PC-based Automation
Rack PC

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 – maximum performance at an attractive price

SIMATIC IPC647 – maximum compactness combined with maximum industrial functionality

SIMATIC IPC847 – maximum expandability and industrial functionality

Shared industrial functionality of the IPC series 547, 647 and 847

- Maximum system performance for complex automation tasks and computationally intensive PC tasks in the industrial environment through use of Intel Core processors
- Designed for 24-hour continuous operation
- Monitoring and diagnostics functions (e.g. temperature, fan, watchdog)
- RAID1 configuration (mirrored drives), optionally in hot swap drive bays
- Hard disks with capacities up to 1 TB for large volumes of data
- SSD (solid-state drive), also as RAID1 configuration, optional
- Redundant AC power supply, optional
- Compact dimensions for installation in control cabinets only 500 mm deep
- Dust protection thanks to overpressure ventilation concept with fan on the front and dust filter
- Lockable front panel or front door
- Service-friendly equipment design due to prepared telescopic rail mounting
- Service-friendly device design due, for example, to the replacement of filters/fans from the front without the need for tools, or opening of the enclosure with just one screw
- Universal implementation as an industrial workstation or server
- Operating system pre-installed and activated for fast startup
- Fast restoration of the delivery status of the HDD thanks to restore DVD
- High flexibility and expandability of components
- PCI and PCI Express expansion slots
- Independent industrial product design

Overview (continued)

SIMATIC IPC347E – high performance at an optimized price

- Intel Pentium and Intel Core i processors
- 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
- Availability at least 1.5 years
- Guaranteed spare parts availability for at least 3 years
- 5 configurations available ex stock at short notice

SIMATIC IPC547G – latest technology and maximum performance at an attractive price

- Intel Core i processors 6th generation
- Maximum processor performance in maximum configuration without loss of power (throttling) at ambient temperatures of up to 40 °C
- Optional RAID5 configuration (striping with parity) in hot swap drive bays
- RAID1 and RAID5 configurations with additional hot spare hard disk, optional
- Hard disks with capacities up to 2 TB for large volumes of data
- Low noise output thanks to controlled fans
- Status and alarm LEDs at the front for signaling critical system states
- Availability at least 2.5 years
- Guaranteed spare parts availability for at least 3 years

SIMATIC IPC647D – maximum compactness combined with maximum industrial functionality

- Maximum compactness due to 4 free PCI/PCI Express slots for installing long expansion cards
- High thermal stability up to 50 °C ambient temperature, even at maximum processor performance
- High vibration/shock resistance thanks to special hard disk holders
- Intel Core i processors 4th generation and Xeon
- ECC memory, optional
- Hardware RAID PCIe x8 controller incl. ZMM and SAS hard disks in hot-swap removable drive bay
- Front LED concept for efficient self-diagnostics, e.g. monitoring of hard disks in RAID1 configurations, fans or the status display for Ethernet, PROFINET and PROFIBUS.
- Integrated PROFIBUS DP/MPI or PROFINET interface (optional)
- High component/design continuity
- Motherboard developed and manufactured by Siemens
- Availability for at least 5 years
- Guaranteed spare parts availability for at least 5 years

SIMATIC IPC847D – maximum expandability and industrial functionality

- Maximum expandability due to 11 free PCI/PCI Express slots for installing long expansion cards
- High thermal stability up to 50 °C ambient temperature, even at maximum processor performance
- High vibration/shock resistance thanks to special hard disk holders
- Intel Core i processors 4th generation and Xeon
- Optional RAID5 configuration (striping with parity) in hot swap drive bays
- RAID1 and RAID5 configurations with additional hot spare hard disk or SSD, optional
- ECC memory, optional
- Hardware RAID PCIe x8 controller incl. ZMM and SAS hard disks in hot-swap removable drive bay
- AC power supply with UPS (**U**ninterruptible **P**ower **S**upply) functionality incl. maintenance-free lead-tin battery
- Front LED concept for efficient self-diagnostics, e.g. monitoring of hard disks in RAID1 configurations, fans or status displays for Ethernet, PROFINET and PROFIBUS
- Integrated PROFIBUS DP/MPI or PROFINET interface (optional)
- High component/design continuity
- Motherboard developed and manufactured by Siemens
- Availability for at least 5 years
- Guaranteed spare parts availability for at least 5 years

4

PC-based Automation
Rack PC

■ **Technical specifications**

Rack PC	SIMATIC IPC347E	SIMATIC IPC547G	SIMATIC IPC647D	SIMATIC IPC847D
Design				
19" rack	4 U	4 U	2 U	4 U
Prepared for telescopic rails	•	•	•	•
Horizontal/vertical installation	• / -	• / •	• / -	• / •
19" mounting bracket can be removed from outside	•	•	•	•
Tower Kit (optional)	-	•	-	•
General features				
Processor	• Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB cache) • Intel Core i5-4570S (4C/4T, 2.9 (3.6) GHz, 6 MB cache)	• Intel Xeon E3-1275 v5 [1] (4C/8T, 3.6 (4.0) GHz) • Intel Core i7-6700 (4C/8T, 3.4 (4.0) GHz) • Intel Core i5-6500 (4C/4T, 3.2 (3.6) GHz) • Intel Pentium G4400 (2C/2T, 3.3 GHz)	• Intel Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz) • Intel Xeon E3-4570TE (2C/4T, 2.7 (3.3) GHz) • Intel Core i3-4330TE (2C/4T, 2.4 GHz)	• Intel Xeon E3-1275 V3 (4C/8T, 3.5 (3.9) GHz) [2] • Intel Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz) • Intel Core i5-4570TE (2C/4T, 2.7 (3.3) GHz) • Intel Core i3-4330TE (2C/4T, 2.4 GHz)
Main memory	• 2/4 GB, expandable up to 16 GB	• 4 GB, expandable up to 64 GB [1]	• 2 GB, expandable up to 32 GB • ECC optional	• 2 GB, expandable up to 32 GB • ECC optional
Slots for expansions (all lengths up to 312 mm)	• 1 x PCI-Express x16 (16 lanes) • 1 x PCI Express x8 (2 lanes) • 1 x PCI x1 (1 lane) • 4 x PCI	• 1 x PCI-Express x16 (16 lanes) • 1 x PCI Express x16 (4 lanes) [1] • 1 x PCI-Express x8 (1 lane) • 1 x PCI-Express x4 (4 lanes) [1] • 1 x PCI-Express x4 (1 lane) • 2 x PCI or • 1 x PCI-Express x16 (16 lanes) • 1 x PCI-Express x16 (1 lane) • 1 x PCI-Express x8 (1 lane) • 2 x PCI-Express x4 (1 lane) • 2 x PCI	• 2 x PCI • 2 x PCI-Express x16 (8 lanes) or • 3 x PCI-Express x16 (4 lanes) • 1 x PCI-Express x16 (8 lanes) or • 2 x PCI-Express x16 (4 lanes)	• 7 x PCI • 1 x PCI-Express x16 (16 lanes) • 3 x PCI-Express x4 (1 lane) or • 3 x PCI • 1 x PCI-Express x16 (8 lanes) • 4 x PCI-Express x16 (4 lanes) • 3 x PCI Express x4
Onboard graphics	• 1 x DVI-D • 1 x VGA	• 1 x or 2 x [1] DisplayPort • 1 x DVI-D • 1 x VGA (via DP adapter cable, optional)	• 2 x DisplayPort • 1 x DVI-I • 1 x VGA (via adapter cable, optional)	• 2 x DisplayPort • 1 x DVI-I • 1 x VGA (via adapter cable, optional)
Graphics card (optional)	-	PCI-Express x16 (2 x VGA or 2 x DVI-D)	PCI Express x16 (2 x VGA or 2 x DVI-D)	PCI Express x 16 (2 x VGA or 2 x DVI-D)
Operating system				
None	•	•	•	•
Preinstalled and activated, supplied on restore DVD	• Windows 7 Ultimate Multi-Language (64-bit)	• Windows 7 Ultimate Multi-Language (64-bit) • Windows 10 IoT Enterprise LTSB 2015 multi-language (64-bit) • Windows Server 2008 R2 incl. 5 clients, multi-language (64-bit) • Windows Server 2012 R2 incl. 5 clients, multi-language (64-bit)	• Windows 7 Ultimate Multi-Language (32/64-bit) • Windows Server 2008 R2 incl. 5 Clients Multi-Language (64-bit) • Windows Server 2012 R2 incl. 5 Clients Multi-Language (64-bit)	• Windows 7 Ultimate Multi-Language (32/64-bit) • Windows Server 2008 R2 incl. 5 Clients Multi-Language (64-bit) • Windows Server 2012 R2 incl. 5 Clients Multi-Language (64-bit)
Project-specific on request	-	• Linux (in prep.) [3] • Other	• Linux [3] • VxWorks (Support Package) • VMware (ESXi) certified [4] • Other	• Linux [3] • VxWorks (Support Package) • VMware (ESXi) certified [4] • Other

[1] Only with mainboard with C236 chipset

[2] Limitation regarding ambient temperature.

[3] Suitable for specific Linux versions in accordance with the specifications of the Siemens manufacturer's declaration "Suitable for Linux", see: http://support.automation.siemens.com/WW/view/en/10805661/134200 (Linux is a trademark of Linus Torvalds)

[4] Certified as host system for VMware vSphere Hypervisor (ESXi 5.5 UP2), see: https://support.industry.siemens.com/cs/ww/en/view/109477420

4

■ Technical specifications (continued)

Rack PC	SIMATIC IPC347E	SIMATIC IPC547G	SIMATIC IPC647D	SIMATIC IPC847D
Interfaces				
PROFIBUS/MPI	-	-	12 Mbps (compatible with CP 5622), optional	12 Mbps (compatible with CP 5622), optional
PROFINET	-	-	3 x RJ45 (compatible with CP 1616), optional	3 x RJ45 (compatible with CP 1616), optional
Ethernet	2 x Realtek 10/100/1000 Mbps (RJ45)	2 x Intel 10/100/1000 Mbps (RJ45)	2 x Intel 10/100/1000 Mbps (RJ45, teaming-capable)	2 x Intel 10/100/1000 Mbps (RJ45, teaming-capable)
USB 3.0 (high current)	2 x at the rear	6 x [1] or 4 x, 2 of which at front	4 x, 1 of which at front, 1 x internal, e.g. for USB dongle with optional interlock	4 x, 1 of which at front, 1 x internal, e.g. for USB dongle with optional interlock
USB 2.0 (high current)	5 x, 2 of which at front, 1 x internal, 2 x at the rear	4 x rear-mounted, 1 x internal[1] e.g. for USB dongle (with optional lock)	3 x, 1 of which at front	3 x, 1 of which at front
VGA	•	• optionally via DP adapter cable	• optionally via adapter cable	• optionally via adapter cable
DVI	•	•	•	•
DisplayPort	-	•	•	•
Drives				
SATA hard disks				
• Internal installation	•	•	-	•
• Installation at the front in the removable drive bay	-	•	•	•
• Internal installation in drive holder (shock and vibration-damped)	-	•	•	•
RAID1/5 configuration with onboard RAID with SATA hard disks	-	• [1] / • [1]	• / -	• / •
RAID1/5 configuration with HW-RAID and ZMM with SAS hard disks	-	-	• / -	• / •
RAID configuration with additional hot spare hard disk	-	• [1]	-	•
SSD (solid-state drive)	-	•	•	•
RAID1 configuration with solid-state drive	-	• [1]	•	•
Optical drives				
DVD±R/RW	-	• (Slim)	• (Slim)	• (Slim)
AC power supply	•	•	•	•
Redundant (optional)	-	•	•	•
UPS internal (optional)	-	-	-	•
Ambient conditions [5]				
Vibration/ shock load during operation	- / -	0.2 g / 1 g	0.5 g / 5 g	0.5 g / 5 g
Ambient temperature during operation	With maximum configuration: 5 ... 40 °C	With maximum configuration: 0 ... 40 °C	With maximum configuration: 0 ... 50 °C	With maximum configuration: 0 ... 50 °C

• Available

- Not available

[1] Only with mainboard with C236 chipset

[5] Restrictions when using DVD±R/RW and hard disks in removable drive bay.

■ More information

Additional information is available on the Internet at:

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

Information material can be ordered or downloaded from the Internet:

http://www.siemens.com/simatic/printmaterial

4

PC-based Automation
Rack PC

SIMATIC IPC347E

Overview

The SIMATIC IPC347E is an industrial PC in 19" rack design (4U).

It offers:
- Optimized price
- High performance
- Intel Core i technology

Technical specifications

Article number	6AG4012-1AA10-0XX0	6AG4012-1AA21-0XX0	6AG4012-1CA21-0XX0	6AG4012-1CA21-0BX0	6AG4012-1AA21-0BX0
	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)
Installation type/mounting					
Mounting	For horizontal rack mounting	For horizontal rack mounting	For horizontal rack mounting	For horizontal rack mounting	For horizontal rack mounting
Design	Rack PC, 19", 4U	Rack PC, 19", 4U	Rack PC, 19", 4U	Rack PC, 19", 4U	Rack PC, 19", 4U
Supply voltage					
Type of supply voltage	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC	100 - 240 V AC
Line frequency					
• Rated value 50 Hz	Yes	Yes	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes	Yes	Yes
Processor					
Processor type	Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB Cache)	Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB Cache)	Core i5-4570S (4C/4T, 2.9 (3.6) GHz, 6 MB Cache)	Core i5-4570S (4C/4T, 2.9 (3.6) GHz, 6 MB Cache)	Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB Cache)
Drives					
Hard disk	500 GB HDD	500 GB HDD	500 GB HDD	500 GB HDD	500 GB HDD
Memory					
Type of memory	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM
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
Hardware configuration					
Slots					
• free slots	4x PCI, 1x PCIe, 1x PCI (x8) (2 Lanes), 1x PCIe (x16) (16 Lanes)	4x PCI, 1x PCIe, 1x PCI (x8) (2 Lanes), 1x PCIe (x16) (16 Lanes)	4x PCI, 1x PCIe (x1), 1x PCI (x8), 1x PCIe (x16)	4x PCI, 1x PCIe, 1x PCI (x8) (2 Lanes), 1x PCIe (x16) (16 Lanes)	4x PCI, 1x PCIe, 1x PCI (x8) (2 Lanes), 1x PCIe (x16) (16 Lanes)

4

Technical specifications (continued)

Article number	6AG4012-1AA10-0XX0	6AG4012-1AA21-0XX0	6AG4012-1CA21-0XX0	6AG4012-1CA21-0BX0	6AG4012-1AA21-0BX0
	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)
Interfaces					
Interfaces/bus type	2x Gbit Ethernet (RJ45), 1x DVI-D, 1x VGA, 4x USB 2.0 on rear, 2x USB 2.0 on front, 2x COM, 2x PS/2, audio (Line in, Line out, Micro)	2x Gbit Ethernet (RJ45), 1x DVI-D, 1x VGA, 4x USB 2.0 on rear, 2x USB 2.0 on front, 2x COM, 2x PS/2, audio (Line in, Line out, Micro)	2x Gbit Ethernet (RJ45), 1x DVI-D, 1x VGA, 4x USB 2.0 on rear, 2x USB 2.0 on front, 2x COM, 2x PS/2, audio (Line in, Line out, Micro)	2x Gbit Ethernet (RJ45), 1x DVI-D, 1x VGA, 4x USB 2.0 on rear, 2x USB 2.0 on front, 2x COM, 2x PS/2, audio (Line in, Line out, Micro)	2x Gbit Ethernet (RJ45), 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 USB interfaces	7				
USB port	2x USB 3.0 rear, 2x USB 2.0 rear, 2x USB 2.0 front, 1x USB 2.0 internal	2x USB 3.0 rear, 2x USB 2.0 rear, 2x USB 2.0 front, 1x USB 2.0 internal	2x USB 3.0 rear, 2x USB 2.0 rear, 2x USB 2.0 front, 1x USB 2.0 internal	2x USB 3.0 rear, 2x USB 2.0 rear, 2x USB 2.0 front, 1x USB 2.0 internal	2x USB 3.0 rear, 2x USB 2.0 rear, 2x USB 2.0 front, 1x USB 2.0 internal
Connection for keyboard/mouse	2x PS/2	2x PS/2	2x PS/2	2x PS/2	2x PS/2
serial interface	2x COM ports (RS 232, RS 422, RS 485)	2x COM ports (RS 232, RS 422, RS 485)	2x COM ports (RS 232, RS 422, RS 485)	2x COM ports (RS 232, RS 422, RS 485)	2x COM ports (RS 232, RS 422, RS 485)
Multimedia					
• Audio In/Out	Yes	Yes	Yes	Yes	Yes
Special interfaces					
• Microphone In	Yes	Yes	Yes	Yes	Yes
Video interfaces					
• Graphics interface	1x VGA; 1x DVI-D	1x VGA; 1x DVI-D	1x VGA; 1x DVI-D	1x VGA; 1x DVI-D	1x VGA; 1x DVI-D
Industrial Ethernet					
• Industrial Ethernet interface	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes
Monitoring functions					
Status LEDs	POWER, HDD	POWER, HDD	POWER, HDD	POWER, HDD	POWER, HDD
EMC					
Interference immunity against discharge of static electricity					
• Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity to cable-borne interference					
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4, Burst	±1 kV acc. to IEC 61000-4-4, Burst	±1 kV acc. to IEC 61000-4-4, Burst	±1 kV acc. to IEC 61000-4-4, Burst	±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	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric

4

PC-based Automation
Rack PC

SIMATIC IPC347E

Technical specifications (continued)

Article number	6AG4012-1AA10-0XX0	6AG4012-1AA21-0XX0	6AG4012-1CA21-0XX0	6AG4012-1CA21-0BX0	6AG4012-1AA21-0BX0
	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)
Interference immunity against high-frequency electromagnetic fields					
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 1 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 150 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6				
Interference immunity to magnetic fields					
• Interference immunity to magnetic fields at 50 Hz	30 A/m; to IEC 61000-4-8	30 A/m; to IEC 61000-4-8	30 A/m; to IEC 61000-4-8	30 A/m; to IEC 61000-4-8	30 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference					
• Interference emission via line/AC current cables	IEC 61000-6-4, CISPR 22, FCC Class A	IEC 61000-6-4, CISPR 22, FCC Class A	IEC 61000-6-4, CISPR 22, FCC Class A	IEC 61000-6-4, CISPR 22, FCC Class A	IEC 61000-6-4, CISPR 22, FCC Class A
Compliance with line harmonic distortion limits					
• Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3	Yes; EN 61000-3-2 Class D; EN 61000-3-3	Yes; EN 61000-3-2 Class D; EN 61000-3-3	Yes; EN 61000-3-2 Class D; EN 61000-3-3	Yes; EN 61000-3-2 Class D; EN 61000-3-3	Yes; EN 61000-3-2 Class D; EN 61000-3-3
Degree and class of protection					
IP (at the front)	IP20	IP20	IP20	IP20	IP20
IP (rear)	IP20	IP20	IP20	IP20	IP20
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes
FCC	Yes	Yes	Yes	Yes	Yes
EMC	CE, IEC 61000-6-4:2011, IEC 61000-6-2:2005	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005
• EN 61000-6-2	Yes	Yes	Yes	Yes	Yes
Ambient conditions					
Ambient temperature during operation					
• Ambient temperature during operation	+5 °C to +40 °C	+5 °C to +40 °C	+5 °C to +40 °C	+5 °C to +40 °C	+5 °C to +40 °C
• min.	5 °C	5 °C	5 °C	5 °C	5 °C
• max.	40 °C	40 °C	40 °C	40 °C	40 °C
Relative humidity					
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	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				Yes	Yes
without operating system	Yes	Yes	Yes		
Pre-installed operating system					
• Windows 7				Yes; Ultimate 64-bit	Yes; Ultimate 64-bit
Mechanics/material					
Enclosure material (front)					
• Aluminum	Yes	Yes	Yes	Yes	Yes
Dimensions					
Width	430 mm	430 mm	430 mm	430 mm	430 mm
Height	177 mm	177 mm	177 mm	177 mm	177 mm
Depth	463 mm	463 mm	463 mm	463 mm	463 mm

Ordering data

	Article No.
Configurations	
SIMATIC IPC347E	
• **Configuration 1** Intel Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB cache; 500 GB HDD SATA, internal; 2 GB DDR3 SDRAM (1 x 2 GB); without operating system; 100/240 V industrial power supply; interfaces: 2 x Gbit Ethernet (RJ45), 4 x USB at the rear, 2 x USB at the front, 1 x USB internal, 1 x DVI-D, 1 x VGA, 2 x serial, 2 x PS/2, audio	6AG4012-1AA10-0XX0
• **Configuration 2** Intel Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB cache); 500 GB HDD SATA, internal; 4 GB DDR3 SDRAM (1 x 4 GB); DVD±RW; without operating system; 100/240 V industrial power supply; interfaces: 2 x Gbit Ethernet (RJ45), 4 x USB at the rear, 2 x USB at the front, 1 x USB internal, 1 x DVI-D, 1 x VGA, 2 x serial, 2 x PS/2, audio	6AG4012-1AA21-0XX0
• **Configuration 3** Intel Core i5-4570S (4C/4T, to 3.6 GHz, 6 MB cache); 500 GB HDD SATA, internal; GB DDR3 SDRAM (1 x 4 GB); DVD±RW; without operating system; 100/240 V industrial power supply; interfaces: 2 x Gbit Ethernet (RJ45), 4 x USB at the rear, 2 x USB at the front, 1 x USB internal, 1 x DVI-D, 1 x VGA, 2 x serial, 2 x PS/2, audio	6AG4012-1CA21-0XX0

	Article No.
SIMATIC IPC347E	
• **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 industrial power supply; interfaces: 2 x Gbit Ethernet (RJ45), 4 x USB at the rear, 2 x USB at the front, 1 x USB internal, 1 x DVI-D, 1 x VGA, 2 x serial, 2 x PS/2, audio	6AG4012-1CA21-0BX0
• **Configuration 5** Intel Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB cache); 500 GB HDD SATA, internal; 4 GB DDR3 SDRAM (1 x 4 GB); DVD±RW; Windows 7 Ultimate, 64-bit, SP1; 100/240 V industrial power supply; interfaces: 2 x Gbit Ethernet (RJ45), 4 x USB at the rear, 2 x USB at the front, 1 x USB internal, 1 x DVI-D, 1 x VGA, 2 x serial, 2 x PS/2, audio	6AG4012-1AA21-0BX0
Accessories	
Power cable, straight, 3 m long	
• Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden	6ES7900-0AA00-0XA0
• United Kingdom	6ES7900-0BA00-0XA0
• Switzerland	6ES7900-0CA00-0XA0
• USA	6ES7900-0DA00-0XA0
• Italy	6ES7900-0EA00-0XA0
• China	6ES7900-0FA00-0XA0

Note:

Software packages with SIMATIC WinCC flexible, SIMATIC WinCC RT Advanced or Professional and SIMATIC WinCC can be ordered together with the SIMATIC IPC at favorable prices.

More information under "Embedded bundles / Packages for industrial PCs".

More information

Additional information is available on the Internet at:

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

4

PC-based Automation
Rack PC

SIMATIC IPC547G

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 technology 6th generation

Technical specifications

	IPC547G	
General features		
Design	19" rack PC, 4U • Prepared for telescopic rails • Suitable for horizontal and vertical installation • 19" mounting bracket can be removed from outside • Tower Kit (optional) for conversion to a tower PC	
Chipset	Intel C236	Intel H110
Processor base	LGA1151	LGA1151

Processor	• Intel Xeon E3-1275 v5 (4C/8T)
	  3.6 (4.0) GHz, 8 MB cache, iAMT 11.0
	• Intel Core i7-6700 (4C/8T)
	  3.4 (4.0) GHz, 8 MB cache, iAMT 11.0
	• Intel Core i5-6500 (4C/4T)
	  3.2 (3.6) GHz, 6 MB cache, iAMT 11.0
	• Intel Pentium processor G4400 (2C/2T)
	  3.3 GHz, 3 MB cache
		• Intel Core i7-6700 (4C/8T)
		  3.4 (4.0) GHz, 8 MB cache
		• Intel Core i5-6500 (4C/4T)
		  3.2 (3.6) GHz, 6 MB cache
		• Intel Pentium processor G4400 (2C/2T)
		  3.3 GHz, 3 MB cache

Main memory	• 4 GB to 64 GB available for order • Dual or single channel • DDR4-2133 SDRAM • 4 memory sockets • Expandable up to 64 GB	• 4 GB to 32 GB available for ordering • Dual or single channel • DDR4-2133 SDRAM • 2 memory sockets • Expandable up to 32 GB
Spare slots for expansions (all long)	• 1 x PCIe x16 Gen. 3 • 1 x PCIe x16 (4 lanes) Gen 3 • 1 x PCIe x8 (1 lane) Gen 3 • 1 x PCIe x4 (4 lanes) Gen 3 • 1 x PCIe x4 (1 lane) Gen 3 • 2 x PCI	• 1 x PCIe x16 Gen. 3 • 1 x PCIe x16 (1 lane) Gen 2 • 1 x PCIe x8 (1 lane) Gen 2 • 1 x PCIe x4 (1 lane) Gen 2 • 1 x PCIe x4 (1 lane) Gen 2 • 2 x PCI
Graphics		

Graphics controller	• Onboard Intel HD graphics
	  P530 / 530 /510 integrated into processor
		• Onboard Intel HD graphics
		  530 /510 integrated into processor

Resolutions	• Dynamic Video Memory to 1.7 GB • Max. resolution DVI-D: 1 920 x 1 200 • Max. DisplayPort resolution: 4 096 x 2 304 • VGA (via DP-VGA adapter) up to 2 560 x 1 600	
Graphics card	Graphics card NVIDIA Quadro NVS 315 in PCI Express x16-slot (optional), active cooling • 1 GB graphics memory • Max. resolution VGA: 2 x 2 048 x 1 536 • Max. resolution DVI-D: 2 x 1 920 x 1 200	

■ **Technical specifications** (continued)

	IPC547G	
Graphics card operating systems (pre-installed and activated)		
• Windows 7 Ultimate, multi-language, 32-bit	• No (only drivers on D&D DVD)	
• Windows 7 Ultimate, multi-language, 64-bit	• Yes	
• Windows 10 IoT LTSB 2015 multi-language, 64-bit	• Yes	
• Windows Server 2008 R2 incl. 5 clients, multi-language, 64-bit	• Yes	
• Windows Server 2012 R2 incl. 5 clients, multi-language, 64-bit	• Yes	
Power supply		
Power supply	• 100-240 V AC, 50-60 Hz	
Power supply (redundant)	• 2x 100-240 V AC, 50-60 Hz (optional)	
Drives		
Hard disks (HDD) 3.5"	• Serial ATA, 7,200 rpm • Serial ATA [Enterprise], 7,200 rpm	
Internal installation:	• 1x 1 TB HDD • 2x 1 TB HDD • 1x 240 GB SSD • 1x 480 GB SSD • 2x 480 GB SSD • RAID1, 1 TB (2x 1 TB HDD) • RAID1, 1 TB (2x 1 TB HDD [Enterprise])	• 1x 1 TB HDD • 2x 1 TB HDD • 1x 240 GB SSD • 1x 480 GB SSD • 2x 480 GB SSD
Installation at the front in removable drive bay trays (hot swapping with RAID):	• 1x 1 TB HDD • 2x 1 TB HDD • 1x 480 GB SSD • 2x 480 GB SSD • RAID1, 480 GB (2x 480 GB SSD) • RAID1, 1 TB (2x 1 TB HDD) • RAID1, 1 TB (2x 1 TB HDD [Enterprise]) • RAID1, 2 TB (2x 2 TB HDD [Enterprise]) • RAID1, 2 TB (2x 2 TB HDD [Enterprise]) + 1x 2 TB HDD [Enterprise] as hot spare • RAID1, 2 TB (2x 2 TB HDD [Enterprise]) + 1x 480 GB SSD (if configured, operating system installed on SSD); • RAID5, 4 TB (3x 2 TB HDD [Enterprise]) • RAID5, 4 TB (3x 2 TB HDD [Enterprise]) + 1x 2 TB HDD [Enterprise] as hot spare (up to +35 °C)	• 1x 1 TB HDD • 2x 1 TB HDD • 1x 480 GB SSD • 2x 480 GB SSD
RAID controller	• Intel Rapid Storage Technology integrated into chipset	-
DVD±RW	• Yes (slim)	
Slots for drives	• 3 x 5.25" / 4x low-profile removable drive bay (at the front) • 2 x 3.5" (internal) • 1 x 5.25" slim (for 1 x DVD±RW)	

4

PC-based Automation
Rack PC

SIMATIC IPC547G

Technical specifications (continued)

	IPC547G	
Interfaces		
Ethernet	2 x Gigabit Intel Ethernet (IE/PN), RJ45, teaming-capable	
USB 2.0	• 4x at the rear • 1x internal, e.g. for USB dongle with optional interlock	• 4x at the rear
USB 3.0	• 4x at the rear • 2x at the front	• 2x at the rear • 2x at the front
DisplayPort	• 2x (V1.2)	• 1x (V1.2)
DVI	• 1x DVI-D	• 1x DVI-D
VGA	• Via DP-VGA adapter (optional)	
Multi-monitoring	• 2x VGA or 2x DVI-D via PCIe x16 graphics card (optional)	
Serial	• COM1 (V.24) • COM2 (V.24) (optional)	• - • COM2 (V.24) (optional)
Parallel	• LPT (optional)	
Keyboard/mouse	• 2x PS/2	
Audio	• 1 x line in; 1 x line out; 1 x micro	
Monitoring functions		
Temperature	• When permitted operating temperature range is exceeded	
Fans	• Speed monitoring of • Front fan • Processor fan • HDD fans • Graphics card fan • Power supply fan	
BIOS battery	• Yes	
Watchdog	• Yes	
Monitoring software	• POWER (PC switched on) • HDD (access to hard disk) • TEMP (temperature monitoring) • FAN (fan monitoring) • HDD0/1/2/3 ALARM	
Environmental conditions		
Degree of protection	• IP30 at front with front door closed • IP20 at back	
Protection class	• Protection class I according to IEC 61140	
Vibration during operation	• 20 to 200 Hz: 2 m/s2 (approx. 0.2 g) Note: Restrictions with DVD±RW operation and HDD in removable drive bay trays	
Shock resistance during operation	• 9.8 m/s2, 20 ms (approx. 1g) Note: Restrictions with DVD±RW operation and HDD in removable drive bay trays	
Temperature in operation	• + 0 °C to + 40 °C at maximum configuration Note: Restrictions regarding DVD±RW operation and HDD [Enterprise]	
Humidity • During operation • Storage/transport	• 5% to 80% at 25 °C (no condensation) • 5% to 95% at 25 °C (no condensation)	

■ **Technical specifications** (continued)

	IPC547G
Electromagnetic compatibility (EMC)	
Emitted interference (AC)	EN 55022 Class B, FCC Class A
Immunity to conducted interference on supply lines	• ± 2 kV (IEC 61000-4-4, burst) • ± 1 kV (IEC 61000-4-5, symm. surge) • ±2 kV (IEC 61000-4-5, surge asymm.)
Noise immunity on signal lines	• ± 2 kV (IEC 61000-4-4, burst, length > 30 m) • ± 1 kV (IEC 61000-4-4, burst, length < 30 m) • ± 2 kV (IEC 61000-4-5, surge, length > 30 m)
Immunity to static discharge	• ± 4 kV, contact discharge (IEC 61000-4-2) • ± 8 kV, air discharge (IEC 61000-4-2)
Immunity to high-frequency radiation	• 1 V/m, 80% AM, 2 to 2.7 GHz (IEC 61000-4-3) • 3 V/m, 80% AM, 1.4 to 2 GHz (IEC 61000-4-3) • 10 V/m, 80% AM, 80 MHz to 1 GHz (IEC 61000-4-3) • 10 V, 80% AM, 150 kHz to 80 MHz (IEC 61000-4-6)
Magnetic fields	• 30 A/m, 50/60 Hz (IEC 61000-4-8)
Approvals and safety regulations	
Safety directives	IEC 60950-1; UL 60950-1; CSA
Approvals	cULus 60950
CE marking	Use in the office and industrial sectors • Emitted interference: EN 61000-6-3:2007 • Noise immunity: EN 61000-6-2:2005
Dimensions and weights	
Installation dimensions (W x H x D) in mm	434 x 177 x 446
Weight, approx.	Min. 16 kg, max. 25 kg

4

Note regarding SIMATIC PC operating system licenses

The accompanying operating system license is only valid for installation on the SIMATIC IPC supplied in each case. Installation can only be performed on these SIMATIC systems in accordance with Microsoft OEM licensing regulations.

PC-based Automation
Rack PC

SIMATIC IPC547G

■ Ordering data	Article No.		Article No.

SIMATIC IPC547G

Rack PC, 19", 4U
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

6AG4104- 4 ■ ■ ■ ■ - ■ ■ ■ ■

Processors and mainboards

- Pentium G4400
(2C/2T, 3.3 GHz, 3 MB cache);
mainboard (chipset H110, 1
x DVI-D, 1 x DisplayPort V1.2,
2 x USB 3.0 & 4 x USB 2.0
at the rear) — **A**

- Core i5-6500
(4C/4T, 3.2 (3.6) GHz, 6 MB
cache); mainboard (chipset H110,
1 x DVI-D, 1 x DisplayPort V1.2,
2 x USB 3.0 & 4 x USB 2.0
at the rear) — **C**

- Core i7-6700
(4C/8T, 3.4 (4.0) GHz, 8 MB
cache); mainboard (chipset H110,
1 x DVI-D, 1 x DisplayPort V1.2,
2 x USB 3.0 & 4 x USB 2.0
at the rear) — **D**

- Pentium G4400
(2C/2T, 3.3 GHz, 3 MB cache);
mainboard (chipset C236,
1 x DVI-D, 2 x DisplayPort V1.2,
4 x USB 3.0 & 4 x USB 2.0
at the rear, 1 x USB 2.0 internal,
1 x COM1; RAID onboard) — **E**

- Core i5-6500
(4C/4T, 3.2 (3.6) GHz, 6 MB
cache, iAMT);
mainboard (chipset C236,
1 x DVI-D, 2 x DisplayPort V1.2,
4 x USB 3.0 & 4 x USB 2.0
at the rear, 1 x USB 2.0 internal,
1 x COM1; RAID onboard) — **G**

- Core i7-6700
(4C/8T, 3.4 (4.0) GHz, 8 MB
cache, iAMT);
mainboard (chipset C236,
1 x DVI-D, 2 x DisplayPort V1.2,
4 x USB 3.0 & 4 x USB 2.0
at the rear, 1 x USB 2.0 internal,
1 x COM1; RAID onboard) — **H**

- Xeon E3-1275 v5
(4C/8T, 3.6 (4.0) GHz, 8 MB
cache, iAMT);
mainboard (chipset C236,
1 x DVI-D, 2 x DisplayPort V1.2,
4 x USB 3.0 & 4 x USB 2.0
at the rear, 1 x USB 2.0 internal,
1 x COM1; RAID onboard) — **J**

SIMATIC IPC547G

6AG4104- 4 ■ ■ ■ ■ - ■ ■ ■ ■

Drives (SATA)

- 1 x 1 TB HDD, internal
(0.2 g vibration, 1 g shock) — **A**
- 2 x 1 TB HDD, internal
(0.2 g vibration, 1 g shock) — **B**
- 1 x 240 GB SSD, internal — **C**
- 1 x 480 GB SSD, internal — **D**
- 2 x 480 GB SSD, internal — **E**
- RAID1, 1 TB (2 x 1 TB HDD),
internal (0.2 g vibration, 1 g
shock)[1] — **F**
- RAID1, 1 TB (2 x 1 TB HDD
[Enterprise]), internal
(0.2 g vibration, 1 g shock)[1] — **G**
- 1 x 1 TB HDD in removable drive
bay, on the front — **H**
- 2 x 1 TB HDD in removable drive
bay, at the front — **J**
- 1 x 480 GB SSD in removable
drive bay, on the front — **K**
- 2 x 480 GB SSD in removable
drive bay, at the front — **L**
- RAID1, 480 GB (2 x 480 GB SSD)
in removable drive bay,
hot-swappable, front-mounted [1] — **M**
- RAID1, 1 TB (2 x 1 TB HDD)
in removable drive bay,
hot-swappable, front-mounted [1] — **N**
- RAID1, 1 TB (2 x 1 TB HDD
[Enterprise]) in removable drive
bay, hot-swappable,
front-mounted[1] — **P**
- RAID1, 2 TB (2x 2 TB HDD
[Enterprise]) in removable drive
bay, hot-swappable,
front-mounted[1] — **Q**
- RAID1, 2 TB (2 x 2 TB HDD
[Enterprise]) in removable drive
bay, hot-swappable + 1 x 2 TB
HDD [Enterprise] as hot spare in
removable drive bay, front-mount-
ed [1] — **R**
- RAID1, 2 TB (2 x 2 TB HDD
[Enterprise]) in removable drive
bay, hot-swappable + 1x 480 GB
SSD in removable drive bay,
front-mounted (operating system
installed on SSD if configured) [1] — **S**
- RAID5, 4 TB (3 x 2 TB HDD
[Enterprise]) in removable drive
bay, hot-swappable,
front-mounted[1] — **T**
- RAID5, 4 TB (3 x 2 TB HDD
[Enterprise]) in removable drive
bay, hot-swappable + 1 x 2 TB
HDD [Enterprise] as hot spare
in removable drive bay,
front-mounted; (up to +35 °C) [1] — **U**

[1] Only with mainboard with C236 chipset

Note:

Please use the TIA Selection Tool or the configurator
in the Industry Mall in order to ensure availability of the
required IPC configuration; we do not accept any liability
for self-customized configurations.

Ordering data

SIMATIC IPC547G	Article No. 6AG4104- 4 ▪▪▪▪ - ▪▪▪▪
Memory configuration	
• 4 GB DDR3 SDRAM (1 x 4 GB), single channel	0
• 8 GB DDR3 SDRAM (2 x 4 GB), dual channel	1
• 16 GB DDR3 SDRAM (2 x 8 GB), dual channel	2
• 32 GB DDR3 SDRAM (2 x 16 GB), dual channel	3
• 64 GB DDR3 SDRAM (4 x 16 GB), dual channel [1]	4
Type of enclosure / power supplies and removable media	
• Enclosure, blue-chromated, 100/240 V AC industrial power supply, without removable media	1
• Enclosure, blue-chromated, 100/240 V AC industrial power supply, DVD±RW (slim)	2
• Enclosure, blue-chromated, 2 x 100/240 V AC redundant industrial power supply, without removable media	3
• Enclosure, blue-chromated, 2 x 100/240 V AC redundant industrial power supply, DVD±RW (slim)	4
• Painted enclosure, 100/240 V AC industrial power supply, without removable media	5
• Painted enclosure, 100/240 V AC industrial power supply, DVD±RW (slim)	6
• Painted enclosure, 2 x 100/240 V AC redundant industrial power supply, without removable media	7
• Painted enclosure, 2 x 100/240 V AC redundant industrial power supply, DVD±RW (slim)	8
Expansions (hardware)	
• Without expansions (hardware), onboard graphics	0
• Without expansions (hardware), onboard graphics; adapter cable DP to VGA for onboard graphics	1
• Without expansions (hardware), PCIe x16 graphics card (dual head: 2 x VGA or 2 x DVI-D), 1 GB	2
• Serial (COM2) + parallel (LPT); onboard graphics	3
• Serial (COM2) + parallel (LPT); onboard graphics; adapter cable DP to VGA for onboard graphics	4
• Serial (COM2) + parallel (LPT) + PCIe x16 graphics card (dual head: 2 x VGA or 2 x DVI-D), 1 GB	5

SIMATIC IPC547G	Article No. 6AG4104- 4 ▪▪▪▪ - ▪▪▪▪
Operating systems (pre-installed and activated)	
• Windows 7 Ultimate, MUI (Eng, Ger, Fr, It, Sp), 64-bit, SP1	B
• Windows 10 IoT Enterprise LTSB 2015, multi-language (Eng, Ger, Fr, It, Sp), 64-bit	C
• Windows Server 2008 R2 Standard Edition incl. 5 clients, multi-language (Eng, Ger, Fr, It, Sp), 64-bit, SP1	F
• Windows Server 2012 R2 Standard Edition incl. 5 clients, 64-bit, MUI (Eng, Ger, Fr, It, Sp)	G
• Without operating system	X
Expansions (software)	
• SIMATIC IPC DiagMonitor software included	A
• SIMATIC IPC Image & Partition Creator software included	B
• SIMATIC IPC DiagMonitor + Image & Partition Creator software included	C
• Without expansions (software)	X
• Without expansions (software) / TPM (not for China and Russia)	Y
Country-specific versions	
• Without power supply cord	0
• Power cord for Europe	1
• Power cord for the USA	2
• Power cord for China	3

[1] Only with mainboard with C236 chipset

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

PC-based Automation
Rack PC

SIMATIC IPC547G

Ordering data	Article No.		Article No.

Preferred types (available at short notice from stock)		**Accessories**	
		Memory expansions	
SIMATIC IPC547G **(Rack PC, 19", 4 U)**	**6AG4104-4AA05-3XX0**	• 4 GB DDR4-2133 SDRAM	**6ES7648-2AL60-0PA0**
• Pentium G4400 (2C/2T, 3.3 GHz, 3 MB cache)		• 8 GB DDR4-2133 SDRAM	**6ES7648-2AL70-0PA0**
• Mainboard with chipset H110 • 1x 1 TB HDD, internal		• 16 GB, DDR4-2133 SDRAM	**6ES7648-2AL80-0PA0**
• 4 GB DDR4 SDRAM (1x 4 GB) • Painted enclosure, 100/240 V AC industrial power supply • Serial (COM2) + Parallel (LPT) • Without power supply cord		**Removable tray** **for 3.5" hard disk drive** 2.5'' solid-state drive, SATA (without hard disk drive/ solid-state drive)	**6ES7648-0EH00-1BA0**
SIMATIC IPC547G **(Rack PC, 19", 4 U)**	**6AG4104-4GN16-4BX0**	**Tower Kit IPC547G** To convert the computer into an industrial tower PC	**6ES7648-1AA01-0XC0**
• Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB Cache, iAMT) • Mainboard with C236 chipset		**Adapter cable DisplayPort to** **DVI-D for onboard graphics**	**6ES7648-3AF00-0XA0**

• RAID1, 1 TB (2x 1 TB HDD)
  in removable tray, hot-swappable,
  front-mounted
		Adapter cable DisplayPort to
		VGA for onboard graphics
			6ES7648-3AG00-0XA0

• 8 GB DDR4 SDRAM (2x 4 GB), dual channel • Painted enclosure		**Retainer for mechanically** **interlocking the internal USB port**	**6ES7648-1AA00-0XK0**

• 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/Sp), 64-bit, SP1
• Without power supply cord			

SIMATIC IPC547G **(Rack PC, 19", 4 U)**	**6AG4104-4HP18-5BX0**		

• 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 100/240 V AC red.
  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/Sp), 64-bit, SP1
• Without power supply cord			

4

Overview

IPC547E long and short enclosure design

The SIMATIC IPC547E is a rugged industrial PC in 19" rack design (4U).

It offers:
- Maximum performance
- Attractive price
- Intel Core i technology 4th generation

Technical specifications

	IPC547E (enclosure depth 356 mm)	IPC547E (enclosure depth 446 mm)
General features		
Design	19" rack PC, 4U	
Processors	• Intel Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB cache) • Intel Celeron G1820 (2C/2T, 2.7 GHz, 2 MB cache)	• Intel Core i7-4770S (4C/8T, 3.1 (3.9) GHz, 8 MB cache, iAMT) • Intel Core i5-4570S (4C/4T, 2.9 (3.6) GHz, 6 MB cache, iAMT) • Intel Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB cache)
Chipset	• Intel H81	• Intel Q87
Main memory	• From 2 GB DDR3-1600 SDRAM • Dual channel support • 2 DIMM base • Expandable up to 16 GB [1]	• From 2 GB DDR3-1600 SDRAM • Dual channel support • 4 DIMM base • Expandable up to 32 GB [1]
Spare slots for expansions (all long)	• 1 x PCI Express x16 • 1 x PCI-Express x16 (2 lanes) • 1 x PCI-Express x8 (1 lane) • 4 x PCI	• 1 x PCI Express x16 • 1 x PCI-Express x16 (4 lanes) • 1 x PCI-Express x8 (1 lane) • 4 x PCI
Graphics	• Onboard Intel HD / Intel HD Graphics 4600 graphics controller integrated into the processor. Dynamic video memory up to 1.7 GB; up to 3840 x 2160 pixels at 60 Hz image refresh rate and 32-bit colors • PCI Express graphics card (Dual Head: 2 x VGA or 2 x DVI-D) in the PCIe x16 slot (optional), 512 MB; up to 2048 x 1536 pixels at 60 Hz image refresh rate and 32-bit colors	
Operating systems	• None Pre-installed and activated (supplied on restore DVD): • Windows 7 Ultimate MUI (32/64-bit) MUI (Multi-Language User Interface, 5 languages): English, German, French, Italian, Spanish Project-specific on request: • Linux [2] • Other	• None Pre-installed and activated (supplied on restore DVD): • Windows 7 Ultimate MUI (32/64-bit) • Windows Server 2008 R2 incl. 5 Client MUI (64-bit) • Windows Server 2012 R2 incl. 5 Client MUI (64-bit) MUI (Multi-Language User Interface, 5 languages): English, German, French, Italian, Spanish Project-specific on request: • Linux [2] • Other
Power supplies	• 100 ... 240 V AC, 50 ... 60 Hz, with bridging of short-term power failures: max. 20 ms at 0.85% rated voltage	• 100 ... 240 V AC, 50 ... 60 Hz, with bridging of short-term power failures: max. 20 ms at 0.85% rated voltage • Redundant 2 x 100 ... 240 V AC, 50 ... 60 Hz

[1] Memory information: In order to use a memory with more than 4 GB, a 64-bit operating system is required. In the case of configurations with 4 GB, the visible memory can be reduced to about 3.5 GB or less (with 32-bit operating systems).

[2] Suitable for specific LINUX versions in accordance with the specifications of the Siemens manufacturer's declaration "Suitable for Linux", see http://support.automation.siemens.com/WW/view/en/10805661/134200 (Linux is a trademark of Linus Torvalds)

PC-based Automation
Rack PC

SIMATIC IPC547E

Technical specifications (continued)

	IPC547E (enclosure depth 356 mm)	IPC547E (enclosure depth 446 mm)
Drives		

Hard disks, SATA 3.5"
with NCQ technology
 	
Solid-state drives, SATA 2.5"
with MLC technology
	Internal installation
	• 1 x 500 GB HDD
	• 1 x 1 TB HDD
	• 2 x 1 TB HDD
		Internal installation
		• 1 x 500 GB HDD
		• 1 x 1 TB HDD
		• 2 x 1 TB HDD
		• 1 x 240 GB SSD
		• RAID1, 1 TB (2 x 1 TB HDD, mirror disks) [3]
		
		Installation at the front in removable drive bay (low-profile)
		• 1 x 500 GB HDD
		• 1 x 1 TB HDD
		• 2 x 1 TB HDD
		• 1 x 240 GB SSD
		• RAID1, 1 TB (2 x 1 TB HDD, mirror disks), "hot swap" [3]
		• RAID1, 1 TB (2 x 1 TB HDD, mirror disks), "hot swap" [3]
		  + 1 x 1 TB HDD as hot spare
		• RAID1, 1 TB (2 x 1 TB HDD, mirror disks), "hot swap" [3]
		  + 1 x 240 GB SSD (operating system installed on SSD
		  if configured)
		• RAID5, 2 TB (3 x 1 TB HDD, striping with parity),
		  "hot swap" [3]
		• RAID5, 2 TB (3 x 1 TB HDD, striping with parity),
		  "hot swap" [3]
		  + 1 x 1 TB HDD as hot spare

DVD±R/RW, 5.25" (slim), SATA	-	• 8 x 8 x 6 x (DVD media) • 24 x 10 x 16 x (CD media)
Slots for drives	Internal: • 2 x 3.5"	Front: • 3 x 5.25" / 4 x low-profile removable drive bay • 1 x 5.25" (slimline) Internal: • 2 x 3.5"
Interfaces		
Ethernet	1 x Intel Gigabit Ethernet (RJ45)	2 x Intel Gigabit Ethernet (RJ45, teaming-capable)
USB 3.0	• 2 x front (high current)	• 2 x front (high current) • 2 x rear (high current)
USB 2.0	• 6 x rear (high current)	• 6 x rear (high current) • 1 x internal (high current), e.g. for USB dongle with option- al interlocking
Serial	9-pin COM2 (V.24) (optional)	9-pole COM1 (V.24); COM2 (V.24) (optional)
Parallel	LPT (optional)	
VGA	Optionally via adapter cable	
DVI-I	1 x	
DisplayPort V1.2	1 x	2 x
PS/2	2 x (keyboard, mouse)	
Audio	1 x line in; 1 x line out; 1 x mic.	
Monitoring functions		
Basic functionality	Message locally via DiagBase software	
Temperature	When permitted operating temperature range is exceeded	
Fans	Speed monitoring • 1 x front fan • 1 x CPU fan • 1 x power supply fan	
Watchdog	• Monitoring of program execution • Monitoring time can be parameterized in software	

[3] SATA RAID controller onboard in Intel Q87 chipset

■ **Technical specifications** (continued)

	IPC547E (enclosure depth 356 mm)	IPC547E (enclosure depth 446 mm)
Monitoring functions via the network	SIMATIC IPC DiagMonitor Version V4.4.x.x or higher (optional)	
	Remote monitoring capability for: • Watchdog • Temperature • Fan speed • Battery • Hard disks (SMART) • System/Ethernet	
	Communication: • Ethernet interface (SNMP protocol) • OPC for integration in SIMATIC software • Client server architectures • Structure of log files	
Front LEDs	• POWER (PC switched on) • HDD (access to hard disk) • TEMP (temperature monitoring) • FAN (fan monitoring)	
Environmental conditions		
Degree of protection	IP30 front, IP20 rear according to EN 60529	
Dust protection	With the front door closed according to IEC 60529 filter class G2 EN 779, 99% of particles > 0.5 mm are filtered	
Protection class	Protection class I compliant with IEC 61140	
Vibration load during operation [4]	IEC 60068-2-6, 10 cycles • 20 ... 58 Hz: 0.015 mm • 58 ... 200 Hz: 2 m/s^2 (approx. 0.2 g)	
Shock load in operation [4]	IEC 60068-2-27 • Half sine: 9.8 m/s^2, 20 ms (approx. 1 g), 100 shocks per axis	
Electromagnetic compatibility (EMC)		
Emitted interference	EN 61000-6-3; EN 61000-6-4; CISPR 22 / EN 55022 Class B; FCC Class A; EN 61000-3-2 Class D; EN 61000-3-3	
Immunity to conducted interference on supply lines	• ±2 kV (IEC 61000-4-4, burst) • ±1 kV (IEC 61000-4-5, symm. surge) • ±2 kV (IEC 61000-4-5, asymm. surge)	
Noise immunity on signal lines	• ±2 kV (IEC 61000-4-4, burst, length > 30 m) • ±1 kV (IEC 61000-4-4, burst, length < 30 m) • ±2 kV (IEC 61000-4-5, surge, length > 30 m)	
Immunity to static discharge	• ±4 kV, contact discharge (IEC 61000-4-2) • ±8 kV, air discharge (IEC 61000-4-2)	
Immunity to high-frequency radiation	• 10 V/m; 80 to 1000 MHz, 80% AM (IEC 61000-4-3) • 3 V/m; 1.4 to 2 GHz, 80% AM (IEC 61000-4-3) • 1 V/m, 2 to 2.7 GHz, 80% AM (IEC 61000-4-3) • 10 V, 150 kHz to 80 MHz, 80% AM (IEC 61000-4-6)	
Immunity to magnetic fields	30 A/m, 50/60 Hz (IEC 61000-4-8)	
Ambient temperature during operation	5 ... 40 °C	5 ... 40 °C Note: Limitations for operation of DVD±R/RW
Humidity during operation	5 ... 80% at 25 °C (no condensation)	
Approvals and safety regulations		
Safety directives	IEC 60950-1; UL60950; CSA	
Approvals	cULus 60950	
CE marking	For use in industrial areas as well as domestic, business and commercial environments: • Emitted interference: EN 61000-6-3:2007 • Noise immunity: EN 61000-6-2:2005	
Dimensions and weights		
Installation dimensions (W x H x D) in mm	434 x 177 x 356	434 x 177 x 446
Weight, approx.	15 kg	19 kg

[4] Restrictions with operation of optical drives and hard disks in removable drive bays

Note regarding SIMATIC PC operating system licenses

The accompanying operating system license is only valid for installation on the SIMATIC IPC supplied in each case. Installation can only be performed on these SIMATIC systems in accordance with Microsoft OEM licensing regulations.

4

PC-based Automation
Rack PC

SIMATIC IPC547E

Ordering data	Article No.		Article No.

SIMATIC IPC547E [1]

Interfaces:
2 x USB 3.0 at the front,
1 x DVI-I, 6 x USB 2.0 at the rear,
2 x PS/2, audio;
7 slots: 2 x PCIe x16,
1 x PCIe x8, 4 x PCI;
temperature and fan monitoring;
watchdog; card retainer

Processors and mainboards

• Celeron G1820 (2C/2T, 2.7 GHz, 2 MB cache); 1 x Gigabit Ethernet (IE/PN), 1 x DisplayPort V1.2 (only in combination with short enclosure)	A
• Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB cache); 1 x Gigabit Ethernet (IE/PN), 1 x DisplayPort V1.2 (only in combination with short enclosure)	C
• Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN), 2 x DisplayPort V1.2, 2 x USB 3.0 at rear, 1 x USB 2.0 internal, 1 x COM1	D
• Core i5-4570S (4C/4T, 2.9 (3.6) GHz, 6 MB cache, iAMT); 2 x Gigabit Ethernet (IE/PN), 2 x DisplayPort V1.2, 2 x USB 3.0 at rear, 1 x USB 2.0 internal, 1 x COM1	H
• Core i7-4770S (4C/8T, 3.1 (3.9) GHz, 8 MB cache, iAMT); 2 x Gigabit Ethernet (IE/PN), 2 x DisplayPort V1.2. 2 x USB 3.0 rear-mounted, 1 x USB 2.0 internal, 1 x COM1	K

6AG4104- 3 ▪ ▪ ▪ ▪ - ▪ ▪ ▪ ▪

SIMATIC IPC547E [1]

Drives (SATA)

• 1 x 500 GB HDD, internal	A
• 1 x 1 TB HDD, internal	B
• 2 x 1 TB HDD, internal	D
• 1 x 240 GB SSD, internal	E
• RAID1, 1 TB (2 x 1 TB HDD, mirror disks), internal	G
• 1 x 500 GB HDD in removable drive bay, at the front	H
• 1 x 1 TB HDD in removable drive bay, at the front	K
• 2 x 1 TB HDD in removable drive bay, at the front	M
• 1 x 240 GB SSD in removable drive bay, at the front	N
• RAID1, 1 TB (2 x 1 TB HDD, mirror disks) in removable drive bay, hot swap, at the front	P
• RAID1, 1 TB (2 x 1 TB HDD, mirror disks) in removable drive bay, hot swap + 1 x 1 TB HDD as hot spare in removable drive bay, at the front	Q
• RAID1, 1 TB (2 x 1 TB HDD, mirror disks) in removable drive bay, hot swap + 240 GB SSD in removable drive bay, at the front (operating system installed on SSD if configured)	R
• RAID5, 2 TB (3 x 1 TB HDD, striping with parity) in removable drive bay, hot swap, at the front	S
• RAID5, 2 TB (3 x 1 TB HDD, striping with parity) in removable drive bay, hot swap + 1 x 1 TB HDD as hot spare in removable drive bay, at the front	T

6AG4104- 3 ▪ ▪ ▪ ▪ - ▪ ▪ ▪ ▪

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[1] For an up-to-date overview, see the SIMATIC PC Online Configurator at: https://www.siemens.com/ipc-configurator

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

■ Ordering data

SIMATIC IPC547E [1]	Article No.
	6AG4104- 3 ■ ■ ■ ■ - ■ ■ ■ ■

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] (2 x 4 GB), dual channel	3
• 16 GB DDR3 SDRAM [2] (2 x 8 GB), dual channel	4
• 32 GB DDR3 SDRAM [2] (4 x 8 GB), dual channel	5

Type of enclosure and swap media

• Enclosure (short), painted on the front, no removable media	0
• Enclosure, painted on the front, no removable media	1
• Enclosure, painted on the front, + DVD±RW (slimline)	2
• Unpainted enclosure, no removable media	3
• Painted enclosure, + DVD±RW (slimline)	4

Expansions (hardware)

• Without expansions (hardware), onboard graphics	0
• Without expansions (hardware); onboard graphics; DVI-I VGA-compliant adapter cable for onboard graphics	1
• Serial (COM2) & parallel (LPT), onboard graphics	2
• Serial (COM2) and parallel (LPT), onboard graphics; DVI-I VGA-compliant adapter cable for onboard graphics	3
• Serial (COM2) & parallel (LPT) + PCIe x16 graphics card (Dual Head: 2 x VGA or 2 x DVI-D), 512 MB	4

SIMATIC IPC547E [1]	Article No.
	6AG4104- 3 ■ ■ ■ ■ - ■ ■ ■ ■

Operating systems (pre-installed and activated)

• Windows 7 Ultimate, MUI (Eng, Ger, Fr, It, Sp), 32-bit, SP1	A
• Windows 7 Ultimate, MUI (Eng, Ger, Fr, It, Sp), 64-bit, SP1	B
• Windows Server 2008 R2 Standard Edition incl. 5 Clients, MUI (Eng, Ger, Fr, It, Sp), 64-bit, SP1	F
• Windows Server 2012 R2 Standard Edition incl. 5 Clients, MUI (Eng, Fr, Ger, It, Sp), 64-bit	G
• Without operating system;	X

Expansions (software)

• SIMATIC IPC DiagMonitor V4.x software enclosed	A
• SIMATIC IPC Image & Partition Creator V3.x software enclosed	B
• SIMATIC IPC DiagMonitor V4.x + Image & Partition Creator V3.x software enclosed	C
• Without expansions (software)	X
• Without expansions (software) / TPM (not for China and Russia)	Y

Country-specific versions/power supplies:

• 100/240 V AC industrial power supply, power cable for Europe	0
• 100/240 V AC industrial power supply; power cable for USA	4
• 100/240 V AC industrial power supply; power cable for China	5
• 2 x 100/240 V AC redundant industrial power supply; without power cable	6

[1] For an up-to-date overview, see the SIMATIC PC Online Configurator at: https://www.siemens.com/ipc-configurator

[2] Can only be used on 64-bit operating systems

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

4

PC-based Automation
Rack PC

SIMATIC IPC547E

Ordering data	Article No.		Article No.

Preferred variants (ex-stock)

SIMATIC IPC547E
- Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB cache); 2x USB 3.0 on front, 6x USB 2.0 at the rear, 1x Gbit Ethernet, 1x DisplayPort V1.2, 1x DVI-I, 2x PS/2, audio; unpainted enclosure (short), no removable media; 1x 1 TB HDD, internal (0.2 g vibration, 1 g shock); 2 GB DDR3 SDRAM (1x 2 GB), single-channel; serial (COM2) + parallel (LPT), onboard graphics, DVI-I adapter cable VGA-compliant for onboard graphics; without operating system; without expansions (software); 100/240 V AC industrial power supply, power cable for Europe; **6AG4104-3CB10-3XX0**
- Pentium Dual Core G3420 (2C/2T, 3.2 GHz, 3 MB Cache); 2 x USB 3.0 on front, 2 x USB 3.0 and 6 x USB 2.0 at the rear, 1 x USB 2.0 internal, 2x Gbit Ethernet, 2x DisplayPort V1.2, 1 x DVI-I, 1 x COM1, 2 x PS/2, audio; painted enclosure + DVD±RW (slimline); 1 x 1 TB HDD, internal; 4 GB DDR3 SDRAM (2 x 2 GB), dual-channel; serial (COM2) + parallel (LPT), onboard graphics, DVI-I adapter cable VGA-compliant for onboard graphics; without operating system; without expansions (software); 100/240 V AC industrial power supply, power cable for Europe **6AG4104-3DB24-3XX0**
- Core i5-4570S (4C/4T, 2.9 (3.6) GHz, 6 MB Cache, iAMT); 2 x USB 3.0 on front, 2 x USB 3.0 and 6 x USB 2.0 at the rear, 1 x USB 2.0 internal, 2 x Gbit Ethernet, 2 x DisplayPort V1.2, 1 x DVI-I, 1 x COM1, 2 x PS/2, audio; painted enclosure + DVD±RW (slimline); RAID1, 1 TB (2 x 1 TB HDD, mirror disks) in removable drive bay, hot-swap, on front; 4 GB DDR3 SDRAM (2 x 2 GB), dual-channel; serial (COM2) + parallel (LPT), onboard graphics, DVI-I adapter cable VGA-compliant for onboard graphics; Windows 7 Ultimate, Multi Language (Eng, Ger, Fr, It, Sp), 32-bit, SP1; without expansions (software); 100/240 V AC industrial power supply, power cable for Europe **6AG4104-3HP24-3AX0**

SIMATIC IPC547E
- Core i7-4770S (4C/8T, 3.1 (3.9) GHz, 8 MB Cache, iAMT); 2 x USB 3.0 on front, 2 x USB 3.0 and 6 x USB 2.0 at the rear, 1 x USB 2.0 internal, 2 x Gbit Ethernet, 2 x DisplayPort V1.2, 1 x DVI-I, 1 x COM1, 2 x PS/2, audio; painted enclosure + DVD±RW (slimline); RAID1, 1 TB (2 x 1 TB HDD, mirror disks) in removable drive bay, hot-swap, on front; 8 GB DDR3 SDRAM (2 x 4 GB), dual-channel; serial (COM2) + parallel (LPT) + PCIe x16 graphics card (Dual Head: 2 x VGA or 2 x DVI-D), 512 MB; Windows 7 Ultimate, multi-language (Eng, Ger, Fr, It, Sp), 64-bit, SP1; without expansions (software); 2 x 100/240 V AC redundant industrial power supply, without power cable **6AG4104-3KP34-4BX6**

Accessories

Memory expansion
	Article No.
• 2 GB DDR3 SDRAM (1 x 2 GB)	**6ES7648-2AJ50-0MA0**
• 4 GB DDR3 SDRAM (1 x 4 GB)	**6ES7648-2AJ60-0MA0**
• 8 GB DDR3 SDRAM (1 x 8 GB)	**6ES7648-2AJ70-0MA0**

Tower Kit
For converting the computer into an industrial tower PC **6ES7648-1AA00-0XC0**

Retainer
for interlocking the internal USB port **6ES7648-1AA00-0XK0**

Adapter cable
- DisplayPort to DVI-D for onboard graphics **6ES7648-3AF00-0XA0**
- DisplayPort to VGA for onboard graphics **6ES7648-3AG00-0XA0**

Power cable, straight, 3 m long
- Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden **6ES7900-0AA00-0XA0**
- United Kingdom **6ES7900-0BA00-0XA0**
- Switzerland **6ES7900-0CA00-0XA0**
- USA **6ES7900-0DA00-0XA0**
- Italy **6ES7900-0EA00-0XA0**
- China **6ES7900-0FA00-0XA0**

Rack unit for low-profile removable drive bay **6ES7648-0EG01-1BA0**

for 3.5" hard drive (SATA/SAS) and 2.5" SSD (SATA), without drive

Expansion components	See Expansion components

Note:

Software Packages with SIMATIC WinCC flexible, SIMATIC WinCC RT Advanced, SIMATIC WinCC, and SIMATIC WinAC RTX (F) can be ordered together with the SIMATIC IPC at favorable prices.

More information under "Embedded bundles / Packages for industrial PCs".

■ **More information**

Additional information is available on the Internet at:

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

Overview

SIMATIC IPC647D

The SIMATIC IPC647D is a very rugged, high-performance industrial PC in 19" rack design (2U) with excellent industrial functionality.

It offers:

• Extreme compactness
• Extreme ruggedness
• Intel® Core® i/Xeon technology 4th generation

Technical specifications

Article number	6AG4112-2....-....
	SIMATIC IPC647D (RACK PC)
Installation type/mounting	
Mounting	For horizontal rack mounting
Design	Rack PC, 19", 2U
Supply voltage	
Type of supply voltage	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100 - 240 V AC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache, VT-d, AMT); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT)
Chipset	Intel DH82C226 PCH
Graphic	
Graphics controller	Onboard graphics controller Intel HD 4600 Graphics integrated into the processor / PCI-Express graphics card (Dual Head: 2x VGA or 2x DVI-D) in the PCIe (x16) slot (optional)
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)

Article number	6AG4112-2....-....
	SIMATIC IPC647D (RACK PC)
Memory	
Main memory	2 GB to 32 GB DDR3 1600 DIMM, ECC optional
Hardware configuration	
Slots	
• free slots	2x PCIe mech. (x16) (4 lanes) or 4x PCIe mech. (x16) (4 lanes / 8 lanes depending on slot) or 2x PCI, 2x PCIe mech. (x16) (8 lanes); all modules to a length of 312 mm can be used
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 Mbps, no plug-in card necessary, CP 5622-compatible
USB port	2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal
Connection for keyboard/mouse	2x PS/2
serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232
parallel interface	optional LPT1
Multimedia	
• Audio In/Out	Yes
Special interfaces	
• Microphone In	Yes
Video interfaces	
• Graphics interface	2x DisplayPort and 1x DVI-I onboard; 1x VGA via DVI-VGA adapter cable (optional); graphics card PCIe (x16), Dual Head (2x VGA or 2x DVI-D), 512 MB graphics memory (optional)
Industrial Ethernet	
• Industrial Ethernet interface	Onboard, 2 x 10/100/1000 Mbps, RJ45, no plug-in card necessary
- 100 Mbps	Yes
- 1000 Mbps	Yes

PC-based Automation
Rack PC

■ Technical specifications (continued)

Article number	6AG4112-2....-....
	SIMATIC IPC647D (RACK PC)
Monitoring functions	
Temperature	Yes
Watchdog	Yes
Status LEDs	POWER, HDD, ETHERNET 1, ETHERNET 2, PROFIBUS / MPI, SF PROFINET, WATCHDOG, TEMP, FAN, HDD0 ALARM, HDD1 ALARM
Fan	Yes
Monitoring function via network	Optional
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
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
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)	IP41
IP (rear)	IP20

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)
UL approval	Yes
cULus	Yes
KC approval	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
• EN 61000-6-2	Yes
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
• min.	0 °C
• max.	50 °C
Relative humidity	
• Relative humidity	Tested to IEC 60068-78, DIN IEC 68-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested according to IEC 60068-2-6: 10 cycles, 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s² (0.5 g)
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27, IEC 60068-2-29: half-sine: 50 m/s² (5 g), 30 ms, 100 shocks per axis
Operating systems	
Operating system	Windows 7 Ultimate, MUI, 32-bit / 64-bit; Windows Server 2012 R2 Standard Edition incl. 5 clients, MUI, 64-bit; Windows Server 2008 R2 Standard Edition incl. 5 clients, MUI, 64-bit
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32-bit or 64-bit
Dimensions	
Width	430 mm
Height	88 mm; 2U
Depth	444 mm

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■ Ordering data

SIMATIC IPC647D	Article No. 6AG4112- 2 ■ ■ ■ ■ - ■ ■ ■ ■	

Interfaces:
RACK PC, 19", 2U
Interfaces: 2 x GBIT LAN (RJ45);
1 x DVI-I; 2 x DisplayPort;
1 x COM; 2 x PS/2; audio;
2 x USB 3.0, 2 x USB 2.0 at rear;
1 x USB 3.0, 1 x USB 2.0 at front,
1 x USB 3.0 internal;
temperature and fan monitoring,
watchdog, card retainer

Processor / Main board

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

SIMATIC IPC647D	Article No. 6AG4112- 2 ■ ■ ■ ■ - ■ ■ ■ ■	

Hard disks / SSD

• 500 GB HDD SATA, internal (0.5 g vibration, 5 g shock)	A
• 1 TB HDD SATA, internal (0.5 g vibration, 5 g shock)	B
• 2 x 1 TB HDD SATA, internal (0.5 g vibration, 5 g shock)	C
• RAID1, 1 TB (2 x 1 TB HDD SATA, mirror disks), internal (0.5 g vibration, 5 g shock)	D
• 500 GB HDD SATA in removable drive bay; front	H
• 1 TB HDD SATA in removable drive bay; front	K
• 2 x 1 TB HDD SAT in removable drive bay; front	M
• RAID1, 1 TB (2 x 1 TB HDD SATA, mirror disks) in removable drive bay, hot-swappable, front	P
• 240 GB SSD SATA, internal	S
• 240 GB SSD SATA in removable drive bay; front	T
• RAID1, 1 TB (2x 1 TB HDD SAS, mirror disks) in removable drive bay, hot-swap, front; PCIe x8 RAID controller incl. ZMCP module (2 slots occupied)	U
• RAID1, 240 GB (2 x 240 GB SSD SATA, mirror disks), in removable drive bay, hot swap, at the front	W

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

<u>Note:</u>

Please use the TIA Selection Tool or the configurator
in the Industry Mall in order to ensure availability of the
required IPC configuration; we do not accept any liability
for self-customized configurations.

4

PC-based Automation
Rack PC

SIMATIC IPC647D

Ordering data · Article No. · Article No.

SIMATIC IPC647D	6AG4112- 2 ▨▨▨▨ - ▨▨▨▨
Bus module / swap media / SSD:	
• Bus module 2 slot: 2 x PCIe x16; without drives	0
• Bus module 4 slot: 2 x PCI, 2 x PCIe x16; without drives	1
• Bus module 4 slot: 4 x PCIe x16; without drives	2
• Bus module 2 slot: 2 x PCIe x16; DVD±RW (slim)	3
• Bus module 4 slot: 2 x PCI, 2x PCIe x16; DVD±RW (slim)	4
• Bus module 4 slot: 4 x PCIe x16; DVD±RW (slim)	5
• Bus module 2 slot: 2 x PCIe x16 / 1 x 240 GB SSD (for operating system), internal	6
• Bus module 4 slot: 2 x PCI, 2 x PCIe x16 / 1 x 240 GB SSD (for operating system), internal	7
• Bus module 4 slot: 4 x PCIe x16 / 1 x 240 GB SSD (for operating system), internal	8
Expansion hardware	
• Without expansions (hardware), onboard graphics;	0
• Without expansions (hardware), onboard graphics, DVI-I adapter cable, VGA-compliant for onboard graphics;	1
• Serial (COM2) + parallel (LPT, 1 slot reserved), onboard graphics;	2
• Serial (COM2) + parallel (LPT, 1 slot reserved), onboard graphics; DVI-I adapter cable, VGA-compliant for onboard graphics;	3
• Serial (COM2) + Parallel (LPT, 1 slot reserved) + PCIe x16 Graphics Card (Dual-Head: 2 x VGA or 2 x DVI-D), 512 MB, (1 slot reserved);	4
• PCIe x16 graphics card (dual head: 2 x VGA or 2 x DVI-D), 512 MB, (1 slot occupied)	5

SIMATIC IPC647D	6AG4112- 2 ▨▨▨▨ - ▨▨▨▨
Operating system (pre-installed and activated)	
• Windows 7 Ultimate, 32-bit MUI (Eng, Ger, Fr, It, Sp), SP1	A
• Windows 7 Ultimate, 64-bit MUI (Eng, Ger, Fr, It, Sp), SP1	B
• Windows Server 2008 R2 Standard Edition incl. 5 Clients, 64-bit, MUI (Eng, Ger, Fr, It, Sp), SP1	F
• Windows Server 2012 R2 Standard Edition incl. 5 Clients, MUI (Eng, Fr, Ger, It, Sp), 64-bit	G
• Without operating system	X
Expansions (software) / Security	
• SIMATIC IPC DiagMonitor software V4.x enclosed	A
• SIMATIC IPC Image Creator software 3.x enclosed	B
• SIMATIC IPC DiagMonitor 4.x and Image Creator software 3.x enclosed	C
• Without software	X
• Without expansions (software) / TPM (not for China and Russia)	Y
Power supply, with country-specific cable	
• 110 / 240 V industrial power supply unit with NAMUR; power cable for Europe	0
• 110 / 240 V industrial power supply unit with NAMUR; power cable for United Kingdom	1
• 110 / 240 V industrial power supply unit with NAMUR; power cable for Switzerland	2
• 110 / 240 V industrial power supply unit with NAMUR; power cable for USA	3
• 110 / 240 V industrial power supply unit with NAMUR; power cable for Italy	4
• 110 / 240 V industrial power supply unit with NAMUR; power cable for China	5
• 2 x 110 / 240 V redundant power supply; without power cable	6
• 110 / 240 V industrial power supply with NAMUR; without power cable	8

For an up-to-date overview, see the SIMATIC IPC online configurator at: https://www.siemens.com/ipc-configurator

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

4

Ordering data

	Article No.
Accessories	
Memory expansions	
• 2 GB DDR3 1600 DIMM	**6ES7648-2AJ50-0MA0**
• 4 GB DDR3 1600 DIMM	**6ES7648-2AJ60-0MA0**
• 8 GB DDR3 1600 DIMM	**6ES7648-2AJ70-0MA0**
• 8 GB DDR3 1600 DIMM, ECC	**6ES7648-2AJ70-1MA0**
Hardware accessories	
Tray for low-profile removable drive bay	**6ES7648-0EG01-1BA0**
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	
• Adapter cable DisplayPort to DVI-D for onboard graphics	**6ES7648-3AF00-0XA0**
• Adapter cable DisplayPort to VGA for onboard graphics	**6ES7648-3AG00-0XA0**
Power cable, straight, 3 m long	
• Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden	**6ES7900-0AA00-0XA0**
• United Kingdom	**6ES7900-0BA00-0XA0**
• Switzerland	**6ES7900-0CA00-0XA0**
• USA	**6ES7900-0DA00-0XA0**
• Italy	**6ES7900-0EA00-0XA0**
• China	**6ES7900-0FA00-0XA0**
USB retainer	**6ES7648-1AA00-0XK0**
For locking the internal USB port	
Expansion components	See Expansion components
Communication products	See Expansion components
VxWorks real-time operating system	See Expansion components

Note:

Software Packages with SIMATIC WinCC flexible, WinCC RT Advanced, SIMATIC WinCC, and SIMATIC WinAC RTX (F) can be ordered together with the SIMATIC IPC at a price advantage. More information under "Embedded bundles / Packages for industrial PCs".

More information

Additional information is available on the Internet at:

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

PC-based Automation
Rack PC

SIMATIC IPC847D

◼ Overview

The SIMATIC IPC847D is an extremely robust, high-performance industrial PC in 19" rack design (4U) 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 rack mounting
Design	Rack PC, 19", 4U
Supply voltage	
Type of supply voltage	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC; optional 100/240 V AC with UPS functionality incl. maintenance-free lead-tin battery
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache, VT-d, AMT); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT)
Chipset	Intel DH82C226 PCH
Graphic	
Graphics controller	Onboard graphics controller Intel HD 4600 Graphics integrated into the processor / PCI-Express graphics card (Dual Head: 2x VGA or 2x DVI-D) in the PCIe (x16) slot (optional)

Article number	6AG4114-2....-....
	SIMATIC IPC847D (RACK PC)
Drives	
Optical drives	DVD±R/RW (SlimLine)
Hard disk	500 GB HDD, 1 TB HDD, 2x 1 TB HDD, RAID1 (2x 1 TB HDD, mirror disks), RAID1 (2x 1 TB HDD, 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)
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 Mbps, no plug-in card necessary, CP 5622-compatible
USB port	2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal
Connection for keyboard/mouse	2x PS/2
serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232
parallel interface	optional LPT1
Multimedia	
• Audio In/Out	Yes
Special interfaces	
• Microphone In	Yes
Video interfaces	
• Graphics interface	2x DisplayPort and 1x DVI-I onboard; 1x VGA via DVI-VGA adapter cable (optional); graphics card PCIe (x16), Dual Head (2x VGA or 2x DVI-D), 512 MB graphics memory (optional)
Industrial Ethernet	
• Industrial Ethernet interface	2 x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes

■ Technical specifications (continued)

Article number	6AG4114-2....-....
	SIMATIC IPC847D (RACK PC)
Monitoring functions	
Temperature	Yes
Watchdog	Yes
Status LEDs	POWER, ETHERNET 1, ETHERNET 2, PN | MPI / DP, WATCHDOG, TEMP, FAN, HDD0 ALARM, HDD1 ALARM, HDD2 ALARM, HDD | HDD3 ALARM
Fan	Yes
Monitoring function via network	Optional
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4, Burst
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-3, FCC Class A, EN 61000-6-4, CISPR 22, EN 55022 Class B, EN 61000-3-2 Class D, EN 61000-3-3
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)	IP41
IP (rear)	IP20

Article number	6AG4114-2....-....
	SIMATIC IPC847D (RACK PC)
Standards, approvals, certificates	
Approval	CE, cULus 60950, KCC
CE mark	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)
UL approval	Yes
cULus	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
• EN 61000-6-2	Yes
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 °C to +45 °C, no burner operation, 0 °C to +50 °C, no operation of optical drive, power dissipation of the expansion cards in total < 30 W, maximum 3 removable drive bays, 0 °C to +40 °C with AC UPS, 0 °C to +35 °C with hardware RAID controller
• min.	0 °C
• max.	50 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s^2 (0.5 g)
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27, IEC 60068-2-29: half-sine: 50 m/s^2 (5 g), 30 ms, 100 shocks per axis
Operating systems	
Operating system	Windows 7 Ultimate, MUI, 32-bit / 64-bit; Windows Server 2012 R2 Standard Edition incl. 5 clients, MUI, 64-bit; Windows Server 2008 R2 Standard Edition incl. 5 clients, MUI, 64-bit
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
pre-installed operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32-bit or 64-bit
Software	
SIMATIC software	Optionally in package with SIMATIC WinCC or WinCC flexible
Dimensions	
Width	430 mm
Height	177 mm; 4U
Depth	444 mm

4

PC-based Automation
Rack PC

SIMATIC IPC847D

■ **Ordering data**   **Article No.**   **Article No.**

SIMATIC IPC847D	Article No. 6AG4114- 2 ■ ■ ■ ■ - ■ ■ ■ ■
Interfaces: RACK PC, 19", 4U Interfaces: 2 x GBIT LAN (RJ45); 1 x DVI-I; 2 x DisplayPort; 1 x COM; 2 x PS/2; audio; 2 x USB 3.0, 2 x USB 2.0 at rear; 1 x USB 3.0, 1 x USB 2.0 at front, 1 x USB 3.0 internal; temperature and fan monitoring, watchdog, card retainer;	
Processor / Main board	
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache); mainboard without fieldbus	D
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); mainboard with PROFIBUS/ MPI (CP 5622-compatible)	E
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache); mainboard with PROFINET (3 x RJ45, CP 1616-compatible)	F
• Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB Cache, TB, VT-d, AMT); mainboard without fieldbus	G
• Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache, TB, VT-x, VT-d, AMT); mainboard with PROFIBUS/MPI (CP 5622-compatible)	H
• Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache, TB, VT-d, AMT); mainboard with PROFINET (3 x RJ45, CP 1616-compatible)	J
• Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, TB, VT-d, AMT); mainboard without fieldbus	K
• Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, TB, VT-x, VT-d, AMT); mainboard with PROFIBUS/MPI (CP 5622-compatible)	L
• Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, TB, VT-d, AMT); mainboard with PROFINET (3 x RJ45, CP 1616-compatible)	M
• Xeon E3-1275 v3 (4C/8T, 3.5 (3.9) GHz, 8 MB cache, TB, VT-d, AMT); mainboard without fieldbus	N
• Xeon E3-1275 v3 (4C/8T, 3.5 (3.9) GHz, 8 MB cache, TB, VT-x, VT-d, AMT); mainboard with PROFIBUS/MPI (CP 5622-compatible)	P
• Xeon E3-1275 v3 (4C/8T, 3.5 (3.9) GHz, 8 MB cache, TB, VT-d, AMT); mainboard with PROFINET (3 x RJ45, CP 1616-compatible)	Q

Note:

Please use the TIA Selection Tool or the configurator
in the Industry Mall in order to ensure availability of the
required IPC configuration; we do not accept any liability
for self-customized configurations.

SIMATIC IPC847D	Article No. 6AG4114- 2 ■ ■ ■ ■ - ■ ■ ■ ■
Drives	
• 500 GB HDD SATA, internal (0.3 g vibration, 3 g shock)	A
• 500 GB HDD SATA, internal (0.5 g vibration, 5 g shock)	B
• 1 TB HDD SATA, internal (0.5 g vibration, 5 g shock)	C
• 2 x 1 TB HDD SATA, internal (0.5 g vibration, 5 g shock)	D
• RAID1, 1 TB (2 x 1 TB HDD SATA, mirror disks), internal (0.5 g vibration, 5 g shock)	E
• 500 GB HDD SATA in removable drive bay; front	F
• 1 TB HDD SATA in removable drive bay; front	G
• 2 x 1 TB HDD SAT in removable drive bay; front	H
• RAID1, 1 TB (2 x 1 TB HDD SATA, mirror disks) in removable drive bay, hot-swappable, front;	J
• RAID5, 2 TB (3 x 1 TB HDD, SATA, striping with parity) in removable drive bay, hot-swappable, front	K
• RAID5, 2 TB (3 x 1 TB HDD, SATA, striping with parity) in removable drive bay, hot swap + 1 TB SATA HDD as hot spare in removable drive bay, front;	L
• 240 GB SSD SATA, internal	M
• 240 GB SSD SATA in removable drive bay; front	N
• RAID1, 1 TB (2 x 1 TB HDD SATA, mirror disks), internal (0.5 g vibra- tion, 5 g shock) + 240 GByte SSD SATA (for operating system) in removable drive bay	P
• RAID1, 1 TB (2 x 1 TB HDD, SATA, mirror disks) in removable drive bay, hot swap + 1 TB HDD SATA as hot spare in removable drive bay, front;	Q
• RAID1, 1 TB (2 x 1 TB HDD SATA, mirror disks) + 240 GByte SSD SATA (for operating system) in removable drive bay, hot-swap; front	R
• RAID1, 1 TB (2x 1 TB HDD SAS, mirror disks) in removable drive bay, hot-swap, front; PCIe x8 RAID controller incl. ZMCP module (2 slots occupied)	S
• RAID1, 1 TB (2x 1 TB HDD SAS, mirror disks) in removable drive bay; PCIe x8 RAID controller incl. ZMCP module (2 slots occupied) + 240 GB SSD SATA (for operating system) in removable drive bay, front	T
• RAID5, 2 TB (3x 1 TB HDD SAS, striping with parity) in removable drive bay, hot-swap, front; PCIe x8 RAID controller incl. ZMCP module (2 slots occupied)	U
• RAID5, 2 TB (3x 1 TB HDD SAS, striping with parity) in removable drive bay, hot-swap, front; PCIe x8 RAID controller incl. ZMCP module (2 slots occupied) + 1 TB SATA HDD as hot spare in removable drive bay, front	V
• RAID1, 240 GB (2 x 240 GB SSD SATA, mirror disks), in removable drive bay, hot swap, at the front	W

4

■ Ordering data

SIMATIC IPC847D	Article No. 6AG4114- 2 ■ ■ ■ ■ - ■ ■ ■ ■

Memory configuration
• 2 GB DDR3 SDRAM (1 x 2 GB), single channel	1
• 4 GB DDR3 SDRAM (2 x 2 GB), dual channel	2
• 8 GB DDR3 SDRAM (2 x 4 GB), dual channel	3
• 16 GB DDR3 SDRAM (2 x 8 GB), dual channel	4
• 32 GB DDR3 SDRAM (4 x 8 GB), dual channel	5
• 8 GB DDR3 SDRAM, (2 x 4 GB), ECC, dual channel	6
• 16 GB DDR3 SDRAM, (2 x 8 GB), ECC, dual channel	7
• 32 GB DDR3 SDRAM, (4 x 8 GB), ECC, dual channel	8

Bus module / swap media
• Bus module 11 slot: 7 x PCI, 3 x PCIe x4, 1 x PCIe x16; without swap media	0
• Bus module 11 slot: 3 x PCI, 3 x PCIe x4, 5 x PCIe x16; without swap media	1
• Bus module 11 slot: 7 x PCI, 3 x PCIe x4, 1 x PCIe x16; DVD±RW (slim)	2
• Bus module 11 slot: 3 x PCI, 3 x PCIe x4, 5 x PCIe x16; DVD±RW (slim)	3

Expansion hardware
• Without expansions (hardware), onboard graphics;	0
• Without expansions (hardware), onboard graphics, DVI-I adapter cable, VGA-compliant for onboard graphics;	1
• Serial (COM2) + parallel (LPT, 1 slot reserved), onboard graphics;	2
• Serial (COM2) + parallel (LPT, 1 slot reserved), onboard graphics; DVI-I adapter cable, VGA-compliant for onboard graphics;	3
• Serial (COM2) + Parallel (LPT, 1 slot reserved) + PCIe x16 Graphics Card (Dual-Head: 2 x VGA or 2 x DVI-D), 512 MB, (1 slot reserved);	4

SIMATIC IPC847D	Article No. 6AG4114- 2 ■ ■ ■ ■ - ■ ■ ■ ■

Operating system (pre-installed and activated)
• Windows 7 Ultimate, 32-bit MUI (Eng, Ger, Fr, It, Sp), SP1	A
• Windows 7 Ultimate, 64-bit MUI (Eng, Ger, Fr, It, Sp), SP1	B
• Windows Server 2008 R2 Standard Edition incl. 5 Clients, 64-bit, MUI (Eng, Ger, Fr, It, Sp), SP1	F
• Windows Server 2012 R2 Standard Edition incl. 5 Clients, MUI (Eng, Fr, Ger, It, Sp), 64-bit	G
• Without operating system	X

Expansions (software) / Security
• SIMATIC IPC DiagMonitor software V4.x enclosed	A
• SIMATIC IPC Image Creator software 3.x enclosed	B
• SIMATIC IPC DiagMonitor 4.x and Image Creator software 3.x enclosed	C
• Without software (software)	X
• Without expansions (software) / TPM (not for China and Russia)	Y

Power supply, with country-specific cable
• 110 / 240 V industrial power supply unit with NAMUR; power cable for Europe	0
• 110 / 240 V industrial power supply unit with NAMUR; power cable for United Kingdom	1
• 110 / 240 V industrial power supply unit with NAMUR; power cable for Switzerland	2
• 110 / 240 V industrial power supply unit with NAMUR; power cable for USA	3
• 110 / 240 V industrial power supply unit with NAMUR; power cable for Italy	4
• 110 / 240 V industrial power supply unit with NAMUR; power cable for China	5
• 2 x 110 / 240 V redundant power supply; without power cable	6
• 110 / 240 V UPS V industrial power supply incl. maintenance-free lead-tin battery; without power supply cable	7
• 110 / 240 V industrial power supply with NAMUR; without power cable	8

For an up-to-date overview, see the SIMATIC IPC online configurator at: https://www.siemens.com/ipc-configurator

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

4

PC-based Automation
Rack PC

SIMATIC IPC847D

Ordering data	Article No.
Accessories	
Memory expansions	
• 2 GB DDR3 1600 DIMM	**6ES7648-2AJ50-0MA0**
• 4 GB DDR3 1600 DIMM	**6ES7648-2AJ60-0MA0**
• 8 GB DDR3 1600 DIMM	**6ES7648-2AJ70-0MA0**
• 8 GB DDR3 1600 DIMM, ECC	**6ES7648-2AJ70-1MA0**
Hardware accessories	
Tray for low-profile removable drive bay	**6ES7648-0EG01-1BA0**
For 3.5" hard drive (SATA/SAS) and 2.5" SSD (SATA), without drive	
Filter mats	**A5E01064980**
for SIMATIC IPC847D (packing unit: 10 units)	
Adapter cable	
• DisplayPort to DVI-D for onboard graphics	**6ES7648-3AF00-0XA0**
• DisplayPort to VGA for onboard graphics	**6ES7648-3AG00-0XA0**
Power cable, straight, 3 m long	
• Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden	**6ES7900-0AA00-0XA0**
• United Kingdom	**6ES7900-0BA00-0XA0**
• Switzerland	**6ES7900-0CA00-0XA0**
• USA	**6ES7900-0DA00-0XA0**
• Italy	**6ES7900-0EA00-0XA0**
• China	**6ES7900-0FA00-0XA0**
Tower Kit	**6ES7648-1AA00-0XD0**
for converting the computer into an industrial tower PC	
USB retainer	**6ES7648-1AA00-0XK0**
for interlocking the internal USB port	
Expansion components	See expansion components
Communication products	See expansion components
VxWorks real-time operating system	See expansion components

Note:

Software Packages with SIMATIC WinCC flexible, WinCC RT Advanced, SIMATIC WinCC, and SIMATIC WinAC RTX (F) can be ordered together with the SIMATIC IPC at a price advantage. More information under "Embedded bundles / Packages for industrial PCs".

More information

Additional information is available on the Internet at:

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

Overview

The SIMATIC IPC647C is a very rugged, high-performance industrial PC in 19" rack design (2U) with excellent industrial functionality.

It offers:

• Extreme compactness
• Extreme ruggedness
• Intel Core i technology

Technical specifications

Article number	6AG4112-1....-....
	SIMATIC IPC647C
Supply voltage	
Type of supply voltage	100 - 240 V AC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Processor	
Processor type	Core i7-610E (2.53 GHz 2C/4T, 4 MB Cache, TB, VT-x, VT-d, EM64T); Core i5-520E (2.4 GHz, 2C/4T, 3 MB Cache, TB, VT-x, VT-d, EM64T); Core i3-330E (2.13 GHz, 2C/4T, 3 MB Cache, VT-x, EM64T)
Drives	
Hard disk	250 GB or 500 GB SATA HDD, RAID1 HDD, 32 GB SATA SSD, installed internally in the shock and vibration-damped drive rack, or on the front drive support in the swap frame
Memory	
Type of memory	DDR3-SDRAM
Main memory	1 GB to 8 GB, ECC optional
Hardware configuration	
Slots	
• free slots	2x PCI, 1x PCIe x16 or 1x PCI, 1x PCIe x8 (4 lane), 1x PCIe x16; all modules up to 312 mm in length are supported
Interfaces	
Interfaces/bus type	2x COM, 1x LPT, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB 2.0, 2x Gigabit Ethernet, PROFIBUS or PROFINET optional
PROFIBUS/MPI	onboard, isolated, max. 12 Mbps, CP 5611-compatible
USB port	2x USB 2.0 on front, 4x USB 2.0 on rear, 1x USB 2.0 internal
Connection for keyboard/mouse	2x PS/2
serial interface	COM1: 1 x V.24 (RS 232), COM2: 1 x V.24 (RS 232C)
parallel interface	LPT1 (EPP/ECP)
Video interfaces	
• Graphics interface	1 x DVI-I or 1 x VGA (via adapter) optional

Article number	6AG4112-1....-....
	SIMATIC IPC647C
Monitoring functions	
Temperature	Yes
Watchdog	Yes
Status LEDs	POWER; HARD DISK; ETHERNET 1; ETHERNET 2; PROFIBUS/MPI; SF PROFINET; WATCHDOG; TEMP; HDD1 ALARM; HDD2 ALARM
Standards, approvals, certificates	
CE mark	Yes
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	+ 5 °C to + 35 °C without restrictions; + 5 °C to + 45 °C no burner operation; + 5 °C to + 50 °C no ODD operation; power dissipation of the expansion modules in total less than 30 W
• min.	5 °C
• max.	50 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	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
Software	
SIMATIC software	Optional in a package with SIMATIC WinCC, WinCC flexible, or WinAC RTX

PC-based Automation
Rack PC

SIMATIC IPC647C

Ordering data · Article No.

SIMATIC IPC647C [1]	6AG4112- 1 ▪ ▪ ▪ ▪ - ▪ ▪ ▪ ▪
Interfaces: 2 x 10/100/1000 Mbps Ethernet (RJ45); 1 x graphic (DVI-I); 2 x COM; 1 x LPT; 2 x PS/2; 4 x USB 2.0 at rear, 2 x USB 2.0 at front; 1 x USB 2.0 internal; audio; temperature and fan monitoring, watchdog; card retainer	
Processor/motherboard	
• Core i3-330E (2C/4T, 2.13 GHz, 3 MB cache), motherboard without fieldbus	G
• Core i3-330E (2C/4T, 2.13 GHz, 3 MB cache), motherboard with PROFIBUS/MPI	H
• Core i3-330E (2C/4T; 2.13 GHz, 3 MB cache), motherboard with PROFINET (3 x RJ45, CP 1616-compatible) [2]	J
• Core i5-520E (2C/4T, 2.4 GHz, 3 MB cache, TB, iAMT, VT), motherboard without fieldbus	K
• Core i5-520E (2C/4T, 2.4 GHz, 3 MB cache, TB, iAMT, VT), motherboard with PROFIBUS/MPI	L
• Core i5-520E (2C/4T, 2.4 GHz, 3 MB cache, TB, iAMT, VT), motherboard with PROFINET (3 x RJ45, CP 1616-compatible) [2]	M
• Core i7-610E (2C/4T, 2.53 GHz, 4 MB cache, TB, iAMT, VT), motherboard without field bus	N
• Core i7-610E (2C/4T, 2.53 GHz, 4 MB cache, TB, iAMT, VT), motherboard with PROFIBUS/MPI	P
• Core i7-610E (2C/4T; 2.53 GHz, 4 MB cache, TB, iAMT, VT), motherboard with PROFINET (3 x RJ45, CP 1616-compatible) [2]	R
Hard disks:	
• 250 GB HDD SATA; 0.5 g vibration, 5 g shock, internal	A
• 500 GB HDD SATA; 0.5 g vibration, 5 g shock, internal	B
• 2 x 500 GB HDD SATA; 0.5 g vibration, 5 g shock, internal	C
• RAID1 500 GB (2 x 250 GB HDD SATA, mirror disks); 0.5 g vibration, 5 g shock, internal	D
• 250 GB HDD SATA in removable drive bay; front	H
• 500 GB HDD SATA in removable drive bay; front	K
• 2 x 500 GB HDD SATA in removable drive bay; front	M
• RAID1 500 GB (2 x 250 GB HDD SATA) in removable drive bay, for hot swapping; front	P
• 50 GB SSD (SLC) SATA, internal	S
• 50 GB SSD (SLC) SATA in removable drive bay; front	T
• RAID1 1 TB (2 x 1 TB HDD SAS) in removable drive bay, for hot-swapping, front; PCIe x8 RAID controller with zero-maintenance cache protection module in PCIe x16 slot [3]	U

SIMATIC IPC647C [1] · Article No.

SIMATIC IPC647C [1]	6AG4112- 1 ▪ ▪ ▪ ▪ - ▪ ▪ ▪ ▪
Memory configuration:	
• 1 GB DDR3 SDRAM (1 x 1 GB), single channel	0
• 2 GB DDR3 SDRAM (1 x 2 GB), single channel	1
• 4 GB DDR3 SDRAM (2 x 2 GB), dual channel	2
• 6 GB DDR3 SDRAM (1 x 2 GB, 1 x 4 GB), dual channel	3
• 8 GB DDR3 SDRAM (2 x 4 GB), dual channel	4
• 2 GB DDR3 SDRAM (2 x 1 GB), dual channel	5
• 4 GB DDR3 SDRAM (2 x 2 GB), dual channel	6
• 8 GB DDR3 SDRAM (2 x 4 GB), dual channel	7
Swap media:	
• CompactFlash drive, at front	0
• DVD±RW	1
• without swap medium	8
Bus module / expansion hardware	
• Bus modules 3 slots: 2 x PCI; 1 x PCIe x16; without hardware expansions	0
• Bus modules 3 slots: 2 x PCI; 1 x PCIe x16; DVI-VGA adapter (1 x VGA) for onboard graphics	1
• Bus modules 3 slots: 2 x PCI; 1 x PCIe x16 assigned; + graphics card PCIe x16, 2 x DP (2 x DVI-D via 2 x DP-DVI adapters)	2
• Bus modules 3 slots: 2 x PCI; 1 x PCIe x16 assigned; + graphics card PCIe x16, 2 x DP (2 x VGA via 2 x DP-VGA adapters)	3
• Bus modules 3 slots: 1 x PCI, 1 x PCIe x8 (4-lane); 1 x PCIe x16; without HW expansions	4
• Bus modules 3 slots: 1 x PCI; 1 x PCIe x8 (4-lane); 1 x PCIe x16; DVI-VGA adapter (1 x VGA) for onboard graphics	5
• Bus modules 3 slots: 1 x PCI; 1 x PCIe x8 (4-lane); 1 x PCIe x16 assigned; + graphics card PCIe x16, 2 x DP (2x DVI-D via 2x DP-DVI adapters)	6
• Bus modules 3 slots: 1 x PCI; 1 x PCIe x8 (4-lane); 1 x PCIe x16 assigned; + graphics card PCIe x16, 2 x DP (2x VGA via 2x DP-VGA adapters)	7

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[1] For an up-to-date overview, see the SIMATIC PC online configurator at: http://www.siemens.com/ipc-configurator

[2] Not in combination with Windows Server operating systems.

[3] Not in combination with graphics card, Windows XP, Windows 7 (32-bit), without removable media.

<u>Note:</u>

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

■ Ordering data

	Article No.
SIMATIC IPC647C [1]	**6AG4112- 1 ■■■■ - ■■■■**

Operating system
(pre-installed and activated)
- Windows XP Professional, MUI (Eng, Ger, Fr, It, Sp), 32-bit, SP3 — **B**
- Windows 7 Ultimate, MUI (Eng, Ger, Fr, It, Sp), 32-bit, SP1 — **E**
- Windows 7 Ultimate, MUI (Eng, Ger, Fr, It, Sp), 64-bit, SP1 — **F**
- Windows Server 2003 R2 Standard Edition incl. 5 clients, MUI (Eng, Fr, Ger, It, Sp), 32-bit, SP2 — **N**
- Windows Server 2008 Standard Edition incl. 5 clients, MUI (Eng, Ger, Fr, It, Sp), 32-bit, SP2 — **P**
- Windows Server 2008 R2 Standard Edition incl. 5 Clients, MUI (Eng, Ger, Fr, It, Sp), 64-Bit, SP1 — **Q**
- Without operating system — **X**

Expansion (software)
- SIMATIC IPC DiagMonitor 4.x enclosed — **A**
- SIMATIC IPC Image Creator software 3.x enclosed — **B**
- SIMATIC IPC DiagMonitor 4.x and Image Creator software 3.x enclosed — **C**
- Without software — **X**

Power supply, with country-specific cable:
- 100/240°V°AC industrial power supply with Namur; power cable for Europe — **0**
- 100/240 V AC industrial power supply with Namur; power cable for United Kingdom — **1**
- 100/240 V AC industrial power supply with Namur; power cable for Switzerland — **2**
- 100/240 V AC industrial power supply with Namur; power cable for USA — **3**
- 100/240 V AC industrial power supply with Namur; power cable for Italy — **4**
- 100/240 V AC industrial power supply with Namur; power cable for China — **5**
- 100/240 V AC redundant power supply with Namur; without power cable — **6**

[1] For an up-to-date overview, see the SIMATIC PC online configurator at:
http://www.siemens.com/ipc-configurator

Accessories

	Article No.
Memory expansion	
• 1 GB DDR3 1066 SDRAM, DIMM	**6ES7648-2AJ40-0KA0**
• 2 GB DDR3 1066 SDRAM, DIMM	**6ES7648-2AJ50-0KA0**
• 4 GB DDR3 1066 SDRAM, DIMM	**6ES7648-2AJ60-0KA0**
• 1 GB DDR3 1066 SDRAM, DIMM, ECC	**6ES7648-2AJ40-1KA0**
• 2 GB DDR3 1066 SDRAM, DIMM, ECC	**6ES7648-2AJ50-1KA0**
• 4 GB DDR3 1066 SDRAM, DIMM, ECC	**6ES7648-2AJ60-1KA0**
Hard disk slide-in unit for removable drive bay SIMATIC PC accessories, slide-in HDD removable drive bay, low-profile, for 3.5" hard disk, serial ATA / SAS (without hard disk)	**6ES7648-0EG00-1BA0**
Filter mats for SIMATIC IPC647C (packing unit: 10 units)	**A5E02396171**
Power cable, straight, 3 m long	
• Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden	**6ES7900-0AA00-0XA0**
• United Kingdom	**6ES7900-0BA00-0XA0**
• Switzerland	**6ES7900-0CA00-0XA0**
• USA	**6ES7900-0DA00-0XA0**
• Italy	**6ES7900-0EA00-0XA0**
• China	**6ES7900-0FA00-0XA0**
USB retainer for pin assignment of the internal USB port	**6ES7648-1AA00-0XK0**
Expansion components	See expansion components
Communication products	See expansion components
RMOS real-time operating system	See RMOS

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

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 favorable prices. More information under "Embedded bundles / Packages for industrial PCs".

■ More information

Additional information is available on the Internet at:

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

4

PC-based Automation
Rack PC

SIMATIC IPC847C

◼ Overview

The SIMATIC IPC847C is a very robust, high-performance industrial PC in 19" rack design (4U) with excellent industrial functionality.

It offers:
- Maximum expandability
- Extreme ruggedness
- Intel Core i technology

◼ Technical specifications

Article number	6AG4114-1....-.... SIMATIC IPC847C
Supply voltage	
Type of supply voltage	100 - 240 V AC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Processor	
Processor type	Core i7-610E (2.53 GHz 2C/4T, 4 MB Cache, TB, VT-x, VT-d, EM64T); Core i5-520E (2.4 GHz, 2C/4T, 3 MB Cache, TB, VT-x, VT-d, EM64T); Core i3-330E (2.13 GHz, 2C/4T, 3 MB Cache, VT-x, EM64T)
Drives	
Hard disk	250 GB or 500 GB SATA HDD, RAID1/RAID5 HDD, 32 GB SATA SSD, installed internally on the drive carrier, in the shock and vibration-damped drive rack, or on the front drive support in the swap frame
Memory	
Type of memory	DDR3-SDRAM
Main memory	1 GB to 8 GB, ECC optional
Hardware configuration	
Slots	
• free slots	7x PCI, 1x PCIe x16 or 7 x PCI, 3x PCIe x4, 1x PCIe x16; all modules up to 312 mm in length are supported

Article number	6AG4114-1....-.... SIMATIC IPC847C
Interfaces	
Interfaces/bus type	2x COM, 1x LPT, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB 2.0, 2x Gigabit Ethernet, PROFIBUS or PROFINET optional
PROFIBUS/MPI	onboard, isolated, max. 12 Mbps, CP 5611-compatible
USB port	2x USB 2.0 on front, 4x USB 2.0 on rear, 1x USB 2.0 internal
Connection for keyboard/mouse	2x PS/2
serial interface	COM1: 1 x V.24 (RS 232), COM2: 1 x V.24 (RS 232C)
parallel interface	LPT1 (EPP/ECP)
Multimedia	
• Audio In/Out	Yes
Special interfaces	
• Microphone In	Yes
Video interfaces	
• Graphics interface	1 x DVI-I or 1 x VGA (via adapter) optional
Industrial Ethernet	
• Industrial Ethernet interface	2 x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
Monitoring functions	
Temperature	Yes
Watchdog	Yes
Status LEDs	POWER; HARD DISK; ETHERNET 1; ETHERNET 2; PN I MPI/DP; WATCHDOG; TEMP; HDD1 ALARM; HDD2 ALARM; HDD3 ALARM
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	+ 5 °C to + 35 °C without restrictions; + 5 °C to + 45 °C no burner operation; + 5 °C to + 50 °C no ODD operation; power dissipation of the expansion modules in total less than 30 W
• min.	5 °C
• max.	50 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested according to IEC 60068-2-6: 10 cycles, 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s² (0.5 g)
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27, IEC 60068-2-29: half-sine: 50 m/s² (5 g), 30 ms, 100 shocks per axis
Operating systems	
Operating system	Windows XP Professional, 32-bit, MUI; Windows 7 Ultimate, 32-bit, MUI; Windows Server 2008 Standard Edition incl. 5 Clients, 32-bit, MUI
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
Software	
SIMATIC software	Optional in a package with SIMATIC WinCC, WinCC flexible, or WinAC RTX

4

Ordering data

SIMATIC IPC847C [1]	Article No. 6AG4114- 1 ▪▪▪▪ - ▪▪▪▪
Interfaces: 2 x 10/100/1000 Mbps Ethernet (RJ45); 1 x graphic (DVI-I); 2 x COM; 1 x LPT; 2 x PS/2; 4 x USB 2.0 at rear, 2 x USB 2.0 at front, 1 x USB 2.0 internal; audio; temperature and fan monitoring, watchdog;	
Processor, motherboard:	
• Core i3-330E (2C/4T, 2.13 GHz, 3 MB cache), motherboard without fieldbus	G
• Core i3-330E (2C/4T, 2.13 GHz, 3 MB cache), motherboard with PROFIBUS/MPI	H
• Core i3-330E (2C/4T; 2.13 GHz, 3 MB cache), motherboard with PROFINET (3 x RJ45, CP 1616-compatible) [2]	J
• Core i5-520E (2C/4T, 2.4 GHz, 3 MB cache, TB, iAMT, VT), motherboard without fieldbus	K
• Core i5-520E (2C/4T, 2.4 GHz, 3 MB cache, TB, iAMT, VT), motherboard with PROFIBUS/MPI	L
• Core i5-520E (2C/4T; 2.4 GHz, 3 MB cache, TB, iAMT, VT), motherboard with PROFINET (3 x RJ45, CP 1616-compatible) [2]	M
• Core i7-610E (2C/4T, 2.53 GHz, 4 MB cache, TB, iAMT, VT), motherboard without field bus	N
• Core i7-610E (2C/4T, 2.53 GHz, 4 MB cache, TB, iAMT, VT), motherboard with PROFIBUS/MPI	P
• Core i7-610E (2C/4T, 2.53 GHz, 4 MB cache, TB, iAMT, VT), motherboard with PROFINET (3 x RJ45, CP 1616-compatible) [2]	R

SIMATIC IPC847C [1]	Article No. 6AG4114- 1 ▪▪▪▪ - ▪▪▪▪
Hard disks:	
• 250 GB HDD SATA; 0.5 g vibration, 5 g shock, internal	A
• 500 GB HDD SATA; 0.5 g vibration, 5 g shock, internal	B
• 2 x 500 GB HDD SATA; 0.5 g vibration, 5 g shock, internal	C
• RAID1 500 GB (2 x 500 GB HDD SATA, mirror disks); 0.5 g vibration, 5 g shock, internal	D
• 250 GB HDD SATA; 0.3 g vibration, 3 g shock, internal	G
• 250 GB HDD SATA in removable drive bay; front	H
• 500 GB HDD SATA in removable drive bay; front	K
• 2 x 500 GB HDD SATA in removable drive bay; front	M
• RAID1 500 GB (2 x 500 GB HDD SATA) in removable drive bay, for hot swapping; front	P
• RAID5 1 TB (3 x 500 GB HDD SATA) in removable drive bay, for hot swapping; front	R
• 50 GB SSD (SLC) SATA, internal	S
• 50 GB SSD (SLC) SATA in removable drive bay; front	T
• RAID1 1 TB (2 x 1 TB HDD SAS) in removable drive bay, for hot-swapping, front; PCIe x8 RAID controller with zero-maintenance cache protection module in PCIe x16 slot [3]	U
• RAID5 1.8 TB (3 x 1 TB HDD SAS) in removable drive bay, for hot-swapping, front; PCIe x8 RAID controller with zero-maintenance cache protection module in PCIe x16 slot [3]	V
Memory configuration:	
• 1 GB DDR3 SDRAM (1 x 1 GB), single channel	0
• 2 GB DDR3 SDRAM (1 x 2 GB), single channel	1
• 4 GB DDR3 SDRAM (2 x 2 GB), dual channel	2
• 6 GB DDR3 SDRAM (1 x 2 GB, 1 x 4 GB), dual channel	3
• 8 GB DDR3 SDRAM (2 x 4 GB), dual channel	4
• 2 GB DDR3 SDRAM (2 x 1 GB), dual channel	5
• 4 GB DDR3 SDRAM (2 x 2 GB), dual channel	6
• 8 GB DDR3 SDRAM (2 x 4 GB), dual channel	7

[1] For an up-to-date overview, see the SIMATIC PC online configurator at: http://www.siemens.com/ipc-configurator

[2] Not in combination with Windows Server 2008 R2, Windows Server 2008 and Windows Server 2003 R2

[3] Not in combination with graphics card, Windows XP, Windows 7 (32-bit), without removable media

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

4

PC-based Automation
Rack PC

SIMATIC IPC847C

Ordering data	Article No.

SIMATIC IPC847C [1] — **6AG4114- 1 ▨▨▨▨ - ▨▨▨▨**

Swap media:
- DVD-ROM — **1**
- DVD+/-RW — **2**
- Without swap medium — **8**

Bus module / hardware expansion
- Bus module, 8 slots:
  7 x PCI, 1 x PCIe x16;
  without hardware expansions — **0**
- Bus module, 8 slots:
  7x PCI, 1 x PCIe x16; DVI-VGA
  adapter (1 x VGA) for onboard
  graphics — **1**
- Bus module, 8 slots:
  7 x PCI; 1 x PCIe x16 occupied;
  + graphics card PCIe x16, 2 x DP
  (2 x DVI-D via 2 x DP-DVI adapter) — **2**
- Bus module, 8 slots:
  7 x PCI; 1 x PCIe x16 occupied;
  + graphics card PCIe x16, 2 x DP
  (2x VGA via 2 x DP-VGA adapters) — **3**
- Bus module, 11 slots:
  7 x PCI, 1 x PCIe x16, 3 x PCIe x4;
  without HW expansions — **4**
- Bus module, 11 slots:
  7 x PCI, 1 x PCIe x16, 3 x PCIe x4;
  + DVI-VGA adapter (VGA)
  for onboard graphics — **5**
- Bus module, 11 slots:
  7 x PCI, 1 x PCIe x16 occupied,
  3 x PCIe x4; + graphics card
  PCIe x16, 2 x DP (2 x DVI-D
  via 2x DP-DVI adapter) — **6**
- Bus module, 11 slots:
  7 x PCI, 1x PCIe x16 occupied,
  3 x PCIe x4; + graphics card
  PCIe x16, 2 x DP (2 x VGA
  via 2 x DP-VGA adapter) — **7**

SIMATIC IPC847C [1] — **6AG4114- 1 ▨▨▨▨ - ▨▨▨▨**

Operating system
(pre-installed and activated)
- Windows XP Professional, MUI
  (Eng, Ger, Fr, It, Sp), 32-bit, SP3 — **B**
- Windows 7 Ultimate, MUI
  (Eng, Ger, Fr, It, Sp), 32-bit, SP1 — **E**
- Windows 7 Ultimate, MUI
  (Eng, Ger, Fr, It, Sp), 64-bit, SP1 — **F**
- Windows Server 2003 R2 Stan-
  dard Edition incl. 5 clients, MUI
  (Eng, Fr, Ger, It, Sp), 32-bit, SP2 — **N**
- Windows Server 2008 Standard
  Edition incl. 5 clients, MUI
  (Eng, Ger, Fr, It, Sp), 32-bit, SP2 — **P**
- Windows Server 2008 R2
  Standard Edition incl. 5 clients,
  MUI (Eng, Ger, Fr, It, Sp), 64-bit,
  SP1 enclosed — **Q**
- Without operating system — **X**

Expansion software
- SIMATIC IPC DiagMonitor 4.x
  enclosed — **A**
- SIMATIC IPC Image Creator
  software 3.x enclosed — **B**
- SIMATIC IPC DiagMonitor 4.x &
  Image Creator software 3.x
  enclosed — **C**
- Without software — **X**

Power supply,
with country-specific cable
- 100/240 V AC industrial power
  supply with Namur;
  power cable for Europe — **0**
- 100/240 V AC industrial power
  supply with Namur;
  power cable for United Kingdom — **1**
- 100/240 V AC industrial power
  supply with Namur;
  power cable for Switzerland — **2**
- 100/240 V AC industrial power
  supply with Namur;
  power cable for USA — **3**
- 100/240 V AC industrial power
  supply with Namur;
  power cable for Italy — **4**
- 100/240 V AC industrial power
  supply with Namur;
  power cable for China — **5**
- 100/240 V AC industrial redundant
  power supply unit with Namur;
  without power cable — **6**

[1] For an up-to-date overview, see the SIMATIC PC online configurator at:
http://www.siemens.com/ipc-configurator

Note:

Please use the TIA Selection Tool or the configurator
in the Industry Mall in order to ensure availability of the
required IPC configuration; we do not accept any liability
for self-customized configurations.

Ordering data	Article No.
Accessories	
Memory expansion	
• 1 GB DDR3 1066 SDRAM, DIMM	**6ES7648-2AJ40-0KA0**
• 2 GB DDR3 1066 SDRAM, DIMM	**6ES7648-2AJ50-0KA0**
• 4 GB DDR3 1066 SDRAM, DIMM	**6ES7648-2AJ60-0KA0**
• 1 GB DDR3 1066 SDRAM, DIMM, ECC	**6ES7648-2AJ40-1KA0**
• 2 GB DDR3 1066 SDRAM, DIMM, ECC	**6ES7648-2AJ50-1KA0**
• 4 GB DDR3 1066 SDRAM, DIMM, ECC	**6ES7648-2AJ60-1KA0**
Hard disk slide-in unit for removable drive bay	**6ES7648-0EG00-1BA0**
SIMATIC PC accessories, slide-in unit for low-profile HDD removable drive bay, for 3.5" hard disk, SATA / SAS (without hard disk)	
Filter mats	**A5E01064980**
For Rack PC 847B and IPC847C Packing unit 10 units	
Power cable, straight, 3 m long	
• Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden	**6ES7900-0AA00-0XA0**
• United Kingdom	**6ES7900-0BA00-0XA0**
• Switzerland	**6ES7900-0CA00-0XA0**
• USA	**6ES7900-0DA00-0XA0**
• Italy	**6ES7900-0EA00-0XA0**
• China	**6ES7900-0FA00-0XA0**
Tower Kit	**6ES7648-1AA00-0XD0**
for converting the computer into an industrial tower PC	
Retainer	**6ES7648-1AA00-0XK0**
for pin assignment of the internal USB port	
Expansion components	See expansion components
Communication products	See expansion components
RMOS real-time operating system	See RMOS

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 favorable prices.
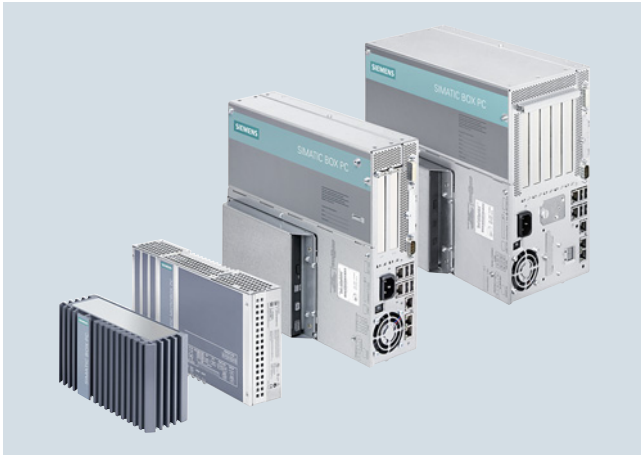
More information under "Embedded bundles / Packages for industrial PCs".

More information

Additional information is available on the Internet at:

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

4

PC-based Automation
Box PC

Introduction

Overview

SIMATIC Box PCs provide mechanical engineers, plant engineers and control cabinet makers with particularly rugged industrial PC systems for use in powerful yet compact applications.

The following device classes are available for various requirements:
- SIMATIC IPC227 (Nanobox PC): The Box PC with optimized performance in compact design – maintenance-free and rugged
- SIMATIC IPC427 (Microbox PC): The powerful embedded IPC – maintenance-free with versatile configuration
- SIMATIC IPC627/IPC827 (Box PC): The high-end IPC – with maximum performance, functional scope, and expansion capability

Shared industrial functionality:
- Extreme compactness
- Certification for global marketing
- System-tested with SIMATIC components
- High vibration/shock load during operation
- Wide operational temperature range
- Robust data storage with CompactFlash/CFast or Solid-State Drive (SSD)
- Varied mounting possibilities for flexibility with installation
- Designed for 24-hour continuous operation
- Integrated parameterizable monitoring functions (temperature, fan, watchdog)
- High service friendliness
- Operating system pre-installed and activated for fast startup
- Motherboard developed and manufactured by Siemens
- Availability for 3 to 6 years
- Repairs and spare parts service for 5 years
- High component/design continuity
- Long-term availability of PC components from the Intel embedded line

SIMATIC IPC227 (Nanobox PC): The Box PC with optimized performance in compact design – maintenance-free and rugged
- Maximum compactness with approx. 1 liter enclosure volume with integrated industrial power supply for minimum space requirements in the control cabinet
- Maximum flexibility thanks to several mounting options and interfaces on one side suitable for every installation situation
- Optimum variety of interfaces due to a large number of integrated interfaces such as a selectable serial connection and 2 x teaming-capable Gigabit-Ethernet
- Maximum industrial functionality due to closed enclosure for optimum dust protection and non-volatile retentive memory
- Further device options for optimum adaptation to the application with additional PCIe slot

SIMATIC IPC427 (Microbox PC): The powerful embedded IPC – maintenance-free with versatile configuration
- Fan-free operation
- High performance with maximum compactness and ruggedness for direct installation in the machine
- Optimized for embedded applications
- Flexibility expandable using one or two PCIe I/O cards (optional)
- Flexible installation options due to DIN rail/wall/front upright mounting, even outside a control cabinet
- NVRAM for retentive data storage (optional)

SIMATIC IPC627/IPC827 (Box PC): The high-end IPC – with maximum performance, functional scope, and expansion capability
- Maximum system performance for complex measuring, control and visualization tasks
- High flexibility with expansion slots and integral interfaces
- Flexible, space-saving installation with mounting brackets or portrait assembly kits
- Rugged design for direct installation in the machine
- RAID1 controller onboard
- Maximum processor performance up to an ambient temperature of 55 °C
- High system availability
- Battery-backed SRAM as memory for WinAC data
- 4 signaling LEDs

■ Technical specifications

Article number	6ES7647-8B...-....	6AG4140-.....-...0	6AG4131-2....-....	6AG4132-2....-....
	SIMATIC IPC227E (NANOBOX PC)	SIMATIC IPC427D (MICROBOX PC)	SIMATIC IPC627D (BOX PC)	SIMATIC IPC827D (BOX PC)
Installation type/mounting				
Mounting	DIN rail, wall mounting, portrait mounting	DIN rail, wall mounting, portrait mounting	Wall mounting, portrait mounting	Wall mounting, portrait mounting
Design	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit
Supply voltage				
Type of supply voltage	24 V DC	24 V DC	100/240 V AC (autorange); 24 V DC	100/240 V AC (autorange); 24 V DC
Line frequency				
• Rated value 50 Hz			Yes	Yes
• Rated value 60 Hz			Yes	Yes
Mains buffering				
• Mains/voltage failure stored energy time	20 ms		20 ms	20 ms
Processor				
Processor type	Intel Celeron N2807 / N2930	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)
Chipset			Intel DH82C226 PCH	Intel DH82C226 PCH
Graphic				
Graphics controller		Intel HD Graphics, Intel HD Graphics 4000	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)
Drives				
Optical drives			DVD±R±RW combi-drive, optional	DVD±R±RW combi-drive, optional
Hard disk	2.5" SATA ≥ 320 GB	2.5" SATA ≥ 320 GB	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped
SSD	Yes; ≥ 80 GB optional	Yes; ≥ 80 GB, optional ≥ 160 GB	Yes; ≥ 240 GB optional	Yes; ≥ 240 GB optional
Memory				
Type of memory	DDR3L	DDR3 SO-DIMM	DDR3 1600 DIMM	DDR3 1600 DIMM
Main memory	2 / 4 / 8 GB	1 / 2 / 4 / 8 GB; ECC optional	2 / 4 / 8 / 16 GB; ECC optional	2 / 4 / 8 / 16 GB; ECC optional
Data areas and their retentivity				
retentive data area in total (incl. times, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional	512 kbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration				
Slots				
• free slots	1x PCIe x1 (optional)	2x PCIe; optional: 1x PCIe (x4); 2x PCIe (x1, x4), with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer	3x PCI, 1x PCIe (x4), 1x PCIe (x16); with card retainer

4

PC-based Automation
Box PC

Technical specifications (continued)

Article number	6ES7647-8B...-....	6AG4140-.....-...0	6AG4131-2....-....	6AG4132-2....-....
	SIMATIC IPC227E (NANOBOX PC)	SIMATIC IPC427D (MICROBOX PC)	SIMATIC IPC627D (BOX PC)	SIMATIC IPC827D (BOX PC)
Interfaces				
PROFIBUS/MPI		onboard, isolated, max. 12 Mbps, CP 5611-compatible	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5622	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5622
Number of PROFINET interfaces		1; 3 ports (incl. switch)	3; Optional	3; Optional
USB port	1x USB 3.0 / 3x USB 2.0	4x USB 3.0	4x USB 3.0	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB	USB / USB
serial interface	Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS	COM1: 1x RS 232, COM2 (optional): 1x RS 232	1x COM1 (RS 232), optional: 1x COM2 (RS 232)	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface			optional LPT1	optional LPT1
Video interfaces				
• Graphics interface	1x DisplayPort	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
Industrial Ethernet				
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	Onboard, 2 x 10/100/1000 Mbps, RJ45, no plug-in card necessary	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes
Monitoring functions				
Temperature	Yes	Yes	Yes	Yes
Watchdog	Yes	Yes	Yes	Yes
Status LEDs	Yes	Yes	Yes	Yes
Fan	No		Yes	Yes
Monitoring function via network	Optional	Optional	Optional	Optional
EMC				
Interference immunity against discharge of static electricity				
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity to cable-borne interference				
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
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

4

■ **Technical specifications** (continued)

Article number	6ES7647-8B...-....	6AG4140-.....-...0	6AG4131-2....-....	6AG4132-2....-....
	SIMATIC IPC227E (NANOBOX PC)	SIMATIC IPC427D (MICROBOX PC)	SIMATIC IPC627D (BOX PC)	SIMATIC IPC827D (BOX PC)
Interference immunity against high-frequency electromagnetic fields				
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to magnetic fields				
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference				
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection				
IP (at the front)	IP40	IP20	IP20	IP20
IP (rear)	IP40	IP20	IP20	IP20
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes
• UL 508	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
FCC	Yes	Yes	Yes	Yes
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005	CE, EN 55022A, EN 61000-6-4, EN 61000-6-2	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
• EN 61000-6-2	Yes	Yes	Yes	Yes
Dust protection	Protection against foreign bodies > 1 mm			
Marine approval				
• Germanischer Lloyd (GL)	Yes	Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes	Yes	Yes

4

PC-based Automation
Box PC

Introduction

Technical specifications (continued)

Article number	6ES7647-8B...-....	6AG4140-.....-...0	6AG4131-2....-....	6AG4132-2....-....
	SIMATIC IPC227E (NANOBOX PC)	SIMATIC IPC427D (MICROBOX PC)	SIMATIC IPC627D (BOX PC)	SIMATIC IPC827D (BOX PC)
Ambient conditions				
Ambient temperature during operation				
• Ambient temperature during operation	0 °C up to 60 °C	0 °C to +55 °C	+5 °C up to 55 °C	+5 °C up to 55 °C
• min.	0 °C	0 °C	5 °C	5 °C
• max.	60 °C	55 °C	55 °C	55 °C
Relative humidity				
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations				
• Vibration load in operation	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s² (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/s² (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/s² (1g)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)
Shock testing				
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s², 11 ms	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 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) 32-bit / 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes	Yes	Yes	Yes
without operating system	Yes	Yes	Yes	Yes
pre-installed operating system				
• Windows 7	Yes; Ultimate 32-bit or 64-bit	Yes; Ultimate 32-bit or 64-bit	Yes; Ultimate 32-bit or 64-bit	Yes; Ultimate 32-bit or 64-bit
Software				
SIMATIC software	Optional package with SIMATIC WinCC or WinAC RTX	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX
Dimensions				
Width	191 mm	262 mm	312 mm	312 mm
Height	100 mm	139.7 mm	81 mm; with DVD drive: 105 mm	155 mm; With DVD drive: 179 mm
Depth	60 mm	50.5 mm	301 mm; incl. mounting rail	301 mm; incl. mounting rail

More information

Additional information is available on the Internet at:

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

Information material can be ordered or downloaded from the Internet:

http://www.siemens.com/simatic/printmaterial

4

■ Overview

SIMATIC IPC227E (Nanobox PC): The Box PC with optimized performance in compact design – maintenance-free and rugged

The SIMATIC IPC227E Nanobox PC is an extremely compact and flexible embedded industrial PC.

Thanks to its closed, dust-protected all-metal enclosure, the IPC227E offers maximum industrial functionality for flexible use under harsh conditions - while remaining maintenance-free.

Modern interfaces and the option for expansion via a PCIe slot mean this Box PC can be easily integrated into the automation system. The latest Intel Dual-Core and Quad-Core processors ensure excellent performance here in an ultra-compact design.

■ Technical specifications

Article number	**6ES7647-8B...-....**
	SIMATIC IPC227E (NANOBOX PC)
Installation type/mounting	
Mounting	DIN rail, wall mounting, portrait mounting
Design	Box PC, built-in unit
Supply voltage	
Type of supply voltage	24 V DC
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Intel Celeron N2807 / N2930
Drives	
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; ≥ 80 GB optional
Memory	
Type of memory	DDR3L
Main memory	2 / 4 / 8 GB
Data areas and their retentivity	
retentive data area in total (incl. times, 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
Monitoring functions	
Temperature	Yes
Watchdog	Yes
Status LEDs	Yes
Fan	No
Monitoring function via network	Optional

4

Ordering data

	Article No.
SIMATIC IPC227E	**6ES7647- 8 B**■■■**-**■■■■

Processor
- Celeron N2807 (2C/2T) — **A**
- Celeron N2930 (4C/4T) — **B**

Main memory / NVRAM
- 2 GB — **1**
- 4 GB — **2**
- 8 GB — **3**
- 2 GB / NVRAM — **4**
- 4 GB / NVRAM — **5**
- 8 GB / NVRAM — **6**

Device version / interface
- Basis without COM — **1**
- Basis with COM1/2 — **2**
- PCIe without COM — **3**
- PCIe with COM1/2 — **4**

Operating system
- Without OS — **0**
- Windows Embedded Standard 7 E SP1, English, 32-bit — **1**
- Windows Embedded Standard 7 E SP1, English, 64-bit — **2**
- Windows Embedded Standard 7 P SP1, English, 32-bit — **3**
- Windows Embedded Standard 7 P SP1, English, 64-bit — **4**
- Windows 7 Ultimate SP1, 32-bit, MUI (Eng, Ger, Fr, It, Sp) — **5**
- Windows 7 Ultimate SP1, 64-bit, MUI (Eng, Ger, Fr, It, Sp) — **6**

Mass storage
- None — **A**
- 80 GB SSD — **B**
- ≥ 160 GB SSD — **C**
- 4 GB CFast — **K**
- 8 GB CFast — **L**
- 16 GB CFast — **M**
- 320 GB HDD — **R**

Software
- None — **A**

Mounting accessories
- Standard rail — **1**
- Wall mounting — **2**
- Portrait mounting — **3**
- Standard rail mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2 — **4**
- Wall mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2 — **5**
- Portrait mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2 — **6**

More information

Additional information is available on the Internet at:

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

4

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

PC-based Automation
Box PC

SIMATIC IPC427D

■ **Overview**

SIMATIC IPC427D (Microbox PC): The powerful embedded IPC – maintenance-free with versatile configuration

Ready to start complete solution:
- Ultra-compact
- Maintenance-free
- Third generation Intel Core i technology

■ **Technical specifications**

Article number	6AG4140-.....-...0	6AG4140-.....-...8
	SIMATIC IPC427D (MICROBOX PC)	SIMATIC IPC427D (MICROBOX PC) WITH TPM
Installation type/mounting		
Mounting	DIN rail, wall mounting, portrait mounting	DIN rail, wall mounting, portrait mounting
Design	Box PC, built-in unit	Box PC, built-in unit
Supply voltage		
Type of supply voltage	24 V DC	24 V DC
Processor		
Processor type	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)
Graphic		
Graphics controller	Intel HD Graphics, Intel HD Graphics 4000	Intel HD Graphics, Intel HD Graphics 4000
Drives		
Hard disk	2.5" SATA ≥ 320 GB	2.5" SATA ≥ 320 GB
SSD	Yes; ≥ 80 GB, optional ≥ 160 GB	Yes; ≥ 80 GB, optional ≥ 160 GB
Memory		
Type of memory	DDR3 SO-DIMM	DDR3 SO-DIMM
Main memory	1 / 2 / 4 / 8 GB; ECC optional	1 / 2 / 4 / 8 GB; ECC optional
Data areas and their retentivity		
retentive data area in total (incl. times, 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	onboard, isolated, max. 12 Mbps, CP 5611-compatible	onboard, isolated, max. 12 Mbps, CP 5611-compatible
Number of PROFINET interfaces	1; 3 ports (incl. switch)	1; 3 ports (incl. switch)
USB port	4x USB 3.0	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB
serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232	COM1: 1x RS 232, COM2 (optional): 1x RS 232

4

Technical specifications (continued)

Article number	6AG4140-.....-...0	6AG4140-.....-...8
	SIMATIC IPC427D (MICROBOX PC)	SIMATIC IPC427D (MICROBOX PC) WITH TPM
Video interfaces		
• Graphics interface	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
Industrial Ethernet		
• Industrial Ethernet interface	Onboard, 2 x 10/100/1000 Mbps, RJ45, no plug-in card necessary	Onboard, 2 x 10/100/1000 Mbps, RJ45, no plug-in card necessary
- 100 Mbps	Yes	Yes
- 1000 Mbps	Yes	Yes
Monitoring functions		
Temperature	Yes	Yes
Watchdog	Yes	Yes
Status LEDs	Yes	Yes
Monitoring function via network	Optional	Optional
EMC		
Interference immunity against discharge of static electricity		
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity to cable-borne interference		
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge		
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity against high-frequency electromagnetic fields		
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to 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	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

4

PC-based Automation
Box PC

SIMATIC IPC427D

■ Technical specifications (continued)

Article number	6AG4140-.....-...0	6AG4140-.....-...8
	SIMATIC IPC427D (MICROBOX PC)	SIMATIC IPC427D (MICROBOX PC) WITH TPM
Standards, approvals, certificates		
CE mark	Yes	Yes
UL approval	Yes	Yes
• UL 508	Yes	Yes
cULus	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
FCC	Yes	Yes
EMC	CE, EN 55022A, EN 61000-6-4, EN 61000-6-2	CE, EN 55022A, EN 61000-6-4, EN 61000-6-2
• EN 61000-6-2	Yes	Yes
Marine approval		
• Germanischer Lloyd (GL)	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes
Ambient conditions		
Ambient temperature during operation		
• Ambient temperature during operation	0 °C to +55 °C	0 °C to +55 °C
• min.	0 °C	0 °C
• max.	55 °C	55 °C
Relative humidity		
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations		
• Vibration load in operation	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s² (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/s² (1 g)
Shock testing		
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 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	Windows 7 Ultimate (Multi-Language) 32-bit / 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit
pre-installed operating system	Yes	Yes
without operating system	Yes	Yes
pre-installed operating system		
• Windows 7	Yes; Ultimate 32-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
Dimensions		
Width	262 mm	262 mm
Height	139.7 mm	139.7 mm
Depth	50.5 mm	50.5 mm

▪ Ordering data

	Article No.
SIMATIC IPC427D (Box PC) [1][2]	**6AG4140-** ▪ ▪ ▪ ▪ ▪ **-** ▪ ▪ ▪ ▪

Processor and fieldbus:
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN)	0
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	1
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); CAN interface	2
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN)	3
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	4
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	5
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN) (optional ECC only here)	6
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	7
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	8

Mounting accessories:
• Without mounting accessories	A
• DIN rail mounting	B
• Wall mounting	D
• Portrait mounting	E
• Mounting onto standard rail with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	M
• Wall mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	N
• Vertical mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	P

	Article No.
SIMATIC IPC427D (Box PC) [1][2]	**6AG4140-** ▪ ▪ ▪ ▪ ▪ **-** ▪ ▪ ▪ ▪

Main memory/NVRAM/ECC:
• 1 GB	A
• 2 GB	B
• 4 GB	C
• 8 GB	D
• 4 GB with ECC (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	G
• 8 GB with ECC (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	H
• 1 GB and NVRAM	J
• 2 GB and NVRAM	K
• 4 GB and NVRAM	L
• 8 GB and NVRAM	M
• 4 GB with ECC and NVRAM (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	N
• 8 GB with ECC and NVRAM (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	P

Expansions/interface:
• One RS 232, without PCIe	0
• One RS 232 and one PCIe	1
• One RS 232 and two PCIe	2
• Second RS 232, without PCIe	3
• Second RS 232 and one PCIe	4
• Second RS 232 and second PCIe	5

Operating system:
• Without operating system	0
• Windows Embedded Standard 7 Professional, 32-bit, MUI	3
• Windows Embedded Standard 7 SP1, English, 32-bit	4
• Windows Embedded Standard 7 SP1, English, 64-bit	5
• Windows 7 Ultimate SP1, 32-bit, MUI (Eng, Ger, Fr, It, Sp)	6
• Windows 7 Ultimate SP1, 64-bit, MUI (Eng, Ger, Fr, It, Sp)	7

[1] Built to order versions with a delivery time of max. 15 working days and with identified repair, if not preferred type.

[2] For an up-to-date overview, see the SIMATIC PC online configurator at: http://www.siemens.com/ipc-configurator

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

4

PC-based Automation
Box PC

SIMATIC IPC427D

Ordering data	Article No.

SIMATIC IPC427D (Box PC) [1][2]   6AG4140- ■■■■■ - ■■■■

Mass storage, externally accessible:
- Without external mass storage — **0**
- CFast 2 GB, Without operating system — **1**
- CFast 4 GB (only optionally with operating system if no internal mass storage) — **2**
- CFast 8 GB (only optionally with operating system if no internal mass storage) — **3**
- CFast 16 GB (only optionally with operating system if no internal mass storage) — **4**

Internal mass storage:
- Without internal mass storage — **A**
- CFast 2 GB, without software — **B**
- CFast 4 GB, without software — **C**
- CFast 8 GB, without software — **D**
- CFast 16 GB, without software — **E**
- 80 GB solid-state drive (standard) — **H**
- HDD 320 GB — **K**
- 160 GB solid-state drive (standard) — **P**

SIMATIC IPC427D (Box PC) [1][2]   6AG4140- ■■■■■ - ■■■■

SIMATIC software pre-installed (bundles, only with Windows Embedded Standard 7):
- Without SIMATIC software — **A**
- WinAC RTX 2010 [3] — **B**
- WinCC RT Advanced, 128 PT — **C**
- WinCC RT Advanced, 512 PT — **D**
- WinCC RT Advanced, 2 048 PT — **E**
- WinCC RT Advanced, 4 096 PT — **F**
- WinCC RT Advanced 128 PT, WinAC RTX 2010 [3] — **J**
- WinCC RT Advanced 512 PT, WinAC RTX 2010 [3] — **K**
- WinCC RT Advanced 2 048 PT, WinAC RTX 2010 [3] — **L**
- WinCC RT Advanced 4 096 PT, WinAC RTX 2010 [3] — **M**
- WinAC RTX F 2010 [3] — **N**
- WinCC RT Advanced 128 PT, WinAC RTX F 2010 [3] — **P**
- WinCC RT Advanced 512 PT, WinAC RTX F 2010 [3] — **Q**
- WinCC RT Advanced 2 048 PT, WinAC RTX F 2010 [3] — **R**
- WinCC RT Advanced 4 096 PT, WinAC RTX F 2010 [3] — **S**
- WinCC RT Professional Client/ single-user station 128 PT — **Y**

Power supply:
- 24 V DC industrial power supply — **0**
- 24 V DC and TPM (not for China and Russia) — **8**

[1] Built to order versions with a delivery time of max. 15 working days and with identified repair, if not preferred type.

[2] For an up-to-date overview, see the SIMATIC PC online configurator at: http://www.siemens.com/ipc-configurator

[3] Only with "main memory and NVRAM".

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

Bundles with SIMATIC software only with Windows Embedded Standard 7, main memory and NVRAM (with RTX and RTX F), and CFast mass storage of 4 GB or more / SSD.

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)
• Windows Embedded Standard 7 Prof. 32-bit on 80 GB SSD

Technical specifications

Article number	6AG4131-2....-....
	SIMATIC IPC627D (BOX PC)
Installation type/mounting	
Mounting	Wall mounting, portrait mounting
Design	Box PC, built-in unit
Supply voltage	
Type of supply voltage	100/240 V AC (autorange); 24 V DC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)
Chipset	Intel DH82C226 PCH
Graphic	
Graphics controller	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)
Drives	
Optical drives	DVD±R±RW combi-drive, optional
Hard disk	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped
SSD	Yes; ≥ 240 GB optional
Memory	
Type of memory	DDR3 1600 DIMM
Main memory	2 / 4 / 8 / 16 GB; ECC optional

Article number	6AG4131-2....-....
	SIMATIC IPC627D (BOX PC)
Data areas and their retentivity	
retentive data area in total (incl. times, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration	
Slots	
• free slots	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer
Interfaces	
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5622
Number of PROFINET interfaces	3; Optional
USB port	4x USB 3.0
Connection for keyboard/mouse	USB / USB
serial interface	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface	optional LPT1
Video interfaces	
• Graphics interface	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
Industrial Ethernet	
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes
Monitoring functions	
Temperature	Yes
Watchdog	Yes
Status LEDs	Yes
Fan	Yes
Monitoring function via network	Optional

4

PC-based Automation
Box PC

Technical specifications (continued)

Article number	6AG4131-2....-....
	SIMATIC IPC627D (BOX PC)
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity 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 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 magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection	
IP (at the front)	IP20
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
• EN 61000-6-2	Yes

Article number	6AG4131-2....-....
	SIMATIC IPC627D (BOX PC)
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	+5 °C up to 55 °C
• min.	5 °C
• max.	55 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)
Shock testing	
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks
Operating systems	
Operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32-bit or 64-bit
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

4

Ordering data

SIMATIC IPC627D [1]	Article No.
HD graphics onboard (Xeon, i3: HD4600); 2 x Gigabit Ethernet (IE/PN) RJ45; 4 x USB V3.0; 1x serial (COM1); RAID controller onboard; watchdog, temp./fan monitoring;	6AG4131- 2 ■■■■ - ■■■■

Processor:

• Intel Celeron G1820TE (2C, 2.2 GHz, 2 MB cache)	A
• Intel Celeron G1820TE (2C, 2.2 GHz, 2 MB cache), PROFIBUS/MPI (CP 5622-compatible); 2 MB buffered SRAM	B
• Intel Celeron G1820TE (2C, 2.2 GHz, 2 MB cache), PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB buffered SRAM	C
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x);	D
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); PROFIBUS/MPI (CP 5622-compatible); 2 MB battery-backed SRAM;	E
• Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB battery-backed SRAM;	F
• Xeon E3-1268Lv3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT);	G
• Xeon E3-1268Lv3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT); PROFIBUS/MPI (CP 5622-compatible); 2 MB battery-backed SRAM;	H
• Xeon E3-1268Lv3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT); PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB battery-backed SRAM;	J

Drives

• 250 GB HDD SATA	A
• 250 GB HDD SATA; DVD+/-RW	B
• 500 GB HDD SATA	D
• 500 GB HDD SATA; DVD+/-RW	E
• RAID1 2 x 320 GB SATA (2.5")	G
• RAID1 2 x 320 GB SATA (2.5"); DVD+/-RW	H
• Swap HDD RAID1 2 x 320 GB SATA (2.5")	K
• Swap HDD RAID1 2 x 320 GB SATA (2.5"); solid-state drive 240 GB	L
• 240 GB solid-state drive	M
• Solid-state drive 240 GB; 320 GB HDD SATA (2.5");	N
• 240 GB solid-state drive; 320 GB HDD SATA (2.5"); DVD+/-RW	P
• 80 GB internal solid-state drive	Q
• 80 GB solid-state drive; DVD+/-RW	R

SIMATIC IPC627D [1]	Article No.
	6AG4131- 2 ■■■■ - ■■■■

Memory configuration

• 2 GB DDR3 1600 DIMM	1
• 4 GB DDR3 1600 DIMM	2
• 8 GB DDR3 1600 DIMM	3
• 16 GB DDR3 1600 DIMM	4
• 8 GB DDR3 1600 DIMM; ECC	5
• 16 GB DDR3 1600 DIMM; ECC	6

Expansion 1 (HW)

• 2 x PCI;	0
• 1 x PCIe (x16); 1 x PCI	1
• 1 x PCIe (x16); 1 x PCIe (x4)	2

Expansion 2 (HW)

• Without expansion (HW)	0
• 2 x USB in addition (1 slot occupied)	1
• COM2; LPT (1 slot occupied)	2
• 2 x USB in addition; COM2; LPT (2 slots occupied)	3

Operating system

• Windows 7 Ultimate, 32-bit SP1, MUI (Eng, Ger, Fr, It, Sp)	A
• Windows 7 Ultimate, 64-bit SP1, MUI (Eng, Ger, Fr, It, Sp)	B
• Windows Embedded Standard 7 P, 32-bit, SP1, MUI (Eng, Ger, Fr, It, Sp) with SSD 80 GB option	D
• Without	X

Expansion (SW)

• SIMATIC IPC DiagMonitor V4.x enclosed	A
• SIMATIC IPC Image & Partition Creator V3.x enclosed	B
• SIMATIC IPC DiagMonitor V4.x, Image & Partition Creator V3.x enclosed	C
• Without	X
• TPM module (not for China and Russia);	Y

Country-specific design / power supply

• 100/230 V AC industrial power supply with NAMUR; power cable for Europe	0
• 110/230 V AC industrial power supply with NAMUR; power cable for UK	1
• 110/230 V AC industrial power supply with NAMUR; power cable for CH	2
• 110/230 V AC industrial power supply with NAMUR; power cable for the USA	3
• 110/230 V AC industrial power supply NAMUR; power cable for Italy	4
• 110/230 V AC industrial power supply with NAMUR; power cable for China	5
• 24 V DC industrial power supply	6
• 110/230 V AC industrial power supply with NAMUR; without power cable	8

[1] For an up-to-date overview, see the SIMATIC PC online configurator at: http://www.siemens.com/ipc-configurator

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

◼ 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)
• Windows Embedded Standard 7 Prof. 32-bit on 80 GB SSD

◼ Technical specifications

Article number	6AG4132-2....-....
	SIMATIC IPC827D (BOX PC)
Installation type/mounting	
Mounting	Wall mounting, portrait mounting
Design	Box PC, built-in unit
Supply voltage	
Type of supply voltage	100/240 V AC (autorange); 24 V DC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)
Chipset	Intel DH82C226 PCH
Graphic	
Graphics controller	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)
Drives	
Optical drives	DVD±R±RW combi-drive, optional
Hard disk	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped
SSD	Yes; ≥ 240 GB optional
Memory	
Type of memory	DDR3 1600 DIMM
Main memory	2 / 4 / 8 / 16 GB; ECC optional

Article number	6AG4132-2....-....
	SIMATIC IPC827D (BOX PC)
Data areas and their retentivity	
retentive data area in total (incl. times, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration	
Slots	
• free slots	3x PCI, 1x PCIe (x4), 1x PCIe (x16); with card retainer
Interfaces	
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5622
Number of PROFINET interfaces	3; Optional
USB port	4x USB 3.0
Connection for keyboard/mouse	USB / USB
serial interface	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface	optional LPT1
Video interfaces	
• Graphics interface	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
Industrial Ethernet	
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes
Monitoring functions	
Temperature	Yes
Watchdog	Yes
Status LEDs	Yes
Fan	Yes
Monitoring function via network	Optional

4

PC-based Automation
Box PC

SIMATIC IPC827D

Technical specifications (continued)

Article number	6AG4132-2....-....
	SIMATIC IPC827D (BOX PC)
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection	
IP (at the front)	IP20
IP (rear)	IP20

Article number	6AG4132-2....-....
	SIMATIC IPC827D (BOX PC)
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
• EN 61000-6-2	Yes
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	+5 °C up to 55 °C
• min.	5 °C
• max.	55 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)
Shock testing	
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks
Operating systems	
Operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32-bit or 64-bit
Software	
SIMATIC software	Optional package with SIMATIC WinCC or WinAC RTX
Dimensions	
Width	312 mm
Height	155 mm; With DVD drive: 179 mm
Depth	301 mm; incl. mounting rail

Ordering data

	Article No.

SIMATIC IPC827D [1]

6AG4132- 2■■■■-■■■■

HD graphics onboard
(Xeon, i3: HD4600);
2 x Gigabit Ethernet (IE/PN) RJ45;
4 x USB V3.0;
1x serial (COM1);
RAID controller onboard;
watchdog, temp./fan monitoring;

Processor:
- Celeron G1820TE
  (2C/2T, 2.2 GHz, 2 MB cache) — **A**
- Celeron G1820TE
  (2C/2T, 2.2 GHz, 2 MB cache);
  PROFIBUS/MPI
  (CP 5622-compatible);
  2 MB battery-backed SRAM — **B**
- Celeron G1820TE
  (2C/2T, 2.2 GHz, 2 MB cache);
  PROFINET (IRT, 3 ports
  , CP 1616-compatible);
  2 MB battery-backed SRAM — **C**
- Core i3-4330TE (2C/4T,
  2.4 GHz, 4 MB cache, VT-x) — **D**
- Core i3-4330TE (2C/4T,
  2.4 GHz, 4 MB cache, VT-x);
  PROFIBUS/MPI
  (CP 5622-compatible);
  2 MB battery-backed SRAM — **E**
- Core i3-4330TE (2C/4T,
  2.4 GHz, 4 MB cache, VT-x);
  PROFINET (IRT, 3 ports,
  CP 1616-compatible);
  2 MB battery-backed SRAM — **F**
- Xeon E3-1268Lv3
  (4C/8T, 2.3 (3.3) GHz,
  8 MB cache, VT-d, AMT) — **G**
- Xeon E3-1268Lv3
  (4C/8T, 2.3 (3.3) GHz,
  8 MB cache, VT-d, AMT);
  PROFIBUS/MPI
  (CP 5622-compatible);
  2 MB battery-backed SRAM — **H**
- Xeon E3-1268Lv3
  (4C/8T, 2.3 (3.3) GHz,
  8 MB cache, VT-d, AMT);
  PROFINET (IRT, 3 ports,
  CP 1616-compatible);
  2 MB battery-backed SRAM — **J**

Drives
- 250 GB HDD SATA; — **A**
- 250 GB HDD SATA; DVD+/-RW; — **B**
- 500 GB HDD SATA; — **D**
- 500 GB HDD SATA; DVD+/-RW; — **E**
- RAID1 2 x 320 GB SATA (2.5"); — **G**
- RAID1 2 x 320 GB SATA (2.5");
  DVD+/-RW — **H**
- Swap HDD RAID1 2 x 320 GB
  SATA (2.5") — **K**
- Swap HDD RAID1 2 x 320 GB
  SATA (2.5"); solid-state drive
  240 GB — **L**
- Solid-state drive, 240 GB — **M**
- Solid-state drive 240 GB; 320 GB
  HDD SATA (2.5") — **N**
- Solid-state drive 240 GB; 320 GB
  HDD SATA (2.5"); DVD+/-RW — **P**
- Solid-state drive 80 GB,
  internal for WES7P — **Q**
- Solid-state drive 80 GB,
  internal for WES7P; DVD+/-RW — **R**

	Article No.

SIMATIC IPC827D [1]

6AG4132- 2■■■■-■■■■

Memory configuration
- 2 GB DDR3 1600 DIMM — **1**
- 4 GB DDR3 1600 DIMM — **2**
- 8 GB DDR3 1600 DIMM — **3**
- 16 GB DDR3 1600 DIMM — **4**
- 8 GB DDR3 1600 DIMM; ECC — **5**
- 16 GB DDR3 1600 DIMM; ECC — **6**

Expansions (HW)
- 1 x PCIe (x16);
  1 x PCIe (x4); 3 x PCI — **0**

Expansion 2 (HW)
- Without expansion (HW) — **0**
- 2 x USB in addition
  (1 slot occupied) — **1**
- COM2; LPT (1 slot occupied) — **2**
- 2 x USB in addition;
  COM2; LPT (2 slots occupied) — **3**

Operating system
- Windows 7 Ultimate, 32-bit SP1,
  MUI (Eng, Ger, Fr, It, Sp) — **A**
- Windows 7 Ultimate, 64-bit SP1,
  MUI (Eng, Ger, Fr, It, Sp) — **B**
- Windows Embedded Standard 7
  P, 32-bit, SP1, MUI (Eng, Ger, Fr, It,
  Sp) with SSD 80 GB option — **D**
- Without — **X**

Expansion (SW)
- SIMATIC IPC DiagMonitor V4.x
  enclosed — **A**
- SIMATIC IPC Image & Partition
  Creator V3.x enclosed — **B**
- SIMATIC IPC DiagMonitor V4.x,
  Image & Partition Creator V3.x
  enclosed — **C**
- Without — **X**
- TPM module
  (not for China and Russia) — **Y**

Country-specific design /
power supply
- 100/230 V AC industrial power
  supply with NAMUR; power cable
  for Europe — **0**
- 110/230 V AC industrial power
  supply with NAMUR; power cable
  for UK — **1**
- 110/230 V AC industrial power
  supply with NAMUR; power cable
  for CH — **2**
- 110/230 V AC industrial power
  supply with NAMUR; power cable
  for the USA — **3**
- 110/230 V AC industrial power
  supply NAMUR; power cable for
  Italy — **4**
- 110/230 V AC industrial power
  supply with NAMUR; power cable
  for China — **5**
- 24 V DC industrial power supply — **6**
- 110/230 V AC industrial power
  supply with NAMUR; without
  power cable — **8**

[1] For an up-to-date overview, see the SIMATIC PC online configurator at:
http://www.siemens.com/ipc-configurator

Note:

Please use the TIA Selection Tool or the configurator
in the Industry Mall in order to ensure availability of the
required IPC configuration; we do not accept any liability
for self-customized configurations.

4

PC-based Automation
Box PC

Ordering data	Article No.
Accessories	
Memory expansion	
• 2 GB DDR3 1600 SDRAM, DIMM	**6ES7648-2AJ50-0MA0**
• 4 GB DDR3 1600 SDRAM, DIMM	**6ES7648-2AJ60-0MA0**
• 8 GB DDR3 1600 SDRAM, DIMM	**6ES7648-2AJ70-0MA0**
• 8 GB DDR3 1600 SDRAM, DIMM, ECC	**6ES7648-2AJ70-1MA0**
Assembly kit for portrait mounting	
• Upward or downward interface outlet	**6ES7648-1AA30-1YA0**
• Interface outlet to the front	**6ES7648-1AA30-1YB0**
SIMATIC PC graphics adapter cable	**6ES7648-3AB00-0XA0**
DVI-I acc. to VGA, 250 mm long	
SIMATIC PC power cable	
for Box PC and Panel PC, 230 V AC, angled, 3 m	
• for Germany, France, Spain, the Netherlands, Belgium, Sweden, Austria, Finland	**6ES7900-1AA00-0XA0**
• for the United Kingdom	**6ES7900-1BA00-0XA0**
• For Switzerland	**6ES7900-1CA00-0XA0**
• For the USA	**6ES7900-1DA00-0XA0**
• For Italy	**6ES7900-1EA00-0XA0**
• For China	**6ES7900-1FA00-0XA0**

More information

Additional information is available on the Internet at:

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

4

■ Overview

SIMATIC IPC627C (Box PC): The high-end IPC – with maximum performance, functional scope and expansion capability

It offers:

- Maximum performance in the smallest space
- Intel Core i7 technology

■ Technical specifications

Article number	6ES7647-6C...-....
	SIMATIC IPC627C (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	Core i7-610E (2C/4T, 2.53 GHz, TB, HT, VT, AMT, 4MB cache); Core i3-330E (2C/4T, 2.13 GHz, HT, VT, 3MB cache); Celeron P4505 (2C/2T, 1.86 GHz, VT, 2MB cache);
Chipset	Intel QM57 Express Chipset
Graphic	
Graphics controller	Intel HD graphics controller
Drives	
Optical drives	DVD±R±RW combi-drive, optional
Hard disk	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped
SSD	Yes; ≥ 240 GB optional
Memory	
Type of memory	DDR3 1066 DIMM
Main memory	1 / 2 / 4 / 8 GB; ECC optional

Article number	6ES7647-6C...-....
	SIMATIC IPC627C (BOX PC)
Data areas and their retentivity	
retentive data area in total (incl. times, 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); with card retainer
Interfaces	
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5611-A2
Number of PROFINET interfaces	3; Optional
USB port	4x USB 2.0 high speed/high current
Connection for keyboard/mouse	USB / USB
serial interface	COM1: 1 x V.24 (RS 232)
parallel interface	optional LPT1
Video interfaces	
• Graphics interface	DVI-I: VGA / DVI combined
Industrial Ethernet	
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes
Monitoring functions	
Temperature	Yes
Watchdog	Yes
Status LEDs	Yes
Fan	Yes
Monitoring function via network	Optional

4

PC-based Automation
Box PC

■ Technical specifications (continued)

Article number	6ES7647-6C...-....
	SIMATIC IPC627C (BOX PC)
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity 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 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 magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection	
IP (at the front)	IP20
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
• EN 61000-6-2	Yes

Article number	6ES7647-6C...-....
	SIMATIC IPC627C (BOX PC)
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	+5 °C up to 55 °C
• min.	5 °C
• max.	55 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s^2 (1 g)
Shock testing	
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s^2 (5g), 30 ms, 100 shocks
Operating systems	
Operating system	Windows XP Prof. SP3, MUI; Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 2009 English on 8 GB Compact-Flash; without operating system
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows XP Prof.	Yes
• Windows 7	Yes; Ultimate 32-bit or 64-bit
Software	
SIMATIC software	Optional package with SIMATIC WinCC or WinAC RTX
Dimensions	
Width	312 mm
Height	80 mm; with DVD drive: 100 mm
Depth	301 mm; incl. mounting rail

4

Ordering data

	Article No.				Article No.	

SIMATIC IPC627C [1]

HD graphics on-board,
128 MB dyn. shared memory;
2 x 10/100/1000 Mbps Ethernet
RJ45; 4 x USB V2.0 (high current);
1 x serial (COM1), RAID controller
on-board;
CompactFlash drive No. 1
at front (without CF);
watchdog, temp./fan monitoring

6ES7647- 6 C ■ ■ ■ - ■ ■ ■ ■

Processor:
- Celeron P4505 (2C/2T, 1.86 GHz, VT, 2 MB cache) — **A**
- Celeron P4505 (2C/2T, 1.86 GHz, VT, 2 MB cache), PROFIBUS/MPI (CP5611-A2-compatible), 2 MB battery-backed SRAM — **B**
- Celeron P4505 (2C/2T, 1.86 GHz, VT, 2 MB cache), PROFINET (3 x RJ45, CP1616-compatible), 2 MB battery-backed SRAM — **C**
- Core i3-330E (2C/4T, 2.13 GHz, HT, VT, 3 MB cache) — **D**
- Core i3-330E (2C/4T, 2.13 GHz, HT, VT, 3 MB cache), PROFIBUS/MPI (CP5611-A2-compatible), 2 MB battery-backed SRAM — **E**
- Core i3-330E (2C/4T, 2.13 GHz, HT, VT, 3 MB cache); PROFINET (3 x RJ45, CP1616-compatible), 2 MB battery-backed SRAM — **F**
- Core i7-610E (2C/4T, 2.53 GHz, TB, HT, VT, AMT, 4 MB cache) — **G**
- Core i7-610E (2C/4T, 2.53 GHz, TB, HT, VT, AMT, 4 MB cache), PROFIBUS/MPI, (CP5611-A2-compatible), 2 MB battery-backed SRAM — **H**
- Core i7-610E (2C/4T, 2.53 GHz, TB, HT, VT, AMT, 4 MB cache), PROFINET (3 x RJ45, CP1616-compatible), 2 MB battery-backed SRAM — **J**

SIMATIC IPC627C [1]

6ES7647- 6 C ■ ■ ■ - ■ ■ ■ ■

Memory configuration
- 1 GB DDR3 1066 DIMM — **0**
- 2 GB DDR3 1066 DIMM — **1**
- 3 GB DDR3 1066 DIMM — **2**
- 4 GB DDR3 1066 DIMM — **3**
- 8 GB DDR3 1066 DIMM — **4**
- 2 GB DDR3 1066 DIMM, ECC — **5**
- 4 GB DDR3 1066 DIMM, ECC — **6**
- 8 GB DDR3 1066 DIMM, ECC — **7**

Country-specific version/power supply
- 100/240 V AC industrial power supply with Namur; European cable — **0**
- 100/240 V AC industrial power supply with Namur; UK cable — **1**
- 100/240 V AC industrial power supply with Namur; Swiss cable — **2**
- 100/240 V AC industrial power supply with Namur; USA cable — **3**
- 100/240 V AC industrial power supply with Namur; Italian cable — **4**
- 100/240 V AC industrial power supply with Namur; Chinese cable — **5**
- 24 V DC industrial power supply — **6**
- Device Certification UL Class I Div. 2; 24 V DC industrial power supply — **7**
- Device Certification UL Class I Div. 2; 110 / 230 V AC Industrial Power Supply with Namur — **8**

PC slots
- 2 x PCI free — **0**
- 1 x PCI, 1x PCIe (x16) free — **1**

[1] For an up-to-date overview, see the SIMATIC PC online configurator at:
http://www.siemens.com/ipc-configurator

Note:

Please use the TIA Selection Tool or the configurator
in the Industry Mall in order to ensure availability of the
required IPC configuration; we do not accept any liability
for self-customized configurations.

4

PC-based Automation
Box PC

SIMATIC IPC627C

<table>
<tr><th colspan="2">Ordering data</th><th>Article No.</th></tr>
<tr><td colspan="2">SIMATIC IPC627C [1]</td><td>6ES7647- 6 C ■ ■ ■ - ■ ■ ■ ■</td></tr>
<tr><td colspan="3"><u>Drives</u></td></tr>
<tr><td>• 250 GB HDD SATA</td><td></td><td>A</td></tr>
<tr><td>• 250 GB HDD SATA; DVD+/-RW</td><td></td><td>B</td></tr>
<tr><td>• 500 GB HDD SATA</td><td></td><td>C</td></tr>
<tr><td>• 500 GB HDD SATA; DVD+/-RW</td><td></td><td>D</td></tr>
<tr><td>• 2 x 320 GB SATA (2.5")</td><td></td><td>E</td></tr>
<tr><td>• 2 x 320 GB SATA (2.5"); DVD+/-RW</td><td></td><td>F</td></tr>
<tr><td>• RAID1 2 x 320 GB SATA (2.5")</td><td></td><td>G</td></tr>
<tr><td>• RAID1 2 x 320 GB SATA (2.5"); DVD+/-RW</td><td></td><td>H</td></tr>
<tr><td>• 240 GB SATA solid-state drive</td><td></td><td>L</td></tr>
<tr><td>• 240 GB SATA solid-state drive; DVD+/-RW</td><td></td><td>M</td></tr>
<tr><td>• CompactFlash drive No. 2 installed, DVD+/-RW</td><td></td><td>U</td></tr>
<tr><td>• CompactFlash drive No. 2 installed</td><td></td><td>V</td></tr>
<tr><td>• DVD+/-RW</td><td></td><td>W</td></tr>
<tr><td>• Without drives</td><td></td><td>X</td></tr>
<tr><td colspan="3"><u>Operating system (pre-installed and activated)</u></td></tr>
<tr><td>• Windows XP Professional MUI, SP3 (Eng, Ger, Fr, It, Sp)</td><td></td><td>A</td></tr>
<tr><td>• Windows 7 Ultimate, MUI (Eng, Ger, Fr, It, Sp), 32-bit, SP1 included</td><td></td><td>B</td></tr>
<tr><td>• Windows 7 Ultimate, MUI (Eng, Ger, Fr, It, Sp), 64-bit, SP1 included</td><td></td><td>C</td></tr>
<tr><td>• Windows Embedded Standard 2009 English on 8 GB CompactFlash</td><td></td><td>F</td></tr>
<tr><td>• Without operating system</td><td></td><td>X</td></tr>
<tr><td colspan="3"><u>Expansion</u></td></tr>
<tr><td>• No expansion (software)</td><td></td><td>0</td></tr>
<tr><td>• SIMATIC IPC DiagMonitor software included</td><td></td><td>1</td></tr>
<tr><td>• SIMATIC IPC Image&Partition Creator software included</td><td></td><td>2</td></tr>
<tr><td>• SIMATIC IPC DiagMonitor, Image & Partition Creator software included</td><td></td><td>3</td></tr>
</table>

[1] For an up-to-date overview, see the SIMATIC PC online configurator at: http://www.siemens.com/ipc-configurator

<table>
<tr><th>Accessories</th><th>Article No.</th></tr>
<tr><td>Memory expansions</td><td></td></tr>
<tr><td>• 1 GB DDR3 1066, DIMM</td><td>6ES7648-2AJ40-0KA0</td></tr>
<tr><td>• 1 GB DDR3 1066, DIMM; ECC</td><td>6ES7648-2AJ40-1KA0</td></tr>
<tr><td>• 2 GB DDR3 1066, DIMM</td><td>6ES7648-2AJ50-0KA0</td></tr>
<tr><td>• 2 GB DDR3 1066, DIMM; ECC</td><td>6ES7648-2AJ50-1KA0</td></tr>
<tr><td>• 4 GB DDR3 1066, DIMM</td><td>6ES7648-2AJ60-0KA0</td></tr>
<tr><td>• 4 GB DDR3 1066, DIMM; ECC</td><td>6ES7648-2AJ60-1KA0</td></tr>
<tr><td>PCI expansion card with COM1 and LPT</td><td>6ES7648-2CA01-0AA0</td></tr>
<tr><td>Graphics adapter cable</td><td></td></tr>
<tr><td>• DVI-I acc. to VGA, 250 mm long</td><td>6ES7648-3AB00-0XA0</td></tr>
<tr><td>• DVI-I acc. to VGA and DVI-D, 250 mm long (Y cable)</td><td>6ES7648-3AE00-0XA0</td></tr>
<tr><td>Portrait assembly kit</td><td></td></tr>
<tr><td>• Interfaces upward/downward</td><td>6ES7648-1AA10-1YA0</td></tr>
<tr><td>• Interfaces to the front</td><td>6ES7648-1AA10-1YB0</td></tr>
<tr><td>SIMATIC PC, 230 V AC power cable angled, 3 m for Box PC and Panel PC for</td><td></td></tr>
<tr><td>• Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden</td><td>6ES7900-1AA00-0XA0</td></tr>
<tr><td>• United Kingdom</td><td>6ES7900-1BA00-0XA0</td></tr>
<tr><td>• Switzerland</td><td>6ES7900-1CA00-0XA0</td></tr>
<tr><td>• USA</td><td>6ES7900-1DA00-0XA0</td></tr>
<tr><td>• Italy</td><td>6ES7900-1EA00-0XA0</td></tr>
<tr><td>• China</td><td>6ES7900-1FA00-0XA0</td></tr>
<tr><td>Expansion components</td><td>See expansion components</td></tr>
<tr><td>Communication products</td><td>See expansion components</td></tr>
<tr><td>For power supplies and uninterruptible power supplies</td><td>See expansion components</td></tr>
<tr><td>RMOS3 real-time operating system</td><td>See RMOS</td></tr>
</table>

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

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 favorable prices.

More information under "Embedded bundles / Packages for industrial PCs".

■ More information

Additional information is available on the Internet at:

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

PC-based Automation
Box PC

SIMATIC IPC827C

Technical specifications (continued)

Article number	6ES7647-6P...-....
	SIMATIC IPC827C (BOX PC)
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, 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 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 magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection	
IP (at the front)	IP20
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
• EN 61000-6-2	Yes

Article number	6ES7647-6P...-....
	SIMATIC IPC827C (BOX PC)
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	+5 °C up to 55 °C
• min.	5 °C
• max.	55 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s^2 (1 g)
Shock testing	
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s^2 (5g), 30 ms, 100 shocks
Operating systems	
Operating system	Windows XP Prof. SP3, MUI; Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 2009 English on 8 GB CompactFlash; without operating system
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows XP Prof.	Yes
• Windows 7	Yes; Ultimate 32-bit or 64-bit
Software	
SIMATIC software	Optional package with SIMATIC WinCC or WinAC RTX
Dimensions	
Width	312 mm
Height	153 mm; With DVD drive: 174 mm
Depth	301 mm; incl. mounting rail

4

Ordering data

SIMATIC IPC827C	Article No. 6ES7647- 6 P ▪ ▪ ▪ - ▪ ▪ ▪ ▪	
Processor		
• Celeron P 4505 (2C/2T, 1.86 GHz, VT, 2 MB cache)	A	
• Celeron P 4505 (2C/2T, 1.86 GHz, VT, 2 MB cache); PROFIBUS/MPI (CP5611-A2-compatible); 2 MB battery-backed SRAM	B	
• Celeron P 4505 (2C/2T, 1.86 GHz, VT, 2 MB cache); PROFINET (3 x RJ45, CP1616-compatible); 2 MB battery-backed SRAM	C	
• Core i3-330E (2C/4T, 2.13 GHz, HT, VT, 3 MB cache)	D	
• Core i3-330E (2.13 GHz, HT, VT, 3 MB cache); PROFIBUS/MPI (CP5611-A2-compatible); 2 MB battery-backed SRAM	E	
• Core i3-330 (2C/4T, 2.13 GHz, HT, VT, 3 MB cache); PROFINET (3 x RJ45, CP1616-compatible); 2 MB battery-backed SRAM	F	
• Core i7-610E (2C/4T, 2.53 GHz, TB, HT, VT, AMT, 4 MB cache)	G	
• Core i7-610E (2C/4T, 2.53 GHz, TB, HT, VT, AMT, 4 MB cache); PROFIBUS/MPI (CP5611-A2-compatible); 2 MB battery-backed SRAM	H	
• Core i7-610E (2C/4T, 2.53 GHz, TB, HT, VT, AMT, 4 MB cache); PROFINET (3 x RJ45, CP1616-compatible); 2 MB battery-backed SRAM	J	
Memory configuration		
• 1 GB DDR3 1066 DIMM	0	
• 2 GB DDR3 1066 DIMM	1	
• 3 GB DDR3 1066 DIMM	2	
• 4 GB DDR3 1066 DIMM	3	
• 8 GB DDR3 1066 DIMM	4	
• 2 GB DDR3 1066 DIMM, ECC	5	
• 4 GB DDR3 1066 DIMM, ECC	6	
• 8 GB DDR3 1066 DIMM, ECC	7	
Power supply		
• 100/240 V AC industrial power supply with Namur; European cable		0
• 100/240 V AC industrial power supply with Namur; UK cable		1
• 100/240 V AC industrial power supply with Namur; Swiss cable		2
• 100/240 V AC industrial power supply with Namur; USA cable		3
• 100/240 V AC industrial power supply with Namur; Italian cable		4
• 100/240 V AC industrial power supply with Namur; Chinese cable		5
• 24 V DC industrial power supply		6

SIMATIC IPC827C	Article No. 6ES7647- 6 P ▪ ▪ ▪ - ▪ ▪ ▪ ▪	
Expansions (hardware)		
• 3 x PCI, 2 x PCIe (x4), 1 x PCIe (x16) available	0	
Mass storage		
• 250 GB HDD SATA		A
• 250 GB HDD SATA; DVD+/-RW		B
• 500 GB HDD SATA		C
• 500 GB HDD SATA; DVD+/-RW		D
• 2 x 320 GB SATA (2.5")		E
• 2 x 320 GB SATA (2.5"); DVD+/-RW		F
• RAID1 2 x 320 GB SATA (2.5")		G
• RAID1 2 x 320 GB SATA (2.5"); DVD+/-RW		H
• 240 GB SATA solid-state drive		L
• 240 GB SATA solid-state drive; DVD+/-RW		M
• DVD+/-RW		W
• Without drives		X
Operating system (pre-installed and activated)		
• Windows XP Professional MUI, SP3 (Eng, Ger, Fr, It, Sp)		A
• Windows 7 Ultimate, 32-bit, MUI (Eng, Ger, Fr, It, Sp)		B
• Windows 7 Ultimate, 64-bit, MUI (Eng, Ger, Fr, It, Sp)		C
• Windows XP Embedded Standard 2009 English on 8 GB CompactFlash		F
• Without operating system		X
Expansion software		
• No expansion (software)		0
• SIMATIC IPC DiagMonitor software included		1
• SIMATIC IPC Image&Partition Creator included		4
• SIMATIC IPC DiagMonitor & Image & Partition Creator included		5

Note:
Windows Embedded only without RAID option

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

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 favorable prices.

More information under "Embedded bundles / Packages for industrial PCs".

4

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PC-based Automation
Box PC

SIMATIC IPC827C

Ordering data	Article No.
Accessories	
Memory expansions	
• 1 GB DDR3 1066, DIMM	**6ES7648-2AJ40-0KA0**
• 1 GB DDR3 1066, DIMM; ECC	**6ES7648-2AJ40-1KA0**
• 2 GB DDR3 1066, DIMM	**6ES7648-2AJ50-0KA0**
• 2 GB DDR3 1066, DIMM; ECC	**6ES7648-2AJ50-1KA0**
• 4 GB DDR3 1066, DIMM	**6ES7648-2AJ60-0KA0**
• 4 GB DDR3 1066, DIMM; ECC	**6ES7648-2AJ60-1KA0**
PCI expansion card with COM1 and LPT	**6ES7648-2CA01-0AA0**
Graphics adapter cable	
• DVI-I acc. to VGA, 250 mm long	**6ES7648-3AB00-0XA0**
• DVI-I acc. to VGA and DVI-D, 250 mm long (Y cable)	**6ES7648-3AE00-0XA0**
Portrait assembly kit	
• Interfaces upward/downward	**6ES7648-1AA30-1YA0**
• Interfaces to the front	**6ES7648-1AA30-1YB0**
Power supply cable	
SIMATIC PC, power cable for 230 V AC, angled, 3 m for Box PC and Panel PC for	
• Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden	**6ES7900-1AA00-0XA0**
• United Kingdom	**6ES7900-1BA00-0XA0**
• Switzerland	**6ES7900-1CA00-0XA0**
• USA	**6ES7900-1DA00-0XA0**
• Italy	**6ES7900-1EA00-0XA0**
• China	**6ES7900-1FA00-0XA0**
Expansion components	See expansion components
Communication products	See expansion components
For power supplies and uninterruptible power supplies	See expansion components
RMOS3 real-time operating system	See RMOS

More information

Additional information is available on the Internet at:

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

4

■ Overview

SIMATIC Panel PCs are suitable thanks to their high industrial compatibility for use in control cabinets, consoles and control panels, as well as directly on the machine. Typical areas of application can be found in both factory and process automation.

There is a broad range of robust, high-performance SIMATIC Panel PCs available for different requirements.

Shared industrial functionality

- High-quality components and modules with a high MTBF (mean time between failure), which also ensure 24-hour operation in the extended temperature range
- High swing/shock capacity of the devices through special hard-disk suspensions, locked connectors and card retainers
- Rugged housing model with high electromagnetic compatibility (EMC) and integrated industrial power supplies (also in accordance with NAMUR)
- Service-friendly device design
- Bright, brilliant displays in different sizes from 7" to 22"
- Same front panel mounting dimensions and uniform front design across all device families
- Rugged fronts protected from dust, humidity and chemical substances (front-side IP65 degree of protection)

SIMATIC IPC277: The Panel PC with optimized performance – maintenance-free and compact with displays from 7"

- High degree of flexibility for selecting rugged widescreen fronts from 7" to 19" for a more freely configurable display area
- High resolution, large viewing angle, and up to 100% dimmable backlighting for a brilliant display with optimized power consumption
- Absolutely maintenance-free due to the use of CompactFlash/CFast or SSD as mass storage and fanless operation up to 50 °C ambient temperature
- Maximum industrial functionality due to non-volatile retentive memory (option)
- Ready-to-use embedded bundles with visualization and/or control software

SIMATIC IPC477D: 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)
- RTX: with real-time capable software PLC WinAC RTX
- Retentive memory on board (NV-RAM, can be used with WinAC RTX)
- Also available as PRO version (all-round IP65 degree of protection) with 19" display, multi-touch available

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

4

PC-based Automation
Panel PC

Introduction

Technical specifications

Article number	6AV7882-0...0-...0	6AV7240-.....-....	6AV7260-.....-....
	SIMATIC IPC277E	SIMATIC IPC 477D	SIMATIC IPC677D
Installation type/mounting			
Mounting		For horizontal and vertical mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit
maximum permissible installation angle +/-	45°		20°
Supply voltage			
Type of supply voltage	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	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)	Celeron 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		Optional: DVD±R±RW combi drive; on rear, can be operated from side	DVD±R±RW combi-drive, optional
Hard disk		2.5" SATA hard disk, at least 250 GB	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped
SSD	Yes; ≥ 80 GB optional	Yes; ≥ 80 GB, optional ≥ 160 GB	Yes; ≥ 240 GB optional
Memory			
Type of memory	DDR3L	DDR3-SDRAM	DDR3 1600 DIMM
Main memory	2 / 4 / 8 GB	1 GB to 8 GB, ECC optional	2 / 4 / 8 / 16 GB; ECC optional
Data areas and their retentivity			
retentive data area in total (incl. times, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration			
Slots			
• free slots		1x PCIe (slot with card retainer), 1x slot for CFAST card	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer

▎ Technical specifications (continued)

Article number	6AV7882-0...0-...0	6AV7240-.....-....	6AV7260-.....-....
	SIMATIC IPC277E	SIMATIC IPC 477D	SIMATIC IPC677D
Interfaces			
PROFIBUS/MPI		Optionally onboard, isolated, max. 12 Mbps, no plug-in card necessary, CP 5622-compatible	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5622
Number of PROFINET interfaces		3; 3 ports (incl. switch)	3; Optional
USB port	1x USB 3.0 / 3x USB 2.0 (7"/9": 2x USB 2.0)	4x USB 3.0 high speed/high current	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB
serial interface	1x COM (1x RS 232 / 422 / 485), selectable in the BIOS	COM1: 1x RS 232, COM2 (optional): 1x RS 232	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface			optional LPT1
Video interfaces			
• Graphics interface	1x DisplayPort	DVI VGA / DVI integrated	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
Industrial Ethernet			
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	Onboard, 2 x 10/100 Mbps, RJ45, no plug-in card necessary	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes		Yes
- 1000 Mbps	Yes		Yes
Monitoring functions			
Temperature	Yes	Yes	Yes
Watchdog	Yes	Yes	Yes
Status LEDs	No	Yes	Yes
Fan	No	Yes	Yes
Monitoring function via network	Optional	Optional	Optional
EMC			
Interference immunity against discharge of static electricity			
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
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 (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; ±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; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge			
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric

4

PC-based Automation
Panel PC

Introduction

Technical specifications (continued)

Article number	6AV7882-0...0-...0	6AV7240-.....-....	6AV7260-.....-....
	SIMATIC IPC277E	SIMATIC IPC 477D	SIMATIC IPC677D
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 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to magnetic fields			
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference			
• Interference emission via line/AC current cables	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
IP (rear)	IP20	IP20	IP20
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
UL approval	Yes	Yes	Yes
• UL 508	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
FCC	Yes	Yes	Yes
EMC	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A	CE, EN 61000-6-4:2007, EN 61000-6-2:2005
• EN 61000-6-2	Yes	Yes	Yes
Marine approval			
• Germanischer Lloyd (GL)	Yes; 7", 9", 12"		
• American Bureau of Shipping (ABS)	Yes; 7", 9", 12"		
• Bureau Veritas (BV)	Yes; 7", 9", 12"		
Ambient conditions			
Ambient temperature during operation			
• Ambient temperature during operation	0 °C to 50 °C	0 °C to +50 °C with full configuration	+5 °C to +45 °C with full configuration
• min.	0 °C	0 °C	5 °C
• max.	50 °C; 19": max. 45 °C	50 °C	45 °C
Relative humidity			
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 85% at 30 °C (no condensation), storage / transport: 5% to 95% at 25 / 55 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations			
• Vibration load in operation	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	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)

■ **Technical specifications** (continued)

Article number	6AV7882-0...0-...0	6AV7240-.....-....	6AV7260-.....-....
	SIMATIC IPC277E	SIMATIC IPC 477D	SIMATIC IPC677D
Shock testing			
• Shock load during operation	Tested according to IEC 60068-2-27: 50 m/s², 30 ms	IEC 60068-2-27; 150 m/s², 11 ms (without hard disk); 50 m/s², 30 ms (with hard disk)	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 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 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes	Yes	Yes
without operating system	Yes	Yes	Yes
pre-installed operating system			
• Windows 7	Yes; Ultimate 32-bit or 64-bit	Yes; Ultimate 32-bit or 64-bit	Yes; Ultimate 32-bit or 64-bit
Software			
SIMATIC software	Optional package with SIMATIC WinCC or WinAC RTX	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX

■ **More information**

Additional information is available on the Internet at:

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

Note:

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

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

4

PC-based Automation
Panel PC

SIMATIC IPC277E

■ Overview

SIMATIC IPC277E: The Panel PC with optimized performance – maintenance-free and compact with displays from 7"

The SIMATIC IPC277E Nanopanel PC is a flexible embedded industrial PC with rugged and durable displays.

Technologically it is based on the IPC227E Nanobox PC and thus offers maximum industrial functionality for flexible use even under harsh conditions – all without the need for maintenance.

The Panel PC is characterized by modern interfaces and a high degree of flexibility in the selection of the display. The latest Intel Dual-Core and Quad-Core processors ensure excellent performance here for visualization and control tasks.

■ Technical specifications

Article number	6AV7882-0...0-...0
	SIMATIC IPC277E
Installation type/mounting	
Design	Panel PC, built-in unit
maximum permissible installation angle +/-	45°
Supply voltage	
Type of supply voltage	24 V DC
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Intel Celeron N2807 / N2930
Drives	
SSD	Yes; ≥ 80 GB optional
Memory	
Type of memory	DDR3L
Main memory	2 / 4 / 8 GB
Data areas and their retentivity	
retentive data area in total (incl. times, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional
Interfaces	
USB port	1x USB 3.0 / 3x USB 2.0 (7"/9": 2x USB 2.0)
Connection for keyboard/mouse	USB / USB
serial interface	1x COM (1x RS 232 / 422 / 485), selectable in the BIOS
Video interfaces	
• Graphics interface	1x DisplayPort
Industrial Ethernet	
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes
Monitoring functions	
Temperature	Yes
Watchdog	Yes
Status LEDs	No
Fan	No
Monitoring function via network	Optional

Article number	6AV7882-0...0-...0
	SIMATIC IPC277E
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
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	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

Technical specifications (continued)

Article number	6AV7882-0...0-...0
	SIMATIC IPC277E
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-4:2007 +A1:2011, EN 61000-6-2:2005
• EN 61000-6-2	Yes
Marine approval	
• Germanischer Lloyd (GL)	Yes; 7", 9", 12"
• American Bureau of Shipping (ABS)	Yes; 7", 9", 12"
• Bureau Veritas (BV)	Yes; 7", 9", 12"
• Det Norske Veritas (DNV)	Yes; 7", 9", 12"
• Lloyds Register of Shipping (LRS)	Yes; 7", 9", 12"
• Nippon Kaiji Kyokai (Class NK)	Yes; 7", 9", 12"
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 °C to 50 °C
• min.	0 °C
• max.	50 °C; 19": max. 45 °C

Article number	6AV7882-0...0-...0
	SIMATIC IPC277E
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 85% at 30 °C (no condensation), storage / transport: 5% to 95% at 25 / 55 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested according to IEC 60068-2-6: 5 Hz to 8.4 Hz: 3.5 mm, 8.4 Hz to 500 Hz: 9.8 m/s²
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27: 50 m/s², 30 ms
Operating systems	
Operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bit
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32-bit or 64-bit
Software	
SIMATIC software	Optional package with SIMATIC WinCC or WinAC RTX

Article number	6AV7882-0A..0-...0	6AV7882-0B..0-...0	6AV7882-0C..0-...0	6AV7882-0D..0-...0	6AV7882-0E..0-...0
	SIMATIC IPC277E, 7" TOUCH	SIMATIC IPC277E, 9" TOUCH	SIMATIC IPC277E, 12" TOUCH	SIMATIC IPC277E, 15" TOUCH	SIMATIC IPC277E, 19" TOUCH
General information					
Product type designation	7" Touch	9" Touch	12" Touch	15" Touch	19" Touch
Display					
Design of display	7" TFT Touch	9" TFT Touch	12" TFT Touch	15" TFT Touch	19" TFT Touch
Screen diagonal	7 in	9 in	12 in	15 in	19 in
Resolution (pixels)					
• Resolution (WxH in pixel)	800 x 480	800 x 480	1280 x 800	1280 x 800	1366 x 768
Backlighting					
• MTBF backlighting (at 25 °C)	80 000 h	80 000 h	80 000 h	80 000 h	50 000 h
Control elements					
Input device					
• Mouse, at front				Front USB 2.0 (500mA)	Front USB 2.0 (500mA)
Installation type/mounting					
central design	Yes	Yes	Yes	Yes	Yes
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes
Power loss					
In full configuration	26 W	33 W	33 W	36 W	36 W
Dimensions					
Width of the housing front	214 mm	274 mm	330 mm	415 mm	483 mm
Height of housing front	158 mm	190 mm	241 mm	310 mm	337 mm
Mounting cutout/device depth (W x H x T)	197 mm x 141 mm x 77 mm	251 mm x 166 mm x 77 mm	310 mm x 221 mm x 73 mm	395 mm x 290 mm x 73 mm	464 mm x 318 mm x 73 mm
Weights					
Panel PC in central design, approx.	1.5 kg	1.95 kg	2.75 kg	4 kg	5.7 kg

PC-based Automation
Panel PC

Ordering data	Article No.
SIMATIC IPC277E (Nanopanel PC)	**6AV7882- 0 ▪ ▪ ▪ 0 - ▪ ▪ ▪ 0**

Operator control unit
- 7" Touch — A
- 9" Touch — B
- 12" Touch — C
- 15" front USB — D
- 19" front USB — E

Processor
- Celeron N2807 (2C/2T) — A
- Celeron N2930 (4C/4T) — B

Main memory / NVRAM
- 2 GB — 1
- 4 GB — 2
- 8 GB — 3
- 2 GB / NVRAM — 4
- 4 GB / NVRAM — 5
- 8 GB / NVRAM — 6

Operating system
- Without OS — 0
- Windows Embedded Standard 7 E SP1, English, 32-bit — 1
- Windows Embedded Standard 7 E SP1, English, 64-bit — 2
- Windows Embedded Standard 7 P SP1, English, 32-bit — 3
- Windows Embedded Standard 7 P SP1, English, 64-bit — 4
- Windows 7 Ultimate SP1, 32-bit, MUI (Eng, Ger, Fr, It, Sp) — 5
- Windows 7 Ultimate SP1, 64-bit, MUI (Eng, Ger, Fr, It, Sp) — 6

Mass storage
- None — A
- 80 GB SSD — B
- 160 GB SSD — C
- 4 GB CFast — K
- 8 GB CFast — L
- 16 GB CFast — M

Software
- None — A

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

More information

Additional information is available on the Internet at:

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

■ Overview

SIMATIC IPC477D: The powerful embedded Panel PC – maintenance-free with versatile configuration

- Embedded PC platform with extremely high industrial compatibility for demanding tasks in the field of PC-based automation
- Maintenance-free (no rotating components such as fan and hard disk)
- Rugged construction: The PC is resistant to even the harshest mechanical stress and is extremely reliable in operation
- Compact design
- Battery-independent retentive memory onboard
- High degree of investment security
- Fast integration capability

Now available as fully-enclosed IPC477D PRO 19" (degree of protection IP65).

The following front versions are available:
- Built-in versions
  - 12" TFT Touch
  - 15" TFT Touch
  - 15" TFT Touch/Key
  - 19" TFT Touch
  - 22" TFT Touch
  - 15" TFT Multi-Touch
  - 19" TFT Multi-Touch
  - 22" TFT Multi-Touch

■ Technical specifications

Article number	6AV7240-.....-....
	SIMATIC IPC 477D
Installation type/mounting	
Mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit
Supply voltage	
Type of supply voltage	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	10 ms
Processor	
Processor type	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)
Graphic	
Graphics controller	Intel HD graphics controller
Drives	
Optical drives	Optional: DVD±R±RW combi drive; on rear, can be operated from side
Hard disk	2.5" SATA hard disk, at least 250 GB
SSD	Yes; ≥ 80 GB, optional ≥ 160 GB
Memory	
Type of memory	DDR3-SDRAM
Main memory	1 GB to 8 GB, ECC optional
Data areas and their retentivity	
retentive data area in total (incl. times, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration	
Slots	
• free slots	1x PCIe (slot with card retainer), 1x slot for CFAST card

4

PC-based Automation
Panel PC

SIMATIC IPC477D

■ Technical specifications (continued)

Article number	6AV7240-.....-....
	SIMATIC IPC 477D
Interfaces	
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbps, no plug-in card necessary, CP 5622-compatible
Number of PROFINET interfaces	3; 3 ports (incl. switch)
USB port	4x USB 3.0 high speed/high current
Connection for keyboard/mouse	USB / USB
serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232
Video interfaces	
• Graphics interface	DVI VGA / DVI integrated
Industrial Ethernet	
• Industrial Ethernet interface	Onboard, 2 x 10/100 Mbps, RJ45, no plug-in card necessary
Monitoring functions	
Temperature	Yes
Watchdog	Yes
Status LEDs	Yes
Monitoring function via network	Optional
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	+/-2 kV (to IEC 1000-4-4; 1995; burst); +/-1 kV (to IEC 1000-4-5; 1995; surge symm); +/-2 kV (to IEC 1000-4-5; 1995; surge asymm)
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
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	6AV7240-.....-....
	SIMATIC IPC 477D
Degree and class of protection	
IP (at the front)	IP65
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A
• EN 61000-6-2	Yes
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 °C to +50 °C with full configuration
• min.	0 °C
• max.	50 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s² (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s² (hard disk)
Shock testing	
• Shock load during operation	IEC 60068-2-27; 150 m/s², 11 ms (without hard disk); 50 m/s², 30 ms (with hard disk)
Operating systems	
Operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32-bit or 64-bit
Software	
SIMATIC software	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX

4

■ **Technical specifications** (continued)

Article number	6AV7240-.A...-....	6AV7240-.B...-....	6AV7240-.C...-....
	SIMATIC IPC 477D, 12" TOUCH	SIMATIC IPC 477D, 15" TOUCH	SIMATIC IPC 477D, 15" TOUCH/KEY
General information			
Product type designation	12" Touch	15" Touch	15" Touch/Key
Display			
Design of display	12" TFT Touch	15" TFT Touch	15" TFT Touch
Screen diagonal	12 in	15 in	15 in
Resolution (pixels)			
• Resolution (WxH in pixel)	1280 x 800	1280 x 800	1280 x 800
Backlighting			
• MTBF backlighting (at 25 °C)		80 000 h	50 000 h
Control elements			
Input device			
• Mouse, at front	No	Front USB 2.0 (500mA)	Front USB 2.0 (500mA)
Keyboard fonts			
• Function keys	No		Yes
- Number of function keys with LEDs			36
• Numeric/alphabetical input			
- alphanumeric keyboard	No		Yes
Installation type/mounting			
Mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit
central design	Yes	Yes	Yes
distributed design	No	Yes	No
Mounting in portrait format possible		Yes	
Supply voltage			
Type of supply voltage	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC
Line frequency			
• Rated value 50 Hz	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes
Mains buffering			
• Mains/voltage failure stored energy time	10 ms	10 ms	10 ms
Power loss			
In full configuration			24 V DC: max. 56 W, PCIe APCB additionally 5 W
Processor			
Processor type	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)
Graphic			
Graphics controller	Intel HD graphics controller	Intel HD graphics controller	Intel HD graphics controller
Drives			
Optical drives	Optional: DVD±R±RW combi drive; on rear, can be operated from side	Optional: DVD±R±RW combi drive; on rear, can be operated from side	Optional: DVD±R±RW combi drive; on rear, can be operated from side
Hard disk	2.5" SATA hard disk, at least 250 GB	2.5" SATA hard disk, at least 250 GB	2.5" SATA hard disk, at least 250 GB
SSD	Yes; ≥ 80 GB, optional ≥ 160 GB	Yes; ≥ 80 GB, optional ≥ 160 GB	Yes; ≥ 80 GB, optional ≥ 160 GB
Memory			
Type of memory	DDR3-SDRAM	DDR3-SDRAM	DDR3-SDRAM
Main memory	1 GB to 8 GB, ECC optional	1 GB to 8 GB, ECC optional	1 GB to 8 GB, ECC optional

4

PC-based Automation
Panel PC

SIMATIC IPC477D

Technical specifications (continued)

Article number	6AV7240-.A...-....	6AV7240-.B...-....	6AV7240-.C...-....
	SIMATIC IPC 477D, 12" TOUCH	SIMATIC IPC 477D, 15" TOUCH	SIMATIC IPC 477D, 15" TOUCH/KEY
Data areas and their retentivity			
retentive data area in total (incl. times, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration			
Slots			
• free slots	1x PCIe (slot with card retainer), 1x slot for CFAST card	1x PCIe (slot with card retainer), 1x slot for CFAST card	1x PCIe (slot with card retainer), 1x slot for CFAST card
Interfaces			
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbps, no plug-in card necessary, CP 5622-compatible	Optionally onboard, isolated, max. 12 Mbps, no plug-in card necessary, CP 5622-compatible	Optionally onboard, isolated, max. 12 Mbps, no plug-in card necessary, CP 5622-compatible
Number of PROFINET interfaces	3; 3 ports (incl. switch)	3; 3 ports (incl. switch)	3; 3 ports (incl. switch)
USB port	4x USB 3.0 high speed/high current	4x USB 3.0 high speed/high current	4x USB 3.0 high speed/high current
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB
serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232	COM1: 1x RS 232, COM2 (optional): 1x RS 232	COM1: 1x RS 232, COM2 (optional): 1x RS 232
Video interfaces			
• Graphics interface	DVI VGA / DVI integrated	DVI VGA / DVI integrated	DVI VGA / DVI integrated
Industrial Ethernet			
• Industrial Ethernet interface	Onboard, 2 x 10/100 Mbps, RJ45, no plug-in card necessary	Onboard, 2 x 10/100 Mbps, RJ45, no plug-in card necessary	Onboard, 2 x 10/100 Mbps, RJ45, no plug-in card necessary
Monitoring functions			
Temperature	Yes	Yes	Yes
Watchdog	Yes	Yes	Yes
Status LEDs	Yes	Yes	Yes
Monitoring function via network	Optional	Optional	Optional
EMC			
Interference immunity against discharge of static electricity			
• Interference immunity against discharge of static electricity	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields			
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. t o IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference			
• Interference immunity on supply cables	+/-2 kV (to IEC 1000-4-4; 1995; burst); +/-1 kV (to IEC 1000-4-5; 1995; surge symm); +/-2 kV (to IEC 1000-4-5; 1995; surge asymm)	+/-2 kV (to IEC 1000-4-4; 1995; burst); +/-1 kV (to IEC 1000-4-5; 1995; surge symm); +/-2 kV (to IEC 1000-4-5; 1995; surge asymm)	+/-2 kV (to IEC 1000-4-4; 1995; burst); +/-1 kV (to IEC 1000-4-5; 1995; surge symm); +/-2 kV (to IEC 1000-4-5; 1995; surge asymm)
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge			
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity against high-frequency electromagnetic fields			
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. t o IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6

Technical specifications (continued)

Article number	6AV7240-.A...-....	6AV7240-.B...-....	6AV7240-.C...-....
	SIMATIC IPC 477D, 12" TOUCH	SIMATIC IPC 477D, 15" TOUCH	SIMATIC IPC 477D, 15" TOUCH/KEY
Interference immunity to magnetic fields			
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference			
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection			
IP (at the front)	IP65	IP65	IP65
IP (rear)	IP20	IP20	IP20
Standards, approvals, certificates			
CE mark	Yes	Yes	Yes
UL approval	Yes	Yes	Yes
• UL 508	Yes	Yes	Yes
cULus	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes
KC approval	Yes	Yes	Yes
FCC	Yes	Yes	Yes
EMC	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A
• EN 61000-6-2	Yes	Yes	Yes
Ambient conditions			
Ambient temperature during operation			
• Ambient temperature during operation	0 °C to +50 °C with full configuration	0 °C to +50 °C with full configuration	0 °C to +50 °C with full configuration
• min.	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C
Relative humidity			
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations			
• Vibration load in operation	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s² (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s² (hard disk)	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s² (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s² (hard disk)	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s² (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s² (hard disk)
Shock testing			
• Shock load during operation	IEC 60068-2-27; 150 m/s², 11 ms (without hard disk); 50 m/s², 30 ms (with hard disk)	IEC 60068-2-27; 150 m/s², 11 ms (without hard disk); 50 m/s², 30 ms (with hard disk)	IEC 60068-2-27; 150 m/s², 11 ms (without hard disk); 50 m/s², 30 ms (with hard disk)
Operating systems			
Operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes	Yes	Yes
without operating system	Yes	Yes	Yes
pre-installed operating system			
• Windows 7	Yes; Ultimate 32-bit or 64-bit	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	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX

4

PC-based Automation
Panel PC

SIMATIC IPC477D

Technical specifications (continued)

Article number	6AV7240-.A...-....	6AV7240-.B...-....	6AV7240-.C...-....
	SIMATIC IPC 477D, 12" TOUCH	SIMATIC IPC 477D, 15" TOUCH	SIMATIC IPC 477D, 15" TOUCH/KEY
Dimensions			
Width of the housing front		415 mm	
Height of housing front		310 mm	
Overall depth			
• additional mounting depth (optical drive)		27 mm	27 mm
Operator control unit (W x H) in mm			483 mm x 310 mm (19", 7 HU)
• Operator panel width	330 mm		483 mm
• Operator panel height	241 mm		310 mm
Install. dimensions, centralized design (W x H x D without optical drive) in mm			
• Width	310 mm		450 mm
• Height	221 mm		290 mm
• Depth	83 mm		76 mm
Mounting cutout/device depth (W x H x T)		396 mm x 291 mm x 76 mm	
Weights			
Panel PC in central design, approx.	3 200 g	4.9 kg	5.7 kg

Article number	6AV7240-.D...-....	6AV7240-.E...-....
	SIMATIC IPC 477D, 19" TOUCH	SIMATIC IPC 477D, 22" TOUCH
General information		
Product type designation	19" Touch	22" Touch
Display		
Design of display	19" TFT Touch	22" TFT Touch
Resolution (pixels)		
• Resolution (WxH in pixel)	1366 x 768	1920 x 1080
Backlighting		
• MTBF backlighting (at 25 °C)	50 000 h	30 000 h
Control elements		
Input device		
• Mouse, at front	Front USB 2.0 (500mA)	Front USB 2.0 (500mA)
Keyboard fonts		
• Numeric/alphabetical input		
- alphanumeric keyboard	No	No
Installation type/mounting		
Mounting	For horizontal and vertical mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit	Panel PC, built-in unit
central design	Yes	Yes
distributed design	No	No
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	10 ms
Power loss		
In full configuration	24 V DC: max. 65 W, PCIe APCB additionally 5 W	24 V DC: max. 74 W, PCIe APCB additionally 5 W
Processor		
Processor type	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)

4

Technical specifications (continued)

Article number	6AV7240-.D...-....	6AV7240-.E...-....
	SIMATIC IPC 477D, 19" TOUCH	SIMATIC IPC 477D, 22" TOUCH
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 250 GB	2.5" SATA hard disk, at least 250 GB
SSD	Yes; ≥ 80 GB, optional ≥ 160 GB	Yes; ≥ 80 GB, optional ≥ 160 GB
Memory		
Type of memory	DDR3-SDRAM	DDR3-SDRAM
Main memory	1 GB to 8 GB, ECC optional	1 GB to 8 GB, ECC optional
Data areas and their retentivity		
retentive data area in total (incl. times, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional
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, no plug-in card necessary, CP 5622-compatible	Optionally onboard, isolated, max. 12 Mbps, no plug-in card necessary, CP 5622-compatible
Number of PROFINET interfaces	3; 3 ports (incl. switch)	3; 3 ports (incl. switch)
USB port	4x USB 3.0 high speed/high current	4x USB 3.0 high speed/high current
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	DVI VGA / DVI integrated	DVI VGA / DVI integrated
Industrial Ethernet		
• Industrial Ethernet interface	Onboard, 2 x 10/100 Mbps, RJ45, no plug-in card necessary	Onboard, 2 x 10/100 Mbps, RJ45, no plug-in card necessary
Monitoring functions		
Temperature	Yes	Yes
Watchdog	Yes	Yes
Status LEDs	Yes	Yes
Monitoring function via network	Optional	Optional
EMC		
Interference immunity against discharge of static electricity		
• Interference immunity against discharge of static electricity	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2	± 6 KV contact discharge at the front in accordance with IEC 61000-4-2; ±4 kV, housing contact discharge at the back in accordance with IEC 61000-4-2; ± 8 kV air discharge in accordance with IEC 61000-4-2
Interference immunity to cable-borne interference		
• Interference immunity on supply cables	+/-2 kV (to IEC 1000-4-4; 1995; burst); +/-1 kV (to IEC 1000-4-5; 1995; surge symm); +/-2 kV (to IEC 1000-4-5; 1995; surge asymm)	+/-2 kV (to IEC 1000-4-4; 1995; burst); +/-1 kV (to IEC 1000-4-5; 1995; surge symm); +/-2 kV (to IEC 1000-4-5; 1995; surge asymm)
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge		
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity against high-frequency electromagnetic fields		
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to 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

PC-based Automation
Panel PC

Technical specifications (continued)

Article number	6AV7240-.D...-....	6AV7240-.E...-....
	SIMATIC IPC 477D, 19" TOUCH	SIMATIC IPC 477D, 22" TOUCH
Emission of conducted and non-conducted interference		
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection		
IP (at the front)	IP65	IP65
IP (rear)	IP20	IP20
Standards, approvals, certificates		
CE mark	Yes	Yes
UL approval	Yes	Yes
• UL 508	Yes	Yes
cULus	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
FCC	Yes	Yes
EMC	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A
• EN 61000-6-2	Yes	Yes
Ambient conditions		
Ambient temperature during operation		
• Ambient temperature during operation	0 °C to +50 °C with full configuration	0 °C to +50 °C with full configuration
• min.	0 °C	0 °C
• max.	50 °C	50 °C
Relative humidity		
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations		
• Vibration load in operation	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s² (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s² (hard disk)	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s² (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s² (hard disk)
Shock testing		
• Shock load during operation	IEC 60068-2-27; 150 m/s², 11 ms (without hard disk); 50 m/s², 30 ms (with hard disk)	IEC 60068-2-27; 150 m/s², 11 ms (without hard disk); 50 m/s², 30 ms (with hard disk)
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	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
Dimensions		
Overall depth		
• additional mounting depth (optical drive)	27 mm	27 mm
Operator control unit (W x H) in mm		
• Operator panel width	483 mm	560 mm
• Operator panel height	337 mm	380 mm
Install. dimensions, centralized design (W x H x D without optical drive) in mm		
• Width	464 mm	542 mm
• Height	318 mm	362 mm
• Depth	76 mm	76 mm
Weights		
Panel PC in central design, approx.	6 400 g	7 kg

Ordering data

	Article No.
SIMATIC IPC477D [1]	**6AV7240-** ■■■■■ **-** ■■■■

Processor and fieldbus:
- Celeron U827E
  (1C/1T, 1.4 GHz, 1.5 MB cache);
  2 x Gigabit Ethernet (IE/PN) — **0**
- Celeron U827E
  (1C/1T, 1.4 GHz, 1.5 MB cache);
  2 x Gigabit Ethernet (IE/PN);
  PROFIBUS DP12 — **1**
- Core i3-3217UE
  (2C/4T, 1.6 GHz, 3 MB cache);
  2 x Gigabit Ethernet (IE/PN) — **3**
- Core i3-3217UE
  (2C/4T, 1.6 GHz, 3 MB cache);
  2 x Gigabit Ethernet (IE/PN);
  PROFIBUS DP12 — **4**
- Core i3-3217UE
  (2C/4T, 1.6 GHz, 3 MB cache);
  1 x Gigabit Ethernet (IE/PN);
  1 x PROFINET (IRT, 3 ports) — **5**
- Core i7-3517UE
  (2C/4T, 1.7 (2.8) GHz,
  4 MB cache);
  2 x Gigabit Ethernet (IE/PN) — **6**
- Core i7-3517UE
  (2C/4T, 1.7 (2.8) GHz,
  4 MB cache);
  2 x Gigabit Ethernet (IE/PN);
  PROFIBUS DP12 — **7**
- Core i7-3517UE
  (2C/4T, 1.7 (2.8) GHz,
  4 MB cache);
  1 x Gigabit Ethernet (IE/PN);
  1 x PROFINET (IRT, 3 ports) — **8**

Operator control unit:
- 12" Touch (1 280 x 800)
  (caution, restrictions regarding
  options: HDD, PCI, AC, DVD) — **A**
- 15" Touch (1 280 x 800)
  with front USB — **B**
- 15" Touch/Key (1 280 x 800)
  with front USB — **C**
- 19" Touch (1 366 x 768)
  with front USB — **D**
- 22" Touch (1 920 x 1 080)
  with front USB — **E**
- 15" Multi-Touch (1 366 x 768)
  without front USB — **H**
- 19" Multi-Touch (1 366 x 768)
  without front USB — **K**
- 22" Multi-Touch (1 920 x 1 080)
  without front USB — **L**

	Article No.
SIMATIC IPC477D [1]	**6AV7240-** ■■■■■ **-** ■■■■

Main memory/NVRAM
- 1 GB — **A**
- 2 GB — **B**
- 4 GB — **C**
- 8 GB — **D**
- 1 GB and NVRAM — **J**
- 2 GB and NVRAM — **K**
- 4 GB and NVRAM — **L**
- 8 GB and NVRAM — **M**

Expansions/interface:
- 1 x RS 232, without PCIe — **0**
- 1 x RS 232 and one PCIe — **1**
- Two RS 232, without PCIe — **3**
- Two RS 232 and one PCIe — **4**

Operating system:
- Without operating system — **0**
- Windows Embedded Standard 7
  Professional, 32-bit, MUI — **3**
- Windows Embedded Standard 7
  SP1, English, 32-bit — **4**
- Windows Embedded Standard 7
  SP1, English, 64-bit — **5**
- Windows 7 Ultimate SP1, 32-bit,
  MUI (Eng, Ger, Fr, It, Sp) — **6**
- Windows 7 Ultimate SP1, 64-bit,
  MUI (Eng, Ger, Fr, It, Sp) — **7**

Externally accessible mass storage
(without operating system):
- Without external mass storage — **0**
- CFAST 2 GB, without software — **1**
- CFAST 4 GB — **2**
- CFAST 8 GB — **3**
- CFAST 16 GB — **4**
- DVD — **6**

[1] For an up-to-date overview, see the SIMATIC PC Online Configurator at:
https://www.siemens.com/ipc-configurator.

Note:

Please use the TIA Selection Tool or the configurator
in the Industry Mall in order to ensure availability of the
required IPC configuration; we do not accept any liability
for self-customized configurations.

4

PC-based Automation
Panel PC

SIMATIC IPC477D

Ordering data	Article No.

SIMATIC IPC477D [1]   6AV7240- ■ ■ ■ ■ ■ - ■ ■ ■ ■

Internal mass storage:
• Without internal mass storage	A
• CFAST 2 GB	B
• CFAST 4 GB	C
• CFAST 8 GB	D
• CFAST 16 GB	E
• SSD 80 GB Standard	H
• HDD 320 GB	K
• DVD	L
• SSD 80 GB standard with DVD	N
• SSD 160 GB standard without DVD	P
• HDD min. 320 GB with DVD	Q

SIMATIC software pre-installed (bundles):
• Without SIMATIC software	A
• WinAC RTX 2010 [2]	B
• WinCC RT Advanced 128 PT	C
• WinCC RT Advanced 512 PT	D
• WinCC RT Advanced 2 048 PT	E
• WinCC RT Advanced 4 096 PT	F
• WinCC RT Advanced 128 PT, WinAC RTX [2]	J
• WinCC RT Advanced 512 PT, WinAC RTX [2]	K
• WinCC RT Advanced 2 048 PT, WinAC RTX [2]	L
• WinCC RT Advanced 4 096 PT, WinAC RTX [2]	M
• WinAC RTX 2010 F [2]	N
• WinCC RT Advanced 128 PT, WinAC RTX F [2]	P
• WinCC RT Advanced 512 PT, WinAC RTX F [2]	Q
• WinCC RT Advanced 2 048 PT, WinAC RTX F [2]	R
• WinCC RT Advanced 4 096 PT, WinAC RTX F [2]	S
• WinCC RT Professional Client/ single-user station 128 PT	Y

SIMATIC IPC477D [1]   6AV7240- ■ ■ ■ ■ ■ - ■ ■ ■ ■

Power supply:
• 24 V DC industrial power supply	0
• 110/230 V AC industrial power supply with NAMUR; no power cable	1
• 110/230 V AC industrial power supply with NAMUR; European power cable	2
• 110/230 V AC industrial power supply with NAMUR; US power cable	3
• 110/230 V AC industrial power supply with NAMUR; Chinese power cable	4
• 110/230 V AC industrial power supply with NAMUR; Italian power cable	5
• 110/230 V AC industrial power supply with NAMUR; Swiss power cable	6
• 110/230 V AC industrial power supply with NAMUR; UK power cable	7
• 24 V DC industrial power supply and TPM (not for China and Russia)	8

[1] For an up-to-date overview, see the SIMATIC PC Online Configurator at: https://www.siemens.com/ipc-configurator.

[2] Only with main memory and NVRAM.

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

Overview

SIMATIC IPC677D: The high-end Panel PC – with maximum performance, functional scope and expansion capability

PC platform with extremely high industrial compatibility for demanding tasks in the field of PC-based automation.

Rugged construction: The PC is resistant to even the harshest mechanical stress and is extremely reliable in operation.

• Compact design

• High degree of investment protection

• Fast integration capability

The following widescreen front variants are available:

• 15", 19" or 22" resistive single-touch color display with front USB

• 15", 19" or 22" capacitive multi-touch color display

Technical specifications

Article number	6AV7260-.....-....
	SIMATIC IPC677D
Installation type/mounting	
Mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit
maximum permissible installation angle +/-	20°
Supply voltage	
Type of supply voltage	100/240 V AC (autorange); 24 V DC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	10 ms
Processor	
Processor type	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)
Chipset	Intel DH82C226 PCH
Graphic	
Graphics controller	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)
Drives	
Optical drives	DVD±R±RW combi-drive, optional
Hard disk	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped
SSD	Yes; ≥ 240 GB optional

Article number	6AV7260-.....-....
	SIMATIC IPC677D
Memory	
Type of memory	DDR3 1600 DIMM
Main memory	2 / 4 / 8 / 16 GB; ECC optional
Data areas and their retentivity	
retentive data area in total (incl. times, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration	
Slots	
• free slots	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer
Interfaces	
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5622
Number of PROFINET interfaces	3; Optional
USB port	4x USB 3.0
Connection for keyboard/mouse	USB / USB
serial interface	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface	optional LPT1
Video interfaces	
• Graphics interface	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
Industrial Ethernet	
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes

4

PC-based Automation
Panel PC

SIMATIC IPC677D

▍ Technical specifications (continued)

Article number	6AV7260-.....-....
	SIMATIC IPC677D
Monitoring functions	
Temperature	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 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 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 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	6AV7260-.....-....
	SIMATIC IPC677D
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
• EN 61000-6-2	Yes
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	+5 °C to +45 °C with full configuration
• min.	5 °C
• max.	45 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations	
• Vibration load in operation	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s^2 (1g)
Shock testing	
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s^2 (5g), 30 ms, 100 shocks
Operating systems	
Operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
• Windows 7	Yes; Ultimate 32-bit or 64-bit
Software	
SIMATIC software	Optional package with SIMATIC WinCC or WinAC RTX

Technical specifications (continued)

Article number	6AV7260-0....-....	6AV7260-1....-....	6AV7260-2....-....	6AV7260-3....-....	6AV7260-4....-....	6AV7260-5....-....
	SIMATIC IPC677D, 15" TOUCH	SIMATIC IPC677D, 19" TOUCH	SIMATIC IPC677D, 22" TOUCH	SIMATIC IPC677D, 15" MULTI-TOUCH	SIMATIC IPC677D, 19" MULTI-TOUCH	SIMATIC IPC677D, 22" MULTI-TOUCH
General information						
Product type designation	15" Touch	19" Touch	22" Touch	15" Multitouch	19" Multitouch	22" Multitouch
Display						
Design of display	15" TFT Touch	19" TFT Touch	22" TFT Touch	15" TFT Multitouch	19" TFT Multitouch	22" TFT Multitouch
Screen diagonal	15 in	19 in	22 in	15 in	19 in	22 in
Resolution (pixels)						
• Resolution (WxH in pixel)	1280 x 800	1366 x 768	1920 x 1080	1366 x 768	1366 x 768	1920 x 1080
Backlighting						
• MTBF backlighting (at 25 °C)	80 000 h	50 000 h	30 000 h	70 000 h	50 000 h	30 000 h
Control elements						
Input device						
• Mouse, at front	Front USB 2.0 (500mA)	Front USB 2.0 (500mA)	Front USB 2.0 (500mA)			
Touch operation						
• Design as multitouch screen				Yes; Projective-capacitive	Yes; Projective-capacitive	Yes; Projective-capacitive
Installation type/mounting						
Mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit	Panel PC, built-in unit
central design	Yes	Yes	Yes	Yes	Yes	Yes
Mounting in portrait format possible	Yes	Yes	Yes	Yes	Yes	Yes
maximum permissible installation angle +/-	20°	20°	20°	20°	20°	20°
Supply voltage						
Type of supply voltage	100/240 V AC (autorange); 24 V DC	100/240 V AC (autorange); 24 V DC	100/240 V AC (autorange); 24 V DC	100/240 V AC (autorange); 24 V DC	100/240 V AC (autorange); 24 V DC	100/240 V AC (autorange); 24 V DC
Line frequency						
• Rated value 50 Hz	Yes	Yes	Yes	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes	Yes	Yes	Yes
Mains buffering						
• Mains/voltage failure stored energy time	10 ms	10 ms	10 ms	10 ms	10 ms	10 ms
Power loss						
In full configuration	155 W	155 W	165 W	155 W	155 W	165 W
Processor						
Processor type	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)
Chipset	Intel DH82C226 PCH	Intel DH82C226 PCH	Intel DH82C226 PCH	Intel DH82C226 PCH	Intel DH82C226 PCH	Intel DH82C226 PCH
Graphic						
Graphics controller	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)
Drives						
Optical drives	DVD±R±RW combi-drive, optional	DVD±R±RW combi-drive, optional	DVD±R±RW combi-drive, optional	DVD±R±RW combi-drive, optional	DVD±R±RW combi-drive, optional	DVD±R±RW combi-drive, optional

4

PC-based Automation
Panel PC

SIMATIC IPC677D

Technical specifications (continued)

Article number	6AV7260-0....-....	6AV7260-1....-....	6AV7260-2....-....	6AV7260-3....-....	6AV7260-4....-....	6AV7260-5....-....
	SIMATIC IPC677D, 15" TOUCH	SIMATIC IPC677D, 19" TOUCH	SIMATIC IPC677D, 22" TOUCH	SIMATIC IPC677D, 15" MULTI-TOUCH	SIMATIC IPC677D, 19" MULTI-TOUCH	SIMATIC IPC677D, 22" MULTI-TOUCH
Hard disk	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped	3.5" SATA ≥ 250 GB, optional ≥ 500 GB; RAID1 2x 2.5" SATA ≥ 320 GB; all internal drives are vibration-damped
SSD	Yes; ≥ 240 GB optional	Yes; ≥ 240 GB optional	Yes; ≥ 240 GB optional	Yes; ≥ 240 GB optional	Yes; ≥ 240 GB optional	Yes; ≥ 240 GB optional
Memory						
Type of memory	DDR3 1600 DIMM	DDR3 1600 DIMM	DDR3 1600 DIMM	DDR3 1600 DIMM	DDR3 1600 DIMM	DDR3 1600 DIMM
Main memory	2 / 4 / 8 / 16 GB; ECC optional	2 / 4 / 8 / 16 GB; ECC optional	2 / 4 / 8 / 16 GB; ECC optional	2 / 4 / 8 / 16 GB; ECC optional	2 / 4 / 8 / 16 GB; ECC optional	2 / 4 / 8 / 16 GB; ECC optional
Data areas and their retentivity						
retentive data area in total (incl. times, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional	2 Mbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration						
Slots						
• free slots	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer
Interfaces						
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5622	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5622	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5622	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5622	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5622	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5622
Number of PROFINET interfaces	3; Optional	3; Optional	3; Optional	3; Optional	3; Optional	3; Optional
USB port	4x USB 3.0	4x USB 3.0	4x USB 3.0	4x USB 3.0	4x USB 3.0	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB	USB / USB	USB / USB	USB / USB
serial interface	1x COM1 (RS 232), optional: 1x COM2 (RS 232)	1x COM1 (RS 232), optional: 1x COM2 (RS 232)	1x COM1 (RS 232), optional: 1x COM2 (RS 232)	1x COM1 (RS 232), optional: 1x COM2 (RS 232)	1x COM1 (RS 232), optional: 1x COM2 (RS 232)	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface	optional LPT1	optional LPT1	optional LPT1	optional LPT1	optional LPT1	optional LPT1
Video interfaces						
• Graphics interface	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
Industrial Ethernet						
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes	Yes
Monitoring functions						
Temperature	Yes	Yes	Yes	Yes	Yes	Yes
Watchdog	Yes	Yes	Yes	Yes	Yes	Yes
Status LEDs	Yes	Yes	Yes	Yes	Yes	Yes
Fan	Yes	Yes	Yes	Yes	Yes	Yes
Monitoring function via network	Optional	Optional	Optional	Optional	Optional	Optional
EMC						
Interference immunity against discharge of static electricity						
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2

4

PC-based Automation
Panel PC

SIMATIC IPC677D

Technical specifications (continued)

Article number	6AV7260-0....-....	6AV7260-1....-....	6AV7260-2....-....	6AV7260-3....-....	6AV7260-4....-....	6AV7260-5....-....
	SIMATIC IPC677D, 15" TOUCH	SIMATIC IPC677D, 19" TOUCH	SIMATIC IPC677D, 22" TOUCH	SIMATIC IPC677D, 15" MULTI-TOUCH	SIMATIC IPC677D, 19" MULTI-TOUCH	SIMATIC IPC677D, 22" MULTI-TOUCH
Standards, approvals, certificates						
CE mark	Yes	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes	Yes
• UL 508	Yes	Yes	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes	Yes
FCC	Yes	Yes	Yes	Yes	Yes	Yes
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005	CE, EN 61000-6-4:2007, EN 61000-6-2:2005	CE, EN 61000-6-4:2007, EN 61000-6-2:2005	CE, EN 61000-6-4:2007, EN 61000-6-2:2005	CE, EN 61000-6-4:2007, EN 61000-6-2:2005	CE, EN 61000-6-4:2007, EN 61000-6-2:2005
• EN 61000-6-2	Yes	Yes	Yes	Yes	Yes	Yes
Ambient conditions						
Ambient temperature during operation						
• Ambient temperature during operation	+5 °C to +45 °C with full configuration	+5 °C to +45 °C with full configuration	+5 °C to +45 °C with full configuration	+5 °C to +45 °C with full configuration	+5 °C to +45 °C with full configuration	+5 °C to +45 °C with full configuration
• min.	5 °C	5 °C	5 °C	5 °C	5 °C	5 °C
• max.	45 °C	45 °C	45 °C	45 °C	45 °C	45 °C
Relative humidity						
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations						
• Vibration load in operation	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s² (1g)
Shock testing						
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 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 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI
pre-installed operating system	Yes	Yes	Yes	Yes	Yes	Yes
without operating system	Yes	Yes	Yes	Yes	Yes	Yes
pre-installed operating system						
• Windows 7	Yes; Ultimate 32-bit or 64-bit	Yes; Ultimate 32-bit or 64-bit	Yes; Ultimate 32-bit or 64-bit	Yes; Ultimate 32-bit or 64-bit	Yes; Ultimate 32-bit or 64-bit	Yes; Ultimate 32-bit or 64-bit
Software						
SIMATIC software	Optional package with SIMATIC WinCC or WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX
Dimensions						
Width of the housing front	415 mm	483 mm	560 mm	416.5 mm	483 mm	560 mm
Height of housing front	310 mm	337 mm	380 mm	298 mm	337 mm	380 mm
Overall depth						
• additional mounting depth (optical drive)	26 mm	26 mm	26 mm	26 mm	26 mm	26 mm
Mounting cutout/device depth (W x H x T)	396 mm x 291 mm x 112 mm	465 mm x 319 mm x 112 mm	542 mm x 362 mm x 112 mm	399 mm x 280 mm x 112 mm	465 mm x 319 mm x 112 mm	542 mm x 362 mm x 112 mm
Weights						
Panel PC in central design, approx.	12 kg	14 kg	16 kg	12 kg	14 kg	16 kg

■ Ordering data

	Article No.			Article No.	

SIMATIC IPC677D [1]   6AV7260- ■ ■■■■ - ■■■■

HD graphics onboard;
2 x Gigabit Ethernet (IE/PN) RJ45;
4 x USB V3.0; 1x serial (COM1);
RAID controller onboard;
watchdog, temp./fan monitoring

Operator control unit
- 15" Touch (1 280 x 800)
  with front USB — **0**
- 19" Touch (1 366 x 768)
  with front USB — **1**
- 22" Touch (1 920 x 1 080)
  with front USB — **2**
- 15" Multi-touch (1 366 x 768) — **3**
- 19" Multi-touch (1 366 x 768) — **4**
- 22" Multi-touch (1 920 x 1 080) — **5**

Processor
- Celeron G1820TE
  (2C/2T, 2.2 GHz, 2 MB cache) — **A**
- Celeron G1820TE
  (2C/2T, 2.2 GHz, 2 MB cache);
  PROFIBUS/MPI (CP 5622-compatible); 2 MB battery-backed SRAM — **B**
- Celeron G1820TE
  (2C/2T, 2.2 GHz, 2 MB cache);
  PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB battery-backed SRAM — **C**
- Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x) — **D**
- Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); PROFIBUS/MPI (CP 5622-compatible); 2 MB battery-backed SRAM — **E**
- Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache, VT-x); PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB battery-backed SRAM — **F**
- Xeon E3-1268Lv3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT) — **G**
- Xeon E3-1268Lv3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT); PROFIBUS/MPI (CP 5622-compatible); 2 MB battery-backed SRAM — **H**
- Xeon E3-1268Lv3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache, VT-d, AMT); PROFINET (IRT, 3 ports, CP 1616-compatible); 2 MB battery-backed SRAM — **J**

SIMATIC IPC677D [1]   6AV7260- ■ ■■■■ - ■■■■

Drives
- 250 GB HDD SATA — **A**
- 250 GB HDD SATA; DVD+/-RW — **B**
- 500 GB HDD SATA — **D**
- 500 GB HDD SATA; DVD+/-RW — **E**
- RAID1 2 x 320 GB SATA (2.5") — **G**
- RAID1 2 x 320 GB SATA (2.5"); DVD+/-RW — **H**
- Swap HDD RAID1 2 x 320 GB SATA (2.5") — **K**
- Swap HDD; RAID1 2 x 320 GB SATA (2.5"); solid-state drive 240 GB — **L**
- Solid-state drive 240 GB; — **M**
- Solid-state drive 240 GB; 320 GB HDD SATA (2.5"); — **N**
- Solid-state drive 240 GB; 320 GB HDD SATA (2.5"); DVD+/-RW — **P**
- 80 GB solid-state drive — **Q**
- 80 GB solid-state drive; DVD+/-RW — **R**

Memory configuration
- 2 GB DDR3 1600 DIMM — **1**
- 4 GB DDR3 1600 DIMM — **2**
- 8 GB DDR3 1600 DIMM — **3**
- 16 GB DDR3 1600 DIMM — **4**
- 8 GB DDR3 1600 DIMM; ECC — **5**
- 16 GB DDR3 1600 DIMM; ECC — **6**

Expansions (HW)
- 2 x PCI — **0**
- 1 x PCIe (x16); 1 x PCI — **1**
- 1 x PCIe (x16); 1 x PCIe (x4) — **2**

Expansion 2 (HW)
- Without expansion (HW) — **0**
- 2 x USB in addition (1 slot occupied) — **1**
- COM2; LPT (1 slot occupied) — **2**
- 2 x USB in addition; COM2; LPT (2 slots occupied) — **3**

Operating system
- Windows 7 Ultimate, 32-bit SP1, MUI (Eng, Ger, Fr, It, Sp) — **A**
- Windows 7 Ultimate, 64-bit SP1, MUI (Eng, Ger, Fr, It, Sp); — **B**
- Windows Embedded Standard 7 P, 32-bit, SP1, MUI (Eng, Ger, Fr, It, Sp) with SSD 80 GB option — **D**
- None — **X**

[1] Production and delivery as per order

Note:

Please use the TIA Selection Tool or the configurator
in the Industry Mall in order to ensure availability of the
required IPC configuration; we do not accept any liability
for self-customized configurations.

4

PC-based Automation
Panel PC

SIMATIC IPC677D

■ Ordering data	Article No.			Article No.
SIMATIC IPC677D [1]	**6AV7260 - ■■■■■ - ■■■■**		**Accessories**	
Expansions (SW)			**Memory expansion**	
• SIMATIC IPC DiagMonitor V4.x enclosed	A		• 2 GB DDR3 1600 SDRAM, DIMM	**6ES7648-2AJ50-0MA0**
• SIMATIC IPC Image & Partition Creator V3.x enclosed	B		• 4 GB DDR3 1600 SDRAM, DIMM	**6ES7648-2AJ60-0MA0**
• SIMATIC IPC DiagMonitor V4.x, Image & Partition Creator V3.x enclosed	C		• 8 GB DDR3 1600 SDRAM, DIMM	**6ES7648-2AJ70-0MA0**
• None	X		• 8 GB DDR3 1600 SDRAM, DIMM, ECC	**6ES7648-2AJ70-1MA0**
• TPM module (not for China and Russia)	Y		**Non-heating apparatus cable for SIMATIC Box and Panel PC**	
Country-specific version / power supply			SIMATIC PC power cable, 230 V AC, angled, 3 m, for:	
• 100/230 V AC industrial power supply with NAMUR; power cable for Europe	0		• Germany	**6ES7900-1AA00-0XA0**
• 110/230 V AC industrial power supply with NAMUR; power cable for UK	1		• United Kingdom	**6ES7900-1BA00-0XA0**
• 110/230 V AC industrial power supply with NAMUR; power cable for CH	2		• Switzerland	**6ES7900-1CA00-0XA0**
• 110/230 V AC industrial power supply with NAMUR; power cable for the USA	3		• USA	**6ES7900-1DA00-0XA0**
• 110/230 V AC industrial power supply NAMUR; power cable for Italy	4		• Italy	**6ES7900-1EA00-0XA0**
• 110/230 V AC industrial power supply with NAMUR; power cable for China	5		• China	**6ES7900-1FA00-0XA0**
• 24 V DC industrial power supply	6		**Touch pen**	See "SIMATIC HMI accessories -> Accessibility"
• 110/230 V AC industrial power supply with NAMUR; without power cable	8		**Expansion components**	See expansion components
			Communication components	See expansion components

[1] Production and delivery as per order

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

■ More information

Additional information is available on the Internet at:

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

Note

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

■ Overview

Compact and powerful

The SIMATIC ET 200SP Open Controller is the first controller of this type to combine the functions of an ET 200SP controller with visualization and PC applications in one rugged, compact control system with central I/Os (inputs/outputs).

Features	CPU 1515SP PC (+HMI)
Work memory for program, integrated	1 MB
Work memory for data, integrated	5 MB
Load memory	320 MB
Command execution times	
• Bit operations	10 ns
• Word operations	12 ns
• Fixed-point operations	16 ns
• Floating-point operations	64 ns
Bit memories, timers, counters	
S7 counters/timers	2048
IEC counter	Arbitrary (only limited by the work memory)
IEC timer	Arbitrary (only limited by the work memory)
Bit memory	16 KB
I/O address range	
Inputs	32 KB (all inputs are stored in the process image)
Outputs	32 KB (all inputs are stored in the process image)
Motion	
No. of axes	Up to 6
Communication	
PtP	Yes (via CM)
PROFINET IO	1 x PN IO IRT (2-port switch)
PROFIBUS DP	Yes (via CM DP)
Web server	Yes
GB-Ethernet	Yes, 1 x via GB-Ethernet RJ45 interface

■ More information

Further information and downloads

Manuals

The ET 200SP Open Controller manuals can be downloaded free of charge from the Internet (SIMATIC Customer Support).

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

General information

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

SIMATIC Selection Tool

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

Brochures

Information material for downloading can be found on the Internet:

http://www.siemens.com/simatic/printmaterial

4

PC-based Automation
PC-based Controllers

◼ Overview

- Turnkey all-in-one solution with pre-installed SIMATIC S7-1500 Software Controller and optionally pre-installed WinCC Runtime Advanced V13 SP1
- 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)

Technical specifications

Article number	**6ES7677-2AA31-0EB0**	**6ES7677-2AA41-0FB0**
	CPU 1515SP PC 4GB	CPU 1515SP PC 4GB
General information		
Product type designation	CPU 1515SP PC	CPU 1515SP PC
Engineering with		
• STEP 7 TIA Portal configurable/ integrated as of version	V13 SP1 Update 4	V13 SP1 Update 4
PC configuration		
Processor	Dual-Core 1 GHz, AMD G Series APU T40E	Dual-Core 1 GHz, AMD G Series APU T40E
Main memory	4 GB RAM	4 GB RAM
Flash Disk	8 GB	16 GB
Operating systems	Windows Embedded Standard 7 E 32-bit	Windows Embedded Standard 7 P 64-bit
Installed software		
• Visualization	No	No
• Control	S7-1500 Software Controller CPU 1505S V1.8	S7-1500 Software Controller CPU 1505S V1.8
Supply voltage		
Type of supply voltage	24 V DC	24 V DC
Power loss		
Power loss, typ.	15 W; without ET 200SP modules and without using USB	15 W; without ET 200SP modules and without using USB
Memory		
Type of memory	DDR3-SDRAM	DDR3-SDRAM
Work memory		
• integrated	4 Gbyte	4 Gbyte
Hardware configuration		
Integrated power supply	Yes	Yes
Time of day		
Clock		
• Type	Hardware clock	Hardware clock
Interfaces		
Number of industrial Ethernet interfaces	2	2
Number of PROFINET interfaces	1	1
Number of PROFIBUS interfaces	1; Via CM DP module	1; Via CM DP module
Number of RS 485 interfaces	1; Via CM DP module	1; Via CM DP module
Number of USB interfaces	3; 3x USB 2.0 on the front, 500 mA each – of which 2x 500 mA and 1x 100 mA simultaneously	3; 3x USB 2.0 on the front, 500 mA each – of which 2x 500 mA and 1x 100 mA simultaneously
Number of SD card slots	1	1
Video interfaces		
• Graphics interface	1x DVI-I	1x DVI-I

4

PC-based Automation
PC-based Controllers

CPU 1515SP PC

■ **Technical specifications** (continued)

Article number	6ES7677-2AA31-0EB0	6ES7677-2AA41-0FB0
	CPU 1515SP PC 4GB	CPU 1515SP PC 4GB
1. Interface		
Interface type	PROFINET	PROFINET
Physics	BusAdapter BA for ET 200SP	BusAdapter BA for ET 200SP
automatic detection of transmission rate	Yes	Yes
Autonegotiation	Yes	Yes
Autocrossing	Yes	Yes
Interface types		
• Number of ports	2	2
• integrated switch	Yes	Yes
• RJ 45 (Ethernet)	Yes; Via BusAdapter BA 2x RJ45	Yes; Via BusAdapter BA 2x RJ45
- Transmission rate, max.	100 Mbps	100 Mbps
- Industrial Ethernet status LED	Yes	Yes
2. Interface		
Interface type	Integrated Ethernet interface	Integrated Ethernet interface
Physics	RJ45	RJ45
automatic detection of transmission rate	Yes	Yes
Autonegotiation	Yes	Yes
Autocrossing	Yes	Yes
Interface types		
• Number of ports	1	1
• RJ 45 (Ethernet)	Yes; Integrated	Yes; Integrated
- Transmission rate, max.	1 000 Mbps	1 000 Mbps
- Industrial Ethernet status LED	No	No
3. Interface		
Interface types		
• RS 485	Yes; Via CM DP module	Yes; Via CM DP module
Ambient conditions		
Ambient temperature during operation		
• min.	0 °C	0 °C
• max.	Up to 60 °C with max. 32 ET 200SP modules and 3x 100 mA USB load; up to 55 °C with max. 64 ET 200SP modules and 2x max. 500 mA and 1x max. 100 mA USB load	Up to 60 °C with max. 32 ET 200SP modules and 3x 100 mA USB load; up to 55 °C with max. 64 ET 200SP modules and 2x max. 500 mA and 1x max. 100 mA USB load
• horizontal installation, min.	0 °C	0 °C
• horizontal installation, max.	60 °C	60 °C
• vertical installation, min.	0 °C	0 °C
• vertical installation, max.	50 °C; With max. 32 ET 200SP modules and 3x 100 mA USB load	50 °C; With max. 32 ET 200SP modules and 3x 100 mA USB load
Peripherals/Options		
Peripherals		
• SD card	Optionally for additional mass storage	Optionally for additional mass storage
Dimensions		
Width	160 mm	160 mm
Height	117 mm	117 mm
Depth	75 mm	75 mm
Weights		
Weight, approx.	0.83 kg	0.83 kg

PC-based Automation
PC-based Controllers

Overview

- For developing dynamically loadable function libraries for S7-1500 Software Controllers:
  - Implementation of function libraries by means of high-level programming with C/C++.
  - Execution of the library functions under Windows or in the real-time context of the Software Controller.
  - Calling the functions directly from the PLC program.
- Development environment for real-time library functions included in the scope of delivery.
- Development of Windows library functions with MS Visual Studio.
- Automatic creation of function blocks for calling the library functions.
- Simple integration of the function blocks into STEP 7 by importing.
- Simple use of the library functions in the controller without specific high-level language know-how.

Technical specifications

System requirements

The SIMATIC ODK 1500S can be used on PC platforms with the following requirements:
- Windows 7, Windows 8 operating systems
- Min. 150 MB hard drive memory
- min. 4 GB work memory
- Mouse, keyboard, screen

Ordering data

	Article No.
SIMATIC ODK 1500S Open Development Kit for support in developing Windows and real-time library functions for S7-1500 software controllers	**6ES7806-2CD00-0YA0**

■ **Overview**

Software Controller for PC-based automation

The SIMATIC S7-1500 Software Controller implements a SIMATIC S7-1500 Controller on SIMATIC IPC.

It is particularly suitable for control solutions in special-purpose machine manufacturing, which involves a high-performance implementation of complex control tasks, the integration of PC applications, or the realization of several tasks on one device.

The S7-1500 Software Controller is the long-term successor to SIMATIC WinAC RTX. It offers significantly improved availability, system diagnosis and complete configurability in the TIA Portal. Like the S7-1500 Controller, the Software Controller has integrated motion functions as well as improved security mechanisms for intellectual property and copy protection.

Catalog ST 70:

You can also find information about SIMATIC Software Controller in Catalog ST 70:

http://www.automation.siemens.com/salesmaterial-as/catalog/en/simatic-st70-chap08-english-2015.pdf

SIMATIC S7-1500 Software Controller

- SIMATIC S7-1500 Software Controller for implementing control tasks with SIMATIC IPC
- High system availability thanks to innovative real-time system
- Improved know-how and copy protection
- Integrated Motion Control functionalities for controlling speed-controlled and positioning axes, support for external encoders
- Integrated web server with the option of creating user-defined web pages
- Optimal functionality for solutions with the powerful embedded IPC427D and IPC477D
- Can run on SIMATIC IPC627D, IPC827D, IPC677D, IPC647D and IPC847D
- SIMATIC ODK 1500S for the development and integration of control functions and applications with the high-level language C/C++

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
- Optimized for PC-based control tasks with the IPC427 Microbox PC and the IPC477D Panel PC
- Can also be used on IPC627D and IPC827D Box PCs, IPC677D Panel PC, and IPC647D and IPC847D Rack PCs

■ **Technical specifications**

Article number	6ES7672-7AC00-0YA0
	SIMATIC SOFTWARE CONTROLLER CPU 1507S
General information	
Product type designation	CPU 1507S
Software version	V1.8
Engineering with	
• STEP 7 TIA Portal configurable/ integrated as of version	V13 SP1 Update 4
Memory	
Work memory	
• integrated (for program)	5 Mbyte
• integrated (for data)	20 Mbyte
• Integrated (for ODK application)	19 Mbyte
Load memory	
• integrated (on PC mass storage)	300 Mbyte
CPU processing times	
for bit operations, typ.	1 ns; on SIMATIC IPC427D, Intel Core i7 processor, 1.7 GHz
for word operations, typ.	2 ns; on SIMATIC IPC427D, Intel Core i7 processor, 1.7 GHz
for fixed point arithmetic, typ.	2 ns; on SIMATIC IPC427D, Intel Core i7 processor, 1.7 GHz
for floating point arithmetic, typ.	2 ns; on SIMATIC IPC427D, Intel Core i7 processor, 1.7 GHz
CPU-blocks	
Number of blocks (total)	6 000
DB	
• Number, max.	6 000; Number range: 1 to 65535
• Size, max.	16 Mbyte
FB	
• Number, max.	5 998; Number range: 1 to 65535
• Size, max.	512 kbyte
FC	
• Number, max.	5 999; Number range: 1 to 65535
• Size, max.	512 kbyte
OB	
• Size, max.	1 048 kbyte
Nesting depth	
• per priority class	24

Article number	6ES7672-7AC00-0YA0
	SIMATIC SOFTWARE CONTROLLER CPU 1507S
Counters, timers and their retentivity	
S7 counter	
• Number	2 048
IEC counter	
• Number	Any (only limited by the main memory)
S7 times	
• Number	2 048
IEC timer	
• Number	Any (only limited by the main memory)
Data areas and their retentivity	
Flag	
• Number, max.	16 kbyte
Address area	
I/O address area	
• Inputs	32 kbyte
• Outputs	32 kbyte
Time of day	
Clock	
• Type	Software clock, synchronizable, no battery backup
Interfaces	
Number of interfaces	3
1. Interface	
Interface type	Onboard PROFINET / IE interface X2 of the SIMATIC IPC, Intel Springville i210T
Interface types	
• Number of ports	1
• RJ 45 (Ethernet)	Yes
- Transmission rate, max.	100 Mbps
- Industrial Ethernet status LED	Yes

4

Technical specifications (continued)

Article number	6ES7672-7AC00-0YA0
	SIMATIC SOFTWARE CONTROLLER CPU 1507S
Functionality	
• Number of connections via this interface	128
• PROFINET IO Controller	Yes
• PROFINET IO Device	Yes
• SIMATIC communication	Yes
• Open IE communication	Yes
• Web server	Yes
PROFINET IO Controller	
Services	
- Isochronous mode	No
- IRT	No
- MRP	No
- Prioritized startup	Yes; Max. 32 PROFINET devices; if you want to use the "Prioritized startup" functionality in STEP 7 for the PROFINET interface of the CPU, the CPU and the device must be separated by means of a switch (e.g. SCALANCE X205)
- Number of connectable IO Devices, max.	128
- Number of connectable IO Devices for RT, max.	128
- of which in line, max.	128
- Number of IO Devices that can be simultaneously activated/deactivated, max.	8
- IO Devices changing during operation (partner ports), supported	Yes
- Number of IO Devices per tool, max.	8
- Updating times	The minimum value of the update time also depends on communication share set for PROFINET IO, on the number of IO Devices, and on the quantity of configured user data
Update time for RT	
- for send cycle of 1 ms	1 ms to 512 ms
PROFINET IO Device	
Services	
- Isochronous mode	No
- IRT	No
- MRP	No
- Prioritized startup	Yes; If you want to use the "Prioritized startup" functionality in STEP 7 for the PROFINET interface of the CPU, the CPU and the device must be separated by means of a switch (e.g. SCALANCE X205)
- Shared device	Yes
- Number of IO Controllers with shared device, max.	2
2. Interface	
Interface type	PROFIBUS with CP 5622, CP 5622 onboard
Interface types	
• RS 485	Yes

Article number	6ES7672-7AC00-0YA0
	SIMATIC SOFTWARE CONTROLLER CPU 1507S
Functionality	
• Number of connections via this interface	44
• PROFIBUS DP master	Yes
• PROFIBUS DP slave	No
• SIMATIC communication	Yes; no PG/STEP 7 connection possible
DP master	
Services	
- Equidistance	No
- Isochronous mode	No
- Number of connectable DP slaves, max.	64
3. Interface	
Interface type	PROFIBUS with CP 5623
Functionality	
• Number of connections via this interface	44
• SIMATIC communication	Yes; no PG/STEP 7 connection possible
DP master	
Services	
- Equidistance	No
- Isochronous mode	No
- Number of connectable DP slaves, max.	125
Protocols	
Number of connections	
• Number of connections, max.	128
Supported technology objects	
Motion Control	Yes
• Speed-controlled axis	
- Number of speed-controlled axes, max.	60; configurable, up to 60 axes in total (speed-controlled, positioning axis, external encoders) are supported
• Positioning axis	
- Number of positioning axes, max.	60; configurable, up to 60 axes in total (speed-controlled, positioning axis, external encoders) are supported
• Synchronized axes (relative gear synchronization)	
- Number of axes, max.	30; Max. number of synchronous axes (requirement: there must be no other motion technology objects created)
• External encoders	
- Number of external encoders, max.	60; configurable, up to 60 axes in total (speed-controlled, positioning axis, external encoders) are supported
Controller	
• PID_Compact	Yes; Universal PID controller with integrated optimization
• PID_3Step	Yes; PID controller with integrated optimization for valves
Counting and measuring	
• High-speed counter	Yes

Overview

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  - Calling the functions directly from the PLC program.
- Development environment for real-time library functions included in the scope of delivery.
- Development of Windows library functions with MS Visual Studio.
- Automatic creation of function blocks for calling the library functions.
- Simple integration of the function blocks into STEP 7 by importing.
- Simple use of the library functions in the controller without specific high-level language know-how.

Technical specifications

System requirements

The SIMATIC ODK 1500S can be used on PC platforms with the following requirements:

- Windows 7, Windows 8 operating systems
- Min. 150 MB hard drive memory
- Min. 4 GB work memory
- Mouse, keyboard, monitor

Ordering data

	Article No.
SIMATIC ODK 1500S Open Development Kit for support in developing Windows and real-time library functions for S7-1500 Software Controllers	**6ES7806-2CD00-0YA0**

4

PC-based Automation
Software Controllers – SIMATIC S7-1500 Software Controllers
Add-on applications

ODK 1500S SQL driver, ODK 1500S XML DataAccess driver

Overview 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

Overview ODK 1500S XML DataAccess 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

Supported SQL commands	• SELECT
	• INSERT
	• UPDATE
	• DELETE
Supported data types	All standard SQL data types
System requirements	
• Runtime PC	SIMATIC IPC with S7-1500 Software Controller or SIMATIC ET 200SP Open Controller
• Engineering	STEP 7 in the TIA Portal V13 SP1

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

More information

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

More information

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

4

Overview

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
(e.g. renaming, deleting) files.

Technical specifications

Supported file formats	• CSV
	• ASCII
	• Windows-INI
	• XML[1]
	• Binary
System requirements	
• Runtime PC	SIMATIC IPC with S7-1500 Software Controller or SIMATIC ET 200SP Open Controller
• Engineering	STEP 7 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.

More information

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

4

PC-based Automation
Software Controllers

SIMATIC WinAC

■ Overview

Siemens has developed a wide range of coordinated hardware and software components for PC-based Automation.

SIMATIC WinAC RTX is the right, proven solution for you if you are looking for an open, flexible and reliable controller for your PC-based automation solution.

All automation tasks, such as open/closed-loop control, HMI and motion control, can be implemented on a single platform on the PC. PC-based Automation is your first choice wherever PC applications have to be handled in addition to classic PLC tasks.

SIMATIC PC-based Control
- Adds PC-based controllers to the SIMATIC S7 controller family
- Especially suitable where a variety of tasks such as data processing, communication, visualization, technology and control have to be integrated in one PC.

Versions
- **SIMATIC WinAC Software PLC**
  for tasks requiring a high level of flexibility and integration capability.
- **SIMATIC WinAC ODK**
  allows PC solutions for technological tasks to be integrated flexibly and powerfully into the controller.

Properties:
- Runs on standard PCs under Windows XP or Windows 7 (32-bit).
- Code-compatible with SIMATIC S7-300/-400: Programmed with SIMATIC industrial software, created programs can also be used for SIMATIC S7.
- Uses standard interfaces for integration into the office environment.
- Open interfaces for the integration of solution-specific technological hardware and software.

Catalog ST 70:

You can also find information about SIMATIC PC-based controllers in **Catalog ST 70:**

http://www.automation.siemens.com/salesmaterial-as/catalog/en/simatic-st70-chap08-english-2015.pdf

■ More information

Brochures

Information material for downloading is available on the Internet:

http://www.siemens.com/simatic/printmaterial

Overview

- SIMATIC WinAC RTX:
  Optimized for applications that require a high degree of flexibility and integration capability.
- The software solution for tasks that require hard deterministic behavior and high performance.
- With real-time expansion for assuring deterministic behavior for the control section.

Technical specifications

Article number	6ES7671-0RC08-0YA0
	SIMATIC WINAC RTX 2010
General information	
Product type designation	SIMATIC WinAC RTX 2010
Firmware version	V4.6
Memory	
Type of memory	RAM
Work memory	
• integrated (for program)	4 Mbyte; Adjustable; depends on Non Paged Memory Pool
• integrated (for data)	4 Mbyte; Adjustable; depends on Non Paged Memory Pool
Load memory	
• integrated RAM, max.	8 Mbyte; Adjustable; depends on Non Paged Memory Pool
CPU processing times	
for bit operations, typ.	0.004 μs; Typical
for fixed point arithmetic, typ.	0.003 μs; Typical
for floating point arithmetic, typ.	0.004 μs; Typical
Reference platform	Pentium 4, 2.4 GHz
CPU-blocks	
DB	
• Number, max.	65 535; Limited only by RAM set for data
• Size, max.	64 kbyte
FB	
• Number, max.	65 536; Limited only by RAM set for code
• Size, max.	64 kbyte
FC	
• Number, max.	65 536; Limited only by RAM set for code
• Size, max.	64 kbyte
OB	
• Size, max.	64 kbyte
Nesting depth	
• per priority class	24
• additional within an error OB	24

Article number	6ES7671-0RC08-0YA0
	SIMATIC WINAC RTX 2010
Counters, timers and their retentivity	
S7 counter	
• Number	2 048
Retentivity	
- adjustable	Yes
- lower limit	0
- upper limit	2 047
- preset	8
Counting range	
- can be set	Yes
- lower limit	0
- upper limit	999
IEC counter	
• present	Yes
• Type	SFB
• Number	Unlimited (limited only by RAM capacity)
S7 times	
• Number	2 048
Retentivity	
- adjustable	Yes
- lower limit	0
- upper limit	2 047
- preset	0
Time range	
- lower limit	10 ms
- upper limit	9 990 s
IEC timer	
• present	Yes
• Type	SFB
• Number	Unlimited (limited only by RAM capacity)

■ Technical specifications (continued)

Article number	6ES7671-0RC08-0YA0
	SIMATIC WINAC RTX 2010
2. Interface	
Interface type	CP 5613, CP 5613-A2, CP 5613-A3, CP 5603, CP 5623
Number of simultaneously operable CPs, max.	4
Physics	RS 485 / PROFIBUS
Isolated	Yes
Functionality	
• MPI	No
• PROFIBUS DP master	Yes
• PROFIBUS DP slave	No
DP master	
• Number of connections, max.	50
• Transmission rate, max.	12 Mbps
• Number of DP slaves, max.	125
Services	
- PG/OP communication	Yes
- Global data communication	No
- S7 basic communication	No
- S7 communication	Yes
- S7 communication, as client	Yes
- S7 communication, as server	Yes
- Equidistance	Yes; Only in conjunction with isochronous mode
- Isochronous mode	Yes
- SYNC/FREEZE	Yes
- Activation/deactivation of DP slaves	Yes
- Direct data exchange (slave-to-slave communication)	Yes
- DPV1	Yes
Address area	
- Inputs, max.	16 kbyte
- Outputs, max.	16 kbyte
User data per DP slave	
- Inputs, max.	244 byte
- Outputs, max.	244 byte
3. Interface	
Interface type	PROFINET
Number of simultaneously operable CPs, max.	1; Intel Pro/1000 (Intel 82571EB, 82573L, 82574L, 82541PI; non-shared IRQ required); Intel i210T; integrated IE interface SIMATIC PC IPC4x7C, IPC6x7C, IPC8x7C, IPC2x7D, IPC4x7D, IPC6x7D, IPC8x7D, IPC547E
Physics	Ethernet
Isolated	Yes
automatic detection of transmission rate	Yes; 10/100 Mbps
Autonegotiation	Yes
Autocrossing	Yes
Interface types	
• Number of ports	1
• integrated switch	No
Media redundancy	
• supported	No

Article number	6ES7671-0RC08-0YA0
	SIMATIC WINAC RTX 2010
Functionality	
• PROFINET IO Controller	Yes
• PROFINET IO Device	No
• PROFINET CBA	Yes
• Open IE communication	Yes
PROFINET IO Controller	
• Transmission rate, min.	100 Mbps
• Transmission rate, max.	100 Mbps
Services	
- PG/OP communication	Yes
- S7 routing	Yes
- S7 communication	Yes
- Isochronous mode	No
- Open IE communication	Yes
- IRT	No
- Prioritized startup	Yes
- Number of IO Devices with prioritized startup, max.	32
- Number of connectable IO Devices for RT, max.	128
- of which in line, max.	128
- Activation/deactivation of IO Devices	Yes
- Number of IO Devices that can be simultaneously activated/ deactivated, max.	8
- IO Devices changing during operation (partner ports), supported	Yes
- Device replacement without swap medium	Yes
- Send cycles	1 ms
- Updating time	1 to 512 ms (minimum value depends on communication share set for PROFINET I/O, on the number of I/O devices, and on the volume of configured user data)
Address area	
- Inputs, max.	16 kbyte
- Outputs, max.	16 kbyte
- User data per address area, max.	2 kbyte
- User data consistency, max.	256 byte
Open IE communication	
• Number of connections, max.	32
• Local port numbers used at the system end	0, 20, 21, 23, 25, 80, 102, 135, 161, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535
• Keep-alive function, supported	Yes
4. Interface	
Interface type	PROFINET
Number of simultaneously operable CPs, max.	1; CP 1616 (hardware release 8 or higher), CP 1604 (hardware release 7 or higher), integrated PROFINET interface of SIMATIC IPC and S7-mEC
Physics	Ethernet
Isolated	Yes
automatic detection of transmission rate	Yes; 10/100 Mbps
Autonegotiation	Yes
Autocrossing	Yes
Change of IP address at runtime, supported	Yes
Number of connection resources	32

4

PC-based Automation
Software Controllers
SIMATIC WinAC

SIMATIC WinAC RTX

■ **Technical specifications** (continued)

Article number	6ES7671-0RC08-0YA0
	SIMATIC WINAC RTX 2010
Interface types	
• Number of ports	3
• integrated switch	Yes
Media redundancy	
• supported	Yes
• Switchover time on line break, typ.	200 ms
• Number of stations in the ring, max.	50
Functionality	
• PROFINET IO Controller	Yes
• PROFINET IO Device	No
• PROFINET CBA	Yes
• Open IE communication	Yes
PROFINET IO Controller	
• Transmission rate, max.	100 Mbps
Services	
- PG/OP communication	Yes
- S7 routing	Yes
- S7 communication	Yes
- Isochronous mode	Yes
- Open IE communication	Yes
- IRT	Yes
- Prioritized startup	Yes
- Number of IO Devices with prioritized startup, max.	32
- Of which IO Devices with IRT, max.	64
- of which in line, max.	32
- Number of IO Devices with IRT and the option "high flexibility"	64
- of which in line, max.	32
- Number of connectable IO Devices for RT, max.	256
- of which in line, max.	256
- Activation/deactivation of IO Devices	Yes
- Number of IO Devices that can be simultaneously activated/deactivated, max.	8
- IO Devices changing during operation (partner ports), supported	Yes
- Device replacement without swap medium	Yes
- Send cycles	250 µs, 500 µs, 1 ms
- Updating time	0.25...512 depending on the send cycle
Address area	
- Inputs, max.	16 kbyte
- Outputs, max.	16 kbyte
- User data per address area, max.	2 kbyte
- User data consistency, max.	256 byte
Open IE communication	
• Number of connections, max.	32
• Local port numbers used at the system end	0, 20, 21, 25, 80, 102, 135, 161, 34962, 34963, 34964, 65532, 65533, 65534, 65535

Article number	6ES7671-0RC08-0YA0
	SIMATIC WINAC RTX 2010
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	Yes
Number of DP masters with isochronous mode	2
User data per isochronous slave, max.	128 byte
Equidistance	Yes
shortest clock pulse	2.2 ms; 2.2 ms without partial process image; 2.2 ms with partial process image
Communication functions	
PG/OP communication	Yes
Data record routing	Yes; only with CP 5611 or integrated PROFIBUS interface of the SIMATIC PC
Global data communication	
• supported	No
S7 basic communication	
• supported	No
S7 communication	
• supported	Yes
• as server	Yes
• as client	Yes
• User data per job, max.	64 kbyte; when using BSEND/USEND
Open IE communication	
• TCP/IP	Yes
- Number of connections, max.	32
- Data length for connection type 01H, max.	Not supported
- Data length for connection type 11H, max.	65 534 byte
- Data length, max.	65 534 byte
• ISO-on-TCP (RFC1006)	Yes
- Number of connections, max.	32
- Data length, max.	65 534 byte
• UDP	Yes
- Number of connections, max.	32
- Data length, max.	1 472 byte
Web server	
• supported	Yes
• Number of HTTP clients	2
• User-defined websites	No
PROFINET CBA (at set setpoint communication load)	
• Setpoint for the CPU communication load	20%
• Number of remote interconnection partners	64
• Number of functions, master/slave	30
• Total of all master/slave connections	1 000
• Data length of all incoming connections master/slave, max.	6 800 byte
• Data length of all outgoing connections master/slave, max.	6 800 byte
• Number of device-internal and PROFIBUS interconnections	500
• Data length of device-internal und PROFIBUS interconnections, max.	4 000 byte
• Data length per connection, max.	1 400 byte

4

■ Technical specifications (continued)

Article number	6ES7671-0RC08-0YA0
	SIMATIC WINAC RTX 2010
Remote interconnections with acyclic transmission	
- Sampling frequency: Sampling time, min.	500 ms
- Number of incoming interconnections	100
- Number of outgoing interconnections	100
- Data length of all incoming interconnections, max.	2 000 byte
- Data length of all outgoing interconnections, max.	2 000 byte
- Data length per connection, max.	1 400 byte
Remote interconnections with cyclic transmission	
- Transmission frequency: Transmission interval, min.	10 ms
- Number of incoming interconnections	200
- Number of outgoing interconnections	200
- Data length of all incoming interconnections, max.	4 800 byte
- Data length of all outgoing interconnections, max.	4 800 byte
- Data length per connection, max.	250 byte
HMI variables via PROFINET (acyclic)	
- Number of stations that can log on for HMI variables (PN OPC/iMap)	3
- HMI variable updating	500 ms
- Number of HMI variables	200
- Data length of all HMI variables, max.	2 000 byte
PROFIBUS proxy functionality	
- supported	Yes
- Number of linked PROFIBUS devices	16
- Data length per connection, max.	240 byte; Slave-dependent
Number of connections	
• overall	96
S7 message functions	
Number of login stations for message functions, max.	62
SCAN procedure	No
Process diagnostic messages	Yes; ALARM_S, ALARM_SQ, ALARM_D, ALARM_DQ
simultaneously active Alarm-S blocks, max.	20; of a total of 20 for all SFCs
Alarm 8-blocks	Yes
• Number of instances for alarm 8 and S7 communication blocks, max.	4 000
Process control messages	No
Test commissioning functions	
Status block	Yes
Single step	Yes
Number of breakpoints	20
Status/control	
• Status/control variable	Yes

Article number	6ES7671-0RC08-0YA0
	SIMATIC WINAC RTX 2010
Forcing	
• Forcing	No
Diagnostic buffer	
• present	Yes
• Number of entries, max.	
- can be set	Yes
- preset	120
Hardware requirements	
Hardware required	PC with color monitor, keyboard, mouse or pointing device for Windows
Main memory, min.	1 Gbyte; WES7: 2 GB
required memory on hard disk, min.	100 Mbyte
Processor	Intel Celeron M, 900 MHz or compatible
• Multi-processor system	Yes; Dual Pentium, CoreDuo, Core2Duo or compatible
• Hyper-threading	Yes
Operating systems	
pre-installed operating system	
• Windows NT 4.0	No
• Windows 2000	No
• Windows Vista	No
• Windows XP	Yes; Professional, SP2 and SP3
• Windows XP Embedded	Yes; With the delivery image of the SIMATIC PC
- supported HAL types under Windows XP	ACPI uniprocessor PC, ACPI multiprocessor PC, MPS multiprocessor PC
• Windows 7	Yes; Professional, Enterprise, Ultimate (only 32-bit)
• Windows Embedded Standard 7	Yes; With delivery image of SIMATIC PC (only 32-bit)
Configuration	
Programming	
• Nesting levels	8
Programming language	
- LAD	Yes
- FBD	Yes
- STL	Yes
- SCL	Yes
- CFC	Yes
- GRAPH	Yes
- HiGraph®	Yes
Software libraries	
- Easy Motion Control	Yes
Know-how protection	
• User program protection/password protection	Yes
• Block encryption	No
Open Development interfaces	
• CCX (Custom Code Extension)	Yes; WinAC ODK V4.2 or higher
• CMI (Controller Management Interface)	Yes; WinAC ODK V4.2 or higher
• SMX (Shared Memory Extension)	Yes; WinAC ODK V4.2 or higher
- Inputs	4 kbyte
- Outputs	4 kbyte
Weights	
Weight, approx.	100 g; With packaging

PC-based Automation
Software Controllers
SIMATIC WinAC

SIMATIC WinAC RTX

Ordering data

	Article No.
SIMATIC WinAC RTX 2010 Software PLC for PC-based automation tasks with stringent deterministic requirements; PROFIBUS and PROFINET; CD-ROM with electronic documentation d, e, f; single license, executable under Windows XP SP2 and SP3 as well as Windows 7 (32-bit)	6ES7671-0RC08-0YA0
SIMATIC WinAC RTX 2010 Upgrade For upgrading from basic/RTX V3.x, V4.0, V4.1 2005, 2008 and 2009; single license, executable under Windows XP SP2 and SP3 and Windows 7 (32-bit)	6ES7671-0RC08-0YE0
CP 5612 communications processor PCI card (32-bit) for connection of a programming device or PC to PROFIBUS	6GK1561-2AA00
CP 5622 communications processor PCI Express x1 card (32-bit) for connection of a programming device or PC to PROFIBUS	6GK1562-2AA00
CP 5603 Microbox Package Comprising CP 5603 module and Microbox expansion rack	6GK1560-3AU00
CP 5613 A3 communications processor PCI card (32-bit; 3.3 V/5 V) for connection to PROFIBUS incl. DP-Base software; DP-RAM interface for DP master, incl. PG and FDL protocols; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for operating system support see SIMATIC NET software V12; English/German	6GK1561-3AA02
CP 5623 communications processor PCI Express x1 card (32-bit) for connection to PROFIBUS incl. DP-Base software with NCM PC; DP-RAM interface for DP master or DP slave, incl. PG and FDL protocols; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, Class A, for operating system support see SIMATIC NET software; German/English	6GK1562-3AA00
CP 1616 communications processor PCI card (32-bit; 3.3/5 V universal key) with ASIC ERTEC 400 for connecting PCs to PROFINET IO with 4-port real-time switch (RJ45); incl. IO-Base software for PROFINET IO Controller (RT operation) and NCM PC; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32-bit Windows XP Professional; German/English	6GK1161-6AA02

More information

Add-ons for SIMATIC WinAC

PC-based Competence Center Cologne

Our add-ons supplement the WinAC RTX soft PLC by useful functions which have arisen in the context of projects. You can thus fully utilize the advantages of PC-based automation.

The applications are available in the form of function blocks and are easy to use without special programming knowledge.

Detailed information and prices can be obtained from your Siemens contact or from:

Contact:

Siemens AG
Competence Center Cologne
E-mail: CCCologne@siemens.com

Application	Function
WinAC serial driver	Communication over serial interfaces
WinAC PC IO driver	Access to central I/O expansion PC IO including interrupt handling
WinAC SQL	Access to SQL databases
WinAC TCP/IP driver	Data exchange between WinAC and other communication partners over Windows interface using TCP/IP, UDP, or ISO-on-TCP
WinAC OPC Client	Access to various OPC servers
WinAC Shutdown	Controlled shutdown of WinAC and PC system
WinAC File-I/O	Reading and writing of DBs as file on the PC system
WinAC Command	Calling of batch commands from WinAC
WinAC Access-DB	High-performance access to DBs, bit memories or I/O image
WinAC SMX Cover	Provision of SMX functions, e.g. for Delphi or VB
WinAC CMI Wrapper	Simple program-based operation of WinAC

Brochures

Information material for downloading is available on the Internet:

http://www.siemens.com/simatic/printmaterial

Overview

- SIMATIC WinAC RTX F:
Optimized for applications that demand a high degree of flexibility and integration capability and that must also satisfy safety requirements up to SIL 3 (IEC 61508).
- The software solution for tasks that require hard deterministic behavior and high performance.
- With real-time expansion for assuring deterministic behavior for the control section.
- Distributed I/O can be connected over PROFIBUS and/or PROFINET, also safety-related over PROFIsafe.

Technical specifications

Article number	6ES7671-1RC08-0YA0
	SIMATIC WINAC RTX F 2010
General information	
Product type designation	SIMATIC WinAC RTX F 2010
Firmware version	V4.6
Memory	
Type of memory	RAM
Work memory	
• integrated (for program)	4 Mbyte; Adjustable; depends on Non Paged Memory Pool
• integrated (for data)	4 Mbyte; Adjustable; depends on Non Paged Memory Pool
Load memory	
• integrated RAM, max.	Adjustable; depends on Non Paged Memory Pool
CPU processing times	
for bit operations, typ.	0.004 µs; Typical
for fixed point arithmetic, typ.	0.003 µs; Typical
for floating point arithmetic, typ.	0.004 µs; Typical
Reference platform	Pentium 4, 2.4 GHz
CPU-blocks	
DB	
• Number, max.	65 535; Limited only by RAM set for data
• Size, max.	64 kbyte
FB	
• Number, max.	65 536; Limited only by RAM set for code
• Size, max.	64 kbyte
FC	
• Number, max.	65 536; Limited only by RAM set for code
• Size, max.	64 kbyte
OB	
• Size, max.	64 kbyte

Article number	6ES7671-1RC08-0YA0
	SIMATIC WINAC RTX F 2010
Nesting depth	
• per priority class	24
• additional within an error OB	24
Counters, timers and their retentivity	
S7 counter	
• Number	2 048
Retentivity	
- adjustable	Yes
- lower limit	0
- upper limit	2 047
- preset	8
Counting range	
- can be set	Yes
- lower limit	0
- upper limit	999
IEC counter	
• present	Yes
• Type	SFB
• Number	Unlimited (limited only by RAM capacity)
S7 times	
• Number	2 048
Retentivity	
- adjustable	Yes
- lower limit	0
- upper limit	2 047
- preset	0
Time range	
- lower limit	10 ms
- upper limit	9 990 s
IEC timer	
• present	Yes
• Type	SFB
• Number	Unlimited (limited only by RAM capacity)

PC-based Automation
Software Controllers
SIMATIC WinAC

SIMATIC WinAC RTX F

■ **Technical specifications** (continued)

Article number	6ES7671-1RC08-0YA0
	SIMATIC WINAC RTX F 2010
Data areas and their retentivity	
Retentivity without UPS and PS Extension Board	128 kbyte with SIMATIC IPC427C and HMI IPC477C; further SIMATIC PCs on request
Retentivity with UPS	all data
Flag	
• Number, max.	16 kbyte
• Retentivity preset	MB 0 to MB 15
• Number of clock memories	8
Data blocks	
• Retentivity adjustable	Yes; via non-retain property on DB
• Retentivity preset	Yes
Local data	
• adjustable, max.	64 kbyte
• preset	32 kbyte
• per priority class, max.	61 440 byte
Address area	
I/O address area	
• Inputs	16 kbyte
• Outputs	16 kbyte
of which distributed	
- DP interface, inputs	16 kbyte
- DP interface, outputs	16 kbyte
- PN interface, inputs	16 kbyte
- PN interface, outputs	16 kbyte
Process image	
• Inputs, adjustable	8 kbyte
• Outputs, adjustable	8 kbyte
• Inputs, default	512 byte
• Outputs, default	512 byte
Subprocess images	
• Number of subprocess images, max.	15
Digital channels	
• Inputs	128 000
• Outputs	128 000
Analog channels	
• Inputs	8 000
• Outputs	8 000
Number of operable FMs and CPs (recommended)	
• FM	4; FM distributed: FM 350-1, FM 350-2, FM 351, FM 352 / FM 352-5, FM 353, FM 354, FM 355, FM 355-2
• CP, point-to-point	2; CP 340, CP 341 distributed
• CP, LAN	Over PC CP
Submodules	
• Number of submodules, max	4
- of which PROFIBUS, max.	4; Supported interfaces: see 1st and 2nd interface
- of which Industrial Ethernet, max.	1; Supported interfaces: see 3rd and 4th interface

Article number	6ES7671-1RC08-0YA0
	SIMATIC WINAC RTX F 2010
Time of day	
Clock	
• retentive and synchronizable	Yes
Operating hours counter	
• Number	8
Clock synchronization	
• supported	Yes
• to PC-CP, slave	Yes
• on Ethernet via NTP	Yes
1. Interface	
Interface type	CP 5611-A2, CP 5621, integrated PROFIBUS interface of the SIMATIC PC
Number of simultaneously operable CPs, max.	1
Physics	RS 485 / PROFIBUS
Isolated	Yes
Power supply to interface (15 to 30 V DC), max.	does not exist
Number of connection resources	8
Functionality	
• MPI	No
• PROFIBUS DP master	Yes
• PROFIBUS DP slave	No
DP master	
• Number of connections, max.	8
• Transmission rate, max.	12 Mbps
• Number of DP slaves, max.	64
Services	
- PG/OP communication	Yes
- Global data communication	No
- S7 basic communication	No
- S7 communication	Yes
- S7 communication, as client	Yes
- S7 communication, as server	Yes
- Equidistance mode support	Yes; Only in conjunction with isochronous mode
- Isochronous mode	Yes
- SYNC/FREEZE	Yes
- Activation/deactivation of DP slaves	Yes
- Direct data exchange (slave-to-slave communication)	Yes
- DPV1	Yes
Address area	
- Inputs, max.	16 kbyte
- Outputs, max.	16 kbyte
User data per DP slave	
- Inputs, max.	244 byte
- Outputs, max.	244 byte

■ **Technical specifications** (continued)

Article number	6ES7671-1RC08-0YA0
	SIMATIC WINAC RTX F 2010
2. Interface	
Interface type	CP 5613, CP 5613-A2, CP 5603, CP 5623
Number of simultaneously operable CPs, max.	4
Physics	RS 485 / PROFIBUS
Isolated	Yes
Functionality	
• MPI	No
• PROFIBUS DP master	Yes
• PROFIBUS DP slave	No
DP master	
• Number of connections, max.	50
• Transmission rate, max.	12 Mbps
• Number of DP slaves, max.	125
Services	
- PG/OP communication	Yes
- Global data communication	No
- S7 basic communication	No
- S7 communication	Yes
- S7 communication, as client	Yes
- S7 communication, as server	Yes
- Equidistance	Yes; Only in conjunction with isochronous mode
- Isochronous mode	Yes
- SYNC/FREEZE	Yes
- Activation/deactivation of DP slaves	Yes
- Direct data exchange (slave-to-slave communication)	Yes
- DPV1	Yes
Address area	
- Inputs, max.	16 kbyte
- Outputs, max.	16 kbyte
User data per DP slave	
- Inputs, max.	244 byte
- Outputs, max.	244 byte
3. Interface	
Interface type	PROFINET
Number of simultaneously operable CPs, max.	1; Intel Pro/1000 (Intel 82571EB, 82573L, 82574L, 82541PI; non-shared IRQ required); integrated IE interface SIMATIC PC 4x7B, 6x7B, 8x7B, IPC4x7C, IPC6x7C, IPC8x7C
Physics	Ethernet
Isolated	Yes
automatic detection of transmission rate	Yes; 10/100 Mbps
Autonegotiation	Yes
Autocrossing	Yes
Interface types	
• Number of ports	1
• integrated switch	No
Media redundancy	
• supported	No

Article number	6ES7671-1RC08-0YA0
	SIMATIC WINAC RTX F 2010
Functionality	
• PROFINET IO Controller	Yes
• PROFINET IO Device	No
• PROFINET CBA	Yes
• Open IE communication	Yes
PROFINET IO Controller	
• Transmission rate, min.	100 Mbps
• Transmission rate, max.	100 Mbps
Services	
- PG/OP communication	Yes
- S7 routing	Yes
- S7 communication	Yes
- Isochronous mode	No
- Open IE communication	Yes
- IRT	No
- Prioritized startup	Yes
- Number of IO Devices with prioritized startup, max.	32
- Number of connectable IO Devices, max.	128
- Number of connectable IO Devices for RT, max.	128
- of which in line, max.	128
- Activation/deactivation of IO Devices	Yes
- Number of IO Devices that can be simultaneously activated/deactivated, max.	8
- IO Devices changing during operation (partner ports), supported	Yes
- Device replacement without swap medium	Yes
- Send cycles	1 ms
- Updating time	1 to 512 ms (minimum value depends on communication share set for PROFINET I/O, on the number of I/O devices, and on the volume of configured user data)
Address area	
- Inputs, max.	16 kbyte
- Outputs, max.	16 kbyte
- User data per address area, max.	2 kbyte
- User data consistency, max.	254 byte
Open IE communication	
• Number of connections, max.	32
• Local port numbers used at the system end	0, 20, 21, 23, 25, 80, 102, 135, 161, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535
• Keep-alive function, supported	Yes
4. Interface	
Interface type	PROFINET
Number of simultaneously operable CPs, max.	1; CP 1616 (HW release 8 or above), CP 1604 (HW release 7 or higher), integrated PROFINET interface of SIMATIC PC and S7-mEC
Physics	Ethernet
Isolated	Yes
automatic detection of transmission rate	Yes; 10/100 Mbps
Autonegotiation	Yes
Autocrossing	Yes
Change of IP address at runtime, supported	Yes
Number of connection resources	32

4

PC-based Automation
Software Controllers
SIMATIC WinAC

SIMATIC WinAC RTX F

Technical specifications (continued)

Article number	6ES7671-1RC08-0YA0
	SIMATIC WINAC RTX F 2010
Interface types	
• Number of ports	3
• integrated switch	Yes
Media redundancy	
• supported	Yes
• Switchover time on line break, typ.	200 ms
• Number of stations in the ring, max.	50
Functionality	
• PROFINET IO Controller	Yes
• PROFINET IO Device	No
• PROFINET CBA	Yes
• Open IE communication	Yes
PROFINET IO Controller	
• Transmission rate, max.	100 Mbps
Services	
- PG/OP communication	Yes
- S7 routing	Yes
- S7 communication	Yes
- Isochronous mode	Yes
- Open IE communication	Yes
- IRT	Yes
- Prioritized startup	Yes
- Number of IO Devices with prioritized startup, max.	32
- Of which IO Devices with IRT, max.	64
- of which in line, max.	64
- Number of IO Devices with IRT and the option "high flexibility"	64
- of which in line, max.	32
- Number of connectable IO Devices for RT, max.	256
- of which in line, max.	256
- Activation/deactivation of IO Devices	Yes
- Number of IO Devices that can be simultaneously activated/deactivated, max.	8
- IO Devices changing during operation (partner ports), supported	Yes
- Device replacement without swap medium	Yes
- Send cycles	250 µs, 500 µs, 1 ms
- Updating time	0.25...512 depending on the send cycle
Address area	
- Inputs, max.	16 kbyte
- Outputs, max.	16 kbyte
- User data per address area, max.	2 kbyte
- User data consistency, max.	254 byte
Open IE communication	
• Number of connections, max.	32
• Local port numbers used at the system end	0, 20, 21, 25, 80, 102, 135, 161, 34962, 34963, 34964, 65532, 65533, 65534, 65535
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	Yes
Number of DP masters with isochronous mode	2
User data per isochronous slave, max.	128 byte
Equidistance	Yes
shortest clock pulse	2.2 ms; 2.2 ms without partial process image; 2.2 ms with partial process image

Article number	6ES7671-1RC08-0YA0
	SIMATIC WINAC RTX F 2010
Communication functions	
PG/OP communication	Yes
Data record routing	Yes; only with CP 5611 or integrated PROFIBUS interface of the SIMATIC PC
Global data communication	
• supported	No
S7 basic communication	
• supported	No
S7 communication	
• supported	Yes
• as server	Yes
• as client	Yes
• User data per job, max.	64 kbyte; Depends on which block is used: BSEND/USEND or PUT/GET
Open IE communication	
• TCP/IP	Yes
- Number of connections, max.	32
- Data length for connection type 01H, max.	Not supported
- Data length for connection type 11H, max.	65 534 byte
- Data length, max.	65 534 byte
• ISO-on-TCP (RFC1006)	Yes
- Number of connections, max.	32
- Data length, max.	65 534 byte
• UDP	Yes
- Number of connections, max.	32
- Data length, max.	1 472 byte
Web server	
• supported	Yes
• Number of HTTP clients	2
• User-defined websites	No
PROFINET CBA (at set setpoint communication load)	
• Setpoint for the CPU communication load	20%
• Number of remote interconnection partners	64
• Number of functions, master/slave	30
• Total of all master/slave connections	1 000
• Data length of all incoming connections master/slave, max.	6 800 byte
• Data length of all outgoing connections master/slave, max.	6 800 byte
• Number of device-internal and PROFIBUS interconnections	500
• Data length of device-internal und PROFIBUS interconnections, max.	4 000 byte
• Data length per connection, max.	1 400 byte
Remote interconnections with acyclic transmission	
- Sampling frequency: Sampling time, min.	500 ms
- Number of incoming interconnections	100
- Number of outgoing interconnections	100
- Data length of all incoming interconnections, max.	2 000 byte
- Data length of all outgoing interconnections, max.	2 000 byte
- Data length per connection, max.	1 400 byte

4

■ **Technical specifications** (continued)

Article number	6ES7671-1RC08-0YA0
	SIMATIC WINAC RTX F 2010
Remote interconnections with cyclic transmission	
- Transmission frequency: Transmission interval, min.	10 ms
- Number of incoming interconnections	200
- Number of outgoing interconnections	200
- Data length of all incoming interconnections, max.	4 800 byte
- Data length of all outgoing interconnections, max.	4 800 byte
- Data length per connection, max.	250 byte
HMI variables via PROFINET (acyclic)	
- Number of stations that can log on for HMI variables (PN OPC/iMap)	3
- HMI variable updating	500 ms
- Number of HMI variables	200
- Data length of all HMI variables, max.	2 000 byte
PROFIBUS proxy functionality	
- supported	Yes
- Number of linked PROFIBUS devices	16
- Data length per connection, max.	240 byte; Slave-dependent
Number of connections	
• overall	96
S7 message functions	
Number of login stations for message functions, max.	62
SCAN procedure	No
Process diagnostic messages	Yes; ALARM_S, ALARM_SQ, ALARM_D, ALARM_DQ
simultaneously active Alarm-S blocks, max.	20; of a total of 20 for all SFCs
Alarm 8-blocks	Yes
• Number of instances for alarm 8 and S7 communication blocks, max.	4 000
Process control messages	No
Test commissioning functions	
Status block	Yes
Single step	Yes
Number of breakpoints	20
Status/control	
• Status/control variable	Yes
Forcing	
• Forcing	No
Diagnostic buffer	
• present	Yes
• Number of entries, max.	
- can be set	Yes
- preset	120

Article number	6ES7671-1RC08-0YA0
	SIMATIC WINAC RTX F 2010
Hardware requirements	
Hardware required	PC with color monitor, keyboard, mouse or pointing device for Windows
Main memory, min.	1 Gbyte
required memory on hard disk, min.	100 Mbyte
Processor	Intel Celeron M 900 MHz or compatible (older PC systems with Programmable Interrupt Controllers (PIC) are not suitable for WinAC RTX F 2010.)
• Multi-processor system	No
• Hyper-threading	Yes
Operating systems	
pre-installed operating system	
• Windows NT 4.0	No
• Windows 2000	No
• Windows Vista	No
• Windows XP	Yes; Professional, SP2 and SP3
• Windows XP Embedded	Yes; With the delivery image of the SIMATIC PC
- supported HAL types under Windows XP	ACPI uniprocessor PC, ACPI multiprocessor PC, MPS multiprocessor PC
• Windows 7	Yes; Professional, Enterprise, Ultimate (only 32-bit)
• Windows Embedded Standard 7	No
Configuration	
Programming	
• Nesting levels	8
Programming language	
- LAD	Yes
- FBD	Yes
- STL	Yes
- SCL	Yes
- CFC	Yes
- GRAPH	Yes
- HiGraph®	Yes
Software libraries	
- Easy Motion Control	Yes
Know-how protection	
• User program protection/password protection	Yes
• Block encryption	No
Open Development interfaces	
• CCX (Custom Code Extension)	Yes; WinAC ODK V4.2 or higher
• CMI (Controller Management Interface)	Yes; WinAC ODK V4.2 or higher
• SMX (Shared Memory Extension)	Yes; WinAC ODK V4.2 or higher
- Inputs	4 kbyte
- Outputs	4 kbyte
Weights	
Weight, approx.	100 g; With packaging

4

PC-based Automation
Software Controllers
SIMATIC WinAC

SIMATIC WinAC RTX F

Ordering data

	Article No.
SIMATIC WinAC RTX F 2010	**6ES7671-1RC08-0YA0**
SIMATIC WinAC RTX F 2010 upgrade	**6ES7671-1RC08-0YE0**
CP 5612 communications processor	**6GK1561-2AA00**
PCI card (32-bit) for connection of a programming device or PC to PROFIBUS	
CP 5622 communications processor	**6GK1562-2AA00**
PCI Express x1 card (32-bit) for connection of a programming device or PC to PROFIBUS	
CP 5603 Microbox Package	**6GK1560-3AU00**
Comprising CP 5603 module and Microbox expansion rack	
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	
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; German/English	
CP 1616 communications processor	**6GK1161-6AA02**
PCI card (32-bit; 3.3/5 V universal key) with ASIC ERTEC 400 for connecting PCs to PROFINET IO with 4-port real-time switch (RJ45); incl. IO-Base software for PROFINET IO Controller (RT operation) and NCM PC; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32-bit Windows XP Professional; German/English	

More information

Add-ons for SIMATIC WinAC

PC-based Competence Center Cologne

Our add-ons supplement the WinAC RTX soft PLC by useful functions which have arisen in the context of projects. In this way, you can fully utilize the advantages of PC based Automation.

The applications are available in the form of function blocks and are easy to use without special programming knowledge.

Detailed information and prices can be obtained from your Siemens contact or from:

Contact:

Siemens AG
Competence Center Cologne
E-mail: CCCologne@siemens.com

Application	Function
WinAC serial driver	Communication over serial interfaces
WinAC PC IO driver	Access to central I/O expansion PC IO including interrupt handling
WinAC SQL	Access to SQL databases
WinAC TCP/IP driver	Data exchange between WinAC and other communication partners over Windows interface using TCP/IP, UDP, or ISO-on-TCP
WinAC OPC Client	Access to various OPC servers
WinAC Shutdown	Controlled shutdown of WinAC and the PC system
WinAC File I/O	Reading and writing of DBs as a file on the PC system
WinAC Command	Calling batch commands from WinAC
WinAC Access DB	High-performance accesses to DBs, bit memories or I/O image
WinAC SMX Cover	Provides SMX functions, e.g. for Delphi or VB
WinAC CMI Wrapper	Easy program-controlled operation of WinAC

Brochures

Information material for downloading is available on the Internet:

http://www.siemens.com/simatic/printmaterial

■ **Overview**

• SIMATIC WinAC software PLCs support powerful interfaces which permit close meshing of the control task with PC-based applications.

• WinAC ODK allows the user to develop applications or to integrate already existing applications into the control task.

■ **Technical specifications**

Article number	**6ES7806-1CC03-0BA0**
	SIMATIC WINAC ODK V4.2
General information	
Product type designation	SIMATIC WinAC ODK V4.2 SP1
Hardware requirements	
Hardware required	PC with color monitor, keyboard, mouse or pointing device for Windows
Main memory, min.	1 Gbyte
required memory on hard disk, min.	30 Mbyte
Processor	Intel Pentium 800 MHz
Operating systems	
pre-installed operating system	
• Windows XP	Yes; Professional, SP2 and SP3
• Windows 7	Yes; Professional, Enterprise, Ultimate (only 32-bit)
Open Development interfaces	
• CCX (Custom Code Extension)	Yes; See product information: http://support.automation.siemens.com/WW/view/en/48207241
• CMI (Controller Management Interface)	Yes; See product information: http://support.automation.siemens.com/WW/view/en/48207241
• SMX (Shared Memory Extension)	Yes; See product information: http://support.automation.siemens.com/WW/view/en/48207241
Weights	
Weight, approx.	200 g

■ **Ordering data** — **Article No.**

SIMATIC WinAC ODK V4.2

For integration of C/C++ code in WinAC PLCs, executable under Windows XP SP2 or SP3; CD-ROM with electronic documentation

Single license — **6ES7806-1CC03-0BA0**

■ **More information**

Brochures

Information material for downloading is available on the Internet:

http://www.siemens.com/simatic/printmaterial

4

PC-based Automation
Industrial monitors and Thin Clients
Flat Panels

SIMATIC Industrial Flat Panels

◼ Overview

The Industrial Flat Panels are rugged industry-standard LCD monitors in a wide screen design.

- Installation:
  - Equally suited for installation in the machine, in control cabinets, in consoles, to gantries, or in 19" racks.
- Type of operator control:
  - Simple display devices without operator functionality
  - Optional devices with touch control
  - Optional devices with multi-touch control
  - Rear-mounted connection of I/O devices (optional)

Industrial Flat Panels are now available as fully-enclosed Flat Panels.

- IFP1900 PRO (degree of protection IP65)
- Ethernet monitor IFP1900/IFP2200 for remote connection via standard Ethernet (TCP/IP)

4

Technical specifications

Article number	**6AV7466-1TA00-0AA0**
	SIMATIC FLAT PANEL 12" TOUCH
General information	
Product type designation	IFP1200
Short designation	Flat Panel 12" Touch
Display	
Screen diagonal	12.1 in
Screen diagonal (cm)	
Display width	261 mm
Display height	163 mm
Viewing angle	170° x 170°
Number of colors (bit levels)	24 bit
Resolution (pixels)	
• Resolution (WxH in pixel)	1280 x 800
General features	
• Brightness/contrast	400 cd/m² / 1000:1
Backlighting	
• Type of backlighting	LED
• MTBF backlighting (up to 50%, at 25 °C)	50 000 h; At 25°C
• Backlight dimmable	Yes; 5-100%
Installation type/mounting	
Built-in unit	Yes
• permissible angle to the vertical backward (console)	35°
• permissible angle to the vertical forward (ceiling mounting)	35°
Supply voltage	
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Power loss	
Power loss DC	
• Typical	40 W
• Maximum	65 W
Touch interfaces	
• USB	Yes
Degree and class of protection	
IP65 at front	Yes
Enclosure Type 4 at the front	Yes
NEMA4 at the front	No
NEMA4X at the front	No
IP20 rear	Yes

Article number	**6AV7466-1TA00-0AA0**
	SIMATIC FLAT PANEL 12" TOUCH
Standards, approvals, certificates	
CE mark	Yes
cULus	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes
KC approval	Yes
Marine approval	
• Germanischer Lloyd (GL)	No
• American Bureau of Shipping (ABS)	No
• Bureau Veritas (BV)	No
• Det Norske Veritas (DNV)	No
• Lloyds Register of Shipping (LRS)	No
• Nippon Kaiji Kyokai (Class NK)	No
• Polski Rejestr Statkow (PRS)	No
Use in hazardous areas	
• ATEX Zone 22	No
• FM Class I Division 2	No
Ambient temperature during operation	
• min.	
• max.	
Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	60 °C
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	
Type of housing (front)	aluminum
Enclosure material (front)	
• Aluminum	Yes
Dimensions	
Width of the housing front	330 mm
Height of housing front	241 mm
Mounting cutout, width	310 mm; Tolerance: +1 mm
Mounting cutout, height	221 mm; Tolerance: +1 mm
Overall depth	76 mm
Weights	
Weight without packaging	2.65 kg
Weight incl. packaging	3.5 kg

PC-based Automation
Industrial monitors and Thin Clients
Flat Panels

SIMATIC Industrial Flat Panels

Technical specifications (continued)

Article number	6AV7863-2AA00-0AA0	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	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	15.4 in	15.4 in	15.4 in	15.4 in	15.4 in
Screen diagonal (cm)	40 cm	40 cm	40 cm	40 cm	40 cm
Display width	331.2 mm	331.2 mm	331.2 mm	331.2 mm	331.2 mm
Display height	207 mm	207 mm	207 mm	207 mm	207 mm
Viewing angle	170° x 170°	170° x 170°	170° x 170°	170° x 170°	170° x 170°
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software	No; Adjustable by means of software
Number of colors (bit levels)	24 bit	24 bit	24 bit	24 bit	24 bit
Resolution (pixels)					
• Resolution (WxH in pixel)	1280 x 800	1280 x 800	1280 x 800	1280 x 800	1280 x 800
• 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					
• non-reflective and tempered mineral glass screen	Yes	Yes	Yes		
• Detachable from computer unit	5 m	30 m	5 m	5 m	5 m
• Brightness/contrast	400 cd/m² / 1000:1	400 cd/m² / 1000:1	400 cd/m² / 1000:1	400 cd/m² / 1000:1	400 cd/m² / 1000:1
Backlighting					
• Type of backlighting	LED	LED	LED	LED	LED
• MTBF backlighting (up to 50%, at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100%	Yes; 0-100%	Yes; 0-100%	Yes; 0-100%	Yes; 0-100%
Keyboard fonts					
• Function keys	No	No		No	No
- Number of function keys			36		
Touch operation					
• Monitor keyboard			Yes	Yes	Yes
Installation type/mounting					
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes	Yes; Portrait mode possible	Yes; Portrait mode possible
• permissible angle to the vertical backward (console)	35°	35°	35°	35°	35°
• permissible angle to the vertical forward (ceiling mounting)	35°	35°	35°	35°	35°
Supply voltage					
Type of supply voltage	DC	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V	24 V
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V
Rated value (AC)		100 V; Up to 240V, 50/60 Hz	100 V; Up to 240V, 50/60 Hz		
permissible range, lower limit (AC)		90 V	90 V		90 V
permissible range, upper limit (AC)		264 V	264 V		264 V

Technical specifications (continued)

Article number	6AV7863-2AA00-0AA0	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
Power loss					
Power loss AC					
• Typical		40 W	40 W		40 W
• Maximum		60 W	60 W		60 W
Power loss DC					
• Typical	40 W	40 W	40 W	40 W	40 W
• Maximum	65 W	65 W	65 W	65 W	65 W
Interfaces					
USB on the rear		2	1		2
USB at the front			1		
Connection for keyboard/mouse		USB	USB		USB
Video interfaces					
• DVI-D	Yes	Yes	Yes	Yes	Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces					
• USB	No	No	Yes	Yes	Yes
Degree and class of protection					
IP65 at front	Yes	Yes	Yes	Yes	Yes
Enclosure Type 4 at the front	Yes	Yes	Yes	Yes	Yes
NEMA4 at the front	No	No	No	No	No
NEMA4X at the front	No	No	No	No	No
IP20 rear	Yes	Yes	Yes	Yes	Yes
Standards, approvals, certificates					
CE mark	Yes	Yes	Yes	Yes	Yes
cULus	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes	Yes
Use in hazardous areas					
• FM Class I Division 2	Yes	No	No	Yes	No
Ambient conditions					
Ambient temperature during operation					
• min.	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	50 °C; Vertical installation (horizontal)	50 °C; Vertical installation (horizontal)	50 °C; Vertical installation (horizontal)	50 °C; Vertical installation (horizontal)	50 °C; Vertical installation (horizontal)
Ambient temperature during storage/transportation					
• min.	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C	60 °C
Relative humidity					
• Operation, max.	95%; Non-condensing	95%; Non-condensing	95%; Non-condensing	95%; Non-condensing	95%; Non-condensing
Vibrations					
• Vibration load in operation	1 gn	1 gn	1 gn	1 gn	1 gn
• Vibration load during transport/storage	1 gn	1 gn	1 gn	1 gn	1 gn
Shock testing					
• Shock load during operation	15 gn	15 gn	15 gn	15 gn	15 gn
• Shock load during transport/storage	15 gn	15 gn	15 gn	15 gn	15 gn
Connection method					
Connector (IEC) for cold condititons		Yes	Yes		
Mechanics/material					
Type of housing (front)	aluminum	aluminum	aluminum	aluminum	aluminum
Enclosure material (front)					
• Aluminum	Yes	Yes	Yes	Yes	Yes

PC-based Automation
Industrial monitors and Thin Clients
Flat Panels

SIMATIC Industrial Flat Panels

■ Technical specifications (continued)

Article number	6AV7863-2AA00-0AA0	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
Dimensions					
Width of the housing front	415 mm	415 mm	483 mm	415 mm	415 mm
Height of housing front	310 mm	310 mm	310 mm	310 mm	310 mm
Mounting cutout, width	396 mm; Tolerance: +1 mm	396 mm; Tolerance: +1 mm	450 mm; Tolerance: +1 mm	396 mm; Tolerance: +1 mm	396 mm; Tolerance: +1 mm
Mounting cutout, height	291 mm; Tolerance: +1 mm	291 mm; Tolerance: +1 mm	291 mm; Tolerance: +1 mm	291 mm; Tolerance: +1 mm	291 mm; Tolerance: +1 mm
Overall depth	62.5 mm	62.5 mm	62.5 mm	62.5 mm	62.5 mm
Weights					
Weight without packaging	3.9 kg	3.9 kg	4.3 kg	3.9 kg	3.9 kg
Weight incl. packaging	5 kg	5 kg	5.4 kg	5 kg	5 kg

Article number	6AV7863-2MA00-0AA0	6AV7863-2MB10-0AA0
	SIMATIC FLAT PANEL 15" MULTITOUCH	SIMATIC FLAT PANEL 15" MULTITOUCH EXT
General information		
Product type designation	IFP1500 MT	IFP1500 MT
Short designation	Flat Panel 15" Multitouch	Flat Panel 15" Multitouch ext.
Display		
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	15.6 in	15.6 in
Screen diagonal (cm)	40 cm	40 cm
Display width	344.2 mm	344.2 mm
Display height	193.5 mm	193.5 mm
Viewing angle	160° x 160°	160° x 160°
On Screen Display (OSD) configuration	No; Adjustable by means of software	No; Adjustable by means of software
Number of colors (bit levels)	24 bit	24 bit
Resolution (pixels)		
• Resolution (WxH in pixel)	1366 x 768	1366 x 768
• Pixel size, horizontal	0.252 mm	0.252 mm
• Pixel size, vertical	0.252 mm	0.252 mm
General features		
• Detachable from computer unit	5 m	30 m
• Brightness/contrast	400 cd/m² / 900:1	400 cd/m² / 900:1
Backlighting		
• Type of backlighting	LED	LED
• MTBF backlighting (up to 50%, at 25 °C)	70 000 h; At 25°C	70 000 h; At 25°C
• Backlight dimmable	Yes; 0-100%	Yes; 0-100%
Keyboard fonts		
• Function keys	No	No
Touch operation		
• Monitor keyboard	Yes	Yes
Installation type/mounting		
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible
• permissible angle to the vertical backward (console)	35°	35°
• permissible angle to the vertical forward (ceiling mounting)	35°	35°
Supply voltage		
Type of supply voltage	DC	DC
Rated value (DC)	24 V	24 V
permissible range, lower limit (DC)	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V

4

■ **Technical specifications** (continued)

Article number	6AV7863-2MA00-0AA0	6AV7863-2MB10-0AA0
	SIMATIC FLAT PANEL 15" MULTITOUCH	SIMATIC FLAT PANEL 15" MULTITOUCH EXT
Power loss		
Power loss AC		
• Typical		40 W
• Maximum		60 W
Power loss DC		
• Typical	40 W	40 W
• Maximum	60 W	60 W
Interfaces		
USB on the rear		2
Connection for keyboard/mouse		USB
Video interfaces		
• analog video signal (VGA)	No	No
• DVI-D	Yes	Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces		
• USB	Yes	Yes
Degree and class of protection		
IP65 at front	Yes	Yes
Enclosure Type 4 at the front	Yes	Yes
Enclosure Type 4x at the front	Yes	Yes
Enclosure Type 12 at the front	Yes	Yes
NEMA4 at the front	No	No
NEMA4X at the front	No	No
IP20 rear	Yes	Yes
Standards, approvals, certificates		
CE mark	Yes	Yes
cULus	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes
Marine approval		
• Germanischer Lloyd (GL)	No	No
• American Bureau of Shipping (ABS)	No	No
• Bureau Veritas (BV)	No	No
• Det Norske Veritas (DNV)	No	No
• Lloyds Register of Shipping (LRS)	No	No
• Nippon Kaiji Kyokai (Class NK)	No	No
Use in hazardous areas		
• ATEX Zone 2	Yes	No
• ATEX Zone 22	Yes	No
• FM Class I Division 2	Yes	No
Ambient conditions		
Ambient temperature during operation		
• min.	0 °C	0 °C
• max.	50 °C; Vertical installation (horizontal)	50 °C; Vertical installation (horizontal)
Ambient temperature during storage/transportation		
• min.	-20 °C	-20 °C
• max.	60 °C	60 °C
Relative humidity		
• Operation, max.	95%; Non-condensing	95%; Non-condensing
Vibrations		
• Vibration load in operation	1 gn	1 gn
• Vibration load during transport/ storage	1 gn	1 gn

4

PC-based Automation
Industrial monitors and Thin Clients
Flat Panels

SIMATIC Industrial Flat Panels

■ **Technical specifications** (continued)

Article number	6AV7863-2MA00-0AA0	6AV7863-2MB10-0AA0
	SIMATIC FLAT PANEL 15" MULTITOUCH	SIMATIC FLAT PANEL 15" MULTITOUCH EXT
Shock testing		
• Shock load during operation	15 gn	15 gn
• Shock load during transport/storage	15 gn	15 gn
Mechanics/material		
Type of housing (front)	Glass	Glass
Dimensions		
Width of the housing front	416.5 mm	416.5 mm
Height of housing front	298 mm	298 mm
Mounting cutout, width	396 mm; Tolerance: +1 mm	396 mm; Tolerance: +1 mm
Mounting cutout, height	278 mm; Tolerance: +1 mm	278 mm; Tolerance: +1 mm
Overall depth	62.5 mm	62.5 mm
Weights		
Weight without packaging	4.2 kg	4.2 kg
Weight incl. packaging	5.3 kg	5.3 kg

Article number	6AV7863-3AA00-0AA0	6AV7863-3AB10-0AA0	6AV7863-3TA00-0AA0	6AV7863-3TB10-0AA0
	SIMATIC FLAT PANEL 19" DISPLAY ONLY	SIMATIC FLAT PANEL 19" DISPLAY ONLY EXT	SIMATIC FLAT PANEL 19" TOUCH	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 (bit levels)	24 bit	24 bit	24 bit	24 bit
Resolution (pixels)				
• Resolution (WxH in pixel)	1366 x 768	1366 x 768	1366 x 768	1366 x 768
• 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				
• non-reflective and tempered mineral glass screen	Yes	Yes		
• Detachable from computer unit	5 m	30 m	5 m	30 m
• Brightness/contrast	300 cd/m² / 1000:1	300 cd/m² / 1000:1	300 cd/m² / 1000:1	300 cd/m² / 1000:1
Backlighting				
• Type of backlighting	LED	LED	LED	LED
• MTBF backlighting (up to 50%, at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100%	Yes; 0-100%	Yes; 0-100%	Yes; 0-100%
Keyboard fonts				
• Function keys	No	No	No	No
Touch operation				
• Monitor keyboard			Yes	Yes
Installation type/mounting				
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible
• permissible angle to the vertical backward (console)	35°	35°	35°	35°
• permissible angle to the vertical forward (ceiling mounting)	35°	35°	35°	35°

4

■ **Technical specifications** (continued)

Article number	6AV7863-3AA00-0AA0	6AV7863-3AB10-0AA0	6AV7863-3TA00-0AA0	6AV7863-3TB10-0AA0
	SIMATIC FLAT PANEL 19" DISPLAY ONLY	SIMATIC FLAT PANEL 19" DISPLAY ONLY EXT	SIMATIC FLAT PANEL 19" TOUCH	SIMATIC FLAT PANEL 19" TOUCH EXT
Supply voltage				
Type of supply voltage	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V
Rated value (AC)		100 V; Up to 240V, 50/60 Hz		100 V; Up to 240V, 50/60 Hz
permissible range, lower limit (AC)		90 V		90 V
permissible range, upper limit (AC)		264 V		264 V
Power loss				
Power loss AC				
• Typical		40 W		40 W
• Maximum		60 W		60 W
Power loss DC				
• Typical	40 W	40 W	40 W	40 W
• Maximum	65 W	65 W	65 W	65 W
Interfaces				
USB on the rear		2		2
Connection for keyboard/mouse		USB		USB
Video interfaces				
• DVI-D	Yes	Yes	Yes	Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces				
• USB	No	No	Yes	Yes
Degree and class of protection				
IP65 at front	Yes	Yes	Yes	Yes
Enclosure Type 4 at the front	Yes	Yes	Yes	Yes
NEMA4 at the front	No	No	No	No
NEMA4X at the front	No	No	No	No
IP20 rear	Yes	Yes	Yes	Yes
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
cULus	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
Use in hazardous areas				
• FM Class I Division 2	Yes	No	Yes	Yes
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)
Ambient temperature during storage/transportation				
• min.	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C
Relative humidity				
• Operation, max.	95%; Non-condensing	95%; Non-condensing	95%; Non-condensing	95%; Non-condensing
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

4

PC-based Automation
Industrial monitors and Thin Clients
Flat Panels

SIMATIC Industrial Flat Panels

Technical specifications (continued)

Article number	6AV7863-3AA00-0AA0	6AV7863-3AB10-0AA0	6AV7863-3TA00-0AA0	6AV7863-3TB10-0AA0
	SIMATIC FLAT PANEL 19" DISPLAY ONLY	SIMATIC FLAT PANEL 19" DISPLAY ONLY EXT	SIMATIC FLAT PANEL 19" TOUCH	SIMATIC FLAT PANEL 19" TOUCH EXT
Shock testing				
• Shock load during operation	15 gn	15 gn	15 gn	15 gn
• Shock load during transport/storage	15 gn	15 gn	15 gn	15 gn
Connection method				
Connector (IEC) for cold condititons		Yes		Yes
Mechanics/material				
Type of housing (front)	aluminum	aluminum	aluminum	aluminum
Enclosure material (front)				
• Aluminum	Yes	Yes	Yes	Yes
Dimensions				
Width of the housing front	483 mm	483 mm	483 mm	483 mm
Height of housing front	337 mm	337 mm	337 mm	337 mm
Mounting cutout, width	465 mm; Tolerance: +1 mm	465 mm; Tolerance: +1 mm	465 mm; Tolerance: +1 mm	465 mm; Tolerance: +1 mm
Mounting cutout, height	319 mm; Tolerance: +1 mm	319 mm; Tolerance: +1 mm	319 mm; Tolerance: +1 mm	319 mm; Tolerance: +1 mm
Overall depth	62.5 mm	62.5 mm	62.5 mm	62.5 mm
Weights				
Weight without packaging	5.5 kg	5.5 kg	5.5 kg	5.5 kg
Weight incl. packaging	6.5 kg	6.5 kg	6.5 kg	6.5 kg

Article number	6AV7863-3MA00-0AA0	6AV7863-3MA20-0AA0	6AV7863-3MB10-0AA0
	SIMATIC FLAT PANEL 19" MULTITOUCH	SIMATIC FLAT PANEL 19" MT ETH	SIMATIC FLAT PANEL 19" MULTITOUCH EXT
General information			
Product type designation	IFP1900	IFP1900	IFP1900
Short designation	Flat Panel 19" Multitouch	Flat Panel 19" Multitouch Ethernet	Flat Panel 19" Multitouch ext.
Display			
Design of display	TFT widescreen display, LED backlighting		TFT widescreen display, LED backlighting
Screen diagonal	18.5 in	18.5 in	18.5 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) configuration	No; Adjustable by means of software		No; Adjustable by means of software
Number of colors (bit levels)	24 bit	24 bit	24 bit
Resolution (pixels)			
• Resolution (WxH in pixel)	1366 x 768	1366 x 768	1366 x 768
• 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			
• non-reflective and tempered mineral glass screen	Yes		Yes
• Detachable from computer unit	5 m		30 m
• Brightness/contrast	300 cd/m² / 1000:1	300 cd/m² / 1000:1	300 cd/m² / 1000:1
Backlighting			
• Type of backlighting	LED	LED	LED
• MTBF backlighting (up to 50%, 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%
Keyboard fonts			
• Function keys	No	No	No
Touch operation			
• Monitor keyboard	Yes		Yes

■ **Technical specifications** (continued)

Article number	**6AV7863-3MA00-0AA0**	**6AV7863-3MA20-0AA0**	**6AV7863-3MB10-0AA0**
	SIMATIC FLAT PANEL 19" MULTITOUCH	SIMATIC FLAT PANEL 19" MT ETH	SIMATIC FLAT PANEL 19" MULTITOUCH EXT
Installation type/mounting			
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible
• permissible angle to the vertical backward (console)	35°	35°	35°
• permissible angle to the vertical forward (ceiling mounting)	35°	35°	35°
Supply voltage			
Type of supply voltage	DC	DC	AC/DC
Rated value (DC)	24 V; PELV	24 V	24 V; PELV
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
Rated value (AC)			100 V; Up to 240V, 50/60 Hz
permissible range, lower limit (AC)			90 V
permissible range, upper limit (AC)			264 V
Power loss			
Power loss AC			
• Typical	40 W		40 W
• Maximum	60 W		60 W
Power loss DC			
• Typical	40 W	40 W	40 W
• Maximum	65 W	65 W	65 W
Interfaces			
Number of industrial Ethernet interfaces		1; Ethernet, 1 port, RJ45	
USB on the rear		2	2
Connection for keyboard/mouse			USB
Video interfaces			
• DVI-D	Yes		Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces			
• USB	Yes	Yes	Yes
Industrial Ethernet			
• Transmission rate, max.		1 000 Mbps	
Degree and class of protection			
IP65 at front	Yes	Yes	Yes
IP66 at the front		Yes	
Enclosure Type 4 at the front	Yes	Yes	Yes
Enclosure Type 4x at the front	Yes	Yes	Yes
Enclosure Type 12 at the front	Yes	Yes	Yes
NEMA4 at the front	No	No	No
NEMA4X at the front	No	No	No
IP20 rear	Yes	Yes	Yes

4

Technical specifications (continued)

Article number	6AV7863-4MA00-0AA0	6AV7863-4MA20-0AA0	6AV7863-4MB10-0AA0
	SIMATIC FLAT PANEL 22" MULTITOUCH	SIMATIC FLAT PANEL 22" MT ETH	SIMATIC FLAT PANEL 22" MULTITOUCH EXT
General information			
Product type designation	IFP2200	IFP2200	IFP2200
Short designation	Flat Panel 22" Multitouch	Flat Panel 22" Multitouch Ethernet	Flat Panel 22" Multitouch ext.
Display			
Design of display	TFT widescreen display, LED backlighting		TFT widescreen display, LED backlighting
Screen diagonal	21.5 in	21.5 in	21.5 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	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
Number of colors (bit levels)	24 bit	24 bit	24 bit
Resolution (pixels)			
• Resolution (WxH in pixel)	1920 x 1080	1920 x 1080	1920 x 1080
• 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			
• non-reflective and tempered mineral glass screen	Yes		Yes
• Detachable from computer unit	5 m		30 m
• Brightness/contrast	250 cd/m² / 1000:1	250 cd/m² / 1000:1	250 cd/m² / 1000:1
Backlighting			
• Type of backlighting	LED	LED	LED
• MTBF backlighting (up to 50%, 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%
Keyboard fonts			
• Function keys	No	No	No
Touch operation			
• Monitor keyboard	Yes	Yes	Yes
Installation type/mounting			
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible
• permissible angle to the vertical backward (console)	35°	35°	35°
• permissible angle to the vertical forward (ceiling mounting)	35°	35°	35°
Supply voltage			
Type of supply voltage	DC	DC	AC/DC
Rated value (DC)	24 V; PELV	24 V	24 V; PELV
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
Rated value (AC)			100 V; Up to 240V, 50/60 Hz
permissible range, lower limit (AC)			90 V
permissible range, upper limit (AC)			264 V
Power loss			
Power loss AC			
• Typical	40 W		40 W
• Maximum	60 W		60 W
Power loss DC			
• Typical	40 W	40 W	40 W
• Maximum	65 W	65 W	65 W

4

PC-based Automation
Industrial monitors and Thin Clients
Flat Panels

SIMATIC Industrial Flat Panels

Technical specifications (continued)

Article number	6AV7863-4MA00-0AA0	6AV7863-4MA20-0AA0	6AV7863-4MB10-0AA0
	SIMATIC FLAT PANEL 22" MULTITOUCH	SIMATIC FLAT PANEL 22" MT ETH	SIMATIC FLAT PANEL 22" MULTITOUCH EXT
Interfaces			
Number of industrial Ethernet interfaces		1; Ethernet, 1 port, RJ45	
USB on the rear		2	2
Connection for keyboard/mouse			USB
Video interfaces			
• DVI-D	Yes		Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces			
• USB	Yes	Yes	Yes
Industrial Ethernet			
• Transmission rate, max.		1 000 Mbps	
Degree and class of protection			
IP65 at front	Yes	Yes	Yes
IP66 at the front		Yes	
Enclosure Type 4 at the front	Yes	Yes	Yes
Enclosure Type 4x at the front	Yes	Yes	Yes
Enclosure Type 12 at the front	Yes	Yes	Yes
NEMA4 at the front	No	No	No
NEMA4X at the front	No	No	No
IP20 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	
Marine approval			
• Germanischer Lloyd (GL)	Yes; Available soon	Yes; Available soon	Yes; Available soon
• American Bureau of Shipping (ABS)	Yes; Available soon	Yes; Available soon	Yes; Available soon
• Bureau Veritas (BV)	Yes; Available soon	Yes; Available soon	Yes; Available soon
• Det Norske Veritas (DNV)	Yes; Available soon	Yes; Available soon	Yes; Available soon
• Lloyds Register of Shipping (LRS)	Yes; Available soon	Yes; Available soon	Yes; Available soon
• Nippon Kaiji Kyokai (Class NK)	Yes; Available soon	Yes; Available soon	Yes; Available soon
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
• FM Class I Division 2	Yes	Yes; Available soon	No
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C	0 °C	0 °C
• max.	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)
Ambient temperature during storage/transportation			
• min.	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C
Relative humidity			
• Operation, max.	95%; Non-condensing		95%; Non-condensing
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

■ Technical specifications (continued)

Article number	6AV7863-4MA00-0AA0	6AV7863-4MA20-0AA0	6AV7863-4MB10-0AA0
	SIMATIC FLAT PANEL 22" MULTITOUCH	SIMATIC FLAT PANEL 22" MT ETH	SIMATIC FLAT PANEL 22" MULTITOUCH EXT
Connection method			
Connector (IEC) for cold condititons			Yes
Mechanics/material			
Type of housing (front)	Glass	Glass	Glass
Enclosure material (front)			
• Glass	Yes		Yes
Dimensions			
Width of the housing front	560 mm	560 mm	560 mm
Height of housing front	380 mm	380 mm	380 mm
Mounting cutout, width	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
Overall depth	62.5 mm	62.5 mm	62.5 mm
Weights			
Weight without packaging	6.5 kg	6.7 kg	6.5 kg
Weight incl. packaging	7.6 kg	7.7 kg	7.6 kg

Article number	6AV7863-4AA00-0AA0	6AV7863-4AB10-0AA0	6AV7863-4TA00-0AA0	6AV7863-4TB10-0AA0
	SIMATIC FLAT PANEL 22" DISPLAY ONLY	SIMATIC FLAT PANEL 22" DISPLAY ONLY EXT	SIMATIC FLAT PANEL 22" TOUCH	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 (bit levels)	24 bit	24 bit	24 bit	24 bit
Resolution (pixels)				
• Resolution (WxH in pixel)	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080
• 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				
• non-reflective and tempered mineral glass screen	Yes	Yes		
• Detachable from computer unit	5 m	30 m	5 m	30 m
• Brightness/contrast	250 cd/m² / 1000:1	250 cd/m² / 1000:1	250 cd/m² / 1000:1	250 cd/m² / 1000:1
Backlighting				
• Type of backlighting	LED	LED	LED	LED
• MTBF backlighting (up to 50%, at 25 °C)	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C	50 000 h; At 25°C
• Backlight dimmable	Yes; 0-100%	Yes; 0-100%	Yes; 0-100%	Yes; 0-100%
Keyboard fonts				
• Function keys	No	No	No	No
Touch operation				
• Monitor keyboard			Yes	Yes

4

PC-based Automation
Industrial monitors and Thin Clients
Flat Panels

SIMATIC Industrial Flat Panels

Technical specifications (continued)

Article number	6AV7863-4AA00-0AA0	6AV7863-4AB10-0AA0	6AV7863-4TA00-0AA0	6AV7863-4TB10-0AA0
	SIMATIC FLAT PANEL 22" DISPLAY ONLY	SIMATIC FLAT PANEL 22" DISPLAY ONLY EXT	SIMATIC FLAT PANEL 22" TOUCH	SIMATIC FLAT PANEL 22" TOUCH EXT
Installation type/mounting				
Built-in unit	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible	Yes; Portrait mode possible
• permissible angle to the vertical backward (console)	35°	35°	35°	35°
• permissible angle to the vertical forward (ceiling mounting)	35°	35°	35°	35°
Supply voltage				
Type of supply voltage	DC	DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V
Rated value (AC)		100 V; Up to 240V, 50/60 Hz		100 V; Up to 240V, 50/60 Hz
permissible range, lower limit (AC)		90 V		90 V
permissible range, upper limit (AC)		264 V		264 V
Power loss				
Power loss AC				
• Typical		40 W		40 W
• Maximum		60 W		60 W
Power loss DC				
• Typical	40 W	40 W	40 W	40 W
• Maximum	65 W	65 W	65 W	65 W
Interfaces				
USB on the rear		2		2
Connection for keyboard/mouse		USB		USB
Video interfaces				
• DVI-D	Yes	Yes	Yes	Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces				
• USB	No	No	Yes	Yes
Degree and class of protection				
IP65 at front	Yes	Yes	Yes	Yes
Enclosure Type 4 at the front	Yes	Yes	Yes	Yes
NEMA4 at the front	No	No	No	No
NEMA4X at the front	No	No	No	No
IP20 rear	Yes	Yes	Yes	Yes
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
cULus	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
Use in hazardous areas				
• FM Class I Division 2	Yes	No	Yes	No

Technical specifications (continued)

Article number	6AV7863-4AA00-0AA0	6AV7863-4AB10-0AA0	6AV7863-4TA00-0AA0	6AV7863-4TB10-0AA0
	SIMATIC FLAT PANEL 22" DISPLAY ONLY	SIMATIC FLAT PANEL 22" DISPLAY ONLY EXT	SIMATIC FLAT PANEL 22" TOUCH	SIMATIC FLAT PANEL 22" TOUCH EXT
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)	45 °C; Vertical installation (horizontal)
Ambient temperature during storage/transportation				
• min.	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C
Relative humidity				
• Operation, max.	95%; Non-condensing	95%; Non-condensing	95%; Non-condensing	95%; Non-condensing
Vibrations				
• Vibration load in operation	1 gn	1 gn	1 gn	1 gn
• Vibration load during transport/ storage	1 gn	1 gn	1 gn	1 gn
Shock testing				
• Shock load during operation	15 gn	15 gn	15 gn	15 gn
• Shock load during transport/storage	15 gn	15 gn	15 gn	15 gn
Connection method				
Connector (IEC) for cold condititons		Yes		Yes
Mechanics/material				
Type of housing (front)	aluminum	aluminum	aluminum	aluminum
Enclosure material (front)				
• Aluminum	Yes	Yes	Yes	Yes
Dimensions				
Width of the housing front	560 mm	560 mm	560 mm	560 mm
Height of housing front	380 mm	380 mm	380 mm	380 mm
Mounting cutout, width	542 mm; Tolerance: +1 mm	542 mm; Tolerance: +1 mm	542 mm; Tolerance: +1 mm	542 mm; Tolerance: +1 mm
Mounting cutout, height	362 mm; Tolerance: +1 mm	362 mm; Tolerance: +1 mm	362 mm; Tolerance: +1 mm	362 mm; Tolerance: +1 mm
Overall depth	62.5 mm	62.5 mm	62.5 mm	62.5 mm
Weights				
Weight without packaging	6.5 kg	6.5 kg	6.5 kg	6.5 kg
Weight incl. packaging	7.6 kg	7.6 kg	7.6 kg	7.6 kg

4

PC-based Automation
Industrial monitors and Thin Clients
Flat Panels

SIMATIC Industrial Flat Panels

Ordering data	Article No.							
Industrial Flat Panel Monitor	**6AV7863-**	■	■ ■ ■ ■	**- 0 A A 0**				
Display size								
• 15"		2						
• 19"		3						
• 22"		4						
Operator functionality								
• Display devices without operator functionality			A					
• Touch screen (capacitive) multi-touch			M					
• Touch screen (analog/resistive)			T					
• Touch screen + function keys, 15" only and extended special functions			B	B 1				
Special functions								
• Standard, can be located up to 5 m away				A 0				
• Extended, can be located up to 30 m away, 100 ... 230 V AC (without supply cable) + special functions				B 1				
• Ethernet monitor, can be located up to 100 m away, 24 V DC				2				
Installation								
Built-in unit				0				
Fully enclosed IP65, pedestal mounting				4				
Fully enclosed IP65, support arm mounting				5				
Industrial Flat Panel Monitor 12", touchscreen (analog/resistive), standard, can be located up to 5 m away	**6AV7466- 1 T A 0**		**0 -**	**0 A A 0**				

	Article No.
Accessories	
Set of protective films for ITC/IFP/TP1500	6AV2124-6QJ00-0AX1
Set of protective films for ITC/IFP/TP1900	6AV2124-6UJ00-0AX1
Set of protective films for ITC/IFP/TP2200	6AV2124-6XJ00-0AX1
Touch pen Undetachable pen for operation of the touch devices, mounting of the support on the control cabinet or directly on the PRO unit	6AV7672-1JB00-0AA0
Accessories for standard variants up to 5 m (6AV7863-..A0.-0AA0 and 6AV7466-1TA00-0AA0)	
DisplayPort cable (industrial quality)	
• 3 m	6AV7860-0DH30-0AA0
• 5 m	6AV7860-0DH50-0AA0
DVI-D cable (industrial quality)	
• 3 m	6AV7860-0BH30-0AA0
• 5 m	6AV7860-0BH50-0AA0
USB cable (industrial quality)	
• 3 m	6AV7860-0CH30-0AA0
• 5 m	6AV7860-0CH50-0AA0
Accessories for extended variants up to 30 m (6AV7863-..B1.-0AA0)	
Cable set (USB/Cat5; sender module, DVI)	
• 10 m	6AV7860-1EX21-0AA1
• 15 m	6AV7860-1EX21-5AA1
• 20 m	6AV7860-1EX22-0AA1
• 30 m	6AV7860-1EX23-0AA1
Cable set 90° USB/Cat5; sender module, DVI 90° angle, 20 m	6AV7860-1EX22-0BA1
USB host extender incl. 20 cm USB cable (USB to Cat5)	6AV7671-1EX02-0AA0

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

4

■ Overview

The Flat Panels are rugged industry-standard LCD monitors.

- Installation:
  - They are equally suited to installation in the machine, in control cabinets, consoles and gantries or in 19" racks.
  - As a device with all-round IP65 protection for mounting on a support arm/stand
- Type of operator control:
  - Simple display devices without operator functionality
  - Optional devices with touch control
  - Rear connection of I/O devices (optional)

■ Technical specifications

Article number	6AV7861-1AA00-1AA0	6AV7861-1AB00-1AA0	6AV7861-1AB10-1AA0	6AV7861-1KB10-1AA0	6AV7861-1TA00-1AA0	6AV7861-1TB00-1AA0	6AV7861-1TB10-1AA0
	SIMATIC FLAT PANEL 12, F. DC24V	SIMATIC FLAT PANEL 12	SIMATIC FLAT PANEL 12 EXTENDED	SIMATIC FLAT PANEL 12" KEY EXTENDED	SIMATIC FLAT PANEL 12T, F. DC24V	SIMATIC FLAT PANEL 12T	SIMATIC FLAT PANEL 12T EXTENDED
Display							
Design of display	TFT	TFT	TFT	TFT	TFT	TFT	TFT
Screen diagonal	12 in	12 in	12 in	12 in	12 in	12 in	12 in
visible area (HxV) in mm	246 x 184,5	246 x 184,5	246 x 184,5	246 x 184,5	246 x 184,5	246 x 184,5	246 x 184,5
Viewing angle	140° x 120°	140° x 120°	140° x 120°	140° x 120°	140° x 120°	140° x 120°	140° x 120°
On Screen Display (OSD) configuration	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of colors (bit levels)	262k	262k	262k	262k	262k	262k	262k
Resolution (pixels)							
• Resolution (WxH in pixel)	800 x 600	800 x 600	800 x 600	800 x 600	800 x 600	800 x 600	800 x 600
General features							
• Brightness/contrast	> 350 cd/m² / 450:1	> 350 cd/m² / 450:1	> 350 cd/m² / 450:1	> 350 cd/m² / 450:1	> 350 cd/m² / 450:1	> 350 cd/m² / 450:1	> 350 cd/m² / 450:1
Control elements							
Input device							
• integrated mouse cursor control	No	No	No	No	No	No	No
Keyboard fonts							
• Function keys	No	No	No	Yes	No	No	No
- Number of function keys	0	0	0		0	0	0
Installation type/mounting							
Rack mounting possible	No	No	No	No	No	No	No
VESA mounting	No	No	No	No	No	No	No
Supply voltage							
Type of supply voltage	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V
permissible range, lower limit (AC)	90 V	90 V	90 V	90 V	90 V	90 V	90 V
permissible range, upper limit (AC)	264 V	264 V	264 V	264 V	264 V	264 V	264 V

4

PC-based Automation
Industrial monitors and Thin Clients
Flat Panels

SIMATIC Flat Panels

■ Technical specifications (continued)

Article number	6AV7861-1AA00-1AA0	6AV7861-1AB00-1AA0	6AV7861-1AB10-1AA0	6AV7861-1KB10-1AA0	6AV7861-1TA00-1AA0	6AV7861-1TB00-1AA0	6AV7861-1TB10-1AA0
	SIMATIC FLAT PANEL 12, F. DC24V	SIMATIC FLAT PANEL 12	SIMATIC FLAT PANEL 12 EXTENDED	SIMATIC FLAT PANEL 12" KEY EXTENDED	SIMATIC FLAT PANEL 12T, F. DC24V	SIMATIC FLAT PANEL 12T	SIMATIC FLAT PANEL 12T EXTENDED
Interfaces							
Video interfaces							
• analog video signal (VGA)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Degree and class of protection							
IP54 at front	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack
IP65 at front	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners
IP20 rear	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Standards, approvals, certificates							
UL approval	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	No	No	No	No	No	No	No
Marine approval							
• Germanischer Lloyd (GL)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
• Polski Rejestr Statkow (PRS)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ambient conditions							
Ambient temperature during operation							
• min.	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C
Dimensions							
Width of the housing front	400 mm	400 mm	400 mm	483 mm	400 mm	400 mm	400 mm
Height of housing front	310 mm	310 mm	310 mm	310 mm	310 mm	310 mm	310 mm
Mounting cutout, width	368 mm	368 mm	368 mm	450 mm	368 mm	368 mm	368 mm
Mounting cutout, height	290 mm	290 mm	290 mm	290 mm	290 mm	290 mm	290 mm
Overall depth	51 mm	51 mm	51 mm	49 mm	51 mm	51 mm	51 mm

4

■ Technical specifications (continued)

Article number	6AV7861-2AA00-1AA0	6AV7861-2AB00-1AA0	6AV7861-2AB10-1AA0	6AV7861-2KB10-1AA0	6AV7861-2TA00-1AA0	6AV7861-2TB00-1AA0	6AV7861-2TB10-1AA0
	SIMATIC FLAT PANEL 15, F. DC24V	SIMATIC FLAT PANEL 15	SIMATIC FLAT PANEL 15 EXTENDED	SIMATIC FLAT PANEL 15" KEY EXTENDED	SIMATIC FLAT PANEL 15T, F. DC24V	SIMATIC FLAT PANEL 15T	SIMATIC FLAT PANEL 15T EXTENDED
Display							
Design of display	TFT	TFT	TFT	TFT	TFT	TFT	TFT
Screen diagonal	15 in	15 in	15 in	15 in	15 in	15 in	15 in
visible area (HxV) in mm	304 x 228	304 x 228	304 x 228	304 x 228	304 x 228	304 x 228	304 x 228
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)	100° x 90° (min)
On Screen Display (OSD) configuration	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of colors (bit levels)	16.2 million	16.2 million	16.2 million	16.2 million	16.2 million	16.2 million	16.2 million
Resolution (pixels)							
• Resolution (WxH in pixel)	1024 x 768	1024 x 768	1024 x 768	1024 x 768	1024 x 768	1024 x 768	1024 x 768
General features							
• Brightness/contrast	> 260 cd/m² / 350:1	> 260 cd/m² / 350:1	> 260 cd/m² / 350:1	> 260 cd/m² / 350:1	> 260 cd/m² / 350:1	> 260 cd/m² / 350:1	> 260 cd/m² / 350:1
Control elements							
Input device							
• integrated mouse cursor control	No	No	No	No	No	No	No
Keyboard fonts							
• Function keys					No		No
- Number of function keys	0	0	0		0	0	0
Installation type/mounting							
Rack mounting possible	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VESA mounting	No	No	No	No	No	No	No
Supply voltage							
Type of supply voltage	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V	28.8 V
permissible range, lower limit (AC)	90 V	90 V	90 V	90 V	90 V	90 V	90 V
permissible range, upper limit (AC)	264 V	264 V	264 V	264 V	264 V	264 V	264 V
Interfaces							
Video interfaces							
• analog video signal (VGA)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Degree and class of protection							
IP54 at front	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack
IP65 at front	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners	Yes; if mounted with the supplied latch fasteners

4

PC-based Automation
Industrial monitors and Thin Clients
Flat Panels

SIMATIC Flat Panels

Technical specifications (continued)

Article number	6AV7861-2AA00-1AA0	6AV7861-2AB00-1AA0	6AV7861-2AB10-1AA0	6AV7861-2KB10-1AA0	6AV7861-2TA00-1AA0	6AV7861-2TB00-1AA0	6AV7861-2TB10-1AA0
	SIMATIC FLAT PANEL 15, F. DC24V	SIMATIC FLAT PANEL 15	SIMATIC FLAT PANEL 15 EXTENDED	SIMATIC FLAT PANEL 15" KEY EXTENDED	SIMATIC FLAT PANEL 15T, F. DC24V	SIMATIC FLAT PANEL 15T	SIMATIC FLAT PANEL 15T EXTENDED
Standards, approvals, certificates							
UL approval	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EAC (formerly Gost-R)	No	No	No	No	No	No	No
Marine approval							
• Germanischer Lloyd (GL)	Yes; Optional	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	Yes; Optional
• Bureau Veritas (BV)	Yes; Optional	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	Yes; Optional
• Lloyds Register of Shipping (LRS)	Yes; Optional	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	0 °C
• max.	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C
Dimensions							
Width of the housing front	483 mm	483 mm	483 mm	483 mm	483 mm	483 mm	483 mm
Height of housing front	310 mm	310 mm	310 mm	355 mm	310 mm	310 mm	310 mm
Mounting cutout, width	450 mm	450 mm	450 mm	450 mm	450 mm	450 mm	450 mm
Mounting cutout, height	290 mm	290 mm	290 mm	321 mm	290 mm	290 mm	290 mm
Overall depth	55 mm	55 mm	55 mm	49 mm	55 mm	55 mm	55 mm

Article number	6AV7861-3AA00-1AA0	6AV7861-3AB00-1AA0	6AV7861-3AB10-1AA0	6AV7861-3TA00-1AA0	6AV7861-3TB00-1AA0	6AV7861-3TB10-1AA0
	SIMATIC FLAT PANEL 19, F. DC24V	SIMATIC FLAT PANEL 19	SIMATIC FLAT PANEL 19 EXTENDED	SIMATIC FLAT PANEL 19T, F. DC24V	SIMATIC FLAT PANEL 19T	SIMATIC FLAT PANEL 19T EXTENDED
Display						
Design of display	TFT	TFT	TFT	TFT	TFT	TFT
Screen diagonal	19 in	19 in	19 in	19 in	19 in	19 in
visible area (HxV) in mm	376 x 301	376 x 301	376 x 301	376 x 301	376 x 301	376 x 301
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 (bit levels)	16.7 million	16.7 million	16.7 million	16.7 million	16.7 million	16.7 million
Resolution (pixels)						
• Resolution (WxH in pixel)	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024
General features						
• Brightness/contrast	> 300 cd/m² / 300:1	> 300 cd/m² / 300:1	> 300 cd/m² / 300:1	> 300 cd/m² / 300:1	> 300 cd/m² / 300:1	> 300 cd/m² / 300:1
Control elements						
Input device						
• integrated mouse cursor control	No	No	No	No	No	No
Keyboard fonts						
• Function keys	No	No	No	No	No	No
- Number of function keys	0	0	0	0	0	0
Installation type/mounting						
Rack mounting possible	Yes	Yes	Yes	Yes	Yes	Yes
VESA mounting	No	No	No	No	No	No

4

■ **Technical specifications** (continued)

Article number	6AV7861-3AA00-1AA0	6AV7861-3AB00-1AA0	6AV7861-3AB10-1AA0	6AV7861-3TA00-1AA0	6AV7861-3TB00-1AA0	6AV7861-3TB10-1AA0
	SIMATIC FLAT PANEL 19, F. DC24V	SIMATIC FLAT PANEL 19	SIMATIC FLAT PANEL 19 EXTENDED	SIMATIC FLAT PANEL 19T, F. DC24V	SIMATIC FLAT PANEL 19T	SIMATIC FLAT PANEL 19T EXTENDED
Supply voltage						
Type of supply voltage	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V	19.2 V
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	90 V	90 V
permissible range, upper limit (AC)	264 V	264 V	264 V	264 V	264 V	264 V
Interfaces						
Video interfaces						
• analog video signal (VGA)	Yes	Yes	Yes	Yes	Yes	Yes
Degree and class of protection						
IP54 at front	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack	Yes; For screw mounting in 19" rack
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	Yes	Yes
Standards, approvals, certificates						
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	Yes
• American Bureau of Shipping (ABS)	Yes; Optional	Yes; Optional	Yes	Yes	Yes	Yes
• Bureau Veritas (BV)	Yes; Optional	Yes; Optional	Yes	Yes	Yes	Yes
• Det Norske Veritas (DNV)	Yes; Optional	Yes; Optional	Yes	Yes	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes; Optional	Yes; Optional	Yes	Yes	Yes	Yes
• Polski Rejestr Statkow (PRS)			Yes	Yes	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
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 monitors and Thin Clients
Flat Panels

SIMATIC Flat Panels

■ **Ordering data**

	Article No.			
Flat Panel Monitor	**6AV7861-** ■ ■ ■ ■ 0 - 1 A A 0			

Display size
- 12" **1**
- 15" **2**
- 19" **3**

Operator functionality:
- Display devices without operator functionality **A**
- Touch screen (analog/resistive) **T**

Power supply
- 24 V DC
  (not for Extended versions since these always have AC and DC) **A**
- 100 to 230 V AC (incl. Euro power supply cable) and 24 V DC **B**

Variant
- Standard, can be located up to 5 m away **0**
- Extended, can be located up to 30 m away, marine approvals Dimmable background illumination Ex22 **1**

	Article No.
Special versions	
Flat Panel Monitor	
• 12" Key	6AV7861-1KB10-1AA0
• 15" Key	6AV7861-2KB10-1AA0
• PRO 15" Touch	6AV7861-5TB10-1BA0
• PRO 19" Touch	6AV7861-6TB10-1BA0
Accessories	
Protective films	
For protecting the touch screen against dirt and scratches Pack with 10 units	
• for 12" Touch	6AV7671-2BA00-0AA0
• for 15" Touch	6AV7671-4BA00-0AA0
• for 19" Touch	6AV7672-1CE00-0AA0
Touch pen	
Undetachable pen for operation of the touch devices, mounting of the support on the control cabinet or directly on the PRO unit	6AV7672-1JB00-0AA0
Connection cables for Standard, Extended and PRO versions	
Video (VGA)	
• 3.0 m	6AV7860-0AH30-0AA0
• 5.0 m	6AV7860-0AH50-0AA0
Video (DVI-D)	
• 3.0 m	6AV7860-0BH30-0AA0
• 5.0 m	6AV7860-0BH50-0AA0
USB for optional touch screen	
• 3.0 m	6AV7860-0CH30-0AA0
• 5.0 m	6AV7860-0CH50-0AA0
Connection cables for Extended and PRO versions	
• Cable set 10 m (DVI-D, CAT5 cable (USB), USB transmitter module)	6AV7860-1EX21-0AA1
• Cable set 15 m (DVI-D, CAT5 cable (USB), USB transmitter module)	6AV7860-1EX21-5AA1
• Cable set 20 m (DVI-D, CAT5 cable (USB), USB transmitter module)	6AV7860-1EX22-0AA1
• Cable set 30 m (DVI-D, CAT5 cable (USB), USB transmitter module)	6AV7860-1EX23-0AA1

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

■ **More information**

Additional information is available on the Internet at:

http://www.siemens.com/industrial-lcd

Note:

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

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

4

Overview

The SIMATIC HMI SCD 1900 is a rugged, industry-standard PC monitor.

It is used as an operator control unit in all types of industrial and standard PC, including for portrait mounting. Standard interfaces permit a wide range of possible applications.

Built-in versions:
• Built-in unit (for control cabinets, control desks, and gantries)
• Built-in portrait for portrait mounting (for control cabinets, control desks and gantries)
• 19" built-in units (for 19" racks)

Type of operator control:
• Panels with touch control

Technical specifications

Article number	6AV7862-2TA00-1AA0
	SIMATIC SCD1900 19"WIDE/TOUCH/1440X900
General information	
Product type designation	SCD 1900
Short designation	Flat Panel 19" Touch
Display	
Design of display	TFT widescreen display, LED backlighting
Screen diagonal	19 in
visible area (HxV) in mm	255 x 408
Viewing angle	160° x 170°
On Screen Display (OSD) configuration	Yes
Number of colors (bit levels)	24 bit
Resolution (pixels)	
• Resolution (WxH in pixel)	1440 x 900
General features	
• Brightness/contrast	300 cd/m² / 1000:1
Backlighting	
• MTBF backlighting (up to 50%, at 25 °C)	50 000 h; At 25°C
Installation type/mounting	
Rack mounting possible	Yes
Built-in unit	Yes
VESA mounting	No
Supply voltage	
Type of supply voltage	DC
permissible range, lower limit (DC)	21.6 V
permissible range, upper limit (DC)	26.4 V

Article number	6AV7862-2TA00-1AA0
	SIMATIC SCD1900 19"WIDE/TOUCH/1440X900
Interfaces	
Video interfaces	
• analog video signal (VGA)	Yes
Touch interfaces	
• USB	Yes
Degree and class of protection	
IP65 at front	Yes
IP20 rear	Yes
Standards, approvals, certificates	
CE mark	Yes; Industry
CSA approval	No
UL approval	Yes
cULus	Yes
Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	60 °C
Shock testing	
• Shock load during operation	10 gn
• Shock load during transport/storage	10 gn
Mechanics/material	
Enclosure material (front)	
• Aluminum	Yes
Weights	
Weight without packaging	6 kg

4

PC-based Automation
Industrial monitors and Thin Clients
SCD monitors

Ordering data	Article No.
SCD monitor 1900	**6AV7862-2TA00-1AA0**
Portrait SCD monitor 1900	**6AV7466-2TA17-1AA0**
Accessories	
Cable for connecting to the graphics interface of the PC	
• VGA cable, 3.0 m	**6AV7860-0AH30-0AA0**
• VGA cable, 5.0 m	**6AV7860-0AH50-0AA0**
• DVI-D cable, 3.0 m	**6AV7860-0BH30-0AA0**
• DVI-D cable, 5.0 m	**6AV7860-0BH50-0AA0**
USB cable for connecting the touch screen	
• 3.0 m	**6AV7860-0CH30-0AA0**
• 5.0 m	**6AV7860-0CH50-0AA0**
External power supply for SCD 1900	**6AV7860-2AD06-0AA0**
100-230 V AC, 50-60 Hz; incl. mounting accessories for optional installation at the device.	

More information

Additional information is available on the Internet at:

http://www.siemens.com/industrial-lcd

Overview

SIMATIC ITC Industrial Thin Clients are powerful operating units for flexible use in distributed visualization applications. All devices are equipped with high-resolution, brilliant widescreen displays, and due to the diverse communication protocols they can be used both for challenging machine-level operator control & monitoring and for the connection to control systems, e.g. in the SCADA environment. They can be used as (additional) operator stations on a SIMATIC Industrial PC, Panel PC, or server, and on a SIMATIC Panel.

The following installation versions are available:
- SIMATIC ITC1200 – 12" Touch
- SIMATIC ITC1500 – 15" Touch
- SIMATIC ITC1900 – 19" Touch
- SIMATIC ITC2200 – 22" Touch

The SIMATIC HMI Thin Client Ex is available for hazardous areas. This device differs technically from the devices mentioned above. For more details, refer to the SIMATIC Thin Client EX chapter.

Technical specifications

Article number	6AV6646-1AA22-0AX0	6AV6646-1AB22-0AX0	6AV6646-1AC22-0AX0	6AV6646-1AD22-0AX0
	SIMATIC ITC1200	SIMATIC ITC1500	SIMATIC ITC1900	SIMATIC ITC2200
Display				
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	12.1 in	15.4 in	18.5 in	21.5 in
Display width	261.1 mm	331.2 mm	409.8 mm	495.6 mm
Display height	163.2 mm	207 mm	230.4 mm	292.2 mm
Number of colors	16 777 216	16 777 216	16 777 216	16 777 216
Resolution (pixels)				
• Horizontal image resolution	1 280 Pixel	1 280 Pixel	1 366 Pixel	1 920 Pixel
• Vertical image resolution	800 Pixel	800 Pixel	768 Pixel	1 080 Pixel
Backlighting				
• Type of backlighting	LED, dimmable	LED, dimmable	LED, dimmable	LED, dimmable
• Backlight dimmable	Yes; 5-100%	Yes; 5-100%	Yes; 5-100%	Yes; 5-100%
Control elements				
Touch operation				
• Monitor keyboard	Yes	Yes	Yes	Yes
Installation type/mounting				
Built-in unit	Yes	Yes	Yes	Yes
Supply voltage				
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC
permissible range, lower limit (DC)	19.2 V	19.2 V	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	28.8 V

PC-based Automation
Industrial monitors and Thin Clients
Thin Clients

SIMATIC Industrial Thin Client

■ **Technical specifications** (continued)

Article number	**6AV6646-1AA22-0AX0**	**6AV6646-1AB22-0AX0**	**6AV6646-1AC22-0AX0**	**6AV6646-1AD22-0AX0**
	SIMATIC ITC1200	SIMATIC ITC1500	SIMATIC ITC1900	SIMATIC ITC2200
Input current				
Current consumption, max.	1.2 A	1.5 A	1.3 A	2.2 A
Starting current inrush I^2t	0.5 A²·s	0.5 A²·s	0.5 A²·s	0.5 A²·s
Interfaces				
Number of industrial Ethernet interfaces	1	1	1	1
USB on the rear	2	2	2	2
USB at the front	0	0	0	0
Connection for keyboard/mouse	USB	USB	USB	USB
Industrial Ethernet				
• Transmission rate, max.	1 000 Mbps	1 000 Mbps	1 000 Mbps	1 000 Mbps
Protocols				
Protocols (Ethernet)				
• TCP/IP	Yes	Yes	Yes	Yes
• DHCP	Yes	Yes	Yes	Yes
• SNMP	Yes	Yes	Yes	Yes
• DCP	Yes	Yes	Yes	Yes
• LLDP	Yes	Yes	Yes	Yes
WEB characteristics				
• HTTP	Yes	Yes	Yes	Yes
• HTML	Yes; HTML5	Yes; HTML5	Yes; HTML5	Yes; HTML5
• XML	Yes	Yes	Yes	Yes
• CSS	Yes	Yes	Yes	Yes
• JavaScript	Yes	Yes	Yes	Yes
Protocols (terminal link)				
• Sm@rtServer	Yes	Yes	Yes	Yes
• RDP	Yes	Yes	Yes	Yes
• VNC viewer	Yes	Yes	Yes	Yes
• Citrix	No	No	No	No
• SINUMERIK	Yes	Yes	Yes	No
Protocols				
PROFINET IO Device				
Services				
- PROFIenergy	No	No	No	No
Degree and class of protection				
IP65 at front	Yes	Yes	Yes	Yes
IP20 rear	Yes	Yes	Yes	Yes
Standards, approvals, certificates				
CE mark	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
Use in hazardous areas				
• cULus Class I Zone 1	No	No	No	No
• cULus Class I Zone 2, Division 2	Yes; Available soon	Yes; Available soon	Yes; Available soon	Yes; Available soon
• FM Class I Division 2	Yes; Available soon	Yes; Available soon	Yes; Available soon	Yes; Available soon

■ Technical specifications (continued)

Article number	6AV6646-1AA22-0AX0	6AV6646-1AB22-0AX0	6AV6646-1AC22-0AX0	6AV6646-1AD22-0AX0
	SIMATIC ITC1200	SIMATIC ITC1500	SIMATIC ITC1900	SIMATIC ITC2200
Ambient conditions				
Ambient temperature during operation				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	50 °C	50 °C	45 °C	45 °C
Ambient temperature during storage/transportation				
• min.	-20 °C	-20 °C	-20 °C	-20 °C
• max.	60 °C	60 °C	60 °C	60 °C
Relative humidity				
• Operation, max.	90%	90%	90%	90%
Software				
Web browser	Yes	Yes	Yes	Yes
PDF reader	Yes	Yes	Yes	Yes
Configuration				
Configuration				
• On-board	Yes	Yes	Yes	Yes
• Remote administration	Yes; With Remote Configuration Center (RCC) as of V2.0	Yes; With Remote Configuration Center (RCC) as of V2.0	Yes; With Remote Configuration Center (RCC) as of V2.0	Yes; With Remote Configuration Center (RCC) as of V2.0
Languages				
Online languages				
• German	Yes	Yes	Yes	Yes
• English	Yes	Yes	Yes	Yes
Peripherals/Options				
Peripherals				
• USB memory	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected	Yes; USB storage medium can be connected
Mechanics/material				
Enclosure material (front)				
• Aluminum	Yes	Yes	Yes	Yes
Dimensions				
Width of the housing front	330 mm	415 mm	483 mm	560 mm
Height of housing front	241 mm	310 mm	337 mm	380 mm
Mounting cutout, width	310 mm	396 mm	465 mm	542 mm
Mounting cutout, height	221 mm	291 mm	319 mm	362 mm
Overall depth	82 mm	75 mm	75 mm	75 mm
Weights				
Weight without packaging	3.4 kg	5.2 kg	6.5 kg	7.1 kg
Weight incl. packaging	4.1 kg	5.7 kg	7.1 kg	7.8 kg

■ Ordering data

	Article No.
Industrial Thin Client	
• SIMATIC ITC1200 12" Touch device	**6AV6646-1AA22-0AX0**
• SIMATIC ITC1500 15" Touch device	**6AV6646-1AB22-0AX0**
• SIMATIC ITC1900 19" Touch device	**6AV6646-1AC22-0AX0**
• SIMATIC ITC2200 22" Touch device	**6AV6646-1AD22-0AX0**
Accessories	See HMI accessories

■ More information

Additional information is available on the Internet at:

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

PC-based Automation
Industrial monitors and Thin Clients
Large-scale displays

SIMATIC HMI Net Panel

■ **Overview**

Professional display system for continuous, maintenance-free operation

The SIMATIC HMI Net Panel is multifunctional when it comes to rugged, large-scale display applications for industrial areas, as it is ideal for production plants and control stations or for trade fairs and information points visited by the public.

The Net Panel is based on a reliable industrial PC of the SIMATIC IPC series and is designed for 24-hour, maintenance-free operation in an industrial environment. It is extremely flexible in operation and can be used as a stand-alone solution or in the network as a complete industrial display system comprising several Net Panels. For applications that require audio output, variants of the Net Panel are available with audio modules and speaker equipment.

Remote Control for setting up the SIMATIC HMI Net Panel

The Remote Control software included in the scope of delivery allows the Net Panel to be operated either locally or via the network. It enables the brightness and volume to be adjusted and the backlight to be switched off.

For self-diagnosis the device temperature can be indicated. The Remote Control software allows the function to be shut down to prevent burn-in effects (anti-image sticking). The anti-image sticking function should, however, only be deactivated when adequate measures have been implemented on the Net Panel to prevent image sticking.

Remote Operate as client/server solution for industrial display systems (optional)

When Remote Operate is installed, four virtual graphics cards can be set up on one IPC and presented as extended desktops.

On every SIMATIC HMI Net Panel, a Remote Operate client is installed that is assigned to a virtual graphics card. The different screen contents are distributed to the virtual graphics adapters using the HMI software WinCC. If the Net Panel is equipped with sound, MP3 and Wave files can be sent to a specific Net Panel where they can be played, using an easily accessible function.

PC-based Automation
Industrial monitors and Thin Clients
Large-scale displays

SIMATIC HMI Net Panel

Technical specifications

	SIMATIC HMI Net Panel
Display	
Size	46" (116 cm) LCD TFT
Resolution	1 920 x 1 080 Full HD (16:9)
Colors	16.7 million colors
Reading angle	+/- 178°
Backlighting	LED backlight
Brightness	Typically 500 cd/m²
PC configuration	
IPC	IPC427D
Processor	**Core i3 1.6 GHz**
Main memory	4 GB
Mass storage	80 GB SSD
Operating system	Windows 7 Ultimate SP1 64-bit
General features	
Enclosure design	Industry-compatible steel enclosure, black, powder-coated
Glass front	Shatterproof front pane of 6 mm laminated glass, anti-glare, resistant to welding beads
Degree of protection	IP65 all-round; IP54 when USB is plugged in
Ambient temperature	5…45°C for 24-hour operation
Approvals	CE
Interfaces	
USB 2.0	1 x rear-mounted (with IP65 protective cap)
Ethernet	1 x Industrial Ethernet, D-coded (M12 4-pin with protective cover)
Power supply	100 ... 230 V AC Quick-On connector
Keyboard, mouse	Connectable via USB interface (optional USB hub recommended for commissioning)
Audio (optional)	
Audio module	• None • 2 x 15 W audio module
Speakers	1 pair, mounted to left and right, Bose or Visaton
Dimensions	
External dimensions (W x H x D in mm), weight	1 138 x 681 x 130, approx. 60 kg
External dimensions (W x H x D in mm) with BOSE loudspeaker, weight	1 410 x 681 x 130, approx. 65 kg
External dimensions (W x H x D in mm) with Visaton loudspeakers, weight	1 565 x 681 x 130, approx. 65 kg
Special features	• Continuous glass front with narrow protective frame • Auto-refresh function to reduce burn-in effects (anti image sticking function) • 2-point mounting, M8 on left and right sides of enclosure, 75 mm spacing • Safety eyebolts on top of enclosure, removable

Ordering data

SIMATIC HMI Net Panel
Intelligent large-scale display; 1 920 x 1 080 full HD widescreen; Core i3 1.6 GHz, 4 GB RAM, 80 GB SSD, IPC427D, 1 x Industrial Ethernet M12, 1 x USB at back; Windows 7 Ultimate SP1 64-bit, remote control software; IP54 when inserted, incl. quick-on connector for 100 ... 230 V AC power supply
- Without speakers, without audio module   **6AV7426-1AF36-0FA0**
- With Visaton speakers, with audio module 2 x 15 W   **6AV7426-1AF36-1FA0**
- With Bose speakers, with audio module 2 x 15 W   **6AV7426-1AF36-2FA0**

Accessories

Support arm systems
Various support arm systems for ceiling, back-to-back, wall or pedestal mounting are offered by Rose & Krieger.

More information

Customized modification options on request. Recommended support arm system from Rose & Krieger.

Quotation preparation

SIMATIC HMI specialists define the product modifications precisely in accordance with customer requirements.

This is followed by drafting of a quote with:
- Non-recurring costs
- Prototype costs
- Standard unit prices
- and the marginal conditions in the form of a product agreement (e.g. minimum quantity).

The defined device can then be ordered easily using this product agreement and a customer-specific Article No. at a later time.

4

PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65

SIMATIC Industrial Flat Panel PRO

■ Overview

IPC Pro, IFP Pro

IPC Pro, view from left

SIMATIC IFP1900 PRO: The new Industrial Flat Panel with all-round IP65 protection – The industrial widescreen monitor for harsh ambient conditions that can be installed directly on the machine

The IFP1900 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 guarantees durability, even in harsh and extreme operating environments.

- All-round IP65 protection
- Can be positioned up to 30 m away from the processor unit (IFP Extended version)
- Rugged, industry-standard 19" widescreen displays (Multitouch)
- Slim, modern design
- Can be adapted to support arm system of various manufacturers
- Fast integration capability
- Low energy requirement
- Small footprint and low weight

The following front versions are available:
- 19" Multitouch (1 366 x 768)
  - Support arm version (flange at top)
  - Pedestal version (flange at bottom)

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PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65

SIMATIC Industrial Flat Panel PRO

Technical specifications (continued)

Article number	6AV7863-3MA14-0AA0	6AV7863-3MA15-0AA0
	SIMATIC IFP PRO 19" MULTITOUCH PEDESTAL	SIMATIC IFP PRO 19" MT EXT SUPPORT ARM
Power loss		
Power loss DC		
• Typical	40 W	40 W
• Maximum	65 W	65 W
Interfaces		
USB on the rear	2x onboard	2x onboard
Connection for keyboard/mouse	USB	USB
Video interfaces		
• DVI-D	Yes	Yes
• DisplayPort	Yes; DisplayPort V1.1	Yes; DisplayPort V1.1
Touch interfaces		
• USB	Yes	Yes
Degree and class of protection		
IP65 at front	Yes	Yes
Enclosure Type 4 at the front	Yes	Yes
Enclosure Type 4x at the front	Yes	Yes
NEMA4 at the front	Yes	Yes
NEMA4X at the front	Yes	Yes
IP65 rear	Yes	Yes
Standards, approvals, certificates		
CE mark	Yes	Yes
cULus	Yes; Corresponds to UL 508	Yes; Corresponds to UL 508
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
EAC (formerly Gost-R)	Yes	Yes
Use in hazardous areas		
• ATEX Zone 2	Yes; Available soon	
• ATEX Zone 22	Yes; Available soon	
• FM Class I Division 2	Yes; Available soon	
Ambient conditions		
Ambient temperature during operation		
• min.	0 °C	0 °C
• max.	45 °C	45 °C
Ambient temperature during storage/transportation		
• min.	-20 °C	-20 °C
• max.	60 °C	60 °C
Relative humidity		
• Operation, max.	95%; Non-condensing	95%; Non-condensing
Vibrations		
• Vibration load in operation	1 gn	1 gn
• Vibration load during transport/storage	1 gn	1 gn
Shock testing		
• Shock load during operation	15 gn	15 gn
• Shock load during transport/storage	15 gn	15 gn
Connection method		
Connector (IEC) for cold condititons	Yes	Yes
Mechanics/material		
Enclosure material (front)		
• Glass	Yes; at front	Yes; at front
Weights		
Weight without packaging	6.5 kg	6.5 kg
Weight incl. packaging	10 kg	10 kg

PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65

SIMATIC Industrial Flat Panel PRO

■ Ordering data	Article No.
SIMATIC IFP1900 PRO pedestal versions	**6AV7863-3MA14-0AA0**
19" (16:9) Flat Panel, Multitouch, pedestal, extended version up to 30 m, 1 366 x 768 resolution, for 24 V DC DisplayPort/DVI, IP65 all-round protection	
SIMATIC IFP1900 PRO support arm version	**6AV7863-3MA15-0AA0**
19" (16:9) Flat Panel, Multitouch, support arm, extended version up to 30 m, 1 366 x 768 resolution, for 24 V DC DisplayPort/DVI, IP65 all-round protection	

Note:

As in the case of the PRO Flat Panel, the adaptation to support arm/pedestal systems is possible by using the basic adapter.

This is available as an accessory with the following article number: 6AV7674-1KA00-0AA0 (see "Accessories for fully enclosed HMI Devices").

■ More information

Additional information is available on the Internet at:

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

Note:

Do you need a specific modification or option for the products described here? If so, refer to "Customized Automation" 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.

4

PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65

SIMATIC Flat Panel PRO

▌Overview

SIMATIC Flat Panel Monitor PRO 19"

SIMATIC Flat Panel Monitor PRO 15" with expansion unit (rear view)

▌Technical specifications

Article number	**6AV7861-5TB10-1BA0**	**6AV7861-6TB10-1BA0**
	SIMATIC FLAT PANEL PRO 15 AC/DC	SIMATIC FLAT PANEL PRO 19T
Display		
Design of display	TFT	TFT
Screen diagonal	15 in	19 in
visible area (HxV) in mm	304 x 228	376 x 301
Viewing angle	160° x 160°	160° x 160°
On Screen Display (OSD) configuration	Yes	Yes
Number of colors (bit levels)	16.7 million	16.7 million
Resolution (pixels)		
• Resolution (WxH in pixel)	1024 x 768	1280 x 1024
General features		
• Brightness/contrast	> 260 cd/m² / 350:1	> 300 cd/m² / 300:1
Control elements		
Input device		
• integrated mouse cursor control	No	No
Keyboard fonts		
• Function keys	No	No
- Number of function keys	0	0
Installation type/mounting		
Rack mounting possible	No	No
VESA mounting	Yes	Yes
Supply voltage		
Type of supply voltage	AC/DC	AC/DC
permissible range, lower limit (DC)	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V
permissible range, lower limit (AC)	90 V	90 V
permissible range, upper limit (AC)	264 V	264 V

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PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65

SIMATIC Flat Panel PRO

■ **Technical specifications** (continued)

Article number	6AV7861-5TB10-1BA0	6AV7861-6TB10-1BA0
	SIMATIC FLAT PANEL PRO 15 AC/DC	SIMATIC FLAT PANEL PRO 19T
Interfaces		
Video interfaces		
• analog video signal (VGA)	Yes	Yes
Degree and class of protection		
IP20 at front	Yes	Yes
IP54 at front	Yes	Yes
IP65 at front	Yes	Yes
IP20 rear	Yes	Yes
IP54 rear	Yes	Yes
IP65 rear	Yes	Yes
Standards, approvals, certificates		
UL approval	Yes	Yes
EAC (formerly Gost-R)	No	No
SIBE safety certification	No	No
Marine approval		
• Germanischer Lloyd (GL)	No	No
• American Bureau of Shipping (ABS)	No	No
• Bureau Veritas (BV)	No	No
• Det Norske Veritas (DNV)	No	No
• Lloyds Register of Shipping (LRS)	No	No
• Polski Rejestr Statkow (PRS)	No	No
Ambient conditions		
Ambient temperature during operation		
• min.	0 °C	
• max.	45 °C	
Dimensions		
Width of the housing front	400 mm	483 mm
Height of housing front	310 mm	400 mm

■ **Ordering data**

SIMATIC Flat Panel PRO 15" Touch	6AV7861-5TB10-1BA0
SIMATIC Flat Panel PRO 19" Touch	6AV7861-6TB10-1BA0

Note:

An adapter plate is required for mounting on the support arm systems of well-known manufacturers; see "Accessories for fully enclosed HMI devices".

■ **More information**

Additional information is available on the Internet at:

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

Note:

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

4

PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65

SIMATIC Thin Client PRO

■ Overview

SIMATIC Thin Client PRO 15"

■ Technical specifications

Article number	6AV6646-2AB21-2AX0
	SIMATIC THIN CLIENT PRO 15 " TOUCH
General information	
Product type designation	PRO 15" Touch
Display	
Design of display	TFT
Screen diagonal	15.1 in
Resolution (pixels)	
• Resolution (WxH in pixel)	1024 x 768
Backlighting	
• MTBF backlighting (at 25 °C)	50 000 h
Control elements	
Control elements	Touch screen
Keyboard fonts	
• System keys	No
Connection type	
• Connection for mouse/keyboard/ barcode reader	USB / USB
Installation type/mounting	
maximum permissible angle of inclination without external ventilation	45°
Supply voltage	
Type of supply voltage	DC
Processor	
Processor type	ARM, 266 MHz
Memory	
Type of memory	Flash / RAM

Article number	6AV6646-2AB21-2AX0
	SIMATIC THIN CLIENT PRO 15 " TOUCH
Interfaces	
Interfaces/bus type	1 x Ethernet (RJ45)
USB port	1 x USB
Industrial Ethernet	
• Industrial Ethernet interface	1 x Ethernet (RJ45)
Protocols	
WEB characteristics	
• HTTP	Yes
• HTML	Yes
• CSS	Yes
Protocols (terminal link)	
• Sm@rtServer	Yes
• RDP	Yes
EMC	
Emission of radio interference acc. to EN 55 011	
• Limit class A, for use in industrial areas	Yes; EN 61000-6-4, interference emission: Intended for use in industrial areas.
Degree and class of protection	
Front	IP65, NEMA 4x, NEMA 12 (when installed)
IP (rear)	IP65
Standards, approvals, certificates	
Certifications	CE, cULus, C-TICK, NEMA 4x (Enclosure Type 4X, Type 12), NEMA 12
cULus	Yes
EMC	The product is designed for use in industrial environments. When used in residential areas, the emission of radio interference according to limit class B of EN 55011 must be ensured. For further information refer to the user documentation
Suitable for safety functions	No

PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65

SIMATIC Thin Client PRO

Technical specifications (continued)

Article number	**6AV6646-2AB21-2AX0**
	SIMATIC THIN CLIENT PRO 15 " TOUCH
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	45 °C
Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	60 °C
Relative humidity	
• Operation, max.	85%; Storage
Languages	
Online languages	
• Number of online/runtime languages	2
Dimensions	
Width of the housing front	400 mm
Height of housing front	310 mm
Weights	
Weight (without packaging)	6.5 kg

Ordering data

	Article No.
SIMATIC Thin Client PRO 15" Touch	**6AV6646-2AB21-2AX0**

Note:

An adapter plate is required for mounting on the support arm systems of well-known manufacturers; see "Accessories for fully enclosed HMI devices".

More information

Additional information is available on the Internet at:

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

Note:

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

4

PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65

SIMATIC IPC477D PRO

■ Overview

IPC Pro, IFP Pro

IPC Pro, rear view

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 19" widescreen 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, industry-standard 19" 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
- High degree of investment security
- Fast integration capability

The following front versions are available:
- 19" Multitouch (1 366 x 768)
  - Support arm version (flange at top)
  - Pedestal version (flange at bottom)

■ Technical specifications

Article number	6AV7250-.....-...0	6AV7250-.....-...8
	SIMATIC IPC 477D PRO	SIMATIC IPC 477D PRO WITH TPM
Installation type/mounting		
maximum permissible installation angle +/-	+/- 45 °	+/- 45 °
Supply voltage		
Type of supply voltage	24 V DC	24 V DC
Processor		
Processor type	Intel Core i7-3517UE Intel Core i3-3217UE Intel Celeron 827E	Intel Core i7-3517UE Intel Core i3-3217UE Intel Celeron 827E
Drives		
Diskette drive	No	
Optical drives	possible as external drive via USB	possible as external drive via USB
SSD	Yes; 1x ≥ 80 GB; 2.5" SATA-SSD / CFAST 2 ... 16 GB	Yes; 1x ≥ 80 GB; 2.5" SATA-SSD / CFAST 2 ... 16 GB
Memory		
Main memory	1 Gbyte	1 Gbyte
Interfaces		
PROFIBUS/MPI	1 x CP5611-compatible; alternatively: 1 x CP 1616 onboard with 3 ports	1 x CP5611-compatible; alternatively: 1 x CP 1616 onboard with 3 ports
Number of PROFINET interfaces	1; 3 ports (incl. switch)	1; 3 ports (incl. switch)
USB port	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)
Connection for keyboard/mouse	USB / USB	USB / USB
serial interface	COM1 (RS 232)	COM1 (RS 232)

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PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65

SIMATIC IPC477D PRO

■ **Technical specifications** (continued)

Article number	6AV7250-.....-...0	6AV7250-.....-...8
	SIMATIC IPC 477D PRO	SIMATIC IPC 477D PRO WITH TPM
Video interfaces		
• Graphics interface	1x DVI, 1x DisplayPort	1x DVI, 1x DisplayPort
Industrial Ethernet		
• Industrial Ethernet interface	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)
- 100 Mbps	Yes	Yes
- 1000 Mbps	Yes	Yes
Monitoring functions		
Temperature	Yes	Yes
Watchdog	Yes	Yes
Degree and class of protection		
IP (at the front)	IP65 fully enclosed	IP65 fully enclosed
IP (rear)	IP65	IP65
Standards, approvals, certificates		
Approval	CE, cULus (508)	CE, cULus (508)
CE mark	Yes	Yes
cULus	Yes	Yes
KC approval	Yes	Yes
EMC	CE, EN 55011, EN 61000-6-4, EN 61000-6-2	CE, EN 55011, EN 61000-6-4, EN 61000-6-2
• EN 61000-6-2	Yes	Yes
Ambient conditions		
Ambient temperature during operation		
• Ambient temperature during operation	5 to +45°C	5 to +45°C
• min.	5 °C	5 °C
• max.	45 °C	45 °C
Relative humidity		
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 85% at 30 °C (no condensation), storage / transport: 5% to 95% at 25 / 55 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 85% at 30 °C (no condensation), storage / transport: 5% to 95% at 25 / 55 °C (no condensation)
Vibrations		
• Vibration load in operation	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s² (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/s² (1 g)
Shock testing		
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks
Operating systems		
Operating system	Windows 7 Ultimate (Multi Language) 32-bit/64-bit, Windows Embedded Standard 7 32-bit/64-bit	Windows 7 Ultimate (Multi Language) 32-bit/64-bit, Windows Embedded Standard 7 32-bit/64-bit
Additional info on operating system	Multi Language: GER, ENG, ITAL, FR, SP, KOR, CHN (Traditional), CHN (Simplified), JPN - not with XPe	Multi Language: GER, ENG, ITAL, FR, SP, KOR, CHN (Traditional), CHN (Simplified), JPN - not with XPe
pre-installed operating system	Yes	Yes
without operating system	Yes; Optional	Yes; Optional
Dimensions		
Width	475 mm	475 mm
Height	296 mm; Without basic adapter	296 mm; Without basic adapter
Depth	98 mm; Without basic adapter	98 mm; Without basic adapter

PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65

SIMATIC IPC477D PRO

■ **Technical specifications** (continued)

Article number	6AV7250-.E...-...0	6AV7250-.E...-...8	6AV7250-.F...-...0	6AV7250-.F...-...8
	SIMATIC IPC477D PRO, 19" MTOUCH	SIMATIC IPC477D PRO, 19" MTOUCH WITH TPM	SIMATIC IPC 477D PRO, 19" MTOUCH	SIMATIC IPC477D PRO, 19" MTOUCH WITH TPM
General information				
Product type designation	IPC477D PRO	IPC477D PRO with TPM	IPC477D PRO	IPC477D PRO with TPM
Display				
Design of display	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting	TFT widescreen display, LED backlighting
Screen diagonal	19 in	19 in	19 in	19 in
Resolution (pixels)				
• Resolution (WxH in pixel)	1366 x 768	1366 x 768	1366 x 768	1366 x 768
Installation type/mounting				
Support arm mounting	Yes	Yes	No	No
Stand mounting	No	No	Yes	Yes
Mounting in portrait format possible	No	No	No	No
maximum permissible installation angle +/-	+/- 45 °	+/- 45 °	+/- 45 °	+/- 45 °
Supply voltage				
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC
Processor				
Processor type	Intel Core i7-3517UE Intel Core i3-3217UE Intel Celeron 827E	Intel Core i7-3517UE Intel Core i3-3217UE Intel Celeron 827E	Intel Core i7-3517UE Intel Core i3-3217UE Intel Celeron 827E	Intel Core i7-3517UE Intel Core i3-3217UE Intel Celeron 827E
Drives				
Diskette drive	No		No	
Optical drives	possible as external drive via USB	possible as external drive via USB	possible as external drive via USB	possible as external drive via USB
SSD	Yes; 1x ≥ 80 GB; 2.5" SATA-SSD / CFAST 2 ... 16 GB	Yes; 1x ≥ 80 GB; 2.5" SATA-SSD / CFAST 2 ... 16 GB	Yes; 1x ≥ 80 GB; 2.5" SATA-SSD / CFAST 2 ... 16 GB	Yes; 1x ≥ 80 GB; 2.5" SATA-SSD / CFAST 2 ... 16 GB
Memory				
Main memory	1 Gbyte	1 Gbyte	1 Gbyte	1 Gbyte
Interfaces				
PROFIBUS/MPI	1 x CP5611-compatible; alternatively: 1 x CP 1616 onboard with 3 ports	1 x CP5611-compatible; alternatively: 1 x CP 1616 onboard with 3 ports	1 x CP5611-compatible; alternatively: 1 x CP 1616 onboard with 3 ports	1 x CP5611-compatible; alternatively: 1 x CP 1616 onboard with 3 ports
Number of PROFINET interfaces	1; 3 ports (incl. switch)	1; 3 ports (incl. switch)	1; 3 ports (incl. switch)	1; 3 ports (incl. switch)
USB port	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)	4x USB 3.0 onboard (rear)
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB	USB / USB
serial interface	COM1 (RS 232)	COM1 (RS 232)	COM1 (RS 232)	COM1 (RS 232)
Video interfaces				
• Graphics interface	1x DVI, 1x DisplayPort	1x DVI, 1x DisplayPort	1x DVI, 1x DisplayPort	1x DVI, 1x DisplayPort
Industrial Ethernet				
• Industrial Ethernet interface	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)	2 x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes
Monitoring functions				
Temperature	Yes	Yes	Yes	Yes
Watchdog	Yes	Yes	Yes	Yes
Degree and class of protection				
IP (at the front)	IP65 fully enclosed	IP65 fully enclosed	IP65 fully enclosed	IP65 fully enclosed
IP (rear)	IP65	IP65	IP65	IP65
Standards, approvals, certificates				
Approval	CE, cULus (508)	CE, cULus (508)	CE, cULus (508)	CE, cULus (508)
CE mark	Yes	Yes	Yes	Yes
cULus	Yes	Yes	Yes	Yes
KC approval	Yes	Yes	Yes	Yes
EMC	CE, EN 55011, EN 61000-6-4, EN 61000-6-2	CE, EN 55011, EN 61000-6-4, EN 61000-6-2	CE, EN 55011, EN 61000-6-4, EN 61000-6-2	CE, EN 55011, EN 61000-6-4, EN 61000-6-2
• EN 61000-6-2	Yes	Yes	Yes	Yes

4

PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65

SIMATIC IPC477D PRO

Technical specifications (continued)

Article number	6AV7250-.E...-...0	6AV7250-.E...-...8	6AV7250-.F...-...0	6AV7250-.F...-...8
	SIMATIC IPC477D PRO, 19" MTOUCH	SIMATIC IPC477D PRO, 19" MTOUCH WITH TPM	SIMATIC IPC 477D PRO, 19" MTOUCH	SIMATIC IPC477D PRO, 19" MTOUCH WITH TPM
Ambient conditions				
Ambient temperature during operation				
• Ambient temperature during operation	5 to +45°C	5 to +45°C	5 to +45°C	5 to +45°C
• min.	5 °C	5 °C	5 °C	5 °C
• max.	45 °C	45 °C	45 °C	45 °C
Relative humidity				
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 85% at 30 °C (no condensation), storage / transport: 5% to 95% at 25 / 55 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 85% at 30 °C (no condensation), storage / transport: 5% to 95% at 25 / 55 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 85% at 30 °C (no condensation), storage / transport: 5% to 95% at 25 / 55 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 85% at 30 °C (no condensation), storage / transport: 5% to 95% at 25 / 55 °C (no condensation)
Vibrations				
• Vibration load in operation	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s² (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/s² (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/s² (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/s² (1 g)
Shock testing				
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s² (5g), 30 ms, 100 shocks
Operating systems				
Operating system	Windows 7 Ultimate (Multi Language) 32-bit/64-bit, Windows Embedded Standard 7 32-bit/64-bit	Windows 7 Ultimate (Multi Language) 32-bit/64-bit, Windows Embedded Standard 7 32-bit/64-bit	Windows 7 Ultimate (Multi Language) 32-bit/64-bit, Windows Embedded Standard 7 32-bit/64-bit	Windows 7 Ultimate (Multi Language) 32-bit/64-bit, Windows Embedded Standard 7 32-bit/64-bit
Additional info on operating system	Multi Language: GER, ENG, ITAL, FR, SP, KOR, CHN (Traditional), CHN (Simplified), JPN - not with XPe	Multi Language: GER, ENG, ITAL, FR, SP, KOR, CHN (Traditional), CHN (Simplified), JPN - not with XPe	Multi Language: GER, ENG, ITAL, FR, SP, KOR, CHN (Traditional), CHN (Simplified), JPN - not with XPe	Multi Language: GER, ENG, ITAL, FR, SP, KOR, CHN (Traditional), CHN (Simplified), JPN - not with XPe
pre-installed operating system	Yes	Yes	Yes	Yes
without operating system	Yes; Optional	Yes; Optional	Yes; Optional	Yes; Optional
Accessories				
Accessory components	Basic adapter for mounting (MLFB: 6AV7674-1KA00-0AA0)	Basic adapter for mounting (MLFB: 6AV7674-1KA00-0AA0)	Basic adapter for mounting (MLFB: 6AV7674-1KA00-0AA0)	Basic adapter for mounting (MLFB: 6AV7674-1KA00-0AA0)
Dimensions				
Width	475 mm	475 mm	475 mm	475 mm
Height	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter
Depth	98 mm; Without basic adapter	98 mm; Without basic adapter	98 mm; Without basic adapter	98 mm; Without basic adapter
Width of the housing front	475 mm	475 mm	475 mm	475 mm
Height of housing front	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter	296 mm; Without basic adapter
Weights				
Panel PC in central design, approx.	7.9 kg	7.9 kg	7.9 kg	7.9 kg

4

PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65

SIMATIC IPC477D PRO

■ **Ordering data** | Article No. | | Article No.

SIMATIC IPC477D PRO [1]	6AV7250- ■ ■ ■ ■ ■ - ■ ■ ■ ■	
Processors and fieldbus		
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN)	0	
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	1	
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN)	3	
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	4	
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	5	
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN)	6	
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	7	
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	8	
Operator control unit		
• 19" Multitouch (1 366 x 768) without front USB, support arm versions (flange at top)		E
• 19" Multitouch (1 366 x 768) without front USB, pedestal versions (flange at bottom)		F
Main memory/NVRAM		
• 1 GB		A
• 2 GB		B
• 4 GB		C
• 8 GB		D
• 1 GB and NVRAM		J
• 2 GB and NVRAM		K
• 4 GB and NVRAM		L
• 8 GB and NVRAM		M
Expansion (HW)		
• 1 x RS 232		0

SIMATIC IPC477D PRO [1]	6AV7250- ■ ■ ■ ■ ■ - ■ ■ ■ ■	
Operating system		
• Without operating system	0	
• Windows Embedded Standard 7 Professional, 32-bit, MUI	3	
• Windows Embedded Standard 7 SP1, English, 32-bit	4	
• Windows Embedded Standard 7 SP1, English, 64-bit	5	
• Windows 7 Ultimate SP1, 32-bit, MUI (Eng, Ger, Fr, It, Sp)	6	
• Windows 7 Ultimate SP1, 64-bit, MUI (Eng, Ger, Fr, It, Sp)	7	
Externally accessible mass storage (without operating system)		
• Without external mass storage		0
• CFAST 2 GB, without software		1
• CFAST 4 GB		2
• CFAST 8 GB		3
• CFAST 16 GB		4
Mass storage, internal		
• Without internal mass storage		A
• CFAST 2 GB		B
• CFAST 4 GB		C
• CFAST 8 GB		D
• CFAST 16 GB		E
• SSD 80 GB Standard		H
• SSD 160 GB Standard		P
Software		
• Without SIMATIC software		A
Power supply		
• 24 V DC industrial power supply		0
• 24 V DC industrial power supply and TPM (not for China or Russia)		8

[1] IPC477D PRO as "built to order" version (max. delivery time 15 working days).

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

As in the case of the PRO Flat Panel, the adaptation to support arm/pedestal systems is possible by using the basic adapter. This is available as an accessory with the following article number: 6AV7674-1KA00-0AA0 (see "Accessories for fully enclosed HMI Devices").

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**

Additional information is available on the Internet at:

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

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

PC-based Automation
Devices for special requirements
Devices with stainless steel front

SIMATIC Industrial Thin Client INOX

■ 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

	SIMATIC ITC1900 INOX (the other specifications correspond to the SIMATIC ITC1900)
General features	
Display	18.5" TFT widescreen display
Resolution (pixels)	1366 x 768
MTBF of backlighting (at 25 °C)	approx. 50 000 h
Power supply	24 V DC
Front	
Material	Stainless steel 1.4301, polyester-based membrane
Surface	Hairline finish, 240 grit abrasive grain
Device seal	EPDM, molded part
Special features	Decorative membrane drawn across the display
Environmental conditions	
Degree of protection	At the front: IP66K, enclosure type 4 and 4x (indoor use only)
	At the rear: IP20
Ambient temperature in operation	0 ... 45 °C
Relative humidity	max. 70% (no condensation)
Transport/storage temperature	-20 °C … +45 °C
Approvals	CE, C-Tick, KC, cUL, CFM
Industry	Food & beverages, pharmaceuticals industry, other hygiene areas
Dimensions	
External dimensions (W x H x D in mm)	483 x 337
Mounting cutout (W x H x D in mm)	465 x 319
Mounting depth, in mm	74
Weight	approx. 6.5 kg
Special features	INOX clamping frame, cast aluminum mounting clamp

Please note the ambient conditions that differ from those of the SIMATIC.

■ Ordering data

	Article No.
SIMATIC ITC1900 INOX With accessory pack comprising: • Clamping frame • Device seal • Clamping frame • Terminal • Installation instructions	**6AV6646-8AC10-0AA0**

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

■ More information

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

Quotation preparation

Customized automation specialists define the product modifications precisely in accordance with customer requirements.

The quotation is then prepared with:
• Non-recurring costs,
• Prototype costs,
• Serial device prices and
• the general conditions in the form of a product agreement (e.g. minimum quantity).

The defined device can then be ordered easily using this product agreement and a customer-specific order number.

4

PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65 and stainless steel front

SIMATIC IPC277D 19" INOX PRO

■ Overview

IPC277D 19" INOX PRO with pedestal, front view

Configured Nano-Panel PC in fully enclosed stainless steel housing with high degree of protection for operation and visualization close to machines in the food and beverage, pharmaceutical and fine chemicals industries and in other hygienic areas.

The device has been developed on the basis of EN 1672-2 "Food processing machinery – Safety and Hygiene Requirements".

With its fully protected design and optional expansion modules, the SIMATIC PRO devices are are eminently suitable for industrial and machine-level use.

The INOX PRO devices feature stainless steel housing and a compact, hygienic design. With their integrated operating elements, they are also 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.
Most important is that all devices and components are easy to clean and disinfect to prevent cross-contamination of the food products.

The INOX PRO devices with stainless steel front have a 240 grit hairline finish, and are thus suitably smooth to allow microorganisms 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 explicitly prevents liquids from seeping through.

■ Technical specifications

	IPC277D 19" INOX PRO	IPC277D 19" INOX PRO
Special features	Pedestal mounting	Support arm mounting
General features		
Display	18.5" TFT widescreen display	18.5" TFT widescreen display
Resolution (pixels)	1366 x 768	1366 x 768
MTBF of backlit display (at 25°C)	50,000 h	50,000 h
Power supply	24 V DC	24 V DC
Equipment		
Touch	Analog-resistive touch	Analog-resistive touch
Control elements	2 x illuminated pushbutton with LED (red, green), 1 x emergency off; permanently wired on terminals	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	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 IPC277D, configured (6AV7881-5AE00-3DA0)	Based on SIMATIC IPC277D, configured (6AV7 881-5AE00-3DA0)
	Atom E660 (1.3 GHz), 2 GB RAM	Atom E660 (1.3 GHz), 2 GB RAM
	WES 7 SP1 32-bit (CF from 4 GB/SSD)	WES 7 SP1 32-bit (CF from 4 GB/SSD)
	Without RTX/HMI software	Without RTX/HMI software
	2 x 10/100/1000 Mbps Ethernet RJ45	2 x 10/100/1000 Mbps Ethernet RJ45
	3 x USB 2.0 (high current); 1 x serial (COM1)	3 x USB 2.0 (high current); 1 x serial (COM1)
	CompactFlash slot	CompactFlash slot

PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65 and stainless steel front

SIMATIC IPC277D 19" INOX PRO

Technical specifications (continued)

	IPC277D 19" INOX PRO	IPC277D 19" INOX PRO
Enclosure		
Front	Stainless steel 1.4301, polyester-based membrane	Stainless steel 1.4301, polyester-based membrane
Material	Stainless steel 1.4301	Stainless steel 1.4301
Surface	Hairline finish, 240 grit abrasive grain	Hairline finish, 240 grit abrasive grain
Device seals	FPM, molded parts, replaceable	FPM, molded parts, replaceable
Special features	Decorative display membrane; without USB port on front	Decorative display membrane; without USB port on front
Ambient conditions		
Degree of protection, complete	IP66K, enclosure type 4 and 4x (indoor use only)	IP66K, enclosure type 4 and 4x (indoor use only)
Ambient temperature during operation	0 ... +45 °C	0 ... +45 °C
Relative humidity during operation	Max. 95%, no condensation	Max. 95%, no condensation
Transport temperature / storage temperature / humidity	- 20°C … + 60°C / 10% to 90% without condensation	- 20°C … + 60°C / 10% to 90% without condensation
Approvals and inspections	CE	CE
	Hygiene testing according to EN 1672-2	Hygiene testing according to EN 1672-2
Approvals (planned)	RCM (previously C-Tick)/KC/CUL	RCM (previously C-Tick)/CE/KC/CUL
Sector	Food & beverages, pharmaceuticals industry, cosmetics industry, fine chemicals, other hygiene areas	Food & beverages, pharmaceuticals industry, cosmetics industry, fine chemicals, other hygiene areas
Dimensions		
External dimensions (W x H x D in mm)	544 x 430.7 x 136	544 x 430.7 x 136
Depth of enclosure only (without flange and operator controls) in mm	80	80
Weight, net	15.5 kg	15.5 kg
Special features	Flange adapter for pedestal	Flange adapter for support arm
The other specifications correspond to the basic unit (MLFB)	SIMATIC IPC277D, configured like 6AV7881-5AE00-3DA0	SIMATIC IPC277D, configured like 6AV7881-5AE00-3DA0

Ordering data

	Article No.		Article No.
SIMATIC IPC277D 19" INOX PRO for pedestal mounting With accessory pack comprising: Operating system license, product information, terminals, flange seal; documentation pack; Restore DVD	**6AV7484-4AB00-0AA0**	**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 "Accessories for HMI devices for special requirements"
SIMATIC IPC277D 19" INOX PRO for support arm mounting With accessory pack comprising: Operating system license, product information, terminals, flange seal; documentation pack; Restore DVD	**6AV7484-4AB10-0AA0**		

More information

Note:

Customized modifications
- Customized design (logo, type designation and membrane color)
- More display sizes
- Changes to the operator controls
- Further certificates and approvals

Quotation preparation

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

Additional information is available on the Internet at:

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

4

PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65 and stainless steel front

SIMATIC IFP1900 INOX PRO

■ **Overview**

SIMATIC IFP1900 INOX PRO

Industrial Flat Panel in fully enclosed stainless steel housing with high degree of protection for operation and visualization close to machines in the food and beverage, pharmaceutical and fine chemicals industries and in other areas where hygienic requirements are high.

The device has been developed on the basis of EN 1672-2 "Food processing machinery – Safety and hygiene requirements".

With its fully protected design and optional expansion modules, the SIMATIC PRO devices are are eminently suitable for industrial and machine-level use.

The INOX PRO devices with their stainless steel housing are compact and hygienically designed and feature integrated operating elements. They are also even better equipped to meet the high requirements presented by the food and beverage production environment. IP66K degree of protection protects against water even with a jet strength of 100 l/min at 10 bar from a distance of 2.5 m to 3 m.

The optimized profile and minimal housing depth allow liquids to run off.

The high quality requirements in the food and beverages industry require a high standard of the food processing machinery. There are many relevant regulations, directives, ordinances, standards and laws. Essential here is that all equipment and components are easy to clean and disinfect so that cross-contamination of foodstuffs can be avoided.

■ **Technical specifications**

IFP1900 INOX PRO		
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 Mbps	
	2 x USB interface	
	For connecting to an IPC427D with these system requirements: • Configuration 1:1, without multi-monitor mode • RAM min. 2 GB • Operating systems Windows 7, WES7 • Ethernet with min. 100 Mbps	
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	

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PC-based Automation
Devices for special requirements
Fully enclosed devices with IP65 and stainless steel front

SIMATIC IFP1900 INOX PRO

■ **Technical specifications** (continued)

IFP1900 INOX PRO		
Ambient conditions		
Degree of protection, complete	IP66K, enclosure type 4 and 4x (indoor use only)	
Ambient temperature during operation	0 ... +45 °C	
Relative humidity during operation	Max. 95%, no condensation	
Transport temperature / storage temperature / humidity	- 20°C … + 60°C / 10% to 90% without condensation	
Approvals and inspections	CE; hygiene testing according to EN 1672-2	
Approvals (planned)	RCM (previously C-Tick)/KC/CUL	
Sector	Food & beverages, pharmaceuticals industry, cosmetics industry, fine chemicals, other hygiene areas	
Dimensions		
External dimensions (W x H x D in mm)	544 x 430.7 x 136	544 x 430.7 x 136
Depth of enclosure only (without flange and operator controls) in mm	80	80
Weight, net	15.5 kg	15.5 kg
Special features	Flange adapter for pedestal	Flange adapter for support arm
The other specifications correspond to the basic unit (MLFB)	SIMATIC IFP1900 (6AV7863-3MA20-0AA0)	

■ **Ordering data**

	Article No.			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**		**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 "Accessories for HMI devices for special requirements"
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**			

4

■ **More information**

Additional 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

Customer-specific 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.

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PC-based Automation
Devices for special requirements
Devices for hazardous areas

SIMATIC Panel PC Ex OG

■ Ordering data

	Article No.
SIMATIC HMI Panel PC Ex OG	**6AV7200- 2 ▪ ▪ ▪ - ▪ ▪ A 0**

Display
• 15", 1 024 x 768, format 4:3; Zone 1	A
• 21.5" FullHD, 1 920 x 1 080, format 16:9; Zone 1	B
• 15", 1 024 x 768, format 4:3; Zone 2 and non-Ex	C
• 21.5" FullHD, 1 920 x 1 080, format 16:9; Zone 2 and non-Ex	D

Network
• 1 x 1000 Base TX – copper Ethernet in combination with WLAN	A
• 2 x 1000 Base TX – copper Ethernet not in combination with WLAN	B
• 2x 1000 Base FX - fiber optic Ethernet not in combination with WLAN	C

Mass storage/main memory
• 80 GB SSD, 4 GB RAM	1
• 160 GB SSD, 8 GB RAM	2
• 300 GB SSD, 8 GB RAM	3

Operating system
• Windows 7 Ultimate	1
• WES7 P	2

Display options
• Standard TFT, not touch; for 15" display only	1
• Sunlight-readable display 15", not touch	2
• Sunlight-readable display 21.5", not touch	3
• Standard TFT, capacitive glass touch, for 15" display only	4
• Sunlight-readable display 15", capacitive glass touch	5
• Sunlight-readable display 21.5", capacitive glass touch	6

Optional expansions [1]
• No WLAN, no Bluetooth, no RFID	A
• WLAN 2.4 GHz, no Bluetooth, no RFID	B
• WLAN 2.4 GHz and 5 GHz, no Bluetooth, no RFID	C
• No WLAN, Bluetooth, no RFID	D
• WLAN 2.4 GHz, Bluetooth, no RFID	E
• WLAN 2.4 GHz and 5 GHz, Bluetooth, no RFID	F
• No WLAN, no Bluetooth, RFID, not for 15" display	G
• WLAN 2.4 GHz, no Bluetooth, RFID, not for 15" display	H
• WLAN 2.4 GHz and 5 GHz, no Bluetooth, RFID, not for 15" display	J
• No WLAN, Bluetooth, RFID, not for 15" display	K
• WLAN 2.4 GHz, Bluetooth, RFID, not for 15" display	L
• WLAN 2.4 GHz and 5 GHz, Bluetooth, RFID, not for 15" display	M

	Article No.
SIMATIC HMI Panel PC Ex OG	**6AV7200- 2 ▪ ▪ ▪ - ▪ ▪ A 0**

Additional options
• 24 V power supply	-A01
• CAN bus interface open CAN Ex e	-B01
• VESA 200 and table pedestal and bracket SS316L material	-C01
• Outdoor design E01, F01, G01 and H01 now listed under accessories	-D01

[1] RFID option only with 21.5" display

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

An adapter plate is required for mounting on the support arm systems of well-known manufacturers; see "Accessories for fully enclosed HMI devices".

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
• NOT intrinsically safe, 16 GB with recovery and backup function	6AV7675-0FX20-0AA0
Ethernet switch With FOC 4 x 100 Base Tx, 1 x 100 Base (MTRJ) Fx Ex op is	6AV7675-0PX00-0AA0
Stand	6AV7675-0KA00-0AA0
Yoke mount fixing bracket	6AV7675-0KB00-0AA0
Sun roof	
• For 15"	6AV7675-0KC00-0AA0
• For 21.5"	6AV7675-0KD00-0AA0

4

PC-based Automation
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 N270 with 1.6 GHz
Main memory	2 GB DDR2 SDRAM
Operating system, pre-installed and configured	Windows 7 MUI, Windows 7 Ultimate, WES7 E
Mass storage	CompactFlash 16 GB, 128 GB SSD
Power supply	24 V DC, max. 2.1 A (19")
Interfaces	
Ethernet	10/100 Mbit Ex e, or fiber-optics 100 Mbit (SC) Ex op is
USB 2.0	2 x Ex i, 2 x Ex e (Zone 1) or 2 x Ex nA (Zone 2)
Serial	1 x RS 232 or 1 x RS 422/485
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

	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 [iaib] IIC T4 DIP A21 TA80°C, IP66
• Network 10/100 Base-Fx	2 Ex d e ia ib mb [iaibopis] IIC T4 DIP A21 TA80°C, IP66
CSA	Ex d e ia ib mb [ia ib] IIC T4 Gb, Type 4X, IP66 Class II, Division 1, Groups E, F, G, T80°C Ex ia tb [ia ib] IIIC T80°C Db, IP66
KGS	Ex d e ia ib mb [ia ib] IIC T4 Ex ia tb [ia ib] IIIC T80°C Db IP66
InMetro	
• Network 10/100 Base-Tx	Ex d e ia ib mb [ia ib] IIC T4 Gb Ex ia tb [ia ib] IIIC T80°C Db IP66
• Network 10/100 Base-Fx	Ex d e ia ib mb [ia ib op is] IIC T4 Gb Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Device version "UL Class 1, Division 2"	Class 1, Division 2, Groups A, B, C, D Class 2, Division 2, Groups F, G Class 3, Hazardous Locations
Devices in version "Zone 2"	
ATEX directive 94/9/EC	
• Network 10/100 Base-Tx	II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc II3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66
• Network 10/100 Base-Fx	II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
IECEx	
• Network 10/100 Base-Tx	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66
• Network 10/100 Base-Fx	Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
GOST-R	
• Network 10/100 Base-Tx	2 Ex d e ia ib mb nA [ib][ic] IIC T4 DIP A21 TA80°C, IP66
• Network 10/100 Base-Fx	2 Ex d e ia ib mb nA [ib opis][ic] IIC T4 DIP A21 TA80°C, IP66
CSA	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc, Type 4X, IP66 Class II, Division 2, Groups E, F, G, T80°C; Ex ia tc [ib ic] IIIC T80°C Dc, IP66

4

PC-based Automation
Devices for special requirements
Devices for hazardous areas

SIMATIC HMI Panel PC Ex

Technical specifications (continued)

	SIMATIC HMI Panel PC Ex
Devices in version "Zone 2"	
InMetro	
• Network 10/100 Base-Tx	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66
• Network 10/100 Base-Fx	Ex d e ia ib mb nA [ib op is Gb] IIC T4 Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
Device version "UL Class 1, Division 2"	Class 1, Division 2, Groups A, B, C, D Class 2, Division 2, Groups F, G Class 3, Hazardous Locations

	SIMATIC HMI Panel PC Ex
Dimensions	
Mounting dimensions (W x H x D)	15": 427.5 mm x 327.5 mm x 165 mm 19": 522.5 mm x 412.5 mm x 165 mm
Front dimensions (W x H)	15": 440 mm x 340 mm 19": 535 mm x 425 mm
Weight	15": 15 kg 19": 23 kg

Ordering data

SIMATIC HMI Panel PC Ex	Article No. 6AV7200- 1 ■ ■ ■ ■ - ■ ■ A 0	
Design / display size		
• Zone 2: 15" Touch with 8 function keys	A	
• Zone 2: 19" Touch with 8 function keys	B	
• Zone 1: 15" Touch with 8 function keys	D	
• Zone 1: 19" Touch with 8 function keys	E	
• Zone 2: 15" Touch, sunlight-readable with 8 functions keys	J	
• Zone 1: 15" Touch, sunlight-readable with 8 functions keys	K	
Network		
• 10/100 base Tx, Ex e	A	
• 100 base Fx FOC (SC), Ex op is	B	
Mass storage		
• CF 16 GB, 2 GB RAM	5	
• SSD 128 GB, 2 GB RAM	7	
Operating system (pre-installed)		
• Windows 7 Ultimate (only on HDD/SSD)	4	
• Windows 7 E (only on SSD)	5	
Enclosure options (device is delivered already fitted)		
• Without enclosure	0	
• Stainless steel enclosure for:		
- Wall mounting	2	
- Stand (incl. coupling, 300° rotation possible)	3	
- Suspension bracket (incl. coupling, 300° rotation possible)	4	
- Support arm (incl. coupling, 300° rotation possible)	5	
- Swivel arm from above (incl. coupling, 300° rotation possible)	6	

SIMATIC HMI Panel PC Ex	Article No. 6AV7200- 1 ■ ■ ■ ■ - ■ ■ A 0
External keyboard for stainless steel enclosure (incl. keyboard enclosure)	
• Without	A
• QWERTZ keyboard, mounted on protective enclosure	B
• QWERTY keyboard, mounted on protective enclosure	C
• AZERTY keyboard, mounted on protective enclosure	D
• QWERTZ keyboard with trackball, mounted on protective enclosure	E
• QWERTY keyboard with trackball, mounted on protective enclosure	F
• AZERTY keyboard with trackball, mounted on protective enclosure	G
Further options together with stainless steel enclosure	
• Breather glands (to avoid build-up of condensation)	-z A01
• Heater (2 x 50 W incl. temp. controller)	-z B01
• Handles, mounted	-z C01
• Front USB (at bottom)	-z D01
• NPT thread for pedestal mounting	-z G01

Accessories	
Digital KVM for HMI Thin Client Ex	6AV7675-0EX00-0AA0
USB drive	
• Intrinsically-safe, 16 GB	6AV7675-0FX00-0AA0
• Intrinsically-safe, 16 GB with recovery function	6AV7675-0FX10-0AA0
• Non-intrinsically safe,16 GB with recovery and backup function	6AV7675-0FX20-0AA0
Ethernet switch with FOC 4 x 100 Base Tx, 1 x 100 Base (MTRJ) Fx Ex op is	6AV7675-0PX00-0AA0

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

More information

Additional information is available on the Internet at:

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

PC-based Automation
Devices for special requirements
Devices for hazardous areas

SIMATIC HMI Thin Client Ex

■ Overview

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

■ Technical specifications

	SIMATIC HMI Thin Client Ex
General features	
Design	Thin Client built-in unit, available in protective enclosure as an option
Front	15", 19", and 15" sunlight readable display
Operation	Touch with 8 function keys
MTBF backlight	50 000 h
Operating system	Closed system on Windows XP Embedded basis
Mass storage	Integrated
Power supply	24 V DC, max. 2.1 A (19")
Interfaces	
Ethernet	100 Mbit Ex e, or alternatively fiber-optics 100 Mbit (SC) Ex op is
USB 2.0	2 x Ex i, 2 x Ex e (Zone 1) or 2 x Ex nA (Zone 2)
Serial	1 x RS 232 or 1 x RS 422/485
Ambient conditions	
Degree of protection	IP66 at front, IP65 at rear, IP66 in protective enclosure
Ambient temperature during operation	- 20 °C ... + 50 °C, cold start -10 °C, with optional additional heating down to -30 °C
Relative humidity during operation	90% at 40 °C, no condensation
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

	SIMATIC HMI Thin Client Ex
GOST-R	
• Network 10/100 Base-Tx	2 Ex d e ia ib mb [iaib] IIC T4 DIP A21 TA80°C, IP66
• Network 10/100 Base-Fx	2 Ex d e ia ib mb [iaibopis] IIC T4 DIP A21 TA80°C, IP66
CSA	Ex d e ia ib mb [ia ib] IIC T4 Gb, Type 4X, IP66 Class II, Division 1, Groups E, F, G, T80°C Ex ia tb [ia ib] IIIC T80°C Db, IP66
KGS	Ex d e ia ib mb [ia ib] IIC T4 Ex ia tb [ia ib] IIIC T80°C Db IP66
InMetro	
• Network 10/100 Base-Tx	Ex d e ia ib mb [ia ib] IIC T4 Gb Ex ia tb [ia ib] IIIC T80°C Db IP66
• Network 10/100 Base-Fx	Ex d e ia ib mb [ia ib op is] IIC T4 Gb Ex ia tb [ia ib op is] IIIC T80°C Db IP66
Devices in version "Zone 2"	
ATEX directive 94/9/EC	
• Network 10/100 Base-Tx	II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc II3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66
• Network 10/100 Base-Fx	II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
IECEx	
• Network 10/100 Base-Tx	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66
• Network 10/100 Base-Fx	Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
GOST-R	
• Network 10/100 Base-Tx	2 Ex de i a ib mb nA [ib][ic] IIC T4 DIP A21 TA80°C, IP66
• Network 10/100 Base-Fx	2 Ex de i a ib mb nA [ibopis][ic] IIC T4 DIP A21 TA80°C, IP66
CSA	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc, Type 4X, IP66 Class II, Division 2, Groups E, F, G, T80°C; Ex ia tc [ib ic] IIIC T80°C Dc, IP66
InMetro	
• Network 10/100 Base-Tx	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66
• Network 10/100 Base-Fx	Ex d e ia ib mb nA [ib op is Gb] IIC T4 Gc 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

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PC-based Automation
Devices for special requirements
Devices for hazardous areas

SIMATIC HMI Thin Client Ex

Ordering data

SIMATIC HMI Thin Client Ex — Article No. 6AV7200- 0 ■ ■ 0 0 - ■ ■ A 0

Design / display size
- Zone 2: 15" Touch with function keys — **A**
- Zone 2: 19" Touch with function keys — **B**
- Zone 1: 15" Touch with function keys — **D**
- Zone 1: 19" Touch with function keys — **E**
- Zone 2: 15" Touch, sunlight readable with function keys — **G**
- Zone 1: 15" Touch, sunlight readable with function keys — **H**

Communication interfaces
- 10/100 base Tx, Ex e — **A**
- 100 base Fx FOC (SC), Ex op is — **B**

Enclosure options (device is delivered already fitted)
- Without — **0**
- Stainless steel enclosure for:
  - Wall mounting — **2**
  - Stand (incl. coupling, 300° rotation possible) — **3**
  - Suspension bracket (incl. coupling, 300° rotation possible) — **4**
  - Support arm (incl. coupling, 300° rotation possible) — **5**
  - Swivel arm from above (incl. coupling, 300° rotation possible) — **6**

SIMATIC HMI Thin Client Ex — Article No. 6AV7200- 0 ■ ■ 0 0 - ■ ■ A 0

External keyboard for enclosure (incl. keyboard enclosure)
- Without — **A**
- QWERTZ keyboard — **B**
- QWERTY keyboard — **C**
- AZERTY keyboard — **D**
- QWERTZ keyboard with trackball — **E**
- QWERTY keyboard with trackball — **F**
- AZERTY keyboard with trackball — **G**

Further options together with stainless steel enclosure
- Breather glands — **-z A01**
- Heating (requires breather glands) — **-z B01**
- Handles — **-z C01**
- Front USB (at bottom) — **-z D01**

Accessories

Digital KVM for HMI Thin Client Ex — 6AV7675-0EX00-0AA0

USB drive
- Intrinsically safe, 8 GB — 6AV7675-0FX00-0AA0
- Intrinsically safe, 8 GB with recovery function — 6AV7675-0FX10-0AA0

Ethernet switch — 6AV7675-0PX00-0AA0

With FOC 4 x 100 Base Tx, 1 x 100 Base (MTRJ) Fx Ex op is

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

More information

Additional information is available on the Internet at:

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

PC-based Automation
Accessories for devices for special requirements

Adapter sets and basic adapters

Overview

Adapter sets & basic adapters

The adapter sets and basic adapters are required for connecting the SIMATIC HMI PRO device with the support arm head of the respective support arm system.

By directly connecting the support arm head 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

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 for 16:9 systems (silver) must be ordered separately as an accessory

Ordering data

	Article No.
VESA 100 adapter set[1]	**6AV7674-0KD00-0AA0**
VESA 75 adapter set	**6AV7674-0KE00-0AA0**
Basic adapter for 4:3 systems Spare part (dark gray, included in the scope of delivery of the device)	**6AV7674-0KA00-0AA0**
Basic adapter for 16:9 systems Accessories (silver, not included in the scope of delivery of the device)	**6AV7674-1KA00-0AA0**

[1] The VESA 100 adapter set cannot be used in combination with the 19" Flat Panel PRO.

Note:

The internal diameter of the 48 mm support arm tubes is not suitable for feeding through the standard DVI-D cable.

Scope of delivery:
• One adapter set or basic adapter
• Mounting hardware

More information

Additional information is available on the Internet at:

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

Note:

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

Overview

Extension Units

With the Extension Units, the range of possible on-site operations can be extended. They are mounted on the SIMATIC HMI 4:3 PRO device and can be equipped individually, e.g. with Key Panel (KP8), 3SB elements, emergency stop buttons, key switches, RFID reader, etc.

- They can be mounted on the left or right side of the PRO device, as required
- Direct installation of up to 2 Key Panels KP8 / KP8F
- IP65 - cable routing
- Can be equipped individually
- For all 4:3 15"/19" PRO devices

The combination of HMI PRO device and KP8 PN offers the following advantages:

- No control cabinet required
- Low cabling overhead
- Optimally coordinated design

Ordering data

	Article No.
Extension Unit 15" For mounting on all 15" PRO devices	6AV7674-0KG00-0AA0
Extension Unit 15" KP8 For mounting on all 15" PRO devices for direct installation of up to 2 KP8 / KP8F	6AV7674-0KG01-0AA0
Starter package Extension Unit 15" with KP8 1 x Extension Unit 15" KP8, 1 x Key Panel 8 PN, 1 x blank front	6AV7674-0KG11-0AA0
Extension Unit 19" right • For support arm mounting from above Mounting of the Extension Unit on the right side of the 4:3 19" PRO device • For support arm mounting from below Mounting of the Extension Unit on the left side of the 4:3 19" PRO device	6AV7674-0KJ00-0AA0
Extension Unit 19" KP8 right For direct installation of up to 2 KP8 / KP8F • For support arm mounting from above Mounting of the Extension Unit on the right side of the 4:3 19" PRO device • For support arm mounting from below Mounting of the Extension Unit on the left side of the 4:3 19" PRO device	6AV7674-0KJ01-0AA0
Starter package Extension Unit 19" with KP8 right 1 x Extension Unit 19" KP8 right, 1 x Key Panel 8 PN, 1 x blank front	6AV7674-0KJ11-0AA0

PC-based Automation
Accessories for devices for special requirements

Extension Units

Ordering data	Article No.
Extension Unit 19" left • For support arm mounting from above Mounting of the Extension Unit on the left side of the 19" PRO device • For support arm mounting from below Mounting of the Extension Unit on the right side of the 19" PRO device	6AV7674-0KH00-0AA0
Starter package Extension Unit 19" with KP8 left 1 x Extension Unit 19" KP8 left, 1 x Key Panel 8 PN, 1 x blank front	6AV7674-0KH11-0AA0
Extension Unit 19" KP8 left For direct installation of up to 2 KP8 / KP8F • For support arm mounting from above Mounting of the Extension Unit on the left side of the 4:3 19" PRO device • For support arm mounting from below Mounting of the Extension Unit on the right side of the 4:3 19" PRO device	6AV7674-0KH01-0AA0
KP8 front plate for the Extension Unit For installing up to two KP8 in an Extension Unit Suitable for all 15" and 19" Extension Units	6AV7674-0KH30-0AB0
Empty front KP8 design in combination with front panel KP8	6AV3688-3XY38-3AX0
Spare front plate for the Extension Unit Suitable for all 15" and 19" Extension Units Required if the front plate supplied with the Extension Unit must be replaced	6AV7674-0KH30-0AA0

Portfolio expansion for PRO! – Delivery possible from Q3/2016

Next generation of Extension Units
• For mounting on all widescreen PRO devices
• Slim and modern design
• Complete flexibility in the choice and installation of operator controls
• Multiple connection options

Attention:

Please note that these Extension Unit accessories cannot be used with 16:9 PRO devices.

Scope of delivery:
• 1 Extension Unit box
• 1 front plate for the Extension Unit
• 1 connecting tube
• Mounting accessories

More information

Additional information is available on the Internet at:

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

Note:

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

■ **Overview SIMATIC IPC Image & Partition Creator**

SIMATIC IPC Image & Partition Creator is the software tool for easy, preventive back-up and restoring of hard disk contents (images of individual partitions or complete hard disks). This software can be ordered through the Configurator for the SIMATIC IPCs, or separately with single license.

- Can run on all SIMATIC IPCs, regardless of the computer configuration
- Direct starting from the CD possible (no installation required)
- Complete backup by means of a mouse double-click with "1ClickImage" (must be installed)
- Menu-driven creation of a bootable USB flash drive as an alternative start medium from which SIMATIC IPC Image & Partition Creator can be started.
- Independent of the operating system thanks to ability to start from the bootable SIMATIC IPC Image & Partition Creator DVD or bootable USB flash drive with Image & Partition Creator.

■ **Ordering data** / **Article No.**

SIMATIC IPC Image & Partition Creator V3.4	Can be ordered using the SIMATIC IPC Configurator
SIMATIC IPC Image & Partition Creator V3.4 Software tool for very easy preventive data backup and efficient partition management on SIMATIC IPCs	6ES7648-6AA03-4YA0

Note:

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

■ **Overview SIMATIC IPC DiagMonitor**

SIMATIC IPC DiagMonitor: Intelligent and comprehensive diagnostics for the SIMATIC IPC – local and remote.

The SIMATIC IPC DiagMonitor software for monitoring and remote signaling detects possible hardware and software faults at an early stage. It monitors, signals and visualizes the operating statuses of the SIMATIC IPC both locally and remotely.

The SIMATIC IPC DiagMonitor can run on the following SIMATIC IPCs:
- IPC427C / IPC627C / IPC827C
- IPC547C / IPC647C / IPC847C
- HMI IPC477C / HMI IPC477C PRO / HMI IPC577C / HMI IPC677C
- IPC227D / IPC427D / IPC 627D / IPC 827D
- IPC277D / IPC477D / IPC677D
- IPC547D / IPC 647D / IPC847D
- IPC547E

The software can be ordered as:
- Individual product from stock (e.g. for server applications on third-party PCs or immediate integration in new systems) or
- Option ordered according to the SIMATIC IPC Configurator (Internet, Industry Mall).

■ **Ordering data** / **Article No.**

SIMATIC IPC DiagMonitor V4.5	Can be ordered using the SIMATIC IPC Configurator
SIMATIC IPC DiagMonitor V4.5 Software tool for monitoring the SIMATIC IPC, incl. manual on CD ROM (English, German), single license	6ES7648-6CA04-5YX0

PC-based Automation
IPC software

Overview

Remote diagnostics and access without on-site support
- Troubleshooting
- No operating system required
- BIOS and program updates
- Remote filling (supports ISO image > 2 GB)
- Configurable time-out

Central service
- Easy access on SIMATIC IPC
- No additional hardware (e.g. KVM switch)
- Over secure connections

Resource management
- Saves electricity cost
- Efficient use of production time

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.

http://support.automation.siemens.com/WW/view/en/56230140

Ordering data

	Article No.
SIMATIC IPC Remote Manager V1.2 Software tool for remote maintenance and management of SIMATIC IPC, incl. manual on CD-ROM (English, German), single license	6ES7648-6EA01-2YA0

Overview

The SIMATIC IPC BIOS Manager V3.3 (WinPE) is a software tool for the management and processing of SIMATIC IPC BIOS data. The tool is obtained by downloading it from the Service & Support web pages of Industry Automation & Drive Technologies using the Automation Value Card.

http://support.automation.siemens.com/WW/view/en/58512643

Ordering data

SIMATIC IPC BIOS Manager	Available as a download from Customer Support
Software tool for the management and processing of SIMATIC IPC BIOS data	http://support.automation. siemens.com/WW/view/en/58512643

Note:

SIMATIC IPC BIOS Manager is also available together with the SIMATIC IPC USB FlashDrive and IPC Service USB FlashDrive.

PC-based Automation
IPC software

SIMATIC IPC Support Package for VxWorks

■ **Overview**

SIMATIC IPC Support Package for VxWorks V1.1

The SIMATIC Embedded and High-end IPC devices of the D generation (except IPC227D) are supported with the SIMATIC IPC Support Package for VxWorks.
The following SIMATIC IPCs can therefore now be operated along with their PROFINET, PROFIBUS and hardware-based functions with the real time VxWorks V6.9 operating system:

• IPC647D
• IPC847D
• IPC227E
• IPC627D
• IPC827D
• IPC277E

VxWorks V7 is now also supported in compatibility mode V6.9, 32-bit.

The PROFINET onboard interfaces of the SIMATIC IPCs offer diverse options for the integration of real-time solutions with SIMATIC IPC into PROFINET networks. PROFINET RT (real-time) is supported by the standard Ethernet interface of the IPC; PROFINET IRT (isochronous real-time) is supported by the onboard PROFINET interface.

■ **Technical specifications**

Development system	
Component	**Requirements**
Hardware	PC
Operating system	Windows 7 (32-bit or 64-bit)
Configuration software for PROFIBUS DP	STEP 7 as of version 5.5 SP3 Hotfix 3 (optional)
	from TIA V13 (optional)
	NCM PC from Version 5.5 SP3 (optional)
Configuration software for PROFINET	STEP 7 from Version 5.5 SP3 (optional)
	from TIA V12 (optional)
	NCM PC from Version 5.5 SP3 (optional)
Development tools	Workbench V3.3 für VxWorks V6.9

Target system	
Component	**Requirements**
Hardware	SIMATIC IPC647D or
	SIMATIC IPC847D or
	SIMATIC IPC227E or
	SIMATIC IPC427D or
	SIMATIC IPC627D or
	SIMATIC IPC827D or
	SIMATIC IPC277D
Operating system	VxWorks V6.9 (32-bit)

■ Ordering data	Article No.
SIMATIC IPC Support Package for VxWorks	**6ES7648-6VA01-0YA0**
SIMATIC IPC Support Package for VxWorks V1.1, supports IPC647D, IPC847D, IPC227E, IPC427D, IPC627D, IPC827D and IPC277E incl. DP and PN, as well as diagnostic functions	

Overview

SIMATIC IPC427D and SIMATIC IPC477D family

Fast and efficient getting started with PC-based automation

Our **embedded bundles** for PC-based automation are based on rugged, fan-free embedded industrial PCs:

- Microbox PC SIMATIC IPC427D or
- Panel PC SIMATIC IPC277D and SIMATIC IPC477D

They are pre-installed, configured, and ready-to-use with the SIMATIC WinAC RTX (F) Software Controller and/or a version of the SIMATIC WinCC (SCADA, Advanced) visualization software.

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

Embedded bundles

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

- All embedded bundles are based on rugged, fanless SIMATIC IPCs.
- Various CPU performance classes are available for different applications. From Intel Atom CPUs for simple open-loop control and visualization tasks all the way to Intel Core i7 CPUs for complex automation solutions.
- Pre-installed and configured with the SIMATIC WinAC RTX (F) Software Controller and/or the SIMATIC WinCC RT Advanced / WinCC flexible visualization software.

Furthermore, bundles with WinCC RT Professional as client or single-user station are available for the SIMATIC IPC427D / IPC477D.

More information

Additional information is available on the Internet at:

http://www.automation.siemens.com/mcms/pc-based-automation/en/embedded-bundles

4

PC-based Automation

Embedded bundles/Software packages

SIMATIC IPC427D bundles

Overview

SIMATIC IPC427D (Microbox PC): The powerful embedded IPC – maintenance-free with versatile configuration

Ready-to-run, complete solutions (software is already installed and preconfigured) for visualization and automation in connection with WinCC RT Advanced and/or WinAC RTX.

- Ultra-compact
- Maintenance-free
- Third generation Intel Core i technology
- Current product versions of the pre-installed software:
  - SIMATIC WinCC RT Advanced V13
  - SIMATIC WinAC RTX 2010
  - SIMATIC Net V12.1

Ordering data

	Article No.
SIMATIC IPC427D (Box PC) [1][2]	**6AG4140-** ■ ■ ■ ■ ■ **-** ■ ■ ■ ■

Processor and fieldbus:

• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN)	0
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	1
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); CAN interface	2
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN)	3
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	4
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	5
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN) (optional ECC only here)	6
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	7
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	8

Mounting accessories:

• Without mounting accessories	A
• DIN rail mounting	B
• Wall mounting	D
• Portrait mounting	E
• Mounting onto standard rail with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	M
• Wall mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	N
• Vertical mounting with ATEX/IECEx Cat 3G Zone 2 / cULus Class I Div. 2	P

[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

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

PC-based Automation
Embedded bundles/Software packages

SIMATIC IPC427D bundles

Ordering data

	Article No.
SIMATIC IPC427D (Box PC) [1][2]	**6AG4140-** ■■■■■ **-** ■■■■■

Main memory/NVRAM/ECC:
- 1 GB — **A**
- 2 GB — **B**
- 4 GB — **C**
- 8 GB — **D**
- 4 GB with ECC (only with Core i7, 2 x Gigabit Ethernet (IE/PN)) — **G**
- 8 GB with ECC (only with Core i7, 2 x Gigabit Ethernet (IE/PN)) — **H**
- 1 GB and NVRAM — **J**
- 2 GB and NVRAM — **K**
- 4 GB and NVRAM — **L**
- 8 GB and NVRAM — **M**
- 4 GB with ECC and NVRAM (only with Core i7, 2 x Gigabit Ethernet (IE/PN)) — **N**
- 8 GB with ECC and NVRAM (only with Core i7, 2 x Gigabit Ethernet (IE/PN)) — **P**

Expansions/interface:
- One RS 232, without PCIe — **0**
- One RS 232 and one PCIe — **1**
- One RS 232 and two PCIe — **2**
- Second RS 232, without PCIe — **3**
- Second RS 232 and one PCIe — **4**
- Second RS 232 and second PCIe — **5**

Operating system:
- Without operating system — **0**
- Windows Embedded Standard 7 Professional, 32-bit, MUI — **3**
- Windows Embedded Standard 7 SP1, English, 32-bit — **4**
- Windows Embedded Standard 7 SP1, English, 64-bit — **5**
- Windows 7 Ultimate SP1, 32-bit, MUI (Eng, Ger, Fr, It, Sp) — **6**
- Windows 7 Ultimate SP1, 64-bit, MUI (Eng, Ger, Fr, It, Sp) — **7**

Mass storage, externally accessible:
- Without external mass storage — **0**
- CFast 2 GB Without operating system — **1**
- CFast 4 GB (only optionally with operating system if no internal mass storage) — **2**
- CFast 8 GB (only optionally with operating system if no internal mass storage) — **3**
- CFast 16 GB (only optionally with operating system if no internal mass storage) — **4**

	Article No.
SIMATIC IPC427D (Box PC) [1][2]	**6AG4140-** ■■■■■ **-** ■■■■

Internal mass storage:
- Without internal mass storage — **A**
- CFast 2 GB, without software — **B**
- CFast 4 GB, without software — **C**
- CFast 8 GB, without software — **D**
- CFast 16 GB, without software — **E**
- 80 GB solid-state drive (standard) — **H**
- HDD 320 GB — **K**
- 160 GB solid-state drive (standard) — **P**

SIMATIC software pre-installed (bundles, only with Windows Embedded Standard 7):
- Without SIMATIC software — **A**
- WinAC RTX 2010 [3] — **B**
- WinCC RT Advanced, 128 PT — **C**
- WinCC RT Advanced, 512 PT — **D**
- WinCC RT Advanced, 2 048 PT — **E**
- WinCC RT Advanced, 4 096 PT — **F**
- WinCC RT Advanced 128 PT, WinAC RTX 2010 [3] — **J**
- WinCC RT Advanced 512 PT, WinAC RTX 2010 [3] — **K**
- WinCC RT Advanced 2 048 PT, WinAC RTX 2010 [3] — **L**
- WinCC RT Advanced 4 096 PT, WinAC RTX 2010 [3] — **M**
- WinAC RTX F 2010 [3] — **N**
- WinCC RT Advanced 128 PT, WinAC RTX F 2010 [3] — **P**
- WinCC RT Advanced 512 PT, WinAC RTX F 2010 [3] — **Q**
- WinCC RT Advanced 2 048 PT, WinAC RTX F 2010 [3] — **R**
- WinCC RT Advanced 4 096 PT, WinAC RTX F 2010 [3] — **S**
- WinCC RT Professional Client/single-user station 128 PT — **Y**

Power supply:
- 24 V DC industrial power supply — **0**
- 24 V DC and TPM (not for China and Russia) — **8**

[1] Built to order versions with a delivery time of max. 15 working days and with identified repair, if not preferred type.

[2] For an up-to-date overview, see the SIMATIC PC online configurator at: http://www.siemens.com/ipc-configurator

[3] Only with "main memory and NVRAM".

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

Bundles with SIMATIC software only with Windows Embedded Standard 7, main memory and NVRAM (with RTX and RTX F), and CFast mass storage of 4 GB or more / SSD.

4

PC-based Automation
Embedded bundles/Software packages

More information

Delivery

Production and delivery of the devices will typically be completed within 15 business days after receipt of order. The hardware and mass memory with the complete, pre-installed, ready-to-use software are supplied fully assembled.

Commissioning

Before the control or visualization application is complete, simply perform the following steps:

- Optional: Installation and setup of additional software on the device
- Optional: Installation and setup of other software on the device
- Transfer of the engineering projects from STEP 7 or WinCC Advanced
- Transfer of the supplied license keys for SIMATIC software
- Backup of the installed software and protection of the flash-based mass memory by switching on the Enhance Write filter

Overview

SIMATIC IPC477D: The powerful embedded Panel PC – maintenance-free with versatile configuration

Ready-to-run, complete solutions (software is already installed and preconfigured) for visualization and automation in connection with WinCC RT Advanced and/or WinAC RTX.

- Embedded PC platform with extremely high industrial compatibility for demanding tasks in the field of PC-based automation
- Maintenance-free (no rotating components such as fan and hard disk)
- Rugged construction: the PC is resistant to even the harshest mechanical stress and is extremely reliable in operation
- Compact design
- Battery-independent retentive memory onboard
- High investment protection
- Fast integration capability
- Safety requirements up to SIL 3 in accordance with IEC 61508/62061 or EN ISO 13849-1 up to PL e can be implemented with WinAC RTX F

The following front versions are available:

- Built-in versions
  - 12" TFT Touch
  - 15" TFT Touch
  - 19" TFT Touch
  - 22" TFT Touch
  - 15" TFT Touch/Key
- Current product versions of the pre-installed SIMATIC software:
  - SIMATIC WinCC RT Advanced V13
  - SIMATIC WinAC RTX 2010 or SIMATIC WinAC RTX F 2010
  - SIMATIC NET V12.1 (including SIMATIC SOFTNET S7 Basis license)
  - and the combinations of the software packages listed above

Technical specifications

	SIMATIC IPC477D
General features	
Supply voltage[1]	• 24 V DC (-20% / +20%) [1] • 100 - 240 V AC (-15% / +20%); 50 - 60 Hz
Brief voltage interruption in accordance with NAMUR	• Min. 20 ms (DC) • Min. 20 ms (AC); max. 10 events per hour; min. 1 s recovery time
Power consumption (DC) of devices (without expansions):	
• 12" display	55 W
• 15" display	56 W
• 19" display	65 W
• 22" display	74 W
Additional power consumption of devices with expansions:	
• DVD drive	1 W
• PCIe card	5 W
Processor	• Intel Celeron 827E 1.4 GHz; 1.5 MB SLC or • Intel Core i3-3217UE 1.6 GHz; 3 MB SLC or • Intel Core i7-3517UE 1.7 GHz; 4 MB SLC
Main memory	• SO-DIMM modules; 1024 MB DDR3-SDRAM or • SO-DIMM modules; 2048 MB DDR3-SDRAM or • SO-DIMM modules; 4096 MB DDR3-SDRAM or • SO-DIMM modules; 8192 MB DDR3-SDRAM
Buffer memory [2]	512 KB MRAM
Drive and storage media	
SATA drive	1 slot
Solid-state drive	• 1 x ≥ 80 GB; 2.5" SATA-SSD, standard or • 1 x ≥ 160 GB; 2.5" SATA-SSD, standard
Hard disk drive (HDD)	• 1 x ≥ 250 GB, 2.5"-SATA-HD
CFast card	• 2 GB or • 4 GB or • 8 GB or • 16 GB
DVD drive, RW	1 slot for devices with expansion

[1] The generation of the supply voltage by the line-side power supply must be realized as safety extra-low voltage with safe electrical isolation, isolated according to IEC 60364 4 41, or as SELV according to IEC/UL/EN 60950-1.
[2] For devices with retentivity

PC-based Automation
Embedded bundles/Software packages

SIMATIC IPC477D bundles

Technical specifications (continued)

	SIMATIC IPC477D
Graphics	
Display, resolution	• 12" screen diagonal with LED backlighting, resolution 1 280 x 800 pixels, WXGA (Wide XGA) • 15" screen diagonal with LED backlighting, resolution 1 280 x 800 pixels, WXGA (Wide XGA) • 19" screen diagonal with LED backlighting, resolution 1 366 x 768 pixels • 22" screen diagonal with LED backlighting, resolution 1 920 x 1 080 pixels
Touch controller	Analog-resistive or capacitive touch
Backlighting (MTBF)	LED
Half brightness life time, typical	Min. 50 000 h at 50 °C, 50% brightness
Graphics controller	• Intel HD 2000 or • Intel HD 4000
Graphics memory	• 32 … 512 MB shared memory
Resolutions, frequency, colors	• DVI-I: 640 x 480 … 1 920 x 1 200, 60 Hz • DP display port: 1 920 x 1 200, 60 Hz
Interfaces	
COM 1 and COM 2	RS 232, max. 115 kbps, 9-pin, sub D connector
DVI	Connection of VDUs with DVI connection
Display port (DPP)	Connection of VDUs with DPP connection
Keyboard	Connection via USB port
Mouse	Connection via USB port
USB	• Rear of device: 4 x USB 3.0, max. 2 high-current at the same time • Front of device (only with IPC477D with 15", 19" or 22" display): 1 x USB 2.0, high-current
PROFIBUS/MPI	9-pin, 2 rows, electrically isolated, sub D socket, compatible with CP 5622
• Transmission rate	9.6 Kbps … 12 Mbps
• Operating modes	DP master: DP-V0, DP-V1 with SOFTNET-DP DP slave: DP-V0, DP-V1 with SOFTNET-DP slave
PROFINET	3 x RJ45 interface, CP 1616 compatible onboard interface based on ERTEC 400 10/100 Mbps, electrically isolated
Ethernet [3]	• 2 x RJ45 connection, Intel 82579LM and Intel 82574L 10/100/1000 Mbps, electrically isolated, teaming-capable [4] or • For PROFINET versions: 1 x Ethernet
Slot for PCIe expansion cards	Only for device with expansions: 1 x PCIe-x4 expansion card can be used, max. permissible power loss: 5 W

	SIMATIC IPC477D
Degree of protection	
Degree of protection	• IP 20 to IEC 60529 (enclosure) • IP 65 (front)
Quality assurance	In accordance with ISO 9001
Electromagnetic compatibility	
Emitted interference S	EN 61000-6-4; CISPR 22 Class A; FCC Class A
Immunity with regard to conducted interference on the supply lines	• ± 2 kV to IEC 61000-4-4; burst • ± 1 kV to IEC 61000-4-5; surge symmetrical • ± 2 kV to IEC 61000-4-5; surge asymmetrical
Noise immunity on signal lines	• ± 2 kV to IEC 61000-4-4; burst, length > 3 m • ± 1 kV to IEC 61000-4-4; burst, length < 3 m • ± 2 kV to IEC 61000-4-5; symmetrical surge, length > 30 m
Immunity to static discharge	• ± 6 kV, contact discharge at the front to IEC 61000-4-2 • ± 4 kV contact discharge at the rear to IEC 61000-4-2 • ± 8 kV air discharge to IEC 61000-4-2
Immunity to high radio frequency interference	• 10 V/m, 80 … 1000 MHz 80% AM to IEC 61000-4-3 • 1 V/m, 2 … 2.7 GHz • 3 V/m, 2 … 2.7 GHz • 10 V, 10 kHz … 80 MHz to IEC 61000-4-6
Immunity to magnetic fields	• 100 A/m, 50/60 Hz to IEC 61000-4-8

Weight

• IPC477D, touch device, 12" display	approx. 3 200 g
• IPC477D, touch device, 15" display	approx. 4 920 g
• IPC477D, touch/key device (without expansions), 15" display	approx. 5 750 g
• IPC477D, touch device, 19" display	approx. 6 400 g
• IPC477D, touch device, 22" display	approx. 7 000 g

[1] The generation of the supply voltage by the line-side power supply must be realized as safety extra-low voltage with safe electrical isolation, isolated according to IEC 60364 4 41, or as SELV according to IEC/UL/EN 60950-1.

[2] For devices with retentivity

[3] For unambiguous labeling, the Ethernet ports are numbered on the enclosure. The numbering by the operating system can differ.

[4] Teaming can be set and initiated in the configuration interface. In teaming operation, jumbo frames, e.g. for the camera application, are not supported

Ordering data

SIMATIC IPC477D [1]	Article No. 6AV7240-■■■■■-■■■■
Processor and fieldbus:	
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN)	0
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	1
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN)	3
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	4
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	5
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN)	6
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	7
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	8
Operator control unit:	
• 12" Touch (1 280 x 800) (caution, restrictions regarding options: HDD, PCI, AC, DVD)	A
• 15" Touch (1 280 x 800) with front USB	B
• 15" Touch/Key (1 280 x 800) with front USB	C
• 19" Touch (1 366 x 768) with front USB	D
• 22" Touch (1 920 x 1 080) with front USB	E
• 15" Multi-Touch (1 366 x 768) without front USB	H
• 19" Multi-Touch (1 366 x 768) without front USB	K
• 22" Multi-Touch (1 920 x 1 080) without front USB	L

SIMATIC IPC477D [1]	Article No. 6AV7240-■■■■■-■■■■
Main memory/NVRAM	
• 1 GB	A
• 2 GB	B
• 4 GB	C
• 8 GB	D
• 1 GB and NVRAM	J
• 2 GB and NVRAM	K
• 4 GB and NVRAM	L
• 8 GB and NVRAM	M
Expansions/interface:	
• 1 x RS 232, without PCIe	0
• 1 x RS 232 and 1 x PCIe	1
• Second RS 232, without PCIe	3
• Second RS 232 and 1 x PCIe	4
Operating system:	
• Without operating system	0
• Windows Embedded Standard 7 Professional, 32-bit, MUI	3
• Windows Embedded Standard 7 SP1, English, 32-bit	4
• Windows Embedded Standard 7 SP1, English, 64-bit	5
• Windows 7 Ultimate SP1, 32-bit, MUI (Eng, Ger, Fr, It, Sp)	6
• Windows 7 Ultimate SP1, 64-bit, MUI (Eng, Ger, Fr, It, Sp)	7
Externally accessible mass storage (without operating system):	
• Without external mass storage	0
• CFAST 2 GB, without software	1
• CFAST 4 GB	2
• CFAST 8 GB	3
• CFAST 16 GB	4
• DVD	6

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

4

PC-based Automation
Embedded bundles/Software packages

SIMATIC IPC477D bundles

Ordering data	Article No.

SIMATIC IPC477D [1]   `6AV7240-` ◼◼◼◼◼ `-` ◼◼◼◼

Internal mass storage:
• Without internal mass storage	A
• CFAST 2 GB	B
• CFAST 4 GB	C
• CFAST 8 GB	D
• CFAST 16 GB	E
• SSD 80 GB Standard	H
• HDD 320 GB	K
• DVD	L
• SSD 80 GB standard with DVD	N
• SSD 160 GB standard without DVD	P
• HDD min. 320 GB with DVD	Q

SIMATIC software pre-installed (bundles):
• Without SIMATIC software	A
• WinAC RTX 2010 [2]	B
• WinCC RT Advanced 128 PT	C
• WinCC RT Advanced 512 PT	D
• WinCC RT Advanced 2 048 PT	E
• WinCC RT Advanced 4 096 PT	F
• WinCC RT Advanced 128 PT, WinAC RTX [2]	J
• WinCC RT Advanced 512 PT, WinAC RTX [2]	K
• WinCC RT Advanced 2 048 PT, WinAC RTX [2]	L
• WinCC RT Advanced 4 096 PT, WinAC RTX [2]	M
• WinAC RTX 2010 F [2]	N
• WinCC RT Advanced 128 PT, WinAC RTX F [2]	P
• WinCC RT Advanced 512 PT, WinAC RTX F [2]	Q
• WinCC RT Advanced 2 048 PT, WinAC RTX F [2]	R
• WinCC RT Advanced 4 096 PT, WinAC RTX F [2]	S
• WinCC RT Professional Client/ single-user station 128 PT	Y

Ordering data	Article No.

SIMATIC IPC477D [1]   `6AV7240-` ◼◼◼◼◼ `-` ◼◼◼◼

Power supply:
• 24 V DC industrial power supply	0
• 110/230 V AC industrial power supply with NAMUR; no power cable	1
• 110/230 V AC industrial power supply with NAMUR; European power cable	2
• 110/230 V AC industrial power supply with NAMUR; US power cable	3
• 110/230 V AC industrial power supply with NAMUR; Chinese power cable	4
• 110/230 V AC industrial power supply with NAMUR; Italian power cable	5
• 110/230 V AC industrial power supply with NAMUR; Swiss power cable	6
• 110/230 V AC industrial power supply with NAMUR; UK power cable	7
• 24 V DC industrial power supply and TPM (not for China and Russia)	8

[1] Built to order versions with a delivery time of max. 15 working days and with identified repair.

[2] Only with main memory and NVRAM.

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

Overview

SIMATIC IPC family

Software packages with SIMATIC IPC

Software packages with WinCC or WinAC together with the corresponding SIMATIC IPC.

The following are available:

• SIMATIC IPC Packages with WinCC
• SIMATIC IPC Packages with WinCC RT Advanced (TIA Portal)
• SIMATIC IPC Packages with WinCC RT Professional (TIA Portal)
• SIMATIC IPC Packages with WinAC RTX (F)

A software package can only be supplied if the same number of SIMATIC industrial PCs is ordered together with the software. It cannot be ordered subsequently.

Ordering data   Article No.

	Article No.	
SIMATIC WinCC Package [1)2)]	6AV6382- 2 ■	A 0 7 - 4 A X 0
WinCC V7.4 Runtime [1)2)]		
• 128 PowerTags		C
• 256 PowerTags		D
• 1 024 PowerTags		E
• 8 192 PowerTags		H
• 65 536 PowerTags		F
SIMATIC WinCC Package [1)2)]	6AV6382- 2 ■	A 0 7 - 3 A X 0
WinCC V7.3 Runtime [1)2)]		
• 128 PowerTags		C
• 256 PowerTags		D
• 1 024 PowerTags		E
• 8 192 PowerTags		H
• 65 536 PowerTags		F
SIMATIC WinCC Package [1)2)]	6AV6382- 2 ■	A 0 7 - 2 A X 0
WinCC V7.2 Runtime [1)2)]		
• 128 PowerTags		C
• 512 PowerTags		D
• 2 048 PowerTags		E
• 8 192 PowerTags		H
• 65 536 PowerTags		F

[1)] Only if ordered together with a SIMATIC IPC
[2)] Not with IPC227D / IPC277D

Ordering data   Article No.

SIMATIC WinCC (TIA Portal)

	Article No.	
WinCC Runtime Advanced Package V13 SP1 [1) 2) 3)]	6AV2114- 2 ■	A 0 3 - 0 A A 0
incl. Recipes + Logging		
• 128 PowerTags		B
• 512 PowerTags		D
• 2 048 PowerTags		F
• 4 096 PowerTags		H
• 8 192 PowerTags		K
SIMATIC WinCC Runtime Professional Package V13 SP1 [2) 3)]	6AV2115- 2 ■	A 0 3 - 0 A A 0
• 128 PowerTags		B
• 512 PowerTags		D
• 2 048 PowerTags		F
• 4 096 PowerTags		H
• 8 192 PowerTags		K
• 65 536 PowerTags		M
SIMATIC WinCC Runtime Professional Package V12 SP1 [2)]	6AV2115- 2 ■	A 0 0 - 0 A A 0
• 128 PowerTags		B
• 512 PowerTags		D
• 2048 PowerTags		F
• 4096 PowerTags		H
• 8192 PowerTags		K
• 65536 PowerTags		M

[1)] Only if ordered together with a SIMATIC IPC, SIMATIC Panel PC Ex
[2)] Only if ordered together with a SIMATIC IPC
[3)] The current version will always be supplied

SIMATIC WinAC RTX (F) Package	
• SIMATIC WinAC RTX [1) 2) 3) 4)]	**6ES7671-0RC08-6YA0**
• SIMATIC WinAC RTX F [1) 2) 3) 4)]	**6ES7671-1RC08-6YA0**

[1)] Only if ordered together with a SIMATIC IPC
[2)] The current version will always be supplied
[3)] For 32-bit operating systems only
[4)] Not for Rack IPC347D

Note:

Please use the TIA Selection Tool or the configurator in the Industry Mall in order to ensure availability of the required IPC configuration; we do not accept any liability for self-customized configurations.

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

4

PC-based Automation
SITOP power supplies

SITOP smart

Overview

The powerful standard power supply

The one-phase and 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 the 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 as well as 12 V/7 A and 14 A
- 3-phase, 24 V DC/5 A, 10 A, 20 A and 40 A
- 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 (24 V versions)
- High degree of efficiency up to 91.5%
- Adjustable output voltage for compensating voltage drops
- Signaling contact for easy integration in the plant monitoring system
- Wide temperature range from -25 or -10 to +70 °C
- Comprehensive certifications, such as cULus, cCSAus, ATEX, IECEx and GL

More information

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

http://www.siemens.com/sitop-selection-tool

■ **Overview**

The one-phase SITOP smart are the universal and powerful standard power supplies for machinery and plant engineering. Despite their compact design, they offer an excellent overload response: Thanks to a power boost of 150%, loads with high power consumption can be connected without any problems. The high degree of efficiency results in low energy consumption and minimal heat generation inside the control cabinet.

Main product highlights

• 1-phase, 12 V DC/7 A and 14 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

• Adjustable output voltage for compensating voltage drops

• Signaling contact for easy integration in the plant monitoring system

• Wide temperature range from -25 to +70 °C

• Comprehensive certifications, such as cULus, cCSAus, ATEX, IECEx and GL

■ **Ordering data**

	Article No.
SITOP PSU100S 1-phase, 12 V DC/7 A	
Stabilized power supply Input: 120/230 V AC Output: 12 V DC/7 A	**6EP1322-2BA00**
SITOP PSU100S 1-phase, 12 V DC/14 A	
Stabilized power supply Input: 120/230 V AC Output: 12 V DC/14 A	**6EP1323-2BA00**

■ **More information**

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

http://www.siemens.com/sitop-selection-tool

PC-based Automation
SITOP power supplies
SITOP smart

1-phase, 24 V DC

■ Overview

The one-phase SITOP smart are the universal and powerful standard power supplies for machinery and plant engineering. Despite their compact design, they offer an excellent overload response: Thanks to a power boost of 150%, loads with high power consumption can be connected without any problems and the permanent overload capability of 120% offers power reserves in case of expansions. The high degree of efficiency results in low energy consumption and minimal heat generation inside the control cabinet.

To further increase 24 V availability, the SITOP smart power supplies can be combined with **buffer**, *DC UPS*, *redundancy* and *selectivity modules*.

Main product highlights

- 1-phase, 24 V DC/2.5 A, 5 A, 10 A and 20 A
- Input voltage 120 V and 230 V AC with automatic range switching
- Compact design – no lateral clearances required
- Extra power with 1.5 times the rated current (5 s/min) for brief functional overload
- Permanent overload capability with 1.2 times the rated current up to 45 °C ambient temperature
- Adjustable output voltage for compensating voltage drops
- Signaling contact for easy integration in the plant monitoring system
- Wide temperature range from -25 or 0 to +70 °C
- Comprehensive certifications, such as cULus, cCSAus, ATEX, IECEx and GL

■ Ordering data

	Article No.
SITOP PSU100S 1-phase, 24 V DC/2.5 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/2.5 A	**6EP1332-2BA20**
SITOP PSU100S 1-phase, 24 V DC/5 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/5 A	**6EP1333-2BA20**
SITOP PSU100S 1-phase, 24 V DC/10 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC / 10 A	**6EP1334-2BA20**
SITOP PSU100S 1-phase, 24 V DC/20 A Stabilized power supply Input: 120/230 V AC Output: 24 V DC/20 A	**6EP1336-2BA10**

■ More information

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

http://www.siemens.com/sitop-selection-tool

■ Overview

The three-phase SITOP smart are the universal and powerful standard power supplies for machinery and plant engineering. Despite their compact design, they offer an excellent overload response: Thanks to a power boost of 150%, loads with high power consumption can be connected without any problems and the permanent overload capability of 120% offers power reserves in case of expansions. The high degree of efficiency results in low energy consumption and minimal heat generation inside the control cabinet.

To further increase 24 V availability, the SITOP smart power supplies can be combined with *buffer*, *DC UPS*, *redundancy* and *selectivity modules*.

Main product highlights

- 3-phase, 24 V DC/5 A, 10 A, 20 A and 40 A
- Wide-range input from 340 to 550 V AC for global use
- Compact design – no lateral clearances required
- Extra power with 1.5 times the rated current (5 s/min) for brief functional overload
- Permanent overload capability with 1.2 times the rated current up to 45 °C ambient temperature
- Adjustable output voltage for compensating voltage drops
- Signaling contact for easy integration in the plant monitoring system
- Wide temperature range from -25 or 0 to +70 °C
- Comprehensive certifications, such as cULus, cCSAus, ATEX, IECEx and GL

■ Ordering data

	Article No.
SITOP PSU300S 3-phase, 24 V DC/5 A Stabilized power supply Input: 400 … 500 V 3 AC Output: 24 V DC/5 A	**6EP1433-2BA20**
SITOP PSU300S 3-phase, 24 V DC/10 A Stabilized power supply Input: 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 SITOP Selection Tool:

http://www.siemens.com/sitop-selection-tool

4

PC-based Automation
SITOP DC UPS uninterruptible power supplies

SITOP DC UPS

▮ Overview

SITOP offers a comprehensive portfolio to protect against power failures with durations from a few seconds to several hours, ranging from buffer modules to system-integrated DC UPS units. Selection is based on the energy storage unit used, the associated ambient conditions, performance and functionality.

The selection matrix should help you to find the right 24 V buffering for your application:

SITOP modules for 24 V buffering	Buffer module [1]	UPS500	UPS1600	DC UPS
Energy storage units				
24 V buffering up to	10 s	Minutes	Hours	Hours
Storage medium	Electrolytic capacitors	Double-layer capacitors	Lead-gel batteries, rechargeable lithium iron phosphate batteries	Lead-gel batteries
Lifetime dependent on temperature. The specified time refers to a fall to 50% of the original capacity in the case of lead batteries and 80% in the case of capacitors.	0 … +50 °C: > 8 years	0 … +50 °C: > 8 years	+20 … +40 °C: 4 ... 1 years (high-temperature rechargeable battery: +20 …+60 °C: > 10 ... 1 years)	+20 … +40 °C: 4 ... 1 years (high-temperature rechargeable battery: +20 … +60 °C: > 10 ... 1 years)
Temperature range	0 … +60 °C	0 … +60 °C	0 … +40 °C (high-temperature rechargeable battery: -40°…+60°C)	0 … +40 °C (high-temperature rechargeable battery: -40°…+60°C)
Ventilation required	-	-	●	●
Degree of protection	IP20	IP20/ IP65 (UPS500P)	IP00	IP00
UPS module/electronics				
Degree of protection	IP20	IP20/ IP65 (UPS500P)	IP20	IP20
Max. rated output current	40 A	15 A	40 A	40 A
Max. dynamic overload current	40 A (200 ms)	25 A (200 ms)	120 A (30 ms) / 60 A (5 s/ min)	56 A (80 ms)
Interfaces	-	I/O, USB	I/O, USB, Ethernet/ PROFINET	I/O, serial, USB
Information about operation and diagnostics via				
• Signaling contact	-	●	●	●
• OPC servers	-	●	●	●
• Web server	-	-	●	-
• S7 function blocks	-	-	●	-
• WinCC faceplate	-	-	●	-
Shutdown of multiple PCs/ PLCs	-	-	●	-
Starting from the battery, without supply voltage (stand-alone mode)	-	-	●	-
Engineering via				
• Software tool (PC)	-	●	●	●
• TIA Portal	-	-	●	-

[1] for SITOP smart and SITOP modular power supply units

▮ More information

The SITOP Selection Tool offers detailed selection guidance according to criteria such as the required backup time, nominal current or peak current:
http://www.siemens.com/sitop-selection-tool

4

Overview

SITOP 24V power supplies can be expanded with a
SITOP UPS500 uninterruptible DC power supply (DC UPS) for
bridging short-term power failures in the order of minutes. For
PC-based automation solutions, the high-capacity double-layer
capacitors of the SITOP UPS500 supply enough energy to back
up the operation and application data and to shut down software
applications in a defined manner. You can increase the buffer
times using SITOP PSU501S expansion modules (up to 3).

The IP65 version SITOP UPS500P in long metal housing is
ideally suited to distributed use.

Ordering data

	Article No.
SITOP UPS500S	
DC UPS basic device 15 A	
• with USB interface and 2.5 kW	**6EP1933-2EC41**
• with USB interface and 5 kW	**6EP1933-2EC51**
SITOP UPS501S	
Expansion module 5 kW for UPS500S	**6EP1935-5PG01**
SITOP UPS500P	
DC UPS basic device 7 A	
• with USB interface and 5 kW	**6EP1933-2NC01**
• with USB interface and 10 kW	**6EP1933-2NC11**

More information

The SITOP Selection Tool offers detailed selection guidance
according to criteria such as the required backup time, nominal
current or peak current. Available at:
http://www.siemens.com/sitop-selection-tool

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PC-based Automation
DC UPS with battery modules

Introduction, SITOP UPS1600 DC UPS modules

Overview

SITOP 24V power supplies can be expanded with an uninterruptible DC power supply (DC UPS) with battery modules for bridging power failures in the order of hours. They prevent expensive downtimes and undefined plant states. In addition, the innovative SITOP UPS1600 offer new options for diagnostics and system integration. The SITOP UPS1600 offers comprehensive functions, open communication via USB or Ethernet/Profinet and is fully integrated in Totally Integrated Automation (TIA).

Overview SITOP UPS1600 DC UPS modules

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 UPS Manager supports easy monitoring and configuration in PC systems, e.g. shutdown of several PCs in accordance with the master-slave principle. The integrated web server supports remote monitoring of the DC UPS.

Ordering data	Article No.
SITOP UPS1600 24 V/ 10 A	**6EP4134-3AB00-0AY0**
• With USB interface	**6EP4134-3AB00-1AY0**
• With 2 Ethernet/ PROFINET interfaces	**6EP4134-3AB00-2AY0**
SITOP UPS1600, 24 V/ 20 A	**6EP4136-3AB00-0AY0**
• With USB interface	**6EP4136-3AB00-1AY0**
• With 2 Ethernet/ PROFINET interfaces	**6EP4136-3AB00-2AY0**
SITOP UPS1600 24 V/ 40 A	**6EP4137-3AB00-0AY0**
• With USB interface	**6EP4137-3AB00-1AY0**
• With 2 Ethernet/ PROFINET interfaces	**6EP4137-3AB00-2AY0**

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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) via the energy storage link of the connected battery modules. For longer buffer times, up to six battery modules can be connected in parallel. Mounting onto standard mounting rail or directly to the wall.

Ordering data

	Article No.
SITOP UPS 1100 battery module 1.2 Ah With maintenance-free, sealed lead-acid rechargeable batteries for DC UPS module SITOP UPS1600, 10 A	6EP4131-0GB00-0AY0
SITOP UPS 1100 battery module 3.2 Ah With maintenance-free, sealed lead-acid rechargeable batteries for DC UPS module SITOP UPS1600, 10 A and 20 A	6EP4133-0GB00-0AY0
SITOP UPS 1100 battery module 5 Ah, LiFePo With maintenance-free, sealed rechargeable lithium iron phosphate batteries for DC UPS module SITOP UPS1600, 10 A and 20 A	6EP4133-0JB00-0AY0
SITOP UPS 1100 battery module 7 Ah With maintenance-free, sealed rechargeable lead-acid batteries for DC UPS module SITOP UPS1600, 10 A, 20 A and 40 A	6EP4134-0GB00-0AY0
SITOP UPS 1100 battery module 12 Ah with maintenance-free, sealed rechargeable lead-acid batteries for DC UPS module SITOP UPS1600, 20 A and 40 A	6EP4135-0GB00-0AY0
SITOP UPS 1100 battery module 2.5 Ah, high temperature With maintenance-free, sealed rechargeable pure lead batteries for DC UPS module SITOP UPS1600, 10 A and 20 A	6EP4132-0GB00-0AY0

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PC-based Automation
DC UPS with battery modules

SITOP DC UPS

Overview

By combining a DC UPS module with at least one 24 V battery module and a SITOP power supply unit, longer power failures can be bridged without any interruption. Even if a greater buffering current is required, the DC UPS with maintenance-free lead battery provides optimum safety. It spans power failures up to several hours long and delivers up to 40 A.

Ordering data

	Article No.
DC UPS module 6 A	6EP1931-2DC21
• With serial interface	6EP1931-2DC31
• With USB interface	6EP1931-2DC42
DC UPS module 15 A	6EP1931-2EC21
• With serial interface	6EP1931-2EC31
• With USB interface	6EP1931-2EC42
DC UPS module 40 A	6EP1931-2FC21
• With USB interface	6EP1931-2FC42

■ **Overview**

Maintenance-free battery modules with 1.2 Ah up to 12 Ah (lead-gel accumulator) for ambient temperatures from 0 to +40 °C as well as high-temperature battery module with 2.5 Ah (pure-lead accumulator) for ambient temperatures of –40 °C to +60 °C. The battery modules are completely prewired with battery retainer and terminals. For longer buffer times, the battery modules can be connected in parallel. Mounting onto standard mounting rail or directly to the wall.

■ **Ordering data**

	Article No.
Battery module 1.2 Ah for DC UPS module 6 A	**6EP1935-6MC01**
Battery module 2.5 Ah for DC UPS modules 6 A and 15 A	**6EP1935-6MD31**
Battery module 3.2 Ah for DC UPS modules 6 A and 15 A	**6EP1935-6MD11**
Battery module 7 Ah for DC UPS modules 6 A, 15 A and 40 A	**6EP1935-6ME21**
Battery module 12 Ah for DC UPS modules 6 A, 15 A and 40 A	**6EP1935-6MF01**

PC-based Automation
Communication
Industrial Ethernet

Connection options to SIMATIC IPCs

■ Overview

The operating systems listed in the table refer exclusively to the communication products specified! Please refer to the description of the relevant IPC for the operating system that is available and has been released for that IPC.

Communication hardware	Communication software	Operating system environment of the communication software								SIMATIC Industrial PC / Field PG									Embedded Systems – Operation system		Embedded Systems – SIMATIC Industrial PC	
		Windows 7 Professional / Ultimate SP1	Windows 8.1 Pro / Enterprise	Windows Server 2008 R2 SP1	Windows Server 2012 R2	Windows Server 2008 + SP1/2	Windows XP Pro + SP3	Windows Server 2003 R2 / SP2	other operating systems	Field PG M4	SIMATIC IPC227D + IPC 277D	SIMATIC IPC427D + IPC 477D	SIMATIC IPC547E	SIMATIC IPC627D	SIMATIC IPC647D	SIMATIC HMI IPC677D	SIMATIC IPC827D	SIMATIC IPC847D	Windows Embedded Standard 2009	Windows Embedded Standard 7 + SP1	SIMATIC IPC427D + 477D + IPC 227D/277D	SIMATIC S7 modular Embedded Controller
CPs and software for Industrial Ethernet																						
CP 1613 A2 (PCI 32 Bit)	HARDNET-IE S7	●	●	●	●	●	●	●			●			●	●	●	●	●	●			
	HARDNET-IE S7 REDCONNECT [1]	●	●	●	●	●	●	●			●	○[4][5]		●		○[4][5]	●	●	●			
	S7 OPC Redundancy for Industrial Ethernet			●										●	●		●	●				
CP 1623 (PCIe x1)	HARDNET-IE S7	●	●	●	●	●	●	●			○[5]	●	○[5]	●	○[5]	●	●	●			●	
	HARDNET-IE S7 REDCONNECT [1]	●	●	●	●	●	●	●			○[4][5]	○[4][5]		●	○[4][5]	●	○[5]				○[4][5]	
	S7 OPC Redundancy for Industrial Ethernet			●										●		●		●				
CP 1628 (PCIe x1)	HARDNET-IE S7	●	●	●	●						○[5]	●	○[5]	●	○[5]	●	●	●			●	
	HARDNET-IE S7 REDCONNECT [1]	●	●	●	●						○[4][5]	○[4][5]		●	○[4][5]	●	○[5]				○[4][5]	
	S7 OPC Redundancy for Industrial Ethernet			●										●		●		●				
CP 1612 A2 (PCI 32 Bit)	SOFTNET-IE S7	●		●		●	●	●			●			●	●	●	●	●	●			
	SOFTNET-IE S7 Lean	●		●		●	●	●			●			●	●	●	●	●	●			
	SOFTNET-IE PG	●		●		●	●	●			●			●	●	●	●	●	●			
	S7 OPC Redundancy for Industrial Ethernet			●										●	●		●					
SIMATIC PG/PC with integral Ethernet interface	SOFTNET-IE S7	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●
	SOFTNET-IE S7 Lean	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●
	SOFTNET-IE PG	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●
	S7 OPC Redundancy for Industrial Ethernet			●										●	●		●					
CPs and software for PROFINET																						
CP 1616 [1] (PCI 32 Bit)	DK-16xx PNIO	●	●			●			○[8]		○[6][7]	○		○[6]	○[6]	○	○[6]	○[6]	○			
CP 1604 [1] (PCI-104)	DK-16xx PNIO	●	●			●			○[8]										○			
SIMATIC PG/PC with integral Ethernet interface	SOFTNET PN IO	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●
	Support package SIMATIC IPC for VxWorks								●			●		●	●		●	●				

1) and integrated CP1616-compatible onboard 3-port PROFINET interface
2) possible with restrictions, if necessary, depending on memory expansion and processor capacity
3) requires at least 2 PCI or 2 PCIe slots for redundant connection (4-way redundancy requires 4 free PCI or 4 PCIe slots!); hybrid configurations with CP 1613 A2 (PCI) and CP 1623 (PCIe) are possible, depending on PC expansion
4) without 4-way redundancy as there are only 2 slots
5) Observe restrictions for some PC versions: Number of slots and tolerable maximum heat loss/power consumption per slot and in total
6) integrated CP1616-compatible onboard 3-port PROFINET interface is optional
7) only with integrated interface
8) Portioning DL-16xx PNIO

Notes
- Please always note the supplementary conditions for the specified SIMATIC NET products that you can view on the Internet pages shown below.
- for further details on XP embedded, see http://support.automation.siemens.com/WW/view/en/21661049
- further details on system requirements and operating environments can be found in the Readme file of the communication products on the SIMATIC NET PC Software DVD
- Updates and supplements to the catalog entries, as well as the above tables can be viewed at http://www.siemens.com/simatic-net/ik-info

● suitable
  not suitable
○ suitable under certain conditions

G_IK10_XX_10225

Connection options of Industrial Ethernet CPs to PG/PC/IPC

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 PROFIenergy functionality
- High performance through direct memory access
- Integration in network management systems through the support of SNMP
- Comprehensive diagnostics possibilities for installation, start-up and operation of the module
- Powerful configuration tools are included in delivery of 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 German/English	
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	
Development Kit DK-16xx PN IO	See https://support.industry.siemens.com/cs/ww/en/view/109480928
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	6XV1870-3QE50
• 1 m	6XV1870-3QH10
• 2 m	6XV1870-3QH20
• 6 m	6XV1870-3QH60
• 10 m	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 at:
https://support.industry.siemens.com/cs/ww/en/view/109480928

PC-based Automation
Communication
Industrial Ethernet

CP 1616

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

	Article No.
CP 1616 communications processor	**6GK1161-6AA02**
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; German/English	
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	**6XV1870-3QE50**
• 1 m	**6XV1870-3QH10**
• 2 m	**6XV1870-3QH20**
• 6 m	**6XV1870-3QH60**
• 10 m	**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 at:
http://www.siemens.com/simatic-net/dk16xx

Overview

ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●	●	●		●	●	●	●

- PCI card (32 bit; 33 MHz/66 MHz; 3.3 V/5 V universal key) for the connection of PG/PC to Industrial Ethernet
- 1 x 10/100/1000 Mbps RJ45 port, electrical
- Automatic data transmission rate detection (10/100/1000 Mbps), with autosensing and autocrossover function
- Communication services via
  - PROFINET
  - ISO or TCP/IP transport protocol
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
- Designed for use in industrial environments
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communication software

Ordering data

	Article No.
CP 1612 A2 **communications processor** PCI card (32-bit, 33 MHz/66 MHz; 3.3 V/5 V universal keyed) for connection to Industrial Ethernet (10/100/1000 Mbps) with RJ45 interface, incl. driver for 32-bit Windows XP Professional SP2/3, 32/64-bit Windows 7, 2003 R2 Server SP2, Vista Business/Ultimate SP1, Windows 2008 Server; German/English	**6GK1161-2AA01**
Accessories	
IE TP Cord RJ45/RJ45 TP cable 4 x 2 with 2 RJ45 connectors	
• 0.5 m	**6XV1870-3QE50**
• 1 m	**6XV1870-3QH10**
• 2 m	**6XV1870-3QH20**
• 6 m	**6XV1870-3QH60**
• 10 m	**6XV1870-3QN10**

Note:

You can find order information for software under System connections – software overview

PC-based Automation
Communication
Industrial Ethernet

CP 1613 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) with microprocessor for connection of PG/PC to Industrial Ethernet with 10/100 Mbps Autosensing/Autonegotiation
- Communication services using
  - Open IE communication via TCP/IP and UDP)
  - ISO transport protocol
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
- 15-pole ITP connection
- RJ45 connection
- Time synchronization
- ISO and TCP/IP transport protocol onboard
- SNMP-supported diagnostics
- The appropriate OPC server and configuration tools are included in the respective scope of supply of the communication software

■ Ordering data

	Article No.
CP 1613 A2 communications processor	**6GK1161-3AA01**
PCI card (32-bit, 33 MHz/66 MHz; 3.3 V/5 V universal keyed) for connection to Industrial Ethernet (10/100 Mbps) with ITP and RJ45 connection over HARDNET-IE S7/S7-1613 and S7-REDCONNECT, for operating system support see SIMATIC NET software	
Accessories	
IE TP Cord RJ45/RJ45	
TP cable 4 x 2 with 2 RJ45 connectors	
• 0.5 m	**6XV1870-3QE50**
• 1 m	**6XV1870-3QH10**
• 2 m	**6XV1870-3QH20**
• 6 m	**6XV1870-3QH60**
• 10 m	**6XV1870-3QN10**

Note:

You can find order information for software under System connections – software overview

Overview

ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●	●			●	●	●	●

- PCI Express Card (PCIe x1) with an internal microprocessor for connection of PG/PC to Industrial Ethernet
- 10/100/1000 Mbps (Autosensing/Autocrossover/Autonegotiation)
- Integrated 2-port switch (2 x RJ45 connection)
- Communications 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	**6GK1162-3AA00**
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	
Accessories	
IE TP Cord RJ45/RJ45	
TP cable 4 x 2 with 2 RJ45 connectors	
• 0.5 m	**6XV1870-3QE50**
• 1 m	**6XV1870-3QH10**
• 2 m	**6XV1870-3QH20**
• 6 m	**6XV1870-3QH60**
• 10 m	**6XV1870-3QN10**

Note:

You can find order information for software under System connections – software overview

PC-based Automation
Communication
Industrial Ethernet

CP 1628

■ Overview

ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●	●			●	●	●	●

G_IK10_XX_10169

- PCI Express card (PCIe x1) with its own microprocessor and integrated 2-port switch (2 x RJ45 connection, 10/100/1000 Mbps) for the connection of a PG/PC to Industrial Ethernet
- Integrated security mechanisms (e.g. Firewall, VPN)
- ISO and TCP/IP transport protocol on board
- Communications 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	**6GK1162-8AA00**
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	
Accessories	
IE TP Cord RJ45/RJ45	
TP cable 4 x 2 with 2 RJ45 connectors	
• 0.5 m	**6XV1870-3QE50**
• 1 m	**6XV1870-3QH10**
• 2 m	**6XV1870-3QH20**
• 6 m	**6XV1870-3QH60**
• 10 m	**6XV1870-3QN10**

Note:

You can find order information for software under System connections – software overview

■ More information

You will find more information on the topic of Industrial Security on the Internet at:
http://www.siemens.com/industrialsecurity

4

■ **Overview**

- For connecting PCs over redundant Industrial Ethernet to the SIMATIC S7-400H
- Protected from communication failures arising from a fault in the double bus or in redundant rings
- For redundant Layer 2 or Layer 3 Industrial Ethernet
- Can also be implemented in non-redundant networks
- No additional programming overhead for the PC and in H systems
- The appropriate OPC server and configuration tools are included in the scope of supply of the respective communication software
- Enhanced redundancy over 4-way communication (STEP 7 V5.1 + SP4 and higher)

System configuration for S7-REDCONNECT

ISO	TCP/ UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●				●	●	●	

4

PC-based Automation
Communication
Industrial Ethernet

HARDNET-IE S7-REDCONNECT

Ordering data	Article No.		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 V13** for 32/64-bit: Windows 7 SP1 Professional/Ultimate; For 64-bit: Windows 8.1 Pro; For 64-bit: Windows Server 2008 R2 SP1; For 64-bit: Windows Server 2012 R2; German/English; single license for one installation • On DVD • Download [1]	 6GK1716-0HB13-0AA0 6GK1716-0HB13-0AK0	**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 Power Pack V13** For 32/64-bit: Windows 7 SP1 Professional/Ultimate; For 64-bit: Windows 8.1 Pro; For 64-bit: Windows Server 2008 R2 SP1; For 64-bit: Windows Server 2012 R2; German/English • On DVD • Download [1]	 6GK1716-0HB13-0AC0 6GK1716-0HB13-0AK1
Software Update Service For one year with automatic extension; requirement: current software version	6GK1716-0HB00-3AL0	**CP 1613 A2 communications processor** PCI card (32-bit, 33 MHz/66 MHz; 3.3 V/5 V universal keyed) for connection to Industrial Ethernet (10/100 Mbps) with ITP and RJ45 connection over HARDNET-IE S7 and S7-REDCONNECT, for operating system support see SIMATIC NET software	6GK1161-3AA01
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 *For CP 1613 A2, CP 1623, CP 1628*	6GK1716-0HB00-3AE0 6GK1716-0HB00-3AE1	**CP 1623 communications processor** PCI Express x1 card for connection to Industrial Ethernet (10/100/1000 Mbps), with 2-port switch (RJ45) via HARDNET-IE S7 and S7-REDCONNECT. For operating system support, see SIMATIC NET software	6GK1162-3AA00
		CP 1628 communications processor PCI Express x1 card for connection to Industrial Ethernet (10/100/1 000 Mbps), with 2-port switch (RJ45) and integrated security (firewall, VPN) via HARDNET-IE S7 and S7-REDCONNECT. For operating system support, see SIMATIC NET software	6GK1162-8AA00

[1] For more details of online software delivery, visit: http://www.siemens.de/tia-online-software-delivery under Ordering Data.

■ Overview

System configuration SOFTNET for Industrial Ethernet

ISO	TCP/UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
●	●			●	●	●	

- Software for coupling programming devices/workstations to automation systems
- Communication services:
  - PG/OP communication
  - S7 communication
  - Open communication (SEND/RECEIVE)
- Can be used with
  - Layer 2 Ethernet card (PCI/PCIe), e.g. CP 1612 A2
  - Integrated Industrial Ethernet interface
  - Modem/ISDN (Remote Access Service RAS)
- Complete protocol stack as a software package
- Increased availability thanks to additional option packages such as OPC Server Redundancy

PC-based Automation
Communication
Industrial Ethernet

SOFTNET for Industrial Ethernet

Ordering data   Article No.   Article No.

4

	Article No.		Article No.
SOFTNET S7 for Industrial Ethernet Software for S7 and open communication, incl. OPC server, PG/OP communication, and NCM PC/STEP 7 Professional V12, runtime software, software and electronic manual on CD-ROM, license key on a USB stick, Class A **SOFTNET-IE S7 V13** For 32/64-bit: Windows 7 SP1 Professional/Ultimate; For 64-bit: Windows 8.1 Pro; For 64-bit: Windows Server 2008 R2 SP1; For 64-bit: Windows Server 2012 R2; German/English Up to 64 connections; single license for one installation		**SOFTNET-IE S7 Lean Edition V13** For 32/64-bit: Windows 7 SP1 Professional/Ultimate; For 64-bit: Windows 8.1 Pro; For 64-bit: Windows Server 2008 R2 SP1; For 64-bit: Windows Server 2012 R2; Up to eight connections; German/English; Single license for one installation	
• On DVD • Download [1]	6GK1704-1CW13-0AA0 6GK1704-1CW13-0AK0	• On DVD • Download [1]	6GK1704-1LW13-0AA0 6GK1704-1LW13-0AK0
Software Update Service For 1 year with automatic extension; requirement: current software version	6GK1704-1CW00-3AL0	**Software Update Service** For 1 year with automatic extension; requirement: 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	6GK1704-1CW00-3AE0 6GK1704-1CW00-3AE1	**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
SOFTNET-IE S7 REDCONNECT VM V13 Software for fail-safe S7 communication via redundant networks, incl. S7 OPC server, runtime software, software and electronic manual on CD-ROM, license key on USB stick, Class A For 32/64-bit: Windows 7 SP1 Professional/Ultimate; For 64-bit: Windows 8.1 Pro; For 64-bit: Windows Server 2008 R2 SP1; For 64-bit: Windows Server 2012 R2; German/English		**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 stick, Class A **IE S7 OPC Redundancy V13** for 64-bit: Windows 2008 Server R2 SP1; German/English	
• Single license for one installation	6GK1704-0HB13-0AA0	• Single license for one installation	6GK1706-1CW13-0AA0

[1] For more details of online software delivery, visit:
http://www.siemens.de/tia-online-software-delivery
under Ordering Data.

Overview

PC with SOFTNET PN IO as PROFINET IO Controller

ISO	TCP/UDP	PN	MRP	OPC	PG/OP	S7/S5	IT
	●	●		●			

- Software with PROFINET IO Controller function for coupling PG/PC and IPC with PROFINET IO Devices
- Possible applications:
  - PC-based control systems
  - HMI systems
  - Test applications
- Communication services:
  - PROFINET IO Controller
- Can be used with
  - Layer 2 Ethernet card (PCI/PCIe), e.g. CP 1612 A2
  - Integral Industrial Ethernet interfaces of SIMATIC programming devices/PCs
- Cost-effective solution for the low-end performance range
- OPC server for I/O connection over PROFINET included in scope of delivery

PC-based Automation
Communication
Industrial Ethernet

SOFTNET PN IO

Ordering data	Article No.		Article No.

SOFTNET PN IO

Software for PROFINET IO Controller with OPC server and NCM PC / STEP7 Professional V12, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A

SOFTNET-IE PN IO V12

for 32/64-bit Windows 7 Professional/Ultimate
for Windows 2008 Server R2
for 32/64-bit Windows 8 Pro
for Windows Server 2012
German/English
• Single license for one installation **6GK1 704-1HW12-0AA0**

Software Update Service **6GK1704-1HW00-3AL0**

for 1 year with automatic extension
Requirement:
current software version

Upgrade
• from Edition 2006 to SOFTNET PN IO Edition 2008 or V12 **6GK1704-1HW00-3AE0**
• from V6.0, V6.1, V6.2 or V6.3 to SOFTNET PN IO Edition 2008 or V12 **6GK1704-1HW00-3AE1**

■ 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
- It permits 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

OPC server for Industrial Ethernet

Ordering data	Article No.
SNMP OPC server	See 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; German/English	
• Single license for one installation	**6GK1706-1CW13-0AA0**
Software Update Service	**6GK1706-1CW00-3AL0**
For 1 year with automatic extension; requirement: current software version	

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 the redundant configuration of OPC UA servers to SIMATIC S7. The availability of automation data to operator control and monitoring systems is guaranteed thanks to the redundant use of OPC UA servers. This requires neither additional cabling for synchronizing the redundant OPC UA servers, nor additional programming overhead in the PC. The OPC UA servers are synchronized via high-performance Industrial Ethernet network access points 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

	Article No.
S7 OPC Redundancy	
Software for redundant OPC servers in the environment of Industrial Ethernet software, S7 products, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A	
S7 OPC Redundancy V13 for Industrial Ethernet	
for 64-bit: Windows 2008 Server R2; German/English	
• Single license for one installation	**6GK1706-1CW13-0AA0**

4

PC-based Automation
Communication
Industrial Ethernet

SNMP OPC server

Overview

- Status monitoring of SNMP-capable devices in any OPC client systems; e.g. SIMATIC WinCC/PCS 7
- Easy access to SNMP-capable devices over the OPC interface
- Devices without SNMP agents can be monitored using the ping mechanism
- Configuration with STEP 7 (up to STEP 7 V5.5) or NCM PC
- Ready-to-use SNMP diagnostics profiles for Siemens devices, e.g. SCALANCE X/W
- Generation of any SNMP diagnostics profiles by means of the integral MIB compiler
- Easy setup of the monitored devices with the help of an Autodiscovery function

Ordering data

	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 V13** For 32/64 bit: Windows 7 SP1 Professional/Ultimate; For 64 bit: Windows 8.1 Pro; For 64 bit: Windows Server 2008 R2 SP1; For 64 bit: Windows Server 2012 R2; Single license for one installation	6GK1706-1NW13-0AA0
Software Update Service SNMP OPC server Basic 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	6GK1706-1NW00-3AE0
• From V6.0, V6.1, V6.2 or V6.3 to Edition 2008 or V13	6GK1706-1NW00-3AE1
SNMP OPC server Extended Administration of up to 200 IP addresses • **Extended V13** For 32/64-bit: Windows 7 SP1 Professional/Ultimate; For 64 bit: Windows 8.1 Pro; For 64 bit: Windows Server 2008 R2 SP1; For 64 bit: Windows Server 2012 R2; Single license for one installation	6GK1706-1NX13-0AA0
Software Update Service SNMP OPC server Extended 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	6GK1706-1NX00-3AE0
• From V6.0, V6.1, V6.2 or V6.3 to Edition 2008 or V13	6GK1706-1NX00-3AE1
SNMP OPC server Power Pack For upgrade from SNMP OPC server Basic to SNMP OPC server Extended **Power Pack V13**	6GK1706-1NW13-0AC0

Overview

The SINEMA Server software has been specially developed for industrial applications. It enables you to fully visualize and monitor networks. Using SNMP and simultaneous diagnostics via SIMATIC and PROFINET mechanisms, many aspects of plant diagnostics can be portrayed in a single tool. Captured data is stored in a long-term archive and can be evaluated and presented as required. The predefined network diagnosis can also be seamlessly integrated into HMI/SCADA systems (e.g. WinCC, PCS7) via OPC UA and Web mechanisms.

Main features:

Inventory: Inventorying of all network subscribers

Topology: Topological representation of the network

Monitoring: Read-out of status information

Diagnostics: Evaluation and presentation of diagnostic states

Reporting: Presentation of statistics for any time period

Validation: Validation of network parameters

Propagation: Forwarding of data to other systems

Management: Configuration of devices via CLI / firmware management

Ordering data

	Article No.
SINEMA Server V13 SP1 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) English/German/French/Chinese. Other languages possible on request.	
For 50 devices that can be identified via IP address	
• On DVD	6GK1781-1BA13-0AA0
• Download [1]	6GK1781-1BA13-0AK0
For 100 devices that can be identified via IP address	
• On DVD	6GK1781-1DA13-0AA0
• Download [1]	6GK1781-1DA13-0AK0
For 250 devices that can be identified via IP address	
• On DVD	6GK1781-1JA13-0AA0
• Download [1]	6GK1781-1JA13-0AK0
For 500 devices that can be identified via IP address	
• On DVD	6GK1781-1TA13-0AA0
• Download [1]	6GK1781-1TA13-0AK0
Upgrade SINEMA Server V12 to V13	
• On DVD	6GK1781-2AA13-0AA0
• Download [1]	6GK1781-2AA13-0AK0

[1] For more details of online software delivery, visit:
http://www.siemens.com/tia-online-software-delivery
under Ordering Data.

4

PC-based Automation
Communication
PROFIBUS

Connection options to SIMATIC PCs

■ Overview

Communication hardware	Communication software	Windows 7 Professional / Ultimate SP1	Windows 8.1 Pro / Enterprise	Windows Server 2008 R2 SP1	Windows Server 2012 R2	Windows Server 2008 + SP1/2	Windows XP Pro + SP3	Windows Server 2003 R2 / SP2	other operating systems	Field PG M4	SIMATIC IPC227D + IPC 277D	SIMATIC IPC427D + IPC 477D	SIMATIC IPC547E	SIMATIC IPC627D	SIMATIC IPC647D	SIMATIC HMI IPC677D	SIMATIC IPC827D	SIMATIC IPC847D	Windows Embedded Standard 2009	Windows Embedded Standard 7 + SP1	SIMATIC IPC427D + 477D + IPC 227D/277D	SIMATIC S7 modular Embedded Controller
		Operating system environment of the communication software								SIMATIC Industrial PC / Field PG									Embedded Systems – Operation system		SIMATIC Industrial PC [3]	
CPs and software for PROFIBUS																						
CP 5603 (PCI-104)	CP with DP-Base	●	●	●	●	●	●	●				●							●	●	●	
	HARDNET-PB DP DK [1]	○	○	○	○	○	○	○	○			○							○	○	○	○[5]
	HARDNET-PB DP	●	●	●	●	●	●					●							●	●	●	
	HARDNET-PB S7	●	●	●	●	●	●					●							●	●	●	
	S7 OPC Redundancy for PROFIBUS			●																		
CP 5613 A2, CP 5614 A2 (PCI 32 Bit)	CP with DP-Base	●	●	●	●	●	●	●			●			●	●	●	●	●				
	HARDNET-PB DP DK [1]	○	○	○	○	○	○	○	○		○			○	○	○	○	○	○	○		
	HARDNET-PB DP	●	●	●	●	●	●	●			●			●	●	●	●	●				
	HARDNET-PB S7	●	●	●	●	●	●	●			●			●	●	●	●	●				
	S7 OPC Redundancy for PROFIBUS			●										●		●		●				
CP 5613 A3, CP 5614 A3 (PCI 32 Bit)	CP with DP-Base	●	●	●	●									●	●	●	●	●				
	HARDNET-PB DP DK [1]	○	○	○	○	○	○	○	○					○	○	○	○	○	○	○		
	HARDNET-PB DP	●	●	●	●									●	●	●	●	●				
	HARDNET-PB S7	●	●	●	●									●	●	●	●	●				
	S7 OPC Redundancy for PROFIBUS			●										●		●		●				
CP 5623, CP 5624 (PCIe x1)	CP with DP-Base	●	●	●	●	●	●	●				○[4]		●		○[4]		●[4]	●			
	HARDNET-PB DP DK [1]	○	○	○	○	○	○	○	○			○		○		○[4]		○	○	○		
	HARDNET-PB DP	●	●	●	●	●	●	●				○[4]		●		○[4]		●[4]	●			
	HARDNET-PB S7	●	●	●	●	●	●	●				○[4]		●		○[4]		●[4]	●			
	S7 OPC Redundancy for PROFIBUS			●										●				●[4]	●			
CP 5612 (PCI 32 Bit)	SOFTNET-PB DP	●	●	●	●	●	●	●			●			●	●	●	●	●				
	SOFTNET-PB DP Slave	●	●	●	●	●	●	●			●			●	●	●	●	●				
	SOFTNET-PB S7	●	●	●	●	●	●	●			●			●	●	●	●	●				
	S7 OPC Redundancy for PROFIBUS			●										●		●		●				
CP 5622 (PCIe x1)	SOFTNET-PB DP	●	●	●	●	●	●	●		●		○[4]		●		○[4]		●[4]	●			
	SOFTNET-PB DP Slave	●	●	●	●	●	●	●		●		○[4]		●		○[4]		●[4]	●			
	SOFTNET-PB S7	●	●	●	●	●	●	●		●		○[4]		●		○[4]		●[4]	●			
	S7 OPC Redundancy for PROFIBUS			●										●				●[4]				
CP 5711 (USB V2.0)	SOFTNET-PB DP	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●
	SOFTNET-PB DP Slave	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●
	SOFTNET-PB S7	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●
	S7 OPC Redundancy for PROFIBUS			●						●				●		●		●				●
SIMATIC PG/PC	SOFTNET-PB DP	●	●	●	●	●	●	●		●		○[2]		○[2]	○[2]	○[2]	○[2]	○[2]	●	●	○[2]	
	SOFTNET-PB DP Slave	●	●	●	●	●	●	●		●		○[2]		○[2]	○[2]	○[2]	○[2]	○[2]	●	●	○[2]	
	SOFTNET-PB S7	●	●	●	●	●	●	●				○[2]		○[2]	○[2]	○[2]	○[2]	○[2]	●	●	○[2]	
	S7 OPC Redundancy for PROFIBUS			●												○[2]		○[2]				

1) In order to use these CPs in other operating system environments, it is required to port HARDNET DP Development Kits (DK-5613) into the respective operating system. You can request the HARDNET DP DK in the Internet under www.siemens.com/simatic-net/dk5613.
2) integrated PROFIBUS interface is optional
3) depending on available memory and processor performance there could be restrictions
4) Observe restrictions for some PC versions: Number of slots and tolerable maximum heat loss/ power consumption per slot and in total
5) EM-PCI 104 expansion module is required

Notes
- Please always note the supplementary conditions for the specified SIMATIC NET products that you can view on the Internet pages shown below.
- for further details on XP embedded, see http://support.automation.siemens.com/WW/view/en/21661049
- further details on system requirements and operating environments can be found in the Readme file of the communication products on the SIMATIC NET PC Software DVD
- Updates and supplements to the catalog entries, as well as the above tables can be viewed at http://www.siemens.com/simatic-net/ik-info

● suitable
   not suitable
○ suitable under certain conditions

G_IK10_XX_50025

Connection options of PROFIBUS CPs to PG/PC
Note:
The operating systems listed refer exclusively to the communication products specified!

For the actual operating system that is available and has been released, please refer to the description of the corresponding IPC.

Overview

DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●	●	●	●	●

- PCI-104 interface card with own microprocessor for connecting embedded systems with PCI-104 interface to PROFIBUS at up to 12 Mbps
- Function compatible with CP 5613 A2
- Communication services:
  - PROFIBUS DP master Class 1 and 2 or DP slave according to IEC 61158/61784
  - PG/OP communication with STEP 5 and STEP 7
  - S7 communication with HARDNET-PB S7 software package
  - Open communication (SEND/RECEIVE) based on the FDL interface
  - PROFIBUS FMS according to IEC 61158/61784 with FMS-5613 software package
- Extensive diagnostics options for installation, commissioning and operation of the module
- Event and filter mechanism for reducing the load on the host CPU
- Multiprotocol operation and parallel operation of up to three CPs
- The appropriate OPC server and configuration tools are included in the scope of delivery of the respective communication software
- Development kit with driver sources for integration into "non-Windows" environments

Note:

FMS-5613 supports up to two
CP 5603/CP 5613 A2/5614 A2/CP 5623/CP 5624 processors

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; German/English	**6GK1560-3AA00**
CP 5603 Microbox Package For use of CP 5603 in Microbox 420/427B/427C; consisting of CP 5603 module and Microbox expansion frame	**6GK1560-3AU00**
CP 5603 expansion rack For use in Microbox 420/427B/427C with mounting material	**6GK1560-3AA00-0AU0**
CP 5603 mEC Package For use of CP 5603 in SIMATIC S7-MEC; consisting of CP 5603 and withdrawable unit for CP 5603 for installation in the EM PCI-104 expansion module of the SIMATIC S7-MEC	**6GK1560-3AE00**
CP 5603 insert plate Metal plate with RS 485 cutout for inserting for the S7 modular embedded controller	**6GK1560-3AA00-0AE0**
HARDNET-PB DP Development Kit HARDNET-PB DP Development Kit software for CP 5603, CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; for integration into other operating system environments on systems with a PCI slot	See http://www.siemens.com/simatic-net/dk5613

4

CP 5603

Ordering data

	Article No.		Article No.
HARDNET-PB DP		**Software Update Service**	6GK1713-5CB00-3AL0
Software for DP, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for CP 5603, CP 5613 A2, CP 5623, CP 5614 A2, CP 5624;		For 1 year with automatic extension; requirement: current software version	
HARDNET-PB DP V8.2		**Upgrade**	
		• From Edition 2006 or 2007 to S7-5613 Edition 2008 or HARDNET-PB S7 V8.1	6GK1713-5CB00-3AE0
for 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 German/English		• From V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008 or HARDNET-PB S7 V8.1	6GK1713-5CB00-3AE1
• Single license for one installation	6GK1713-5DB08-2AA0	**FMS-5613 Edition 2008**	
DP-5613 Edition 2008		Software for FMS protocol incl. PG/OP communication; FDL, FMS-OPC server and NCM PC; runtime software, software and electronic manual on USB stick, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5603, CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; German/English	
for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German			
• Single license for one installation	6GK1713-5DB71-3AA0	• Single license for one installation	6GK1713-5FB71-3AA0
Software Update Service	6GK1713-5DB00-3AL0	**Software Update Service**	6GK1713-5FB00-3AL0
For 1 year with automatic extension; requirement: current software version		For 1 year with automatic extension; requirement: current software version	
Upgrade		**Upgrade**	
• From Edition 2006 or 2007 to DP-5613 Edition 2008 or HARDNET-PB DP V8.1	6GK1713-5DB00-3AE0	• From Edition 2006 or 2007 to FMS-5613 Edition 2008	6GK1713-5FB00-3AE0
• From V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008 or HARDNET-PB DP V8.1	6GK1713-5DB00-3AE1	• From V6.0, V6.1, V6.2 or V6.3 to FMS-5613 Edition 2008	6GK1713-5FB00-3AE1
HARDNET-PB S7		*Accessories*	
Software for S7 communication, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for CP 5603, CP 5613 A2, CP 5623, CP 5614 A2, CP 5624;		**PROFIBUS FastConnect bus connector RS 485 Plug 180**	6GK1500-0FC10
		With 180° cable outlet, insulation displacement	
HARDNET-PB S7 V8.2		**PROFIBUS FC Standard Cable GP**	6XV1830-0EH10
for 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 German/English		Standard type with special design for quick assembly, 2-core, shielded, sold in meters; max. length 1000 m, minimum order 20 m	
• Single license for one installation	6GK1713-5CB08-2AA0	**PROFIBUS FastConnect Stripping Tool**	6GK1905-6AA00
S7-5613 Edition 2008		Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables	
for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German		**PROFIBUS bus terminal 12M**	6GK1500-0AA10
• Single license for one installation	6GK1713-5CB71-3AA0	Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long	

Note:

You can find order information for software for communication with PC systems under System connections – software overview

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 according to IEC 61158/61784 on a 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	
HARDNET-PB DP Development Kit	See http://www.siemens.com/simatic-net/dk5613
HARDNET-PB DP Development Kit software for CP 5613 A2/CP 5614 A2/ CP 5613 A3/ CP 5614 A3/ CP 5603/ CP 5623/ CP 5624 for integration into other operating system environments	
HARDNET-PB DP	
Software for DP, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for CP 5613 A2/CP 5614 A2/ CP 5613 A3/ CP 5614 A3/ CP 5603/ CP 5623/ CP 5624	
HARDNET-PB DP V12	
for 32/64-bit: Windows 7 Professional/Ultimate; for 32/64-bit: Windows 8 Pro for 64-bit: Windows 2008 Server R2 for 64-bit: Windows 2012 Server German/English	
• Single license for one installation	**6GK1713-5DB12-0AA0**

PC-based Automation
Communication
PROFIBUS

CP 5613 A3

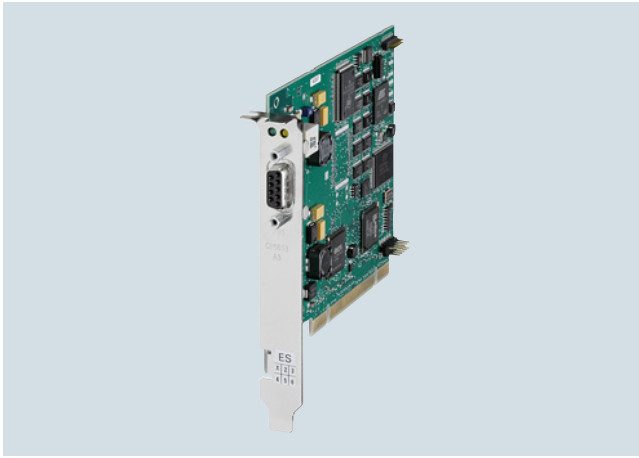| Ordering data	Article No.		Article No.
Software Update Service	**6GK1713-5DB00-3AL0**	*Accessories*	
For 1 year with automatic extension; requirement: current software version		**PROFIBUS FC Standard Cable GP**	
Upgrade		Standard type with special design for quick assembly, 2-core, shielded, sold in meters; delivery unit max. 1000 m, minimum order 20 m	
• From Edition 2006 or 2007 to DP-5613 Edition 2008 or HARDNET-PB DP V12	**6GK1713-5DB00-3AE0**		
• From V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008 or HARDNET-PB DP V12	**6GK1713-5DB00-3AE1**	**PROFIBUS FastConnect bus connector RS 485 Plug 180**	**6GK1500-0FC10**
HARDNET-PB S7		With 180° cable outlet, insulation displacement	
Software for S7 communication, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for CP 5603, CP 5613 A2/A3, CP 5623, CP 5614 A2/A3, CP 5624;		**PROFIBUS bus terminal 12M**	**6GK1500-0AA10**
		Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long	
HARDNET-PB S7 V12		**PROFIBUS FastConnect Stripping Tool**	**6GK1905-6AA00**
for 32/64-bit: Windows 7 Professional/Ultimate; for 32/64-bit: Windows 8 Pro for 64-bit: Windows 2008 Server R2 for 64-bit: Windows 2012 Server German/English		Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables	
• Single license for one installation	**6GK1713-5CB12-0AA0**		
Software Update Service	**6GK1713-5CB00-3AL0**		
For 1 year with automatic extension; requirement: current software version			
Upgrade			
• From Edition 2006 or 2007 to S7-5613 Edition 2008 or HARDNET-PB S7 V12	**6GK1713-5CB00-3AE0**		
• From V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008 or HARDNET-PB S7 V12	**6GK1713-5CB00-3AE1**		

Note:

You can find order information for software for communication with PC systems under System connections – software overview

More information

You can find the HARDNET-PB DP Development Kit on the Internet at:

http://www.siemens.com/simatic-net/dk5613

The CP 5613 A3 module can also be used under the LINUX and UNIX operating systems. Information on the available LINUX distributors and UNIX operating systems can be found at:

http://www.siemens.com/simatic-net/ik-info

4

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.

PC-based Automation
Communication
PROFIBUS

CP 5614 A3

■ Ordering data

	Article No.		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; German/English	6GK1561-4AA02	*HARDNET-PB S7* Software for S7 communication incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A; for CP 5613 A2/CP 5614 A2/ CP 5613 A3/ CP 5614 A3/ CP 5603/ CP 5623/ CP 5624 **HARDNET-PB S7 V12** for 32/64-bit: Windows 7 Professional/Ultimate; for 32/64-bit: Windows 8 Pro for 64-bit: Windows 2008 Server R2 for 64-bit: Windows 2012 Server German/English	
HARDNET-PB DP Development Kit HARDNET-PB DP Development Kit software for CP 5613 A2/CP 5614 A2/ CP 5613 A3/ CP 5614 A3/ CP 5603/ CP 5623/ CP 5624 for integration into other operating system environments	See http://www.siemens.com/simatic-net/dk5613	• Single license for one installation	6GK1713-5CB12-0AA0
HARDNET-PB DP Software for DP, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for CP 5613 A2/CP 5614 A2/ CP 5613 A3/ CP 5614 A3/ CP 5603/ CP 5623/ CP 5624 **HARDNET-PB DP V12** for 32/64-bit: Windows 7 Professional/Ultimate; for 32/64-bit: Windows 8 Pro for 64-bit: Windows 2008 Server R2 for 64-bit: Windows 2012 Server German/English		**Software Update Service** For 1 year with automatic extension; requirement: current software	6GK1713-5CB00-3AL0
		Upgrade • From Edition 2006 or 2007 to S7-5613 Edition 2008 or HARDNET-PB S7 V12	6GK1713-5CB00-3AE0
		• From V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008 or HARDNET-PB S7 V12	6GK1713-5CB00-3AE1
• Single license for one installation	6GK1713-5DB12-0AA0	*Accessories* **PROFIBUS FastConnect bus connector RS 485 Plug 180** With 180° cable outlet, insulation displacement	6GK1500-0FC10
Software Update Service For 1 year with automatic extension; requirement: current software version	6GK1713-5DB00-3AL0	**PROFIBUS FC Standard Cable GP** Standard type with special design for fast mounting, 2-core, shielded, sold by the meter; max. delivery unit 1000 m, minimum order quantity 20 m	6XV1830-0EH10
Upgrade • From Edition 2006 or 2007 to DP-5613 Edition 2008 or HARDNET-PB DP V12	6GK1713-5DB00-3AE0	**PROFIBUS FastConnect Stripping Tool** Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables	6GK1905-6AA00
• From V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008 or HARDNET-PB DP V12	6GK1713-5DB00-3AE1	**PROFIBUS bus terminal 12M** Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long	6GK1500-0AA10

Note:

You can find order information for software for communication with PC systems under System connections – software overview

■ More information

You can find the HARDNET-PB DP Development Kit on the Internet at:

http://www.siemens.com/simatic-net/dk5613

The CP 5614 A3 module can also be used under the LINUX and UNIX operating systems. Information on the available LINUX distributors and UNIX operating systems can be found at:

http://www.siemens.com/simatic-net/ik-info

Overview

DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●	●	●	●	●

- PCI Express card (PCIe x1) with own microprocessor for connecting PCs and SIMATIC PG/PC to PROFIBUS at up to 12 Mbps
- Communication services:
  - PROFIBUS DP master Class 1 and 2 or DP slave according to IEC 61158/61784 on a 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.		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; German/English	6GK1562-3AA00	*HARDNET-PB DP* Software for DP, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for CP 5603, CP 5613 A2, CP 5623, CP 5614 A2, CP 5624;	
		HARDNET-PB DP V8.2 for 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 German/English • Single license for one installation	6GK1713-5DB08-2AA0
HARDNET-PB DP Development Kit HARDNET-PB DP Development Kit software for CP 5603, CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; for integration into other operating system environments on systems with a PCI or PCI Express slot	See http://www.siemens.com/simatic-net/ dk5613	**DP-5613, Edition 2008** for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German • Single license for one installation	6GK1713-5DB71-3AA0

4

PC-based Automation
Communication
PROFIBUS

CP 5623

■ Ordering data

	Article No.		Article No.
Software Update Service For 1 year with automatic extension; requirement: current software version	**6GK1713-5DB00-3AL0**	**FMS-5613 Edition 2008** Software for FMS protocol incl. PG/OP communication; FDL, FMS-OPC server and NCM PC; runtime software, software and electronic manual on USB stick, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5603, CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; German/English • Single license for one installation	
Upgrade • From Edition 2006 or 2007 to DP-5613 Edition 2008 or HARDNET-PB DP V8.1	**6GK1713-5DB00-3AE0**		
• From V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008 or HARDNET-PB DP V8.1	**6GK1713-5DB00-3AE1**		
HARDNET-PB S7 Software for S7 communication, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for CP 5603, CP 5613 A2, CP 5623, CP 5614 A2, CP 5624; **HARDNET-PB S7 V8.2** for 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 German/English • Single license for one installation	 **6GK1713-5CB08-2AA0**		**6GK1713-5FB71-3AA0**
		Software Update Service For 1 year with automatic extension; requirement: current software version	**6GK1713-5FB00-3AL0**
S7-5613 Edition 2008 for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German • Single license for one installation	 **6GK1713-5CB71-3AA0**	**Upgrade** • From Edition 2006 or 2007 to FMS-5613 Edition 2008	**6GK1713-5FB00-3AE0**
		• From V6.0, V6.1, V6.2 or V6.3 to FMS-5613 Edition 2008	**6GK1713-5FB00-3AE1**
Software Update Service For 1 year with automatic extension; requirement: current software version	**6GK1713-5CB00-3AL0**	*Accessories*	
		PROFIBUS FastConnect bus connector RS 485 Plug 180 With 180° cable outlet, insulation displacement	**6GK1500-0FC10**
Upgrade • From Edition 2006 or 2007 to S7-5613 Edition 2008 or HARDNET-PB S7 V8.1	**6GK1713-5CB00-3AE0**	**PROFIBUS FC Standard Cable GP** Standard type with special design for quick assembly, 2-core, shielded, sold in meters; max. length 1000 m, minimum order 20 m	**6XV1830-0EH10**
• From V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008 or HARDNET-PB S7 V8.1	**6GK1713-5CB00-3AE1**	**PROFIBUS FastConnect Stripping Tool** Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables	**6GK1905-6AA00**
		PROFIBUS bus terminal 12M Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long	**6GK1500-0AA10**

Note:

You can find order information for software for communication with PC systems under System connections – software overview
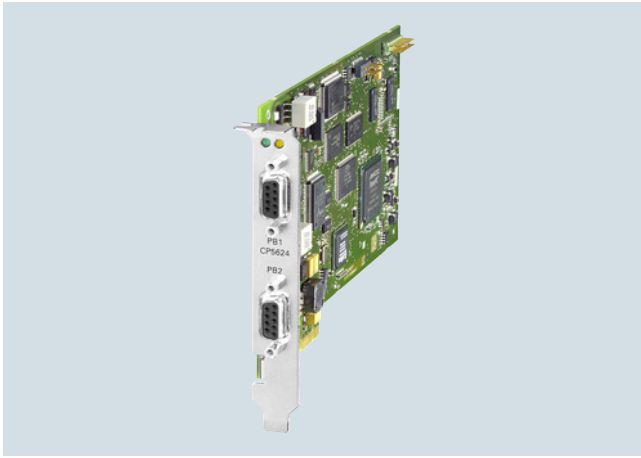
■ More information

You can find the HARDNET-PB DP Development Kit on the Internet at:

http://www.siemens.com/simatic-net/dk5613

The CP 5623 module can also be used under LINUX and UNIX operating systems. Information on the available LINUX distributors and UNIX operating systems can be found at:
http://www.siemens.com/simatic-net/ik-info

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.		Article No.
CP 5624 communications processor 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; German/English	6GK1562-4AA00	*HARDNET-PB DP* Software for DP, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A, for CP 5603, CP 5613 A2, CP 5623, CP 5614 A2, CP 5624; **HARDNET-PB DP V8.2** for 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 German/English • Single license for one installation	6GK1713-5DB08-2AA0
HARDNET-PB DP Development Kit HARDNET-PB DP Development Kit software for CP 5603, CP 5613, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; for integration into other operating system environments on systems with a PCI or PCI Express slot	See http://www.siemens.com/simatic-net/dk5613	**DP-5613, Edition 2008** for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German • Single license for one installation	6GK1713-5DB71-3AA0

PC-based Automation
Communication
PROFIBUS

CP 5624

■ Ordering data	Article No.
Software Update Service	**6GK1713-5DB00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 or 2007 to DP-5613 Edition 2008 or HARDNET-PB DP V8.1	**6GK1713-5DB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to DP-5613 Edition 2008 or HARDNET DP V8.1	**6GK1713-5DB00-3AE1**
HARDNET-PB S7	
Software for S7 communication, incl. PG and FDL protocol, OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for CP 5603, CP 5613 A2, CP 5623, CP 5614 A2, CP 5624;	
HARDNET-PB S7 V8.2	
for 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 German/English	
• Single license for one installation	**6GK1713-5CB08-2AA0**
S7-5613 Edition 2008	
for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German	
• Single license for one installation	**6GK1713-5CB71-3AA0**
Software Update Service	**6GK1713-5CB00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 or 2007 to S7-5613 Edition 2008 or HARDNET-PB S7 V8.1	**6GK1713-5CB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to S7-5613 Edition 2008 or HARDNET-PB S7 V8.1	**6GK1713-5CB00-3AE1**

	Article No.
FMS-5613 Edition 2008	
Software for FMS protocol incl. PG/OP communication; FDL, FMS-OPC server and NCM PC; runtime software, software and electronic manual on USB flash drive, Class A, for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; for CP 5603, CP 5613 A2, CP 5623, CP 5613 FO, CP 5614, CP 5614 A2, CP 5624; German/English	
• Single license for one installation	**6GK1713-5FB71-3AA0**
Software Update Service	**6GK1713-5FB00-3AL0**
For 1 year with automatic extension; requirement: current software version	
Upgrade	
• From Edition 2006 or 2007 to FMS-5613 Edition 2008	**6GK1713-5FB00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to FMS-5613 Edition 2008	**6GK1713-5FB00-3AE1**
Accessories	
PROFIBUS FastConnect bus connector RS 485 Plug 180	**6GK1500-0FC10**
With 180° cable outlet, insulation displacement	
PROFIBUS FC Standard Cable GP	**6XV1830-0EH10**
Standard type with special design for quick assembly, 2-core, shielded, sold in meters; max. length 1000 m, minimum order 20 m	
PROFIBUS FastConnect Stripping Tool	**6GK1905-6AA00**
Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables	
PROFIBUS bus terminal 12M	**6GK1500-0AA10**
Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long	

Note:

You can find order information for software for communication with PC systems under System connections – software overview
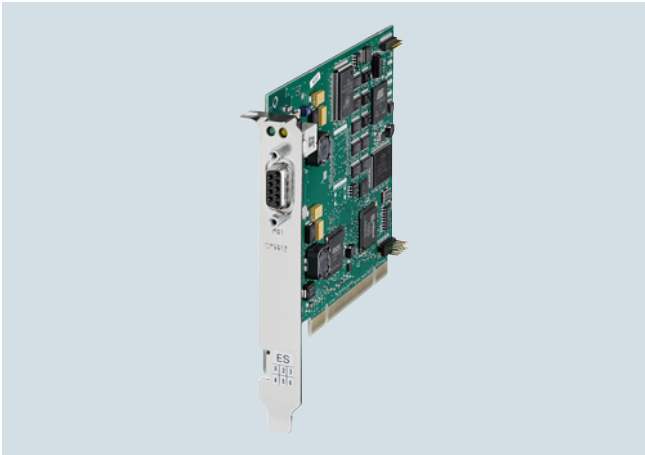
■ **More information**

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) for connecting 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 the 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)
- The appropriate OPC servers and configuration tools are included in the scope of supply of the respective communications software.
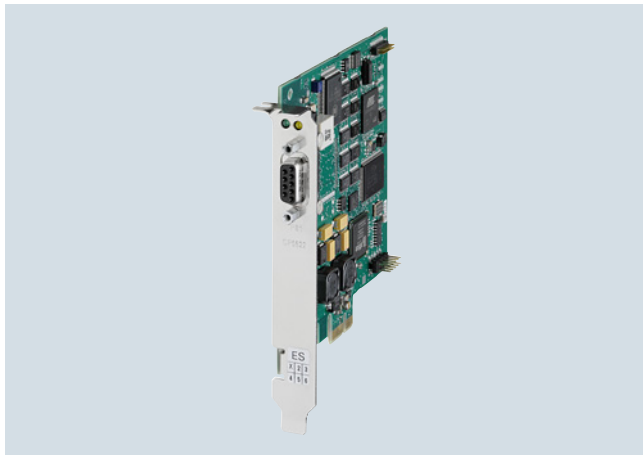
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PC-based Automation
Communication
PROFIBUS

CP 5612

Ordering data

	Article No.		Article No.

CP 5612 communications processor
- PCI card (32-bit) for connection of a programming device or PC to PROFIBUS — **6GK1561-2AA00**
- PCI card (32-bit) CP 5612 and MPI cable, 5 m — **6GK1561-2AM00**

SOFTNET-PB S7

Software for S7 communication, incl. FDL protocol with OPC server and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A; for CP 5512, CP 5611, CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711;

SOFTNET-PB S7 V8.2

for 32/64-bit: Windows 7 Professional/Ultimate;
for 64-bit: Windows 2008 Server R2
German/English
- Single license for one installation — **6GK1704-5CW08-2AA0**

Software Update Service — **6GK1704-5CW00-3AL0**

For 1 year with automatic extension; requirement: current software version

Upgrade
- From Edition 2006 to SOFTNET-S7 Edition 2008 or V8.1 — **6GK1704-5CW00-3AE0**
- From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-S7 Edition 2008 or V8.1 — **6GK1704-5CW00-3AE1**

SOFTNET-PB DP

Software for DP protocol (master class 1 and 2), incl. FDL protocol with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive; for CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711;

SOFTNET-PB DP V8.2

for 32/64-bit: Windows 7 Professional/Ultimate;
for 64-bit: Windows 2008 Server R2
German/English
- Single license for one installation — **6GK1704-5DW08-2AA0**

Software Update Service — **6GK1704-5DW00-3AL0**

For 1 year with automatic extension; requirement: current software version

Upgrade
- From Edition 2006 to SOFTNET-DP Edition 2008 or V8.1 — **6GK1704-5DW00-3AE0**
- From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Edition 2008 or V8.1 — **6GK1704-5DW00-3AE1**

SOFTNET-PB DP Slave

Software for DP slave, with DP OPC server and NCM PC, single license for one installation, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A; for CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711;

SOFTNET-PB DP Slave V8.2

for 32/64-bit: Windows 7 Professional/Ultimate;
for 64-bit: Windows 2008 Server R2
German/English
- Single license for one installation — **6GK1704-5SW08-2AA0**

Software Update Service — **6GK1704-5SW00-3AL0**

For 1 year with automatic extension; requirement: current software version

Upgrade
- From Edition 2006 to SOFTNET-DP Slave Edition 2008 or V8.1 — **6GK1704-5SW00-3AE0**
- From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Slave Edition 2008 or V8.1 — **6GK1704-5SW00-3AE1**

Accessories

PROFIBUS FastConnect bus connector RS 485 Plug 180 — **6GK1500-0FC10**

With 180° cable outlet, insulation displacement

PROFIBUS FC Standard Cable GP — **6XV1830-0EH10**

Standard type with special design for quick assembly, 2-core, shielded, sold in meters; max. length 1000 m, minimum order 20 m

PROFIBUS FastConnect Stripping Tool — **6GK1905-6AA00**

Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables

PROFIBUS bus terminal 12M — **6GK1500-0AA10**

Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long

Note:

You can find order information for software for communication with PC systems under System connections – software overview

PC-based Automation
Communication
PROFIBUS

CP 5622

Ordering data	Article No.		Article No.

CP 5622 communications processor
- PCI Express x1 card (32-bit) for connection of a PG or PC to PROFIBUS — **6GK1562-2AA00**
- PCI Express x1 card (32-bit) CP 5622 and MPI cable, 5 m — **6GK1562-2AM00**

SOFTNET-PB S7

Software for S7 communication, incl. FDL protocol with OPC server and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A; for CP 5512, CP 5611, CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711;

SOFTNET-PB S7 V8.2

for 32/64-bit: Windows 7 Professional/Ultimate;
for 64-bit: Windows 2008 Server R2 German/English
- Single license for one installation — **6GK1704-5CW08-2AA0**

Software Update Service — **6GK1704-5CW00-3AL0**

For 1 year with automatic extension; requirement: current software version

Upgrade
- From Edition 2006 to SOFTNET-S7 Edition 2008 or V8.1 — **6GK1704-5CW00-3AE0**
- From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-S7 Edition 2008 or V8.1 — **6GK1704-5CW00-3AE1**

SOFTNET-PB DP

Software for DP protocol (master class 1 and 2), incl. FDL protocol with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive; for CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711;

SOFTNET-PB DP V8.2

for 32/64-bit: Windows 7 Professional/Ultimate;
for 64-bit: Windows 2008 Server R2 German/English
- Single license for one installation — **6GK1704-5DW08-2AA0**

Software Update Service — **6GK1704-5DW00-3AL0**

For 1 year with automatic extension; requirement: current software version

Upgrade
- From Edition 2006 to SOFTNET-DP Edition 2008 or V8.1 — **6GK1704-5DW00-3AE0**
- From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Edition 2008 or V8.1 — **6GK1704-5DW00-3AE1**

SOFTNET-PB DP Slave

Software for DP slave, with DP OPC server and NCM PC, single license for one installation, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A; for CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711;

SOFTNET-PB DP Slave V8.2

for 32/64-bit: Windows 7 Professional/Ultimate;
for 64-bit: Windows 2008 Server R2 German/English
- Single license for one installation — **6GK1704-5SW08-2AA0**

Software Update Service — **6GK1704-5SW00-3AL0**

For 1 year with automatic extension; requirement: current software version

Upgrade
- From Edition 2006 to SOFTNET-DP Slave Edition 2008 or V8.1 — **6GK1704-5SW00-3AE0**
- From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Slave Edition 2008 or V8.1 — **6GK1704-5SW00-3AE1**

Accessories

PROFIBUS FastConnect bus connector RS 485 Plug 180 — **6GK1500-0FC10**

With 180° cable outlet, insulation displacement

PROFIBUS FC Standard Cable GP — **6XV1830-0EH10**

Standard type with special design for quick assembly, 2-core, shielded, sold in meters;
max. length 1000 m, minimum order 20 m

PROFIBUS FastConnect Stripping Tool — **6GK1905-6AA00**

Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables

PROFIBUS bus terminal 12M — **6GK1500-0AA10**

Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long

Note:

You can find order information for software for communication with PC systems under System connections – software overview

Overview

DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

- USB adapter for the connection of PCs and SIMATIC PG/PC to PROFIBUS DP or MPI via USB 2.0
- Operation in extended temperature range of -20 °C to +60 °C
- Active PROFIBUS termination to supply the PROFIBUS network as end station of a segment
- Robust USB connection due to mechanical locking of the USB connector to the CP 5711 enclosure
- 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 the 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

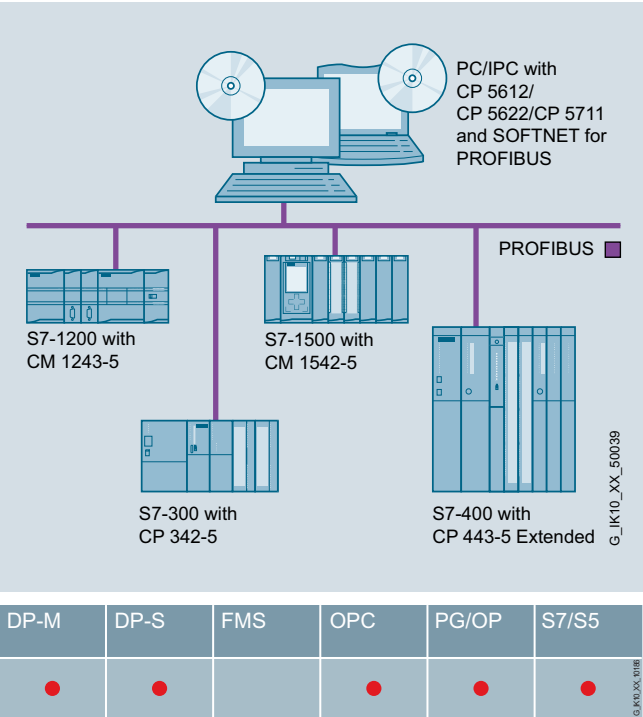|	Article No.		Article No.
CP 5711 communications processor for connection of a programming device or notebook to PROFIBUS or MPI, under 32-bit in connection with PROFIBUS SOFTNET software or STEP 7; German/English • USB V2.0 adapter • USB V2.0 adapter CP 5711 and MPI cable, 5 m	 6GK1571-1AA00 6GK1571-1AM00	*SOFTNET-PB S7* Software for S7 communication, incl. FDL protocol with OPC server and NCM PC, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A; for CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711; **SOFTNET-PB S7 V8.2**	
Mounting rail support for CP 5711 Compartment for CP 5711 enclosure; fastened mechanically to 35 mm DIN rail	6GK1571-1AA00-0AH0	for 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 German/English • Single license for one installation	6GK1704-5CW08-2AA0

PC-based Automation
Communication
PROFIBUS

CP 5711

4

■ Ordering data

	Article No.		Article No.

SOFTNET-S7 Edition 2008 (V7.1)

for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; German/English
• Single license for one installation — **6GK1704-5CW71-3AA0**

Software Update Service — **6GK1704-5CW00-3AL0**

For 1 year with automatic extension; requirement: current software version

Upgrade
• From Edition 2006 to SOFTNET-S7 Edition 2008 or V8.1 — **6GK1704-5CW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-S7 Edition 2008 or V8.1 — **6GK1704-5CW00-3AE1**

SOFTNET-PB DP

Software for DP protocol (master class 1 and 2), incl. FDL protocol with OPC server and NCM PC; runtime software, software and electronic manual on CD-ROM, license key on USB flash drive; for CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711;

SOFTNET-PB DP V8.2

for 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 German/English
• Single license for one installation — **6GK1704-5DW08-2AA0**

SOFTNET-DP Edition 2008 (V7.1)

for Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German
• Single license for one installation — **6GK1704-5DW71-3AA0**

Software Update Service — **6GK1704-5DW00-3AL0**

For 1 year with automatic extension; requirement: current software version

Upgrade
• From Edition 2006 to SOFTNET-DP Edition 2008 or V8.1 — **6GK1704-5DW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Edition 2008 or V8.1 — **6GK1704-5DW00-3AE1**

SOFTNET-PB DP Slave

Software for DP slave, with DP OPC server and NCM PC, single license for one installation, runtime software, software and electronic manual on CD-ROM, license key on USB flash drive, Class A; for CP 5611 A2, CP 5612 (Win 7 and higher), CP 5621, CP 5622 (Win 7 and higher), CP 5711;

SOFTNET-PB DP Slave V8.2

for 32/64-bit: Windows 7 Professional/Ultimate; for 64-bit: Windows 2008 Server R2 German/English
• Single license for one installation — **6GK1704-5SW08-2AA0**

SOFTNET-DP Slave Edition 2008 (V7.1)

for 32-bit Windows XP Professional SP2/3; Windows 2003 Server R2, SP2; Windows Vista Business/Ultimate SP1; Windows 2008 Server; English/German
• Single license for one installation — **6GK1704-5SW71-3AA0**

Software Update Service — **6GK1704-5SW00-3AL0**

For 1 year with automatic extension; requirement: current software version

Upgrade
• From Edition 2006 to SOFTNET-DP Slave Edition 2008 or V8.1 — **6GK1704-5SW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Slave Edition 2008 or V8.1 — **6GK1704-5SW00-3AE1**

Accessories

PROFIBUS FastConnect bus connector RS 485 Plug 180 — **6GK1500-0FC10**

With 180° cable outlet, insulation displacement

PROFIBUS FC Standard Cable GP — **6XV1830-0EH10**

Standard type with special design for quick assembly, 2-core, shielded, sold in meters; max. length 1000 m, minimum order 20 m

PROFIBUS FastConnect Stripping Tool — **6GK1905-6AA00**

Preset stripping tool for fast stripping of PROFIBUS FastConnect bus cables

PROFIBUS bus terminal 12M — **6GK1500-0AA10**

Bus terminal for connection of PROFIBUS stations up to 12 Mbps with connecting cable 1.5 m long

Mounting rail support — **6GK1571-1AA00-0AH0**

Compartment for CP 5711 enclosure; fastened mechanically to 35 mm DIN rail

Note:

You can find order information for software for communication with PC systems under System connections – software overview

■ **Overview**

PC/IPC with
CP 5612/
CP 5622/CP 5711
and SOFTNET for
PROFIBUS

PROFIBUS ■

S7-1200 with
CM 1243-5

S7-1500 with
CM 1542-5

S7-300 with
CP 342-5

S7-400 with
CP 443-5 Extended

G_IK10_XX_50039

DP-M	DP-S	FMS	OPC	PG/OP	S7/S5
●	●		●	●	●

- Software for connecting PCs/programming devices and notebooks to programmable controllers
- 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

4

PC-based Automation
Communication
PROFIBUS

SOFTNET for PROFIBUS

Ordering data	Article No.		Article No.

SOFTNET-PB S7

Software for S7 communication, incl. FDL protocol with OPC server and configuration tool, runtime software, software and electronic manual on DVD-ROM, license key on USB stick, Class A; for CP 5612 (Win 7 and higher), CP 5622 (Win 7 and higher), CP 5711

SOFTNET-PB S7 V13

for 32/64-bit: Windows 7 SP1 Professional/Ultimate;
For 64-bit: Windows 8.1 Pro;
For 64-bit: Windows Server 2008 R2 SP1;
For 64-bit: Windows Server 2012 R2;
German/English
• Single license for one installation — **6GK1704-5CW13-0AA0**

Software Update Service — **6GK1704-5CW00-3AL0**

For 1 year, with automatic extension; requirement: current software version

Upgrade
• From Edition 2006 to SOFTNET-S7 Edition 2008 or V13 — **6GK1704-5CW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-S7 Edition 2008 or V13 — **6GK1704-5CW00-3AE1**

SOFTNET-PB DP

Software for DP protocol (master Class 1 and 2), incl. FDL protocol with OPC server and configuration tool; runtime software, software and electronic manual on DVD-ROM, license key on USB stick; for CP 5612 (Win 7 and higher), CP 5622 (Win 7 and higher), CP 5711

SOFTNET-PB DP V13

For 32/64-bit: Windows 7 SP1 Professional/Ultimate;
For 64-bit: Windows 8.1 Pro;
For 64-bit: Windows Server 2008 R2 SP1;
For 64-bit: Windows Server 2012 R2;
German/English
• Single license for one installation — **6GK1704-5DW13-0AA0**

Software Update Service — **6GK1704-5DW00-3AL0**

For 1 year, with automatic extension; requirement: current software version

Upgrade
• From Edition 2006 to SOFTNET-DP Edition 2008 or V13 — **6GK1704-5DW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Edition 2008 or V13 — **6GK1704-5DW00-3AE1**

SOFTNET-PB DP-Slave

Software for DP slave, with OPC server and configuration tool, single license for one installation, runtime software, software and electronic manual on DVD-ROM, license key on USB stick, Class A; for CP 5612 (Win 7 and higher), CP 5622 (Win 7 and higher), CP 5711

SOFTNET-PB DP Slave V13

For 32/64-bit: Windows 7 SP1 Professional/Ultimate;
For 64-bit: Windows 8.1 Pro;
For 64-bit: Windows Server 2008 R2 SP1;
For 64-bit: Windows Server 2012 R2;
German/English
• Single license for one installation — **6GK1704-5SW13-0AA0**

Software Update Service — **6GK1704-5SW00-3AL0**

For 1 year, with automatic extension; requirement: current software version

Upgrade
• From Edition 2006 to SOFTNET-DP Slave Edition 2008 or V13 — **6GK1704-5SW00-3AE0**
• From V6.0, V6.1, V6.2 or V6.3 to SOFTNET-DP Slave Edition 2008 or V13 — **6GK1704-5SW00-3AE1**

Note

The Windows XP software version is still available for older CPs; see the Industry Mall:
http://www.siemens.com/industrymall.

Overview

- Standardized, open multi-vendor interface
- Interfacing of OPC-capable Windows applications to DP, FMS, S7 communication and open communication (SEND/RECEIVE) based on the FDL interface

- OPC Scout with browser functionality as an OPC client and OCX-Data-Control/.NET Data Control for simple OPC client creation
- The relevant OPC servers are supplied with each communication software package

System integration with OPC server

PC-based Automation
Communication
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 the redundant configuration of OPC UA servers to SIMATIC S7. The availability of automation data to operator control and monitoring systems is guaranteed thanks to the redundant use of OPC UA servers. This requires neither additional cabling for synchronizing the redundant OPC UA servers, nor additional programming overhead in the PC. The OPC UA servers are synchronized via high-performance Industrial Ethernet network access points 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

	Article No.
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	**6GK1706-5CW13-0AA0**
Software Update Service	
For 1 year, with automatic extension; requirement: current software version	**6GK1706-5CW00-3AL0**

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 system

• 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

	Article No.
PC adapter USB A2 for connecting a PG/PC or Notebook to PROFIBUS or MPI; USB cable included in scope of delivery	**6GK1571-0BA00-0AA0**

4

PC-based Automation

Notes

4