

Industrial Computing

Rack PC

Introduction

Overview



Rack IPCs are flexible, expandable, high-availability industrial PC systems for powerful yet compact applications using 19-inch technology for 24-hour continuous duty.

The new classification of Rack IPCs allows customers to easily select devices that are precisely focused on an application without having to compromise on the desired configuration.

The following 3 device classes are available for various requirements:

Device classes	Product name	Product description	Focus applications
Server class	IPC RS-xxx	<ul style="list-style-type: none"> High availability system with remote manageability Computing power and expandability with AI accelerator Server operating system RAID 1/5 configurations Storage and network capability Redundant power supply units 	Computationally-intensive CPU/GPU-heavy applications with advanced manageability: <ul style="list-style-type: none"> Virtualization Artificial intelligence (AI) training Shopfloor micro data centers Network appliances
Workstation class	IPC RW-xxx	<ul style="list-style-type: none"> Computing power and expandability with high-end graphics cards Desktop operating system RAID 1 configurations Redundant optional power supply units 	Complex and graphically demanding applications: <ul style="list-style-type: none"> Industrial image processing Artificial intelligence (AI) inference Simulation SCADA/visualization Instrumentation and monitoring
Client class	IPC RC-xxx	<ul style="list-style-type: none"> Cost-optimized product Expandability with one graphics card for multi-monitoring Desktop operating system 	Simple applications: <ul style="list-style-type: none"> Visualization / HMI Instrumentation and monitoring

Different platforms are provided for performance requirements, which can also be found in the product name:

Processor performance	Product name	Platform properties	Power
> 95 Watt, 2 bases	IPC Rx-8xx	Memory expansion up to 6 TB, no integrated graphics	***
> 95 Watt, 1 base	IPC Rx-7xx	Memory expansion up to 4 TB, no integrated graphics	**
> 35-65 Watt, 1 base	IPC Rx-5xx	Memory expansion up to 128 GB, integrated graphics	*

In each device class, devices with different range of functions stand for the properties according to the following numbering:

Scope of functions	Product name	Properties, e.g.	Price
Premium	IPC Rx-xx 8	<ul style="list-style-type: none"> Higher robustness (temperature, shock/vibration) Advanced efficient self-diagnostics and status LEDs Highest expandability Additional certifications or approvals Extended availability of spare parts and repairs 	***
Medium	IPC Rx-xx 5	<ul style="list-style-type: none"> Standard robustness (temperature, shock/vibration) User-friendly enclosure concept and status LEDs Standard availability of spare parts and repair 	**
Basic	IPC Rx-xx 3	<ul style="list-style-type: none"> Standard robustness (temperature, shock/vibration) Standard availability of spare parts and repair 	*

New devices. New names.

SIMATIC IPC RS-828, IPC1047 - maximum system performance and expandability

SIMATIC IPC847 - maximum expandability and industrial functionality

SIMATIC IPC647 - maximum compactness combined with maximum industrial functionality

SIMATIC IPC RW-545, IPC547 - latest technology and maximum performance at an attractive price

SIMATIC IPC RW-543, IPC347 - high performance at an optimized price

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Technical specifications

Article number	6AG4011-3....-...1 SIMATIC IPC RW-543A	6AG4012-2....-0.X0 SIMATIC IPC347G (Rack PC, 19, 4HE)	6AG4105-6....-.... SIMATIC IPC RS-545A	6AG4104-6....-.... SIMATIC IPC RW-545A	6AG4103-6....-.... SIMATIC IPC RC-545A
General information					
Product type designation	RW-543A	IPC347G	RS-545A	RW-545A	RC-545A
Installation type/mounting					
Mounting	for horizontal or vertical installation	For horizontal and vertical mounting	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)
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 (autorange) 50 / 60 Hz; optional redundant 100/240 V AC	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC	100/240V AC (autorange) 50/60 Hz
Line frequency					
• Rated value 50 Hz	Yes	Yes	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes	Yes	Yes
Mains buffering					
• Mains/voltage failure stored energy time			20 ms	20 ms	20 ms
Processor					
Processor type	Pentium 6400 (2C/4T, 4.0 GHz, 4 MB Cache) / Intel Core i3-10100E (4C/8T, 3.2 (3.8) GHz, 6 MB Cache) / Intel Core i5-10500E (6C/12T, 3.1 (4.2) GHz, 12 MB Cache) / Intel Core i7-10700E (8C/16T, 2.9 (4.5) GHz, 16 MB Cache) / Intel Core i9-10900E (10C/20T, 2.8 (4.7) GHz, 20 MB Cache)	Core i7-6700 (4C/4T, 3.6 (4.0) GHz, 8 MB Cache)	Core i5-12500E 6C(4P)/12T, 2.9 (4.5) GHz, 18 MB cache; Core i3-12100E 4C(4P)/8T, 3.2 (4.2) GHz, 12 MB cache;	Core i9-12900E 16C(8P+8E)/24T, 2.3 (5.0) GHz, 30 MB cache; Core i7-12700E 12C(8P+4E)/20T, 2.1 (4.8) GHz, 25 MB cache; Core i5-12500E 6C(4P)/12T, 2.9 (4.5) GHz, 18 MB cache; Core i5-12500E 6C(4P)/12T, 2.9 (4.5) GHz, 18 MB cache; Core i3-12100E 4C(4P)/8T, 3.2 (4.2) GHz, 12 MB cache;	Core i7-12700E 12C(8P+4E)/20T, 2.1 (4.8) GHz, 25 MB cache; Core i5-12500E 6C(6P)/12T, 2.9 (4.5) GHz, 18 MB cache; Core i3-12100E 4C(4P)/8T, 3.2 (4.2) GHz, 12 MB cache;
Chipset	Intel Q470	Intel H110	Intel R680E	Intel R680E	Intel H610E
Graphic					
Graphics controller			Intel® UHD Graphics 730 / 770	Intel® UHD Graphics 730 / 770	Intel® UHD Graphics 730 / 770
Graphics card			No	Yes; NVIDIA T400, RTX A2000, RTX A4000, RTX A5000	Yes; NVIDIA T400

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	SIMATIC IPC RW-543A	SIMATIC IPC347G (Rack PC, 19, 4HE)	SIMATIC IPC RS-545A	SIMATIC IPC RW-545A	SIMATIC IPC RC-545A
Drives					
Hard disk	HDD & SSD	HDD & SSD	1x 2 TB HDD 3.5" SATA, RAID1; 2x 2 TB HDD [Enterprise] 3.5" SATA, RAID1; 2x 4 TB HDD [Enterprise] 3.5" SATA, RAID1; 2x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare, RAID5; 3x 4 TB HDD [Enterprise] 3.5" SATA, RAID5; 3x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare	1x 2 TB HDD 3.5" SATA, 2x 2 TB HDD 3.5" SATA, RAID1 2x 2 TB HDD [Enterprise] 3.5" SATA, RAID1 2x 4 TB HDD [Enterprise] 3.5" SATA	1x 2 TB HDD 3.5" SATA, 2x 2 TB HDD 3.5" SATA
SSD			Yes; 1x 960 GB 2.5" SATA SSD, RAID1; 2x 480 GB 2.5" SATA SSD, RAID1; 2x 960 GB 2.5" SATA SSD, 1x 1024 GB M.2 NVMe SSD, RAID1; 2x 512 GB M.2 NVMe SSD, RAID1; 2x 1024 GB M.2 NVMe SSD	Yes; 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 960 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD, RAID1 2x 960 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD, 2x 1 024 GB M.2 NVMe SSD	Yes; 1x 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 960 GB 2.5" SATA SSD
Slot for drives			Mounting internally in vibration/shock- absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional	Mounting internally in vibration/shock- absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional	mounting internally in vibration/shock- absorbing drive cage Type B or mounting on the front in removable trays in drive cage Type A; mounting internally on the fixed drive cage optional
Memory					
Main memory	4 GB to 128 GB DDR4 2666 SDRAM DIMM, ECC optional	4 / 8 / 16 GB, supports up to 32 GB	8 GB to 128 GB DDR5 4800 SDRAM DIMM	8 GB to 128 GB DDR5 4800 SDRAM DIMM	8 GB to 64 GB DDR5 4800 SDRAM DIMM
Hardware configuration					
Slots					
• free slots	2x PCI, 3x PCIe*4, 2x PCIe*16	3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane)	7 free slots for expansions (all long); 2x PCIe x16 (1 x 16 or 2 x 8 lanes) Gen 4; 1x PCIe x8 (4 lanes) Gen 3; 1x PCIe x4 (4 lanes) Gen 3; 1x PCIe x4 (4 lanes) Gen 4; 1x PCIe x4 (4 lanes) Gen 4; 1x PCI	7 free slots for expansions (all long); 2x PCIe x16 (1 x 16 or 2 x 8 lanes) Gen 4; 1x PCIe x8 (4 lanes) Gen 3; 1x PCIe x4 (4 lanes) Gen 3; 1x PCIe x4 (4 lanes) Gen 4; 1x PCIe x4 (4 lanes) Gen 4; 1x PCI	7 spare slots for expansions (all long); 1x PCIe x16 (16L) Gen4; 1x PCIe x16 (2L) Gen3; 1x PCIe x8 (1L) Gen3; 2x PCIe x4 (1L) Gen3; 2x PCI

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Interfaces					
Interfaces/bus type			2x Gigabit Ethernet (IE/PN), RJ 45, teaming-capable; 1x 2.5 Gigabit Ethernet (IE/PN), RJ 45, teaming-capable; USB 3.2 Gen 2: 4x type A, USB 3.2 Gen 2x2: 2x type C, on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 2x internal e.g. for software dongle with option interlock, 3x DisplayPort V1.4a, 1x DVI-D, 1x COM1 and 1x COM2 (optional), audio: line in, line out, micro	2x Gigabit Ethernet (IE/PN), RJ 45, teaming-capable; 1x 2.5 Gigabit Ethernet (IE/PN), RJ 45, teaming-capable; USB 3.2 Gen 2: 4x type A, USB 3.2 Gen 2x2: 2x type C, on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 2x on front, USB 2.0: 2x internal e.g. for software dongle with option interlock, 3x DisplayPort V1.4a, 1x DVI-D, 1x COM1 and 1x COM2 (optional), audio: line in, line out, micro	1x Gigabit Ethernet (IE/PN), RJ 45, teaming-capable; USB 3.2 Gen 1: 2x type A on rear, USB 2.0: 2x type A on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 1x internal e.g. for software dongle with option interlock, 2x DisplayPort V1.4a, 1x DVI-D, 1x COM1, 1x COM2 and 1x COM3 (optional), audio: line in, line out, micro
PROFIBUS/MPI					
USB port	4x USB3.2 and 2x USB2.0 on rear panel, 2x USB2.0 on front panel, 1x USB2.0 vertical and 2x USB2.0 on motherboard	4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB	USB 3.2 Gen 2: 4x type A, USB 3.2 Gen 2x2: 2x type C, on rear; 2x USB 3.1 Gen. 2 type A internally, e.g. for software dongle with optional interlock; 2x USB 3.1 Gen. 1 type A on the front, can be used with door closed	USB 3.2 Gen 2: 4x type A, USB 3.2 Gen 2x2: 2x type C, on rear; 2x USB 3.1 Gen. 2 type A internally, e.g. for software dongle with optional interlock; 2x USB 3.1 Gen. 1 type A on the front, can be used with door closed	USB 3.2 Gen 1: 2x type A on rear, USB 2.0: 2x type A on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 1x internal
Connection for keyboard/mouse	PS/2 or USB; PS/2 or USB	2x PS/2	USB	USB	USB
serial interface version	1x RS232 on the rear panel, 3x RS232, 1x RS232/RS422/RS485, 1x RS232/RS485 on the motherboard	2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header	COM1 (optional): 1x RS 232 or RS 485; COM2 (optional) 1x RS 232	COM1 (optional): 1x RS 232 or RS 485; COM2 (optional) 1x RS 232	COM1: 1x RS 232 or RS 485; COM2 and COM3 (optional) 1x RS 232
Multimedia					
• Audio In/Out	Yes	Yes	Yes	Yes	Yes
• Microphone In	Yes	Yes	Yes	Yes	Yes
Video interfaces					
• Graphics interface	1x VGA, 1x DVI-D, 1x HDMI	1x DisplayPort, 1x VGA	3x DisplayPort; 1x DVI-D	3x DisplayPort; 1x DVI-D	2x DisplayPort; 1x DVI-D
Industrial Ethernet					
• Industrial Ethernet interface			3x Ethernet (RJ45)	3x Ethernet (RJ45)	2x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes
• number of interfaces (1 000 Mbps)			2	2	2
• number of interfaces (2 500 Mbps)			1	1	
Interrupts/diagnostics/status information					
LED status display	POWER, HDD	POWER, HDD	POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM	POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM	POWER, HDD, ETHERNET 1, ETHERNET 2, WATCHDOG, TEMP, FAN
Integrated Functions					
Monitoring functions					
• Temperature monitoring			Yes	Yes	Yes
• Watchdog			Yes	Yes	Yes
• Fan			Yes	Yes	Yes
• Monitoring function via network					

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EMC					
Interference immunity against discharge of static electricity					
<ul style="list-style-type: none"> Interference immunity against discharge of static electricity 	±4 kV contact discharge (acc. to IEC 1000-4-2: 1995); ±8 kV contact discharge (acc. to IEC 1000-4-2: 1995)	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields					
<ul style="list-style-type: none"> Interference immunity against high frequency radiation 	10 V/m for 80 - 1 000 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 1 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 150 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	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 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference					
<ul style="list-style-type: none"> Interference immunity on supply cables Interference immunity on signal cables >30m Interference immunity on signal cables < 30m 	±2 kV (according to IEC 61000-4-4; burst); ±0,5 kV (according to IEC 61000-4-5; surge pulse/line to line); ±1 kV (according to IEC 61000-4-5; surge pulse/line to ground)	±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 against voltage surge					
<ul style="list-style-type: none"> asymmetric interference symmetric interference 	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric
Interference immunity to magnetic fields					
<ul style="list-style-type: none"> 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
Emission of conducted and non-conducted interference					
<ul style="list-style-type: none"> 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	EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3	EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3	EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3
Compliance with line harmonic distortion limits					
<ul style="list-style-type: none"> 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

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Degree and class of protection					
IP (at the front)	IP20	IP20	IP30	IP30	IP30
IP (rear)	IP20	IP20	IP20	IP20	IP20
Standards, approvals, certificates					
CE mark			Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)
UKCA mark				Yes	
CSA approval			Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition	Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition	Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
UL approval			UL 61010-2-201 Second Edition, File E85972	UL 61010-2-201 Second Edition, File E85972	UL 61010-2-201 Second Edition, File E85972
cULus			Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
RCM (formerly C-TICK)			Yes	Yes	Yes
KC approval			Yes; in preparation	Yes	Yes; in preparation
EAC (formerly Gost-R)			Yes		Yes
FCC			Yes		Yes
BSMI					
EMC			EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3	EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3	EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3
Dust protection			With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered
Marine approval					
	<ul style="list-style-type: none"> • Germanischer Lloyd (GL) • American Bureau of Shipping (ABS) • Bureau Veritas (BV) • Det Norske Veritas (DNV) 				

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Ambient conditions					
Ambient temperature during operation					
• min.	5 °C	5 °C	0 °C; Max. 10 °C/h (no condensation)	0 °C; Max. 10 °C/h (no condensation)	0 °C; Max. 10 °C/h (no condensation)
• 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: 0 °C to 31 °C: 5-85%; decreasing linearly to 5-50% at 40 °C (no condensation), storage/transportation: 5% to 95% at 25 °C to 55 °C (gradient: ≤ 20 K/h; no condensation)	tested according to IEC 60068-2-78, IEC 60068-2-30: operation: 0 °C to 31 °C: 5-85%; decreasing linearly to 5-50% at 40 °C (no condensation), storage/transportation: 5% to 95% at 25 °C to 55 °C (gradient: ≤ 20 K/h; no condensation)	tested according to IEC 60068-2-78, IEC 60068-2-30: operation: 0 °C to 31 °C: 5-85%; decreasing linearly to 5-50% at 40 °C (no condensation), storage/transportation: 5% to 95% at 25 °C to 55 °C (gradient: ≤ 20 K/h; no condensation)
Vibrations					
• Vibration resistance during operation acc. to IEC 60068-2-6			Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s ² (0.2 g)	Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s ² (0.2 g)	Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s ² (0.2 g)
Shock testing					
• Shock load during operation			Tested according to IEC 60068-2-27; half-sine: 9.8 m/s ² (1 g), 20 ms, 100 shocks per axis	Tested according to IEC 60068-2-27; half-sine: 9.8 m/s ² (1 g), 20 ms, 100 shocks per axis	Tested according to IEC 60068-2-27; half-sine: 9.8 m/s ² (1 g), 20 ms, 100 shocks per axis
Operating systems					
pre-installed operating system			Server 2022 Standard Edition incl. 5 clients, multi-language (64-bit)	Windows 10 IoT Enterprise 2021 LTSC	Windows 10 IoT Enterprise 2021 LTSC
Additional info on operating system			Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes		Yes	Yes	Yes
Software					
SIMATIC Software				Optional package with SIMATIC WinCC	Optional package with SIMATIC WinCC
Dimensions					
Width	430 mm	430 mm	430 mm	430 mm	430 mm
Height	176 mm; 4U	176 mm	177 mm; 4U	177 mm; 4U	177 mm; 4U
Depth	465.8 mm	465.8 mm	446 mm	446 mm	446 mm; Device with short enclosure: 356 mm

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General information					
Product type designation	IPC547J	IPC647E	IPC847E	IPC RS-828A	IPC1047E
Installation type/mounting					
Mounting	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)	For horizontal installation; prepared for telescopic rails; 19" mounting bracket can be removed externally	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)	For horizontal rack mounting	For horizontal rack mounting
Design	Rack PC, 19", 4U	Rack PC, 19", 2U	Rack PC, 19", 4U	Rack PC, 19", 2U	Rack PC, 19", 4U
Supply voltage					
Type of supply voltage	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC	AC redundant 100/240 V (autorange) 50 Hz/60 Hz	110/230V AC (autorange) 50/60 Hz
Line frequency					
• Rated value 50 Hz	Yes	Yes	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes	Yes	Yes
Mains buffering					
• Mains/voltage failure stored energy time	20 ms	20 ms	20 ms	5 ms	20 ms
Processor					
Processor type	Intel Xeon W-1270E (8C/16T, 3.4 (4.8) GHz, 16 MB Cache); Intel Core i9-10900E (10C/20T, 2.8 (4.7) GHz, 20 MB Cache); Intel Core i7-10700E (8C/16T, 2.9 (4.5) GHz, 16 MB Cache); Intel Core i5-10500E (6C/12T, 3.1 (4.2) GHz, 12 MB Cache); Intel Core Core i3-10100E (4C/8T, 3.2 (3.8) GHz, 6 MB Cache)	Intel Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB Cache, VT-x/-d-Technology)	Intel Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB Cache, VT-x/-d-Technology)	Dual Socket SP5 - 2x AMD EPYC™ 9454 Embedded Series Server Processors - max. 400 W cTDP, 48 Cores/each; Dual Socket SP5 - 2x AMD EPYC™ 9354 Embedded Series Server Processors - max. 300 W cTDP, 32 Cores/each; Dual Socket SP5 - 2x AMD EPYC™ 9254 Embedded Series Server Processors - max. 240 W cTDP, 24 Cores/each; Dual Socket SP5 - 2x AMD EPYC™ 9124 Embedded Series Server Processors - max. 240 W cTDP, 16 Cores/each	2x Intel Xeon SP Silver 4210 10C/20T - 2.2 GHz/ 3.2 GHz; 2x Intel Xeon SP Silver 4216 16C/32T - 2.1 GHz/ 3.2 GHz; 2x Intel Xeon SP Gold 6226 12C/24T - 2.7 GHz/ 3.7 GHz; 2x Intel Xeon SP Gold 6230 20C/40T - 2.1 GHz/ 3.9 GHz
Chipset	Intel W480E / Intel H410	Intel C246	Intel C246	SoC	Intel C621
Graphic					
Graphics controller	Intel® UHD Graphics 630	Onboard Intel UHD graphics P630/630 integrated in processor; graphics card NVIDIA Quadro P400 PCIe (x16) triple head (optional)	Onboard Intel UHD graphics P630/630 integrated in processor; graphics card NVIDIA Quadro P400 PCIe (x16) triple head (optional)	ASPEED AST2600 Graphics Family (WDDM)	Onboard VGA / 2D controller 1 920 x 1 200 @ 60 Hz 32 bpp
Graphics card	Yes; NVIDIA T400, Quadro RTX P2200, Quadro RTX 4000			Yes; NVIDIA A100, NVIDIA H100, NVIDIA L4, NVIDIA L40	Yes; NVIDIA Quadro P620, RTX4000, RTX5000 and RTX A4000

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	SIMATIC IPC547J	SIMATIC IPC647E (Rack PC)	SIMATIC IPC847E (Rack PC)	SIMATIC IPC RS-828A	SIMATIC IPC1047E (Rack PC)
Drives					
Hard disk	1 TB HDD 3.5" SATA, 2x 1 TB HDD 3.5" SATA, 1 TB HDD 3.5" SATA + 960 GB SSD 2.5" SATA, RAID1, 2x 1 TB HDD 3.5" SATA, RAID1, 2x 1 TB HDD [Enterprise] 3.5" SATA, RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA, RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as hot spare, RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 960 GB SSD 2.5" SATA, RAID5, 3x 2 TB HDD [Enterprise] 3.5" SATA, RAID5, 3x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as hot spare	1x 1 TB 3.5" SATA HDD, 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SAS HDD (Enterprise) with PCIe x8 RAID controller incl. ZMCP module	1x 1 TB 3.5" SATA HDD, 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SATA HDD (Enterprise) + 2 TB 3.5" SATA HDD (Enterprise) as hot spare, RAID5 3x 2 TB 3.5" SATA HDD (Enterprise), RAID5 3x 2 TB 3.5" SATA HDD (Enterprise) + 2 TB 3.5" SATA HDD (Enterprise) as hot spare, RAID1 2x 2 TB 3.5" SAS HDD (Enterprise) with PCIe x8 RAID controller incl. ZMCP module, RAID5 3x 2 TB 3.5" SAS HDD (Enterprise) with PCIe x8 RAID controller incl. ZMCP module	1x 2 TB 2.5" SATA SSD; 2x 2 TB 2.5" SATA SSD; 4x 2 TB 2.5" SATA SSD; 6x 2 TB 2.5" SATA SSD; 1x 2 TB 2.5" U.3 NVMe SSD; 2x 2 TB 2.5" U.3 NVMe SSD; 4x 2 TB 2.5" U.3 NVMe SSD; 6x 2 TB 2.5" U.3 NVMe SSD	4 TB & 8 TB 3.5" SATA
SSD	Yes; 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 480 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD, RAID1 2x 960 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD	Yes; 1x 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 480 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD	Yes; 1x 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 480 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD	Yes; 1x 1/2 TB SSD M.2 NVMe	Yes; 960 GB / 1.9 TB / 3.8 TB SATA SSD and 1 TB / 2 TB M.2 NVMe and 1.92 TB / 7.68 TB U.3 NVMe SSD
Slot for drives	Mounting internally in vibration/shock- absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional	Mounting internally in vibration/shock- absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional	Mounting internally in vibration/shock- absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional		4x 3.5" HDD or 8x 2.5" SSD internal; 4x 3.5" HDD or 4x 2.5" SSD front changeable; 8x 2.5" SSD front changeable
Memory					
Main memory	4 GB to 128 GB DDR4 2933 SDRAM DIMM	4 GB to 128 GB DDR4 2666 SDRAM DIMM, ECC optional	4 GB to 128 GB DDR4 2666 SDRAM DIMM, ECC optional	256 GB ... 1.5 TB DDR5-4800 MHZ RDIMM ECC	64 ... 512 GB

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Hardware configuration					
Slots					
<ul style="list-style-type: none"> free slots 	7 spare slots for expansions (all long); mainboard with H410 chip set: 1x PCIe (x16) (16 lane) Gen 3, 1x PCIe (x16) (1 lanes) Gen 3, 1x PCIe (x8) (1 lane) Gen 3, 1x PCIe (x4) (1 lane) Gen 3, 1x PCIe (x4) (1 lane) Gen 3, 2x PCI; mainboard with W480E chip set: 1x PCIe (x16) (16 lane) Gen 3, 1x PCIe (x16) (4 lanes) Gen 3, 1x PCIe (x8) (1 lane) Gen 3, 1x PCIe (x4) (4 lane) Gen 3, 1x PCIe (x4) (1 lane) Gen 3, 2x PCI	2 slots: 1x PCI Express (x16) (16 lanes), 1x PCI Express (x16) (4 lanes) or 4 slots: 2x PCI, 2x PCI Express (x16) (8 lanes) or 4 slots: 2x PCI Express (x16) (8 lanes), 1x PCI Express (x16) (4 lanes), 1x PCI Express (x16) (1 lane); expansion modules up to 312 mm in length can be used	9 slots: 7x PCI, 2x PCI Express (x16) (8 lanes) or 11 slots: 3x PCI, 1x PCI Express (x16) (8 lanes), 5x PCI Express (x16) (4 lanes), 2x PCI Express (x4) (4 lanes) or 11 slots: 3x PCI, 1x PCI Express (x16) (16 lanes), 3x PCI Express (x16) (4 lanes), 2x PCI Express (x16) (1 lane), 2x PCI Express (x4) (4 lanes); expansion modules up to a length of 312 mm can be used	7 Slots: 2 x PCI-E Gen5 x16 Slot optional for 2 x DW GPU Card or 4 x PCI-E Gen5 x8 (FHFL) + 3 x PCI-E Gen5 x16 Slot (FHHL)	6x PCIe slots (2x PCIe x8 + 4x PCIe x16)
Interfaces					
Interfaces/bus type	mainboard (H410 chip set): 2x Intel Gigabit Ethernet (RJ45, teaming-capable), USB 3.1 Gen 1: 2x on rear, 2x on front, USB 2.0: 4x on rear, 1x internal e.g. for software dongle with optional interlock, 1x DisplayPort V1.2, 1x DVI-D, 1x COM1, audio: line in, line out, micro; mainboard (W480E chip set): 3x Intel Gigabit Ethernet (RJ45, teaming-capable), USB 3.1 Gen 2: 4x type A, 2x type C, on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 2x internal e.g. for software dongle with optional interlock, 2x DisplayPort V1.2, 1x DVI-D, 1x COM1, audio: line in, line out, micro	1x COM1, 1x COM2 (optional), 2x DisplayPort, 1x DVI-D, audio (microphone in, line in, line out), 9x USB, 3x Gigabit Ethernet	1x COM1, 1x COM2 (optional), 2x DisplayPort, 1x DVI-D, audio (microphone in, line in, line out), 9x USB, 3x Gigabit Ethernet	Interfaces front: 2x USB 3.1 (Type A) frontside; LED Indicators: Power, SSD, Ethernet 1-2, Watchdog, Temp, Fans, drives alarm, PS alarm Interfaces rear: 2x 10 Gbit Ethernet (IE/PN), RJ45; 1x 1 Gbit Ethernet (BMC), RJ45; 1x COM1; 1x VGA; 4x USB 3.1 Gen. 2, Type A Interfaces internally: 2x M.2 PCIe x4, Key M, 22110 Slot; Riser card: 2 x PCI-E Gen5 x16 Slot optional for 2 x DW GPU Card or 4 x PCI-E Gen5 x8 (FHFL) + 3 x PCI-E Gen5 x16 Slot (FHHL) System Management: IPMI 2.0 / RedFish, TPM 2.0	2x 1 GB LAN (RJ45), COM1, IPMI, VGA
PROFIBUS/MPI		can be implemented with plug-in card	can be implemented with plug-in card		

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USB port	mainboard (H410 chip set): USB 3.1 Gen 1: 2x on rear, 2x on front, USB 2.0: 4x on rear, 1x internal e.g. for software dongle with optional interlock; mainboard (W480E chip set): USB 3.1 Gen 2: 4x type A, 2x type C, on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 2x internal e.g. for software dongle with optional interlock	4x USB 3.1 Gen. 2 Type A, 2x USB 3.1 Gen. 2 Type C on the rear; 1x USB 3.1 Gen. 2 Type A internally, e.g. for software dongle with optional interlock, 2x USB 3.1 Gen. 1 Type A on the front, can be used with door closed	4x USB 3.1 Gen. 2 Type A, 2x USB 3.1 Gen. 2 Type C on the rear; 1x USB 3.1 Gen. 2 Type A internally, e.g. for software dongle with optional interlock, 2x USB 3.1 Gen. 1 Type A on the front, can be used with door closed	Interfaces front: 2x USB 3.1 (Type A) Interfaces rear: 4x USB 3.1 Gen. 2, Type A	2x front, 2x rear USB 3.0, 2x rear USB 2.0
Connection for keyboard/mouse serial interface version	USB COM1: 1x RS 232 or RS 485; COM2 (optional) 1x RS 232	USB COM1: 1x RS 232, COM2 (optional): 1x RS 232	USB COM1: 1x RS 232, COM2 (optional): 1x RS 232	USB 1x COM	USB 1x COM
Multimedia					
• Audio In/Out	Yes	Yes	Yes		No
• Microphone In	Yes	Yes	Yes		No
Video interfaces					
• Graphics interface	2x DisplayPort and 1x DVI-D onboard; 1x VGA via DP-VGA adapter cable (optional); graphics card PCIe (x16), Triple Head (3x mini DisplayPort, 2 GB graphics memory, 3x mini DisplayPort to DisplayPort adapter cable) (optional)	2x DisplayPort and 1x DVI-D onboard; 1x VGA via DP-VGA adapter cable (optional); graphics card PCIe (x16), Triple Head (3x mini DisplayPort, 2 GB graphics memory, 3x mini DisplayPort to DisplayPort adapter cable) (optional)	2x DisplayPort and 1x DVI-D onboard; 1x VGA via DP-VGA adapter cable (optional); graphics card PCIe (x16), Triple Head (3x mini DisplayPort, 2 GB graphics memory, 3x mini DisplayPort to DisplayPort adapter cable) (optional)	1x VGA	VGA, with optional graphics card 3x or 4x DP1.4
Industrial Ethernet					
• Industrial Ethernet interface	2x or 3x Gigabit Ethernet (IE/PN), RJ45	3x Gigabit Ethernet (IE/PN), RJ45	3x Gigabit Ethernet (IE/PN), RJ45	2x 10 Gbit Ethernet (IE/PN), RJ45; 1x 1 Gbit Ethernet (BMC), RJ45	2x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes	No
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes
• number of interfaces (1 000 Mbps)					2
• number of interfaces (2 500 Mbps)					
Interrupts/diagnostics/status information					
LED status display	POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM	Power, HDD, Ethernet 1, Ethernet 2, Ethernet 3, Watchdog, Temp, Fan, HDD1 alarm, HDD0 alarm	POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM	Power, SSD, Ethernet 1-2, Watchdog, Temp, Fans, drives alarm, PS alarm	POWER, HDD, FAN Fail
Integrated Functions					
Monitoring functions					
• Temperature monitoring	Yes	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes	
• Fan	Yes	Yes	Yes	Yes	Yes
• Monitoring function via network	Optional	Optional	Optional	Yes (per IPMI)	Yes (per IPMI)

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EMC					
Interference immunity against discharge of static electricity					
<ul style="list-style-type: none"> Interference immunity against discharge of static electricity 	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact; ±8 kV air (to IEC 61000-4-2, ESD)	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields					
<ul style="list-style-type: none"> Interference immunity against high frequency radiation 	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m; 80 up to 2 700 MHz 80 % AM to IEC 61000-4-3 3 V/m; 2.7 to 6 GHz 80 % AM to IEC 61000-4-3 10 V; 150 kHz up to 80 MHz 80 % AM to IEC 61000-4-6	
Interference immunity to cable-borne interference					
<ul style="list-style-type: none"> Interference immunity on supply cables Interference immunity on signal cables >30m Interference immunity on signal cables < 30m 	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, 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	
	±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; in accordance with IEC 61000-4-4; burst; length > 30 m	
	±1 kV acc. to IEC 61000-4-4, Burst	±1 kV acc. to IEC 61000-4-4; burst, length < 3 m	±1 kV acc. to IEC 61000-4-4; burst, length < 3 m	± 1 kV; in accordance with IEC 61000-4-4; burst; length < 30 m	
Interference immunity against voltage surge					
<ul style="list-style-type: none"> asymmetric interference symmetric interference 	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	
	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	
Interference immunity to magnetic fields					
<ul style="list-style-type: none"> Interference immunity to magnetic fields at 50 Hz 	30 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	
Emission of conducted and non-conducted interference					
<ul style="list-style-type: none"> Interference emission via line/ AC current cables 	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3	EN 61000-6-3; EN 61000-6-4 EN 55032 Class A; FCC Class A; KS C 9832 Class A EN 61000-3-2 Class D; EN 61000-3-3	
Compliance with line harmonic distortion limits					
<ul style="list-style-type: none"> 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		
Degree and class of protection					
IP (at the front)	IP30	IP41	IP41	IP20	IP30
IP (rear)	IP20	IP20	IP20	IP20	IP20

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Standards, approvals, certificates					
CE mark	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)	Yes; use in industry (interference emission: EN 61000-6-4)	Yes; Industry
UKCA mark					
CSA approval	Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition	Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition	Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition	Yes; CAN/CSA-C22.2 No. 62368-1	Yes; CAN/CSA-C22.2 No. 61010-2-201 Third Edition
UL approval	UL 61010-2-201 Second Edition, File E85972	Yes; UL 61010-2-201 Second Edition, File E85972	Yes; UL 61010-2-201 Second Edition, File E85972	Yes; standard UL 62368-1	Yes; UL 61010-2-201 Third Edition, File E115352 (I.T.E.)
cULus	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition	Yes; standard UL 62368-1	Yes; UL 61010-2-201 Third Edition; CAN/CSA-C22.2 No. 61010-2-201 Third Edition
RCM (formerly C-TICK)	Yes	Yes	Yes	Yes	
KC approval	Yes	Yes	Yes	Yes; in preparation	Yes
EAC (formerly Gost-R)	Yes	Yes	Yes		
FCC				Yes	Yes
BSMI				Yes	
EMC	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3	EN 61000-6-3; EN 61000-6-4, EN 55032 Class A; 9832 Class A, EN 61000-3-2 Class D; EN 61000-3-3	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 32 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered	dust filter with mounted front bezel	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			
Ambient conditions					
Ambient temperature during operation					
• min.	0 °C; Max. 10 °C/h (no condensation)	0 °C; Max. 10 °C/h (no condensation)	0 °C; Max. 10 °C/h (no condensation)	5 °C; Max. 10 °C/h (no condensation)	0 °C; Max. 10 °C/h (no condensation)
• max.	40 °C	50 °C	50 °C	45 °C	50 °C; Basic configuration (without graphics card)
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 to IEC 60068-2-78; IEC 60068-2-30: 5 % to 85 % at 30 °C; no condensation gradient: ≤ 10 K/h; no condensation 5 % to 95 % at 25 °C to 55 °C; no condensation gradient: ≤ 20 K/h; no condensation	permissible range for 0 to 31 °C: 5 ... 80 %; no condensation

Industrial Computing

Rack PC

Introduction

Technical specifications

Article number	6AG4104-5....-.... SIMATIC IPC547J	6AG4112-3....-.... SIMATIC IPC647E (Rack PC)	6AG4114-3....-.... SIMATIC IPC847E (Rack PC)	6AG4102-0....-.... SIMATIC IPC RS-828A	6BK1801-1....-.... SIMATIC IPC1047E (Rack PC)
Vibrations					
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s ² (0.2 g)	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)	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)	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)	10 - 58 Hz: amplitude 0.0375 mm; 58 ... 200 Hz: acceleration 2 m/s ²
Shock testing					
• Shock load during operation	Tested according to IEC 60068-2-27; half-sine: 9.8 m/s ² (1 g), 20 ms, 100 shocks per axis	Tested according to DIN IEC 60068-2-7: 50 m/s ² (5 g), 30 ms, 100 shocks	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	Tested according to IEC 60068-2-27: 50 m/s ² , 30 ms	half-sine: acceleration 50 m/s ² , duration 30 ms
Operating systems					
pre-installed operating system	Windows 10 IoT Enterprise 2021 LTSC, Windows 10 IoT Enterprise 2019 LTSC; Windows Server 2022 Standard Edition incl. 5 clients; Windows Server 2019 Standard Edition incl. 5 clients	Windows 10 Enterprise 2016 LTSC, multi-language (64-bit); Windows 10 IoT Enterprise 2019 LTSC, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 multi-language clients (64-bit); Windows Server 2019 Standard Edition incl. 5 multi-language clients (64-bit)	Windows 10 Enterprise 2016 LTSC, multi-language (64-bit); Windows 10 IoT Enterprise 2019 LTSC, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 multi-language clients (64-bit); Windows Server 2019 Standard Edition incl. 5 multi-language clients (64-bit)	Windows Server 2022 IoT Standard Edition incl. unlimited Clients for this server, 64bit, MUI (en, de, fr, it, sp)	Windows 10 Enterprise LTSC 2019 or Windows 10 Enterprise LTSC 2021 or Windows Server 2019 or Windows Server 2022
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)	optional: SIMATIC Industrial OS	Multilingual User Interface (MUI): 5 languages (English, German, French, Spanish, Italian); 64 bit
without operating system	Yes	Yes	Yes	Yes	Yes
Software					
SIMATIC Software	Optional package with SIMATIC WinCC	Optional package with SIMATIC WinCC	Optional package with SIMATIC WinCC		
Dimensions					
Width	430 mm	430 mm	430 mm	444 mm	430 mm
Height	177 mm; 4U	88 mm; 2U	177 mm; 4U	88 mm; 2U	176.6 mm; 4U
Depth	446 mm; Device with short enclosure: 356 mm	444 mm	444 mm	585 mm	572 mm

More information

More information is available on the internet at <https://www.siemens.com/simatic-rack-pc>.

Industrial Computing

Rack PC

SIMATIC IPC RW-543A

Overview



SIMATIC IPC RW-543A

SIMATIC IPC RW-543A is an industrial PC in 19" rack design (4 U).

It offers:

- Optimized price
- High performance
- Intel Core i technology of the 10th generation

Ordering data

SIMATIC IPC RW-543A

Rack PC, 19", 4 U

Interfaces:

4x USB 3.2 on rear;
7x USB 2.0 (2x on front, 2x on rear,
1x internal, 2x pin connector);
1x VGA, 1x HDMI, 1x DVI-D,
1x PS/2, 1x COM,
Audio (line in/out, mic),
each on rear,
5x COM pin connector;
Slots (all long):
3 x PCI, 2 x PCI Express x16
(1x PCIe*16 or 2x PCIe*8),
3 x PCI Express x4 (4 lanes);
temperature and fan monitoring;
watchdog; card retainer

Processor

- Intel Pentium G6400 (2C/4T,
4.0 GHz, 4 MB cache)
- Intel Core i3-10100E (4C/8T,
3.2 (3.8) GHz, 6 MB cache)
- Intel Core i5-10500E (6C/12T,
3.1 (4.2) GHz, 12 MB cache)
- Intel Core i7-10700E (8C/16T,
2.9 (4.5) GHz, 16 MB cache)
- Intel Core i9-10900E (10C/20T,
2.8 (4.7) GHz, 20 MB cache)

Article No.

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Article No.

SIMATIC IPC RW-543A

Drives

- 1 TB HDD
- 2x 1 TB HDD
- 256 GB SSD
- 512 GB SSD
- 1 TB HDD and 256 GB SSD

Memory configuration

- 4 GB DDR4 RAM
- 8 GB DDR4 RAM
- 16 GB DDR4 RAM
- 32 GB DDR4 RAM
- 64 GB DDR4 SDRAM
(2x 32 GB DDR4 SDRAM)
- 128 GB DDR4 SDRAM
(4x 32 GB DDR4 SDRAM)

Type of enclosure

- Standard chassis, 350 W
- Standard chassis, 500 W
- Standard chassis, 850 W
- Eco chassis, 350 W
- Eco chassis, 500 W

Operating system

- Windows 10 IoT Enterprise 2021
LTSC, multi-language
(en, de, fr, it, sp),
64-bit (Pentium, Core i3/i5)
- Windows 10 IoT Enterprise 2021
LTSC, multi-language
(en, de, fr, it, sp),
64-bit (Core i7/i9)
- Without operating system

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Note:

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

You can find the configurator at

<https://www.siemens.com/ipc-configurators>.

Industrial Computing

Rack PC

SIMATIC IPC RW-543A

Technical specifications

Article number	6AG4011-3....-...1 SIMATIC IPC RW-543A
General information	
Product type designation	RW-543A
Installation type/mounting	
Mounting	for horizontal or vertical installation
Design	Rack PC, 19", 4U
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	Pentium 6400 (2C/4T, 4.0 GHz, 4 MB Cache) / Intel Core i3-10100E (4C/8T, 3.2 (3.8) GHz, 6 MB Cache) / Intel Core i5-10500E (6C/12T, 3.1 (4.2) GHz, 12 MB Cache) / Intel Core i7-10700E (8C/16T, 2.9 (4.5) GHz, 16 MB Cache) / Intel Core i9-10900E (10C/20T, 2.8 (4.7) GHz, 20 MB Cache)
Chipset	Intel Q470
Drives	
Hard disk	HDD & SSD
Memory	
Main memory	4 GB to 128 GB DDR4 2666 SDRAM DIMM, ECC optional
Hardware configuration	
Slots	
• free slots	2x PCI, 3x PCIe*4, 2x PCIe*16
Interfaces	
USB port	4x USB3.2 and 2x USB2.0 on rear panel, 2x USB2.0 on front panel, 1x USB2.0 vertical and 2x USB2.0 on motherboard
Connection for keyboard/mouse serial interface version	PS/2 or USB; PS/2 or USB 1x RS232 on the rear panel, 3x RS232, 1x RS232/RS422/RS485, 1x RS232/RS485 on the motherboard
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes
Video interfaces	
• Graphics interface	1x VGA, 1x DVI-D, 1x HDMI
Industrial Ethernet	
• Industrial Ethernet interface	
- 100 Mbps	Yes
- 1000 Mbps	Yes
Interrupts/diagnostics/status information	
LED status display	POWER, HDD

Article number	6AG4011-3....-...1 SIMATIC IPC RW-543A
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±4 kV contact discharge (acc. to IEC 1000-4-2: 1995); ±8 kV contact discharge (acc. to IEC 1000-4-2: 1995)
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1 000 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 1 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 150 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV (according to IEC 61000-4-4; burst); ±0,5 kV (according to IEC 61000-4-5; surge pulse/line to line); ±1 kV (according to IEC 61000-4-5; surge pulse/line to ground)
• Interference immunity on signal cables > 30m	±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4, Burst
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Emission of conducted and non-conducted interference	
• Interference emission via line/ AC current cables	IEC 61000-6-4, CISPR 22, FCC Class A
Compliance with line harmonic distortion limits	
• Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3	Yes; EN 61000-3-2 Class D; EN 61000-3-3
Degree and class of protection	
IP (at the front)	IP20
IP (rear)	IP20
Ambient conditions	
Ambient temperature during operation	
• min.	5 °C
• max.	40 °C
Operating systems	
without operating system	Yes
Dimensions	
Width	430 mm
Height	176 mm; 4U
Depth	465.8 mm

Industrial Computing

Rack PC

SIMATIC IPC347G

Overview



SIMATIC IPC347G

SIMATIC IPC347G is an industrial PC in 19" rack design (4 U).

It offers:

- Optimized price
- High performance
- 6th generation Intel Core i technology

Ordering data

SIMATIC IPC347G

All-metal enclosure with high electromagnetic compatibility and mechanical ruggedness, dust protection through overpressure ventilation;

Status LEDs: POWER, HDD;
 interfaces: 4x USB 3.0 on rear,
 2x USB 2.0 on front,
 2x USB 2.0 internal and
 2x USB male connector,
 2 x Gb Ethernet, 1 x DVI-DP,
 1 x VGA, 2 x COM, 2 x PS/2, audio;
 Slots: 3x PCI, 1x PCIe (x16),
 1xPCIe (x4) (4 or 2 tracks),
 2x PCIe (x4) (1 track)

Processors

- Pentium G4400 (2C/2T, 3.3 GHz, 3 MB cache)
- Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache)
- Core i7-6700 (4C/4T, 3.4 (4.0) GHz, 8 MB cache)

Article No.

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Article No.

SIMATIC IPC347G

Drives (SATA)

- 1 x TB HDD
- 256 GB SSD
- 512 GB SSD

Memory configuration

- 4 GB DDR4 RAM
- 8 GB DDR4 RAM
- 16 GB DDR4 RAM
- 32 GB DDR4 RAM

Operating systems

- Without operating system; driver and documentation on USB flash drive
- Windows 10 IoT Enterprise Value (Pentium/i3/i5)
- Windows 10 IoT Enterprise High End (i7)

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Note:

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

You can find the configurator at

<https://www.siemens.com/ipc-configurators>.

Industrial Computing

Rack PC

SIMATIC IPC347G

Ordering data	Article No.	Article No.	
SIMATIC IPC347G Configuration 1 Pentium Dual Core G4400 (2C/2T, 3.3 GHz, 3 MB cache); 2x Gb Ethernet, 1x DP, 1x VGA, 2x USB on front, 4x USB on rear, 2x USB internal, 2x serial, 2x PS/2, audio; 1x 1 TB HDD, internal; 4 GB DDR4 (1x 4 GB), no DVD +/-RW; <u>Windows 10 IoT Enterprise for Pentium/i3/i5</u> ; 100/240 V industrial power supply unit, without power supply cord	6AG4012-2AA10-0AX0	Configuration 5 Core i7 6700 (4C/8T, 3.4 (4.0) GHz, 8 MB cache); 2x Gb Ethernet, 1x DP, 1x VGA, 2x USB on front, 4x USB on rear, 2x USB internal, 2x serial, 2x PS/2, audio; 1x 1 TB HDD, internal; 8 GB DDR4 (1x 8 GB), no DVD +/-RW; <u>Windows 10 IoT Enterprise for i7</u> ; 100/240 V industrial power supply unit, without power supply cord	6AG4012-2CA20-0BX0
Configuration 2 Pentium Dual Core G4400 (2C/2T, 3.3 GHz, 3 MB cache); 2x Gb Ethernet, 1x DP, 1x VGA, 2x USB on front, 4x USB on rear, 2x USB internal, 2x serial, 2x PS/2, audio; 1x 1 TB HDD, internal; 4 GB DDR4 (1x 4 GB), no DVD +/-RW; <u>without operating system</u> ; 100/240 V industrial power supply unit, without power supply cord	6AG4012-2AA10-0XX0	Configuration 6 • Pentium G4400 (2C/2T, 3.3 GHz, 3 MB cache), 1 TB HDD, 8 GB DDR4 RAM, without operating system	6AG4012-2AA20-0XX0
Configuration 3 Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache); 2x Gb Ethernet, 1x DP, 1x VGA, 2x USB on front, 4x USB on rear, 2x USB internal, 2x serial, 2x PS/2, audio; 1x 1 TB HDD, internal; 4 GB DDR4 (1x 4 GB), no DVD +/-RW; <u>Windows 10 IoT Enterprise for Pentium/i3/i5</u> ; 100/240 V industrial power supply unit, without power supply cord	6AG4012-2BA10-0AX0	Configuration 7 • Pentium G4400 (2C/2T, 3.3 GHz, 3 MB cache), 1 TB HDD, 8 GB DDR4 RAM, <u>Windows 10 IoT Enterprise Value (Pentium/i3/i5)</u>	6AG4012-2AA20-0AX0
Configuration 4 Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache); 2x Gb Ethernet, 1x DP, 1x VGA, 2x USB on front, 4x USB on rear, 2x USB internal, 2x serial, 2x PS/2, audio; 1x 1 TB HDD, internal; 8 GB DDR4 (1x 8 GB), no DVD +/-RW; <u>Windows 10 IoT Enterprise for Pentium/i3/i5</u> ; 100/240 V industrial power supply unit, without power supply cord	6AG4012-2BA20-0AX0	Configuration 8 • Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache), 1 TB HDD, 8 GB DDR4 RAM, without operating system	6AG4012-2BA20-0XX0
		Configuration 9 • Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache), 256 GB SSD, 8 GB DDR4 RAM, <u>Windows 10 IoT Enterprise Value (Pentium/i3/i5)</u>	6AG4012-2BB20-0AX0
		Configuration 10 • Core i7-6700 (4C/4T, 3.4 (4.0) GHz, 8 MB cache), 1 TB HDD, 8 GB DDR4 RAM, without operating system	6AG4012-2CA20-0XX0
		Configuration 11 • Core i7-6700 (4C/4T, 3.4 (4.0) GHz, 8 MB cache), 256 GB SSD, 8 GB DDR4 RAM, <u>Windows 10 IoT Enterprise High End (i7)</u>	6AG4012-2CB20-0BX0

Industrial Computing

Rack PC

SIMATIC IPC347G

Technical specifications

Article number	6AG4012-2....-0.X0 SIMATIC IPC347G (Rack PC, 19", 4HU)
General information	
Product type designation	IPC347G
Installation type/mounting	
Mounting Design	For horizontal and vertical mounting Rack PC, 19", 4U
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 i7-6700 (4C/4T, 3.6 (4.0) GHz, 8 MB Cache)
Chipset	Intel H110
Drives	
Hard disk	HDD & SSD
Memory	
Main memory	4 / 8 / 16 GB, supports up to 32 GB
Hardware configuration	
Slots	
• free slots	3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane)
Interfaces	
USB port	4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB
Connection for keyboard/mouse serial interface version	2x PS/2 2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes
Video interfaces	
• Graphics interface	1x DisplayPort, 1x VGA
Industrial Ethernet	
• Industrial Ethernet interface	
- 100 Mbps	Yes
- 1000 Mbps	Yes
Interrupts/diagnostics/ status information	
LED status display	POWER, HDD

Article number	6AG4012-2....-0.X0 SIMATIC IPC347G (Rack PC, 19, 4HU)
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m, 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 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4, Burst
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Emission of conducted and non-conducted interference	
• Interference emission via line/ AC current cables	IEC 61000-6-4, CISPR 22, FCC Class A
Compliance with line harmonic distortion limits	
• Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3	Yes; EN 61000-3-2 Class D; EN 61000-3-3
Degree and class of protection	
IP (at the front)	IP20
IP (rear)	IP20
Ambient conditions	
Ambient temperature during operation	
• min.	5 °C
• max.	40 °C
Dimensions	
Width	430 mm
Height	176 mm
Depth	465.8 mm

Industrial Computing

Rack PC

SIMATIC IPC347G

Technical specifications

Article number	6AG4012-2AA10-0AX0 SIMATIC IPC347G (Rack PC, 19, 4U)	6AG4012-2AA10-0XX0 SIMATIC IPC347G (Rack PC, 19, 4U)	6AG4012-2BA10-0AX0 SIMATIC IPC347G (Rack PC, 19, 4U)	6AG4012-2BA20-0AX0 SIMATIC IPC347G (Rack PC, 19, 4U)	6AG4012-2CA20-0BX0 SIMATIC IPC347G (Rack PC, 19, 4U)
General information					
Product type designation	IPC347G	IPC347G	IPC347G	IPC347G	IPC347G
Installation type/mounting					
Mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting	For horizontal and vertical mounting
Design	Rack PC, 19", 4U				
Supply voltage					
Type of supply voltage	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	Intel Pentium G4400	Intel Pentium G4400	Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB Cache)	Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB Cache)	Core i7-6700 (4C/4T, 3.6 (4.0) GHz, 8 MB Cache)
Chipset	Intel H110				
Graphic					
Graphics card	Yes	Yes	Yes	Yes	Yes
Drives					
Hard disk	1 TB HDD				
Memory					
Main memory	4 GB (pre-installed), support up to 32 GB	4 GB (pre-installed), support up to 32 GB	4 GB (pre-installed), support up to 32 GB	8 GB (pre-installed), support up to 32 GB	8 GB (pre-installed), support up to 32 GB
Hardware configuration					
Slots					
• free slots	3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane)	3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane)	3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane)	3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane)	3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane)
Interfaces					
Number of industrial Ethernet interfaces	2	2	2	2	2
Number of PROFINET interfaces	2	2	2	2	2
USB port	4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB	4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB	4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB	4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB	4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB
Connection for keyboard/mouse serial interface version	2x PS/2 2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header	2x PS/2 2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header	2x PS/2 2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header	2x PS/2 2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header	2x PS/2 2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header
Multimedia					
• Audio In/Out	Yes	Yes	Yes	Yes	Yes
• Microphone In	Yes	Yes	Yes	Yes	Yes
Video interfaces					
• Graphics interface	1x DisplayPort, 1x VGA				
Industrial Ethernet					
• Industrial Ethernet interface					
- 100 Mbps	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes
Interrupts/diagnostics/status information					
LED status display	POWER, HDD				

Industrial Computing

Rack PC

SIMATIC IPC347G

Technical specifications

Article number	6AG4012-2AA10-0AX0 SIMATIC IPC347G (Rack PC, 19, 4U)	6AG4012-2AA10-0XX0 SIMATIC IPC347G (Rack PC, 19, 4U)	6AG4012-2BA10-0AX0 SIMATIC IPC347G (Rack PC, 19, 4U)	6AG4012-2BA20-0AX0 SIMATIC IPC347G (Rack PC, 19, 4U)	6AG4012-2CA20-0BX0 SIMATIC IPC347G (Rack PC, 19, 4U)
EMC					
Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2				
Interference immunity against high-frequency electromagnetic fields • Interference immunity against high frequency radiation	10 V/m, 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 • Interference immunity on signal cables > 30m • Interference immunity on signal cables < 30m	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m ±1 kV acc. to IEC 61000-4-4, Burst				
Interference immunity against voltage surge • asymmetric interference • symmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric				
Emission of conducted and non-conducted interference • Interference emission via line/ AC current cables	IEC 61000-6-4, CISPR 22, FCC Class A				
Compliance with line harmonic distortion limits • Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3	Yes; EN 61000-3-2 Class D; EN 61000-3-3				
Degree and class of protection					
IP degree of protection	IP20	IP20	IP20	IP20	IP20
IP (rear)	IP20	IP20	IP20	IP20	IP20
Ambient conditions					
Ambient temperature during operation					
• min.	5 °C	5 °C	5 °C	5 °C	5 °C
• max.	40 °C	40 °C	40 °C	40 °C	40 °C
Operating systems					
pre-installed operating system	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI	without operating system	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI	Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI
without operating system				No	No
Dimensions					
Width	430 mm	430 mm	430 mm	430 mm	430 mm
Height	176 mm	176 mm	176 mm	176 mm	176 mm
Depth	465.8 mm	465.8 mm	465.8 mm	465.8 mm	465.8 mm

More information

More information is available on the internet at

<https://www.siemens.com/simatic-rack-pc>.

Industrial Computing

Rack PC

SIMATIC IPC RS-545A

Overview



SIMATIC IPC RS-545A is a rugged industrial PC server class in 19" rack design (4 U) with server operating system.

It offers:

- Maximum performance
- Attractive price
- Intel Core technology of the 12th generation

Ordering data

Article No.

SIMATIC IPC RS-545A (Rack IPC, 19", 4U)

- Mainboard: Chipset R680E, 3x Ethernet (2x 1 Gbit, 1x 2.5 Gbit), 1x DVI-D, 3x DisplayPort
- 4x USB 3.2 Gen. 2 Type A, 2x USB 3.2 Gen. 2x2 Type C, 2x USB 2.0 Type A internal; TPM2.0, audio
- 7 slots: 2x PCIe x16 (1x 16L or 2x 8L), 1x PCIe x8 (4L), 3x PCIe x4 (4L), 1x PCI; 2x M.2 slots
- 2x USB 3.1 Type A, 12x status LEDs on the front

Processor

- Core i3-12100E 4C(4P)/8T, 3.2 (4.2) GHz, 12 MB cache **A**
- Core i5-12500E 6C(4P)/12T, 2.9 (4.5) GHz, 18 MB cache, iAMT **B**

Drives 1: SATA

- 2 TB HDD 3.5" SATA **A**
- 960 GB SSD 2.5" SATA **D**
- RAID1, 2x 480 GB SSD 2.5" SATA **H**
- RAID1, 2x 960 GB SSD 2.5" SATA **J**
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA **K**
- RAID1, 2x 4 TB HDD [Enterprise] 3.5" SATA **L**
- RAID1, 2x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare **M**
- RAID5, 3x 4 TB HDD [Enterprise] 3.5" SATA **N**
- RAID5, 3x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare **P**
- Without SATA drives **X**

Drives 2: NVMe

- Without NVMe drives **0**
- 1 TB SSD M.2 NVMe (1 slot M.2 occupied) **2**
- RAID1, 2x 512 GB SSD M.2 NVMe (2 slots M.2 occupied) **4**
- RAID1, 2x 1 TB SSD M.2 NVMe (2 slots M.2 occupied) **5**

Memory configuration

- 8 GB DDR5 SDRAM (1x 8 GB) **0**
- 16 GB DDR5 SDRAM (2x 8 GB) **1**
- 32 GB DDR5 SDRAM (2x 16 GB) **2**
- 64 GB DDR5 SDRAM (2x 32 GB) **3**
- 64 GB DDR5 SDRAM (2x 32 GB) **4**

Article No.	6	A	B	A	D	H	J	K	L	M	N	P	X	0	2	4	5	0	1	2	3	4
6AG4105-	6																					

Industrial Computing

Rack PC

SIMATIC IPC RS-545A

Ordering data	Article No.	Article No.
SIMATIC IPC RS-545A (Rack IPC, 19", 4U)	6AG4105- 6 ■ ■ ■ ■ ■ - ■ ■ ■ ■ ■	
Enclosure type, drive cage, interfaces		
<ul style="list-style-type: none"> Enclosure with drive cage type B (for internal installation; 0.2 g vibration, 2 g shock), blue-chromated 	1	
<ul style="list-style-type: none"> Enclosure with drive cage type A (for removable trays on the front), blue-chromated 	3	
<ul style="list-style-type: none"> Enclosure with drive cage type B (for internal installation; 0.2 g vibration, 2 g shock), blue-chromated + 2x COM interface 	6	
<ul style="list-style-type: none"> Enclosure with drive cage type A (for removable trays), blue-chromated + 2x COM interface 	7	
Power supply unit, graphics cards		
<ul style="list-style-type: none"> 550 W 100/240 V AC industrial power supply unit 	A	
<ul style="list-style-type: none"> AI accelerator 2x NVIDIA L4 (2 slots occupied); 700 W 2x100/240 V AC redundant industrial power supply unit 	C	
Operating system (preinstalled)		
<ul style="list-style-type: none"> Windows Server 2022 Standard Edition 64-bit, incl. 5 clients multi-language (en, de, fr, it, es); without USB flash drive (restore image; D&D) 	N	
<ul style="list-style-type: none"> Windows Server 2022 Standard Edition 64-bit, incl. 5 clients multi-language (en, de, fr, it, es); with USB flash drive (restore image; D&D) 	P	
<ul style="list-style-type: none"> Without operating system; without USB flash drive (D&D) 	X	
Power supply cable		
<ul style="list-style-type: none"> Without power supply cord 	0	
<ul style="list-style-type: none"> Power supply cord for Europe 	1	
<ul style="list-style-type: none"> Power supply cord for USA 	2	
<ul style="list-style-type: none"> Power supply cord for China 	3	
		Accessories
		Removable drive bay For 3.5" hard disk (SATA/SAS) or 2.5" SSD (SATA), without drive
		6ES7648-0EH00-1BA0
		Retainer For interlocking the internal USB interface
		6ES7648-1AA00-0XK0
		Mounting accessories Tower kit for converting the rack IPC into an industrial tower PC
		<ul style="list-style-type: none"> For IPC Rx-545A/IPC547J/IPC547G
		6ES7648-1AA01-0XC0
		Adapter cable
		<ul style="list-style-type: none"> Adapter cable DisplayPort to DVI-D for onboard graphics
		6ES7648-3AF00-0XA0
		<ul style="list-style-type: none"> Adapter cable DisplayPort to VGA for onboard graphics
		6ES7648-3AG00-0XA0

Note:

Please select the required IPC configuration via the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

The SIMATIC IPC online configurator offers a current overview at <https://www.siemens.com/ipc-configurators>.

Industrial Computing

Rack PC

SIMATIC IPC RS-545A

Technical specifications

Article number	6AG4105-6....-..... SIMATIC IPC RS-545A
General information	
Product type designation	RS-545A
Installation type/mounting	
Mounting	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)
Design	Rack PC, 19", 4U
Supply voltage	
Type of supply voltage	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Core i5-12500E 6C(4P)/12T, 2.9 (4.5) GHz, 18 MB cache; Core i3-12100E 4C(4P)/8T, 3.2 (4.2) GHz, 12 MB cache;
Chipset	Intel R680E
Graphic	
Graphics controller	Intel® UHD Graphics 730 / 770
Graphics card	No
Drives	
Hard disk	1x 2 TB HDD 3.5" SATA, RAID1; 2x 2 TB HDD [Enterprise] 3.5" SATA, RAID1; 2x 4 TB HDD [Enterprise] 3.5" SATA, RAID1; 2x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare, RAID5; 3x 4 TB HDD [Enterprise] 3.5" SATA, RAID5; 3x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare
SSD	Yes; 1x 960 GB 2.5" SATA SSD, RAID1; 2x 480 GB 2.5" SATA SSD, RAID1; 2x 960 GB 2.5" SATA SSD, 1x 1024 GB M.2 NVMe SSD, RAID1; 2x 512 GB M.2 NVMe SSD, RAID1; 2x 1024 GB M.2 NVMe SSD
Slot for drives	Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional
Memory	
Main memory	8 GB to 128 GB DDR5 4800 SDRAM DIMM
Hardware configuration	
Slots	
• free slots	7 free slots for expansions (all long); 2x PCIe x16 (1 x 16 or 2 x 8 lanes) Gen 4; 1x PCIe x8 (4 lanes) Gen 3; 1x PCIe x4 (4 lanes) Gen 3; 1x PCIe x4 (4 lanes) Gen 4; 1x PCIe x4 (4 lanes) Gen 4: 1x PCI

Article number	6AG4105-6....-..... SIMATIC IPC RS-545A
Interfaces	
Interfaces/bus type	2x Gigabit Ethernet (IE/PN), RJ 45, teaming-capable; 1x 2.5 Gigabit Ethernet (IE/PN), RJ 45, teaming-capable; USB 3.2 Gen 2: 4x type A, USB 3.2 Gen 2x2: 2x type C, on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 2x internal e.g. for software dongle with option interlock, 3x DisplayPort V1.4a, 1x DVI-D, 1x COM1 and 1x COM2 (optional), audio: line in, line out, micro
USB port	USB 3.2 Gen 2: 4x type A, USB 3.2 Gen 2x2: 2x type C, on rear; 2x USB 3.1 Gen. 2 type A internally, e.g. for software dongle with optional interlock; 2x USB 3.1 Gen. 1 type A on the front, can be used with door closed
Connection for keyboard/mouse serial interface version	USB COM1 (optional): 1x RS 232 or RS 485; COM2 (optional) 1x RS 232
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes
Video interfaces	
• Graphics interface	3x DisplayPort; 1x DVI-D
Industrial Ethernet	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
• number of interfaces (1 000 Mbps)	2
• number of interfaces (2 500 Mbps)	1
Interrupts/diagnostics/status information	
LED status display	POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Fan	Yes
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6

Industrial Computing

Rack PC

SIMATIC IPC RS-545A

Technical specifications

Article number	6AG4105-6....-.... SIMATIC IPC RS-545A
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
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	30 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/ AC current cables	EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; 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)	IP30
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)
CSA approval	Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
UL approval	UL 61010-2-201 Second Edition, File E85972
cULus	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition

Article number	6AG4105-6....-.... SIMATIC IPC RS-545A
RCM (formerly C-TICK)	Yes
KC approval	Yes; in preparation
EAC (formerly Gost-R)	Yes
FCC	Yes
EMC	EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C; Max. 10 °C/h (no condensation)
• max.	40 °C
Relative humidity	
• Relative humidity	tested according to IEC 60068-2-78, IEC 60068-2-30: operation: 0 °C to 31 °C: 5-85%; decreasing linearly to 5-50% at 40 °C (no condensation), storage/transportation: 5% to 95% at 25 °C to 55 °C (gradient: ≤ 20 K/h; no condensation)
Vibrations	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s ² (0.2 g)
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27; half-sine: 9.8 m/s ² (1 g), 20 ms, 100 shocks per axis
Operating systems	
pre-installed operating system	Server 2022 Standard Edition incl. 5 clients, multi-language (64-bit)
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes
Dimensions	
Width	430 mm
Height	177 mm; 4U
Depth	446 mm

More information

More information is available on the internet at <https://www.siemens.com/simatic-rack-ipc>

Note:

Assemble the required IPC configuration using the configurator in the Industry Mall in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

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

Industrial Computing

Rack PC

SIMATIC IPC RW-545A

Ordering data	Article No.	Article No.
SIMATIC IPC RW-545A (rack IPC, 19", 4 U)	6AG4104- 6	SIMATIC IPC RW-545A (rack IPC, 19", 4 U)
Enclosure type, drive cage, interfaces		Operating system (preinstalled)
Enclosure with drive cage type B (for internal installation; 0.2 g vibration, 2 g shock), blue-chromated	1	Windows 10 IoT Enterprise 2021 LTSC for Core i3/i5; without USB flash drive (restore image; D&D)
Enclosure with drive cage type A (for removable trays on the front), blue-chromated	3	Windows 10 IoT Enterprise 2021 LTSC for Core i7/i9; without USB flash drive (restore image; D&D)
Enclosure with drive cage type A (for removable trays on the front), painted	4	Windows 10 IoT Enterprise 2021 LTSC for Core i3/i5; with USB flash drive (restore image; D&D)
Enclosure with drive cage type B (for internal installation; 0.2 g vibration, 2 g shock), blue-chromated + 2x COM interface	6	Windows 10 IoT Enterprise 2021 LTSC for Core i7/i9; with USB flash drive (restore image; D&D)
Enclosure with drive cage type A (for removable trays), blue-chromated + 2x COM interface	7	Without operating system; without USB flash drive (D&D)
Enclosure with drive cage type A (for removable trays on the front), painted + 2x COM interface	8	
Power supply unit, graphics cards		Power supply cable
550 W 100/240 V AC industrial power supply unit	A	Without power supply cord
850 W 100/240 V AC industrial power supply unit	B	Power supply cord for Europe
700 W 2x100/240 V AC redundant industrial power supply unit	C	Power supply cord for USA
Graphics card NVIDIA T400 (4 GB, 3x mDP: 3x adapter mDP on DP) (1 slot occupied), 550 W 100/240 V AC industrial power supply unit	D	Power supply cord for China
Graphics card NVIDIA RTX A2000 (12 GB, 4x mDP: 3x adapter mDP on DP) (2 slots occupied), 550 W 100/240 V AC industrial power supply unit	E	
Graphics card NVIDIA RTX A4000 (16 GB, 4x DP: without adapter) (1 slot occupied), 850 W 100/240 V AC industrial power supply unit	F	Note:
Graphics card NVIDIA RTX A5000 (24 GB, 4x DP: without adapter) (2 slots occupied), 850 W 100/240 V AC industrial power supply unit	G	Please select the required IPC configuration via the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.
Graphics card NVIDIA T400 (4 GB, 3x mDP: 3x adapter mDP on DP) (1 slot occupied), 700 W 2x100/240 V AC redundant industrial power supply unit	H	The SIMATIC IPC online configurator offers a current overview at https://www.siemens.com/ipc-configurators .
Graphics card NVIDIA RTX A2000 (12 GB, 4x mDP: 3x adapter mDP on DP) (2 slots occupied), 700 W 2x100/240 V AC redundant industrial power supply unit	J	
		Accessories
		Removable drive bay 6ES7648-0EH00-1BA0
		For 3.5" hard drive (SATA/SAS) or 2.5" SSD (SATA), without drive
		Retainer 6ES7648-1AA00-0XK0
		For interlocking the internal USB interface
		Mounting accessories
		Tower kit for converting the rack IPC into an industrial tower PC
		• For IPC RW-545A/IPC547J/IPC547G
		Adapter cable
		• Adapter cable DisplayPort to DVI-D for onboard graphics 6ES7648-3AF00-0XA0
		• Adapter cable DisplayPort according to VGA for onboard graphics 6ES7648-3AG00-0XA0

Industrial Computing

Rack PC

SIMATIC IPC RW-545A

Technical specifications

Article number	6AG4104-6....-..... SIMATIC IPC RW-545A
General information	
Product type designation	RW-545A
Installation type/mounting	
Mounting	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)
Design	Rack PC, 19", 4U
Supply voltage	
Type of supply voltage	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Core i9-12900E 16C(8P+8E)/24T, 2.3 (5.0) GHz, 30 MB cache; Core i7-12700E 12C(8P+4E)/20T, 2.1 (4.8) GHz, 25 MB cache; Core i5-12500E 6C(4P)/12T, 2.9 (4.5) GHz, 18 MB cache; Core i3-12100E 4C(4P)/8T, 3.2 (4.2) GHz, 12 MB cache;
Chipset	Intel R680E
Graphic	
Graphics controller	Intel® UHD Graphics 730 / 770
Graphics card	Yes; NVIDIA T400, RTX A2000, RTX A4000, RTX A5000
Drives	
Hard disk	1x 2 TB HDD 3.5" SATA, 2x 2 TB HDD 3.5" SATA, RAID1 2x 2 TB HDD [Enterprise] 3.5" SATA, RAID1 2x 4 TB HDD [Enterprise] 3.5" SATA
SSD	Yes; 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 960 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD, RAID1 2x 960 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD, 2x 1 024 GB M.2 NVMe SSD
Slot for drives	Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional
Memory	
Main memory	8 GB to 128 GB DDR5 4800 SDRAM DIMM
Hardware configuration	
Slots	
• free slots	7 free slots for expansions (all long); 2x PCIe x16 (1 x 16 or 2 x 8 lanes) Gen 4; 1x PCIe x8 (4 lanes) Gen 3; 1x PCIe x4 (4 lanes) Gen 3; 1x PCIe x4 (4 lanes) Gen 4; 1x PCIe x4 (4 lanes) Gen 4: 1x PCI

Article number	6AG4104-6....-..... SIMATIC IPC RW-545A
Interfaces	
Interfaces/bus type	2x Gigabit Ethernet (IE/PN), RJ 45, teaming-capable; 1x 2.5 Gigabit Ethernet (IE/PN), RJ 45, teaming-capable; USB 3.2 Gen 2: 4x type A, USB 3.2 Gen 2x2: 2x type C, on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 2x internal e.g. for software dongle with option interlock, 3x DisplayPort V1.4a, 1x DVI-D, 1x COM1 and 1x COM2 (optional), audio: line in, line out, micro
USB port	USB 3.2 Gen 2: 4x type A, USB 3.2 Gen 2x2: 2x type C, on rear; 2x USB 3.1 Gen. 2 type A internally, e.g. for software dongle with optional interlock; 2x USB 3.1 Gen. 1 type A on the front, can be used with door closed
Connection for keyboard/mouse serial interface version	USB COM1 (optional): 1x RS 232 or RS 485; COM2 (optional) 1x RS 232
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes
Video interfaces	
• Graphics interface	3x DisplayPort; 1x DVI-D
Industrial Ethernet	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
• number of interfaces (1 000 Mbps)	2
• number of interfaces (2 500 Mbps)	1
Interrupts/diagnostics/status information	
LED status display	POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Fan	Yes
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6

Industrial Computing

Rack PC

SIMATIC IPC RW-545A

Technical specifications

Article number	6AG4104-6....-.... SIMATIC IPC RW-545A
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
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	30 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/ AC current cables	EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; 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)	IP30
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)
CSA approval	Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
UL approval	UL 61010-2-201 Second Edition, File E85972
cULus	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition

Article number	6AG4104-6....-.... SIMATIC IPC RW-545A
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
EMC	EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C; Max. 10 °C/h (no condensation)
• max.	40 °C
Relative humidity	
• Relative humidity	tested according to IEC 60068-2-78, IEC 60068-2-30: operation: 0 °C to 31 °C: 5-85%; decreasing linearly to 5-50% at 40 °C (no condensation), storage/transportation: 5% to 95% at 25 °C to 55 °C (gradient: ≤ 20 K/h; no condensation)
Vibrations	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s ² (0.2 g)
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27; half-sine: 9.8 m/s ² (1 g), 20 ms, 100 shocks per axis
Operating systems	
pre-installed operating system	Windows 10 IoT Enterprise 2021 LTSC
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes
Software	
SIMATIC Software	Optional package with SIMATIC WinCC
Dimensions	
Width	430 mm
Height	177 mm; 4U
Depth	446 mm

More information

More information is available on the internet at

<https://www.siemens.com/simatic-rack-ipc>

Note:

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

More information is available at

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

Industrial Computing

Rack PC

SIMATIC IPC RC-545A

Technical specifications

Article number	6AG4103-6....-.... SIMATIC IPC RC-545A
General information	
Product type designation	RC-545A
Installation type/mounting	
Mounting	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)
Design	Rack PC, 19", 4U
Supply voltage	
Type of supply voltage	100/240V AC (autorange) 50/60 Hz
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 i7-12700E 12C(8P+4E)/20T, 2.1 (4.8) GHz, 25 MB cache; Core i5-12500E 6C(6P)/12T, 2.9 (4.5) GHz, 18 MB cache; Core i3-12100E 4C(4P)/8T, 3.2 (4.2) GHz, 12 MB cache;
Chipset	Intel H610E
Graphic	
Graphics controller	Intel® UHD Graphics 730 / 770
Graphics card	Yes; NVIDIA T400
Drives	
Hard disk	1x 2 TB HDD 3.5" SATA, 2x 2 TB HDD 3.5" SATA
SSD	Yes; 1x 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 960 GB 2.5" SATA SSD
Slot for drives	mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays in drive cage Type A; mounting internally on the fixed drive cage optional
Memory	
Main memory	8 GB to 64 GB DDR5 4800 SDRAM DIMM
Hardware configuration	
Slots	
• free slots	7 spare slots for expansions (all long); 1x PCIe x16 (16L) Gen4; 1x PCIe x16 (2L) Gen3; 1x PCIe x8 (1L) Gen3; 2x PCIe x4 (1L) Gen3; 2x PCI

Article number	6AG4103-6....-.... SIMATIC IPC RC-545A
Interfaces	
Interfaces/bus type	1x Gigabit Ethernet (IE/PN), RJ 45, teaming-capable; USB 3.2 Gen 1: 2x type A on rear, USB 2.0: 2x type A on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 1x internal e.g. for software dongle with option interlock, 2x DisplayPort V1.4a, 1x DVI-D, 1x COM1, 1x COM2 and 1x COM3 (optional), audio: line in, line out, micro
USB port	USB 3.2 Gen 1: 2x type A on rear, USB 2.0: 2x type A on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 1x internal
Connection for keyboard/mouse serial interface version	USB COM1: 1x RS 232 or RS 485; COM2 and COM3 (optional) 1x RS 232
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes
Video interfaces	
• Graphics interface	2x DisplayPort; 1x DVI-D
Industrial Ethernet	
• Industrial Ethernet interface	2x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes
• number of interfaces (1 000 Mbps)	2
Interrupts/diagnostics/status information	
LED status display	POWER, HDD, ETHERNET 1, ETHERNET 2, WATCHDOG, TEMP, FAN
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Fan	Yes
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• 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

Industrial Computing

Rack PC

SIMATIC IPC RC-545A

Technical specifications

Article number	6AG4103-6....-.... SIMATIC IPC RC-545A
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	30 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/ AC current cables	EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; 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)	IP30
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)
CSA approval	Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
UL approval	UL 61010-2-201 Second Edition, File E85972
cULus	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
RCM (formerly C-TICK)	Yes
KC approval	Yes; in preparation
EAC (formerly Gost-R)	Yes
FCC	Yes
EMC	EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered

Article number	6AG4103-6....-.... SIMATIC IPC RC-545A
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C; Max. 10 °C/h (no condensation)
• max.	40 °C
Relative humidity	
• Relative humidity	tested according to IEC 60068-2-78, IEC 60068-2-30: operation: 0 °C to 31 °C: 5-85%; decreasing linearly to 5-50% at 40 °C (no condensation), storage/transportation: 5% to 95% at 25 °C to 55 °C (gradient: ≤ 20 K/h; no condensation)
Vibrations	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s ² (0.2 g)
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27; half-sine: 9.8 m/s ² (1 g), 20 ms, 100 shocks per axis
Operating systems	
pre-installed operating system	Windows 10 IoT Enterprise 2021 LTSC
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes
Software	
SIMATIC Software	Optional package with SIMATIC WinCC
Dimensions	
Width	430 mm
Height	177 mm; 4U
Depth	446 mm; Device with short enclosure: 356 mm

More information

More information is available on the internet at <https://www.siemens.com/simatic-rack-ipc>

Note:

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

More information is available at <http://www.siemens.com/ipc-configurators>

Industrial Computing

Rack PC

SIMATIC IPC547J

Overview



SIMATIC IPC547J

A rugged industrial PC in 19" rack design (4 U).

It offers:

- Maximum performance
- Attractive price
- 10th generation Intel Core i/Xeon technology

Ordering data

SIMATIC IPC547J

Rack PC, 19", 4 U
 Interfaces: 2x USB 3.1 Gen.1 at front;
 COM1, audio at rear;
 slots:
 5 x PCI Express, 2 x PCI;
 temperature and fan monitoring;
 watchdog; card retainer

Processor / mainboard

- Core i3-10100E (4C/8T, 3.2 (3.8) GHz, 6 MB cache); MB (chip set H410, 2x Gb Ethernet, 1x DVI-D, 1x DisplayPort, 4x USB 2.0, 2x USB 3.1 Gen.1, 1x USB 2.0 internal)
- Core i5-10500E (6C/12T, 3.1 (4.2) GHz, 12 MB cache); MB (chip set H410, 2x Gb Ethernet, 1x DVI-D, 1x DisplayPort, 4x USB 2.0, 2x USB 3.1 Gen.1, 1x USB 2.0 internal)
- Core i7-10700E (8C/16T, 2.9 (4.5) GHz, 16 MB cache); MB (chip set H410, 2x Gb Ethernet, 1x DVI-D, 1x DisplayPort, 4x USB 2.0, 2x USB 3.1 Gen.1, 1x USB 2.0 internal)
- Core i9-10900E (10C/20T, 2.8 (4.7) GHz, 20 MB cache); MB (chip set H410, 2x Gb Ethernet, 1x DVI-D, 1x DisplayPort, 4x USB 2.0, 2x USB 3.1 Gen.1, 1x USB 2.0 internal)
- Core i3-10100E (4C/8T, 3.2 (3.8) GHz, 6 MB cache); MB (chip set W480E, 3x Gb Ethernet, 1x DVI-D, 2x DisplayPort, 6x USB 3.1 Gen.2, 2x USB 2.0 internal)
- Core i5-10500E (6C/12T, 3.1 (4.2) GHz, 12 MB cache); MB (chip set W480E, 3x Gb Ethernet, 1x DVI-D, 2x DisplayPort, 6x USB 3.1 Gen.2, 2x USB 2.0 internal, AMT)
- Core i7-10700E (8C/16T, 2.9 (4.5) GHz, 16 MB cache); MB (chip set W480E, 3x Gb Ethernet, 1x DVI-D, 2x DisplayPort, 6x USB 3.1 Gen.2, 2x USB 2.0 internal, AMT)
- Core i9-10900E (10C/20T, 2.8 (4.7) GHz, 20 MB cache); MB (chip set W480E, 3x Gb Ethernet, 1x DVI-D, 2x DisplayPort, 6x USB 3.1 Gen.2, 2x USB 2.0 internal, AMT)
- Xeon W-1270E (8C/16T, 3.4 (4.8) GHz, 16 MB cache); MB (chip set W480E, 3x Gb Ethernet, 1x DVI-D, 2x DisplayPort, 6x USB 3.1 Gen.2, 2x USB 2.0 internal, AMT)

Article No.

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Industrial Computing

Rack PC

SIMATIC IPC547J

Ordering data	Article No.	Article No.
SIMATIC IPC547J	6AG4104- 5	6AG4104- 5
<u>Drives</u>		
<ul style="list-style-type: none"> • 1 TB HDD 3.5" SATA • 1 TB HDD 3.5" SATA • 1 TB HDD 3.5" SATA + 960 GB SSD 2.5" SATA (for operating system if M.2 SSD not ordered) • 480 GB SSD 2.5" SATA • 2x 480 GB SSD 2.5" SATA • 960 GB SSD 2.5" SATA • RAID1, 2x 1 TB HDD 3.5" SATA • RAID1, 2x 480 GB SSD 2.5" SATA • RAID1, 2x 960 GB SSD 2.5" SATA • RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA • RAID1, 2x 4 TB HDD [Enterprise] 3.5" SATA • RAID1, 2x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare • RAID1, 2x 4 TB HDD [Enterprise] 3.5" SATA + 960 GB SSD 2.5" SATA (for operating system if M.2 SSD not ordered) • RAID5, 3x 4 TB HDD [Enterprise] 3.5" SATA • RAID5, 3x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare • Without drives 	A B C D E F G H J K L M N P Q X	0 1 2 3 4 5
<u>Enclosure type / drive cage</u>		
<ul style="list-style-type: none"> • Enclosure (short) with drive cage Type C (for installation internal / 0.2 g vibration, 2 g shock), blue-chromated • Enclosure with drive cage type B (for internal installation/ 0.2 g vibration, 2 g shock), blue chromated • Enclosure with drive cage type B (for internal installation/ 0.2 g vibration, 2 g shock); coated • Enclosure with drive cage type B (for internal installation/ 0.2 g vibration, 2 g shock); coated • Enclosure with drive cage type A (for removable trays on the front), coated 	0 1 2 3 4	
<u>Power supply unit, cable</u>		
<ul style="list-style-type: none"> • 100/240 V AC industrial power supply unit; without power cable • 100/240 V AC industrial power supply unit; power cable for Europe • 100/240 V AC industrial power supply unit; power cable for USA • 100/240 V AC industrial power supply unit; power cable for China • 2 x 100/240 V AC redundant industrial power supply unit; without power cable • 2 x 100/240 V AC redundant industrial power supply unit; 2x power cable for Europe 	0 1 2 3 4 5	
<u>Memory configuration</u>		
<ul style="list-style-type: none"> • 4 GB DDR4 SDRAM (1x 4 GB), single channel • 8 GB DDR4 SDRAM (2x 4 GB), dual channel • 16 GB DDR4 SDRAM (2x 8 GB), dual channel • 32 GB DDR4 SDRAM (2x 16 GB), dual channel • 32 GB DDR4 SDRAM (2x 16 GB), dual channel • 64 GB DDR4 SDRAM (2x 32 GB), dual channel 		0 1 2 3 4 5
<u>Expansions / hardware</u>		
<ul style="list-style-type: none"> • Without expansion • COM2 interface • 512 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system) [only with W480E chip set] • 512 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system) [only with W480E chip set] • PCIe x16 graphics card NVIDIA Quadro T400 (3x mDP: 3x adapter mDP on DP) (1 slot occupied) • PCIe x16 graphics card NVIDIA Quadro P2200 (4x DP: without adapter) (1 slot occupied) [only with W480E chip set / enclosure with drive cage Type A] 	A B C D J K	
<u>Operating system (preinstalled and activated)</u>		
<ul style="list-style-type: none"> • Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit [for Core i3/i5] • Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit [for Core i7/i9/Xeon] • PCIe x16 graphics card NVIDIA Quadro T400 (3x mDP: 3x adapter mDP on DP) (1 slot occupied) • Windows 10 IoT Enterprise 2021 LTSC, multi-language (en, de, fr, it, es), 64-bit [for Core i3/i5] • Windows Server 2019 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es) [only with W480E chip set / Xeon] • Windows 10 IoT Enterprise 2021 LTSC, multi-language (en, de, fr, it, sp), 64-bit [for Core i7/i9/Xeon] • Without operating system 		A B C D N P X

Industrial Computing

Rack PC

SIMATIC IPC547J

Ordering data

Article No.

SIMATIC IPC547J

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Software / adapters / security expansions

- Without expansions 0
- SIMATIC IPC DiagMonitor software included 1
- SIMATIC IPC Image & Partition Creator software included 2
- SIMATIC IPC DiagMonitor + Image & Partition Creator software included 3
- Adapter cable DP to VGA for onboard graphics / graphics card 4
- Adapter cable DP to DVI-D for onboard graphics / graphics card 5
- TPM 2.0¹⁾ 8

1) TPM = Trusted Platform Module

Note:

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

You can find the configurator at

<https://www.siemens.com/ipc-configurators>.

Accessories

Memory expansions

- 4 GB DDR4 DIMM (1x 4)
- 8 GB DDR4 DIMM (1x 8)
- 16 GB DDR4 DIMM (1x 16)
- 32 GB DDR4 DIMM (1x 32)

6ES7648-2AL60-0QA0

6ES7648-2AL70-0QA0

6ES7648-2AL80-0QA0

6ES7648-2AL81-0QA0

Removable drive bay

For 3.5" hard disk (SATA/SAS) or 2.5" SSD (SATA), without drive

6ES7648-0EH00-1BA0

Retainer

For interlocking the internal USB interface

6ES7648-1AA00-0XK0

Mounting accessories

Tower kit for converting the rack IPC into an industrial tower PC

- For IPC547G/IPC547J
- For IPC547G/IPC547J (device with short enclosure)

6ES7648-1AA01-0XC0

6ES7648-1AA01-0XE0

Adapter cable

- Adapter cable DisplayPort to DVI-D for onboard graphics
- Adapter cable DisplayPort to VGA for onboard graphics

6ES7648-3AF00-0XA0

6ES7648-3AG00-0XA0

Technical specifications

Article number	6AG4104-5....-..... SIMATIC IPC547J
General information	
Product type designation	IPC547J
Installation type/mounting	
Mounting	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)
Design	Rack PC, 19", 4U
Supply voltage	
Type of supply voltage	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Intel Xeon W-1270E (8C/16T, 3.4 (4.8) GHz, 16 MB Cache); Intel Core i9-10900E (10C/20T, 2.8 (4.7) GHz, 20 MB Cache); Intel Core i7-10700E (8C/16T, 2.9 (4.5) GHz, 16 MB Cache); Intel Core i5-10500E (6C/12T, 3.1 (4.2) GHz, 12 MB Cache); Intel Core Core i3-10100E (4C/8T, 3.2 (3.8) GHz, 6 MB Cache)
Chipset	Intel W480E / Intel H410
Graphic	
Graphics controller	Intel® UHD Graphics 630
Graphics card	Yes; NVIDIA T400, Quadro RTX P2200, Quadro RTX 4000
Drives	
Hard disk	1 TB HDD 3.5" SATA, 2x 1 TB HDD 3.5" SATA, 1 TB HDD 3.5" SATA + 960 GB SSD 2.5" SATA, RAID1, 2x 1 TB HDD 3.5" SATA, RAID1, 2x 1 TB HDD [Enterprise] 3.5" SATA, RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA, RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as hot spare, RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 960 GB SSD 2.5" SATA, RAID5, 3x 2 TB HDD [Enterprise] 3.5" SATA, RAIDS, 3x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as hot spare
SSD	Yes; 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 480 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD, RAID1 2x 960 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD
Slot for drives	Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional
Memory	
Main memory	4 GB to 128 GB DDR4 2933 SDRAM DIMM

Industrial Computing

Rack PC

SIMATIC IPC547J

Technical specifications

Article number	6AG4104-5....-.... SIMATIC IPC547J
Hardware configuration	
Slots	
<ul style="list-style-type: none"> free slots 	7 spare slots for expansions (all long); mainboard with H410 chip set: 1x PCIe (x16) (16 lane) Gen 3, 1x PCIe (x16) (1 lanes) Gen 3, 1x PCIe (x8) (1 lane) Gen 3, 1x PCIe (x4) (1 lane) Gen 3, 1x PCIe (x4) (1 lane) Gen 3, 2x PCI; mainboard with W480E chip set: 1x PCIe (x16) (16 lane) Gen 3, 1x PCIe (x16) (4 lanes) Gen 3, 1x PCIe (x8) (1 lane) Gen 3, 1x PCIe (x4) (4 lane) Gen 3, 1x PCIe (x4) (1 lane) Gen 3, 2x PCI
Interfaces	
Interfaces/bus type	mainboard (H410 chip set): 2x Intel Gigabit Ethernet (RJ45, teaming-capable), USB 3.1 Gen 1: 2x on rear, 2x on front, USB 2.0: 4x on rear, 1x internal e.g. for software dongle with optional interlock, 1x DisplayPort V1.2, 1x DVI-D, 1x COM1, audio: line in, line out, micro; mainboard (W480E chip set): 3x Intel Gigabit Ethernet (RJ45, teaming-capable), USB 3.1 Gen 2: 4x type A, 2x type C, on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 2x internal e.g. for software dongle with optional interlock, 2x DisplayPort V1.2, 1x DVI-D, 1x COM1, audio: line in, line out, micro
USB port	mainboard (H410 chip set): USB 3.1 Gen 1: 2x on rear, 2x on front, USB 2.0: 4x on rear, 1x internal e.g. for software dongle with optional interlock; mainboard (W480E chip set): USB 3.1 Gen 2: 4x type A, 2x type C, on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 2x internal e.g. for software dongle with optional interlock
Connection for keyboard/mouse serial interface version	USB COM1: 1x RS 232 or RS 485; COM2 (optional) 1x RS 232
Multimedia	
<ul style="list-style-type: none"> Audio In/Out Microphone In 	Yes Yes
Video interfaces	
<ul style="list-style-type: none"> Graphics interface 	2x DisplayPort and 1x DVI-D onboard; 1x VGA via DP-VGA adapter cable (optional); graphics card PCIe (x16), Triple Head (3x mini DisplayPort, 2 GB graphics memory, 3x mini DisplayPort to DisplayPort adapter cable) (optional)
Industrial Ethernet	
<ul style="list-style-type: none"> Industrial Ethernet interface - 100 Mbps - 1000 Mbps 	2x or 3x Gigabit Ethernet (IE/PN), RJ45 Yes Yes

Article number	6AG4104-5....-.... SIMATIC IPC547J
Interrupts/diagnostics/status information	
LED status display	POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM
Integrated Functions	
Monitoring functions	
<ul style="list-style-type: none"> Temperature monitoring Watchdog Fan Monitoring function via network 	Yes Yes Yes Optional
EMC	
Interference immunity against discharge of static electricity	
<ul style="list-style-type: none"> Interference immunity against discharge of static electricity 	±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
<ul style="list-style-type: none"> Interference immunity against high frequency radiation 	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
<ul style="list-style-type: none"> Interference immunity on supply cables Interference immunity on signal cables > 30m Interference immunity on signal cables < 30m 	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±2 kV acc. to IEC 61000-4-5, surge, length > 30 m ±1 kV acc. to IEC 61000-4-4, Burst
Interference immunity against voltage surge	
<ul style="list-style-type: none"> asymmetric interference symmetric interference 	±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
<ul style="list-style-type: none"> Interference immunity to magnetic fields at 50 Hz 	30 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
<ul style="list-style-type: none"> Interference emission via line/ AC current cables 	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
Compliance with line harmonic distortion limits	
<ul style="list-style-type: none"> 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)	IP30
IP (rear)	IP20

Industrial Computing

Rack PC

SIMATIC IPC547J

Technical specifications

Article number	6AG4104-5....-.... SIMATIC IPC547J
Standards, approvals, certificates	
CE mark	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)
CSA approval	Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
UL approval	UL 61010-2-201 Second Edition, File E85972
cULus	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
EMC	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C; Max. 10 °C/h (no condensation)
• max.	40 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
Vibrations	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s ² (0.2 g)
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27; half-sine: 9.8 m/s ² (1 g), 20 ms, 100 shocks per axis

Article number	6AG4104-5....-.... SIMATIC IPC547J
Operating systems	
pre-installed operating system	Windows 10 IoT Enterprise 2021 LTSC, Windows 10 IoT Enterprise 2019 LTSC; Windows Server 2022 Standard Edition incl. 5 clients; Windows Server 2019 Standard Edition incl. 5 clients
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes
Software	
SIMATIC Software	Optional package with SIMATIC WinCC
Dimensions	
Width	430 mm
Height	177 mm; 4U
Depth	446 mm; Device with short enclosure: 356 mm

More information

More information is available on the internet at
<https://www.siemens.com/simatic-rack-pc>

Industrial Computing

Rack PC

SIMATIC IPC647E

Overview



SIMATIC IPC647E

Very rugged, high-performance industrial PC in 19" rack design (2 U) with excellent industrial functionality

It offers:

- Extreme compactness
- Extreme ruggedness
- Intel® Core® i / Xeon technology 8th/9th Generation

Ordering data

SIMATIC IPC647E

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

Processor / motherboard

- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d);
Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L)
- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d);
Board 4 slots: 2x PCI, 2x PCIe x16 (8 L)
- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d);
Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT);
Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT);
Board 4 slots: 2x PCI, 2x PCIe x16 (8 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT);
Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT);
Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT);
Board 4 slots: 2x PCI, 2x PCIe x16 (8 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT);
Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT);
Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT);
Board 4 slots: 2x PCI, 2x PCIe x16 (8 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT);
Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L)
- Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT);
Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L)

Article No.

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Industrial Computing

Rack PC

SIMATIC IPC647E

Ordering data	Article No.	Article No.
<p>SIMATIC IPC647E</p> <ul style="list-style-type: none"> Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT); Board 4 slots: 2x PCI, 2x PCIe x16 (8 L) Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT); Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L) 	6AG4112- 3	6AG4112- 3
<p>Drives</p> <ul style="list-style-type: none"> 1 TB HDD 3.5" SATA 2x 1 TB HDD 3.5" SATA RAID1, 2x 1 TB HDD 3.5" SATA RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA RAID1, 2x 4 TB HDD [Enterprise] 3.5" SATA RAID1, 2x 2 TB HDD [Enterprise] 3.5" SAS; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied) RAID1, 2x 2 TB HDD [Enterprise] 3.5" SAS; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied) + 480 GB SSD 2.5" SATA internal 1 TB HDD 3.5" SATA + 480 GB SSD 2.5" SATA (for operating system if M.2 SSD not ordered) 480 GB SSD 2.5" SATA 960 GB SSD 2.5" SATA 2x 480 GB SSD 2.5" SATA RAID1, 2x 480 GB SSD 2.5" SATA RAID1, 2x 960 GB SSD 2.5" SATA Without drives 	Q R A B C D E K L P Q R S T U X	0 1 2 3 4 5 6 7 8
<p>Type of enclosure/power supplies</p> <ul style="list-style-type: none"> Enclosure with drive cage type B (for internal installation/ 0.5 g vibration; 5 g shock); 100/240 V AC industrial power supply unit Enclosure with drive cage type A (for removable trays on the front); 100/240 V AC industrial power supply unit Enclosure with drive cage type B (for internal installation/ 0.5 g vibration; 5 g shock); 2x 100/240 V AC redundant industrial power supply unit Enclosure with drive cage type A (for removable frames on the front); 2x 100/240 V AC redundant industrial power supply unit Enclosure with drive cage type B (for internal installation/ 0.5 g vibration; 5 g shock) + COM2 port; 100/240 V AC industrial power supply unit Enclosure with drive cage type A (for removable trays on the front) + COM2 interface; 100/240 V AC industrial power supply unit Enclosure with drive cage type B (for internal installation/ 0.5 g vibration; 5 g shock) + COM2 port; 2x 100/240 V AC redundant industrial power supply unit Enclosure with drive cage type A (for removable frames on the front) + COM2 port; 2x 100/240 V AC redundant industrial power supply unit 	0 1 2 3 4 5 6 7	0 2 4 5 6 7 8
<p>SIMATIC IPC647E</p> <p><u>Memory configuration</u></p> <ul style="list-style-type: none"> 4 GB DDR4 SDRAM (1x 4 GB), single channel 8 GB DDR4 SDRAM (2x 4 GB), dual channel 16 GB DDR4 SDRAM (2x 8 GB), dual channel 32 GB DDR4 SDRAM (2x 16 GB), dual channel 64 GB DDR4 SDRAM (4x 16 GB), dual channel 128 GB DDR4 SDRAM (4x 32 GB), dual channel 16 GB DDR4 SDRAM (2x 8 GB), ECC, dual channel (only with Core i3/Xeon) 32 GB DDR4 SDRAM (2x 16 GB), ECC, dual channel (only with Core i3/Xeon) 64 GB DDR4 SDRAM (4x 16 GB), ECC, dual channel (only with Core i3/Xeon) <p><u>Expansion hardware</u></p> <ul style="list-style-type: none"> Without expansions PCIe x16 graphics card (3x mDP: 3x adapter mDP on DP) (1 slot occupied) 512 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system) 512 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system) + PCIe x16 graphics card (3x mDP: 3x adapter mDP on DP) (1 slot occupied) 1 024 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system) PCIe x8 GPU card NVIDIA A2 Tensor Core, 16 GB (2 slots occupied) 512 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system) + PCIe x8 GPU card NVIDIA A2 Tensor Core, 16 GB (2 slots occupied) <p><u>Operating system (preinstalled and activated)</u></p> <ul style="list-style-type: none"> Windows 10 Enterprise 2016 LTSC, multi-language (en, de, fr, it, es), 64-bit [for Core i3/i5] Windows 10 Enterprise 2016 LTSC, multi-language (en, de, fr, it, sp), 64-bit, for Pentium Core i7/Xeon Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit [for Core i3/i5] Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit, for Core i7/Xeon Windows 10 IoT Enterprise 2021 LTSC, multi-language (en, de, fr, it, es), 64-bit [for Core i3/i5] Windows 10 IoT Enterprise 2021 LTSC, multi-language (en, de, fr, it, es), 64-bit [for Core i3/i5] Windows Server 2016 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es) Windows Server 2019 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es) Windows Server 2022 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es) Without operating system 		A B C D E F H J K X

Industrial Computing

Rack PC

SIMATIC IPC647E

Ordering data	Article No.	Article No.
SIMATIC IPC647E <u>Software / adapters / security expansions</u> <ul style="list-style-type: none"> • SIMATIC IPC DiagMonitor software included • SIMATIC IPC Image & Partition Creator software included • SIMATIC IPC DiagMonitor + Image & Partition Creator software included • Adapter cable DP to VGA for onboard graphics • Adapter cable DP to DVI-D for onboard graphics • Without expansions • TPM¹⁾ 2.0 (not for China) 	6AG4112- 3 ■ ■ ■ ■ ■ - ■ ■ ■ ■ ■	Accessories Memory expansions <ul style="list-style-type: none"> • 4 GB DDR4 2666 SDRAM, DIMM • 8 GB DDR4 2666 SDRAM, DIMM • 16 GB DDR4 2666 SDRAM, DIMM • 32 GB DDR4 2666 SDRAM, DIMM Removable drive bay For 3.5" hard disk or 2.5" solid-state drive, SATA (without hard disk drive/solid-state drive)
<u>Cables, country-specific versions</u> <ul style="list-style-type: none"> • Without power supply cord • Power supply cord for Europe • Power supply cord for USA • Power supply cord for China 	0 1 2 3	Retainer For mechanically interlocking the internal USB interface Adapter cable <ul style="list-style-type: none"> • DisplayPort to DVI-D for onboard graphics • DisplayPort to VGA for onboard graphics • Mini DisplayPort to VGA for graphics card • Mini DisplayPort to DVI-D for graphics card • Mini DisplayPort to DVI-D for graphics card (3 units per pack) • Mini DisplayPort to DisplayPort for graphics card • Mini DisplayPort to DisplayPort for graphics card (3 units per pack)

¹⁾ TPM = Trusted Platform Module

Note:

Please select the required IPC configuration via the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

The SIMATIC IPC online configurator offers a current overview at <https://www.siemens.com/ipc-configurators>.

Industrial Computing

Rack PC

SIMATIC IPC647E

Technical specifications

Article number	6AG4112-3....-.... SIMATIC IPC647E (Rack PC)
General information	
Product type designation	IPC647E
Installation type/mounting	
Mounting	For horizontal installation; prepared for telescopic rails; 19" mounting bracket can be removed externally
Design	Rack PC, 19", 2U
Supply voltage	
Type of supply voltage	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Intel Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB Cache, VT-x/-d-Technology)
Chipset	Intel C246
Graphic	
Graphics controller	Onboard Intel UHD graphics P630/630 integrated in processor; graphics card NVIDIA Quadro P400 PCIe (x16) triple head (optional)
Drives	
Hard disk	1x 1 TB 3.5" SATA HDD, 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SAS HDD (Enterprise) with PCIe x8 RAID controller incl. ZMCP module
SSD	Yes; 1x 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 480 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD
Slot for drives	Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional
Memory	
Main memory	4 GB to 128 GB DDR4 2666 SDRAM DIMM, ECC optional

Article number	6AG4112-3....-.... SIMATIC IPC647E (Rack PC)
Hardware configuration	
Slots	
• free slots	2 slots: 1x PCI Express (x16) (16 lanes), 1x PCI Express (x16) (4 lanes) or 4 slots: 2x PCI, 2x PCI Express (x16) (8 lanes) or 4 slots: 2x PCI Express (x16) (8 lanes), 1x PCI Express (x16) (4 lanes), 1x PCI Express (x16) (1 lane); expansion modules up to 312 mm in length can be used
Interfaces	
Interfaces/bus type	1x COM1, 1x COM2 (optional), 2x DisplayPort, 1x DVI-D, audio (microphone in, line in, line out), 9x USB, 3x Gigabit Ethernet
PROFIBUS/MPI	can be implemented with plug-in card
USB port	4x USB 3.1 Gen. 2 Type A, 2x USB 3.1 Gen. 2 Type C on the rear; 1x USB 3.1 Gen. 2 Type A internally, e.g. for software dongle with optional interlock, 2x USB 3.1 Gen. 1 Type A on the front, can be used with door closed
Connection for keyboard/mouse serial interface version	USB COM1: 1x RS 232, COM2 (optional): 1x RS 232
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes
Video interfaces	
• Graphics interface	2x DisplayPort and 1x DVI-D onboard; 1x VGA via DP-VGA adapter cable (optional); graphics card PCIe (x16), Triple Head (3x mini DisplayPort, 2 GB graphics memory, 3x mini DisplayPort to DisplayPort adapter cable) (optional)
Industrial Ethernet	
• Industrial Ethernet interface	3x Gigabit Ethernet (IE/PN), RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes
Interrupts/diagnostics/status information	
LED status display	Power, HDD, Ethernet 1, Ethernet 2, Ethernet 3, Watchdog, Temp, Fan, HDD1 alarm, HDD0 alarm
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Fan	Yes
• Monitoring function via network	Optional
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6

Industrial Computing

Rack PC

SIMATIC IPC647E

Technical specifications

Article number	6AG4112-3....-..... SIMATIC IPC647E (Rack PC)
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables > 30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 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, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
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
Standards, approvals, certificates	
CE mark	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)
CSA approval	Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
UL approval	Yes; UL 61010-2-201 Second Edition, File E85972
cULus	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
EMC	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered

Article number	6AG4112-3....-..... SIMATIC IPC647E (Rack PC)
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
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C; Max. 10 °C/h (no condensation)
• max.	50 °C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
Vibrations	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6: 10 cycles, 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s ² (0.5 g)
Shock testing	
• Shock load during operation	Tested according to DIN IEC 60068-2-7: 50 m/s ² (5 g), 30 ms, 100 shocks
Operating systems	
pre-installed operating system	Windows 10 Enterprise 2016 LTSC, multi-language (64-bit); Windows 10 IoT Enterprise 2019 LTSC, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 multi-language clients (64-bit); Windows Server 2019 Standard Edition incl. 5 multi-language clients (64-bit)
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes
Software	
SIMATIC Software	Optional package with SIMATIC WinCC
Dimensions	
Width	430 mm
Height	88 mm; 2U
Depth	444 mm

More information

More information is available on the internet at <https://www.siemens.com/simatic-rack-pc>.

Industrial Computing

Rack PC

SIMATIC IPC847E

Overview



SIMATIC IPC847E

Very rugged, high-performance industrial PC in 19" rack design (4 U) with excellent industrial functionality.

It offers:

- Maximum expandability
- Extreme ruggedness
- Intel® Core® i / Xeon technology of the 8th/9th generation

Ordering data

Article No.

Article No.

SIMATIC IPC847E

Rack PC, 19", 4 U

Interfaces:

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

Processors / Boards

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

Article No.	3	■	■	■	■	■	■	■	■	■
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	B									
	C									
	D									
	E									
	F									
	G									

SIMATIC IPC847E

- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT)
Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT)
Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT)
Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT)
Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT)
Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)
- Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT);
Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)
- Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT);
Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT);
Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)

Article No.	3	■	■	■	■	■	■	■	■	■
6AG4114-										
	H									
	J									
	K									
	L									
	M									
	N									
	Q									
	R									

Industrial Computing

Rack PC

SIMATIC IPC847E

Ordering data

Article No.

SIMATIC IPC847E

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Drives

- 1 TB HDD 3.5" SATA **A**
- 2x 1 TB HDD 3.5" SATA **B**
- RAID1, 2x 1 TB HDD 3.5" SATA **C**
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA **D**
- RAID1, 2x 4 TB HDD [Enterprise] 3.5" SATA **E**
- RAID1, 2x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare **F**
- RAID1, 2x 4 TB HDD [Enterprise] 3.5" SATA + 480 GB 2.5" SSD SATA (for operating system if M.2 SSD not ordered) **G**
- RAID5, 3x 4 TB HDD [Enterprise] 3.5" SATA **H**
- RAID5, 3x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare **J**
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SAS; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied) **K**
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SAS; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied) + 480 GB SSD 2.5" SATA **L**
- RAID5, 3x 2 TB HDD [Enterprise] 3.5" SAS; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied) **M**
- RAID5, 3x 2 TB HDD [Enterprise] 3.5" SAS + 2 TB HDD [Enterprise] 3.5" SAS as hot spare; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied) **N**
- 1 TB HDD 3.5" SATA + 480 GB SSD 2.5" SATA (for operating system if M.2 SSD not ordered) **P**
- 480 GB SSD 2.5" SATA **Q**
- 960 GB SSD 2.5" SATA **R**
- 2x 480 GB SSD 2.5" SATA **S**
- RAID1, 2x 480 GB SSD 2.5" SATA **T**
- Without drives **X**

Article No.

SIMATIC IPC847E

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Type of enclosure/power supplies

- Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock); 100/240 V AC industrial power supply unit **0**
- Enclosure with drive cage type A (for removable trays on the front); 100/240 V AC industrial power supply unit **1**
- Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock); 2x 100/240 V AC redundant industrial power supply unit **2**
- Enclosure with drive cage type A (for removable trays on the front); 2x 100/240 V AC redundant industrial power supply unit **3**
- Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock) + COM2 port; 100/240 V AC industrial power supply unit **4**
- Enclosure with drive cage type A (for removable trays on the front) + COM2 interface; 100/240 V AC industrial power supply unit **5**
- Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock) + COM2 port; 2x 100/240 V AC redundant industrial power supply unit **6**
- Enclosure with drive cage type A (for removable trays on the front) + COM2 port; 2x 100/240 V AC redundant industrial power supply unit **7**
- Enclosure with drive cage type A (for removable trays on the front) + COM2 interface; 100/240 V AC industrial power supply unit, 850 W **8**

Industrial Computing

Rack PC

SIMATIC IPC847E

Ordering data	Article No.	Article No.
SIMATIC IPC847E	6AG4114- 3	6AG4114- 3
<u>Memory configuration</u>		
• 4 GB DDR4 SDRAM (1x 4 GB), single channel	0	
• 8 GB DDR4 SDRAM (2x 4 GB), dual channel	1	A
• 16 GB DDR4 SDRAM (2x 8 GB), dual channel	2	B
• 32 GB DDR4 SDRAM (2x 16 GB), dual channel	3	C
• 64 GB DDR4 SDRAM (4x 16 GB), dual channel	4	D
• 128 GB DDR4 SDRAM (4x 32 GB), dual channel	5	E
• 16 GB DDR4 SDRAM (2x 8 GB), ECC, dual channel (only with Core i3/Xeon)	6	F
• 32 GB DDR4 SDRAM (2x 16 GB), ECC, dual channel (only with Core i3/Xeon)	7	H
• 64 GB DDR4 SDRAM (4x 16 GB), ECC, dual channel (only with Core i3/Xeon)	8	J
<u>Expansion hardware</u>		
• Without expansion	0	K
• PCIe x4 adapter card for M.2 NVMe module without SSD (1 slot occupied)	1	X
• PCIe x16 graphics card (3x mDP; 3x adapter mDP on DP) (1 slot occupied)	2	
• PCIe x4 adapter card for M.2 NVMe module without SSD (1 slot occupied) + PCIe x16 graphics card (3x mDP; 3x adapter mDP on DP) (1 slot occupied)	3	A
• 512 GB SSD M.2 NVMe on PCIe x4 adapter card (1 slot occupied) (for operating system)	4	B
• 512 GB SSD M.2 NVMe on PCIe x4 adapter card (1 slot occupied) (for operating system) + PCIe x16 graphics card (3x mDP; 3x adapter mDP on DP) (1 slot occupied)	5	C
• 1 024 GB SSD M.2 NVMe on PCIe x4 adapter card (1 slot occupied) (for operating system)	6	H
• PCIe x16 graphics card NVIDIA RTX 4000 (3x DP) (1 slot occupied) [only with 850 W PS]	7	J
		X
		Y
<u>Operating system (preinstalled and activated)</u>		
• Windows 10 Enterprise 2016 LTSB, multi-language (en, de, fr, it, es), 64-bit (for Core i3/i5)		A
• Windows 10 Enterprise 2016 LTSB, multi-language (en, de, fr, it, es), 64-bit (for Core i7/Xeon)		B
• Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit (for Core i3/i5)		C
• Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit, (for Core i7/Xeon)		D
• PCIe x16 graphics card NVIDIA RTX 4000 (3x DP) (1 slot occupied) [only with 850 W PS]		E
• Windows 10 IoT Enterprise 2021 LTSC, multi-language (en, de, fr, it, es), 64-bit [for Core i3/i5]		F
• Windows Server 2016 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es)		H
• Windows Server 2019 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es)		J
• Windows Server 2022 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es)		K
• Without operating system		X
<u>Software / adapters / security expansions</u>		
• SIMATIC IPC DiagMonitor software included		A
• SIMATIC IPC Image & Partition Creator software included		B
• SIMATIC IPC DiagMonitor + Image & Partition Creator software included		C
• Adapter cable DP to VGA for onboard graphics		H
• Adapter cable DP to DVI-D for onboard graphics		J
• Without expansions		X
• TPM ¹⁾ 2.0 (not for China)		Y
<u>Cables, country-specific versions</u>		
• Without power supply cord		0
• Power supply cord for Europe		1
• Power supply cord for USA		2
• Power supply cord for China		3
SIMATIC IPC847E (Rack PC) 6AG4114-3RR15-0WY0		

Note:

Please select the required IPC configuration via the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

The SIMATIC IPC online configurator offers a current overview at <https://www.siemens.com/ipc-configurators>.

¹⁾ TPM = Trusted Platform Module

Option for Industrial Edge

SIMATIC IPC847E (Rack PC)
 3x Gbit Ethernet (IE/PN)
 1x DVI-D, 2x DP,
 1x COM1, audio, 6x USB3.1;
 Xeon E-2278GE (8C/16T);
 11 slots (8x PCIe, 3x PCI);
 960 GB SSD 2.5 SATA;
 Enclosure with drive cage
 Type A (for removable trays);
 100/240 V AC
 industrial power supply unit;
 128 GB DDR4 SDRAM (4x 32 GB);
 Industrial Edge (Simatic);
 TPM 2.0

6AG4114-3RR15-0WY0

Industrial Computing

Rack PC

SIMATIC IPC847E

Ordering data

Article No.

Accessories

Memory expansions

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

6ES7648-2AL60-0QA0

6ES7648-2AL70-0QA0

6ES7648-2AL80-0QA0

6ES7648-2AL81-0QA0

Removable drive bay

For 3.5" hard disk or 2.5" solid-state drive, SATA (without hard disk drive/solid-state drive)

6ES7648-0EH00-1BA0

Tower kit

To convert the computer into an industrial tower PC

6ES7648-1AA01-0XC0

Retainer

For mechanically interlocking the internal USB interface

6ES7648-1AA00-0XK0

Adapter cable

- DisplayPort to DVI-D for onboard graphics
- DisplayPort to VGA for onboard graphics
- Mini DisplayPort to VGA for graphics card
- Mini DisplayPort to DVI-D for graphics card
- Mini DisplayPort to DVI-D for graphics card (3 units per pack)
- Mini DisplayPort to DisplayPort for graphics card
- Mini DisplayPort to DisplayPort for graphics card (3 units per pack)

6ES7648-3AF00-0XA0

6ES7648-3AG00-0XA0

6ES7648-3AL00-0XA0

6ES7648-3AK00-0XA0

6ES7648-3AK00-1XA0

6ES7648-3AJ00-0XA0

6ES7648-3AJ00-1XA0

Note:

Please select the required IPC configuration via the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

The SIMATIC IPC online configurator offers a current overview at

<https://www.siemens.com/ipc-configurators>.

Technical specifications

Article number	6AG4114-3....-.... SIMATIC IPC847E (Rack PC)
General information	
Product type designation	IPC847E
Installation type/mounting	
Mounting	For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)
Design	Rack PC, 19", 4U
Supply voltage	
Type of supply voltage	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Intel Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB Cache, VT-x/-d-Technology)
Chipset	Intel C246
Graphic	
Graphics controller	Onboard Intel UHD graphics P630/630 integrated in processor; graphics card NVIDIA Quadro P400 PCIe (x16) triple head (optional)

Industrial Computing

Rack PC

SIMATIC IPC847E

Technical specifications

Article number	6AG4114-3....-.... SIMATIC IPC847E (Rack PC)
Drives	
Hard disk	1x 1 TB 3.5" SATA HDD, 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD, RAID1 2x 1 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SATA HDD (Enterprise), RAID1 2x 2 TB 3.5" SATA HDD (Enterprise) + 2 TB 3.5" SATA HDD (Enterprise) as hot spare, RAID5 3x 2 TB 3.5" SATA HDD (Enterprise), RAID5 3x 2 TB 3.5" SATA HDD (Enterprise) + 2 TB 3.5" SATA HDD (Enterprise) as hot spare, RAID1 2x 2 TB 3.5" SAS HDD (Enterprise) with PCIe x8 RAID controller incl. ZMCP module, RAID5 3x 2 TB 3.5" SAS HDD (Enterprise) with PCIe x8 RAID controller incl. ZMCP module
SSD	Yes; 1x 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 480 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD
Slot for drives	Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional
Memory	
Main memory	4 GB to 128 GB DDR4 2666 SDRAM DIMM, ECC optional
Hardware configuration	
Slots	
• free slots	9 slots: 7x PCI, 2x PCI Express (x16) (8 lanes) or 11 slots: 3x PCI, 1x PCI Express (x16) (8 lanes), 5x PCI Express (x16) (4 lanes), 2x PCI Express (x4) (4 lanes) or 11 slots: 3x PCI, 1x PCI Express (x16) (16 lanes), 3x PCI Express (x16) (4 lanes), 2x PCI Express (x16) (1 lane), 2x PCI Express (x4) (4 lanes); expansion modules up to a length of 312 mm can be used
Interfaces	
Interfaces/bus type	1x COM1, 1x COM2 (optional), 2x DisplayPort, 1x DVI-D, audio (microphone in, line in, line out), 9x USB, 3x Gigabit Ethernet
PROFIBUS/MPI	can be implemented with plug-in card
USB port	4x USB 3.1 Gen. 2 Type A, 2x USB 3.1 Gen. 2 Type C on the rear; 1x USB 3.1 Gen. 2 Type A internally, e.g. for software dongle with optional interlock, 2x USB 3.1 Gen. 1 Type A on the front, can be used with door closed
Connection for keyboard/mouse	USB
serial interface version	COM1: 1x RS 232, COM2 (optional): 1x RS 232
Multimedia	
• Audio In/Out	Yes
• Microphone In	Yes

Article number	6AG4114-3....-.... SIMATIC IPC847E (Rack PC)
Video interfaces	
• Graphics interface	2x DisplayPort and 1x DVI-D onboard; 1x VGA via DP-VGA adapter cable (optional); graphics card PCIe (x16), Triple Head (3x mini DisplayPort, 2 GB graphics memory, 3x mini DisplayPort to DisplayPort adapter cable) (optional)
Industrial Ethernet	
• Industrial Ethernet interface	3x Gigabit Ethernet (IE/PN), RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes
Interrupts/diagnostics/ status information	
LED status display	POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Fan	Yes
• Monitoring function via network	Optional
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• 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
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, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3

Industrial Computing

Rack PC

SIMATIC IPC847E

Technical specifications

Article number	6AG4114-3....-.... SIMATIC IPC847E (Rack PC)
Compliance with line harmonic distortion limits	
<ul style="list-style-type: none"> 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
Standards, approvals, certificates	
CE mark	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)
CSA approval	Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
UL approval	Yes; UL 61010-2-201 Second Edition, File E85972
cULus	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
EMC	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered

Article number	6AG4114-3....-.... SIMATIC IPC847E (Rack PC)
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> min. max. 	0 °C; Max. 10 °C/h (no condensation) 50 °C
Relative humidity	
<ul style="list-style-type: none"> Relative humidity 	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
Vibrations	
<ul style="list-style-type: none"> Vibration resistance during operation acc. to IEC 60068-2-6 	Tested according to IEC 60068-2-6: 10 cycles, 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s ² (0.5 g)
Shock testing	
<ul style="list-style-type: none"> Shock load during operation 	Tested according to IEC 60068-2-27, IEC 60068-2-29: half-sine: 50 m/s ² (5 g), 30 ms, 100 shocks per axis
Operating systems	
pre-installed operating system	Windows 10 Enterprise 2016 LTSB, multi-language (64-bit); Windows 10 IoT Enterprise 2019 LTSC, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 multi-language clients (64-bit); Windows Server 2019 Standard Edition incl. 5 multi-language clients (64-bit)
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes
Software	
SIMATIC Software	Optional package with SIMATIC WinCC
Dimensions	
Width	430 mm
Height	177 mm; 4U
Depth	444 mm

More information

More information is available on the internet at
<https://www.siemens.com/simatic-rack-pc>.

Industrial Computing

Rack PC

SIMATIC IPC1047E

Overview



SIMATIC IPC1047E

Industrial PC for maximum computing, memory and graphic capacity requirements with high expandability in 19" installation design (4 U).

It offers:

- Maximum CPU performance thanks to two Intel® Xeon® SP 2nd Gen Silver/ Gold
- Maximum GPU performance with NVIDIA® Quadro® RTX5000 or up to two RTX A4000 graphics cards
- High system performance with M.2 NVME SSD and up to 2 TB RAM
- A lot of space for your data with up to 32 TB HDD or SSD
- High AI performance with NVIDIA® Quadro® RTX5000 or up to two RTX A4000 graphics cards
- High expandability with 6x PCIe slots and fast data transfer through direct CPU connection of the PCIe lanes
- Product design and safety requirements for industrial environment

Ordering data

Article No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SIMATIC IPC1047E	6BK1801-																			
Rack PC, 19", 4 U; 572 mm; 2x 1 GB LAN (RJ45); COM1; IPMI; 6 PCIe slots (2x PCIe x8 + 4x PCIe x16)																				
<u>Processor</u>																				
• 2x Intel Xeon SP Silver 4210 10C/ 20T - 2.2 GHz/ 3.2 GHz																				
• 2x Intel Xeon SP Silver 4216 16C/ 32T - 2.1 GHz/ 3.2 GHz																				
• 2x Intel Xeon SP Gold 6226 12C/ 24T - 2.7 GHz/ 3.7 GHz																				
• 2x Intel Xeon SP Gold 6230 20C/ 40T - 2.1 GHz/ 3.9 GHz																				
<u>Drives/ mass storage</u>																				
• 1x SSD 1 TB M.2 NVMe																				
• 1x SSD 2 TB M.2 NVMe																				
• 1x SSD 1 TB M.2 NVMe + 1x HDD 4 TB 3.5" SATA																				
• 1x SSD 1 TB M.2 NVMe + 1x HDD 8 TB 3.5" SATA																				
• 1x SSD 1 TB M.2 NVMe + 2x HDD 4 TB 3.5" SATA (HW RAID 1)																				
• 1x SSD 1 TB M.2 NVMe + 4x HDD 8 TB 3.5" SATA (HW RAID 5 + hot spare)																				
• 1x SSD 1 TB M.2 NVMe + 2x SSD 3.8 TB 2.5" SATA (HW RAID 1)																				
• 1x SSD 1 TB M.2 NVMe + 3x SSD 3.8 TB 2.5" SATA (HW RAID 5)																				
• 1x SSD 1 TB M.2 NVMe + 4x SSD 3.8 TB 2.5" SATA (HW RAID 5 + hot spare)																				
• 2x SSD 960 GB 2.5" SATA (HW RAID 1) + 2x HDD 8 TB 3.5" SATA (HW RAID 1)																				
• 2x SSD 960 GB 2.5" SATA (HW RAID 1) + 2x SSD 3.8 TB 2.5" SATA (HW RAID 1)																				
• 1x SSD 1 TB M.2 NVMe + 2x SSD 7.68 TB 2.5" U.3 NVMe (only internal installation)																				
• 1x SSD 1 TB M.2 NVMe + 2x SSD 1.92 TB 2.5" U.3 NVMe VROC RAID 1 (only internal installation)																				
• 1x SSD 1 TB M.2 NVMe + 3x SSD 1.92 TB 2.5" U.3 NVMe VROC RAID 5 (only internal installation)																				
• 1x SSD 1 TB M.2 NVMe + 8x SSD 1.92 TB 2.5" (internal or 8x removable drive bay)																				
• No drives																				

Article No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
SIMATIC IPC1047E	6BK1801-																			
<u>Memory configuration</u>																				
• 64 GB 2933 MHz DDR4																				
• 128 GB 2933 MHz DDR4																				
• 192 GB 2933 MHz DDR4																				
• 256 GB 2933 MHz DDR4																				
• 384 GB 2933 MHz DDR4																				
• 512 GB 2933 MHz DDR4																				
<u>Graphics cards</u>																				
• Without graphics card (onboard VGA)																				
• 1x Nvidia Quadro P620 (1x PCIe x16 occupied)																				
• 1x Nvidia Quadro RTX4000 (1x PCIe x16 occupied)																				
• 1x Nvidia Quadro RTX5000 (1x PCIe x16 occupied) - occupied + 1x PCIe x8 covered - only with 860 W power supply unit																				
• 1x Nvidia Quadro RTX A4000 (1x PCIe x16 occupied)																				
<u>Further plug-in cards</u>																				
• Without plug-in cards																				
• Intel I350-T2 (2x 1 GB LAN)																				
• Intel I350-T4 (4x 1 GB LAN)																				
• Intel X710-T2L (2x 10 GB LAN)																				
<u>Operating system (preinstalled and activated, only with installed HDDs/ SSDs)</u>																				
• Without operating system																				
• Windows 10 Enterprise LTSC 2019																				
• Windows Server 2019 - for XEON Silver 4210 (20C)																				
• Windows Server 2019 - for XEON Silver 4216 (32C)																				
• Windows Server 2019 - for XEON Gold 6226 (24C)																				
• Windows Server 2019 - for XEON Gold 6230 (40C)																				
• Windows 10 Enterprise LTSC 2021																				
• Windows Server 2022 - for XEON Silver 4210 (20C)																				
• Windows Server 2022 - for XEON Silver 4216 (32C)																				
• Windows Server 2022 - for XEON Gold 6226 (24C)																				
• Windows Server 2022 - for XEON Gold 6230 (40C)																				

Industrial Computing

Rack PC

SIMATIC IPC1047E

Ordering data	Article No.	Article No.
SIMATIC IPC1047E <u>Power supply</u> <ul style="list-style-type: none"> • 860 W without power supply cable • 860 W power supply cable EU • 860 W power supply cable US • 860 W power supply cable China • 700 W, redundant, without power supply cable • 700 W, redundant, power supply cable EU • 700 W power supply cable US • 700 W power supply cable China 	6BK1801- 1 ■ ■ ■ ■ ■ - ■ ■ ■ ■ ■ A B C D E F G H	Preferred versions SIMATIC IPC1047E CPU 6BK1801-1AA00-0BB0 <ul style="list-style-type: none"> • 2x Xeon SP Silver 4210 10C/ 20T - 2.2GHz/ 3.2GHz • 1x SSD 1 TB M.2 NVMe • 64 GB 2933 MHz DDR4 ECC • Without graphics card (onboard VGA) • Without plug-in cards • Windows 10 Enterprise LTSC 2019 • 860 W power supply cable EU • Holder for 4x 3.5" or 8x 2.5" SSD/HDD - internal drives
<u>Enclosure variant</u> <ul style="list-style-type: none"> • Holder for 4x 3.5" or 8x 2.5" SSD/HDD; internal drives • Holder for 4x 3.5" or 4x 2.5" SSD/HDD; removable drive bay • Holder for 8x 2.5" SSD/HDD; removable drive bay 	0 1 2	SIMATIC IPC1047E GPU 6BK1801-1AA02-0BB0 <ul style="list-style-type: none"> • 2x Intel Xeon SP Silver 4210 10C/ 20T - 2.2 GHz/ 3.2 GHz • 1x SSD 1 TB M.2 NVMe • 64 GB 2933 MHz DDR4 ECC • 1x Nvidia Quadro RTX4000 (1x PCIe x16 occupied) • Without plug-in cards • Windows 10 Enterprise LTSC 2019 • 860 W power supply cable EU • Holder for 4x 3.5" or 8x 2.5" SSD/HDD - internal drives
		SIMATIC IPC1047E Virtualize 6BK1801-1EF10-0FF1 <ul style="list-style-type: none"> • 2x Intel Xeon SP Gold 6230 20C/ 40T - 2.1 GHz/ 3.9 GHz • 1x SSD 1 TB M.2 NVMe + 4x HDD 8 TB 3.5" SATA (HW RAID 5 + hot spare) • 128 GB 2933 MHz DDR4 ECC • Without graphics card (onboard VGA) • Without plug-in cards • Windows Server 2019 - for XEON Gold 6230 (40C) • 700 W, redundant, power supply cable EU • Holder for 4x 3.5" or 4x 2.5" SSD/HDD - removable drive bay

Note:

For customer-specific configurations, please contact your Siemens sales specialist.

Industrial Computing

Rack PC

SIMATIC IPC1047E

Technical specifications

Article number	6BK1801-1....-.... SIMATIC IPC1047E (Rack PC)
General information	
Product type designation	IPC1047E
Installation type/mounting	
Mounting	For horizontal rack mounting
Design	Rack PC, 19", 4U
Supply voltage	
Type of supply voltage	110/230V AC (autorange) 50/60 Hz
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	2x Intel Xeon SP Silver 4210 10C/20T - 2.2 GHz/ 3.2 GHz; 2x Intel Xeon SP Silver 4216 16C/32T - 2.1 GHz/ 3.2 GHz; 2x Intel Xeon SP Gold 6226 12C/24T - 2.7 GHz/ 3.7 GHz; 2x Intel Xeon SP Gold 6230 20C/40T - 2.1 GHz/ 3.9 GHz
Chipset	Intel C621
Graphic	
Graphics controller	Onboard VGA / 2D controller 1 920 × 1 200 @ 60 Hz 32 bpp
Graphics card	Yes; NVIDIA Quadro P620, RTX4000, RTX5000 and RTX A4000
Drives	
Hard disk	4 TB & 8 TB 3.5" SATA
SSD	Yes; 960 GB / 1.9 TB / 3.8 TB SATA SSD and 1 TB / 2 TB M.2 NVMe and 1.92 TB / 7.68 TB U.3 NVMe SSD
Slot for drives	4x 3.5" HDD or 8x 2.5" SSD internal; 4x 3.5" HDD or 4x 2.5" SSD front changeable; 8x 2.5" SSD front changeable
Memory	
Main memory	64 ... 512 GB
Hardware configuration	
Slots	
• free slots	6x PCIe slots (2x PCIe x8 + 4x PCIe x16)
Interfaces	
Interfaces/bus type	2x 1 GB LAN (RJ45), COM1, IPMI, VGA
USB port	2x front, 2x rear USB 3.0, 2x rear USB 2.0
Connection for keyboard/mouse serial interface version	USB 1x COM
Multimedia	
• Audio In/Out	No
• Microphone In	No
Video interfaces	
• Graphics interface	VGA, with optional graphics card 3x or 4x DP1.4
Industrial Ethernet	
• Industrial Ethernet interface	2x Ethernet (RJ45)
- 100 Mbps	No
- 1000 Mbps	Yes
• number of interfaces (1 000 Mbps)	2

Article number	6BK1801-1....-.... SIMATIC IPC1047E (Rack PC)
Interrupts/diagnostics/status information	
LED status display	POWER, HDD, FAN Fail
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Fan	Yes
• Monitoring function via network	Yes (per IPMI)
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
Degree and class of protection	
IP (at the front)	IP30
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes; Industry
CSA approval	Yes; CAN/CSA-C22.2 No. 61010-2-201 Third Edition
UL approval	Yes; UL 61010-2-201 Third Edition, File E115352 (I.T.E.)
cULus	Yes; UL 61010-2-201 Third Edition; CAN/CSA-C22.2 No. 61010-2-201 Third Edition
KC approval	Yes
FCC	Yes
EMC	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 32 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C; Max. 10 °C/h (no condensation)
• max.	50 °C; Basic configuration (without graphics card)
Relative humidity	
• Relative humidity	permissible range for 0 to 31 °C: 5 ... 80 %; no condensation
Vibrations	
• Vibration resistance during operation acc. to IEC 60068-2-6	10 - 58 Hz: amplitude 0.0375 mm; 58 ... 200 Hz: acceleration 2 m/s ²
Shock testing	
• Shock load during operation	half-sine: acceleration 50 m/s ² , duration 30 ms
Operating systems	
pre-installed operating system	Windows 10 Enterprise LTSC 2019 or Windows 10 Enterprise LTSC 2021 or Windows Server 2019 or Windows Server 2022
Additional info on operating system	Multilingual User Interface (MUI): 5 languages (English, German, French, Spanish, Italian); 64 bit
without operating system	Yes
Dimensions	
Width	430 mm
Height	176.6 mm; 4U
Depth	572 mm

Industrial Computing

Rack PC

SIMATIC IPC1047E

Technical specifications

Article number	6BK1801-1AA00-0AA0 SIMATIC IPC1047E (Rack PC)	6BK1801-1EF10-OFF1 SIMATIC IPC1047E (Rack PC)	6BK1801-1AA02-0BB0 SIMATIC IPC1047E (Rack PC)
General information			
Product type designation	IPC1047E	IPC1047E	IPC1047E
Installation type/mounting			
Mounting	For horizontal rack mounting	For horizontal rack mounting	For horizontal rack mounting
Design	Rack PC, 19", 4U	Rack PC, 19", 4U	Rack PC, 19", 4U
Supply voltage			
Type of supply voltage	110/230V AC (autorange) 50/60 Hz	110/230V AC (autorange) 50/60 Hz	110/230V AC (autorange) 50/60 Hz
Line frequency			
• Rated value 50 Hz	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes
Mains buffering			
• Mains/voltage failure stored energy time	20 ms	20 ms	20 ms
Processor			
Processor type	2x Intel Xeon SP Silver 4210 10C/20T - 2.2 GHz/ 3.2 GHz; 2x Intel Xeon SP Silver 4216 16C/32T - 2.1 GHz/ 3.2 GHz; 2x Intel Xeon SP Gold 6226 12C/24T - 2.7 GHz/ 3.7 GHz; 2x Intel Xeon SP Gold 6230 20C/40T - 2.1 GHz/ 3.9 GHz	2x Intel Xeon SP Silver 4210 10C/20T - 2.2 GHz/ 3.2 GHz; 2x Intel Xeon SP Silver 4216 16C/32T - 2.1 GHz/ 3.2 GHz; 2x Intel Xeon SP Gold 6226 12C/24T - 2.7 GHz/ 3.7 GHz; 2x Intel Xeon SP Gold 6230 20C/40T - 2.1 GHz/ 3.9 GHz	2x Intel Xeon SP Silver 4210 10C/20T - 2.2 GHz/ 3.2 GHz; 2x Intel Xeon SP Silver 4216 16C/32T - 2.1 GHz/ 3.2 GHz; 2x Intel Xeon SP Gold 6226 12C/24T - 2.7 GHz/ 3.7 GHz; 2x Intel Xeon SP Gold 6230 20C/40T - 2.1 GHz/ 3.9 GHz
Chipset	Intel C621	Intel C621	Intel C621
Graphic			
Graphics controller	Onboard VGA / 2D controller 1 920 × 1 200 @ 60 Hz 32 bpp	Onboard VGA / 2D controller 1 920 × 1 200 @ 60 Hz 32 bpp	Onboard VGA / 2D controller 1 920 × 1 200 @ 60 Hz 32 bpp
Graphics card	Yes	Yes	Yes
Drives			
Hard disk	4 TB & 8 TB 3.5" SATA	4 TB & 8 TB 3.5" SATA	4 TB & 8 TB 3.5" SATA
SSD	Yes	Yes	Yes
Memory			
Main memory	64 ... 512 GB	64 ... 512 GB	64 ... 512 GB
Interfaces			
Interfaces/bus type	2x 1 GB LAN (RJ45), COM1, IPMI, VGA	2x 1 GB LAN (RJ45), COM1, IPMI, VGA	2x 1 GB LAN (RJ45), COM1, IPMI, VGA
USB port	2x front, 2x rear USB 3.0, 2x rear USB 2.0	2x front, 2x rear USB 3.0, 2x rear USB 2.0	2x front, 2x rear USB 3.0, 2x rear USB 2.0
Connection for keyboard/mouse	USB	USB	USB
Multimedia			
• Audio In/Out	No	No	No
• Microphone In	No	No	No
Video interfaces			
• Graphics interface	VGA, with optional graphics card 3x or 4x DP1.4	VGA, with optional graphics card 3x or 4x DP1.4	VGA, with optional graphics card 3x or 4x DP1.4
Industrial Ethernet			
• Industrial Ethernet interface	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)
- 100 Mbps	No	No	No
- 1000 Mbps	Yes	Yes	Yes
• number of interfaces (1 000 Mbps)	2	2	2
Integrated Functions			
Monitoring functions			
• Temperature monitoring	Yes	Yes	Yes
• Fan	Yes	Yes	Yes
• Monitoring function via network	Yes (per IPMI)	Yes (per IPMI)	Yes (per IPMI)
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
Degree and class of protection			
IP (at the front)	IP30	IP30	IP30
IP (rear)	IP20	IP20	IP20

Industrial Computing

Rack PC

SIMATIC IPC1047E

Technical specifications

Article number	6BK1801-1AA00-0AA0 SIMATIC IPC1047E (Rack PC)	6BK1801-1EF10-OFF1 SIMATIC IPC1047E (Rack PC)	6BK1801-1AA02-0BB0 SIMATIC IPC1047E (Rack PC)
Standards, approvals, certificates			
CE mark	Yes; Industry	Yes; Industry	Yes; Industry
CSA approval	Yes; CAN/CSA-C22.2 No. 61010-2-201 Third Edition	Yes; CAN/CSA-C22.2 No. 61010-2-201 Third Edition	Yes; CAN/CSA-C22.2 No. 61010-2-201 Third Edition
UL approval	Yes; UL 61010-2-201 Third Edition, File E115352 (I.T.E.)	Yes; UL 61010-2-201 Third Edition, File E115352 (I.T.E.)	Yes; UL 61010-2-201 Third Edition, File E115352 (I.T.E.)
cULus	Yes; UL 61010-2-201 Third Edition; CAN/CSA-C22.2 No. 61010-2-201 Third Edition	Yes; UL 61010-2-201 Third Edition; CAN/CSA-C22.2 No. 61010-2-201 Third Edition	Yes; UL 61010-2-201 Third Edition; CAN/CSA-C22.2 No. 61010-2-201 Third Edition
KC approval	Yes	Yes	Yes
FCC	Yes	Yes	Yes
EMC	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 32 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 32 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3	EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 32 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered
Ambient conditions			
Ambient temperature during operation			
• min.	0 °C; Max. 10 °C/h (no condensation)	0 °C; Max. 10 °C/h (no condensation)	0 °C; Max. 10 °C/h (no condensation)
• max.	50 °C; Basic configuration (without graphics card)	50 °C; Basic configuration (without graphics card)	50 °C; Basic configuration (without graphics card)
Relative humidity			
• Relative humidity	permissible range for 0 to 31 °C: 5 ... 80 %; no condensation	permissible range for 0 to 31 °C: 5 ... 80 %; no condensation	permissible range for 0 to 31 °C: 5 ... 80 %; no condensation
Vibrations			
• Vibration resistance during operation acc. to IEC 60068-2-6	10 - 58 Hz: amplitude 0.0375 mm; 58 ... 200 Hz: acceleration 2 m/s ²	10 - 58 Hz: amplitude 0.0375 mm; 58 ... 200 Hz: acceleration 2 m/s ²	10 - 58 Hz: amplitude 0.0375 mm; 58 ... 200 Hz: acceleration 2 m/s ²
Shock testing			
• Shock load during operation	half-sine: acceleration 50 m/s ² , duration 30 ms	half-sine: acceleration 50 m/s ² , duration 30 ms	half-sine: acceleration 50 m/s ² , duration 30 ms
Operating systems			
without operating system	Yes	Yes	Yes
Dimensions			
Width	430 mm	430 mm	430 mm
Height	176.6 mm; 4U	176.6 mm; 4U	176.6 mm; 4U
Depth	572 mm	572 mm	572 mm

More information

More information is available on the internet at

<https://www.siemens.com/simatic-rack-pc>.

Industrial Computing

Rack PC

SIMATIC IPC RS-828A

Ordering data

Article No.

SIMATIC IPC RS-828A

6AG4102- 0 ■ ■ ■ ■ ■ - ■ ■ ■ ■ ■

AI accelerator

- AI accelerator 1x NVIDIA L4 (1 slot occupied) **A**
- AI accelerator 2x NVIDIA L4 (2 slots occupied) **B**
- AI accelerator 3x NVIDIA L4 (3 slots occupied) **C**
- AI accelerator 4x NVIDIA L4 (4 slots occupied) **D**
- AI accelerator 1x NVIDIA L40 (2 slots occupied) **E**
- AI accelerator 2x NVIDIA L40 (4 slots occupied) **F**
- AI accelerator 1x NVIDIA A100 (2 slots occupied) **G**
- AI accelerator 2x NVIDIA A100 (4 slots occupied) **H**
- AI accelerator 1x NVIDIA H100 (2 slots occupied) **J**
- AI accelerator 2x NVIDIA H100 (4 slots occupied) **K**
- Without AI accelerator **X**

Operating system (preinstalled and activated)

- Windows Server 2022 IoT Standard Edition incl. unlimited clients for this server, 64-bit, MUI (en, de, fr, it, es) **!**
- Windows Server 2022 IoT Standard Edition incl. unlimited clients for this server, 64-bit, MUI (en, de, fr, it, es) **!**
- Windows Server 2022 IoT Standard Edition incl. unlimited clients for this server, 64-bit, MUI (en, de, fr, it, es) **!**
- Windows Server 2022 IoT Standard Edition incl. unlimited clients for this server, 64-bit, MUI (en, de, fr, it, es) **D**
- Without operating system **X**

Power supply unit and country-specific power supply cord

- Power supply unit 2600 W (2 modules 2600 W each, redundant) - without power supply cord **0**
- Power supply unit 2600 W (2 modules 2600 W each, redundant) - power supply cord Europe **1**
- Power supply unit 2600 W (2 modules 2600 W each, redundant) - power supply cord USA **2**
- Power supply unit 2600 W (2 modules 2600 W each, redundant) - power supply cord China **3**

Note:

Please select the required IPC configuration via the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

The SIMATIC IPC online configurator offers a current overview at

<https://www.siemens.com/ipc-configurators>.

Technical specifications

Article number	6AG4102-0....-.... SIMATIC IPC RS-828A
General information	
Product type designation	IPC RS-828A
Installation type/mounting	
Mounting	For horizontal rack mounting
Design	Rack PC, 19", 2U
Supply voltage	
Type of supply voltage	AC redundant 100/240 V (autorange) 50 Hz/60 Hz
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Mains buffering	
• Mains/voltage failure stored energy time	5 ms
Processor	
Processor type	Dual Socket SP5 - 2x AMD EPYC™ 9454 Embedded Series Server Processors - max. 400 W cTDP, 48 Cores/each; Dual Socket SP5 - 2x AMD EPYC™ 9354 Embedded Series Server Processors - max. 300 W cTDP, 32 Cores/each; Dual Socket SP5 - 2x AMD EPYC™ 9254 Embedded Series Server Processors - max. 240 W cTDP, 24 Cores/each; Dual Socket SP5 - 2x AMD EPYC™ 9124 Embedded Series Server Processors - max. 240 W cTDP, 16 Cores/each
Chipset	SoC
Graphic	
Graphics controller	ASPEED AST2600 Graphics Family (WDDM)
Graphics card	Yes; NVIDIA A100, NVIDIA H100, NVIDIA L4, NVIDIA L40
Drives	
Hard disk	1x 2 TB 2.5" SATA SSD; 2x 2 TB 2.5" SATA SSD; 4x 2 TB 2.5" SATA SSD; 6x 2 TB 2.5" SATA SSD; 1x 2 TB 2.5" U.3 NVMe SSD; 2x 2 TB 2.5" U.3 NVMe SSD; 4x 2 TB 2.5" U.3 NVMe SSD; 6x 2 TB 2.5" U.3 NVMe SSD
SSD	Yes; 1x 1/2 TB SSD M.2 NVMe
Memory	
Main memory	256 GB ... 1.5 TB DDR5-4800 MHZ RDIMM ECC
Hardware configuration	
Slots	
• free slots	7 Slots: 2 x PCI-E Gen5 x16 Slot optional for 2 x DW GPU Card or 4 x PCI-E Gen5 x8 (FHFL) + 3 x PCI-E Gen5 x16 Slot (FHHL)

Industrial Computing

Rack PC

SIMATIC IPC RS-828A

Technical specifications

Article number	6AG4102-0....-.... SIMATIC IPC RS-828A
Interfaces	
Interfaces/bus type	Interfaces front: 2x USB 3.1 (Type A) frontside; LED Indicators: Power, SSD, Ethernet 1-2, Watchdog, Temp, Fans, drives alarm, PS alarm Interfaces rear: 2x 10 Gbit Ethernet (IE/PN), RJ45; 1x 1 Gbit Ethernet (BMC), RJ45; 1x COM1; 1x VGA; 4x USB 3.1 Gen. 2, Type A Interfaces internally: 2x M.2 PCIe x4, Key M, 22110 Slot; Riser card: 2 x PCI-E Gen5 x16 Slot optional for 2 x DW GPU Card or 4 x PCI-E Gen5 x8 (FHFL) + 3 x PCI-E Gen5 x16 Slot (FHHL) System Management: IPMI 2.0 / RedFish, TPM 2.0
USB port	Interfaces front: 2x USB 3.1 (Type A) Interfaces rear: 4x USB 3.1 Gen. 2, Type A
Connection for keyboard/mouse serial interface version	USB 1x COM
Video interfaces	
• Graphics interface	1x VGA
Industrial Ethernet	
• Industrial Ethernet interface	2x 10 Gbit Ethernet (IE/PN), RJ45; 1x 1 Gbit Ethernet (BMC), RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes
Interrupts/diagnostics/status information	
LED status display	Power, SSD, Ethernet 1-2, Watchdog, Temp, Fans, drives alarm, PS alarm
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Fan	Yes
• Monitoring function via network	Yes (per IPMI)
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact; ±8 kV air (to IEC 61000-4-2, ESD)
Interference immunity to cable-borne interference	
• Interference immunity on supply cables	±2 kV; acc. to IEC 61000-4-4; burst cables
• Interference immunity on signal cables > 30m	± 2 kV; in accordance with IEC 61000-4-4; burst; length > 30 m
• Interference immunity on signal cables < 30m	± 1 kV; in accordance with IEC 61000-4-4; burst; length < 30 m
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/ AC current cables	EN 61000-6-3; EN 61000-6-4 EN 55032 Class A; FCC Class A; KS C 9832 Class A EN 61000-3-2 Class D; EN 61000-3-3

Article number	6AG4102-0....-.... SIMATIC IPC RS-828A
Degree and class of protection	
IP (at the front)	IP20
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes; use in industry (interference emission: EN 61000-6-4)
CSA approval	Yes; CAN/CSA-C22.2 No. 62368-1
UL approval	Yes; standard UL 62368-1
cULus	Yes; standard UL 62368-1
RCM (formerly C-TICK)	Yes
KC approval	Yes; in preparation
FCC	Yes
BSMI	Yes
EMC	EN 61000-6-3; EN 61000-6-4 EN 55032 Class A; FCC Class A; KS C 9832 Class A EN 61000-3-2 Class D; EN 61000-3-3
Dust protection	dust filter with mounted front bezel
Ambient conditions	
Ambient temperature during operation	
• min.	5 °C; Max. 10 °C/h (no condensation)
• max.	45 °C
Relative humidity	
• Relative humidity	tested to IEC 60068-2-78; IEC 60068-2-30 5 % to 85 % at 30 °C; no condensation gradient: ≤ 10 K/h; no condensation 5 % to 95 % at 25 °C to 55 °C; no condensation gradient: ≤ 20 K/h; no condensation
Vibrations	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6: 10 cycles, 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s ² (0.5 g)
Shock testing	
• Shock load during operation	Tested according to IEC 60068-2-27: 50 m/s ² , 30 ms
Operating systems	
pre-installed operating system	Windows Server 2022 IoT Standard Edition incl. unlimited Clients for this server, 64bit, MUI (en, de, fr, it, sp)
Additional info on operating system without operating system	optional: SIMATIC Industrial OS Yes
Dimensions	
Width	444 mm
Height	88 mm; 2U
Depth	585 mm