cm
Display width	476 mm
Display height	268 mm
Viewing angle	170° x 170°
Number of colors	16 777 216; 24 bit
Resolution (pixels)	
• Horizontal image resolution	1 920 Pixel
• Vertical image resolution	1 080 Pixel
• Pixel size, horizontal	0.2475 mm
• Pixel size, vertical	0.2475 mm
General features	
• Brightness/contrast	250 cd/m ² / 1 000:1
Backlighting	
• Type of backlighting	LED
• MTBF backlighting (at 25 °C)	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100 %
Touch operation	
• Design as touch screen	Yes; Projective-capacitive
• Design as multi-touch screen	Yes
• Monitor keyboard	Yes
Installation type/mounting	
Built-in unit	Yes; Portrait mode possible
maximum permitted forward tilt angle from vertical	35°
maximum permitted backward tilt angle from vertical	35°
Supply voltage	
Type of supply voltage	DC
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Power loss	
Power loss, typ.	40 W
Power loss, max.	65 W
Interfaces	
Number of industrial Ethernet interfaces	1; Ethernet, 1 port, RJ45
USB on the rear	2
Video interfaces	
• DisplayPort	Yes; DisplayPort V1.1
Touch interfaces	
• USB	Yes
Industrial Ethernet	
• Transmission rate, max.	1 000 Mbit/s

PC-based Automation

Industrial PC

Devices for special requirements

Devices with stainless steel front > SIMATIC Industrial Flat Panel IFP2200 INOX MT ETH

Technical specifications (continued)

Article number	6AV7485-6BE00-0AA0 SIMATIC FLAT PANEL 22" INOX MT ETH
Degree and class of protection	
IP (at the front)	IP6x/IPx6K/IPx9
Enclosure Type 4x at the front	No; Available soon
NEMA4 at the front	No
NEMA4X at the front	No
IP20 rear	Yes
Standards, approvals, certificates	
CE mark	Yes
cULus	No; Available soon
RCM (formerly C-TICK)	No; Still being prepared
KC approval	No
EAC (formerly Gost-R)	No
Use in hazardous areas	
• ATEX Zone 2	No; Available soon
• ATEX Zone 22	No; Available soon
• FM Class I Division 2	No; Available soon
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
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	45 °C; Vertical installation (horizontal)
Vibrations	
• Vibration load in operation	1 gn
• Vibration load during transport/ storage	1 gn
Shock testing	
• Shock load during operation	15 gn
• Shock load during transport/storage	15 gn
Mechanics/material	
Enclosure material (front)	
• Glass	Yes
Dimensions	
Width of the housing front	544 mm
Height of housing front	345 mm
Mounting cutout, width	513 mm; Tolerance: +1 mm
Mounting cutout, height	315 mm; Tolerance: +1 mm
Overall depth	62.5 mm
Weights	
Weight without packaging	8 kg

Ordering data**Article No.****SIMATIC IFP2200 INOX MT ETH****6AV7485-6BE00-0AA0**

With accessory pack comprising:

- Clamping frame
- Device seal
- Mounting clamp
- Terminal
- Installation instructions

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

More informationCustomized modifications:

- Neutral design (black, no logo, type designation)
- 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
- 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 customer-specific order number.

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	
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	
Option	External, USB interface on rear with captive stainless steel lock	
Special features	Flange adapter for pedestal	Flange adapter for support arm
Configuration / interfaces		
	<ul style="list-style-type: none"> Based on SIMATIC IPC277E, configured (6AV7882-0EB30-2LA0) Celeron N2930, 8 GB RAM 8 GB CFAST WES 7 SP1 64-bit, English Without RTX/HMI software 2 x 10/100/1000 Mbps Ethernet RJ45 1 x USB 3.0, 2 x USB V2.0; without serial (COM1) CFAST slot 	
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	
Ambient conditions		
Degree of protection, fully-enclosed	IP66, 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, UL, IECEx, ATEX Zone 2/22 Hygiene inspection on the basis of 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

PC-based Automation

Industrial PC

Devices for special requirements

Devices with stainless steel front > SIMATIC IPC277E 19" INOX PRO

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 pedestal 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

Note:

Customized modifications:

- Customized design (logo, type designation and membrane color)
- Other 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 customer-specific order number.

More information is available on the Internet at:

<http://www.siemens.com/inox-pro-hmi-devices>

Overview

The SIMATIC HMI Ex devices are intrinsically-safe Panel PCs and Thin Clients which have been specially developed for hazardous areas. The intrinsically-safe design allows simple installation on site. The variety of certification allows use in many parts of the world without further approvals.

The devices are fanless and permit completely maintenance-free installation without batteries or rotating parts.

Available as HMI devices for hazardous areas "Zone 1" and "Zone 2" are:

- SIMATIC HMI Panel PC Ex NG
- SIMATIC HMI Panel PC Ex OG
- SIMATIC HMI Panel PC Ex
- SIMATIC HMI Thin Client Ex NG
- SIMATIC HMI Thin Client Ex OG
- SIMATIC HMI Thin Client Ex2

Further SIMATIC HMI devices are also available for the Zone 2/22 hazardous area and can be found in the "Operator panels" chapter:

- SIMATIC HMI Comfort Panels

PC-based Automation

Industrial PC

Devices for special requirements

Devices for hazardous areas > SIMATIC HMI Panel PC Ex NG

Overview



Highlights:

- High degree of industrial functionality and industrial front panels
 - Single-touch fronts 22" (1 680 x 1 050), 24" (1 920 x 1 080) and 24" WU (1 920 x 1 200)
 - -30 °C up to 55 °C ambient temperature in operation
 - Resistive Touch Display? 300 cd/m²
 - Built-in unit? optional stainless steel enclosure or GMP/cleanroom
- Certificates for hazardous area
 - IECEx, ATEX Zones 1, 21 and 2, 22
 - Class 1, Division 2
 - NEC
 - CEC
 - KGS
 - TR
 - Certificates for marine applications DNV / GL
- High system performance in hazardous areas
 - Intel Bay Trail (BT) 1.91 GHz Quad Core

SIMATIC HMI Panel PC Ex NG

The new generation SIMATIC HMI Panel PC Ex NG has been specially developed for use in the pharmaceutical, chemical and life science industries, but can also be used in many other areas since it satisfies the requirements for operator control and monitoring directly in hazardous areas.

Due to the 22" and 24" display diagonals, these devices are ideal for showing plant and process information provided from systems such as PCS.

A modern Intel ATOM E3845 Quad Core processor is used with this SIMATIC HMI Panel PC Ex NG.

Technical specifications

SIMATIC HMI Panel PC Ex NG	
General features	
Design	Built-in unit
Fronts	
Display diagonal	<ul style="list-style-type: none"> • 22" (1 680 x 1 050) 16:10, • 24" (1 920 x 1 080) 16:9 and • 24" WU (1 920 x 1 200) 16:10
Resolution	1 680 x 1 050 or 1 920 x 1 080 or 1 920 x 1 200
Number of colors	16.7 million
Brightness	• Standard display 300 cd/m ²
Contrast	1 000:1
MTBF backlight	LED backlight approx. 50 000 h
Single-touch	Resistive? 5-wire glass or membrane touch
Computing unit	
Processor	ATOM E3845, Intel Bay Trail (BT) 1.91 GHz Quad Core
Main memory	4 GB RAM
Operating system	
Windows Embedded Standard 7 (64-bit)	Pre-installed
Windows 7 Ultimate (64-bit)	Pre-installed
Drives	
Mass storage	32 GB SSD, 64 GB SSD, 128 GB SSD MLC
Interfaces	
Ethernet	<ul style="list-style-type: none"> • 10/100BaseTX - copper Ethernet or • 2x 10/100BaseTX - 2x copper Ethernet or • 1000BaseSX - Fiber Optic Ethernet or • 1000BaseLX - Fiber Optic Ethernet or • 100BaseFX - Fiber Optic Ethernet
USB	2 x USB (Ex ia), 1 x USB (Ex e), 2 x USB (Ex ia) (keyboard, pointer instrument)
Serial	1 x RS 232 (Ex e)
Audio	1 x audio line out (Ex e)
Barcode	Optionally via USB
Bluetooth	Optionally via USB

SIMATIC HMI Panel PC Ex NG	
Power supply	
<ul style="list-style-type: none"> • 230 V AC • 24 V DC 	<ul style="list-style-type: none"> • Yes (100 – 240 V AC) • Yes; optional
Ambient conditions	
Temperature	<ul style="list-style-type: none"> • -20 °C ... +55 °C • -30 °C ... +55 °C with heater • Storage -40 °C ... +70 °C
Relative humidity during operation	+55 °C (±2 °C) ≥ 95%, according to IEC 60068-2-30 : 2005
Degree of protection	IP66 front, IP65 rear? optionally according to GMP
Vibration	Operation: 5 to 13.2 Hz: ± 1 mm 13.2 to 100 Hz: ± 0.7 g
Shock	Operation: 15 g / 11 ms
Miscellaneous	
Power consumption at 24 V DC	Typ. 50 W / 100 W at O30 / max. 150 W (typ. 170 BTU / 341 BTU at O30 / max. 510 BTU)
Weight / Size	
Weights	
Dimensions (W x H x D)	<ul style="list-style-type: none"> • 22": 660 mm x 475 mm x 110 mm • 24": 660 mm x 475 mm x 110 mm
Approvals	
IECEX	<ul style="list-style-type: none"> • Ex e q [ia op is Ga] IIC T4 Gb? • Ex tb IIIC [ia op is Da] IP65 T110 °C Db
ATEX	<ul style="list-style-type: none"> • II 2(1) G Ex e q [ia op is Ga] IIC T4 Gb II 2(1) D • Ex tb IIIC [ia op is Da] IP65 T110 °C Db
NEC	Class I, Zone 1 AEx e q [ia] IIC T4 Gb
CEC	Ex e q [ia] IIC T4 Gb Class I, Division 2
TR	<ul style="list-style-type: none"> • 1Ex e q [ia op is Ga] IIC T4 Gb X • Ex tb IIIC [ia op is Da] IP65 T110 °C Db
KGS	<ul style="list-style-type: none"> • Ex e q IIC T4 • Ex tb IIIC IP64 T110 °C • Ex ia IIC T4 • Ex ia IIIB T110 °C

PC-based Automation

Industrial PC

Devices for special requirements

Devices for hazardous areas > SIMATIC HMI Panel PC Ex NG

Ordering data

Ordering data	Article No.	Article No.		
SIMATIC HMI Panel PC Ex NG	6AV7200- 6 ■ ■ ■ ■ - ■ ■ ■ ■	SIMATIC HMI Panel PC Ex NG 6AV7200- 6 ■ ■ ■ ■ - ■ ■ ■ ■		
<u>Display</u>		<u>Keyboard with housing / layout</u>		
<ul style="list-style-type: none"> • 22", 1 680 x 1 050, 16:10 format, Zone 1 • 24", 1 920 x 1 080, 16:9 format, Zone 1 • 24", 1 920 x 1 200, 16:10 format, Zone 1 • 22", 1 680 x 1 050, 16:10 format, Zone 2 • 24", 1 920 x 1 080, 16:9 format, Zone 2 • 24", 1 920 x 1 200, 16:10 format, Zone 2 • 22", 1 680 x 1 050, 16:10 format, non-Ex • 24", 1 920 x 1 080, 16:9 format, non-Ex • 24", 1 920 x 1 200, 16:10 format, non-Ex 	A B C D E F G H J	<ul style="list-style-type: none"> • No keyboard • Keyboard housing SS304; layout DE • Keyboard housing SS304; layout US • Keyboard housing SS304; layout FR • Keyboard housing SS304; layout CH • Keyboard housing SS304; layout ES • Keyboard housing SS304; layout SI • Keyboard housing SS304; layout FR-BE 	A B C D E F G H	
<u>Network</u>		<u>Integrated mouse / trackball</u>		
<ul style="list-style-type: none"> • 10/100BaseTX - copper Ethernet • 2 x 10/100BaseTX - 2 x copper Ethernet • 1000BaseSX - Fiber Optic Ethernet • 1000BaseLX - Fiber Optic Ethernet • 100BaseFX - Fiber Optic Ethernet 	A B C D E	<ul style="list-style-type: none"> • No mouse / trackball • Trackball 50 mm IP54 • Trackball (SS304) 50 mm IP54 • Touch pad • Joystick • Mouse module 	A B C D E F	
<u>Mass storage / main memory / operating system</u>		<u>Mounting options</u>		
<ul style="list-style-type: none"> • 32 GB SSD, 4 GB RAM, Windows 7 Ultimate 64-bit • 64 GB SSD, 4 GB RAM, Windows 7 Ultimate 64-bit • 128 GB SSD MLD, 4 GB RAM, Windows 7 Ultimate 64-bit • 32 GB SSD, 4 GB RAM, Windows Embedded Standard 7 (WES 7) 64-bit • 64 GB SSD, 4 GB RAM, Windows Embedded Standard 7 (WES 7) 64-bit • 128 GB SSD MLD, 4 GB RAM, Windows Embedded Standard 7 (WES 7) 64-bit 	0 1 2 3 4 5	<ul style="list-style-type: none"> • Without, front panel fastening only • Direct wall mounting • Fastener for pedestal or elbow on enclosure bottom • Fastener for ceiling or elbow mounting on enclosure top part 	0 1 2 3	
<u>Touch and front design</u>		<u>Additional options</u>		
<ul style="list-style-type: none"> • Without touch, panel mount with aluminum front • Analog-resistive, polyester membrane with aluminum front • Analog-resistive, glass touch with aluminum front 	0 1 2	<ul style="list-style-type: none"> • 24 V DC power supply • Outdoor to -20 °C for enclosure • Outdoor to -30 °C • Emergency-off button 8003 right, only with enclosure • Emergency off button 8003 left, only with enclosure 	A01 B01 C01 D01 E01	
<u>Enclosure type and material</u>		<u>Accessories</u>		
<ul style="list-style-type: none"> • No enclosure • Cleanroom enclosure front door (CFR), SS304 • Front door enclosure (FR), SS304 • Back door enclosure (BD), SS304 	0 1 2 3	<u>USB flash drive</u>	<ul style="list-style-type: none"> • Intrinsically safe, 16 GB • Intrinsically safe, 16 GB with recovery and backup function • Non-intrinsically safe, 16 GB with recovery and backup function 	6AV7675-0FX00-0AA0 6AV7675-0FX10-0AA0 6AV7675-0FX20-0AA0
		<u>Pedestal</u>	<ul style="list-style-type: none"> • 60.3 mm; requires enclosure • 60.3 mm; with corner brace; requires enclosure • Large (88.9 mm); requires enclosure • Extra large (114 mm); requires enclosure 	6AV7675-0KE00-0AA0 6AV7675-0KF00-0AA0 6AV7675-0KG00-0AA0 6AV7675-0KH00-0AA0
		<u>Bracket (elbow)</u>	Requires enclosure	6AV7675-0KJ00-0AA0

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configuration editor in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

You can find additional information on the Internet at:

<http://www.siemens.com/simatic-hmi-ex>

Overview



SIMATIC HMI Panel PC Ex OG with international approvals for operator control and monitoring in hazardous areas.

Technical specifications

SIMATIC HMI Panel PC Ex OG	
General features	
Design	Panel PC, stand-alone device for outdoors
Front	15" 4:3 or 21.5" 16:9
Resolution	1 024 x 768 or 1 920 x 1 080
Number of colors	16.7 million
Brightness	<ul style="list-style-type: none"> • Standard display 350 cd/m² • Sunlight readable display 21.5", 1 000 cd/m² • Sunlight readable display 15", 1 200 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
Main memory	4 GB or 8 GB RAM
Operating system	
Windows 7 Ultimate	Pre-installed
WES 7 P	Pre-installed
Drives	
Mass storage	SSD with <ul style="list-style-type: none"> • 240 GB • 480 GB
Interfaces	
Ethernet	<ul style="list-style-type: none"> • 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/RS 422/RS 485 (Ex e)
DVI	1 x DVI Out (Ex e)
Barcode	1 x reader interface (external barcode scanner/reader)
Bluetooth	1 x (optional)
Power supply	
<ul style="list-style-type: none"> • 230 V AC • 24 V DC 	<ul style="list-style-type: none"> • Standard (100 - 240 V AC) • Optional
Ambient conditions	
Temperature	<ul style="list-style-type: none"> • 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/s ² = 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	<ul style="list-style-type: none"> • 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.
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
Pedestal	6AV7675-0KA00-0AA0
Yoke mount fixing bracket	6AV7675-0KB00-0AA0
Sun roof	
• For 15°	6AV7675-0KC00-0AA0
• For 21.5°	6AV7675-0KD00-0AA0
Keyboard	
• DE layout, trackball	6AV7675-0NA00-0AA0
• US layout, trackball	6AV7675-0NB00-0AA0
• FR layout, trackball	6AV7675-0NC00-0AA0
• DE layout, touchpad	6AV7675-0ND00-0AA0
• US layout, touchpad	6AV7675-0NE00-0AA0
• FR layout, touchpad	6AV7675-0NG00-0AA0
• DE layout, joystick	6AV7675-0NH00-0AA0
• US layout, joystick	6AV7675-0NJ00-0AA0
• FR layout, joystick	6AV7675-0NL00-0AA0
• Desktop keyboard US Zone 1, 2, 21, 22	6AV7675-0NK00-0AA0
• Desktop keyboard DE Zone 1, 2, 21, 22	6AV7675-0NM00-0AA0
Transportation in a wooden crate	6AV7675-0NP00-0AA0

More information

Additional information is available on the Internet at:

<http://www.siemens.com/simatic-hmi-ex>

PC-based Automation

Industrial PC

Devices for special requirements

Devices for hazardous areas > SIMATIC HMI Panel PC 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:

Additional 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 Ex	
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
Main memory	4 GB DDR2 SDRAM
Operating system, preinstalled 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 RS232 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 Ex	
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 [ia ib] IIC T4 DIP A21 TA80°C, IP66
• Network 10/100 Base-Fx	2 Ex d e ia ib mb [ia ib op is] 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 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 II 3 (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] [ic] 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

PC-based Automation

Industrial PC

Devices for special requirements

Devices for hazardous areas > SIMATIC HMI Panel PC Ex

Ordering data

Article No.

SIMATIC HMI Panel PC Ex2

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
- Zone 2: 19" touch with 8 function keys
- Zone 1: 15" touch with 8 function keys
- Zone 1: 19" touch with 8 function keys
- Zone 2: 15" touch, sunlight-readable with 8 function keys
- Zone 1: 15" touch, sunlight-readable with 8 function keys

Network

- 10/100 base Tx, Ex e
- 100 base Fx FOC (SC), Ex op is

Mass storage

- SSD 32 GB, 4 GB RAM
- SSD 128 GB MLC, 4 GB RAM

Operating system (pre-installed)

- Windows 7 Ultimate (64-bit)
- Windows 7 Embedded Standard 7 E 64-bit
- Without

Enclosure options

- Without protective enclosure
- Stainless steel enclosure for:
 - Wall mounting
 - Pedestal (incl. coupling, 300° rotation possible)
 - Suspension bracket (incl. coupling, 300° rotation possible)
 - Support arm (incl. coupling, 300° rotation possible)
 - Swivel arm from above (incl. coupling, 300° rotation possible)

External keyboard

- Without
- QWERTZ keyboard, mounted on protective enclosure
- QWERTY keyboard, mounted on protective enclosure
- AZERTY keyboard, mounted on protective enclosure
- QWERTZ keyboard with trackball, mounted on protective enclosure
- QWERTY keyboard with trackball, mounted on protective enclosure
- AZERTY keyboard with trackball, mounted on protective enclosure

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 pedestal mounting (only in protective enclosure) -z G01

6AV7200- 4 ■ ■ ■ ■ - ■ ■ ■ ■ A 0

A

B

C

D

E

F

A

B

0

1

0

1

2

0

1

2

3

4

5

A

B

C

D

E

F

G

Article No.

Accessories

Digital KVM for HMI Thin Client Ex

6AV7675-0EX00-0AA0

USB drive

- Intrinsically safe, 16 GB
- Intrinsically safe, 16 GB with recovery function
- Non-intrinsically safe, 16 GB with recovery and backup function

6AV7675-0FX00-0AA0

6AV7675-0FX10-0AA0

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.

Additional information is available on the Internet at:

<http://www.siemens.com/simatic-hmi-ex>

Overview



SIMATIC HMI Thin Client Ex NG

The new generation SIMATIC HMI Thin client Ex NG has been specially developed for use in the pharmaceutical, chemical and life science industries, but can also be used in many other areas since it satisfies the requirements for operator control and monitoring directly in hazardous areas.

Due to the 22" and 24" display diagonals, these devices are ideal for showing plant and process information provided from systems such as PCS.

Highlights:

- High degree of industrial functionality and industrial front panels
 - Single-touch fronts 22" (1 680 x 1 050), 24" (1 920 x 1 080) and 24" WU (1 920 x 1 200)
 - -30 °C up to 55 °C ambient temperature in operation
 - Resistive Touch Display? 300 cd/m²
 - Built-in unit, optional stainless steel enclosure or GMP/ clean room
- Certificates for hazardous area
 - IECEx, ATEX Zones 1, 21 and 2, 22
 - Class 1, Division 2
 - NEC
 - CEC
 - KGS
 - TR
 - Certificates for marine applications DNV / GL
- High system performance in hazardous areas
 - Intel Bay Trail (BT) 1.91 GHz Quad Core

Technical specifications

SIMATIC HMI Thin Client Ex NG	
General features	
Design	Built-in unit
Fronts	
Display diagonal	<ul style="list-style-type: none"> • 22" (1 680 x 1 050) 16:10, • 24" (1 920 x 1 080) 16:9 and • 24" WU (1 920 x 1 200) 16:10
Resolution	1 680 x 1 050 or 1 920 x 1 080 or 1 920 x 1 200
Number of colors	16.7 million
Brightness	• Standard display 300 cd/m ²
Contrast	1 000:1
MTBF backlight	LED backlight approx. 50 000 h
Single-touch	Resistive? 5-wire glass or membrane touch
Computing unit	
Processor	ATOM E3845, Intel Bay Trail (BT), 1.91 GHz Quad Core
Main memory	4 GB RAM
Operating system	
Windows 10 IoT Enterprise	Pre-installed
Image	Remote firmware
Drives	
Mass storage	64 GB SSD
Interfaces	
Ethernet	<ul style="list-style-type: none"> • 10/100BaseTX - copper Ethernet or • 2x 10/100BaseTX - 2x copper Ethernet or • 1000BaseSX - Fiber Optic Ethernet or • 1000BaseLX - Fiber Optic Ethernet or • 100BaseFX - Fiber Optic Ethernet
USB	2 x USB (Ex ia), 1 x USB (Ex e), 2 x USB (Ex ia) (keyboard, pointer instrument)
Serial	1 x RS 232 (Ex e)
Audio	1 x audio line out (Ex e)
Barcode, Bluetooth	Optionally via USB

SIMATIC HMI Thin Client Ex NG	
Power supply	
<ul style="list-style-type: none"> • 230 V AC • 24 V DC 	<ul style="list-style-type: none"> • Yes (100 – 240 V AC) • Yes; optional
Ambient conditions	
Temperature	<ul style="list-style-type: none"> • -20 °C ... +55 °C • -30 °C ... +55 °C with heater • Storage -40 °C ... +70 °C
Relative humidity during operation	+55 °C (±2 °C) ≥ 95%, according to IEC 60068-2-30 : 2005
Degree of protection	IP66 front, IP65 rear? optionally acc. to GMP
Vibration	Operation: 5 to 13.2 Hz: ± 1 mm 13.2 to 100 Hz: ± 0.7 g
Shock	Operation: 15 g / 11 ms
Miscellaneous	
Power consumption at 24 V DC	Typ. 50 W / 100 W at O30 / max. 150 W (typ. 170 BTU / 341 BTU at O30 / max. 510 BTU)
Weight / Size	
Weights	
Dimensions (W x H x D)	<ul style="list-style-type: none"> • 22": 660 mm x 475 mm x 110 mm • 24": 660 mm x 475 mm x 110 mm
Approvals	
IECEX	<ul style="list-style-type: none"> • Ex e q [ia op is Ga] IIC T4 Gb? • Ex tb IIIC [ia op is Da] IP65 T110 °C Db
ATEX	<ul style="list-style-type: none"> • II 2(1) G Ex e q [ia op is Ga] IIC T4 Gb II 2(1) D • Ex tb IIIC [ia op is Da] IP65 T110 °C Db
NEC	Class I, Zone 1 AEx e q [ia] IIC T4 Gb
CEC	Ex e q [ia] IIC T4 Gb Class I, Division 2
TR	<ul style="list-style-type: none"> • 1Ex e q [ia op is Ga] IIC T4 Gb X • Ex tb IIIC [ia op is Da] IP65 T110 °C Db
KGS	<ul style="list-style-type: none"> • Ex e q IIC T4 • Ex tb IIIC IP64 T110 °C • Ex ia IIC T4 • Ex ia IIIB T110 °C

PC-based Automation

Industrial PC

Devices for special requirements

Devices for hazardous areas > SIMATIC HMI Thin Client Ex NG

Ordering data

SIMATIC HMI Thin Client Ex NG	6AV7200-	5							
<u>Display</u>									
• 22", 1 680 x 1 050, 16:10 format, Zone 1									A
• 24", 1 920 x 1 080, 16:9 format, Zone 1									B
• 24", 1 920 x 1 200, 16:10 format, Zone 1									C
• 22", 1 680 x 1 050, 16:10 format, Zone 2									D
• 24", 1 920 x 1 080, 16:9 format, Zone 2									E
• 24", 1 920 x 1 200, 16:10 format, Zone 2									F
• 22", 1 680 x 1 050, 16:10 format, non-Ex									G
• 24", 1 920 x 1 080, 16:9 format, non-Ex									H
• 24", 1 920 x 1 200, 16:10 format, non-Ex									J
<u>Network</u>									
• 10/100BaseTX - copper Ethernet									A
• 2 x 10/100BaseTX - 2 x copper Ethernet									B
• 1000BaseSX - Fiber Optic Ethernet									C
• 1000BaseLX - Fiber Optic Ethernet									D
• 100BaseFX - Fiber Optic Ethernet									E
<u>Mass storage / main memory / operating system</u>									
• 64 GB SSD, 4 GB RAM, Windows 10 IoT & Remote Firmware V5									0
• 128 GB SSD MLC, 4 GB RAM, Windows 10 IoT & Remote Firmware V5									1
<u>Touch and front design</u>									
• Without touch, panel mount with aluminum front									0
• Analog-resistive, polyester membrane with aluminum front									1
• Analog-resistive, glass touch with aluminum front									2
<u>Enclosure type and material</u>									
• No enclosure									0
• Cleanroom enclosure front door (CFR), SS304									1
• Front door enclosure (FR), SS304									2
• Back door enclosure (BD), SS304									3

SIMATIC HMI Thin Client Ex NG	6AV7200-	5							
<u>Keyboard with housing / layout</u>									
• No keyboard									A
• Keyboard housing SS304; layout DE									B
• Keyboard housing SS304; layout US									C
• Keyboard housing SS304; layout FR									D
• Keyboard housing SS304; layout CH									E
• Keyboard housing SS304; layout ES									F
• Keyboard housing SS304; layout SI									G
• Keyboard housing SS304; layout FR-BE									H
<u>Integrated mouse / trackball</u>									
• No mouse / trackball									A
• Trackball 50 mm IP54									B
• Trackball (SS304) 50 mm IP54									C
• Touch pad									D
• Joystick									E
• Mouse module									F
<u>Mounting options</u>									
• Without, front panel fastening only									0
• Direct wall mounting									1
• Fastener for pedestal or elbow on enclosure bottom									2
• Fastener for ceiling or elbow mounting on enclosure top part									3
<u>Additional options</u>									
• 24 V DC power supply									- A01
• Outdoor to -20 °C for enclosure									- B01
• Outdoor to -30 °C									- C01
• Emergency-off button 8003 right, only with enclosure									- D01
• Emergency off button 8003 left, only with enclosure									- E01
<u>Accessories</u>									
<u>USB flash drive</u>									
• Intrinsically safe, 16 GB									6AV7675-0FX00-0AA0
• Intrinsically safe, 16 GB with recovery and backup function									6AV7675-0FX10-0AA0
• Non-intrinsically safe, 16 GB with recovery and backup function									6AV7675-0FX20-0AA0
<u>Ethernet switch</u>									
• With FOC 4x 100Base Tx, 1x 100 Base (MTRJ), Fx Ex op is									6AV7675-0PX00-0AA0

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configuration editor in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

You can find additional information on the Internet at:

<http://www.siemens.com/simatic-hmi-ex>

Overview



SIMATIC HMI Thin Client Ex OG with international approvals for operator control and monitoring in hazardous areas.

Technical specifications

SIMATIC HMI Thin Client Ex	
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
Number of colors	16.7 million
Brightness	<ul style="list-style-type: none"> • Standard display 350 cd/m² • Sunlight readable display 21.5", 1 000 cd/m² • Sunlight readable display 15", 1 200 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; AMD GX-217GA
Main memory	4 GB
Operating system	
Windows 10 Enterprise 2016 LTSB	Pre-installed
Remote Firmware V5	Pre-installed
Drives	
Mass storage	SSD with 60 GB, 80 GB
Interfaces	
Ethernet	<ul style="list-style-type: none"> • 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/RS 422/RS 485 (Ex e)
DVI	1 x DVI Out (Ex e)
Barcode	1 x reader interface (external barcode scanner/reader)
Bluetooth	1 x (optional)
Power supply	
<ul style="list-style-type: none"> • 230 V AC • 24 V DC 	<ul style="list-style-type: none"> • Standard (100 - 240 V AC) • Optional
Ambient conditions	
Temperature	<ul style="list-style-type: none"> • 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/s ² = 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	<ul style="list-style-type: none"> • 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	

PC-based Automation

Industrial PC

Devices for special requirements

Devices for hazardous areas > SIMATIC HMI Thin Client Ex OG

Ordering data

SIMATIC HMI Thin Client Ex

Article No.

6AV7200- 3 ■ ■ ■ ■ - ■ ■ ■ ■ A 0

Display

- 15", 1 024 x 768, 4:3 format; Zone 1
- 21.5" Full HD, 1 920 x 1 080, format 16:9; Zone 1
- 15", 1 024 x 768, 4:3 format; Zone 2
- 21.5" Full HD, 1 920 x 1 080, format 16:9; Zone 2

A

B

C

D

Network

- 1 x 1000 Base TX - copper Ethernet in combination with WLAN
- 2 x 1000 Base TX - copper Ethernet not in combination with WLAN
- 2 x 1000 Base FX - fiber-optic Ethernet not in combination with WLAN

A

B

C

Mass storage / main memory

- 60 GB SSD, 4 GB RAM
- 80 GB SSD, 4 GB RAM

0

1

Processor

- AMD GX-217GA
- Intel Core i/-3517 UE
- Intel Core i/-3517 UE with TPM

0

1

2

Display options

- Standard TFT, not touch; for 15" display only
- Sunlight readable display 15", not touch
- Sunlight readable display 21.5", not touch
- Standard TFT, capacitive glass touch, for 15" display only
- Sunlight readable display 15", capacitive glass touch
- Sunlight readable display 21.5", capacitive glass touch

0

1

2

3

4

5

Article No.

SIMATIC HMI Thin Client Ex

6AV7200- 3 ■ ■ ■ ■ - ■ ■ ■ ■ A 0

Optional expansions ¹⁾

- No WLAN, no Bluetooth, no RFID
- WLAN 2.4 GHz, no Bluetooth, no RFID
- WLAN 2.4 GHz and 5 GHz, no Bluetooth, no RFID
- No WLAN, Bluetooth, no RFID
- WLAN 2.4 GHz, Bluetooth, no RFID
- WLAN 2.4 GHz and 5 GHz, Bluetooth, no RFID
- No WLAN, no Bluetooth, RFID, not for 15" display
- WLAN 2.4 GHz, no Bluetooth, RFID, not for 15" display
- WLAN 2.4 GHz and 5 GHz, no Bluetooth, RFID, not for 15" display
- No WLAN, Bluetooth, RFID, not for 15" display
- WLAN 2.4 GHz, Bluetooth, RFID, not for 15" display
- WLAN 2.4 GHz and 5 GHz, Bluetooth, RFID, not for 15" display

A

B

C

D

E

F

G

H

J

K

L

M

Additional options

- 24 V power supply
- CAN bus interface open CAN Ex e
- VESA 200 and table pedestal and bracket SS316L material
- Outdoor design up to -40 °C

-A01

-B01

-C01

-D01

¹⁾ RFID option only with 21.5" display

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or the 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".

Ordering data	Article No.
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
Pedestal	6AV7675-0KA00-0AA0
Yoke mount	6AV7675-0KB00-0AA0
Sun roof	
• For 15°	6AV7675-0KC00-0AA0
• For 21.5°	6AV7675-0KD00-0AA0
Keyboard	
• DE layout, trackball	6AV7675-0NA00-0AA0
• US layout, trackball	6AV7675-0NB00-0AA0
• FR layout, trackball	6AV7675-0NC00-0AA0
• DE layout, touchpad	6AV7675-0ND00-0AA0
• US layout, touchpad	6AV7675-0NE00-0AA0
• FR layout, touchpad	6AV7675-0NG00-0AA0
• DE layout, joystick	6AV7675-0NH00-0AA0
• US layout, joystick	6AV7675-0NJ00-0AA0
• FR layout, joystick	6AV7675-0NL00-0AA0
• Desktop keyboard US Zone 1, 2, 21, 22	6AV7675-0NK00-0AA0
• Desktop keyboard DE Zone 1, 2, 21, 22	6AV7675-0NM00-0AA0

More information

More information is available on the Internet at:

<http://www.siemens.com/simatic-hmi-ex>

PC-based Automation

Industrial PC

Devices for special requirements

Devices for hazardous areas > SIMATIC HMI Thin Client Ex2

Overview



SIMATIC HMI Thin Client Ex2 with international approvals for operation and monitoring in hazardous areas.

Technical specifications

SIMATIC HMI Thin Client Ex2	
General features	
Design	Thin Client built-in unit, available in protective enclosure as an option
Front	15" and 19" display
Operation	Touch with 8 function keys
MTBF backlight	50 000 h
Operating system	Windows 10 Enterprise 2016 LTSC
Mass storage	integrated, 64 GB SSD
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 RS232 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
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

SIMATIC HMI Thin Client Ex2	
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
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 II 3 (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

PC-based Automation

Industrial PC
IPC software

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

Operating systems for industrial environment

SIMATIC Industrial OS

Apart from the hardware, the operating system is the most important internal component of a computer. It can come supplied with user programs or simply provide the application resources.

The SIMATIC Industrial OS with its Linux-based operating system not only constitutes an alternative to the Microsoft Windows operating systems also available for the SIMATIC IPCs, it also offers a suitable solution to the challenges listed above.

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 USB flash drive possible (no installation required)
- Complete backup by means of a mouse double-click with "1ClickImage" (must be installed)
- Independent of the operating system thanks to ability to start from the 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/109766855>

Ordering data

SIMATIC IPC Image & Partition Creator V3.5

SIMATIC IPC Image & Partition Creator V3.5

Software tool for very easy preventive data backup and efficient partition management on SIMATIC IPCs

Article No.

Can be ordered using the SIMATIC IPC Configurator

6ES7648-6AA13-5YA0

Note:

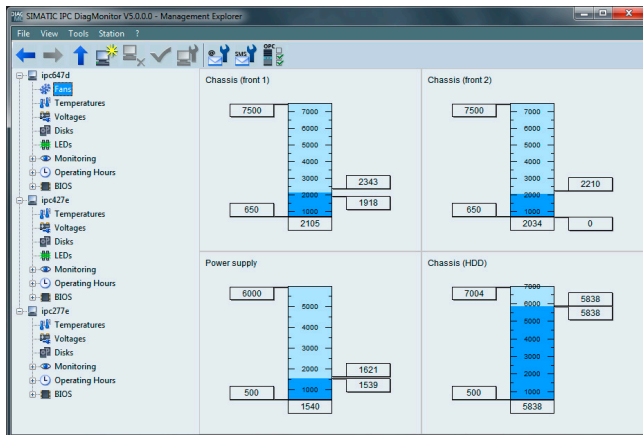
SIMATIC IPC Image & Partition Creator is also available together with the SIMATIC IPC BIOS Manager pre-installed on the SIMATIC IPC Service USB flash drive.

PC-based Automation

Industrial PC
IPC software

SIMATIC IPC DiagMonitor

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 IPC647E
- SIMATIC IPC847E
- SIMATIC IPC547G
- CPU 1515SP PC
- CPU 1515SP PC2

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) on USB flash drive, as download via Online Software Delivery (OSD), or
- as option ordered according to the SIMATIC IPC Configurator (Internet, Industry Mall).

Note:

As of Version 5.1, the SIMATIC IPC DiagMonitor is delivered on a USB flash drive.

One version of SIMATIC IPC DiagMonitor is required for each monitoring PC or for each SIMATIC IPC to be monitored.

<https://support.industry.siemens.com/cs/ww/en/view/109763202>

Ordering data

SIMATIC IPC DiagMonitor V5.1

SIMATIC IPC DiagMonitor V5.1

Software for diagnostics/messages via Ethernet, email, SMS, OPC, web

- On USB flash drive; single license
- Download via OSD; single license; software and license for download; email address required for delivery

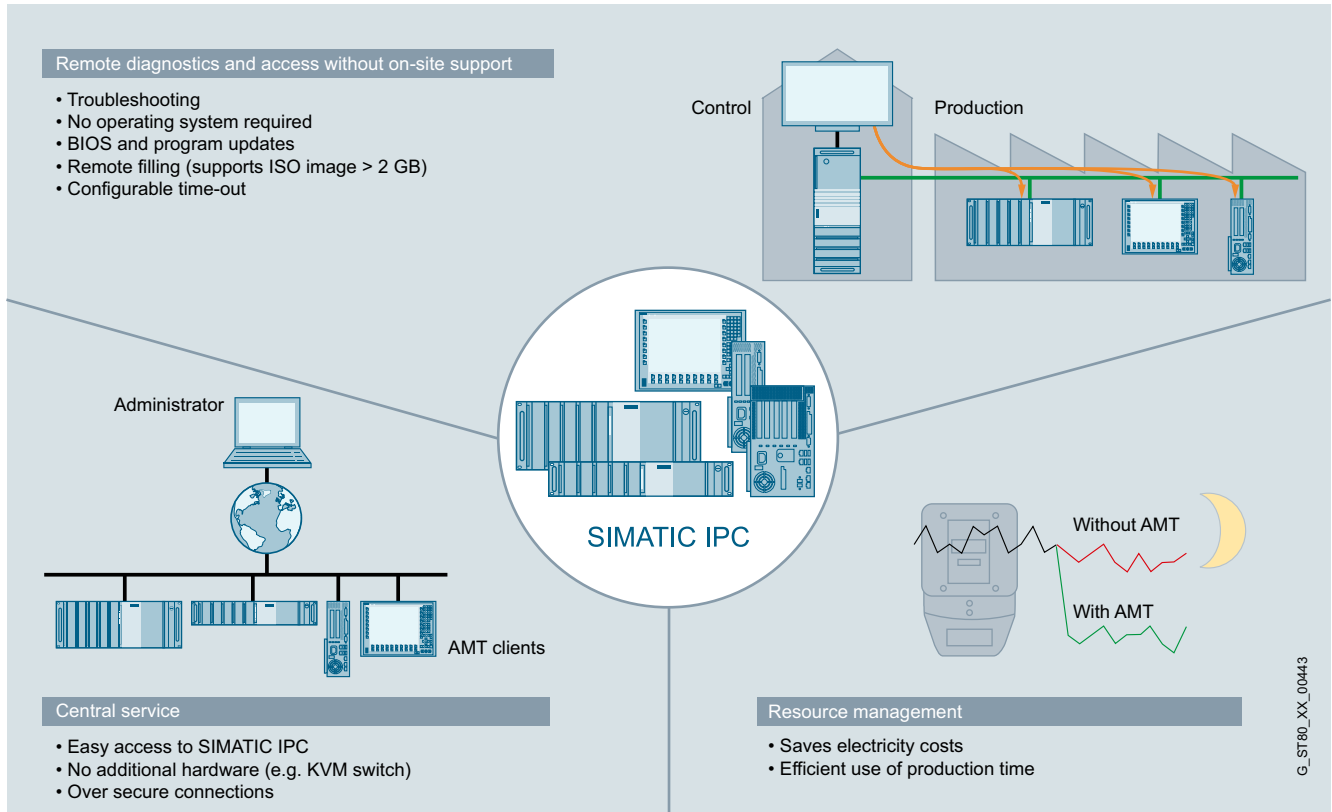
Article No.

Can be ordered using the SIMATIC IPC Configurator

6ES7648-6CA15-1YX0

6ES7648-6CA85-1YX0

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>

PC-based Automation

Industrial PC

IPC software

SIMATIC IPC Remote Manager**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

Overview

SIMATIC Industrial OS – the operating system for applications in the industrial environment

The SIMATIC Industrial OS with its Linux-based operating system constitutes an alternative to the tried-and-tested Microsoft Windows operating systems available for the SIMATIC IPCs.

The focus is on a small footprint, without unnecessary ballast, but with all components for fast commissioning and simple further development.

It was put together and tested on the SIMATIC IPCs and can be used in industrial environments and other areas of application.

Released devices:

Siemens has released the following SIMATIC IPCs for version 1.3 of SIMATIC Industrial OS:

- SIMATIC IPC127E
- SIMATIC IPC327E/377E
- SIMATIC IPC227E/277E
- SIMATIC IPC347E
- SIMATIC IPC427E/477E

Minimum requirements:

- USB flash drive with a memory of at least 8 GB
- SIMATIC IPC (see released devices) with at least 4 GB capacity on the target storage medium (CFAST, SSD, etc.)

<https://support.industry.siemens.com/cs/de/en/view/109766374>

Ordering data

SIMATIC Industrial OS V1.3, based on Linux

Operating system for SIMATIC IPCs; Single license, software and download license:
email address required for delivery

Article No.

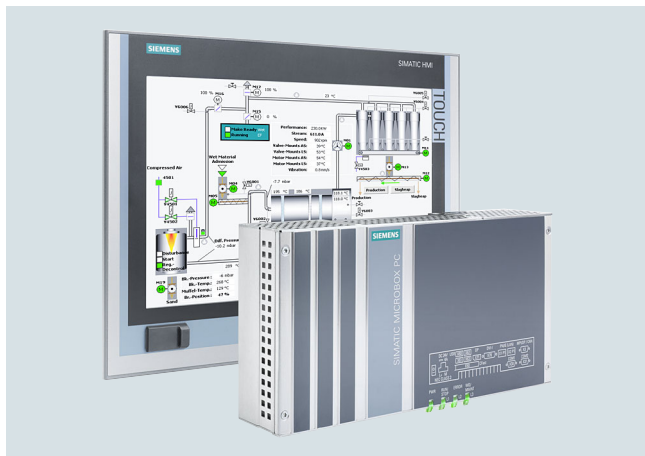
6ES7648-6LA81-0YA8

PC-based Automation

Industrial PC

Embedded bundles, starter systems, software packages

Overview



Embedded bundles and starter systems – The fast, efficient way to get started with PC-based automation

Embedded bundles and starter systems

Embedded bundles and IPC starter systems 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.

Embedded bundles and IPC starter systems are embedded IPC configurations with pre-installed software, specially designed for automation and visualization tasks.

- All embedded bundles and IPC starter systems 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 / IPC477E PRO) / SIMATIC WinAC RTX (F) Software Controller and/or SIMATIC WinCC RT Advanced visualization software
- Embedded bundles are based on Windows Embedded Standard 7 and the scope of supply includes licenses for the configured system in each case
- The IPC starter systems are based on Windows 10 Enterprise 2016 LTSB. The license for the CPU 1507S can be obtained when ordering the software controller. For WinCC runtime advanced licenses we recommend ordering the software packages required in order to benefit from price savings.

Software packages

Software packages with SIMATIC WinCC (SCADA, Advanced, Professional), SIMATIC WinCC flexible and SIMATIC WinAC RTX (F) are available for all SIMATIC IPCs. Ordering the automation software together with an industrial PC results in significant price savings.

Benefits

Embedded bundles and starter systems:

- Fast commissioning thanks to preinstalled software
- IPC hardware and software perfectly tuned to each other
- High system availability in order to reduce the risk of potential failures and maintenance costs
- Maintenance-free since no rotating parts (fans, hard disks) and operation without battery possible
- NVRAM can be overwritten by the software controller
- SIMATIC software system-tested
- Long-term availability: Service and support period of 8 to 10 years after market launch

Software packages:

- Easy to order
- Cost savings compared to ordering components individually
- Optimally tuned hardware for the SIMATIC HMI software
- System-tested solution
- Available for all SIMATIC IPCs

More information

Additional 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.	6ES7647- 8 B					
SIMATIC IPC227E						
<u>Processor</u>						
• 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
<u>Work memory/NVRAM</u>						
• 2 GB						1
• 4 GB						2
• 8 GB						3
• 2 GB/NVRAM						4
• 4 GB/NVRAM						5
• 8 GB/NVRAM						6
<u>Device version/interface</u>						
• Basis without COM						1
• Basis with COM1/2						2
• PCIe without COM						3
• PCIe with COM1/2						4
<u>Operating system</u>						
• Without operating system						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 2016 LTSB, 64-bit, MUI (en, de, fr, it, es)						7

Article No.	6ES7647- 8 B					
SIMATIC IPC227E						
<u>Mass storage</u>						
• None						A
• 128 GB SSD						E
• 240 GB SSD						C
• 480 GB SSD						D
• 4 GB CFAST						K
• 8 GB CFAST						L
• 16 GB CFAST						M
• 30 GB CFAST						N
• 320 GB HDD						R
<u>Software</u>						
• Without SIMATIC software						A
• CPU 1507S						B
• WinCC RT Advanced V14, 128 PT (V15 license package)						D
• WinCC RT Advanced V14, 512 PT (V15 license package)						E
• WinCC RT Advanced V14, 2 048 PT (V15 license package)						F
• WinCC RT Advanced V14, 4 096 PT (V15 license package)						G
• CPU 1507S/WinCC RT Adv. V14, 128 PT (V15 license package)						J
• CPU 1507S/WinCC RT Adv. V14, 512 PT (V15 license package)						K
• CPU 1507S/WinCC RT Adv. V14, 2 048 PT (V15 license package)						L
• CPU 1507S/WinCC RT Adv. V14, 4 096 PT (V15 license package)						M
<u>Mounting accessories</u>						
• Standard mounting 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 the configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

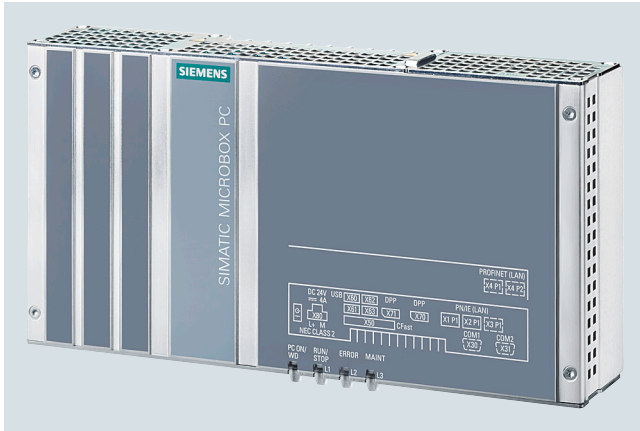
PC-based Automation

Industrial PC

Embedded bundles, starter systems, software packages

SIMATIC IPC427E bundles and starter systems

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

- Standard rail mounting B
- Wall mounting C
- Portrait mounting D
- Standard 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/interfaces

- 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 Enterprise 2016 LTSC (64-bit) for Celeron, Core i3 and Core i5 processors 7
- Windows 10 Enterprise 2016 LTSC (64-bit) for Xeon processors 8

Ordering data	Article No.
SIMATIC IPC427E (Box PC) ¹⁾	6AG4141- - - - -
<u>Mass storage, externally accessible</u>	
• 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
<u>Mass storage, internal</u>	
• Without internal mass storage	A
• 128 GB solid-state drive SATA	D
• 240 GB solid-state drive SATA	F
• 480 GB solid-state drive SATA	G
• 320 GB HDD	J
<u>SIMATIC Software (bundles/starter system)</u>	
• Without SIMATIC software	A
• CPU 1507S	B
• WinCC RT Advanced V15	
- 128 PT	C
- 512 PT	D
- 2 048 PT	E
- 4 096 PT	F
- 8 192 PT	G
CPU 1507S / WinCC RT Advanced V15	
- 128 PT	H
- 512 PT	J
- 2 048 PT	K
- 4 096 PT	L
- 8 192 PT	M
• IPC starter system with CPU 1507S and WinCC RT Advanced, without licenses	S
<u>Power supply</u>	
• 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

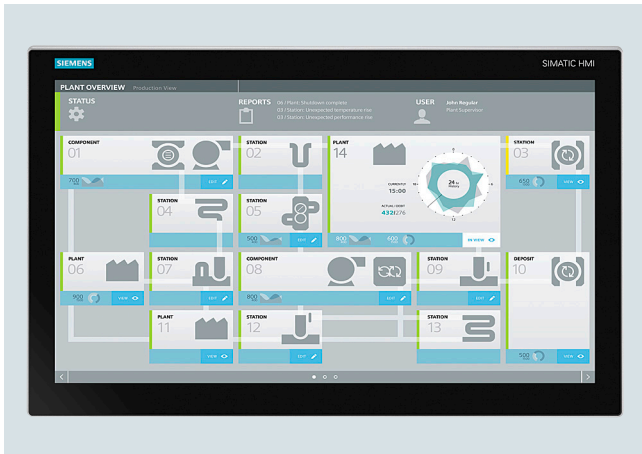
PC-based Automation

Industrial PC

Embedded bundles, starter systems, software packages

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.

Article No.

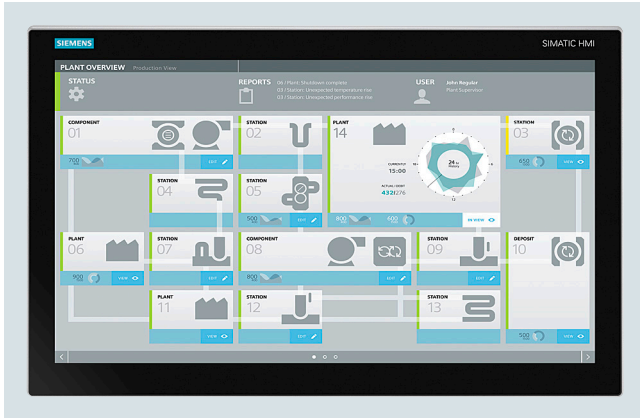
SIMATIC IPC277E (Nanopanel PC)	6AV7882 - 0	0	0	0	0
<u>Operating unit</u>					
• 7" touch					A
• 9" touch					B
• 12" touch					C
• 15" touch front USB					D
• 19" touch front USB					E
• 12" multi-touch (with WES7-E only single-touch mode)					H
• 15" multi-touch (with WES7-E only single-touch mode)					F
• 19" multi-touch (with WES7-E only single-touch mode)					G
• 15" multi-touch (1 366 x 768; ATEX/IECEX/UL HazLoc; with WES7-E only single-touch mode)					J
• 19" multi-touch (1 366 x 768; ATEX/IECEX/UL HazLoc; with WES7-E only single-touch mode)					K
<u>Processor</u>					
• Celeron N2807 (2C/2T)					A
• Celeron N2930 (4C/4T)					B
• Celeron N2807 (2C/2T)/TPM					C
• Celeron N2930 (4C/4T)/TPM					D
<u>Work memory/NVRAM</u>					
• 2 GB				1	
• 4 GB				2	
• 8 GB				3	
• 2 GB/NVRAM				4	
• 4 GB/NVRAM				5	
• 8 GB/NVRAM				6	
<u>Operating system</u>					
• Without operating system				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 2016 LTSB, 64-bit, MUI (en, de, fr, it, es)				7	

SIMATIC IPC277E (Nanopanel PC)	6AV7882-	0	0	0	0
<u>Mass storage</u>					
• None					A
• 128 GB SSD					E
• 240 GB SSD					C
• 480 GB SSD					D
• 4 GB CFast					K
• 8 GB CFast					L
• 16 GB CFast					M
• 30 GB CFast					N
<u>Software</u>					
• Without SIMATIC software					A
• CPU 1507S					B
• WinCC RT Advanced V14, 128 PT (V15 license package)					D
• WinCC RT Advanced V14, 512 PT (V15 license package)					E
• WinCC RT Advanced V14, 2 048 PT (V15 license package)					F
• WinCC RT Advanced V14, 4 096 PT (V15 license package)					G
• CPU 1507S/WinCC RT Advanced V14, 128 PT (V15 license package)					J
• CPU 1507S/WinCC RT Advanced V14, 512 PT (V15 license package)					K
• CPU 1507S/WinCC RT Advanced V14, 2 048 PT (V15 license package)					L
• CPU 1507S/WinCC RT Advanced V14, 4 096 PT (V15 license package)					M

Note:

Please assemble the required IPC configuration using the TIA Selection Tool or the configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.

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
 - 24" TFT multi-touch

Ordering data

Article No.

SIMATIC IPC477E ¹⁾

Processor and fieldbus	6AV7241 -	
• 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
Operating 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
• 24" multi-touch (1 920 x 1 080), single-touch mode only with WES7-E		R

Article No.

SIMATIC IPC477E ¹⁾

Work memory/NVRAM	6AV7241 -	
• 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/interfaces		
• 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
• No RS 232, without PCIe with ATEX/IECEX Cat 3G Zone 2		5
• No RS 232 and one PCIe with ATEX/IECEX Cat 3G Zone 2		6
• Two RS 232 without PCIe with ATEX/IECEX Cat 3G Zone 2		7
• Two RS 232 and one PCIe with ATEX/IECEX Cat 3G Zone 2		8

Overview

SIMATIC IPC477E PRO

The fully enclosed IP65-protected SIMATIC IPC477E PRO in 15", 19" and 22" versions extends the portfolio of PRO devices.

The robust aluminum housing allows it to be used directly on the machine even in harsh environmental conditions.

The operating unit can either be mounted on a pedestal or connected to a support arm system from above.

Ordering data

Article No.	
SIMATIC IPC477E PRO ¹⁾	6AV7251-
<u>CPUs and fieldbus</u>	
• Celeron G3902E; 3x Gigabit Ethernet (IE/PN)	1
• Core i3-6102E; 3x Gigabit Ethernet (IE/PN)	3
• Core i5-6442EQ; 3x Gigabit Ethernet (IE/PN)	5
• XEON E3-1505L; 3x Gigabit Ethernet (IE/PN)	7
<u>Operating unit</u>	
• 15" multi-touch (1 366 x 768), for support arm (not expandable, flange on top)	B
• 15" multi-touch (1 366 x 768), for pedestal (expandable, flange below)	C
• 15" multi-touch (1 366 x 768), for support arm (expandable, round tube)	D
• 19" multi-touch (1 366 x 768), for support arm (not expandable, flange on top)	E
• 19" multi-touch (1 366 x 768), for pedestal (expandable, flange below)	F
• 19" multi-touch (1 366 x 768), for support arm (expandable, round tube)	G
• 22" multi-touch (1 920 x 1 080), for support arm (not expandable, flange on top)	H
• 22" multi-touch (1 920 x 1 080), for pedestal (expandable, flange below)	J
• 22" multi-touch (1 920 x 1 080), for support arm (expandable, round tube)	K
<u>Work memory/NVRAM</u>	
• 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
<u>Expansions/interfaces</u>	
• No RS232/485, without PCIe	0
• Two RS232/RS485, without PCIe	3
• No RS 232 without PCIe, with ATEX/IECEX Cat 3G Zone 2 / cULus Class I Div. 2 ³⁾	5
• Two RS 232 without PCIe, with ATEX/IECEX Cat 3G Zone 2 / cULus Class I Div. 2 ³⁾	6

Article No.	
SIMATIC IPC477E PRO ¹⁾	6AV7251-
<u>Operating system</u>	
• 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, MUI, 64-bit, multi-touch	3
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	4
• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)	5
• Windows 10 IoT Enterprise 2016 LTSB (64-bit) for Celeron, I3 and I5	7
• Windows 10 IoT Enterprise 2016 LTSB (64-bit) for Xeon	8
<u>Mass storage, external</u>	
• Without external mass storage	0
• CFast 2 GB, w/o operating system	1
• CFast 4 GB, w/o 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
<u>Mass storage, internal</u>	
• Without internal mass storage	A
• 128 GB solid-state drive SATA	D
• 240 GB solid-state drive SATA	F
• 480 GB solid-state drive SATA	G
SIMATIC software pre-installed (bundles)	
• Without SIMATIC software	A
• IPC starter system with CPU 1507S and WinCC RT Advanced, without licenses	S
<u>Power supply</u>	
• 24 V DC industrial power supply	0
• 24 V DC ind. power supply and TPM ²⁾ (not for China or Russia)	8

Note:

As with the existing 4:3 IPC477C/D PRO devices, adaptation to different support arm/pedestal systems is by means of the basic adapter. The basic adapter is included in the scope of supply (except in the case of the "prepared for support arm and extension components" version, 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.

PC-based Automation

Industrial PC

Embedded bundles, starter systems, software packages

Software packages for SIMATIC IPC

Overview



Software packages with SIMATIC IPC

Software packages with SIMATIC WinCC, WinCC flexible, 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 WinCC flexible
- 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

Article No.

Software packages for SIMATIC IPC

SIMATIC WinCC Runtime Advanced V15 ^{1) 2)}

Software and documentation on DVD, including WinCC Archives and WinCC Recipes. Single license, license key on USB flash drive for:

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 PowerTags

6AV2114-2BA05-0AA0
6AV2114-2DA05-0AA0
6AV2114-2FA05-0AA0
6AV2114-2HA05-0AA0
6AV2114-2KA05-0AA0

SIMATIC WinCC Runtime Professional V15 ^{1) 2) 3)}

- WinCC Client for RT Professional
- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags
- 8 192 PowerTags
- 65 536 PowerTags

6AV2117-2DB05-0AA0
6AV2115-2BA05-0AA0
6AV2115-2DA05-0AA0
6AV2115-2FA05-0AA0
6AV2115-2HA05-0AA0
6AV2115-2KA05-0AA0
6AV2115-2MA05-0AA0

SIMATIC WinCC V7.5 Runtime

- WinCC RT Client
- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 8 192 PowerTags
- 65 536 PowerTags

6AV6382-2AA07-5AX0
6AV6382-2CA07-5AX0
6AV6382-2DA07-5AX0
6AV6382-2EA07-5AX0
6AV6382-2HA07-5AX0
6AV6382-2FA07-5AX0

SIMATIC WinCC V7.5 Runtime ASIA

- WinCC RT Client
- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 8 192 PowerTags
- 65 536 PowerTags

6AV6382-2AA07-5AV0
6AV6382-2CA07-5AV0
6AV6382-2DA07-5AV0
6AV6382-2EA07-5AV0
6AV6382-2HA07-5AV0
6AV6382-2FA07-5AV0

SIMATIC WinCC V7.4 Runtime ^{1) 2) 3)}

- WinCC Package V7.4, Client
- WinCC Package V7.4, RT 128 PowerTags
- WinCC Package V7.4, RT 512 PowerTags
- WinCC Package V7.4, RT 2048 PowerTags
- WinCC Package V7.4, RT 8192 PowerTags
- WinCC Package V7.4, RT 65 536 PowerTags

6AV6382-2AA07-4AX0
6AV6382-2CA07-4AX0
6AV6382-2DA07-4AX0
6AV6382-2EA07-4AX0
6AV6382-2HA07-4AX0
6AV6382-2FA07-4AX0

SIMATIC WinCC V7.3 Runtime ¹⁾

- WinCC Package V7.3, RT 128 PowerTags
- WinCC Package V7.3, RT 512 PowerTags
- WinCC Package V7.3, RT 2048 PowerTags
- WinCC Package V7.3, RT 8192 PowerTags
- WinCC Package V7.3, RT 65 536 PowerTags

6AV6382-2CA07-3AX0
6AV6382-2DA07-3AX0
6AV6382-2EA07-3AX0
6AV6382-2HA07-3AX0
6AV6382-2FA07-3AX0

¹⁾ Only if ordered together with a SIMATIC IPC

²⁾ The current version is always supplied

³⁾ IPC227E/IPC277E and IPC327E/IPC377E only as WinCC Client

Ordering data**Article No.****Software packages for SIMATIC IPC****SIMATIC WinCC flexible Runtime**

SW package for SIMATIC IPC; WinCC flexible Runtime current version, WinCC flexible/Archives +Recipes;

Delivery only when ordering the same number of SIMATIC IPCs on the same order form

- 128 PowerTags
- 512 PowerTags
- 2 048 PowerTags
- 4 096 PowerTags

6AV6623-2BA00-0AA0**6AV6623-2DA00-0AA0****6AV6623-2FA00-0AA0****6AV6623-2GA00-0AA0****SIMATIC WinAC RTX (F) Package**

- SIMATIC WinAC RTX ^{1) 2) 4) 5)}
- SIMATIC WinAC RTX F ^{1) 2) 4) 5)}

6ES7671-0RC08-6YA0**6ES7671-1RC08-6YA0**

¹⁾ Only if ordered together with a SIMATIC IPC

²⁾ The current version is always supplied

³⁾ IPC227E and IPC277E as WinCC Client only

⁴⁾ For 32-bit operating systems only

⁵⁾ Not for Rack IPC327E, IPC347D/E, IPC377E, ITP1000, Panel PC Ex

Note:

For ordering data for Panel PCs and accessories, see configurators in "SIMATIC Panel PCs".

More information

Additional information is available on the Internet at:

<http://www.automation.siemens.com/simatic-hmi>

PC-based Automation

Industrial IoT Gateway

SIMATIC IOT2000

Overview

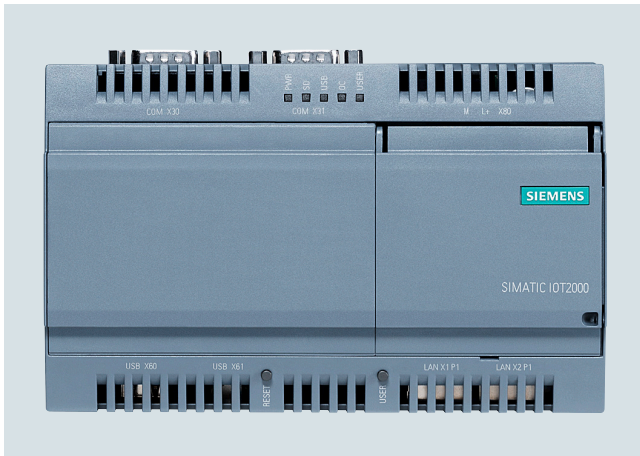
SIMATIC IOT2000

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

Additional 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
Main 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 serial interface	USB / USB 2x COM ports (RS 232, RS 485)
Industrial Ethernet	
• Industrial Ethernet interface	2x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	No
Integrated Functions	
Monitoring functions	
• Temperature monitoring	No
• Watchdog	Yes
• Status LEDs	Yes
• Fan	No

PC-based Automation

Industrial IoT Gateway

SIMATIC IOT2000

SIMATIC IOT2040

Technical specifications (continued)

Article number	6ES7647-0AA00-1YA2 SIMATIC IoT2040
EMC	
Interference immunity against discharge of static electricity	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Interference immunity against high frequency radiation 	10 V/m for 80 - 1 000 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	
<ul style="list-style-type: none"> Interference immunity on supply cables Interference immunity on signal cables >30m Interference immunity on signal cables < 30m 	±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 61000-4-5, surge, length > 30 m ±2 kV in accordance with IEC 61000-4-4, burst, length > 30 m
Interference immunity against voltage surge	
<ul style="list-style-type: none"> asymmetric interference symmetric interference 	±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
<ul style="list-style-type: none"> Interference immunity to magnetic fields at 50 Hz 	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
<ul style="list-style-type: none"> Interference emission via line/AC current cables 	EN 61000-6-4:2007 +A1:2011

Article number	6ES7647-0AA00-1YA2 SIMATIC IoT2040
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	
<ul style="list-style-type: none"> Ambient temperature during operation 	0 °C to 50 °C
Relative humidity	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Vibration resistance during operation acc. to IEC 60068-2-6 	Tested according to IEC 60068-2-6: 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 200 Hz: 9.8 m/s ²
Shock testing	
<ul style="list-style-type: none"> Shock load during operation 	Tested according to IEC 60068-2-27: 150 m/s ² , 11 ms
Operating systems	
without operating system	Yes
Dimensions	
Width	144 mm
Height	90 mm
Depth	53 mm

Ordering data

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

Article No.

6ES7647-0AA00-1YA2

Article No.

Accessories

Power supply

LOGO!Power 24 V

Stabilized power supply
Input: 100 – 240 V AC

- Output: 24 V DC / 0.6 A
- Output: 24 V DC / 1.3 A

6EP3330-6SB00-0YA0
6EP3331-6SB00-0YA0

Additional information is available on the Internet at:

<http://siemens.com/logo-power>

Additional information is available on the Internet at:

<http://siemens.com/iot2000>

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

Article number	6ES7647-0KA01-0AA2 SIMATIC IOT2000 input/output module
Installation type/mounting	
Mounting	On Arduino interface
Design	Plug-in card
Supply voltage	
Type of supply voltage	24 V DC
Digital inputs	
Number of digital inputs	5
Input voltage	
• Type of input voltage	DC
• for signal "0"	< 5 V DC
• for signal "1"	> 12 V DC
Input current	
• for signal "0", max. (permissible quiescent current)	0.9 mA
• for signal "1", typ.	2.1 mA
Input delay (for rated value of input voltage)	
for standard inputs	
- at "0" to "1", max.	1.5 ms
- at "1" to "0", max.	1.5 ms
Digital outputs	
Type of digital output	transistor
Number of digital outputs	2
Short-circuit protection	Yes
Output voltage	
• Type of output voltage	DC
• permissible voltage at output, min.	0 V
• permissible voltage at output, max.	28.8 V
Output current	
• for signal "1" rated value	0.3 A
Parallel switching of two outputs	
• for uprating	No
Switching frequency	
• with resistive load, max.	10 Hz
• with inductive load, max.	0.5 Hz

Article number	6ES7647-0KA01-0AA2 SIMATIC IOT2000 input/output module
Analog inputs	
Number of analog inputs	2
Input ranges	
• Voltage	Yes; 0 to 10V
• Current	Yes; 0 to 20 mA
• Thermocouple	No
• Resistance thermometer	No
• Resistance	No
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	9 bit
Integrated Functions	
Monitoring functions	
• Temperature monitoring	No
• Watchdog	No
• Status LEDs	No
• Fan	No
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 - 1 000 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

PC-based Automation

Industrial IoT Gateway

SIMATIC IOT2000

SIMATIC IOT2000 Input/Output Module

Technical specifications (continued)

Article number	6ES7647-0KA01-0AA2 SIMATIC IOT2000 input/output module
Interference immunity to cable-borne interference	
<ul style="list-style-type: none"> Interference immunity on supply cables 	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric;
<ul style="list-style-type: none"> Interference immunity on signal cables >30m 	±2 kV acc. to IEC 61000-4-5, surge asymmetric
<ul style="list-style-type: none"> Interference immunity on signal cables < 30m 	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
Interference immunity against voltage surge	
<ul style="list-style-type: none"> asymmetric interference 	±2 kV acc. to IEC 61000-4-5, surge asymmetric
<ul style="list-style-type: none"> symmetric interference 	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
<ul style="list-style-type: none"> Interference immunity to magnetic fields at 50 Hz 	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
<ul style="list-style-type: none"> Interference emission via line/AC current cables 	EN 61000-6-4:2007 +A1:2011
Standards, approvals, certificates	
Approval	CE (industry), UL, cULus
CE mark	Yes
UL approval	Yes
cULus	Yes
KC approval	Yes; For use inside SIMATIC IoT2040
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	
<ul style="list-style-type: none"> Ambient temperature during operation 	0 °C to 50 °C
Relative humidity	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Vibration resistance during operation acc. to IEC 60068-2-6 	Tested according to IEC 60068-2-6: 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 200 Hz: 9.8 m/s ²
Shock testing	
<ul style="list-style-type: none"> Shock load during operation 	Tested according to IEC 60068-2-27: 150 m/s ² , 11 ms
Operating systems	
without operating system	Yes
Dimensions	
Width	75 mm
Height	57 mm
Depth	32 mm

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

Technical support:

Technical and application support for the SIMATIC IOT2000 Input/Output Module is exclusively via the moderated Siemens Industry Online Forum.

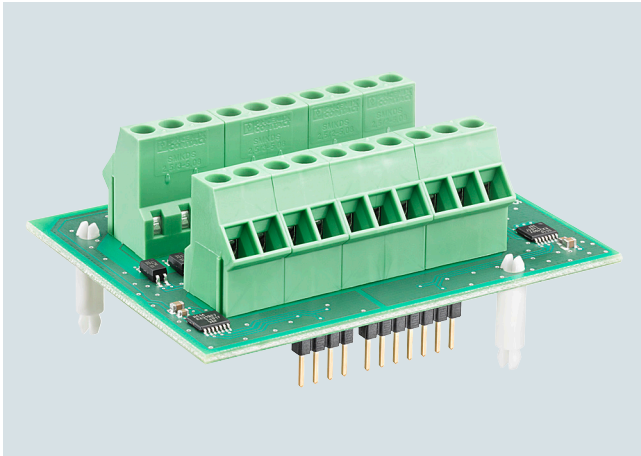
IOT2000 Forum link:

<https://support.industry.siemens.com/tf/de/en/search/mainsearch/?text=IOT2000>

Here you can find Getting Started, FAQs etc.

Application examples are continually being added.

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 its digital IOs.

Essential highlights:

- High degree of industrial functionality
- Arduino shield with 10x DI
- Each input can be used as a sink or source, no configuration necessary
- Rapid installation since suitable cover and fixing accessories supplied
- Industrial design
- For use with 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 languages and development environments.

Target applications:

- Direct connection of sensors
- Distribution of data to higher-level units, such as clouds

Technical specifications

Article number	6ES7647-0KA02-0AA2 SIMATIC IOT2000 input module sink/source
Installation type/mounting	
Mounting	On Arduino interface
Design	Plug-in card
Supply voltage	
Type of supply voltage	24 V
Digital inputs	
Number of digital inputs	10
Input voltage	
• for signal "0"	< 5 V DC
• for signal "1"	> 12 V DC
Input current	
• for signal "0", max. (permissible quiescent current)	0.9 mA
• for signal "1", typ.	2.1 mA
Input delay (for rated value of input voltage)	
for standard inputs	
- at "0" to "1", max.	1.5 ms
- at "1" to "0", max.	1.5 ms
Digital outputs	
Type of digital output	without
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 discharge of static electricity acc. to IEC 61000-4-2	
- Test voltage at air discharge	6 kV
- Test voltage at contact discharge	4 kV
Interference immunity to cable-borne interference	
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4, Burst
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	10 V/m for 80 - 2 000 MHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80 % AM acc. to IEC 61000-4-3
Compliance with line harmonic distortion limits	
• Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3	No

PC-based Automation

Industrial IoT Gateway

SIMATIC IOT2000

SIMATIC IOT2000 Input Module Sink/Source**Technical specifications** (continued)

Article number	6ES7647-0KA02-0AA2 SIMATIC IOT2000 input module sink/source
Degree and class of protection	
IP (at the front)	20
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
FCC	Yes
EMC	CE (industry)
Mechanics/material	
Enclosure material (front)	plastic
• Plastic	Yes
• Aluminum	No
• Stainless steel	No
• Glass	No
Dimensions	
Width	75 mm
Height	57 mm
Depth	32 mm

Ordering data**SIMATIC IOT2000 Input Module Sink/Source**

10x DI, Arduino shield for SIMATIC IOT2020 and IOT2040

Article No.**6ES7647-0KA02-0AA2****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/de/search/main-search/?text=IOT2000>

You can find Getting Started, FAQs etc. here.

Application examples are continually being added.

Overview***SIMATIC S7-1500 software controllers***

- SIMATIC S7-1500 software controllers 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 motion control functionalities for controlling speed-controlled and positioning axes, support for external encoders, cams/cam tracks and probes
- 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 under Windows with the high-level languages C/C++, VB and C#
- SIMATIC Target 1500™ for the development of control functions using Matlab Simulink®

PC-based Automation

Software controllers

SIMATIC S7-1500 Software Controllers

Standard CPUs > CPU 1507S

Overview



- Software Controller for implementing the functions of a SIMATIC S7-1500 Controller on a SIMATIC IPC
- For use as a PC-based controller in machines with distributed I/O via PROFINET and PROFIBUS
- For utilizing IPC onboard interfaces and PC plug-in cards for PROFINET and PROFIBUS connections
- 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
- Execution of functions and algorithms implemented with high-level languages under Windows (C/C++, C#, VB) and locally in the CPU 1507S (C/C++)
- 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, output cams/cam tracks and probes
- Integrated web server for diagnostics with the option of creating user-defined web pages
- OPC UA server (data access) and client as runtime option for easy connection of the software controller to Windows applications or third-party devices/systems

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 PC-based control tasks with Microbox PC IPC427E and 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 / Windows 10 Enterprise LTSB 2016 with MBR boot

Type of delivery:

en, de, fr, it, es, zh

- Single license for one installation Software and documentation on DVD, license key on USB flash drive
- Single license for one installation Software download including license key ¹⁾

6ES7672-7AC01-0YA0

6ES7672-7AC01-0YG0

Upgrade of SIMATIC S7-1500 Software Controller CPU 1507S

6ES7672-7AC01-0YK0

From V1.8 to V2.6; software download including documentation and license key.

Email address required for delivery

Accessories

SIMATIC IPC

- SIMATIC IPC427E Microbox PC
- SIMATIC IPC477E Panel PC
- SIMATIC IPC427D Microbox PC
- SIMATIC IPC227E Nanobox PC
- SIMATIC IPC277E Panel PC
- SIMATIC IPC477D Panel PC
- SIMATIC IPC677D Panel PC
- SIMATIC IPC627D Box PC
- SIMATIC IPC827D Box PC
- SIMATIC IPC647D Rack PC
- SIMATIC IPC847D Rack PC

6AG4141-.....-....

6AV7241-.....-....

6AG4140-.....-....

6ES7647-8B...-....

6AV7882-0...0-...0

6AV7240-.....-....

6AV7260-.....-....

6AG4131-2.....-....

6AG4132-2.....-....

6AG4112-2.....-....

6AG4114-2.....-....

CP 1625 communications processor

6ES7648-2CF10-1AA0

PCI Express x1 card for connecting PROFINET with IRT to the S7-1500 Software Controller

CP 5622 communications processor

6GK1562-2AA00

PCI Express x1 card (32-bit) for connecting a programming device or PC to PROFIBUS

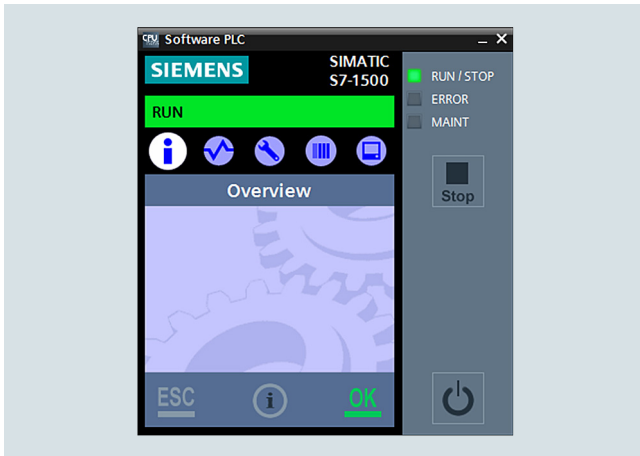
CP 5623 communications processor

6GK1562-3AA00

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; en/de

¹⁾ For up-to-date information and download availability, see: <http://www.siemens.com/tia-online-software-delivery>

Overview



- Software Controller for implementing the functions of a SIMATIC S7-1500 Controller on a SIMATIC IPC
- For use with control applications with increased requirements for program and data memory
- For use as a PC-based controller in machines with distributed I/O via PROFINET and PROFIBUS
- For utilizing IPC onboard interfaces and PC plug-in cards for PROFINET and PROFIBUS connections
- Optimized for PC-based control tasks with IPC627D and IPC827D Box PCs, IPC677D Panel PC and IPC647D and IPC847D Rack PCs
- Can also be used on IPC427E Box PCs and IPC477E Panel PCs
- Execution of functions and algorithms implemented with high-level languages under Windows (C/C++, C#, VB) and locally in the CPU 1508S (C/C++)
- 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, output cams/cam tracks and probes
- OPC UA server (data access) and client as runtime option for easy connection of the software controller to Windows applications or third-party devices/systems

Ordering data

Article No.

SIMATIC S7-1500 Software Controller CPU 1508S

For implementing the function of an S7-1500 Controller on a SIMATIC IPC

Target systems
Optimized for PC-based control tasks with:

IPC677D Panel PC
IPC627D Box PC
IPC827D Box PC
IPC647D Rack PC
IPC847D Rack PC

Can also be used with:
IPC477E Panel PC
IPC427E Box PC

Requirement:

Windows 7 / Windows Embedded Standard 7 / Windows 10 (64-bit)

Type of delivery:

en, de, fr, it, es, zh

- Single license for one installation Software and documentation on DVD, license key on USB flash drive

6ES7672-8AC01-0YA0

- Single license for one installation Software download including license key ¹⁾

6ES7672-8AC01-0YG0

Accessories

SIMATIC IPC

- SIMATIC IPC427E Microbox PC
- SIMATIC IPC477E Panel PC
- SIMATIC IPC477D Panel PC
- SIMATIC IPC677D Panel PC
- SIMATIC IPC627D Box PC
- SIMATIC IPC827D Box PC
- SIMATIC IPC647D Rack PC
- SIMATIC IPC847D Rack PC

6AG4141-.....-....

6AV7241-.....-....

6AV7240-.....-....

6AV7260-.....-....

6AG4131-2.....-....

6AG4132-2.....-....

6AG4112-2.....-....

6AG4114-2.....-....

For more information, see Catalog ST 80 / ST PC.

CP 1625 communications processor

PCI Express x1 card for connecting PROFINET with IRT to the S7-1500 Software Controller

6ES7648-2CF10-1AA0

CP 5622 communications processor

PCI Express x1 card (32-bit) for connecting 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 en/de

6GK1562-3AA00

¹⁾ For up-to-date information and download availability, see: <http://www.siemens.com/tia-online-software-delivery>

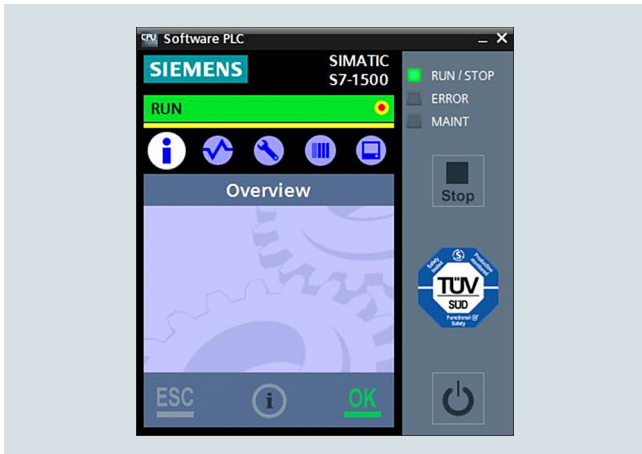
PC-based Automation

Software controllers

SIMATIC S7-1500 Software Controllers

Fail-safe CPUs > CPU 1507S F

Overview



- Software Controller for implementing the functions of a SIMATIC S7-1500 Controller on a SIMATIC IPC
- For use as a PC-based controller in machines with distributed I/O via PROFINET and PROFIBUS
- For utilizing IPC onboard interfaces and PC plug-in cards for PROFINET and PROFIBUS connections
- Can be used for safety functions up to SIL 3 according to IEC 61508 and up to PLe according to ISO 13849
- Supports PROFIsafe in distributed configurations
- Optimized for PC-based control tasks with the IPC427E Microbox PC and the IPC477E Panel PC (requires configuration with NVRAM)
- Can also be used in IPC227E, IPC477D, IPC627D and IPC827D Box PCs as well as IPC277E, IPC477D and IPC677D Panel PCs (requires configuration with NVRAM)
- Execution of functions and algorithms implemented with high-level languages under Windows (C/C++, C#, VB) and locally in the CPU 1507S (C/C++)
- 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, output cams/cam tracks and probes
- Integrated web server for diagnostics with the option of creating user-defined web pages
- OPC UA server (data access) and client as runtime option for easy connection of the software controller to Windows applications or third-party devices/systems

Ordering data

Article No.

SIMATIC S7-1500 Software Controller CPU 1507S F

For implementing the function of a fail-safe S7-1500 controller on SIMATIC IPCs

Target system:

Optimized for PC-based control tasks with Microbox PC IPC427E and 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

Requirement:

Windows 7 / Windows Embedded Standard 7 / Windows 10 Enterprise LTSB with MBR boot (IPC configuration with NVRAM required)

Type of delivery:

en, de, fr, it, es, zh

- 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

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.....-....

CP 1625 communications processor

6ES7648-2CF10-1AA0

PCI Express x1 card for connecting PROFINET with IRT to the S7-1500 Software Controller

CP 5622 communications processor

6GK1562-2AA00

PCI Express x1 card (32-bit) for connecting a programming device or PC to PROFIBUS

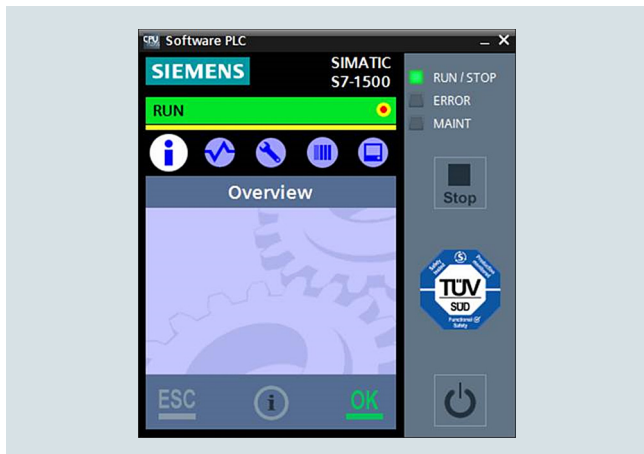
CP 5623 communications processor

6GK1562-3AA00

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 en/de

¹⁾ For up-to-date information and download availability, see: <http://www.siemens.com/tia-online-software-delivery>

Overview



- Software controller for implementing the functions of a SIMATIC S7-1500 Controller on a SIMATIC IPC
- For use with control applications with increased requirements for program and data memory
- For use as a PC-based controller in machines with distributed I/O via PROFINET and PROFIBUS
- For utilizing IPC onboard interfaces and PC plug-in cards for PROFINET and PROFIBUS connections
- Can be used for safety functions up to SIL 3 according to IEC 61508 and up to PLe according to ISO 13849
- Supports PROFIsafe in distributed configurations
- Optimized for PC-based control tasks with IPC627D and IPC827D Box PCs, IPC677D Panel PC and IPC647D and IPC847D Rack PCs (configuration with NVRAM required)
- Can also be used on IPC427E Box PC and IPC477E Panel PC (configuration with NVRAM required)
- Execution of functions and algorithms implemented with high-level languages under Windows (C/C++, C#, VB) and locally in the CPU 1508S F (C/C++)
- 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, output cams/cam tracks and probes
- Integrated web server for diagnostics with the option of creating user-defined web pages
- OPC UA server (data access) and client as runtime option for easy connection of the software controller to Windows applications or third-party devices/systems

Ordering data

Article No.

SIMATIC S7-1500 Software Controller CPU 1508S F

For implementing the function of an S7-1500 Controller on SIMATIC IPCs (IPC configuration with NVRAM required)

Target system:

Optimized for PC-based control tasks with:

IPC677D Panel PC
 IPC627D Box PC
 IPC827D Box PC
 Can also be used with:
 IPC477E Panel PC
 IPC427E Box PC

Requirement:

Windows 7 / Windows Embedded Standard 7 / Windows 10 (64-bit)

Type of delivery:

en, de, fr, it, es, zh

- Single license for one installation Software and documentation on DVD, license key on USB flash drive

6ES7672-8FC01-0YA0

- Single license for one installation Software download including license key ¹⁾

6ES7672-8FC01-0YG0

Accessories

SIMATIC IPC

- SIMATIC IPC427E Microbox PC
- SIMATIC IPC477E Panel PC
- SIMATIC IPC677D Panel PC
- SIMATIC IPC627D Box PC
- SIMATIC IPC827D Box PC

6AG4141-.....-.....

6AV7241-.....-.....

6AV7260-.....-.....

6AG4131-2.....-.....

6AG4132-2.....-.....

CP 1625 communications processor

6ES7648-2CF10-1AA0

PCI Express x1 card for connecting PROFINET with IRT to the S7-1500 Software Controller

CP 5622 communications processor

6GK1562-2AA00

PCI Express x1 card (32-bit) for connecting a programming device or PC to PROFIBUS

CP 5623 communications processor

6GK1562-3AA00

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 en/de

¹⁾ For up-to-date information and download availability, see: <http://www.siemens.com/tia-online-software-delivery>

PC-based Automation

Software controllers

SIMATIC S7-1500 Software Controllers

ODK 1500S

Overview

SIMATIC ODK 1500S

- For developing dynamically loadable function libraries for the S7-1500 Software Controllers and S7-1500 Advanced Controllers CPU 1518 MFP:
 - Implementation of function libraries that are executed under Windows with the high-level languages C/C++, C# and VB
 - Implementation of function libraries that are executed in real-time in the context of the user program of the CPU with the high-level language C++
 - Implementation of applications for the C++ runtime of the CPU 1518 MFP
- "Eclipse" development environment for real-time function libraries in the CPU user program and applications for the C++ runtime in the scope of delivery.
- Development of library functions under Windows with MS Visual Studio (optional)
- Easy introduction to development by using basic projects via templates
- 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

Licensing

- ODK 1500S is supplied with a floating license. The floating license allows installation of the software on any number of computers. The number of licenses acquired determines the number of computers on which the software can be used simultaneously.
- An upgrade to version 2.5 is offered for users of the previous versions 1.0 and 2.0.
- The integrated development environment Eclipse, required for developing real-time libraries, is included in the scope of supply of ODK 1500S as well as templates for Visual Studio.
- SIMATIC ODK 1500S is available as a standalone product or in a bundle with SIMATIC Target 1500S™ for Simulink®.

You can find more information on the Software Update Service, license types, online software delivery and handling your SW licenses with the Automation License Manager here:

www.siemens.com/simatic-licenses

Ordering data

SIMATIC ODK 1500S

Open Development Kit for support in developing high-level language applications for SIMATIC S7-1500 Software Controllers V2.0 or V2.1

- single license; supplied on DVD

single license;
software download ¹⁾
Email address required
for delivery

Open Development Kit for support in developing high-level language applications for SIMATIC S7-1500 Advanced Controllers

- supplied on DVD, license key (floating license) on USB flash drive

software download with license key (floating license) ¹⁾
Email address required
for delivery

Upgrade for existing installations as from V1.0; software download including license key (floating license ¹⁾; Email address required for delivery

Article No.

6ES7806-2CD02-0YA0

6ES7806-2CD02-0YG0

6ES7806-2CD03-0YA0

6ES7806-2CD03-0YG0

6ES7806-2CD03-0YK0

¹⁾ For up-to-date information and download availability see: <http://www.siemens.com/tia-online-software-delivery>

Overview

Note

This catalog entry contains non-binding information on a 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	<ul style="list-style-type: none"> • 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>

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	<ul style="list-style-type: none"> • CSV • ASCII • Windows-INI • XML¹⁾ • Binary
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

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>

PC-based Automation

PC-based Controllers

ET 200SP Open Controllers

Overview

Compact and powerful

The ET 200SP Open Controller, CPU 1515SP PC (F/T/TF), is a rugged, compact control system that combines the functionality of an ET 200SP controller with a PC-based platform. It can be used to control special and series machines, or plants in a distributed configuration. As well as the standard and fail-safe variants, technology and technology fail-safe variants are also available.

The ET 200SP I/O modules can be inserted centrally and communicate via the integrated backplane bus. S7 communication can be established and distributed I/Os can be connected via the PROFINET adapter of the ET 200SP system.

The PROFIBUS CM DP module provides simple expandability for PROFIBUS communication. The CPU 1515SP PC (fail-safe) + HMI with pre-installed WinCC Runtime Advanced is offered for additional HMI functionality.

The CPU 1515SP PC is used wherever special automation functions are to be integrated with support from SIMATIC ODK 1500S via the programming language C or C++, or if a close connection of independent applications is required in Windows for the software controller.

Characteristics	CPU 1515SP PC (F)	CPU 1515SP PC2 (F/T/TF)
DDR3 DRAM	4 GB	8 GB
CFlash card	30 GB	30 GB
Operating system	WES 7E 32-bit / WES 7P 64-bit	Windows 10 Enterprise LTSCB 2016
WinCC RT Advanced (optional)	Yes	Yes (not for T or TF)
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	2 048	
IEC counters	Any number (limited only by work memory)	
IEC timers	Any number (limited only by work memory)	
Bit memories	16 KB	
I/O address range		
Inputs	32 KB (all inputs stored in process image)	
Outputs	32 KB (all inputs stored in process image)	
Motion		
Motion control resources	2 400	
Communication		
PiP	Yes (via CM)	
PROFINET IO	1 x PN IO IRT (BusAdapter not included in scope of delivery)	
PROFIBUS DP	Yes (via CM DP)	
Web server	Yes	
GB-Ethernet	Yes, 1 x via GB-Ethernet RJ45 interface	

More information

Further information and downloads

Manuals

The manuals for the ET 200SP Open Controller can be downloaded online for free from SIMATIC Customer Support.

<https://support.industry.siemens.com/cs/ww/en/ps/13891/man>

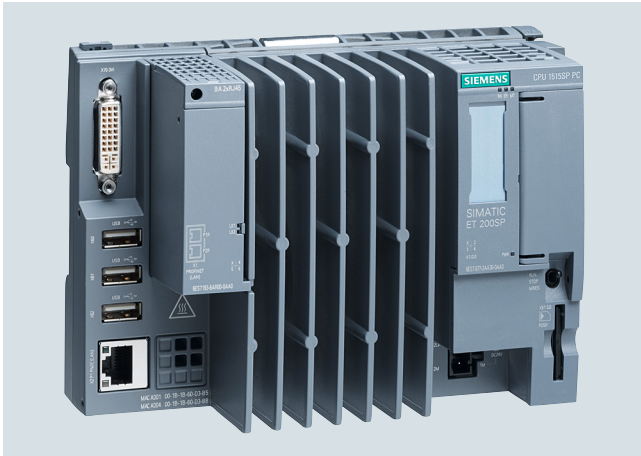
General information

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

SIMATIC Selection Tool

<http://www.siemens.com/tia-selection-tool>

Overview



- Turnkey all-in-one solution with pre-installed SIMATIC S7-1500 Software Controller Standard control and optional pre-installed WinCC Runtime Advanced
- 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

Article No.

SIMATIC ET 200SP Open Controller CPU 1515SP PC (+ HMI)

ET 200SP CPU with Windows Embedded Standard 7 and pre-installed SIMATIC S7-1500 Software Controller (with WinCC RT Advanced as option);

Type of delivery:
en, de, fr, it, es, zh

Windows embedded Standard 7 E 32-bit, 8 GB CFast card

- CPU 1515SP PC (4 GB RAM)

6ES7677-2AA31-0EB0

Windows embedded Standard 7 P 64-bit (multi-touch), 16 GB CFast card

- CPU 1515SP PC (4 GB RAM)
- CPU 1515SP PC + HMI 128PT (4 GB RAM)
- CPU 1515SP PC + HMI 512PT (4 GB RAM)
- CPU 1515SP PC + HMI 2048PT (4 GB RAM)

6ES7677-2AA41-0FB0

6ES7677-2AA41-0FK0

6ES7677-2AA41-0FL0

6ES7677-2AA41-0FM0

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

6ES7193-6AP40-0AA0

For increased vibration and EMC loads

BusAdapter BA 2XLC

6ES7193-6AG00-0AA0

BusAdapter BA LC/RJ45

6ES7193-6AG20-0AA0

BusAdapter BA LC/FC

6ES7193-6AG40-0AA0

CM DP for ET 200SP CPU

6ES7545-5DA00-0AB0

PROFIBUS DP master with electrical interface for connecting the ET 200SP CPUs to PROFIBUS at up to 12 Mbps

PC-based Automation

PC-based Controllers

ET 200SP Open Controllers

Standard CPUs > CPU 1515SP PC

Ordering data	Article No.	Article No.	
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 1 000 labeling strips DIN A4, light gray, card, for inscription with laser printer	6ES7193-6LR10-0AA0 6ES7193-6LA10-0AA0		
STEP 7 Professional V15.1 Target system: SIMATIC S7-1200, S7-1500, S7-300, S7-400, WinAC Requirement: Windows 7 Home Premium SP1 (64-bit) Windows 7 Professional SP1 (64-bit) Windows 7 Enterprise SP1 (64-bit) Windows 7 Ultimate SP1 (64-bit) Windows 10 Home Version 1709, 1803 Windows 10 Professional Version 1709, 1803 Windows 10 Enterprise Version 1709, 1803 Windows 10 Enterprise 2016 LTSC Windows 10 IoT Enterprise 2015 LTSC Windows 10 IoT Enterprise 2016 LTSC Windows Server 2012 R2 StdE (full installation) Windows Server 2016 Standard (full installation) Type of delivery: en, de, fr, it, es, zh <ul style="list-style-type: none"> • STEP 7 Professional V15.1, floating license • STEP 7 Professional V15.1, floating license, software download incl. license key ¹⁾; Email address required for delivery 	6ES7822-1AA05-0YA5 6ES7822-1AE05-0YA5		
		SIMATIC ODK 1500S Open Development Kit for support in developing Windows and real-time library functions for S7-1500 Software Controllers <ul style="list-style-type: none"> • supplied on DVD • software download including license key ¹⁾; Email address required for delivery 	6ES7806-2CD02-0YA0 6ES7806-2CD02-0YG0
		SIMATIC WinCC Advanced V15.1 Engineering software in the TIA Portal; for engineering SIMATIC Panels, WinCC Runtime Advanced; runs with Windows 7 (64-bit), Windows 10 (64-bit), WinSrv 2012 R2/2016 (64-bit), Class A; 6 languages: en, de, fr, it, es, zh <ul style="list-style-type: none"> • Floating license; software and documentation on DVD; license key on USB flash drive • Floating license; software, documentation and license key for download ¹⁾; Email address required for delivery 	6AV2102-0AA05-0AA5 6AV2102-0AA05-0AH5

¹⁾ For up-to-date information and download availability, see: <http://www.siemens.com/tia-online-software-delivery>

Further information and downloads**Manuals**

The manuals for the ET 200SP Open Controller can be downloaded online for free from 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>

Overview



ET 200SP Open Controller, CPU 1515SP PC2, combines robustness and compact dimensions with the flexibility of centralized or decentralized communication in the highest industrial functionality. Furthermore, the CPU offers the entire value added of the ET 200SP system, the S7-1500 controller family and the TIA world together.

- Rugged, compact control system
- Combines the functions of a ET 200SP controller with those of a PC-based platform
- Turnkey all-in-one controller
- High performance automation tasks with the use of new generation Intel Quad Core processors
- Connects high-level language applications and processes high data volumes with support from SIMATIC ODK 1500S

Ordering data

Article No.

SIMATIC ET 200SP Open Controller CPU 1515SP PC2 (+ HMI)

ET 200SP central module with Windows 10 IoT Enterprise 64-bit and pre-installed SIMATIC S7-1500 Software Controller (with WinCC RT Advanced option); 8 GB RAM, 30 GB CFast card

Type of delivery:

en, de, fr, it, es, zh

• CPU 1515SP PC2

6ES7677-2DB42-0GB0

With pre-installed WinCC RT Advanced

• CPU 1515SP PC2 + HMI 128PT

6ES7677-2DB42-0GK0

• CPU 1515SP PC2 + HMI 512PT

6ES7677-2DB42-0GL0

• CPU 1515SP PC2 + HMI 2048PT

6ES7677-2DB42-0GM0

Accessories

Upgrade from SIMATIC S7-1500 Software Controller CPU 1505SP to SIMATIC Open Controller

6ES7672-5DC01-0YK0

From V 1.x to V 2.0; software download incl. documentation and license key; Email address required for delivery

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

6ES7193-6AP40-0AA0

For increased vibration and EMC loads

BusAdapter BA 2XLC

6ES7193-6AG00-0AA0

BusAdapter BA LC/RJ45

6ES7193-6AG20-0AA0

BusAdapter BA LC/FC

6ES7193-6AG40-0AA0

CM DP for ET 200SP CPU

6ES7545-5DA00-0AB0

PROFIBUS DP master with electrical interface for connecting the ET 200SP CPUs to PROFIBUS at up to 12 Mbps

Power supply connector

6ES7193-4JB00-0AA0

Spare part; for connecting the 24 V DC supply voltage; with push-in terminals (10 units)

Reference identification label

6ES7193-6LF30-0AW0

10 sheets of 16 labels

Labeling strips

- 500 labeling strips on roll, light gray, for inscription with thermal transfer roll printer

6ES7193-6LR10-0AA0

- 1 000 labeling strips DIN A4, light gray, card, for inscription with laser printer

6ES7193-6LA10-0AA0

PC-based Automation

PC-based Controllers

ET 200SP Open Controllers

Standard CPUs > CPU 1515SP PC2

Ordering data**Article No.****Article No.****STEP 7 Professional V15.1**

Target system:

SIMATIC S7-1200, S7-1500,
S7-300, S7-400, WinAC

Requirement:

Windows 7 Home Premium SP1
(64-bit)Windows 7 Professional SP1
(64-bit)

Windows 7 Enterprise SP1 (64-bit)

Windows 7 Ultimate SP1 (64-bit)

Windows 10 Home Version 1709,
1803Windows 10 Professional Version
1709, 1803Windows 10 Enterprise Version
1709, 1803

Windows 10 Enterprise 2016 LTSC

Windows 10 IoT Enterprise 2015

LTSC

Windows 10 IoT Enterprise 2016

LTSC

Windows Server 2012 R2 StdE

(full installation)

Windows Server 2016 Standard

(full installation)

Type of delivery:

en, de, fr, it, es, zh

- STEP 7 Professional V15.1,
floating license

6ES7822-1AA05-0YA5

- STEP 7 Professional V15.1,
floating license
software download incl. license
key ¹⁾; Email address required
for delivery

6ES7822-1AE05-0YA5**SIMATIC ODK 1500S**Open Development Kit for support
in developing Windows and real-
time library functions for
S7-1500 Software Controllers

- supplied on DVD
- software download including
license key ¹⁾;
Email address required for
delivery

6ES7806-2CD03-0YA0**6ES7806-2CD03-0YG0****SIMATIC WinCC Advanced V15.1**Engineering software in the
TIA Portal; for engineering
SIMATIC Panels,
WinCC Runtime Advanced;
runs with Windows 7 (64-bit),
Windows 10 (64-bit), WinSrv 2012
R2/2016 (64-bit), Class A;
6 languages: en, de, fr, it, es, zh

- Floating license; software and
documentation on DVD; license
key on USB flash drive

6AV2102-0AA05-0AA5

- Floating license; software,
'documentation and license key
for download ¹⁾; Email address
required for delivery

6AV2102-0AA05-0AH5

¹⁾ For up-to-date information and download availability, see:
<http://www.siemens.com/tia-online-software-delivery>

Further information and downloads**Manuals**

The manuals for the ET 200SP Open Controller can be
downloaded online for free from SIMATIC Customer Support:
<https://support.industry.siemens.com/cs/ww/en/ps/13891/man>

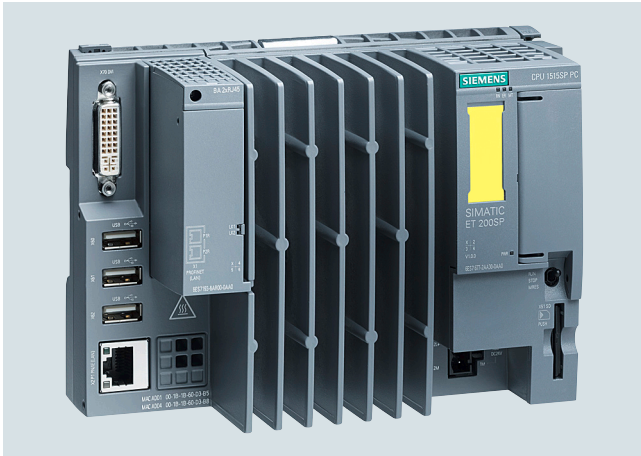
General information

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

SIMATIC Selection Tool

<http://www.siemens.com/tia-selection-tool>

Overview



- Turnkey all-in-one solution with pre-installed fail-safe SIMATIC S7-1500 Software Controller and optional 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 web pages
- 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

Article No.

SIMATIC ET 200SP Open Controller CPU 1515SP PC F (+ HMI)

Fail-safe ET 200SP CPU with Windows Embedded Standard 7 and pre-installed fail-safe SIMATIC S7-1500 Software Controller (with WinCC RT Advanced option)

Type of delivery:
en, de, fr, it, es, zh

Windows embedded Standard 7 E 32-bit, 8 GB CFast card

- 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 F (4 GB RAM)
- CPU 1515SP PC F + HMI 128PT (4 GB RAM)
- CPU 1515SP PC F + HMI 512PT (4 GB RAM)
- CPU 1515SP PC F + HMI 2048PT (4 GB RAM)

6ES7677-2FA41-0FB0

6ES7677-2FA41-0FK0

6ES7677-2FA41-0FL0

6ES7677-2FA41-0FM0

Accessories

Upgrade from SIMATIC S7-1500 Software Controller CPU 1505SP to SIMATIC Open Controller

6ES7672-5DC01-0YK0

From V 1.x to V 2.0; software download incl. documentation and license key; Email address required for delivery

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

6ES7193-6AP40-0AA0

For increased vibration and EMC loads

BusAdapter BA 2XLC

6ES7193-6AG00-0AA0

BusAdapter BA LC/RJ45

6ES7193-6AG20-0AA0

BusAdapter BA LC/FC

6ES7193-6AG40-0AA0

CM DP for ET 200SP CPU

6ES7545-5DA00-0AB0

PROFIBUS DP master with electrical interface for connecting the ET 200SP CPUs to PROFIBUS at up to 12 Mbps

Reference identification label

6ES7193-6LF30-0AW0

10 sheets of 16 labels

Labeling strips

- 500 labeling strips on roll, light gray, for inscription with thermal transfer roll printer

6ES7193-6LR10-0AA0

- 1 000 labeling strips DIN A4, light gray, card, for inscription with laser printer

6ES7193-6LA10-0AA0

PC-based Automation

PC-based Controllers

ET 200SP Open Controllers

Fail-safe CPUs > CPU 1515SP PC F

Ordering data**Article No.****Article No.****STEP 7 Professional V15.1**

Target system:

SIMATIC S7-1200, S7-1500,
S7-300, S7-400, WinAC

Requirement:

Windows 7 Home Premium SP1
(64-bit)Windows 7 Professional SP1
(64-bit)

Windows 7 Enterprise SP1 (64-bit)

Windows 7 Ultimate SP1 (64-bit)

Windows 10 Home Version 1709,
1803Windows 10 Professional Version
1709, 1803Windows 10 Enterprise Version
1709, 1803

Windows 10 Enterprise 2016 LTSP

Windows 10 IoT Enterprise 2015
LTSPWindows 10 IoT Enterprise 2016
LTSPWindows Server 2012 R2 StdE
(full installation)Windows Server 2016 Standard
(full installation)

Type of delivery:

en, de, fr, es, it, zh

- STEP 7 Professional V15.1,
floating license

6ES7822-1AA05-0YA5

- STEP 7 Professional V15.1,
floating license
software download incl. license
key ¹⁾; Email address required
for delivery

6ES7822-1AE05-0YA5**SIMATIC ODK 1500S**Open Development Kit for support
in developing Windows and
real-time library functions for
S7-1500 Software Controllers

- supplied on DVD
- software download including
license key ¹⁾;
Email address required for
delivery

6ES7806-2CD02-0YA0**6ES7806-2CD02-0YG0****SIMATIC WinCC Advanced V15.1**Engineering software in the
TIA Portal; for engineering
SIMATIC Panels, WinCC Runtime
Advanced; runs with Windows 7
(64-bit), Windows 10 (64-bit),
WinSrv 2012 R2/2016 (64-bit),
Class A; 6 languages:
en, de, fr, it, es, zh

- Floating license; software and
documentation on DVD; license
key on USB flash drive
- Floating license; software,
documentation and license key
for download ¹⁾; Email address
required for delivery

6AV2102-0AA05-0AA5**6AV2102-0AA05-0AH5**

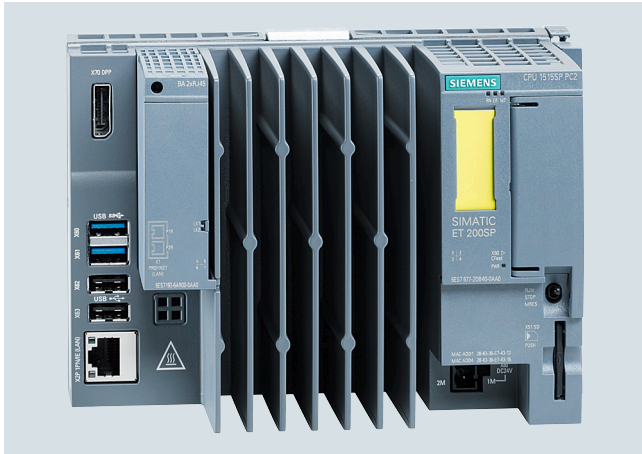
¹⁾ For up-to-date information and download availability, see:
<http://www.siemens.com/tia-online-software-delivery>

Further information and downloads**Manuals**

The manuals for the ET 200SP Open Controller can be down-
loaded online for free from 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>

Overview



ET 200SP Open Controller, CPU 1515SP PC2 F, combines robustness and compact dimensions with the flexibility of centralized or decentralized communication in the highest industrial functionality. Furthermore, the CPU offers the entire value added of the ET 200SP system, the S7-1500 controller family and the TIA world together.

- Rugged, compact control system
- Combines the functions of a ET 200SP controller with those of a PC-based platform
- Turnkey all-in-one controller
- Can be used up to safety class SIL3 (Safety Integrity Level) according to IEC 61508 2nd Edition or PL e (Performance Level) according to ISO 13849
- High performance automation tasks with the use of new generation Intel Quad Core processors
- Connects high-level language applications and processes high data volumes with support from SIMATIC ODK 1500S

Ordering data

Article No.

SIMATIC ET 200SP Open Controller CPU 1515SP PC2 (F) (+ HMI)

Fail-safe ET 200SP CPU with Windows 10 IoT Enterprise 64-bit and pre-installed SIMATIC S7-1500 Failsafe Software Controller (with WinCC RT Advanced option); 8 GB RAM, 30 GB CFast card

Type of delivery:

en, de, fr, it, es, zh

• CPU 1515SP PC2 F

6ES7677-2SB42-0GB0

With pre-installed WinCC RT Advanced

• CPU 1515SP PC2 F + HMI 128PT

6ES7677-2SB42-0GK0

• CPU 1515SP PC2 F + HMI 512PT

6ES7677-2SB42-0GL0

• CPU 1515SP PC2 F + HMI 2048PT

6ES7677-2SB42-0GM0

Accessories

Upgrade from SIMATIC S7-1500 Software Controller CPU 1505SP to SIMATIC Open Controller

6ES7672-5DC01-0YK0

From V 1.x to V 2.0; software download incl. documentation and license key, Email address required for delivery

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

6ES7193-6AP40-0AA0

For increased vibration and EMC loads

BusAdapter BA 2XLC

6ES7193-6AG00-0AA0

BusAdapter BA LC/RJ45

6ES7193-6AG20-0AA0

BusAdapter BA LC/FC

6ES7193-6AG40-0AA0

CM DP for ET 200SP CPU

6ES7545-5DA00-0AB0

PROFIBUS DP master with electrical interface for connecting the ET 200SP CPUs to PROFIBUS at up to 12 Mbps

Reference identification label

6ES7193-6LF30-0AW0

10 sheets of 16 labels

Labeling strips

- 500 labeling strips on roll, light gray, for inscription with thermal transfer roll printer

6ES7193-6LR10-0AA0

- 1 000 labeling strips DIN A4, light gray, card, for inscription with laser printer

6ES7193-6LA10-0AA0

PC-based Automation

PC-based Controllers

ET 200SP Open Controllers

Fail-safe CPUs > CPU 1515SP PC2 F

Ordering data**Article No.****Article No.****STEP 7 Professional V15.1**

Target system:

SIMATIC S7-1200, S7-1500,
S7-300, S7-400, WinAC

Requirement:

Windows 7 Home Premium SP1
(64-bit)Windows 7 Professional SP1
(64-bit)

Windows 7 Enterprise SP1 (64-bit)

Windows 7 Ultimate SP1 (64-bit)

Windows 10 Home Version 1709,
1803Windows 10 Professional Version
1709, 1803Windows 10 Enterprise Version
1709, 1803

Windows 10 Enterprise 2016 LTSP

Windows 10 IoT Enterprise 2015
LTSPWindows 10 IoT Enterprise 2016
LTSPWindows Server 2012 R2 StdE
(full installation)Windows Server 2016 Standard
(full installation)

Type of delivery:

en, de, fr, it, es, zh

- STEP 7 Professional V15.1,
floating license

- STEP 7 Professional V15.1,
floating license, software
download incl. license key ¹⁾,
Email address required for
delivery

6ES7822-1AA05-0YA5**6ES7822-1AE05-0YA5****SIMATIC ODK 1500S**Open Development Kit for support
in developing Windows and
real-time library functions for
S7-1500 Software Controllers

- supplied on DVD
- software download including
license key ¹⁾;
Email address required for
delivery

6ES7806-2CD03-0YA0**6ES7806-2CD03-0YGO****SIMATIC WinCC Advanced V15.1**Engineering software in the
TIA Portal; for engineering
SIMATIC Panels,
WinCC Runtime Advanced;
runs with Windows 7 (64-bit),
Windows 10 (64-bit),
WinSrv 2012 R2/2016 (64-bit),
Class A; 6 languages:
en, de, fr, es, it, zh

- Floating license; software and
documentation on DVD; license
key on USB flash drive
- Floating license; software,
documentation and license key
for download ¹⁾; Email address
required for delivery

6AV2102-0AA05-0AA5**6AV2102-0AA05-0AH5**

¹⁾ For up-to-date information and download availability, see:
<http://www.siemens.com/tia-online-software-delivery>

Overview



ET 200SP Open Controller CPU 1515SP PC2 T combines robustness and compact dimensions with the flexibility of centralized or decentralized communication in the highest industrial functionality. Furthermore, the CPU offers the entire value added of the ET 200SP system, the S7-1500 controller family and the TIA world together.

- Rugged, compact control system
- Combines the functions of a ET 200SP controller with those of a PC-based platform
- Turnkey all-in-one controller
- High performance automation tasks with the use of new generation Intel Quad Core processors
- Connects high-level language applications and processes high data volumes with support from SIMATIC ODK 1500S

Ordering data

Article No.

SIMATIC ET 200SP Open Controller CPU 1515SP PC2 T

6ES7677-2VB42-0GB0

ET 200SP CPU with Windows 10 IoT Enterprise 64-bit and pre-installed SIMATIC S7-1500 Software Controller; 8 GB RAM, 30 GB CFast card; with enhanced motion control functionality

Type of delivery:
en, de, fr, it, es, zh

Accessories

Upgrade from SIMATIC S7-1500 Software Controller CPU 1505SP to SIMATIC Open Controller

6ES7672-5DC01-0YK0

From V 1.x to V 2.0; software download incl. documentation and license key, Email address required for delivery

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

6ES7193-6AP40-0AA0

For increased vibration and EMC loads

BusAdapter BA 2XLC

6ES7193-6AG00-0AA0

BusAdapter BA LC/RJ45

6ES7193-6AG20-0AA0

BusAdapter BA LC/FC

6ES7193-6AG40-0AA0

CM DP for ET 200SP CPU

6ES7545-5DA00-0AB0

PROFIBUS DP master with electrical interface for connecting the ET 200SP CPUs to PROFIBUS at up to 12 Mbps

Reference identification label

6ES7193-6LF30-0AW0

10 sheets of 16 labels

Labeling strips

- 500 labeling strips on roll, light gray, for inscription with thermal transfer roll printer

6ES7193-6LR10-0AA0

- 1 000 labeling strips DIN A4, light gray, card, for inscription with laser printer

6ES7193-6LA10-0AA0

PC-based Automation

PC-based Controllers

ET 200SP Open Controllers

Technology-CPU1 > CPU 1515SP PC2 T

Ordering data**Article No.****Article No.****STEP 7 Professional V15.1**

Target system:

SIMATIC S7-1200, S7-1500,
S7-300, S7-400, WinAC

Requirement:

Windows 7 Home Premium SP1
(64-bit)Windows 7 Professional SP1
(64-bit)

Windows 7 Enterprise SP1 (64-bit)

Windows 7 Ultimate SP1 (64-bit)

Windows 10 Home Version 1709,
1803Windows 10 Professional Version
1709, 1803Windows 10 Enterprise Version
1709, 1803

Windows 10 Enterprise 2016 LTSB

Windows 10 IoT Enterprise 2015
LTSBWindows 10 IoT Enterprise 2016
LTSBWindows Server 2012 R2 StdE
(full installation)Windows Server 2016 Standard
(full installation)

Type of delivery:

en, de, fr, it, es, zh

- STEP 7 Professional V15.1,
floating license

- STEP 7 Professional V15.1,
floating license, software
download incl. license key ¹⁾,
Email address required for
delivery

6ES7822-1AA05-0YA5**6ES7822-1AE05-0YA5****SIMATIC ODK 1500S**Open Development Kit for support
in developing Windows and real-
time library functions for
S7-1500 Software Controllers

- supplied on DVD
- software download including
license key ¹⁾;
Email address required for
delivery

6ES7806-2CD03-0YA0**6ES7806-2CD03-0YG0****SIMATIC WinCC Advanced V15.1**Engineering software in the
TIA Portal; for engineering
SIMATIC Panels,
WinCC Runtime Advanced;
runs with Windows 7 (64-bit),
Windows 10 (64-bit),
WinSrv 2012 R2/2016 (64-bit),
Class A; 6 languages:
en, de, fr, it, es, zh

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documentation on DVD; license
key on USB flash drive
- Floating license; software,
documentation and license key
for download ¹⁾; Email address
required for delivery

6AV2102-0AA05-0AA5**6AV2102-0AA05-0AH5**

¹⁾ For up-to-date information and download availability, see:
<http://www.siemens.com/tia-online-software-delivery>

Further information and downloads**Manuals**

The manuals for the ET 200SP Open Controller can be
downloaded online for free from SIMATIC Customer Support:
<https://support.industry.siemens.com/cs/ww/en/ps/13891/man>

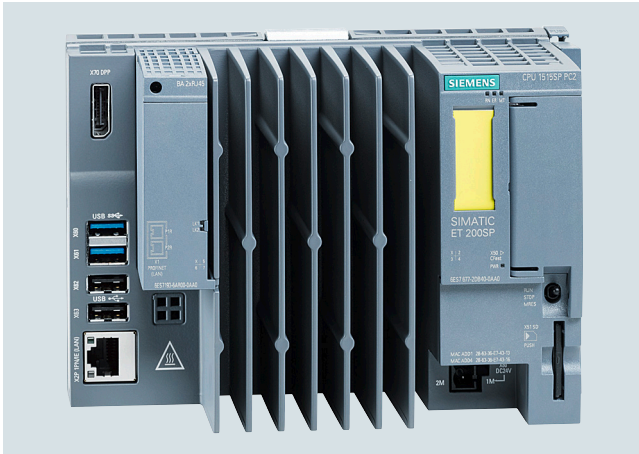
General information

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

SIMATIC Selection Tool

<http://www.siemens.com/tia-selection-tool>

Overview



ET 200SP Open Controller, CPU 1515SP PC2 TF, combines robustness and compact dimensions with the flexibility of centralized or decentralized communication in the highest industrial functionality. Furthermore, the CPU offers the entire value added of the ET 200SP system, the S7-1500 controller family and the TIA world together.

- Rugged, compact control system
- Combines the functions of a ET 200SP controller with those of a PC-based platform
- Turnkey all-in-one controller
- Can be used up to safety class SIL3 (Safety Integrity Level) according to IEC 61508 2nd Edition or PL e (Performance Level) according to ISO 13849
- High performance automation tasks with the use of new generation Intel Quad Core processors
- Connects high-level language applications and processes high data volumes with support from SIMATIC ODK 1500S

Ordering data

Article No.

SIMATIC ET 200SP Open Controller CPU 1515SP PC2 TF

Fail-safe ET 200SP CPU with Windows 10 IoT Enterprise 64-bit and pre-installed fail-safe SIMATIC S7-1500 Software Controller; 8 GB RAM, 30 GB CFast card; with enhanced motion control functionality

Type of delivery:

en, de, fr, it, es, zh

- CPU 1515SP PC2 TF

6ES7677-2WB42-0GB0

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

6ES7193-6AP40-0AA0

For increased vibration and EMC loads

BusAdapter BA 2XLC

6ES7193-6AG00-0AA0

BusAdapter BA LC/RJ45

6ES7193-6AG20-0AA0

BusAdapter BA LC/FC

6ES7193-6AG40-0AA0

CM DP for ET 200SP CPU

6ES7545-5DA00-0AB0

PROFIBUS DP master with electrical interface for connecting the ET 200SP CPUs to PROFIBUS at up to 12 Mbps

Reference identification label

6ES7193-6LF30-0AW0

10 sheets of 16 labels

Labeling strips

- 500 labeling strips on roll, light gray, for inscription with thermal transfer roll printer

6ES7193-6LR10-0AA0

- 1 000 labeling strips DIN A4, light gray, card, for inscription with laser printer

6ES7193-6LA10-0AA0

PC-based Automation

PC-based Controllers

ET 200SP Open Controllers

Technology-CPU1 > CPU 1515SP PC2 TF

Ordering data**Article No.****Article No.****STEP 7 Professional V15.1**

Target system:

SIMATIC S7-1200, S7-1500,
S7-300, S7-400, WinAC

Requirement:

Windows 7 Home Premium SP1
(64-bit)Windows 7 Professional SP1
(64-bit)

Windows 7 Enterprise SP1 (64-bit)

Windows 7 Ultimate SP1 (64-bit)

Windows 10 Home Version 1709,
1803Windows 10 Professional Version
1709, 1803Windows 10 Enterprise Version
1709, 1803

Windows 10 Enterprise 2016 LTSC

Windows 10 IoT Enterprise 2015
LTSCWindows 10 IoT Enterprise 2016
LTSCWindows Server 2012 R2 StdE (full
installation)Windows Server 2016 Standard
(full installation)

Type of delivery:

en, de, fr, it, es, zh

- STEP 7 Professional V15.1,
floating license
- STEP 7 Professional V15.1, floating
license, software download incl.
license key ¹⁾, Email address
required for delivery

6ES7822-1AA05-0YA5**6ES7822-1AE05-0YA5****SIMATIC ODK 1500S**Open Development Kit for support
in developing Windows and
real-time library functions for
S7-1500 Software Controllers

- supplied on DVD
- software download including
license key ¹⁾;
Email address required for
delivery

6ES7806-2CD03-0YA0**6ES7806-2CD03-0YG0****SIMATIC WinCC Advanced V15.1**Engineering software in the TIA
Portal; for engineering SIMATIC
Panels, WinCC Runtime Advanced;
runs with Windows 7 (64-bit),
Windows 10 (64-bit),
WinSrv 2012 R2/2016 (64-bit),
Class A; 6 languages:
en, de, fr, it, es, zh

- Floating license; software and
documentation on DVD; license
key on USB flash drive
- Floating license; software,
documentation and license key
for download ¹⁾; Email address
required for delivery

6AV2102-0AA05-0AA5**6AV2102-0AA05-0AH5**

¹⁾ For up-to-date information and download availability, see:
<http://www.siemens.com/tia-online-software-delivery>

Further information and downloads**Manuals**

The manuals for the ET 200SP Open Controller can be
downloaded online for free from 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>

Overview


The single-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 DNV GL

Ordering data
Article No.
**SITOP PSU100S 1-phase,
24 V DC/2.5 A**
6EP1332-2BA20

 Stabilized power supply
 Input: 120/230 V AC
 Output: 24 V DC/2.5 A

**SITOP PSU100S 1-phase,
24 V DC/5 A**
6EP1333-2BA20

 Stabilized power supply
 Input: 120/230 V AC
 Output: 24 V DC/5 A

**SITOP PSU100S 1-phase,
24 V DC/10 A**
6EP1334-2BA20

 Stabilized power supply
 Input: 120/230 V AC
 Output: 24 V DC / 10 A

**SITOP PSU100S 1-phase,
24 V DC/20 A**
6EP1336-2BA10

 Stabilized power supply
 Input: 120/230 V AC
 Output: 24 V DC/20 A

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

<http://www.siemens.com/sitop-tst>

PC-based Automation

SITOP power supply

3-phase, 24 V DC

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 DNV 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: 3 AC 400 ... 500 V
Output: 24 V DC / 10 A

6EP1434-2BA20

SITOP PSU300S 3-phase, 24 V DC/20 A

Stabilized power supply
Input: 3 AC 400 ... 500 V
Output: 24 V DC/20 A

6EP1436-2BA10

SITOP PSU300S 3-phase, 24 V DC/40 A

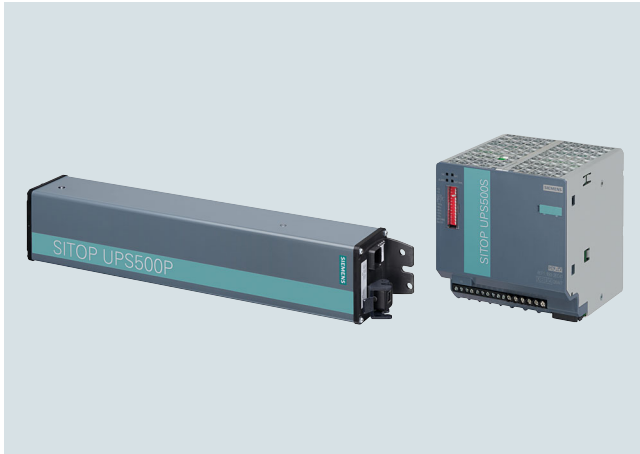
Stabilized power supply
Input: 3 AC 400 ... 500 V
Output: 24 V DC/40 A

6EP1437-2BA20

More information

Select the appropriate power supply quickly and easily with the TIA Selection Tool:

<http://www.siemens.com/tst>

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.

In PC-based automation solutions, the highly capacitive double-layer capacitors of the SITOP UPS500 supply enough energy to safeguard operating and application data and close software applications in a defined manner. You can increase the buffer times using SITOP PSU501S expansion modules (up to 3).

Ordering data
Article No.
SITOP UPS500S

- DC UPS basic device 15 A
- With USB interface and 2.5 kW
 - With USB interface and 5 kW

6EP1933-2EC41
6EP1933-2EC51

SITOP UPS501S

Expansion module 5 kW for
 UPS500S

6EP1935-5PG01

PC-based Automation

SITOP power supply

DC UPS with battery modules

SITOP UPS1600 DC UPS modules

Overview



By combining one DC UPS module SITOP UPS1600 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 Manager also enables simple monitoring and configuration in PC systems, e.g. shutting down multiple PCs according to 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

Article No.

SITOP UPS1600 24 V/10 A

- With USB interface
- With PROFINET/Ethernet: two RJ45 sockets (2 port switch)

6EP4134-3AB00-0AY0

6EP4134-3AB00-1AY0

6EP4134-3AB00-2AY0

SITOP UPS1600, 24 V/20 A

- With USB interface
- With PROFINET/Ethernet: two RJ45 sockets (2 port switch)

6EP4136-3AB00-0AY0

6EP4136-3AB00-1AY0

6EP4136-3AB00-2AY0

SITOP UPS1600 24 V/40 A

- With USB interface
- With PROFINET/Ethernet: two RJ45 sockets (2 port switch)

6EP4137-3AB00-0AY0

6EP4137-3AB00-1AY0

6EP4137-3AB00-2AY0

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

Article No.

**SITOP UPS1100 battery module
1.2 Ah** **6EP4131-0GB00-0AY0**

With maintenance-free, sealed rechargeable lead-acid batteries for DC UPS module SITOP UPS1600, 10 A

**SITOP UPS1100 battery module
3.2 Ah** **6EP4133-0GB00-0AY0**

With maintenance-free, sealed rechargeable lead-acid batteries for DC UPS module SITOP UPS1600, 10 A and 20 A

**SITOP UPS1100 battery module
5 Ah, LiFePo** **6EP4133-0JB00-0AY0**

With maintenance-free, sealed rechargeable lithium iron phosphate batteries for DC UPS module SITOP UPS1600, 10 A and 20 A

**SITOP UPS1100 battery module
7 Ah** **6EP4134-0GB00-0AY0**

With maintenance-free, sealed rechargeable lead-acid batteries for DC UPS module SITOP UPS1600, 10 A, 20 A and 40 A

**SITOP UPS1100 battery module
12 Ah** **6EP4135-0GB00-0AY0**

With maintenance-free, sealed rechargeable lead-acid batteries for DC UPS module SITOP UPS1600, 20 A and 40 A

**SITOP UPS1100 battery module
2.5 Ah, high temperature** **6EP4132-0GB00-0AY0**

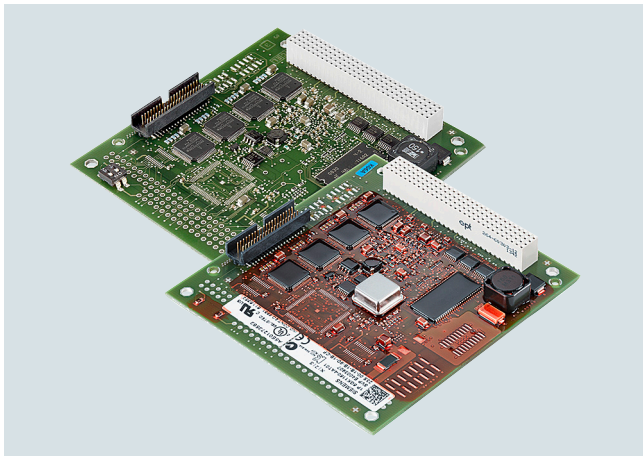
With maintenance-free, closed lead-acid batteries for DC UPS module SITOP UPS1600, 10 A and 20 A

PC-based Automation

Communication for PC-based systems
Industrial Ethernet

CP 1604

Overview



ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
	●	●	●				

- 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 PROFinergy 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

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 **6GK1160-4AC00**

Connection board for CP 1604 with four RJ45 sockets incl. connecting cable

Power supply for CP 1604 **6GK1160-4AP00**

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

DK-16xx PN IO Development Kit

See <https://support.industry.siemens.com/cs/de/en/view/109762689>

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

IE TP Cord RJ45/RJ45

TP cable 4 x 2 with 2 RJ45 connectors

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

6XV1870-3QE50
6XV1870-3QH10
6XV1870-3QH20
6XV1870-3QH60
6XV1870-3QN10

SCALANCE X204IRT

6GK5204-0BA00-2BA3

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

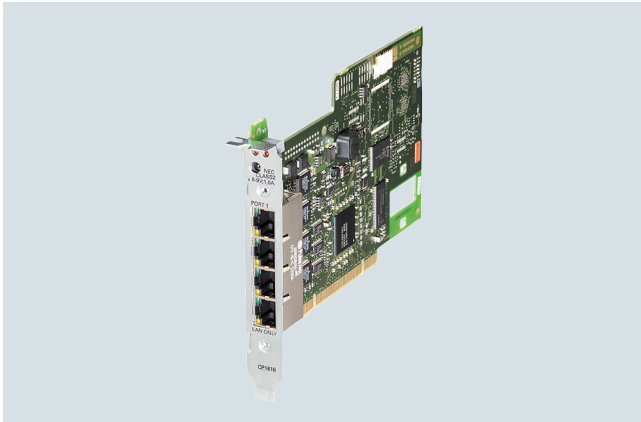
Note:

You can find order information for software under System connections – software overview.

More information

The DK-16xx PN IO Development Kit is available on the Internet: <https://support.industry.siemens.com/cs/de/en/view/109762689>

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

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

Accessories

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 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

IE TP Cord RJ45/RJ45

TP cable 4 x 2 with 2 RJ45 connectors

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

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

Note:

You can find order information for software under System connections – software overview

Article No.

6GK1161-6AA02

see <http://www.siemens.com/simatic-net/dk16xx>

6XV1870-3QE50
6XV1870-3QH10
6XV1870-3QH20
6XV1870-3QH60
6XV1870-3QN10

6GK5204-0BA00-2BA3

More information

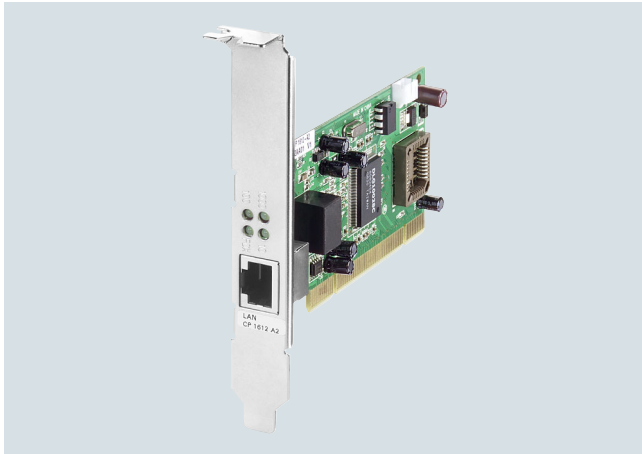
The DK-16xx PN IO Development Kit is available on the Internet at:
<http://www.siemens.com/simatic-net/dk16xx>

PC-based Automation

Communication for PC-based systems
Industrial Ethernet

CP 1612 A2

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 auto-crossover 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

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; German/English

Accessories

IE TP Cord RJ45/RJ45

TP cable 4 x 2 with 2 RJ45 connectors

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

Article No.

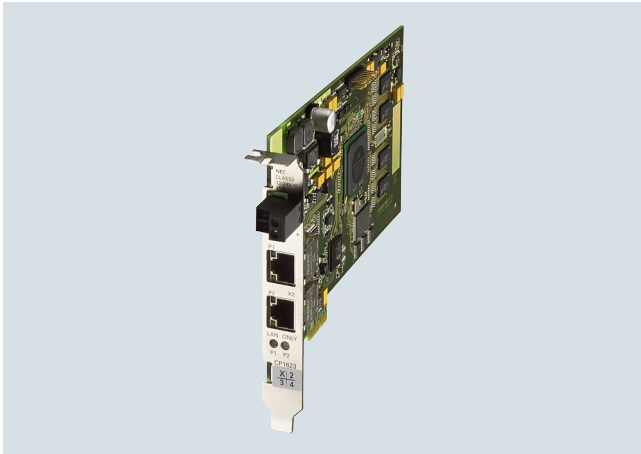
6GK1161-2AA01

6XV1870-3QE50
6XV1870-3QH10
6XV1870-3QH20
6XV1870-3QH60
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
●	●			●	●	●	●

- PCI Express card (PCIe x1) with internal microprocessor for connection of PG/PC to Industrial Ethernet
- 10/100/1000 Mbps (autosensing/autocrossover/auto-negotiation)
- 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

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
- 1 m
- 2 m
- 6 m
- 10 m

6XV1870-3QE50
6XV1870-3QH10
6XV1870-3QH20
6XV1870-3QH60
6XV1870-3QN10

Note:

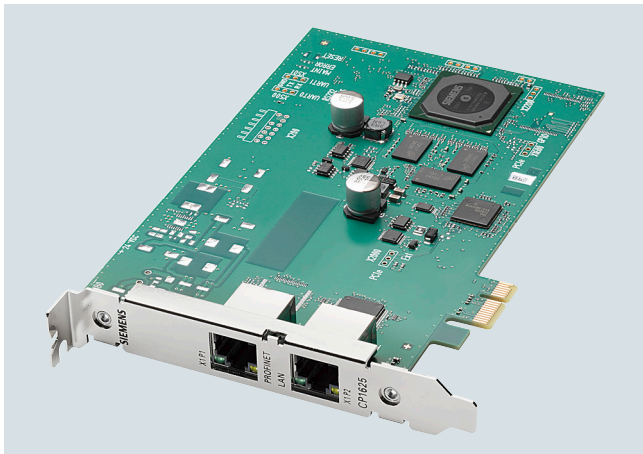
You can find order information for software under System connections – software overview

PC-based Automation

Communication for PC-based systems
Industrial Ethernet

CP 1625

Overview



CP 1625

CP 1625 is a PCIe module for connecting IPCs to Industrial Ethernet and for PROFINET IRT with software controller CPU1500S.

Requirement:

- TIA Portal \geq V15
- S7-1500 software controller CPU 1507S (F) \geq V2.5 is installed on the IPC

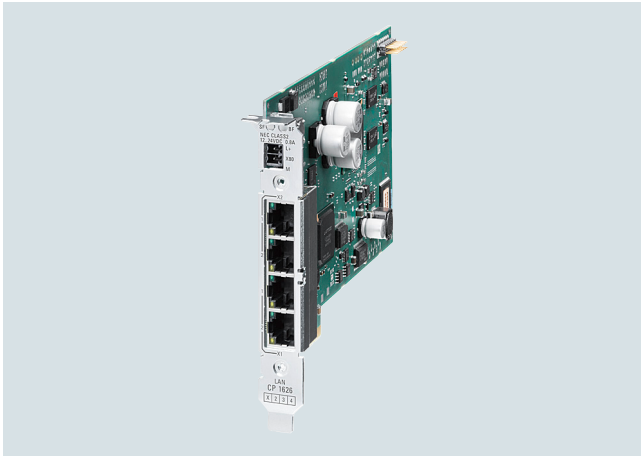
Ordering data

SIMATIC CP 1625
PCIe card for PROFINET IRT for
software controller CPU1500S

Article No.

6ES7648-2CF10-1AA0

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
- PROFlenergy 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

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

see <http://www.siemens.com/simatic-net/dk16xx>

Software Development Kit for CP 1616/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

IE TP Cord RJ45/RJ45

TP cable 4 x 2 with 2 RJ45 connectors

- 0.5 m
- 1 m
- 2 m
- 6 m
- 10 m

6XV1870-3QE50
6XV1870-3QH10
6XV1870-3QH20
6XV1870-3QH60
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:

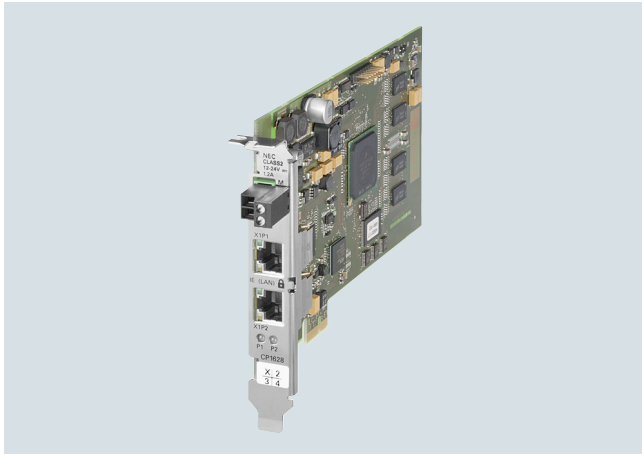
You can find order information for software under System connections – software overview

More information

The DK HN-IE PN IO Development Kit is available on the Internet at:
http://www.siemens.com/simatic-net/DK_HN-IE_PN_IO

PC-based Automation

Communication for PC-based systems
Industrial Ethernet

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**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
- 1 m
- 2 m
- 6 m
- 10 m

6XV1870-3QE50
6XV1870-3QH10
6XV1870-3QH20
6XV1870-3QH60
6XV1870-3QN10

Note:

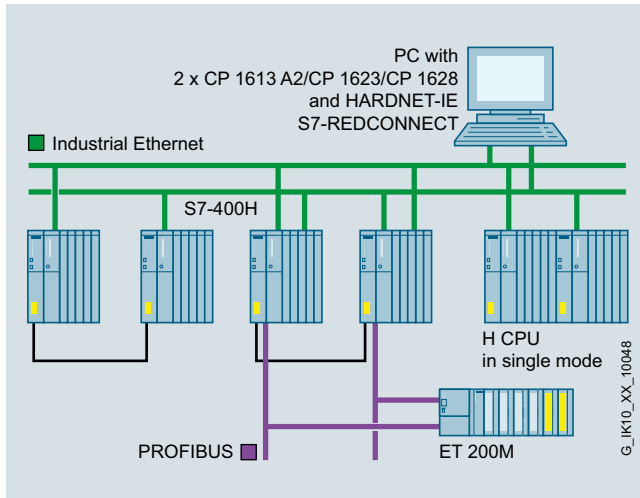
You can find order information for software under System connections – software overview

More information

You will find more information on the topic of Industrial Security on the Internet at:

<http://www.siemens.com/industrialsecurity>

Overview



System configuration for S7-REDCONNECT

ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●				●	●	●	

G_1K10_XX_10048

- 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)

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 stick, Class A

For CP 1613 A2, CP 1623, CP 1628

HARDNET-IE S7-REDCONNECT V14

For 32/64-bit: Windows 7 SP1 Professional/Ultimate
For 64-bit: Windows 8.1 Pro
For 64-bit: Windows 10 PRO and Ent., Windows Server 2016, Windows Server 2008 R2 SP1
For 64-bit: Windows Server 2012 R2; English/German; single license for one installation

- On DVD
- Download ¹⁾

6GK1716-0HB14-0AA0
6GK1716-0HB14-0AK0

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
- From V6.0, V6.1, V6.2 or V6.3 to S7-REDCONNECT Edition 2008 or HARDNET-IE S7-REDCONNECT V13

6GK1716-0HB00-3AE0

6GK1716-0HB00-3AE1

For CP 1613 A2, CP 1623, CP 1628

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 stick, Class A

HARDNET-IE S7-REDCONNECT Powerpack V14

For 32/64-bit: Windows 7 SP1 Professional/Ultimate
For 64-bit: Windows 8.1 Pro
For 64-bit: Windows 10 PRO and Ent., Windows Server 2016, Windows Server 2008 R2 SP1
For 64-bit: Windows Server 2012 R2; English/German

- On DVD
- Download ¹⁾

6GK1716-0HB14-0AC0
6GK1716-0HB14-0AK1

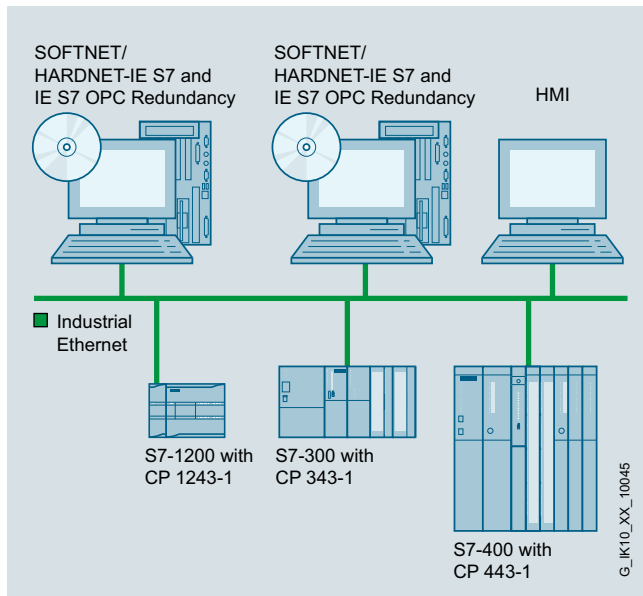
¹⁾ For more details of online software delivery, visit:
<http://www.siemens.com/tia-online-software-delivery>
under Ordering Data.

PC-based Automation

Communication for PC-based systems
Industrial Ethernet

SOFTNET for Industrial Ethernet

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/PCle), 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

Ordering data

Article No.

SOFTNET S7 for Industrial Ethernet

SOFTNET-IE S7 V14

For 32/64-bit: Windows 7 SP1 Professional/Ultimate
For 64-bit: Windows 8.1 Pro
For 64-bit: Windows 10 PRO and Ent., Windows Server 2016, 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
- Download ¹⁾

6GK1704-1CW14-0AA0
6GK1704-1CW14-0AK0

Software Update Service

For 1 year with automatic extension; req.: current software version

6GK1704-1CW00-3AL0

Upgrade

- From Edition 2006 to Edition 2008 or V13
- From V6.0, V6.1, V6.2 or V6.3 to Edition 2008 or V13

6GK1704-1CW00-3AE0

6GK1704-1CW00-3AE1

SOFTNET-IE S7 REDCONNECT VM V14

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, Windows Server 2008 R2 SP1, Windows Server 2012 R2; English/German

- Single license for one installation

6GK1704-0HB14-0AA0

SOFTNET-IE S7 Lean Edition V14

For 32/64-bit: Windows 7 SP1 Professional/Ultimate
For 64-bit: Windows 8.1 Pro, 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
- Download ¹⁾

6GK1704-1LW14-0AA0
6GK1704-1LW14-0AK0

Software Update Service

For 1 year with automatic extension; req.: current software version

6GK1704-1LW00-3AL0

Upgrade

- From Edition 2006 to Edition 2008 or V13
- From V6.0, V6.1, V6.2 or V6.3 to Edition 2008 or V13

6GK1704-1LW00-3AE0

6GK1704-1LW00-3AE1

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

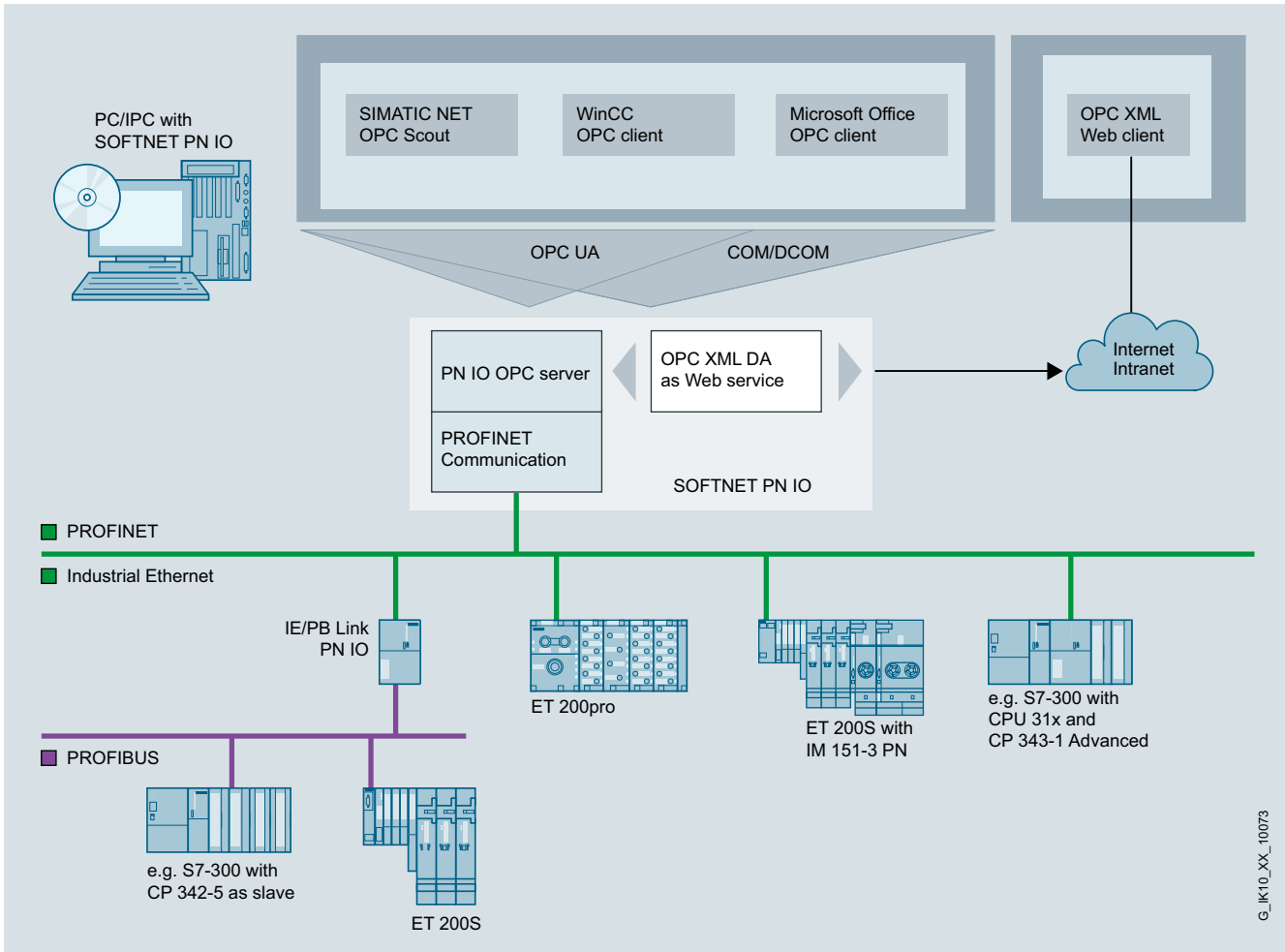
IE S7 OPC Redundancy V13

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.

Overview



4

PC with SOFTNET PN IO as PROFINET IO Controller

ISO	TCP/UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
	●	●		●			

G_IK10_XX_10073

- 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

PC-based Automation

Communication for PC-based systems
Industrial Ethernet

SOFTNET PN IO**Ordering data****Article No.*****SOFTNET PN IO***

Software for PROFINET IO
Controller with OPC server and
NCM PC / STEP7 Professional
V14 SP1; runtime software, software
and electronic manual on CD-ROM,
license key on USB flash drive,
Class A

SOFTNET-IE PN IO V14

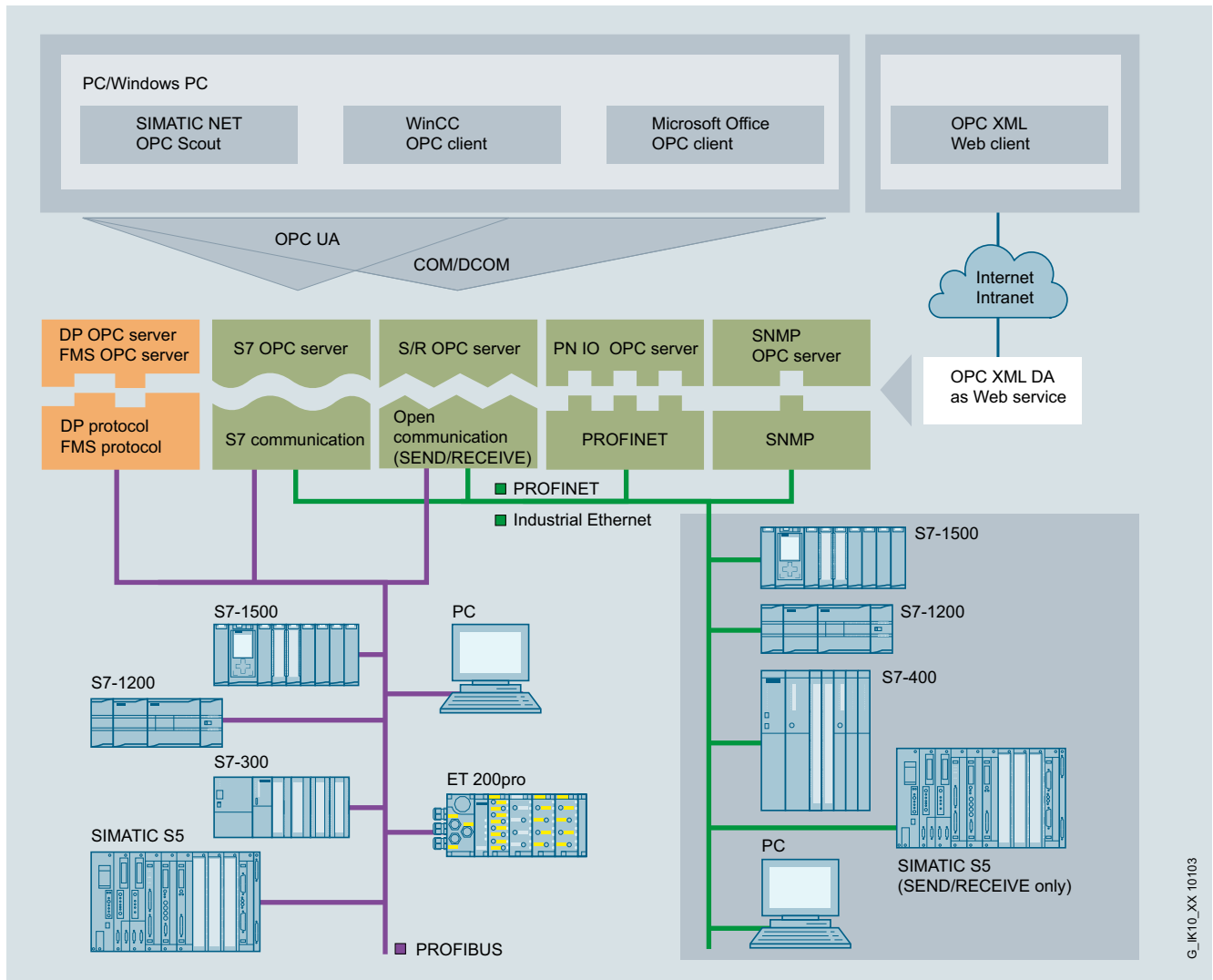
For 32/64-bit Windows 7 Profes-
sional/Ultimate
For Windows 2008 Server R2 SP1
For Windows Server 2012 R2
English/German;
Single license for one installation

Software Update Service

For 1 year with automatic extension;
requirement: current software
version

6GK1704-1HW14-0AA0**6GK1704-1HW00-3AL0**

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

SNMP OPC Server

Status monitoring of SNMP-capable devices in any OPC client systems; e.g. SIMATIC WinCC/PCS 7

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

Article No.

See SNMP OPC server

6GK1706-1CW13-0AA0

PC-based Automation

Communication for PC-based systems
Industrial Ethernet

S7 OPC Redundancy for Industrial Ethernet

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

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

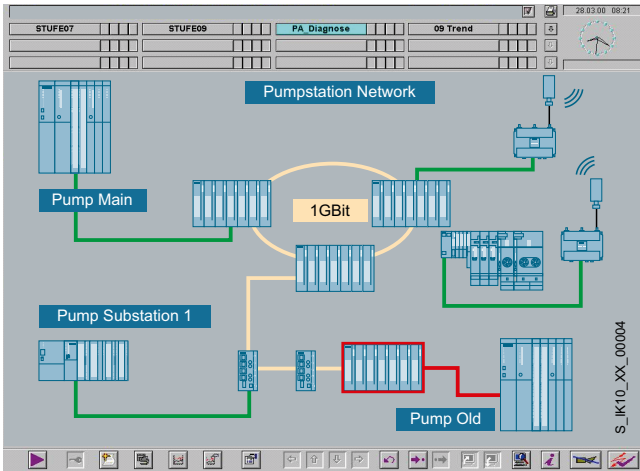
S7 OPC Redundancy V13 for Industrial Ethernet

For 64-bit: Windows 2008 Server R2; English/German;
Single license for one installation

Article No.

6GK1706-1CW13-0AA0

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

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 stick, Class A;

SNMP OPC Server Basic

Administration of up to 20 IP addresses

• Basic V14

- For 32/64-bit: Windows 7 SP1 Professional/Ultimate
- For 64-bit: Windows 8.1 Pro for Windows 10
- For 64-bit: Windows Server 2008 R2 SP1;
- For 64-bit: Windows Server 2012 R2;
- single license for one installation

6GK1706-1NW14-0AA0

Software Update Service SNMP OPC Server Basic

For 1 year with automatic extension; requirement: current software version

6GK1706-1NW00-3AL0

Upgrade SNMP OPC Server Basic

- From Edition 2006 to Edition 2008 or V13
- From V6.0, V6.1, V6.2 or V6.3 to Edition 2008 or V13

6GK1706-1NW00-3AE0

6GK1706-1NW00-3AE1

SNMP OPC Server Extended

Administration of up to 200 IP addresses

• Extended V14

- For 32/64-bit: Windows 7 SP1 Professional/Ultimate
- For 64-bit: Windows 8.1 Pro for Windows 10
- For 64-bit: Windows Server 2008 R2 SP1;
- For 64-bit: Windows Server 2012 R2;
- single license for one installation

6GK1706-1NX14-0AA0

Software Update Service SNMP OPC Server Extended

For 1 year with automatic extension; requirement: current software version

6GK1706-1NX00-3AL0

Upgrade SNMP OPC Server Extended

- From Edition 2006 to Edition 2008 or V13
- From V6.0, V6.1, V6.2 or V6.3 to Edition 2008 or V13

6GK1706-1NX00-3AE0

6GK1706-1NX00-3AE1

SNMP OPC Server Power Pack

For upgrade from SNMP OPC Server Basic to SNMP OPC Server Extended

Powerpack V14

6GK1706-1NW14-0AC0

PC-based Automation

Communication for PC-based systems
Industrial Ethernet

SINEMA Server

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 (HTML 5-based UI)

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

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 stick (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 Version 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
- Download ¹⁾

6GK1781-1BA14-0AA0
6GK1781-1BA14-0AK0

For 100 devices that can be identified via IP address

- On DVD
- Download ¹⁾

6GK1781-1DA14-0AA0
6GK1781-1DA14-0AK0

For 250 devices that can be identified via IP address

- On DVD
- Download ¹⁾

6GK1781-1JA14-0AA0
6GK1781-1JA14-0AK0

For 500 devices that can be identified via IP address

- On DVD
- Download ¹⁾

6GK1781-1TA14-0AA0
6GK1781-1TA14-0AK0

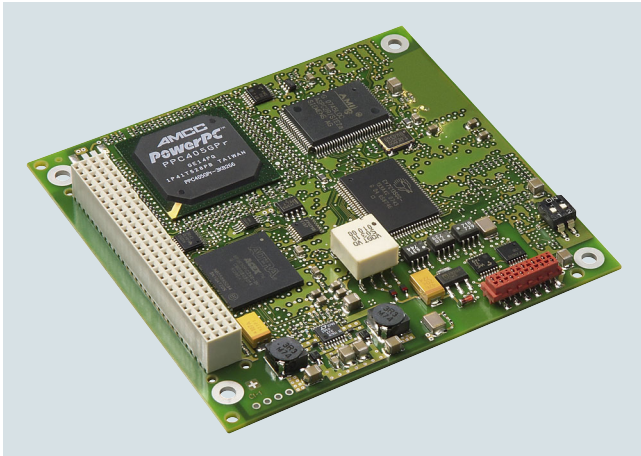
Upgrade SINEMA server V13 to V14

- On DVD
- Download ¹⁾

6GK1781-2AA14-0AA0
6GK1781-2AA14-0AK0

¹⁾ For more details of online software delivery, visit:
<http://www.siemens.com/tia-online-software-delivery>
under Ordering Data.

Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●	●	●	●	●

- PCI-104 interface card with internal 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

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
Accessories	
PROFIBUS FastConnect RS 485 bus connector Plug 180 With 180° cable outlet, insulation displacement	6GK1500-0FC10
PROFIBUS FC Standard Cable GP Standard type with special design for quick assembly, 2-wire, shielded, <u>sold by the meter</u> ; max. length 1 000 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 communicating with PC systems under: System connections – Communication for PC-based systems – Software

More information

You can find the HARDNET-PB DP Development Kit on the Internet at:

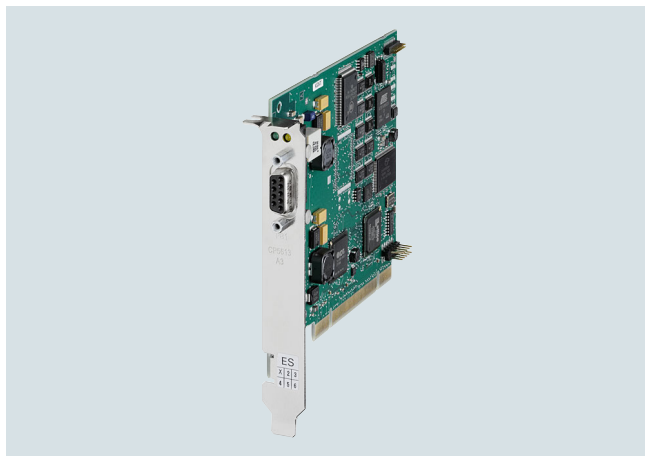
<http://www.siemens.com/simatic-net/dk5613>

PC-based Automation

Communication for PC-based systems
PROFIBUS

CP 5613 A3

Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

- PCI card (universal keyed 5 V/3.3 V) with internal 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

Article No.

CP 5613 A3 communications processor

6GK1561-3AA02

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

Accessories

PROFIBUS FC Standard Cable GP

Standard type with special design for quick assembly, 2-core, shielded; Sold by the meter
Delivery unit max. 1 000 m
Minimum order 20 m

PROFIBUS FastConnect bus connector RS 485 plug 180

6GK1500-0FC10

With 180° cable outlet, insulation displacement

PROFIBUS bus terminal 12M

6GK1500-0AA10

Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long

PROFIBUS FastConnect Stripping Tool

6GK1905-6AA00

Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables

Note:

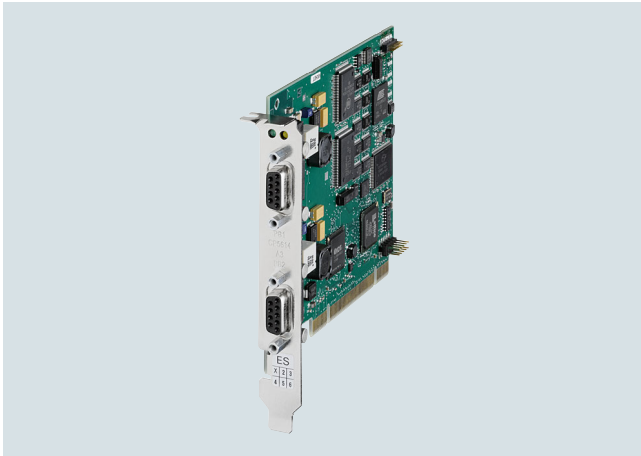
You can find order information for software for communicating with PC systems under: System connections – Communication for PC-based systems – Software

More information

You can find the HARDNET-PB DP Development Kit on the Internet at:

<http://www.siemens.com/simatic-net/dk5613>

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

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

Accessories

PROFIBUS FC Standard Cable GP

Standard type with special design for quick assembly, 2-core, shielded; Sold by the meter Delivery unit max. 1 000 m Minimum order quantity 20 m

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 by the meter; max. delivery unit 1 000 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 communicating with PC systems under: System connections – Communication for PC-based systems – Software

More information

You can find the HARDNET-PB DP Development Kit on the Internet at:

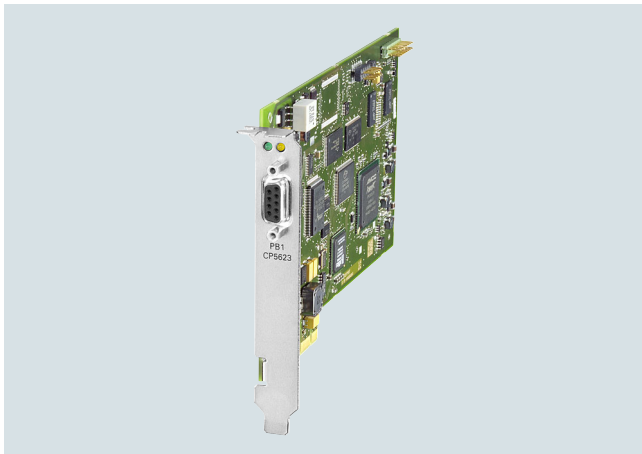
<http://www.siemens.com/simatic-net/dk5613>

PC-based Automation

Communication for PC-based systems
PROFIBUS

CP 5623

Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●	●	●	●	●

- PCI Express card (PCIe x1) with internal 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

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

Accessories

PROFIBUS FastConnect RS 485 bus connector Plug 180

With 180° cable outlet, insulation displacement

6GK1500-0FC10

PROFIBUS FC Standard Cable GP

Standard type with special design for quick assembly, 2-wire, shielded, sold by the meter; max. length 1 000 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 communicating with PC systems under: System connections – Communication for PC-based systems – Software

More information

You can find the HARDNET-PB DP Development Kit on the Internet at:

<http://www.siemens.com/simatic-net/dk5613>

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

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

Accessories

PROFIBUS FastConnect RS 485 bus connector 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-wire, shielded, sold by the meter; max. length 1 000 m, minimum order quantity 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 communicating with PC systems under: System connections – Communication for PC-based systems – Software

More information

You can find the HARDNET-PB DP Development Kit on the Internet at:

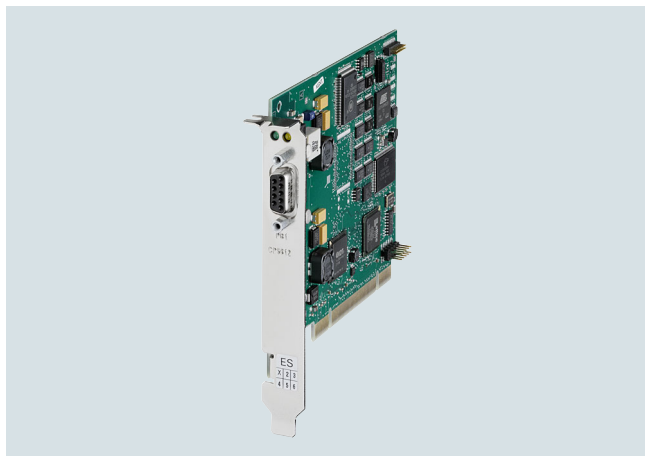
<http://www.siemens.com/simatic-net/dk5613>

PC-based Automation

Communication for PC-based systems
PROFIBUS

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

Article No.

CP 5612 communications processor

- PCI card (32-bit) for connection of a programming device or PC to PROFIBUS

6GK1561-2AA00

Accessories

PROFIBUS FastConnect RS 485 bus connector Plug 180

With 180° cable outlet, insulation displacement

6GK1500-0FC10

PROFIBUS FC Standard Cable GP

Standard type with special design for quick assembly, 2-wire, shielded, sold by the meter; max. length 1 000 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

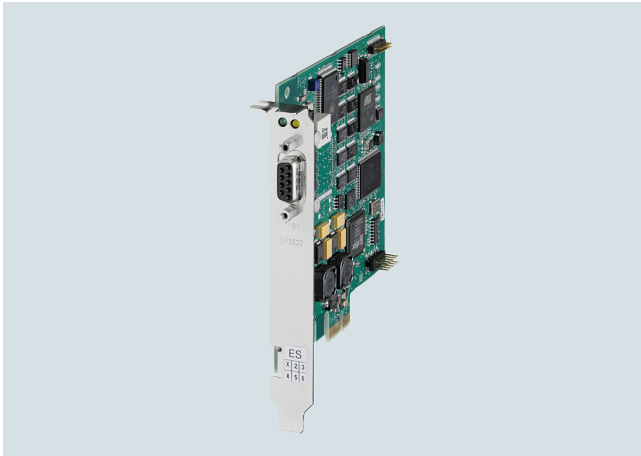
Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long

6GK1500-0AA10

Note:

You can find order information for software for communicating with PC systems under: System connections – Communication for PC-based systems – Software

Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

- 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

Article No.

CP 5622 communications processor

- PCI Express x1 card (32-bit) for connection of a PG or PC to PROFIBUS

6GK1562-2AA00

Accessories

PROFIBUS FastConnect RS 485 bus connector 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-wire, shielded, sold by the meter; max. length 1 000 m, minimum order quantity 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 communicating with PC systems under: System connections – Communication for PC-based systems – Software

PC-based Automation

Communication for PC-based systems
PROFIBUS

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 the end station of a segment
- Robust USB connection due to mechanical locking of the USB plug 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

Ordering 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

Accessories

Mounting rail support for CP 5711

Compartment for CP 5711 enclosure; mechanically fastened to 35 mm DIN rail

6GK1571-1AA00-0AH0

PROFIBUS FastConnect RS 485 bus connector Plug 180

With 180° cable outlet, insulation displacement

6GK1500-0FC10

PROFIBUS FC Standard Cable GP

Standard type with special design for quick assembly, 2-wire, shielded, sold by the meter; max. length 1 000 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

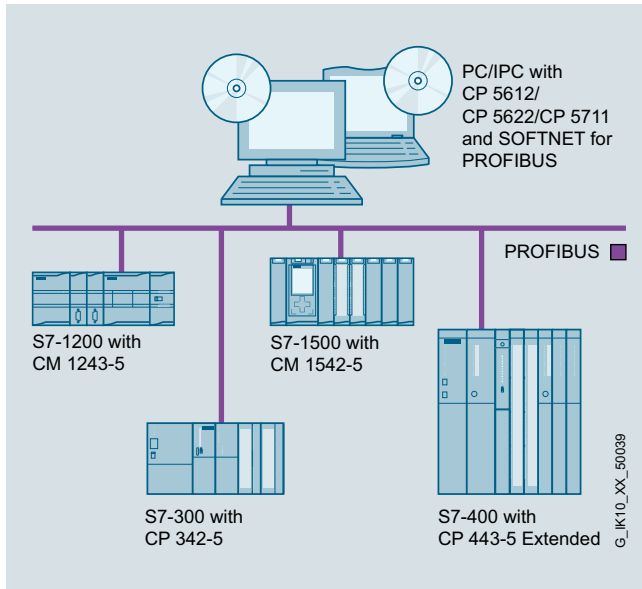
Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long

6GK1500-0AA10

Note:

You can find order information for software for communicating with PC systems under: System connections – Communication for PC-based systems – Software

Overview



DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

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- 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

Article No.

SOFTNET-PB S7

SOFTNET-PB S7 V15

For 32/64-bit: Windows 7 SP1 for Windows 7 SP1 (Professional, Enterprise, Ultimate), 64-bit
For Windows Server 2008 R2 SP1 (Standard or Enterprise Edition)
For Windows Server 2012 R2 Update (Standard Edition)
For Windows 10 Pro, 64-bit, Version 1607 or higher;
For Windows 10 Enterprise, 64-bit, Version 1607 or higher;
English/German
Single license for one installation

6GK1704-5CW15-0AA0

Software Update Service

For 1 year, with automatic extension
Requirement: current software version

6GK1704-5CW00-3AL0

Upgrade

- From Edition 2006 to SOFTNET-S7 Edition 2008 or V15

6GK1704-5CW00-3AE0

SOFTNET-PB DP

SOFTNET-PB DP V15

For Windows 7 SP1 (Professional, Enterprise, Ultimate), 64-bit
For Windows Server 2008 R2 SP1 (Standard or Enterprise Edition)
For Windows Server 2012 R2 Update (Standard Edition)
For Windows 10 Pro, 64-bit, Version 1607 or higher
For Windows 10 Enterprise, 64-bit, Version 1607 or higher
English/German
Single license for one installation

6GK1704-5DW15-0AA0

Software Update Service

For 1 year, with automatic extension
Requirement: current software version

6GK1704-5DW00-3AL0

Upgrade

- From Edition 2006 to SOFTNET-DP Edition 2008 or V15

6GK1704-5DW00-3AE0

SOFTNET-PB DP-Slave

SOFTNET-PB DP Slave V15

For Windows 7 SP1 (Professional, Enterprise, Ultimate), 64-bit
For Windows Server 2008 R2 SP1 (Standard or Enterprise Edition)
For Windows Server 2012 R2 Update (Standard Edition)
For Windows 10 Pro, 64-bit, Version 1607 or higher
For Windows 10 Enterprise, 64-bit, Version 1607 or higher
English/German
Single license for one installation

6GK1704-5SW15-0AA0

Software Update Service

For 1 year, with automatic extension
Requirement: current software version

6GK1704-5SW00-3AL0

Upgrade

- From Edition 2006 to SOFTNET-DP Slave Edition 2008 or V15

6GK1704-5SW00-3AE0

PC-based Automation

Communication for PC-based systems
PROFIBUS

S7 OPC Redundancy for PROFIBUS

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

S7 OPC Redundancy

Software for redundant OPC servers, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A

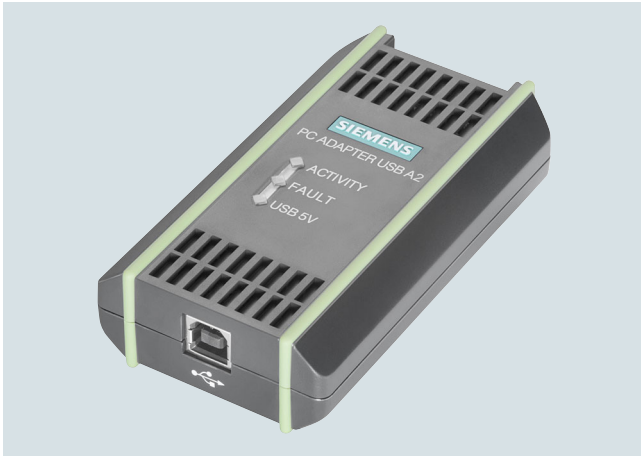
S7 OPC Redundancy V13 for PROFIBUS

for 64-bit Windows 2008 server R2; English/German
Single license for one installation

Article No.

6GK1706-5CW13-0AA0

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

PC adapter USB A2

For connecting a PG/PC or notebook to PROFIBUS or MPI; USB cable included in scope of delivery

Article No.

6GK1571-0BA00-0AA0

PC-based Automation

Notes

4