Overview

Rack PC family IPC547, IPC647, IPC847

The SIMATIC PCS 7 Industrial Workstation types IPC 547E and IPC547G is an excellent platform for the configuration of single stations, servers or clients. With their all-round capabilities they are ideally equipped for numerous applications in process automation. With types IPC647D and IPC847D of the workstation, you also have powerful alternatives.

Because basic components such as chipset, processor and work memory are identical, many of their technical specifications are comparable. The essential differences result from the different overall heights. Since the IPC647D is only half as high as IPC847D, the number and variety of the free slots are reduced. On the other hand, the more compact design requires significantly less space and enables higher packing densities in the control cabinet. This allows the realization of space-saving designs.

The IPC847D is the most powerful and best equipped SIMATIC PCS 7 Industrial Workstation. Its numerous and varied slots provide a great deal of potential for expansion. The IPC847D is predestined for use as a server or single station. Since it would be over-dimensioned as a client, IPC847D is not offered in this version.

Application

Features		SIMATIC PCS 7 Industrial Workstation			
		IPC547E	IPC547G	IPC647D	IPC847D
					
Available SIMATIC PCS 7 pre-installations	V8.2	●	●	●	●
Available versions	ES/OS single station	●	●	●	●
	OS server	●	●	●	●
	OS client	●	●	●	–
Height		4 U	4 U	2 U	4 U
ECC work memory		–	–	●	●
Onboard RAID controller	RAID 1 (SATA HDD)	●	●	●	●
	RAID 1 (SATA SSD)	–	●	●	●
Hardware RAID controller (PCI x8)	RAID 1 (SAS HDD)	–	–	●	●
	RAID 5 (SAS HDD)	–	–	–	●
Hard disks or solid state drives (SSD)	SATA/SAS HDD	●/–	●/–	●/●	●/●
	SATA SSD	●	●	●	●
No. of slots	PCIe x16	2	2	2 or 4	5
	PCIe x8	1	1	–	–
	PCIe x4	–	2	–	3
	PCIe x1	–	–	–	–
	PCI	4	2	0 or 2	3
Redundant power supply	with diagnostics	–	●	●	●
	Without diagnostics	●	–	–	–
Lifecycle	Marketing	1.5 to 2 years	1.5 to 2 years	5 years	5 years
	Spare parts/repair	3 years	3 years	5 years	5 years

Application (continued)

Specially optimized versions are available for operation as single stations, servers or clients. The operating system and the following ES/OS software of the SIMATIC PCS 7 process control system are factory installed:

- Single station: PCS 7 Engineering Software for AS/OS (including OS Runtime software)
- Server: PCS 7 OS Software Server
- Client: PCS 7 OS Software Client

You only need the corresponding licenses in order to use the pre-installed SIMATIC PCS 7 software.

Note:

Please note the standard installation if you use the SIMATIC PCS 7 Industrial Workstations within the SIMATIC PCS 7 process control system for other tasks, e.g. as basic hardware for SIMATIC BATCH, SIMATIC Route Control, PCS 7 TeleControl, PCS 7 PowerControl, PCS 7 Process Historian, PCS 7 Information Server or PCS 7 Web Server. You can then expand the existing SIMATIC PCS 7 pre-installation as needed or discard it and reinstall it using one of the supplied Restore DVDs (for details, see IPC547E, IPC547G, IPC647D or IPC847D in section Restore DVD).

Design

Types of plant bus communication

A SIMATIC PCS 7 workstation in the single station or server version can be used in a variety of ways on the Industrial Ethernet plant bus depending on the type and number of automation systems connected:

Interface	Software	for AS communication
Communication module CP 1623/CP 1613 A2/CP 1628	SIMATIC NET HARDNET-IE S7 communication software, licensed for up to four CP 1623/CP 1613 A2/ CP 1628 (license for 4 units)	with up to 64 AS single stations (no AS redundancy stations)
	SIMATIC NET HARDNET-IE S7-REDCONNECT communication software, licensed for up to four CP 1623/CP 1613 A2/CP 1628 (license for 4 units)	with redundant automation systems (redundancy stations)
Ethernet card	BCE (Basic Communication Ethernet) license	with up to 8 AS single stations

The SIMATIC NET HARDNET-IE S7-REDCONNECT PowerPack is suitable for upgrading the SIMATIC NET HARDNET-IE S7 communication software (for ordering data, see section "Communication", section "Industrial Ethernet, System Connection of PCS 7 systems")

The Industrial Ethernet versions of the SIMATIC PCS 7 Industrial Workstation for single stations and servers are equipped as standard with a CP 1623 communication module and SIMATIC NET HARDNET-IE S7 communications software. The BCE license is involved in the BCE versions of the SIMATIC PCS 7 Industrial Workstation.

Upgrade from BCE to CP 1613/1623/1628 communication

OS single stations and OS servers with BCE communication can also be upgraded at a later time for communication with CP 1613/1623/1628. Items required:

- Network card for connecting to Industrial Ethernet:
  - CP 1623 with PCI Express interface or
  - CP 1613 A2 with conventional PCI interface or
  - CP 1628 with PCIexpress interface and additional security functions
- S7 communications software for CP 1613/CP 1623/CP 1628
  - SIMATIC NET HARDNET-IE S7 for communication with AS single stations or
  - SIMATIC NET HARDNET-IE S7 REDCONNECT for communication with AS redundancy stations and AS single stations

For additional information and ordering data for the components mentioned, see section "Communication", section "Industrial Ethernet, System Connection of PCS 7 systems".

Expansion components

The core component of the SIMATIC PCS 7 Industrial Workstation is a SIMATIC industrial PC without mouse, keyboard and monitor. This basic hardware can be expanded further with the following components from this catalog depending on the environment of use and customer requirements:

- Accessories
  - Memory modules
  - Country-specific power supply cable
  - Tower Kit (IPC547E, IPC547G and IPC847D only)
- Expansion components
  - Mouse and keyboard
  - Multi-monitor mode
  - Smart card reader
  - Signal output

Multi-monitor mode can be selected when configuring the SIMATIC PCS 7 Industrial Workstation with the selection table or configurator, but it can also be installed and expanded later. The number of process monitors that can be operated on a SIMATIC PCS 7 Workstation varies according to the workstation type and configuration. In the maximum configuration, multi-monitor mode with 4 or 5 process monitors is possible depending on the workstation type.

Information on multi-monitor mode as well as the ordering data required for retrofitting can be found in the section "Multi-monitor mode".

Technical specifications

Comparison of the workstation types for SIMATIC PCS 7 V8.2

Type	SIMATIC IPC547E	SIMATIC IPC547G	SIMATIC IPC647D	SIMATIC IPC847D
Design and equipment features				
Design				
19" rack	4 U	4 U	2 U	4 U
Ready for telescopic rails?	Yes	Yes	Yes	Yes
Horizontal/vertical installation	Yes/Yes	Yes/Yes	Yes/No	Yes/Yes
19" fixing bracket with handle; dismountable from outside	Yes	Yes	Yes	Yes
Tower kit (accessory)	Yes	Yes	No	Yes
Degree of protection	IP30 at front (front door closed); IP20 at the rear according to EN 60529	IP30 at front (front door closed); IP20 at the rear according to EN 60529	IP41 at front (front door closed); IP20 at the rear according to EN 60529	IP41 at front (front door closed); IP20 at the rear according to EN 60529
Dust protection	With closed front door in conformity with IEC 60529 Filter class G2 EN 779, particles > 0.5 mm are blocked by 99%	With closed front door in conformity with IEC 60529 Filter class G2 EN 779, particles > 0.5 mm are blocked by 99%	With closed front door in conformity with IEC 60529 Filter class G2 EN 779, particles > 0.5 mm are blocked by 99%	With closed front door in conformity with IEC 60529 Filter class G2 EN 779, particles > 0.5 mm are blocked by 99%
Chipset	Intel Q87	Intel C236 (GL82C236 PCH)	Intel C226 (DH82C226 PCH)	Intel C226 (DH82C226 PCH)
CPU				
Processor, clock	• 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)	• Intel Xeon Processor E3-1275 v5 4C/8T, 3.6 (4.0) GHz, 8 MB cache, iAMT • Intel Core i7-6700 4C/8T, 3.4 (4.0) GHz, 8 MB cache, iAMT • Intel Core i5-6500 4C/4T, 3.2 (3.6) GHz, 6 MB cache, iAMT	• Intel Xeon E3-1268L v3, 4 cores, 8 threads, 2.3 (3.3) GHz, GT2, 8 MB cache, Turbo Boost, VT-d, iAMT • Intel Core i5-4570TE, 2 cores, 4 threads, 2.7 (3.3) GHz, GT2, 4 MB cache, Turbo Boost, VT-d, iAMT • Intel Core i3-4330TE, 2 cores, 4 threads, 2.4 GHz, GT2, 4 MB cache	• Intel Xeon E3-1268L v3, 4 cores, 8 threads, 2.3 (3.3) GHz, GT2, 8 MB cache, Turbo Boost, VT-d, iAMT • Intel Core i5-4570TE, 2 cores, 4 threads, 2.7 (3.3) GHz, GT2, 4 MB cache, Turbo Boost, VT-d, iAMT • Intel Core i3-4330TE, 2 cores, 4 threads, 2.4 GHz, GT2, 4 MB cache
Main memory (SDRAM)				
Type	DDR3-1600 SDRAM (PC3-12800)	DDR4-2133 SDRAM (PC4-2400T)	DDR3-1600 SDRAM (PC3-12800), with or without ECC	DDR3-1600 SDRAM (PC3-12800), with or without ECC
Maximum configuration	4 DIMM memory sockets in total; together up to 32 GB	4 DIMM memory sockets in total; together up to 64 GB	4 DIMM memory sockets in total; together up to 32 GB	4 DIMM memory sockets in total; together up to 32 GB
Standard configuration	4 GB DDR3-1600 SDRAM (2 × 2 GB); dual channel 8 GB DDR3-1600 SDRAM (2 × 4 GB); dual channel 16 GB DDR3-1600 SDRAM (2 × 8 GB); dual channel 32 GB DDR3-1600 SDRAM (4 × 8 GB); dual channel 8 GB or more can be selected for OS server or ES/OS single station 4 GB or more can be selected for OS client	4 GB DDR4-2133 SDRAM (1 × 4 GB); single channel 8 GB DDR4-2133 SDRAM (2 × 4 GB); dual channel 16 GB DDR4-2133 SDRAM (2 × 8 GB); dual channel 32 GB DDR4-2133 SDRAM (2 × 16 GB); dual channel 64 GB DDR4-2133 SDRAM (4 × 16 GB); dual channel 8 GB or more can be selected for OS server or ES/OS single station 4 GB or more can be selected for OS client	4 GB DDR3 SDRAM (2 × 2 GB); dual channel 4 GB DDR3 SDRAM (1 × 4 GB); single channel, ECC 8 GB DDR3 SDRAM (2 × 4 GB); dual channel (without/with ECC) 16 GB DDR3 SDRAM (2 × 8 GB); dual channel (without/with ECC) 32 GB DDR3 SDRAM (4 × 8 GB); dual channel (without/with ECC) 8 GB or more can be selected for OS server or ES/OS single station 4 GB and more can be selected for OS client	8 GB DDR3 SDRAM (2 × 4 GB); dual channel (without/with ECC) 16 GB DDR3 SDRAM (2 × 8 GB); dual channel (without/with ECC) 32 GB DDR3 SDRAM (4 × 8 GB); dual channel (without/with ECC) 8 GB or more can be selected for OS server or ES/OS single station

Technical specifications (continued)

Type	SIMATIC IPC547E	SIMATIC IPC547G	SIMATIC IPC647D	SIMATIC IPC847D
Motherboard slots	Total of 7 slots: 4 × PCI 1 × PCIe x8 (1 lane, Gen 2.0) 1 × PCIe x16 (4 lanes, Gen 2.0) 1 × PCIe x16; Gen 3.0 Modules up to 312 mm in length can be used	Total of 7 slots: • 2 × PCI 1 × PCIe x4 (1 Lane, Gen 3.0) 1 × PCIe x4 (4 Lanes, Gen 3.0) 1 × PCIe x8 (1 Lane, Gen 3.0) 1 × PCIe x16 (4 Lanes, Gen 3.0) 1 × PCIe x16; Gen 3.0 Modules up to 312 mm in length can be used	Selectable bus modules with total of 4 slots: • 2 × PCIe x16 (8 lanes, Gen 3.0) and 2 × PCI • 1 × PCIe x16 (8 lanes, Gen 3.0), 1 × PCIe x16 (4 lanes, Gen 2.0); 2 × PCIe x16 (4 lanes, Gen 3.0) Modules up to 312 mm in length can be used	Bus module with total of 11 slots: 1 × PCIe x16 (8 lanes, Gen 3.0) 2 × PCIe x16 (4 lanes, Gen 3.0) 2 × PCIe x16 (4 lanes, Gen 2.0) 3 × PCIe x4 (4 lanes, Gen 2.0) 3 × PCI Modules up to 312 mm in length can be used
Possible slots for SATA drives				
On the front	Alternative for HDD/SSD: 3 × 5.25", 1 × 5.25" + 3 × slimline removable drive bay 3.5" or 4 × slimline removable drive bay 3.5" 1 × 3.5" (slimline) for DVD burner	Alternative for HDD/SSD: 1 × 5.25" + 3 × slimline removable trays 3.5" or 4 × slimline removable trays 3.5" 1 × 3.5" (slimline) for DVD burner	2 × slimline removable drive bay 3.5" for HDD/SSD 1 × 3.5" (slimline) for DVD burner	4 × slimline removable drive bay 3.5" for HDD/SSD 1 × 3.5" (slimline) for DVD burner
Indoors	2 × 3.5" for HDD/SSD	2 × 3.5" for HDD/SSD	2 × 3.5" for HDD (in shock and vibration-damped drive cage; alternative to removable drive bay)	2 × 3.5" for HDD in shock and vibration-damped drive cage 2 × 3.5" for HDD/SSD, integral
RAID controller				
Onboard RAID controller	Intel PCH with Intel Rapid Storage Technology	Intel PCH with Intel Rapid Storage Technology	Intel 8 series SATA RAID controller	Intel 8 series SATA RAID controller
• RAID 1 (SATA HDD)	Yes	Yes	Yes	Yes
• RAID 1 (SATA SSD)	No	Yes	Yes	Yes
Hardware RAID controller (PCI x8; 2 slots occupied)				
• RAID 1 (SAS HDD)	No	No	Yes	Yes
• RAID 5 (SAS HDD)	No	No	No	Yes
Drives				
Hard disk drive (HDD) 3.5", 6 Gbps, NCQ technology				
• ES/OS Single station or OS Server	500 GB or 1 TB SATA	1 TB; Enterprise type: 1 TB or 2 TB	500 GB SATA, 1 TB SATA or 1 TB SAS	500 GB SATA, 1 TB SATA or 1 TB SAS
• OS client	500 GB or 1 TB SATA	1 TB; Enterprise type: 1 TB or 2 TB	500 GB or 1 TB SATA	500 GB or 1 TB SATA
Solid State Drive (SSD) 2.5"				
• ES/OS Single Station or OS Server	240 GB or 480 GB SATA (eMLC)	240 GB or 480 GB SATA (eMLC)	240 GB or 480 GB SATA (eMLC)	240 GB or 480 GB SATA (eMLC)
• OS client	240 GB or 480 GB SATA (eMLC)	240 GB or 480 GB SATA (eMLC)	240 GB or 480 GB SATA (eMLC)	–
DVD burner	DVD±R/RW 5.25" SATA Slimline Read: • DVD-ROM: single layer 8x, dual layer 6x • DVD-R/+R: single layer 8x, dual layer 6x • DVD-RW/+RW 8x • DVD-RAM 5x • CD-R 24x, CD-RW 24x Write: • DVD+R 8x, DVD+RW 8x, DVD-R 8x, DVD-RW 6x • DVD+R9 (DL) 6x, DVD-R DL 2x • CD-R 24x, CD-RW 24x	DVD±R/RW 5.25" SATA Slimline Read: • DVD-ROM: single layer and dual layer 8x • DVD-R/+R 8x • DVD-RW/+RW 8x • DVD-RAM 8x • CD-ROM, CD-R 24x, CD-RW 24x Write: • DVD+R 8x, DVD+R DL 6x DVD+RW 8x, DVD-R 8x, DVD-R DL 6x DVD-RW 6x • DVD-RAM 5x • CD-R 10x, CD-RW 16x	DVD±R/RW 5.25" SATA Slimline Read: • DVD-ROM: single layer 8x, dual layer 6x • DVD-R/+R: single layer 8x, dual layer 6x • DVD-RW/+RW 8x • DVD-RAM 5x • CD-R 24x, CD-RW 24x Write: • DVD+R 8x, DVD+RW 8x, DVD-R 8x, DVD-RW 6x • DVD+R9 (DL) 6x, DVD-R DL 2x • CD-R 24x, CD-RW 24x	DVD±R/RW 5.25" SATA Slimline Read: • DVD-ROM: single layer 8x, dual layer 6x • DVD-R/+R: single layer 8x, dual layer 6x • DVD-RW/+RW 8x • DVD-RAM 5x • CD-ROM, CD-R 24x, CD-RW 24x Write: • DVD+R 8x, DVD+RW 8x, DVD-R 8x, DVD-RW 6x • DVD+R (DL) 6x, DVD-R DL 2x • CD-R 24x, CD-RW 24x
Floppy disk drive	No	No	No	No

Technical specifications (continued)

Type	SIMATIC IPC547E	SIMATIC IPC547G	SIMATIC IPC647D	SIMATIC IPC847D
HDD/SSD configuration	HDD (single station, server or client) • 500 GB or 1 TB HDD SATA internal; 0.2 g vibration, 1 g shock • 500 GB or 1 TB HDD SATA in removable drive bay; at the front • 1 TB RAID 1 internal; 0.2 g vibration, 1 g shock (2 × 1 TB HDD SATA, data mirroring) • 1 TB RAID 1 in removable drive bay; for hot swapping; at the front (2 × 1 TB HDD SATA, data mirroring) • 1 TB RAID 1 (2 × 1 TB HDD SATA, data mirroring) plus 1 TB hot-spare HDD SATA; each in removable drive bay; for hot swapping; at the front SSD (single station, server or client) • 240 GB or 480 GB SSD SATA internal • 240 GB or 480 GB SSD SATA in removable drive bay; at the front HDD+SSD (single station or server) • 1 TB RAID 1 (2 × 1 TB HDD SATA, data mirroring), hot-swap, plus 240 GB SSD SATA, each in removable drive bay; at the front	HDD (single station, server or client) • 1 TB HDD SATA internal (optionally Enterprise type) 0.2 g vibration, 1 g shock • 1 TB HDD SATA in removable tray, at the front (optionally Enterprise type) • 1 TB RAID 1 internal; 0.2 g vibration, 1 g shock (2 × 1 TB HDD SATA, optionally Enterprise type, data mirroring) • 1 TB RAID 1 in removable trays; hot-swap; at the front (2 × 1 TB HDD SATA, optionally Enterprise type, data mirroring) • 2 TB RAID 1 in removable trays; hot-swap; at the front (2 × 2 TB HDD SATA, Enterprise type, data mirroring) • 2 TB RAID 1 (2 × 2 TB HDD SATA, data mirroring) plus 2 TB hot-spare HDD SATA; each Enterprise type; in removable trays; hot-swap; at the front SSD (single station, server or client) • 240 GB or 480 GB SSD SATA internal • 240 GB or 480 GB SSD SATA in removable tray; at the front • 240 or 480 GB RAID 1 (2 × 240/480 GB SSD SATA) in removable trays, hot-swap, at the front HDD+SSD (single station or server) • 2 TB RAID 1 (2 × 2 TB HDD SATA, Enterprise type, data mirroring), hot-swap, plus 480 GB SSD SATA; each in removable trays; at the front	HDD (single station, server or client) • 500 GB or 1 TB HDD SATA internal; 0.5 g vibration, 5 g shock • 500 GB or 1 TB HDD SATA in removable drive bay; at the front • 1 TB RAID 1 internal; 0.5 g vibration, 5 g shock (2 × 1 TB HDD SATA, data mirroring) • 1 TB RAID 1 in removable drive bay; for hot swapping; at the front, data mirroring (2 × 1 TB HDD SATA) HDD (single station or server) • 1 TB RAID 1 in removable drive bay; for hot swapping; at the front, data mirroring (2 × 1 TB HDD SAS) SSD (single station, server or client) • 240 GB or 480 GB SSD SATA internal • 240 GB or 480 GB SSD SATA in removable drive bay; at the front • RAID 1 SSD SATA in removable drive bay; for hot swapping; at the front, data mirroring; (single station or server) - 240 GB (2 × 240 GB) - 480 GB (2 × 480 GB) HDD+SSD (single station or server) • 1 TB RAID 1 internal; 0.5 g vibration, 5 g shock (2 × 1 TB HDD SATA, data mirroring) plus 240 GB SSD SATA, internal, in the DVD drive slot • 1 TB RAID1 in removable drive bay; for hot swapping; at the front, data mirroring (2 × 1 TB HDD SATA or 2 × 1 TB HDD SAS) plus 240 GB SSD SATA, internal, in the DVD drive slot	HDD (single station or server) • 500 GB or 1 TB HDD SATA internal; 0.5 g vibration, 5 g shock • 500 GB or 1 TB HDD SATA in removable drive bay; at the front • 1 TB RAID 1 internal; 0.5 g vibration, 5 g shock (2 × 1 TB HDD SATA, data mirroring) • 1 TB RAID 1 in removable drive bay; for hot swapping; at the front, data mirroring (2 × 1 TB HDD SATA or 2 × 1 TB HDD SAS) • 1 TB RAID 1 (2 × 1 TB HDD SATA, data mirroring) plus 1 TB hot-spare HDD SATA; each in removable drive bay; for hot swapping; at the front • 2 TB RAID 5 in removable drive bay; for hot swapping; at the front, (3 × 1 TB HDD SAS, striping with parity) • 2 TB RAID 5 (3 × 1 TB HDD SAS, striping with parity) plus 1 TB hot-spare HDD SAS; each in removable drive bay; for hot swapping; at the front SSD (single station or server) • 240 GB or 480 GB SSD SATA internal • 240 GB or 480 GB SSD SATA in removable drive bay; at the front • RAID 1 SSD SATA in removable drive bay; for hot swapping; at the front, data mirroring - 240 GB (2 × 240 GB) - 480 GB (2 × 480 GB) HDD+SSD (single station or server) • 1 TB RAID 1 internal; 0.5 g vibration, 5 g shock (2 × 1 TB HDD SATA, data mirroring) plus 240 GB SSD SATA, in removable drive bay, at the front • 1 TB RAID 1 (2 × 1 TB HDD SATA or 2 × 1 TB HDD SAS; data mirroring, for hot swapping) plus 240 GB SSD SATA, each in removable drive bay; at the front • 2 TB RAID 5 (3 × 1 TB HDD SAS, striping with parity, for hot swapping) plus 240 GB SSD SATA, each in removable drive bay; at the front

Technical specifications (continued)

Type	SIMATIC IPC547E	SIMATIC IPC547G	SIMATIC IPC647D	SIMATIC IPC847D
Graphics card	Onboard Intel graphics controller, integrated in processor; version depends on processor, either HD Graphics 4600 (i7-4770S and i5-4570S) or HD Graphics 4400 (G3420)	Onboard Intel graphics controller, integrated in processor; version depends on processor, either HD Graphics 530 (i7-6700 and i5-6500) or HD Graphics P530 (E3-1275 v5)	Onboard Intel graphics controller HD Graphics P4600/ P4700; 2-D and 3-D engine integrated in processor	Onboard Intel graphics controller HD Graphics P4600/ P4700; 2-D and 3-D engine integrated in processor
Graphics memory	Dynamic Video Memory Technology (uses between 32 MB and 1.7 GB RAM)	Dynamic Video Memory Technology (uses between 32 MB and 1.7 GB RAM)	Dynamic Video Memory Technology (uses between 32 MB and 1.7 GB RAM)	Dynamic Video Memory Technology (uses between 32 MB and 1.7 GB RAM)
Resolutions. frequencies, colors				
• VGA connection	–	Up to 2 560 × 1 600 at 60 Hz, 32-bit color depth (DisplayPort to VGA via adapter cable)	Up to 2 560 × 1 600 at 120 Hz, 32-bit color depth (DVI-I to VGA or DisplayPort to VGA via adapter cable)	Up to 2 560 × 1 600 at 120 Hz, 32-bit color depth (DVI-I to VGA or DisplayPort to VGA via adapter cable)
• DVI connection	Up to 1 920 × 1 200 at 60 Hz, 32-bit color depth (VGA via adapter cable)	Up to 1 920 × 1 200 at 60 Hz / 32-bit color depth	Up to 2 048 × 1 152 at 60 Hz / 32-bit color depth	Up to 2 048 × 1 152 at 60 Hz / 32-bit color depth
• DisplayPort	Up to 3 840 × 2 160 at 60 Hz, 32-bit color depth (DVI-D or VGA via adapter cable)	Up to 4 096 × 2 304 at 60 Hz / 32-bit color depth	Up to 4 096 × 2 160 at 24 Hz / 32-bit color depth	Up to 4 096 × 2 160 at 24 Hz / 32-bit color depth
Interface modules, interfaces				
Terminal bus interface	2 × Ethernet port (RJ45) 10/ 100/1000 Mbit/s, teaming-capable, two independent controllers: Intel Clarkville i217LM and Intel Springville i210-AT	2 × Ethernet port (RJ45) 10/ 100/1000 Mbps, teaming-capable, two independent controllers: Intel Jacksonville i219-LM and Intel Springville i210-AT	2 × Ethernet port (RJ45) 10/ 100/1000 Mbps, electrically isolated, teaming-capable, two independent controllers: Intel WGI217LM and Intel WGI210IT	2 × Ethernet port (RJ45) 10/ 100/1000 Mbps, electrically isolated, teaming-capable, two independent controllers: Intel WGI217LM and Intel WGI210IT
Plant bus interface module (single station/server), alternatives				
• BCE	Ethernet network card RJ45 10/100/1000 Mbps (PCIe x1)	Ethernet network card RJ45 10/100/1000 Mbps (PCIe x1)	Ethernet network card RJ45 10/100/1000 Mbps (PCIe x1)	Ethernet network card RJ45 10/100/1000 Mbps (PCIe x1)
• IE	CP 1623 communication module (PCIe x1)	CP 1623 communication module (PCIe x1)	CP 1623 communication module (PCIe x1)	CP 1623 communication module (PCIe x1)
USB 3.0	4 channels, 500 mA high current, super speed • 2 × at rear • 2 × at front	6 channels, 900 mA high current (≤ 3 A in total), super speed • 4 × at rear • 2 × at front	4 channels, 500 mA high current, super speed • 2 × at rear • 1 × at front • 1 × internal, with mechanical locking, e.g. for USB dongle	4 channels, 500 mA high current, super speed • 2 × at rear • 1 × at front • 1 × internal, with mechanical locking, e.g. for USB dongle
USB 2.0	7 channels, 500 mA high current, high speed • 6 × at rear • 1 × internal, with mechanical locking, e.g. for USB dongle	5 channels, 500 mA high current, high speed • 4 × at rear • 1 × internal, with mechanical locking, e.g. for USB dongle	3 channels, 500 mA high current, high speed • 2 × at rear • 1 × at front	3 channels, 500 mA high current, high speed • 2 × at rear • 1 × at front
Serial (COM)	1 × COM1 (V.24), 9-pin sub-D male connector	1 × COM1 (V.24), 9-pin sub-D female connector	1 × COM1 (V.24), 9-pin sub-D male connector	1 × COM1 (V.24), 9-pin sub-D male connector
Parallel (LPT)	No	No	No	No
Audio	Realtek ALC671, 6-channel DAC support; 1 × Line In; 1 × Micro In; 1 × Line Out (2 W into 4 Ω)	Realtek ALC671, 6-channel DAC support; 1 × Line In; 1 × Micro In; 1 × Line Out (2 W into 4 Ω)	1 × Micro In; 1 × Line Out/ headphones (2 × 0.5 W/8 Ω); IDT 92HD81HD	1 × Micro In; 1 × Line Out/ headphones (2 × 0.5 W/8 Ω); IDT 92HD81HD
DisplayPort	Yes, 2 ×	Yes, 2 ×	Yes, 2 ×	Yes, 2 ×
DVI	1 × DVI-I for digital connection of a monitor	1 × DVI-D for digital connection of a monitor	1 × DVI-I for digital connection of a monitor	1 × DVI-I for digital connection of a monitor
Multi-monitor interface	2 monitors: Integral interfaces: 1 × DVI and 1 × DVI via DisplayPort DVI adapter 3 or 4 monitors: Multi-monitor graphics card "4 Screens"	3 monitors: Integral interfaces: 1 × DVI and 2 × DisplayPort (DVI via DisplayPort DVI adapter; VGA via DisplayPort VGA adapter) 2 monitors additively with additional dual head PCIe x16 graphics card: 2 × DisplayPort (2 560 × 1 600 at 60 Hz, 32-bit color depth) or 2 × DVI (1 920 × 1 200 at 60 Hz, 32-bit color depth) or 2 × VGA (2048 × 1536 at 60 Hz, 32-bit color depth)	2 monitors: Integral interfaces: 1 × DVI and 1 × DVI via DisplayPort DVI adapter 3 or 4 monitors: Multi-monitor graphics card "4 Screens"	2 monitors: Integral interfaces: 1 × DVI and 1 × DVI via DisplayPort DVI adapter 3 or 4 monitors: Multi-monitor graphics card "4 Screens"
Keyboard	1 × PS/2	1 × PS/2	1 × PS/2	1 × PS/2
Mouse	1 × PS/2	1 × PS/2	1 × PS/2	1 × PS/2

Technical specifications (continued)

Type	SIMATIC IPC547E	SIMATIC IPC547G	SIMATIC IPC647D	SIMATIC IPC847D
Operating systems and diagnostics software				
ES/OS single station	Windows 7 Ultimate 64-bit, multi-language (German, English, French, Italian, Spanish, Chinese)	Windows 7 Ultimate 64-bit, multi-language (German, English, French, Italian, Spanish, Chinese)	Windows 7 Ultimate 64-bit, multi-language (German, English, French, Italian, Spanish, Chinese)	Windows 7 Ultimate 64-bit, multi-language (German, English, French, Italian, Spanish, Chinese)
OS server	Windows Server 2012 R2 Standard 64-bit including 5 CAL, multi-language (German, English, French, Italian, Spanish, Chinese)	Windows Server 2012 R2 Standard 64-bit including 5 CAL, multi-language (German, English, French, Italian, Spanish, Chinese)	Windows Server 2012 R2 Standard 64-bit including 5 CAL, multi-language (German, English, French, Italian, Spanish, Chinese)	Windows Server 2012 R2 Standard 64-bit including 5 CAL, multi-language (German, English, French, Italian, Spanish, Chinese)
OS client	Windows 7 Ultimate 64-bit, multi-language (German, English, French, Italian, Spanish, Chinese)	Windows 10 IoT Enterprise LTSB 2015 64-bit, multi-language (German, English, French, Italian, Spanish, Chinese)	Windows 7 Ultimate 64-bit, multi-language (German, English, French, Italian, Spanish, Chinese), or Windows 10 IoT Enterprise LTSB 2015 64-bit, multi-language (German, English, French, Italian, Spanish, Chinese)	-
System tested SIMATIC Industrial Software	SIMATIC IPC DiagMonitor integrated in pre-installation	SIMATIC IPC DiagMonitor integrated in pre-installation	SIMATIC IPC DiagMonitor integrated in pre-installation	SIMATIC IPC DiagMonitor integrated in pre-installation
Monitoring and diagnostics functions				
Watchdog	• Monitoring of program execution • Monitoring time adjustable in the software • Response to faults can be configured	• Monitoring of program execution • Monitoring time adjustable in the software • Restart can be configured for faults	• Monitoring of program execution • Monitoring time adjustable in the software • Restart can be configured for faults	• Monitoring of program execution • Monitoring time adjustable in the software • Restart can be configured for faults
Temperature	High/low violation of permitted operating temperature	High/low violation of permitted operating temperature	Violation of permissible operating temperature	Violation of permissible operating temperature
Fans	Speed monitoring for • Front fan • Processor fan • Power supply fan	Speed monitoring for • Front fan • Processor fan • Fan on drive cage • Fan of single, non-redundant power supply	Speed monitoring for • Front fan • Processor fan • Power supply fan	Speed monitoring for • Front fan • Processor fan • Power supply fan
Battery	Two-stage monitoring; service life following first warning at least 1 month	Two-stage monitoring; service life following first warning at least 1 month	Two-stage monitoring; service life following first warning at least 1 month	Two-stage monitoring; service life following first warning at least 1 month
Drives	SMART messages of hard disks; RAID states "Normal", "Degraded" and "Rebuild"	SMART messages of hard disks; RAID states "Normal", "Degraded" and "Rebuild"	SMART messages of hard disks; RAID states "Normal", "Degraded" and "Rebuild"	SMART messages of hard disks; RAID states "Normal", "Degraded" and "Rebuild"
Indicators (front LEDs)	• POWER (device switched on) • TEMP (temperature status) • FAN (fan/temperature monitoring) • HDD (hard disk activity) • HDD0/1/2/3 alarm (RAID status messages)	• POWER (operating state) • TEMP (temperature status) • FAN (fan status) • HDD (hard disk activity) • HDD0/1/2/3 alarm (RAID status messages)	• POWER (device switched on) • HDD (hard disk activity) • ETHERNET 1, ETHERNET 2 (Ethernet status) • WATCHDOG (ready/fault signal) • TEMP (temperature status) • FAN (fan/temperature monitoring) • HDD0/1 ALARM (RAID status messages)	• POWER (device switched on) • ETHERNET 1, ETHERNET 2 (Ethernet status) • WATCHDOG (ready/fault signal) • TEMP (temperature status) • FAN (fan/temperature monitoring) • HDD0/1/2 ALARM (RAID status messages) and HDD | HDD3 ALARM (hard disk activity and RAID status message)
Safety				
Protection class	Protection class I in accordance with IEC 61140	Protection class I in accordance with IEC 61140	Protection class I in accordance with IEC 61140	Protection class I in accordance with IEC 61140
Safety directives	IEC 60950-1; EN 60950-1; UL 60950-1; CSA C22.2 No. 60950-1-07	IEC 60950-1; EN 60950-1; UL 60950-1; CSA C22.2 No. 60950-1-07	IEC 60950-1; EN 60950-1; UL 60950-1; CSA C22.2 No 60950-1-07	IEC 60950-1 EN 60950-1 UL 60950-1 CSA C22.2 No 60950-1-07

Technical specifications (continued)

Type	SIMATIC IPC547E	SIMATIC IPC547G	SIMATIC IPC647D	SIMATIC IPC847D
Noise emission				
Operation	< 45 dB(A) according to DIN 45635 (40 dB(A) at 20 °C, Windows idle mode)	< 45 dB(A) according to DIN 45635 (40 dB(A) at 20 °C and Windows idle mode)	< 45 dB(A) at 25 °C according to EN ISO 7779 (without DVD drive)	< 55 dB(A) at 25 °C according to EN ISO 7779 (all drives in operation; high CPU loading) < 45 dB(A) at 25 °C according to EN ISO 7779 (without DVD drive; low CPU loading)
Electromagnetic compatibility (EMC)				
Interference emission	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	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	EN 61000-6-3, FCC Class A; EN 61000-6-4; CISPR 22, EN 55022 Class B; EN 61000-3-2 Class D and EN 61000-3-3	EN 61000-6-3, FCC Class A; EN 61000-6-4; CISPR 22, EN 55022 Class B; EN 61000-3-2 Class D and EN 61000-3-3
Immunity to conducted interference on the supply lines	±2 kV (to IEC 61000-4-4, burst) ±1 kV (to IEC 61000-4-5, symmetrical surge) ±2 kV (to IEC 61000-4-5, asymmetrical surge)	±2 kV (to IEC 61000-4-4, burst) ±1 kV (to IEC 61000-4-5, symmetrical surge) ±2 kV (to IEC 61000-4-5, asymmetrical surge)	±2 kV (to IEC 61000-4-4; burst) ±1 kV (to IEC 61000-4-5; symmetrical surge) ±2 kV (to IEC 61000-4-5; asymmetrical surge)	±2 kV (to IEC 61000-4-4; burst) ±1 kV (to IEC 61000-4-5; symmetrical surge) ±2 kV (to IEC 61000-4-5; asymmetrical surge)
Immunity to interference on signal lines	±1 kV (to IEC 61000-4-4; burst; length < 30 m) ±2 kV (to IEC 61000-4-4; burst; length > 30 m) ±2 kV (to IEC 61000-4-5; length > 30 m)	±1 kV (to IEC 61000-4-4; burst; length < 30 m) ±2 kV (to IEC 61000-4-4; burst; length > 30 m) ±2 kV (to IEC 61000-4-5; surge; length > 30 m)	±1 kV (to IEC 61000-4-4; burst; length < 30 m) ±2 kV (to IEC 61000-4-4; burst; length > 30 m) ±2 kV (to IEC 61000-4-5; length > 30 m)	±1 kV (to IEC 61000-4-4; burst; length < 30 m) ±2 kV (to IEC 61000-4-4; burst; length > 30 m) ±2 kV (to IEC 61000-4-5; surge; length > 30 m)
Immunity to static discharge	±4 kV contact discharge (according to IEC 61000-4-2) ±8 kV atmospheric discharge (according to IEC 61000-4-2)	±4 kV contact discharge (according to IEC 61000-4-2) ±8 kV atmospheric discharge (according to IEC 61000-4-2)	±6 kV contact discharge (according to IEC 61000-4-2) ±8 kV atmospheric discharge (according to IEC 61000-4-2)	±6 kV contact discharge (according to IEC 61000-4-2) ±8 kV atmospheric discharge (according to IEC 61000-4-2)
Immunity to radio frequency interference	1 V/m, 2 … 2.7 GHz, 80% AM (to IEC 61000-4-3) 3 V/m, 1.4 … 2 GHz, 80% AM (to IEC 61000-4-3) 10 V/m, 80 … 1 000 MHz, 80% AM (to IEC 61000-4-3) 10 V, 150 kHz … 80 MHz, 80% AM (to IEC 61000-4-6)	1 V/m, 2 … 2.7 GHz, 80% AM (to IEC 61000-4-3) 3 V/m, 1.4 … 2 GHz, 80% AM (to IEC 61000-4-3) 10 V/m, 80 … 1 000 MHz, 80% AM (to IEC 61000-4-3) 10 V, 150 kHz … 80 MHz, 80% AM (to IEC 61000-4-6)	3 V/m, 2 … 2.7 GHz, 80 % AM (to IEC 61000-4-3) 10 V/m, 80 … 1 000 MHz and 1.4 … 2 GHz, 80 % AM (to IEC 6100-4-3) 10 V, 10 kHz ... 80 MHz, 80 % AM (to IEC 61000-4-6)	3 V/m, 2 … 2.7 GHz, 80 % AM (to IEC 61000-4-3) 10 V/m, 80 … 1 000 MHz and 1.4 … 2 GHz, 80 % AM (to IEC 6100-4-3) 10 V, 10 kHz ... 80 MHz, 80 % AM (to IEC 61000-4-6)
Magnetic field	30 A/m, 50 Hz/60 Hz (according to IEC 61000-4-8)	30 A/m, 50 Hz/60 Hz (according to IEC 61000-4-8)	100 A/m, 50 Hz/60 Hz (to IEC 61000-4-8)	100 A/m, 50 Hz/60 Hz (to IEC 61000-4-8)
Climatic conditions				
Temperature	Tested according to IEC 60068-2-2, IEC 60068-2-1, IEC 60068-2-14	Tested according to IEC 60068-2-2, IEC 60068-2-1, IEC 60068-2-14	Tested according to IEC 60068-2-2, IEC 60068-2-1, IEC 60068-2-14	Tested according to IEC 60068-2-2, IEC 60068-2-1, IEC 60068-2-14
• Operation	+5 … +35 °C (without restriction) +5 ... +40 °C (no DVD burner operation) CPU up to 65 W power loss Gradient: max. 10 K/h, no condensation	+5 … +35 °C (without restriction) 0 … +40 °C (no DVD burner operation; power loss of expansion cards max. 80 W) Gradient: ≤ 10 K/h, no condensation	+5 … +35 °C (without restriction) +5 … +40 °C (with DVD burner)[1] +5 … +45 °C (without DVD burner)[1] +5 ... +50 °C (without DVD burner, no HDD operation in removable drive bay)[2] Gradient: max. 10 °C/h, no condensation [1] Power dissipation of the expansion modules in total < 55 W [2] Power dissipation of the expansion modules in total < 30 W	+5 … +35 °C[1] +5 … +40 °C (with DVD burner)[1] +5 … +45 °C (without DVD burner)[1] +5 ... +50 °C (without DVD burner, max. 3 removable drive bays)[2] Gradient: max. 10 °C/h, no condensation [1] Power dissipation of the expansion modules in total max. 80 W [2] Power dissipation of the expansion modules in total < 30 W
• Storage/transport	-20 … +60 °C Gradient: max. 20 K/h, no condensation	-20 … +60 °C Gradient: max. 2 K/h, no condensation	-20 … +60 °C Gradient: max. 20 °C/h, no condensation	-20 … +60 °C Gradient: max. 20 °C/h, no condensation

Technical specifications (continued)

Type	SIMATIC IPC547E	SIMATIC IPC547G	SIMATIC IPC647D	SIMATIC IPC847D
Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30	Tested according to IEC 60068-2-78, IEC 60068-2-30	Tested according to IEC 60068-2-78, IEC 60068-2-30	Tested according to IEC 60068-2-78, IEC 60068-2-30
• Operation	5 … 80 % at 25 °C (no condensation)	5 ... 85% at 30 °C (no condensation)	5 … 80 % at 25 °C (no condensation)	5 … 80 % at 25 °C (no condensation)
	Gradient: max. 10 K/h (no condensation)	Gradient: max. 10 K/h (no condensation)	Gradient: max. 10 °C/h (no condensation)	Gradient: max. 10 °C/h (no condensation)
• Storage/transport	5 … 95 % at 25 °C (no condensation)	5 ... 95% at 25 ... 55 °C (no condensation)	5 … 95 % at 25 °C (no condensation)	5 … 95 % at 25 °C (no condensation)
	Gradient: max. 20 K/h (no condensation)	Gradient: ≤ 20 K/h (no condensation)	Gradient: max. 20 °C/h (no condensation)	Gradient: max. 20 °C/h (no condensation)
Atmospheric pressure				
• Operation	1080 ... 795 hPa (corresponds to a height of -1 000 ... 2 000 m)	1080 ... 689 hPa (corresponds to a height of -1 000 ... 3 000 m)	1080 ... 795 hPa (corresponds to a height of -1 000 ... 2 000 m)	1080 ... 795 hPa (corresponds to a height of -1 000 ... 2 000 m)
• Storage/transport	1080 ... 660 hPa (corresponds to a height of -1 000 ... 3 500 m)	1080 ... 660 hPa (corresponds to a height of -1 000 ... 3 500 m)	1080 ... 660 hPa (corresponds to a height of -1 000 ... 3 500 m)	1080 ... 660 hPa (corresponds to a height of -1 000 ... 3 500 m)
Mechanical environmental conditions				
Vibrations	Tested according to IEC 60068-2-6, 10 cycles	Tested according to IEC 60068-2-6, 10 cycles	Tested according to IEC 60068-2-6, 10 cycles	Tested according to IEC 60068-2-6, 10 cycles
• Operation	20 … 58 Hz: Amplitude 0.015 mm; 58 … 200 Hz: 2 m/s² (approx. 0.2 g)	20 … 58 Hz: Amplitude 0.015 mm; 58 … 200 Hz: 2 m/s² (approx. 0.2 g)	10 … 58 Hz: Amplitude 0.0375 mm; 58 ... 500 Hz: 4.9 m/s² (approx. 0.5 g)	10 … 58 Hz: Amplitude 0.0375 mm[1]; 58 ... 500 Hz: 4.9 m/s² (approx. 0.5 g)[1]
	Note: No mechanical loads when using hard disks in removable drive bay and during DVD burning process.	Note: No mechanical loads when using hard disks in removable trays and during DVD burning process.	Note: No mechanical loads when using hard disks in removable drive bay and during DVD burning process.	Note: No mechanical loads when using hard disks in removable drive bay and during DVD burning process. [1] With HDD mounting on side panel and assembly of device using telescopic rails max. 0.019 mm at 10 … 58 Hz; max. 3 m/s² at 58 … 500 Hz
• Storage/transport	5 … 8.51 Hz: Amplitude 3.5 mm; 8.51 … 500 Hz: 9.8 m/s²	5 … 8.51 Hz: Amplitude 3.5 mm; 8.51 … 500 Hz: 9.8 m/s²	5 … 9 Hz: Amplitude 3.5 mm; 9 … 500 Hz: 9.8 m/s²	5 … 9 Hz: Amplitude 3.5 mm; 9 … 500 Hz: 9.8 m/s²
Shock resistance	Tested according to IEC 60068-2-27	Tested according to IEC 60068-2-27	Tested according to IEC 60068-2-27, IEC 60068-2-29	Tested according to IEC 60068-2-27, IEC 60068-2-29
• Operation	Half sine: 9.8 m/s², 20 ms (approx. 1 g), 100 shocks per axis	Half sine: 9.8 m/s², 20 ms (approx. 1 g), 100 shocks per axis	Half sine: 50 m/s², 30 ms (approx. 5 g), 100 shocks per axis	Half sine: 50 m/s², 30 ms (approx. 5 g), 100 shocks per axis[1]
	Note: No mechanical loads can be tolerated when using hard disks in removable drive bay and during burning process with CD/DVD burners.	Note: No mechanical loads when using hard disks in removable trays and during DVD burning process.	Note: No mechanical loads when using hard disks in removable drive bay and during DVD burning process.	Note: No mechanical loads when using hard disks in removable drive bay and during DVD burning process. [1] With HDD mounting on side panel and assembly of device using telescopic rails max. 0.019 mm at 10 … 58 Hz; max. 3 m/s² at 58 … 500 Hz
• Storage/transport	Half sine: 250 m/s², 6 ms, 1 000 shocks per axis	Half sine: 250 m/s², 6 ms, 1 000 shocks per axis	Half sine: 250 m/s², 6 ms, 1000 shocks per axis	Half sine: 250 m/s², 6 ms, 1000 shocks per axis

Technical specifications (continued)

Type	SIMATIC IPC547E	SIMATIC IPC547G	SIMATIC IPC647D	SIMATIC IPC847D
Approvals, standards				
CE in conformity with 2004/108/EC, 2006/95/EC	Yes	Yes	Yes	Yes
Industrial area of application				
• Interference emission	EN 61000-6-4 2007 + A1:2011	EN 61000-6-4:2007 + A1:2011	EN 61000-6-4:2007 + A1:2011	EN 61000-6-4:2007 + A1:2011
• Noise immunity	EN 61000-6-2:2005	EN 61000-6-2:2005	EN 61000-6-2:2005	EN 61000-6-2:2005
Application in apartment, business, trade, small enterprise				
• Interference emission	EN 61000-6-3:2007 + A1:2011	EN 61000-6-3:2007 + A1:2011	EN 61000-6-3:2007 + A1:2011	EN 61000-6-3:2007 + A1:2011
• Noise immunity	EN 61000-6-1:2007	EN 61000-6-1:2007	EN 61000-6-1:2007	EN 61000-6-1:2007
cULus: • 60950-1, File No. E11 5352 • CAN/CSA-C22.2 No. 60950-1-07 (I.T.E.)	Yes	Yes	Yes	Yes
USA: FCC Rules, Part 15, Class A	Yes	Yes	Yes	Yes
Canada: ICES-003, Class B; NMB-003, Class B	Yes	Yes	Yes	Yes
Australia/New Zealand: EN 61000-6-3:2007	Yes	Yes	Yes	Yes
Korea: Korean Certification (KC Mark)	Yes	Yes	Yes	Yes
EAC (Eurasian Conformity)	Yes	Yes	Yes	Yes
Special features				
Quality assurance according to ISO 9001:2008	Yes	Yes	Yes	Yes
Power supply				
Nominal supply voltage (U_N)	Single power supply unit: • 100 … 240 V AC (-15%, +10%) Redundant power supply unit: • 2 × 100 … 240 V AC (-15%, +10%)	Single power supply unit: • 100 … 240 V AC (-15%, +10%) Redundant power supply unit: • 2 × 100 … 240 V AC (-15%, +10%)	Single power supply unit: • 100 … 240 V AC (-15%, +10%) Redundant power supply unit: • 2 × 100 … 240 V AC (-15%, +10%)	Single power supply unit: • 100 … 240 V AC (-15%, +10%) Redundant power supply unit: • 2 × 100 … 240 V AC (-15%, +10%)
Frequency	50 … 60 Hz (min. 47 Hz, max. 63 Hz, sinusoidal)	50 … 60 Hz (min. 47 Hz, max. 63 Hz, sinusoidal)	50 … 60 Hz (min. 47 Hz, max. 63 Hz, sinusoidal)	50 … 60 Hz (min. 47 Hz, max. 63 Hz, sinusoidal)
Short-term voltage dip	20 ms at 93 V (max. 10 events per hour; min. recovery time 1 s)	• 20 ms for 230 W (max. 10 events per hour; recovery time ≥ 1 s) with single power supply unit • 20 ms for 240 W (≤ 10 events per hour; recovery time ≥ 1 s) with redundant power supply unit	20 ms at 93 V (max. 10 events per hour; min. recovery time 1 s)	20 ms at 93 V (max. 10 events per hour; min. recovery time 1 s)
Power consumption at 230 W secondary (maximum configuration)	290 W max. at 80% efficiency with single or redundant power supply unit	• 260 W max. at 90% efficiency with single power supply unit • 270 W max. at 85% efficiency with redundant power supply unit	240 W max. at 80 % efficiency with single or redundant power supply unit	• 270 W max. at 80 % efficiency with single power supply unit • 300 W max. at 70 % efficiency with redundant power supply unit
AC input current	• Continuous current up to 6 A at 100 V; up to 3 A at 240 V • Up to 80 A for 3.6 ms during startup with single power supply unit • Up to 210 A per module for 1.65 ms during startup with redundant power supply unit	Single power supply unit: • Continuous current up to 6 A at 100 V; up to 3 A at 240 V • Up to 80 A for 3.6 ms during startup Redundant power supply unit: • Continuous current up to 5 A at 100 V; up to 2.5 A at 240 V • Up to 210 A per module for 1.65 ms during startup	• Continuous current up to 6 A • Up to 30 A for 5 ms during startup	• Continuous current up to 7 A • Up to 30 A for 5 ms during startup

Technical specifications (continued)

Type	SIMATIC IPC547E	SIMATIC IPC547G	SIMATIC IPC647D	SIMATIC IPC847D
Max. current output (DC)	• +5 V: 26 A; +3.3 V: 24 A (in total up to 190 W) • +12 V: 15 A; +12 V: 15 A • -12 V: 0.2 A • +5 V_{aux}: 2 A Total sum of all voltages max. 230 W	Single power supply unit: • +5 V: 25 A; +3.3 V: 20 A (in total up to 190 W) • +12 V: 14 A; +12 V: 11 A • -12 V: 0.1 A • +5 V_{aux}: 2 A Redundant power supply unit: • +5 V: 20 A; +3.3 V: 20 A (in total up to 100 W) • +12 V: 16 A; +12 V: 16 A • -12 V: 0.5 A • +5 V_{aux}: 3 A Total sum of all voltages max. 230 W	• +5 V: 30 A; +3.3 V: 28 A (in total up to 160 W) • +12 V: 15 A • -12 V: 0.5 A • -5 V: 0.5 A • +5 V_{aux}: 2 A Total sum of all voltages max. 190 W	• +5 V: 26 A; +3.3 V: 24 A (in total up to 190 W) • +12 V: 15 A; +12 V: 15 A • -12 V: 0.2 A • +5 V_{aux}: 2 A Total sum of all voltages max. 210 W
Dimensions and weights				
Installation dimensions (W × H × D) in mm	433.5 × 176.5 × 445.5	433.5 × 176.5 × 445.5	430.4 × 88.1 × 444.6	430.4 × 177.4 × 444.4
Weight (depending on configuration)	15 … 23 kg	15 … 23 kg	10 … 14 kg	16 … 23 kg

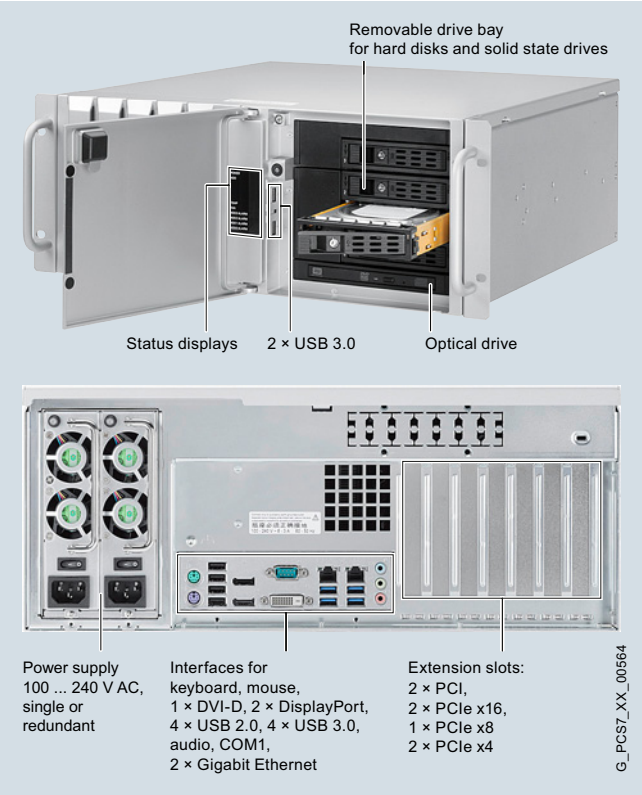
3

Overview

SIMATIC RackPC IPC547G

The SIMATIC PCS 7 Industrial Workstations based on a SIMATIC Rack PC of type IPC547G are UL-certified and have the CE mark for use in industry as well as residential, business and commercial environments. With its 19" design and innovative 6th generation Intel Core i technology, they offer high performance, availability and ease of service.

Design



SIMATIC IPC547G, front with open front door (top) and rear with redundant power supply

The SIMATIC PCS 7 Industrial Workstations of type IPC547G are suitable for reliable 24-hour continuous operation at ambient temperatures between 0 and 40 °C.

The corrosion-resistant 19" all-metal enclosure (4 U) is especially well-protected against dust by a filter and overpressure ventilation. It is service friendly and both mechanically and electromechanically rugged.

SIMATIC PCS 7 Industrial Workstations of type IPC547G are prepared for mounting on telescopic rails. They can be installed in vertical or horizontal position and in 500 mm deep 19" control cabinets, which saves space. Using an optional tower kit, the Rack PC can be converted into an industrial tower.

Further essential features

High-performance technology for demanding automation and visualization tasks

- Motherboard based on the Intel C236 chip set and Intel HD Graphics 530/P530 integrated in the processor.
- Powerful, energy-saving 6th generation Intel Core i processors with Turbo Boost 2.0, Hyper Threading and Virtualization technology
- Memory capacity with up to 64 GB DDR4-2133 SDRAM (support of dual channel technology)
- High data transfer rates, e.g. by serial ATA solid-state drive up to 480 GB, serial ATA hard disks up to 2 TB, Dual Gigabit Ethernet, PCI Express 3.0 technology
- Exceptional memory and graphics performance of graphics and memory controller integrated in the processor
- Optional graphics expansion (dual head graphics card PCI Express x16) for multi-monitor mode with up to 5 process monitors (up to 3 process monitors on the onboard graphics controller)

Design (continued)

Expansion options and interfaces

- 2 × 10/100/1000 Mbps Ethernet RJ45 port integrated onboard
- Numerous slots for PCI/PCI Express expansion modules (all for modules up to 312 mm in length)
  - 2 × PCI
  - 1 × PCIe x4 (1 lane) Gen 3
  - 1 × PCIe x4 (4 lanes) Gen 3
  - 1 × PCIe x8 (1 lane) Gen 3
  - 1 × PCIe x16 Gen 3
  - 1 × PCIe x16 (4 lanes) Gen 3
- Total of 6 USB 3.0 ports
  - 4 on the rear of the device
  - 2 on the front
- Total of 5 USB 2.0 ports
  - 4 on the rear of the device
  - 1 internal, e.g. for software license dongle ASIA
- Further interfaces at the rear of the device:
  - 2 × PS/2 for mouse and keyboard
  - 1 × serial COM interface (COM1)
  - 2 × DisplayPort V1.2, 1 × DVI-D
  - Audio (1 × Line In, 1 × Line Out, 1 × Micro In)
- Slots for drives (allocation depending on configured equipment):
  - 3 slots 5.25" (front), suitable for 4 removable trays
  - 1 5.25"slot for slimline drive (on the front)
  - 2 slots 3.5" (internal)
- Connections for SATA drives, allocation depending on preconfigured equipment with:
  - HDD/SSD 3.5"/2.5" in the removable tray, on the front (up to 4)
  - 1 slimline drive DVD±R/RW (on the front)
  - HDD/SSD 3.5"/2.5" on drive frame plate at left side wall (up to 2)

High system availability

- High-quality components with high MTBF values and quiet speed-controlled fans enable 24-hour continuous use in an industrial environment.
- RAID1 configuration for data mirroring on 2 HDD or SSD (also in hot-swap removable trays for replacement during operation)
- Faulty drive in a RAID configuration can be quickly identified via the HDD alarm LED
- RAID configuration optionally with hot-spare hard disk (reserve) for automatic takeover of the function of a defective drive
- Redundant 100 to 240 V AC power supply with hot-swap functionality as an equipment variant
- Lockable front door provides access protection for removable media, USB ports, operator controls (on/off button), front fan and air filter
- Efficient diagnostics and monitoring functions for temperature, fan, and program execution (watchdog) as well as for battery and drives
- LEDs on front for power, hard disk activity, and status of RAID, temperature and fans
- iAMT (Intel Active Management Technology) for remote access for purposes of remote maintenance

Integration in SIMATIC PCS 7 system diagnostics

- Using the SIMATIC IPC DiagMonitor diagnostics software, the operating hours counter as well as monitoring of program execution (watchdog), temperature, fan speed, hard disk status and system failure can be integrated into the system diagnostics with the SIMATIC PCS 7 Maintenance Station

Practical and service-friendly design for industrial use

- High electromagnetic compatibility (EMC)
- Degree of protection on the front: IP30 (with front door closed), on the rear: IP20
- Dust protection through fan-controlled overpressure ventilation across a filter
- Replacement of components, e.g. plug-in modules or hard disks, requires a single tool
- Replacement of front fan and dust filter without a tool
- Card retainers for securing modules, especially for protection against vibration and shock
- Fast replacement of hard disks by means of a hot-swap removable tray (equipment variant)
- Easy cabinet installation possible using telescopic rails

High investment protection

- System-tested with SIMATIC PCS 7
- Marketing period of 1.5 to 2 years, supply with replacement parts/repairs over 3 years
- Support for legacy interfaces (PS/2, COM)
- Certifications for worldwide marketing (cULus)
- Mounting-compatible across device generations
- Worldwide service and support

3

Design (continued)

Restore DVD

The operating system and the SIMATIC PCS 7 software are already preinstalled on the SIMATIC PCS 7 Industrial Workstations. The supplied restore DVDs enable fast restoration of the delivery condition or a new installation for a different application. The following table shows you the contents of the supplied restore DVDs and the preinstalled software for each version of the SIMATIC PCS 7 Industrial Workstation.

SIMATIC PCS 7 V8.2 Industrial Workstation	Supplied restore DVDs	Preinstalled on delivery
Single station		
SIMATIC PCS 7 ES/OS IPC547G (IE or BCE)	Restore DVD 1: Windows 7 Ultimate 64-bit operating system with default settings for optimal SIMATIC PCS 7 operation	–
	Restore DVD 2: Windows 7 Ultimate 64-bit operating system plus software installation for operation as ES/OS single station	●
Server		
SIMATIC PCS 7 OS Server IPC547G (IE or BCE)	Restore DVD 1: Windows Server 2012 R2 64-bit operating system with default settings for optimal SIMATIC PCS 7 operation	–
	Restore DVD 2: Windows Server 2012 R2 64-bit operating system plus software installation for operation as OS server	●
Client		
SIMATIC PCS 7 OS Client IPC547G	Restore DVD 1: Windows 10 IoT Enterprise LTSB 2015 64-bit operating system with default settings for optimal SIMATIC PCS 7 operation	–
	Restore DVD 2: Windows 10 IoT Enterprise LTSB 2015 64-bit operating system plus software installation for operation as OS client	●

Individual configuration of SIMATIC PCS 7 Industrial Workstations

By selecting predefined equipment features, you can individually configure the SIMATIC PCS 7 Industrial Workstation and thus also its article number. Selection tables for single station, server and client are available for this in the "Ordering data" section (paper catalog). A further selection table enables you to order complete SIMATIC PCS 7 Industrial Workstations as a replacement part.

The "PCS 7 INDUSTRIAL WORKSTATION IPC547G" configurator in the Industry Mall allows you to interactively select and directly order the SIMATIC PCS 7 Industrial Workstation in the single station, server or client version - either directly for the system or as a replacement part.

Individually configured SIMATIC PCS 7 Industrial Workstations will be built to order. Therefore the average delivery time for such an order is 15 working days.

Ordering data

Individually configurable SIMATIC PCS 7 Industrial Workstations IPC547G

	Article No.
SIMATIC PCS 7 Industrial Workstation for ES/OS Single Station	**6ES7660-**
SIMATIC IPC547G Industrial PC	**7** ■ ■ ■ ■ **-** **2** **A** ■ ■
Windows 7 Ultimate 64-bit operating system, multi-language (English, German, French, Italian, Spanish, Chinese), and SIMATIC PCS 7 V8.2 pre-installed	
Processor and system type	
• Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache); ES/OS single station	**A**
• Core i7-6700 (4C/8T, 3.4 (4.0) GHz, 8 MB cache); ES/OS single station	**D**
• Xeon E3-1275 v5 (4C/8T, 3.6 (4.0) GHz, 8 MB cache); ES/OS single station	**G**
Hard disks and solid-state drives	
With SATA hard disk (HDD)	
• 1 × 1 TB HDD SATA internal; 0.2 g vibration, 1 g shock	**A**
• 1 × 1 TB HDD SATA, Enterprise, internal; 0.2 g vibration, 1 g shock	**B**
• RAID 1, 1 TB (2 × 1 TB HDD SATA), internal; 0.2 g vibration, 1 g shock	**C**
• RAID 1, 1 TB (2 × 1 TB HDD SATA, Enterprise), internal; 0.2 g vibration, 1 g shock	**D**
• 1 × 1 TB HDD SATA in removable tray, on the front	**E**
• 1 × 1 TB HDD SATA, Enterprise, in removable tray, on the front	**F**
• RAID 1, 1 TB (2 × 1 TB HDD SATA), in removable trays, hot-swap; on the front	**G**
• RAID 1, 1 TB (2 × 1 TB HDD SATA, Enterprise), in removable trays, hot-swap; on the front	**H**
• RAID 1, 2 TB (2 × 2 TB HDD SATA, Enterprise), in removable trays, hot-swap; on the front	**J**
• RAID 1, 2 TB (2 × 2 TB HDD SATA, Enterprise), in removable trays, hot-swap + 1 × 2 TB HDD SATA, Enterprise, as hot spare in removable tray; on the front	**K**
HDD SATA + SSD	
• RAID 1, 2 TB (2 × 2 TB HDD SATA, Enterprise), in removable trays, hot-swap + 1 × 480 GB SSD (eMLC) SATA, in removable tray; on the front	**L**
SSD	
• 240 GB SSD (eMLC) SATA; internal	**M**
• 480 GB SSD (eMLC) SATA; internal	**N**
• 240 GB SSD (eMLC) SATA, in removable tray; on the front	**P**
• 480 GB SSD (eMLC) SATA, in removable tray; on the front	**Q**
• RAID 1, 240 GB (2 × 240 GB SSD (eMLC) SATA), in removable trays, hot-swap, on the front	**R**
• RAID 1, 480 GB (2 × 480 GB SSD (eMLC) SATA), in removable trays, hot-swap, on the front	**S**
Main memory	
• 8 GB DDR4 SDRAM (2 × 4 GB), dual channel	**1**
• 16 GB DDR4 SDRAM (2 × 8 GB), dual channel	**2**
• 32 GB DDR4 SDRAM (2 × 16 GB), dual channel	**3**
• 64 GB DDR4 SDRAM (4 × 16 GB), dual channel	**4**

	Article No.
SIMATIC PCS 7 Industrial Workstation for ES/OS Single Station	**6ES7660-**
SIMATIC IPC547G Industrial PC	**7** ■ ■ ■ ■ **-** **2** **A** ■ ■
Windows 7 Ultimate 64-bit operating system, multi-language (English, German, French, Italian, Spanish, Chinese), and SIMATIC PCS 7 V8.2 pre-installed	
Communication with plant bus	
• BCE	**0**
• Industrial Ethernet (CP 1623)	**1**
• Without additional communication modules	**8**
Enclosure type/removable media/ multi-monitor mode	
Blue chromated enclosure	
• Without optical drive	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	**A**
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	**B**
• With DVD±RW (slim)	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	**C**
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	**D**
Painted enclosure	
• Without optical drive	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	**E**
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	**F**
• With DVD±RW (slim)	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	**G**
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	**H**
Power supply unit, country-specific version	
• 100 ... 240 V AC industrial power supply to NAMUR	
• Without power supply cord	**0**
• Power supply cord for Europe	**1**
• Power supply cord for the USA	**2**
• Power supply cord for China	**3**
• 2 × 100 ... 240 V AC, redundant industrial power supply	
• Without power supply cord	**4**
• Power supply cord for Europe	**5**
• Power supply cord for the USA	**6**
• Power supply cord for China	**8**

3

Ordering data (continued)

	Article No.
SIMATIC PCS 7 Industrial Workstation for OS Server	**6ES7660-**
	7 ■ ■ ■ ■ - 2 F ■ ■
SIMATIC IPC547G Industrial PC	
Windows Server 2012 R2 Standard Edition operating system, 64-bit, incl. 5 CAL, multi-language (English, German, French, Italian, Spanish, Chinese), and SIMATIC PCS 7 V8.2 preinstalled	
Processor and system type	
• Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache); OS server	**B**
• Core i7-6700 (4C/8T, 3.4 (4.0) GHz, 8 MB cache); OS server	**E**
• Xeon E3-1275 v5 (4C/8T, 3.6 (4.0) GHz, 8 MB cache); OS server	**H**
Hard disks and solid-state drives	
With SATA hard disk (HDD)	
• 1 × 1 TB HDD SATA internal; 0.2 g vibration, 1 g shock	**A**
• 1 × 1 TB HDD SATA, Enterprise, internal; 0.2 g vibration, 1 g shock	**B**
• RAID 1, 1 TB (2 × 1 TB HDD SATA), internal; 0.2 g vibration, 1 g shock	**C**
• RAID 1, 1 TB (2 × 1 TB HDD SATA, Enterprise), internal; 0.2 g vibration, 1 g shock	**D**
• 1 × 1 TB HDD SATA in removable tray, on the front	**E**
• 1 × 1 TB HDD SATA, Enterprise, in removable tray, on the front	**F**
• RAID 1, 1 TB (2 × 1 TB HDD SATA), in removable trays, hot-swap, on the front	**G**
• RAID 1, 1 TB (2 × 1 TB HDD SATA, Enterprise), in removable trays, hot-swap; on the front	**H**
• RAID 1, 2 TB (2 × 2 TB HDD SATA, Enterprise), in removable trays, hot-swap; on the front	**J**
• RAID 1, 2 TB (2 × 2 TB HDD SATA, Enterprise), in removable trays, hot-swap + 1 × 2 TB HDD SATA, Enterprise, as hot spare in removable tray; on the front	**K**
HDD SATA + SSD	
• RAID 1, 2 TB (2 × 2 TB HDD SATA, Enterprise), in removable trays, hot-swap + 1 × 480 GB SSD (eMLC) SATA, in removable tray; on the front	**L**
SSD	
• 240 GB SSD (eMLC) SATA; internal	**M**
• 480 GB SSD (eMLC) SATA; internal	**N**
• 240 GB SSD (eMLC) SATA, in removable tray; on the front	**P**
• 480 GB SSD (eMLC) SATA, in removable tray; on the front	**Q**
• RAID 1, 240 GB (2 × 240 GB SSD (eMLC) SATA), in removable trays, hot-swap, on the front	**R**
• RAID 1, 480 GB (2 × 480 GB SSD (eMLC) SATA), in removable trays, hot-swap, on the front	**S**
Main memory	
• 8 GB DDR4 SDRAM (2 × 4 GB), dual channel	**1**
• 16 GB DDR4 SDRAM (2 × 8 GB), dual channel	**2**
• 32 GB DDR4 SDRAM (2 × 16 GB), dual channel	**3**
• 64 GB DDR4 SDRAM (4 × 16 GB), dual channel	**4**
Communication with plant bus	
• BCE	**0**
• Industrial Ethernet (CP 1623)	**1**
• Without additional communication modules	**8**

	Article No.
SIMATIC PCS 7 Industrial Workstation for OS Server	**6ES7660-**
	7 ■ ■ ■ ■ - 2 F ■ ■
SIMATIC IPC547G Industrial PC	
Windows Server 2012 R2 Standard Edition operating system, 64-bit, incl. 5 CAL, multi-language (English, German, French, Italian, Spanish, Chinese), and SIMATIC PCS 7 V8.2 preinstalled	
Enclosure type/removable media/ multi-monitor mode	
Blue chromated enclosure	
• Without optical drive	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	**A**
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	**B**
• With DVD±RW (slim)	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	**C**
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	**D**
Painted enclosure	
• Without optical drive	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	**E**
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	**F**
• With DVD±RW (slim)	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	**G**
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	**H**
Power supply unit, country-specific version	
• 100 ... 240 V AC industrial power supply to NAMUR	
• Without power supply cord	**0**
• Power supply cord for Europe	**1**
• Power supply cord for the USA	**2**
• Power supply cord for China	**3**
• 2 × 100 ... 240 V AC, redundant industrial power supply	
• Without power supply cord	**4**
• Power supply cord for Europe	**5**
• Power supply cord for the USA	**6**
• Power supply cord for China	**8**

Ordering data (continued)

	Article No.
SIMATIC PCS 7 Industrial Workstation for OS Client	**6ES7660-**
	7 ■ ■ ■ ■ - 2 B ■ ■
SIMATIC IPC547G Industrial PC	
Windows 10 IoT Enterprise LTSB 2015 operating system, 64-bit, multi-language (German, English, French, Italian, Spanish, Chinese), and SIMATIC PCS 7 V8.2 preinstalled	
Processor and system type	
• Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache); OS client	**C**
• Core i7-6700 (4C/8T, 3.4 (4.0) GHz, 8 MB cache); OS client	**F**
• Xeon E3-1275 v5 (4C/8T, 3.6 (4.0) GHz, 8 MB cache); OS client	**J**
Hard disks and solid-state drives	
With SATA hard disk (HDD)	
• 1 × 1 TB HDD SATA internal; 0.2 g vibration, 1 g shock	**A**
• 1 × 1 TB HDD SATA, Enterprise, internal; 0.2 g vibration, 1 g shock	**B**
• RAID 1, 1 TB (2 × 1 TB HDD SATA), internal; 0.2 g vibration, 1 g shock	**C**
• RAID 1, 1 TB (2 × 1 TB HDD SATA, Enterprise), internal; 0.2 g vibration, 1 g shock	**D**
• 1 × 1 TB HDD SATA in removable tray, on the front	**E**
• 1 × 1 TB HDD SATA, Enterprise, in removable tray, on the front	**F**
• RAID 1, 1 TB (2 × 1 TB HDD SATA), in removable trays, hot-swap, on the front	**G**
• RAID 1, 1 TB (2 × 1 TB HDD SATA, Enterprise), in removable trays, hot-swap; on the front	**H**
• RAID 1, 2 TB (2 × 2 TB HDD SATA, Enterprise), in removable trays, hot-swap; on the front	**J**
• RAID 1, 2 TB (2 × 2 TB HDD SATA, Enterprise), in removable trays, hot-swap + 1 × 2 TB HDD SATA, Enterprise, as hot spare in removable tray; on the front	**K**
SSD	
• 240 GB SSD (eMLC) SATA; internal	**M**
• 480 GB SSD (eMLC) SATA; internal	**N**
• 240 GB SSD (eMLC) SATA, in removable tray; on the front	**P**
• 480 GB SSD (eMLC) SATA, in removable tray; on the front	**Q**
• RAID 1, 240 GB (2 × 240 GB SSD (eMLC) SATA), in removable trays, hot-swap, on the front	**R**
• RAID 1, 480 GB (2 × 480 GB SSD (eMLC) SATA), in removable trays, hot-swap, on the front	**S**
Main memory	
• 4 GB DDR4 SDRAM (1 × 4 GB)	**0**
• 8 GB DDR4 SDRAM (2 × 4 GB), dual channel	**1**
• 16 GB DDR4 SDRAM (2 × 8 GB), dual channel	**2**
• 32 GB DDR4 SDRAM (2 × 16 GB), dual channel	**3**
• 64 GB DDR4 SDRAM (4 × 16 GB), dual channel	**4**
Communication with plant bus	
• Without additional communication modules	**8**

	Article No.
SIMATIC PCS 7 Industrial Workstation for OS Client	**6ES7660-**
	7 ■ ■ ■ ■ - 2 B ■ ■
SIMATIC IPC547G Industrial PC	
Windows 10 IoT Enterprise LTSB 2015 operating system, 64-bit, multi-language (German, English, French, Italian, Spanish, Chinese), and SIMATIC PCS 7 V8.2 preinstalled	
Enclosure type/removable media/ multi-monitor mode	
Blue chromated enclosure	
• Without optical drive	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	**A**
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	**B**
• With DVD±RW (slim)	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	**C**
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	**D**
Painted enclosure	
• Without optical drive	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	**E**
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	**F**
• With DVD±RW (slim)	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	**G**
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	**H**
Power supply unit, country-specific version	
• 100 ... 240 V AC industrial power supply to NAMUR	
• Without power supply cord	**0**
• Power supply cord for Europe	**1**
• Power supply cord for the USA	**2**
• Power supply cord for China	**3**
• 2 × 100 ... 240 V AC, redundant industrial power supply	
• Without power supply cord	**4**
• Power supply cord for Europe	**5**
• Power supply cord for the USA	**6**
• Power supply cord for China	**8**

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Ordering data (continued)

SIMATIC PCS 7 Industrial Workstation of type IPC547G as replacement part

Without hardware expansions, software pre-installation, system software licenses, restore DVDs

Replacement for ES/OS single station, OS server or OS client of type IPC547G

	Article No.
SIMATIC PCS 7 Industrial Workstation as replacement part	**6ES7660-**
SIMATIC IPC547G Industrial PC	7 ■ ■ ■ ■ - 8 ■ ■ ■
Without SIMATIC PCS 7 restore DVDs, without pre-installation	
Processor and system type	
• Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache); replacement part	W
• Core i7-6700 (4C/8T, 3.4 (4.0) GHz, 8 MB cache); replacement part	X
• Xeon E3-1275 v5 (4C/8T, 3.6 (4.0) GHz, 8 MB cache); replacement part	Y
Hard disks and solid-state drives	
With SATA hard disk (HDD)	
• 1 × 1 TB HDD SATA, internal; 0.2 g vibration, 1 g shock	A
• 1 × 1 TB HDD SATA, Enterprise, internal; 0.2 g vibration, 1 g shock	B
• RAID 1, 1 TB (2 × 1 TB HDD SATA), internal; 0.2 g vibration, 1 g shock	C
• RAID 1, 1 TB (2 × 1 TB HDD SATA, Enterprise), internal; 0.2 g vibration, 1 g shock	D
• 1 × 1 TB HDD SATA in removable tray, on the front	E
• 1 × 1 TB HDD SATA, Enterprise, in removable tray, on the front	F
• RAID 1, 1 TB (2 × 1 TB HDD SATA), in removable trays, hot-swap, on the front	G
• RAID 1, 1 TB (2 × 1 TB HDD SATA, Enterprise), in removable trays, hot-swap; on the front	H
• RAID 1, 2 TB (2 × 2 TB HDD SATA, Enterprise), in removable trays, hot-swap; on the front	J
• RAID 1, 2 TB (2 × 2 TB HDD SATA, Enterprise), in removable trays, hot-swap + 1 × 2 TB HDD SATA, Enterprise, as hot spare in removable tray; on the front	K
HDD SATA + SSD	
• RAID 1, 2 TB (2 × 2 TB HDD SATA, Enterprise), in removable trays, hot-swap + 1 × 480 GB SSD (eMLC) SATA, in removable tray; on the front	L
SSD	
• 240 GB SSD (eMLC) SATA; internal	M
• 480 GB SSD (eMLC) SATA; internal	N
• 240 GB SSD (eMLC) SATA, in removable tray; on the front	P
• 480 GB SSD (eMLC) SATA, in removable tray; on the front	Q
• RAID 1, 240 GB (2 × 240 GB SSD (eMLC) SATA), in removable trays, hot-swap, on the front	R
• RAID 1, 480 GB (2 × 480 GB SSD (eMLC) SATA), in removable trays, hot-swap, on the front	S
Main memory	
• 4 GB DDR4 SDRAM (1 × 4 GB)	0
• 8 GB DDR4 SDRAM (2 × 4 GB), dual channel	1
• 16 GB DDR4 SDRAM (2 × 8 GB), dual channel	2
• 32 GB DDR4 SDRAM (2 × 16 GB), dual channel	3
• 64 GB DDR4 SDRAM (4 × 16 GB), dual channel	4
Communication with plant bus	
• BCE	0
• Industrial Ethernet (CP 1623)	1
• Without additional communication modules	8

	Article No.
SIMATIC PCS 7 Industrial Workstation as replacement part	**6ES7660-**
SIMATIC IPC547G Industrial PC	7 ■ ■ ■ ■ - 8 ■ ■ ■
Without SIMATIC PCS 7 restore DVDs, without pre-installation	
Operating system	
• Windows 7 Ultimate, 64-bit, multi-language (English, German, French, Italian, Spanish, Chinese)	A
• Windows 10 IoT Enterprise LTSB 2015 64-bit, multi-language (German, English, French, Italian, Spanish, Chinese)	B
• Windows Server 2012 R2 Standard Edition, 64-bit, incl. 5 CAL, multi-language (English, German, French, Italian, Spanish, Chinese)	F
• Without operating system	X
Enclosure type/removable media/ multi-monitor mode	
Blue chromated enclosure	
• Without optical drive	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	A
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	B
• With DVD±RW (slim)	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	C
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	D
Painted enclosure	
• Without optical drive	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	E
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	F
• With DVD±RW (slim)	
• Incl. 1 × adapter cable (DisplayPort to DVI-D)	G
• Multi-monitor mode with 4 monitors: Onboard interfaces (2 × DisplayPort) + dual head PCIe x16 graphics card (2 × DisplayPort) combined incl. 1 × adapter cable DisplayPort to DVI-D and 1 × Dual DVI-I adapter	H
Power supply unit, country-specific version	
• 100 ... 240 V AC industrial power supply to NAMUR	
• Without power supply cord	0
• Power supply cord for Europe	1
• Power supply cord for the USA	2
• Power supply cord for China	3
• 2 × 100 ... 240 V AC, redundant industrial power supply	
• Without power supply cord	4
• Power supply cord for Europe	5
• Power supply cord for the USA	6
• Power supply cord for China	8

Ordering data (continued)

Additional and expansion components

USB keyboard TKL-105 Color: black	
• Keyboard layout, German	**6AV6881-0AU14-0AA0**
• Keyboard layout, US-International	**6AV6881-0AU14-1AA0**
SIMATIC HMI USB mouse Optical mouse with scroll wheel and USB connection, color anthracite	**6AV2181-8AT00-0AX0**
Memory expansion	
• 4 GB DDR4-2133 SDRAM (1 × 4 GB)	**6ES7648-2AL60-0PA0**
• 8 GB DDR4-2133 SDRAM (1 × 8 GB)	**6ES7648-2AL70-0PA0**
• 16 GB DDR4-2133 SDRAM (1 × 16 GB)	**6ES7648-2AL80-0PA0**
Tower Kit for SIMATIC IPC547G Tower Kit for conversion of a Rack PC into an industrial tower PC	**6ES7648-1AA01-0XC0**
Retainer For locking the internal USB port	**6ES7648-1AA00-0XK0**
Removable tray For 3.5" hard disk (SATA/SAS) or 2.5" SSD (SATA), without drive	**6ES7648-0EH00-1BA0**
Adapter cable	
• DisplayPort to DVI-D for onboard graphics	**6ES7648-3AF00-0XA0**
• DisplayPort to VGA for onboard graphics	**6ES7648-3AG00-0XA0**
Power supply cord, 3 m, for Rack PC	
• Europe (for Austria, Belgium, Finland, France, Germany, the Netherlands, Spain, Sweden)	**6ES7900-0AA00-0XA0**
• For the UK	**6ES7900-0BA00-0XA0**
• For Switzerland	**6ES7900-0CA00-0XA0**
• For the USA	**6ES7900-0DA00-0XA0**
• For Italy	**6ES7900-0EA00-0XA0**
• For China	**6ES7900-0FA00-0XA0**
SIMATIC NET HARDNET IE S7 REDCONNECT PowerPack For communication with high-availability AS, see "Communication", section "Industrial Ethernet – System connection PCS 7 systems"	

Accessories

Power supply cord for Rack PC

The power supply cords for the SIMATIC PCS 7 Industrial Workstation of type IPC547G are governed by country-specific particularities. The "Europe" power supply cord can be used in Germany, France, Spain, the Netherlands, Belgium, Sweden, Austria and Finland. Besides the "Europe" power supply cord, specific power supply cords for the USA and China can also be selected in the configurator. Other country-specific power supply cords for Great Britain, Italy and Switzerland can be ordered separately as accessories.

The following picture shows the design of some of the plugs for the power supply connection:

Country-specific power supply cords for Rack PC

Tower Kit for IPC547G

The Tower Kit enables conversion of a SIMATIC PCS 7 Industrial Workstation with rack PC design to an industrial tower PC.
A Tower Kit can be ordered as an accessory for the SIMATIC PCS 7 Industrial Workstation of type IPC547G.

SIMATIC IPC547G with Tower Kit