

## Overview

**SIMATIC Box PCs**

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

The following device classes are available for various requirements:

- **SIMATIC IPC127E:**  
The ultra-compact, flexible, rugged industrial PC and IoT gateway in one
- **SIMATIC IPC227 (Nanobox PC):**  
The Box PC with optimized performance in compact design – maintenance-free and rugged
- **SIMATIC IPC327:**  
Fanless Basic Box PC at an appealing price
- **SIMATIC IPC427 (Microbox PC):**  
The powerful embedded IPC – maintenance-free with versatile configuration
- **SIMATIC IPC627/IPC827 (Box PC):**  
The high-end IPC – with maximum performance, functional scope, and expansion capability

Shared industrial functionality:

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

**SIMATIC IPC127 (Nanobox PC): Ultra-compact IoT gateway for data collection, pre-processing, and forwarding of the data**

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

**SIMATIC IPC227 (Nanobox PC): The Box PC with optimized performance in compact design – maintenance-free and rugged**

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

**SIMATIC IPC327: Fanless Basic Box PC at an appealing price**

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

**SIMATIC IPC427 (Microbox PC): The powerful embedded IPC – maintenance-free with versatile configuration**

- Fan-free operation
- High performance with maximum compactness and ruggedness for direct installation in the machine
- Optimized for embedded applications
- Flexibility expandable using one or two PCIe I/O cards (optional)
- Flexible installation options including standard rail/wall/front upright mounting, even outside control cabinets
- NVRAM for retentive data storage (optional)

**SIMATIC IPC627/IPC827 (Box PC): The high-end IPC – with maximum performance, functional scope, and expansion capability**

- Maximum system performance for complex measuring, control and visualization tasks
- High flexibility with expansion slots and integral interfaces
- Flexible, space-saving installation with mounting brackets or portrait assembly kits
- Rugged design for direct installation in the machine
- RAID1 controller onboard
- Maximum processor performance up to an ambient temperature of 55 °C
- High system availability
- Battery-backed SRAM as memory for WinAC data
- 4 signaling LEDs

## PC-based Automation

### Industrial PC

#### Box PC

#### Technical specifications

Article number	<b>6AG4021-0AA11-0AA0</b> SIMATIC IPC127E <sup>1)</sup>	<b>6ES7647-8B...-....</b> SIMATIC IPC227E (Nanobox PC)	<b>6AG4022-0A...-....</b> SIMATIC IPC327E	<b>6AG4141-.....-....</b> SIMATIC IPC427E (MicroBOX PC)	<b>6AG4131-3....-....</b> SIMATIC IPC627E (Box PC)	<b>6AG4132-2....-....</b> SIMATIC IPC827D (Box PC)
<b>Installation type/ mounting</b>						
Mounting		DIN rail, wall mounting, portrait mounting	Standard mounting rail, wall mounting (horizontal and vertical)	DIN rail, wall mounting, portrait mounting	Wall mounting, portrait mounting	Wall mounting, portrait mounting
Design	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit
<b>Supply voltage</b>						
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC	100/240 V AC (autorange); 24 V DC	100/240 V AC (autorange); 24 V DC
<b>Line frequency</b>						
• Rated value 50 Hz				Yes	Yes	Yes
• Rated value 60 Hz				Yes	Yes	Yes
<b>Mains buffering</b>						
• Mains/voltage failure stored energy time	5 ms	20 ms	10 ms		20 ms	20 ms
<b>Processor</b>						
Processor type	Intel Atom E3930, 1.3 GHz, 2 cores	Intel Celeron N2807 / N2930	Intel Celeron N3160	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB Cache); Core i3-6102E (2C/4T, 1.9 GHz, 3 MB Cache); Core i5-6442EQ (4C/4T, 1.9 (2.7) GHz, 6 MB Cache, iAMT); Xeon E3-1505L v5 (4C/8T, 2.0 (2.8) GHz, 8 MB Cache, iAMT)	Celeron G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d); Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT)	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)
Chipset					Intel C246	Intel DH82C226 PCH
<b>Graphic</b>						
Graphics controller				Intel HD graphics controller	Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)
<b>Drives</b>						
Optical drives				possible as external drive via USB		DVD±R±RW combi-drive, optional
Hard disk		2.5" SATA ≥ 320 GB	500 GB HDD	2.5" SATA ≥ 320 GB	2.5" SATA ≥ 320 GB	3.5" SATA ≥ 500 GB, optional: 3.5" SATA ≥ 1 TB; RAID1 2x 2.5" SATA ≥ 320 GB; solid-state drive (SSD) ≥ 240 GB; all hard disk drives within the enclosure are vibration-damped; RAID1 2x 2.5" SATA ≥ 320 GB byte in removable drive bay
SSD	Yes; 32 GB	Yes; ≥ 128 GB optional	Yes; 256 GB SSD	Yes; 1x 128 GB, 1x 240 GB SSD, 1x 480 GB SSD	Yes; M.2 SSD NVMe > 512 GB; SSD 2.5" SATA > 480 GB; RAID1 2x SSD 2.5" > 480 GB in removable drive bay	Yes; ≥ 240 GB optional

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

## Technical specifications (continued)

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<b>Memory</b>						
Type of memory	DDR4	DDR3L	DDR3L	DDR4 SO-DIMM	DDR4-2666 DIMM	DDR3 1600 DIMM
Main memory	2 GB RAM	2 / 4 / 8 GB	4 GB, 8 GB	4 GB to 16 GB, ECC optional	4 / 8 / 16 / 32 / 64 GB	2 / 4 / 8 / 16 GB; ECC optional
<b>Data areas and their retentivity</b>						
Retentive data area (incl. timers, counters, flags), max.		512 kbyte; 128 KB can be stored in the buffer time; optional		512 kbyte; 128 KB can be stored in the buffer time; optional	512 kbyte	2 Mbyte; 128 KB can be stored in the buffer time; optional
<b>Hardware configuration</b>						
<b>Slots</b>						
• free slots		1x PCIe x1 (optional)	1x mPCIe (half-size), 1x mSATA (full-size)	2x PCIe; optional: 1x PCIe (x4); 2x PCIe (x1, x4), with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer	3x PCI, 1x PCIe (x4), 1x PCIe (x16); with card retainer
<b>Interfaces</b>						
PROFIBUS/MPI						Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)		2; 2x RJ45 (independent)	3; Ethernet (2x RJ45, optional 3x RJ45)	3; 3x Gigabit Ethernet (IE/PN), RJ45	2; 2x RJ45 (independent)
Number of PROFINET interfaces	2					3; Optional
USB port	2x USB 3.0	1x USB 3.0 / 3x USB 2.0	4x USB 2.0, 2x USB 3.0 (high current)	4x USB 3.0	6x USB 3.1 Gen. 2 (2x type C)	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB		USB / USB	USB / USB	USB / USB
serial interface		Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS	6x COM (4x RS 232, 2x RS 232 / 422 / 485 switchable)	Without / 2x COM (RS 232 / 485 / 422; switchable)	1x COM	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface						optional LPT1
<b>Video interfaces</b>						
• Graphics interface	1x DisplayPort	1x DisplayPort	1x DisplayPort, 1x VGA	2x DisplayPort	2x DisplayPort; 1x DVI-D	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
<b>Industrial Ethernet</b>						
• Industrial Ethernet interface	2x Ethernet (RJ45)	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45	2x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Gigabit Ethernet (IE/PN), RJ45	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes	Yes
<b>Protocols</b>						
<b>Protocols (Ethernet)</b>						
• TCP/IP	Yes		Yes			
<b>Integrated Functions</b>						
<b>Monitoring functions</b>						
• Temperature monitoring	Yes	Yes	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes	Yes	Yes
• Status LEDs	1x power, 3x user	Yes	POWER, HDD	Yes	Yes	Yes
• Fan	No	No	No	No	Yes	Yes
• Monitoring function via network		Optional		Optional	Optional	Optional
<b>EMC</b>						
<b>Interference immunity against discharge of static electricity</b>						
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact; ±8 kV air (to IEC 1000-4-2; ESD)	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2

## PC-based Automation

### Industrial PC

#### Box PC

#### Technical specifications (continued)

Article number	6AG4021-0AA11-0AA0	6ES7647-8B...-....	6AG4022-0A...-....	6AG4141-.....-....	6AG4131-3.....-....	6AG4132-2.....-....
	SIMATIC IPC127E <sup>1)</sup>	SIMATIC IPC227E (Nanobox PC)	SIMATIC IPC327E	SIMATIC IPC427E (MicroBOX PC)	SIMATIC IPC627E (Box PC)	SIMATIC IPC827D (Box PC)
<ul style="list-style-type: none"> <li>Interference immunity against discharge of static electricity acc. to IEC 61000-4-2</li> <li>- Test voltage at air discharge</li> <li>- Test voltage at contact discharge</li> </ul>	8 kV		8 kV			
<ul style="list-style-type: none"> <li>- Test voltage at contact discharge</li> </ul>	6 kV		6 kV			
<b>Interference immunity against high-frequency electromagnetic fields</b> <ul style="list-style-type: none"> <li>Interference immunity against high frequency radiation</li> </ul>	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 ... 1 000 MHz, 80 % AM according to IEC 61000-4-3; 3 V/m for 1.4 ... 6 GHz, 80 % AM according to IEC 61000-4-3	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m f. 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b> <ul style="list-style-type: none"> <li>Interference immunity on supply cables</li> <li>Interference immunity on signal cables &gt; 30 m</li> <li>Interference immunity on signal cables &lt; 30 m</li> </ul>	±2 kV (according to IEC 61000-4-4; burst); ±0,5 kV (acc. to IEC 61000-4-5; surge pulse/line to line); ±1 kV (according to IEC 61000-4-5; surge pulse/line to ground)	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV (according to IEC 61000-4-4, burst); ±1 kV (according to IEC 61000-4-5, surge pulse/line to line); ±2 kV (according to IEC 61000-4-5, surge pulse/line to ground)	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4, Burst	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b> <ul style="list-style-type: none"> <li>asymmetric interference</li> <li>symmetric interference</li> </ul>		±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric
		±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b> <ul style="list-style-type: none"> <li>Interference immunity to magnetic fields at 50 Hz</li> </ul>	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b> <ul style="list-style-type: none"> <li>Interference emission via line/AC current cables</li> </ul>	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A		EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A

## Technical specifications (continued)

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<b>Degree and class of protection</b>						
IP (at the front)	IP40	IP40		IP20	IP20	IP20
IP (rear)	IP40	IP40		IP20	IP20	IP20
<b>Standards, approvals, certificates</b>						
Approval	CE, UL					
CE mark	Yes	Yes	Yes	Yes; CE marking / EC Declaration of Conformity	Yes	Yes
UL approval	Yes	Yes	Yes	Yes		Yes
• UL 508		Yes		Yes		Yes
cULus		Yes	Yes	Yes	Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition	Yes
RCM (formerly C-TICK)		Yes	Yes	Yes	Yes	Yes
KC approval		Yes		Yes	Yes	Yes
EAC (formerly Gost-R)			Yes		Yes	
FCC		Yes	Yes	Yes	Yes	Yes
EMC		CE, EN 61000-6-4:2007, EN 61000-6-2:2005		CE, EN 55022A, EN 61000-6-4, EN 61000-6-2	CE, EN 61000-6- 3:2007 +A1:2011, EN 61000-6-2:2005	CE, EN 61000-6- 3:2007 +A1:2011, EN 61000-6-2:2005
Dust protection	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm				
<b>Use in hazardous areas</b>						
• ATEX Zone 2				Yes		
• IECEx Zone 2				Yes		
• cULus Class I Zone 2, Division 2				Yes		
<b>Marine approval</b>						
• Germanischer Lloyd (GL)		Yes		Yes		Yes
• American Bureau of Shipping (ABS)		Yes		Yes		Yes
• Bureau Veritas (BV)		Yes				Yes
• Det Norske Veritas (DNV)		Yes		Yes		Yes
• Korean Register of Shipping (KRS)				Yes		
• Lloyds Register of Shipping (LRS)		Yes		Yes		Yes
• Nippon Kaiji Kyokai (Class NK)		Yes				Yes
<b>Ambient conditions</b>						
<b>Ambient temperature during operation</b>						
• Ambient temperature during operation	0 °C up to 55 °C	0 °C up to 60 °C	0 °C to 50 °C	0 °C to +55 °C	+5 °C up to 55 °C	+5 °C up to 55 °C
<b>Relative humidity</b>						
• Relative humidity	5 ... 85 % at 30 °C, no condensation	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condens.), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condens.), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)

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

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### Industrial PC

#### Box PC

#### Technical specifications (continued)

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<b>Vibrations</b>						
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9.8 m/s <sup>2</sup>	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s <sup>2</sup> (1 g)	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s <sup>2</sup> (1 g)	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s <sup>2</sup> (1 g)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s <sup>2</sup> (1g)	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s <sup>2</sup> (1g)
<b>Shock testing</b>						
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s <sup>2</sup> , 11 ms; with HDD: 9.8 m/s <sup>2</sup> , 20 ms	Tested to DIN IEC 60068-2-29: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks	Tested to DIN IEC 60068-2-29: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks
<b>Operating systems</b>						
Operating system		Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bit	Windows 7 Ultimate (Multi-Language), 64 bit; Windows 10 Enterprise 2016 LTSB, 64 bit	Windows 7 Ultimate (Multi-Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10	Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Windows 7 Ultimate, 32-bit/64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI; Windows 10 Enterprise 2015 or 2016 LTSB, 64-bit, MUI
pre-installed operating system		Yes	Yes	Yes	Yes	Yes
without operating system		Yes	Yes; Optional	Yes; Optional	Yes	Yes
<b>pre-installed operating system</b>						
• Windows 7	No	Yes; Ultimate 32 bit or 64 bit		Yes; Ultimate 32 bit or 64 bit		Yes; Ultimate 32 bit or 64 bit
• Windows 10 Enterprise	No	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI		Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Yes; Windows 10 Enterprise 2015 or 2016 LTSB, 64-bit, MUI
<b>Software</b>						
SIMATIC Software		Optional package with SIMATIC WinCC or WinAC RTX		Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle	Optional package with SIMATIC WinCC or WinAC RTX	Optional package with SIMATIC WinCC or WinAC RTX
<b>Dimensions</b>						
Width	85 mm	191 mm	254 mm	262 mm	314 mm	312 mm
Height	85 mm	100 mm	140 mm	139.7 mm	93 mm	155 mm; With DVD drive: 179 mm
Depth	41 mm	60 mm	75 mm	55.5 mm	301 mm; incl. mounting rail	301 mm; incl. mounting rail

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

More information is available on the Internet at:

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

## Overview



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

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

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

## Technical specifications

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

## PC-based Automation

Industrial PC

Box PC

### SIMATIC IPC127E

#### Technical specifications (continued)

Article number	6AG4021-0AA11-0AA0 SIMATIC IPC127E	6AG4021-0AA12-0BA0 SIMATIC IPC127E	6AG4021-0AB11-0BA0 SIMATIC IPC127E	6AG4021-0AB12-0CA0 SIMATIC IPC127E
<b>EMC</b>				
<b>Interference immunity against discharge of static electricity</b>				
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2			
• Interference immunity against discharge of static electricity acc. to IEC 61000-4-2				
- Test voltage at air discharge	8 kV	8 kV	8 kV	8 kV
- Test voltage at contact discharge	6 kV	6 kV	6 kV	6 kV
<b>Interference immunity against high-frequency electromagnetic fields</b>				
• 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			
<b>Interference immunity to cable-borne interference</b>				
• Interference immunity on supply cables	±2 kV (according to IEC 61000-4-4; burst); ±0,5 kV (according to IEC 61000-4-5; surge pulse/line to line); ±1 kV (according to IEC 61000-4-5; surge pulse/line to ground)			
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m			
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m			
<b>Interference immunity to magnetic fields</b>				
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>				
• Interference emission via line/AC current cables	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A
<b>Standards, approvals, certificates</b>				
Approval	CE, UL	CE, UL	CE, UL	CE, UL
CE mark	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes
Dust protection	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm
<b>Ambient conditions</b>				
<b>Ambient temperature during operation</b>				
• Ambient temperature during operation	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C
<b>Relative humidity</b>				
• Relative humidity	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation
<b>Vibrations</b>				
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s <sup>2</sup>			
<b>Shock testing</b>				
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms			
<b>Operating systems</b>				
<b>pre-installed operating system</b>				
• Windows 10 Enterprise	No	No	No	No
<b>Dimensions</b>				
Width	85 mm	85 mm	85 mm	85 mm
Height	85 mm	104 mm	85 mm	104 mm
Depth	41 mm	41 mm	41 mm	41 mm



**Technical specifications** (continued)

Article number	<b>6AG4021-0AA11-1BA0</b> SIMATIC IPC127E	<b>6AG4021-0AB11-1BA0</b> SIMATIC IPC127E	<b>6AG4021-0AB11-1CA0</b> SIMATIC IPC127E	<b>6AG4021-0AB12-1BA0</b> SIMATIC IPC127E	<b>6AG4021-0AB12-1CA0</b> SIMATIC IPC127E
<b>Installation type/mounting</b>					
Design	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit
<b>Supply voltage</b>					
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
<b>Mains buffering</b>					
• Mains/voltage failure stored energy time	5 ms	5 ms	5 ms	5 ms	5 ms
<b>Processor</b>					
Processor type	Intel Atom E3930, 1.3 GHz, 2 cores	Intel Atom E3940, 1.6 GHz, 4 cores	Intel Atom E3940, 1.6 GHz, 4 cores	Intel Atom E3940, 1.6 GHz, 4 cores	Intel Atom E3940, 1.6 GHz, 4 cores
<b>Drives</b>					
SSD	Yes; 64 GB	Yes; 64 GB	Yes; 128 GB	Yes; 64 GB	Yes; 128 GB
<b>Memory</b>					
Type of memory	DDR4	DDR4	DDR4	DDR4	DDR4
Main memory	2 GB RAM	4 GB RAM	4 GB RAM	4 GB RAM	4 GB RAM
<b>Interfaces</b>					
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)
Number of PROFINET interfaces	2	2	2	3	3
USB port	2x USB 3.0	2x USB 3.0	2x USB 3.0	4x USB 3.0	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB	USB / USB	USB / USB
<b>Video interfaces</b>					
• Graphics interface	1x DisplayPort	1x DisplayPort	1x DisplayPort	1x DisplayPort	1x DisplayPort
<b>Industrial Ethernet</b>					
• Industrial Ethernet interface	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes
<b>Protocols</b>					
<b>Protocols (Ethernet)</b>					
• TCP/IP	Yes	Yes	Yes	Yes	Yes
<b>Integrated Functions</b>					
<b>Monitoring functions</b>					
• Temperature monitoring	Yes	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes	Yes
• Status LEDs	1x power, 3x user	1x power, 3x user	1x power, 3x user	1x power, 3x user	1x power, 3x user
• Fan	No	No	No	No	No
<b>EMC</b>					
<b>Interference immunity against discharge of static electricity</b>					
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2				
• Interference immunity against discharge of static electricity acc. to IEC 61000-4-2					
- Test voltage at air discharge	8 kV	8 kV	8 kV	8 kV	8 kV
- Test voltage at contact discharge	6 kV	6 kV	6 kV	6 kV	6 kV
<b>Interference immunity against high-frequency electromagnetic fields</b>					
• Interference immunity against high frequency radiation	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6				

# PC-based Automation

Industrial PC

Box PC

## SIMATIC IPC127E

### Technical specifications (continued)

Article number	6AG4021-0AA11-1BA0 SIMATIC IPC127E	6AG4021-0AB11-1BA0 SIMATIC IPC127E	6AG4021-0AB11-1CA0 SIMATIC IPC127E	6AG4021-0AB12-1BA0 SIMATIC IPC127E	6AG4021-0AB12-1CA0 SIMATIC IPC127E
<b>Interference immunity to cable-borne interference</b>					
• Interference immunity on supply cables	±2 kV (according to IEC 61000-4-4; burst); ±0,5 kV (according to IEC 61000-4-5; surge pulse/line to line); ±1 kV (according to IEC 61000-4-5; surge pulse/line to ground)				
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m				
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m				
<b>Interference immunity to magnetic fields</b>					
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>					
• Interference emission via line/AC current cables	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A				
<b>Standards, approvals, certificates</b>					
Approval	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL
CE mark	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes
Dust protection	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm
<b>Ambient conditions</b>					
<b>Ambient temperature during operation</b>					
• Ambient temperature during operation	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C
<b>Relative humidity</b>					
• Relative humidity	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation
<b>Vibrations</b>					
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s <sup>2</sup>	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s <sup>2</sup>	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s <sup>2</sup>	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s <sup>2</sup>	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s <sup>2</sup>
<b>Shock testing</b>					
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms
<b>Operating systems</b>					
Operating system	Windows 10 Enterprise 2016 LTSB, 64 bit, MUI				
pre-installed operating system	Yes	Yes	Yes	Yes	Yes
<b>pre-installed operating system</b>					
• Windows 10	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI				
• Windows 10 Enterprise	Yes	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI
<b>Dimensions</b>					
Width	85 mm	85 mm	85 mm	85 mm	85 mm
Height	85 mm	85 mm	85 mm	104 mm	104 mm
Depth	41 mm	41 mm	41 mm	41 mm	41 mm

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

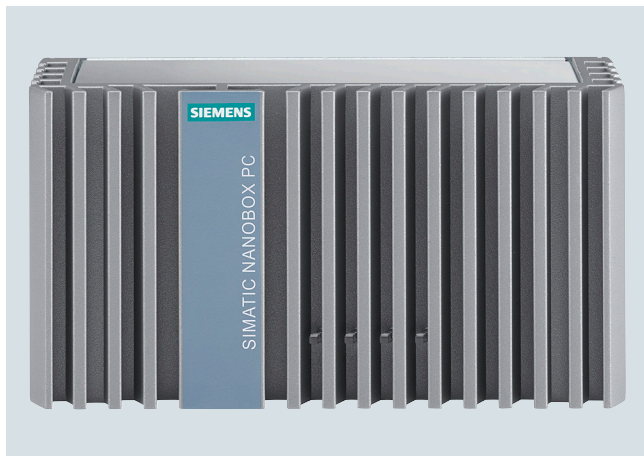
Note:

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

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

Additional information is available on the Internet at:

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

**PC-based Automation**Industrial PC  
Box PC**SIMATIC IPC227E****Overview**

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

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

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

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

**Technical specifications**

Article number	<b>6ES7647-8B...-....</b> SIMATIC IPC227E (Nanobox PC)
<b>Installation type/mounting</b>	
Mounting	DIN rail, wall mounting, portrait mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Intel Celeron N2807 / N2930
<b>Drives</b>	
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; ≥ 128 GB optional
<b>Memory</b>	
Type of memory	DDR3L
Main memory	2 / 4 / 8 GB
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	1x PCIe x1 (optional)
<b>Interfaces</b>	
USB port	1x USB 3.0 / 3x USB 2.0
Connection for keyboard/mouse	USB / USB
serial interface	Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS
<b>Video interfaces</b>	
• Graphics interface	1x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Yes
• Fan	No
• Monitoring function via network	Optional

**Technical specifications (continued)**

Article number	<b>6ES7647-8B...-....</b> SIMATIC IPC227E (Nanobox PC)
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
<ul style="list-style-type: none"> <li>Interference immunity against discharge of static electricity</li> </ul>	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
<ul style="list-style-type: none"> <li>Interference immunity against high frequency radiation</li> </ul>	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
<ul style="list-style-type: none"> <li>Interference immunity on supply cables</li> <li>Interference immunity on signal cables &gt;30m</li> <li>Interference immunity on signal cables &lt; 30m</li> </ul>	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric  ±2 kV acc. to IEC 61000-4-5, surge, length > 30 m ±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>	
<ul style="list-style-type: none"> <li>asymmetric interference</li> <li>symmetric interference</li> </ul>	±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
<ul style="list-style-type: none"> <li>Interference immunity to magnetic fields at 50 Hz</li> </ul>	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
<ul style="list-style-type: none"> <li>Interference emission via line/AC current cables</li> </ul>	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
<b>Degree and class of protection</b>	
IP (at the front)	IP40
IP (rear)	IP40

Article number	<b>6ES7647-8B...-....</b> SIMATIC IPC227E (Nanobox PC)
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
<ul style="list-style-type: none"> <li>UL 508</li> </ul>	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005
Dust protection	Protection against foreign bodies > 1 mm
<b>Marine approval</b>	
<ul style="list-style-type: none"> <li>Germanischer Lloyd (GL)</li> <li>American Bureau of Shipping (ABS)</li> <li>Bureau Veritas (BV)</li> <li>Det Norske Veritas (DNV)</li> <li>Lloyds Register of Shipping (LRS)</li> <li>Nippon Kaiji Kyokai (Class NK)</li> </ul>	Yes Yes Yes Yes Yes Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>Ambient temperature during operation</li> </ul>	0 °C up to 60 °C
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>Relative humidity</li> </ul>	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condens.), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
<b>Vibrations</b>	
<ul style="list-style-type: none"> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s <sup>2</sup> (1 g)
<b>Shock testing</b>	
<ul style="list-style-type: none"> <li>Shock load during operation</li> </ul>	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms
<b>Operating systems</b>	
Operating system	Windows 7 Ultimate 32-bit / 64-bit, MUJ; Windows Embedded Standard 7 E/P, 32-bit / 64-bit
pre-installed operating system	Yes
without operating system	Yes
<b>pre-installed operating system</b>	
<ul style="list-style-type: none"> <li>Windows 7</li> <li>Windows 10 Enterprise</li> </ul>	Yes; Ultimate 32 bit or 64 bit Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUJ
<b>Software</b>	
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX
<b>Dimensions</b>	
Width	191 mm
Height	100 mm
Depth	60 mm

# PC-based Automation

Industrial PC  
Box PC

## SIMATIC IPC227E

### Ordering data

### Article No.

SIMATIC IPC227E	6ES7647-	8 B					
<b>Processor</b>							
• Celeron N2807 (2C/2T)							<b>A</b>
• Celeron N2930 (4C/4T)							<b>B</b>
• Celeron N2807 (2C/2T)/TPM (not for China)							<b>C</b>
• Celeron N2930 (4C/4T)/TPM (not for China)							<b>D</b>
<b>Work memory/NVRAM</b>							
• 2 GB							<b>1</b>
• 4 GB							<b>2</b>
• 8 GB							<b>3</b>
• 2 GB/NVRAM							<b>4</b>
• 4 GB/NVRAM							<b>5</b>
• 8 GB/NVRAM							<b>6</b>
<b>Device version/interface</b>							
• Basis without COM							<b>1</b>
• Basis with COM1/2							<b>2</b>
• PCIe without COM							<b>3</b>
• PCIe with COM1/2							<b>4</b>
<b>Operating system</b>							
• Without operating system							<b>0</b>
• Windows Embedded Standard 7 E SP1, English, 32-bit							<b>1</b>
• Windows Embedded Standard 7 E SP1, English, 64-bit							<b>2</b>
• Windows Embedded Standard 7 P SP1, English, 32-bit							<b>3</b>
• Windows Embedded Standard 7 P SP1, English, 64-bit							<b>4</b>
• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)							<b>5</b>
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)							<b>6</b>
• Windows 10 IoT Enterprise 2016 LTSB, 64-bit, MUI (en, de, fr, it, es)							<b>7</b>

### Article No.

SIMATIC IPC227E	6ES7647-	8 B					
<b>Mass storage</b>							
• None							<b>A</b>
• 128 GB SSD							<b>E</b>
• 240 GB SSD							<b>C</b>
• 480 GB SSD							<b>D</b>
• 4 GB CFAST							<b>K</b>
• 8 GB CFAST							<b>L</b>
• 16 GB CFAST							<b>M</b>
• 30 GB CFAST							<b>N</b>
• 320 GB HDD							<b>R</b>
<b>Software</b>							
• Without SIMATIC software							<b>A</b>
• CPU 1507S							<b>B</b>
• WinCC RT Advanced V14, 128 PT (V15 license package)							<b>D</b>
• WinCC RT Advanced V14, 512 PT (V15 license package)							<b>E</b>
• WinCC RT Advanced V14, 2 048 PT (V15 license package)							<b>F</b>
• WinCC RT Advanced V14, 4 096 PT (V15 license package)							<b>G</b>
• CPU 1507S/WinCC RT Advanced V14, 128 PT (V15 license package)							<b>J</b>
• CPU 1507S/WinCC RT Advanced V14, 512 PT (V15 license package)							<b>K</b>
• CPU 1507S/WinCC RT Advanced V14, 2 048 PT (V15 license package)							<b>L</b>
• CPU 1507S/WinCC RT Advanced V14, 4 096 PT (V15 license package)							<b>M</b>
<b>Mounting accessories</b>							
• Standard mounting rail							<b>1</b>
• Wall mounting							<b>2</b>
• Portrait mounting							<b>3</b>
• Standard rail mounting with ATEX/IECEX Cat 3G Zone 2/cULus Class I Div. 2							<b>4</b>
• Wall mounting with ATEX/IECEX Cat 3G Zone 2/cULus Class I Div. 2							<b>5</b>
• Portrait mounting with ATEX/IECEX Cat 3G Zone 2/cULus Class I Div. 2							<b>6</b>

**Note:**

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

Additional information is available on the Internet at:

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

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## Overview



### SIMATIC IPC327E

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

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

## Technical specifications

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

**PC-based Automation**

Industrial PC

Box PC

**SIMATIC IPC327E****Technical specifications (continued)**

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

Article number	<b>6AG4022-0A...-....</b> SIMATIC IPC327E
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
EAC (formerly Gost-R)	Yes
FCC	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>Ambient temperature during operation</li> </ul>	0 °C to 50 °C
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>Relative humidity</li> </ul>	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)
<b>Vibrations</b>	
<ul style="list-style-type: none"> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s <sup>2</sup> (1 g)
<b>Shock testing</b>	
<ul style="list-style-type: none"> <li>Shock load during operation</li> </ul>	Tested in accordance with IEC 60068-2-27: With SSD: 150 m/s <sup>2</sup> , 11 ms; with HDD: 9.8 m/s <sup>2</sup> , 20 ms
<b>Operating systems</b>	
Operating system	Windows 7 Ultimate (Multi-Language), 64 bit; Windows 10 Enterprise 2016 LTSC, 64 bit
pre-installed operating system	Yes
without operating system	Yes; Optional
<b>Dimensions</b>	
Width	254 mm
Height	140 mm
Depth	75 mm



Ordering data	Article No.	Article No.
<b>SIMATIC IPC327E</b> 1 x display port graphic 1 x VGA port graphic 2x 10/100/1 000 Mbps Ethernet RJ45 2 x USB 3.0; 4 x USB 2.0; 6 x serial ports (COM)  <u>Processor</u> • Celeron N3160 (4C/4T)  <u>Work memory</u> • 4 GB RAM • 8 GB RAM  <u>Expansions/interfaces</u> • 1x mPCIe / 1x mSata  <u>Operating system</u> • Without operating system • Windows Ultimate SP1, 64-bit MUI (en, de, fr, it, es)  <u>Drives</u> • Without • 500 GB HDD • 256 GB SSD  <u>Power supply</u> • 24 V DC  <u>Mounting accessories</u> • Installation, VESA installation	<b>6AG4022-</b> 0 A <span style="border: 1px solid black; padding: 0 2px;">A</span> <span style="border: 1px solid black; padding: 0 2px;">-</span> <span style="border: 1px solid black; padding: 0 2px;">A</span> <span style="border: 1px solid black; padding: 0 2px;">B</span> <span style="border: 1px solid black; padding: 0 2px;">C</span> <span style="border: 1px solid black; padding: 0 2px;">A</span>	<b>Preferred variants</b> <i>(available ex stock)</i>  <b>SIMATIC IPC327E</b>  <b>Configuration 1</b> Intel Celeron Quad Core N3160 (1.6 GHz) 500 GB HDD SATA, internal 4 GB RAM (1 x 4 GB) Without operating system 24 V DC; interfaces: 2 x Gbit Ethernet (RJ45), 6 x USB 2.0; 2 x USB 3.0; 6 x serial, 1 x Display Port, 1 x VGA, audio  <b>Configuration 2</b> Intel Celeron Quad Core N3160 (1.6 GHz) 500 GB HDD SATA, internal 4 GB RAM (1 x 4 GB) Windows 7 Ultimate 64-bit 24 V DC; Interfaces: 2 x Gbit Ethernet (RJ45), 6 x USB 2.0; 2 x USB 3.0; 6 x serial, 1 x display port, 1 x VGA, audio  <b>Configuration 3</b> Intel Celeron Quad Core N3160 (1.6 GHz) 256 GB SSD, internal 4 GB RAM (1 x 4 GB) Without operating system 24 V DC; Interfaces: 2 x Gbit Ethernet (RJ45), 6 x USB 2.0; 2 x USB 3.0; 6 x serial, 1 x display port, 1 x VGA, audio  <b>Configuration 4</b> Intel Celeron Quad Core N3160 (1.6 GHz) 256 GB SSD, internal 4 GB RAM (1 x 4 GB) Windows 7 Ultimate 64-bit 24 V DC; Interfaces: 2 x Gbit Ethernet (RJ45), 6 x USB 2.0; 2 x USB 3.0; 6 x serial, 1 x display port, 1 x VGA, audio  <b>Configuration 5</b> Intel Celeron Quad Core N3160 (1.6 GHz) 256 GB SSD, internal 4 GB RAM (1 x 4 GB) Windows 10 Enterprise 2016 LTSC, 64-bit, MUI 24 V DC; Interfaces: 2 x Gbit Ethernet (RJ45), 6 x USB 2.0; 2 x USB 3.0; 6 x serial, 1 x display port, 1 x VGA, audio
		<b>6AG4022-0AA21-0BA1</b>  <b>6AG4022-0AA21-1BA1</b>  <b>6AG4022-0AA21-0CA1</b>  <b>6AG4022-0AA21-1CA1</b>  <b>6AG4022-0AA21-2CA1</b>

Further information can be found on the Internet at:

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

## PC-based Automation

Industrial PC

Box PC

### SIMATIC IPC427E

#### Overview



#### **SIMATIC IPC427E (Microbox PC): The powerful embedded IPC – maintenance-free with versatile configuration**

Ready-to-run, complete solution:

- Ultra-compact
- Maintenance-free
- Intel Core i technology of the sixth generation

#### Technical specifications

Article number	<b>6AG4141-.....</b> SIMATIC IPC427E (MicroBOX PC)
<b>Installation type/mounting</b>	
Mounting	DIN rail, wall mounting, portrait mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	24 V DC
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Processor</b>	
Processor type	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB Cache); Core i3-6102E (2C/4T, 1.9 GHz, 3 MB Cache); Core i5-6442EQ (4C/4T, 1.9 (2.7) GHz, 6 MB Cache, iAMT); Xeon E3-1505L v5 (4C/8T, 2.0 (2.8) GHz, 8 MB Cache, iAMT)
<b>Graphic</b>	
Graphics controller	Intel HD graphics controller
<b>Drives</b>	
Optical drives	possible as external drive via USB
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; 1x 128 GB, 1x 240 GB SSD, 1x 480 GB SSD
<b>Memory</b>	
Type of memory	DDR4 SO-DIMM
Main memory	4 GB to 16 GB, ECC optional
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	2x PCIe; optional: 1x PCIe (x4); 2x PCIe (x1, x4), with card retainer
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	3; Ethernet (2x RJ45, optional 3x RJ45)
USB port	4x USB 3.0
Connection for keyboard/mouse	USB / USB
serial interface	Without / 2x COM (RS 232 / 485 / 422; switchable)
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes

**Technical specifications (continued)**

Article number	<b>6AG4141-.....-....</b> SIMATIC IPC427E (MicroBOX PC)
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Yes
• Fan	No
• Monitoring function via network	Optional
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• 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
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
<b>Degree and class of protection</b>	
IP (at the front)	IP20
IP (rear)	IP20

Article number	<b>6AG4141-.....-....</b> SIMATIC IPC427E (MicroBOX PC)
<b>Standards, approvals, certificates</b>	
CE mark	Yes; CE marking / EC Declaration of Conformity
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 55022A, EN 61000-6-4, EN 61000-6-2
<b>Use in hazardous areas</b>	
• ATEX Zone 2	Yes
• IECEx Zone 2	Yes
• cULus Class I Zone 2, Division 2	Yes
<b>Marine approval</b>	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Det Norske Veritas (DNV)	Yes
• Korean Register of Shipping (KRS)	Yes
• Lloyds Register of Shipping (LRS)	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	0 °C to +55 °C
<b>Relative humidity</b>	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s <sup>2</sup> (1 g)
<b>Shock testing</b>	
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks
<b>Operating systems</b>	
Operating system	Windows 7 Ultimate (Multi-Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10
pre-installed operating system	Yes
without operating system	Yes; Optional
<b>pre-installed operating system</b>	
• Windows 7	Yes; Ultimate 32 bit or 64 bit
• Windows 10 Enterprise	Yes; Windows 10 Enterprise 2016 LTSC, 64 bit, MUJ
<b>Software</b>	
SIMATIC Software	Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle
<b>Dimensions</b>	
Width	262 mm
Height	139.7 mm
Depth	55.5 mm

# PC-based Automation

Industrial PC  
Box PC

## SIMATIC IPC427E

### Ordering data

### Article No.

SIMATIC IPC427E (Box PC) <sup>1)</sup>	6AG4141-						
<b>Processor and fieldbus</b>							
• Celeron G3902E; 2 x Gigabit Ethernet (IE/PN)		0					
• Celeron G3902E; 3 x Gigabit Ethernet (IE/PN)		1					
• Core i3-6102E; 3 x Gigabit Ethernet (IE/PN)		3					
• Core i5-6442EQ; 3 x Gigabit Ethernet (IE/PN)		5					
• Xeon E3-1505L; 3 x Gigabit Ethernet (IE/PN)		7					
<b>Mounting accessories/ATEX</b>							
• Standard rail mounting			B				
• Wall mounting			C				
• Portrait mounting			D				
• Standard rail mounting with ATEX/IECEx Cat 3G Zone 2/cULus Class I Div. 2			F				
• Wall mounting with ATEX/IECEx Cat 3G Zone 2/cULus Class I Div. 2			G				
• Portrait mounting with ATEX/IECEx Cat 3G Zone 2/cULus Class I Div. 2			H				
<b>Work memory/NVRAM/ECC</b>							
• 4 GB			A				
• 8 GB			B				
• 16 GB			C				
• 8 GB with ECC			D				
• 16 GB with ECC			E				
• 4 GB and NVRAM			F				
• 8 GB and NVRAM			G				
• 16 GB and NVRAM			H				
• 8 GB with ECC and NVRAM			J				
• 16 GB with ECC and NVRAM			K				
<b>Expansions/interfaces</b>							
• No RS 232/RS 485, without PCIe		0					
• No RS 232/RS 485 and one PCIe		1					
• No RS 232/RS 485 and two PCIe		2					
• Two RS 232/RS 485, without PCIe		3					
• Two RS 232/RS 485 and one PCIe		4					
• Two RS 232/RS 485 and two PCIe		5					
<b>Operating system</b>							
• Without operating system		0					
• Windows Embedded Standard 7 SP1, English, 32-bit		1					
• Windows Embedded Standard 7 SP1, English, 64-bit		2					
• Windows Embedded Standard 7 SP1, English, 64-bit, multi-touch		3					
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)		4					
• Windows 10 Enterprise 2016 LTSB (64-bit) for Celeron, Core i3 and Core i5 processors		7					
• Windows 10 Enterprise 2016 LTSB (64-bit) for Xeon processors		8					

### Article No.

SIMATIC IPC427E (Box PC) <sup>1)</sup>	6AG4141-						
<b>Mass storage, externally accessible</b>							
• Without external mass storage		0					
• CFast 2 GB without operating system		1					
• CFast 4 GB without operating system		2					
• CFast 8 GB (only optionally with operating system/software if no internal mass storage or HDD)		3					
• CFast 16 GB (only optionally with operating system/software if no internal mass storage or HDD)		4					
• CFast 30 GB (only optionally with operating system/software if no internal mass storage or HDD)		5					
<b>Mass storage, internal</b>							
• Without internal mass storage			A				
• 128 GB solid-state drive SATA			D				
• 240 GB solid-state drive SATA			F				
• 480 GB solid-state drive SATA			G				
• 320 GB HDD			J				
<b>SIMATIC Software (bundles/starter system)</b>							
• Without SIMATIC software			A				
• CPU 1507S			B				
• WinCC RT Advanced V15							
- 128 PT			C				
- 512 PT			D				
- 2 048 PT			E				
- 4 096 PT			F				
- 8 192 PT			G				
<b>CPU 1507S / WinCC RT Advanced V15</b>							
- 128 PT			H				
- 512 PT			J				
- 2 048 PT			K				
- 4 096 PT			L				
- 8 192 PT			M				
• IPC starter system with CPU 1507S and WinCC RT Advanced, without licenses			S				
<b>Power supply</b>							
• 24 V DC industrial power supply						0	
• 24 V DC and TPM <sup>2)</sup> (not for China or Russia)						8	

<sup>1)</sup> For an up-to-date overview, see the SIMATIC PC Online Configurator:  
<http://www.siemens.com/ipc-configurator>

<sup>2)</sup> TPM = Trusted Platform Module

## Overview



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

Ready-to-run, complete solution:

- Ultra-compact
- Maintenance-free
- Intel Core i-technology of the third generation

## Technical specifications

Article number	<b>6AG4140-.....0</b>	<b>6AG4140-.....8</b>
	SIMATIC IPC427D (Microbox PC)	SIMATIC IPC427D (Microbox PC) with TPM
<b>Installation type/mounting</b>		
Mounting	DIN rail, wall mounting, portrait mounting	
Design	Box PC, built-in unit	
<b>Supply voltage</b>		
Type of supply voltage	24 V DC	24 V DC
<b>Processor</b>		
Processor type	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)	
<b>Graphic</b>		
Graphics controller	Intel HD Graphics, Intel HD Graphics 4000	
<b>Drives</b>		
Hard disk	2.5" SATA ≥ 320 GB	2.5" SATA ≥ 320 GB
SSD	Yes; 1x 240 GB SSD, 1x 480 GB SSD	
<b>Memory</b>		
Type of memory	DDR3 SO-DIMM	DDR3 SO-DIMM
Main memory	2 / 4 / 8 GB; ECC optional	2 / 4 / 8 GB; ECC optional
<b>Data areas and their retentivity</b>		
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional	512 kbyte; 128 KB can be stored in the buffer time; optional
<b>Hardware configuration</b>		
<b>Slots</b>		
• free slots	2x PCIe; optional: 1x PCIe (x4); 2x PCIe (x1, x4), with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer
<b>Interfaces</b>		
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5611	
Number of PROFINET interfaces	1; 3 ports (incl. switch)	1; 3 ports (incl. switch)
USB port	4x USB 3.0	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB
serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232	COM1: 1x RS 232, COM2 (optional): 1x RS 232
<b>Video interfaces</b>		
• Graphics interface	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
<b>Industrial Ethernet</b>		
• Industrial Ethernet interface	Onboard, 2x 10/100/1 000 Mbit, RJ45, no plug-in card necessary	Onboard, 2x 10/100/1 000 Mbit, RJ45, no plug-in card necessary
- 100 Mbps	Yes	Yes
- 1000 Mbps	Yes	Yes

# PC-based Automation

Industrial PC

Box PC

## SIMATIC IPC427D

### Technical specifications (continued)

Article number	6AG4140-.....-...0 SIMATIC IPC427D (Microbox PC)	6AG4140-.....-...8 SIMATIC IPC427D (Microbox PC) with TPM
<b>Integrated Functions</b>		
<b>Monitoring functions</b>		
• Temperature monitoring	Yes	Yes
• Watchdog	Yes	Yes
• Status LEDs	Yes	Yes
• Fan	No	No
• Monitoring function via network	Optional	Optional
<b>EMC</b>		
<b>Interference immunity against discharge of static electricity</b>		
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>		
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	
<b>Interference immunity to cable-borne interference</b>		
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	
• Interference immunity on signal cables >30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	
• Interference immunity on signal cables < 30 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	
<b>Interference immunity against voltage surge</b>		
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric	
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric	
<b>Interference immunity to magnetic fields</b>		
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>		
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	
<b>Degree and class of protection</b>		
IP (at the front)	IP20	IP20
IP (rear)	IP20	IP20

Article number	6AG4140-.....-...0 SIMATIC IPC427D (Microbox PC)	6AG4140-.....-...8 SIMATIC IPC427D (Microbox PC) with TPM
<b>Standards, approvals, certificates</b>		
CE mark	Yes; CE marking / EC Declaration of Conformity	
UL approval	Yes	Yes
• UL 508	Yes	Yes
cULus	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
FCC	Yes	Yes
EMC	CE, EN 55022A, EN 61000-6-4, EN 61000-6-2	
<b>Use in hazardous areas</b>		
• ATEX Zone 2	Yes	Yes
• IECEx Zone 2	Yes	Yes
• cULus Class I Zone 2, Division 2	Yes	Yes
<b>Marine approval</b>		
• Germanischer Lloyd (GL)	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes
• Korean Register of Shipping (KRS)	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
• Ambient temperature during operation	0 °C to +55 °C	0 °C to +55 °C
<b>Relative humidity</b>		
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	
<b>Vibrations</b>		
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s <sup>2</sup> (1 g)	
<b>Shock testing</b>		
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks	
<b>Operating systems</b>		
Operating system	Windows 7 Ultimate (Multi-Language) 32-bit / 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit	
pre-installed operating system without operating system	Yes	Yes
	Yes; Optional	Yes; Optional
<b>pre-installed operating system</b>		
• Windows 7	Yes; Ultimate 32 bit or 64 bit	
<b>Software</b>		
SIMATIC Software	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX	
<b>Dimensions</b>		
Width	262 mm	262 mm
Height	139.7 mm	139.7 mm
Depth	50.5 mm	50.5 mm

Ordering data	Article No.	Article No.
<b>SIMATIC IPC427D (Box PC) <sup>1)2)</sup></b>	<b>6AG4140-</b>	<b>SIMATIC IPC427D (Box PC) <sup>1)2)</sup></b>
<u>Processor and fieldbus</u>		<u>Expansions/interfaces:</u>
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN)	0	• One RS 232, without PCIe
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	1	• One RS 232 and one PCIe
• Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); CAN interface	2	• One RS 232 and two PCIe
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN)	3	• Second RS 232, without PCIe
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	4	• Second RS 232 and one PCIe
• Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	5	• Second RS 232 and second PCIe
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN) (optional ECC only here)	6	
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12	7	<u>Operating system:</u>
• Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)	8	• Without operating system
<u>Mounting accessories:</u>		• Windows Embedded Standard 7 Professional, 32-bit, MUI
• Without mounting accessories	A	• Windows Embedded Standard 7 SP1, English, 32-bit
• Standard DIN rail mounting	B	• Windows Embedded Standard 7 SP1, English, 64-bit
• Wall mounting	D	• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)
• Portrait mounting	E	• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)
• Standard DIN rail mounting with ATEX/IECEX Cat 3G Zone 2 / cULus Class I Div. 2	M	
• Wall mounting with ATEX/IECEX Cat 3G Zone 2 / cULus Class I Div. 2	N	<u>Mass storage, externally accessible:</u>
• Portrait mounting with ATEX/IECEX Cat 3G Zone 2/cULus Class I Div. 2	P	• Without external mass storage
<u>Work memory/NVRAM/ECC:</u>		• CFAST 2 GB Without operating system
• 1 GB	A	• CFAST 4 GB (only optionally with operating system if no internal mass storage)
• 2 GB	B	• CFAST 8 GB (only optionally with operating system if no internal mass storage)
• 4 GB	C	• CFAST 16 GB (only optionally with operating system if no internal mass storage)
• 8 GB	D	
• 4 GB with ECC (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	G	<u>Internal mass storage:</u>
• 8 GB with ECC (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	H	• Without internal mass storage
• 1 GB and NVRAM	J	• CFAST 2 GB, without software
• 2 GB and NVRAM	K	• CFAST 4 GB, without software
• 4 GB and NVRAM	L	• CFAST 8 GB, without software
• 8 GB and NVRAM	M	• CFAST 16 GB, without software
• 4 GB with ECC and NVRAM (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	N	• 320 GB HDD
• 8 GB with ECC and NVRAM (only with Core i7, 2 x Gigabit Ethernet (IE/PN))	P	• 240 GB solid-state drive (standard)
		• 480 GB solid-state drive (standard)
		<u>SIMATIC software preinstalled:</u>
		• Without SIMATIC software
		<u>Power supplies:</u>
		• 24 V DC industrial power supply
		• 24 V DC and TPM <sup>4)</sup> (not for China or Russia)

1) Built to order versions with a delivery time of max. 15 working days and with identified repair, if not preferred type.  
 2) For an up-to-date overview, see the SIMATIC PC online configurator at: <http://www.siemens.com/ipc-configurator>  
 3) Only with "work memory and NVRAM".  
 4) TPM = Trusted Platform Module

Note:

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

**PC-based Automation**

Industrial PC

Box PC

**SIMATIC IPC627E****Overview**

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

It offers:

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

**Technical specifications**

Article number	<b>6AG4131-3....-....</b> SIMATIC IPC627E (Box PC)
<b>Installation type/mounting</b>	
Mounting	Wall mounting, portrait mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	100/240 V AC (autorange); 24 V DC
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Celeron G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d); Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT)
Chipset	Intel C246
<b>Graphic</b>	
Graphics controller	Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)
<b>Drives</b>	
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; M.2 SSD NVMe > 512 GB; SSD 2.5" SATA > 480 GB; RAID1 2x SSD 2.5" > 480 GB in removable drive bay
<b>Memory</b>	
Type of memory	DDR4-2666 DIMM
Main memory	4 / 8 / 16 / 32 / 64 GB
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	3; 3x Gigabit Ethernet (IE/PN), RJ45
USB port	6x USB 3.1 Gen. 2 (2x type C)
Connection for keyboard/mouse	USB / USB
serial interface	1x COM
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort; 1x DVI-D
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	3x Gigabit Ethernet (IE/PN), RJ45
- 100 Mbps	Yes
- 1000 Mbps	Yes



**Technical specifications (continued)**

Article number	<b>6AG4131-3....-....</b> SIMATIC IPC627E (Box PC)
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Yes
• Fan	Yes
• Monitoring function via network	Optional
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• 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
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• 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
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
<b>Degree and class of protection</b>	
IP (at the front)	IP20
IP (rear)	IP20

Article number	<b>6AG4131-3....-....</b> SIMATIC IPC627E (Box PC)
<b>Standards, approvals, certificates</b>	
CE mark	Yes
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
FCC	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	+5 °C up to 55 °C
<b>Relative humidity</b>	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condens.), Storage: 5% to 95% at 25 °C (no condensation)
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s <sup>2</sup> (1g)
<b>Shock testing</b>	
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks
<b>Operating systems</b>	
Operating system	Windows 10 Enterprise 2016 LTSP, 64 bit, MUI
pre-installed operating system	Yes
without operating system	Yes
<b>pre-installed operating system</b>	
• Windows 10 Enterprise	Yes; Windows 10 Enterprise 2016 LTSP, 64 bit, MUI
<b>Dimensions</b>	
Width	314 mm
Height	93 mm
Depth	301 mm; incl. mounting rail

# PC-based Automation

Industrial PC  
Box PC

## SIMATIC IPC627E

### Ordering data

### Article No.

#### SIMATIC IPC627E <sup>1)</sup>

UHD graphics onboard;  
2x DP; 1x DVI-D;  
3x Gigabit Ethernet (IE/PN) RJ45;  
6x USB 3.1 Gen. 2;  
1x serial (COM1);  
RAID controller onboard;  
watchdog, temperature/fan  
monitoring

#### Processor:

- Intel Celeron G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d)
- Intel Celeron G4900 (2C/2T, 3.1 GHz, 2 MB cache; VT-d); NVRAM
- Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d)
- Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d); NVRAM
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT); NVRAM

#### Drives:

- HDD 2.5" SATA 320 GB internal
- SSD 2.5" SATA 480 GB internal
- SSD 2.5" SATA 960 GB internal
- RAID1 2x SSD 2.5" SATA 480 GB internal
- RAID1 2x SSD 2.5" SATA 480 GB in removable drive bay
- RAID1 2x SSD 2.5" SATA 960 GB in removable drive bay
- M.2 SSD NVMe 512 GB
- M.2 SSD NVMe 512 GB; HDD 2.5" SATA 320 GB internal
- M.2 SSD NVMe 512 GB; SSD 2.5" SATA 480 GB internal
- M.2 SSD NVMe 512 GB; SSD 2.5" SATA 960 GB internal
- M.2 SSD NVMe 512 GB; RAID1 2x SSD 2.5" SATA 480 GB in removable drive bay
- M.2 SSD NVMe 512 GB; 2 removable drive bays without media

Article No.	3	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H	J	K	L	M	Q	S
6AG4131-																									

### Article No.

#### SIMATIC IPC627E <sup>1)</sup>

#### Memory configuration:

- 4 GB DDR4-2666 (1x 4 GB)
- 8 GB DDR4-2666 (2x 4 GB)
- 16 GB DDR4-2666 (2x 8 GB)
- 32 GB DDR4-2666 (2x 16 GB)
- 64 GB DDR4-2666 (4x 16 GB)

#### Power supplies:

- 24 V DC industrial power supply
- 110/230 V AC industrial power supply with NAMUR; without power cable
- 110/230 V AC industrial power supply unit with NAMUR; power supply cord Europe
- 110/230 V industrial power supply unit with NAMUR; power supply cord USA
- 110/230 V industrial power supply unit with NAMUR; power supply cord China

#### Operating system:

- Windows 10 Enterprise 2016 LTSB, 64-bit, MUI (en, de, fr, it, sp); for Celeron and i3
- Windows 10 Enterprise 2016 LTSB, 64-bit, MUI (en, de, fr, it, sp), for Core i7
- Without operating system

#### Expansion (SW):

- Without expansion
- SIMATIC IPC DiagMonitor included
- SIMATIC IPC Image & Partition Creator included
- SIMATIC IPC DiagMonitor, Image & Partition Creator included
- TPM <sup>2)</sup> (not for China or Russia)

#### Expansion (HW):

- Without expansion (HW)
- 2 x USB in addition (1 slot occupied)
- Device without CMOS battery (CR2450N)

#### 2nd expansion (HW):

- 2 x PCI
- 1 x PCIe (x16); 1 x PCI
- 1 x PCIe (x16); 1 x PCIe (x4)

Article No.	3	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H	J	K	L	M	Q	S
6AG4131-																									

<sup>1)</sup> For an up-to-date overview, see the SIMATIC PC Online Configurator at: <http://www.siemens.com/ipc-configurator>

<sup>2)</sup> TPM = Trusted Platform Module

#### Note:

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

Ordering data	Article No.
<b>Accessories</b>	
<b>Memory expansion</b>	
• 4 GB DDR4 2666 SDRAM, DIMM	<b>6ES7648-2AL60-0QA0</b>
• 8 GB DDR4 2666 SDRAM, DIMM	<b>6ES7648-2AL70-0QA0</b>
• 16 GB DDR4 2666 SDRAM, DIMM	<b>6ES7648-2AL80-0QA0</b>
<b>Assembly kit for portrait mounting</b>	
• Upward or downward interface outlet	<b>6ES7648-1AA10-2YA0</b>
• Interface outlet to the front	<b>6ES7648-1AA10-2YB0</b>
<b>SIMATIC PC power cable</b>	
For Box PC and Panel PC, 230 V AC, angled, 3 m	
• For Germany, France, Spain, the Netherlands, Belgium, Sweden, Austria, Finland	<b>6ES7900-1AA00-0XA0</b>
• For United Kingdom	<b>6ES7900-1BA00-0XA0</b>
• For Switzerland	<b>6ES7900-1CA00-0XA0</b>
• For the USA	<b>6ES7900-1DA00-0XA0</b>
• For Italy	<b>6ES7900-1EA00-0XA0</b>
• For China	<b>6ES7900-1FA00-0XA0</b>

Further information can be found on the Internet at:

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

**PC-based Automation**

Industrial PC

Box PC

**SIMATIC IPC627D****Overview**

IPC627D with DVD drive

**SIMATIC IPC627D (Box PC): The high-end IPC – with maximum performance, functional scope and expansion capability**

It offers:

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

**Technical specifications**

Article number	<b>6AG4131-2....-....</b> SIMATIC IPC627D (Box PC)
<b>Installation type/mounting</b>	
Mounting	Wall mounting, portrait mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	100/240 V AC (autorange); 24 V DC
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)
Chipset	Intel DH82C226 PCH
<b>Graphic</b>	
Graphics controller	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)
<b>Drives</b>	
Optical drives	DVD±R±RW combi-drive, optional
Hard disk	3.5" SATA ≥ 500 GB, optional; 3.5" SATA ≥ 1 TB; RAID1 2x 2.5" SATA ≥ 320 GB; solid-state drive (SSD) ≥ 240 GB; all hard disk drives within the enclosure are vibration-damped; RAID1 2x 2.5" SATA ≥ 320 GB byte in removable drive bay
SSD	Yes; ≥ 240 GB optional
<b>Memory</b>	
Type of memory	DDR3 1600 DIMM
Main memory	2 / 4 / 8 / 16 GB; ECC optional
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer

**Technical specifications (continued)**

Article number	<b>6AG4131-2....-....</b> SIMATIC IPC627D (Box PC)
<b>Interfaces</b>	
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbit/s, comp. with CP 5622
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)
Number of PROFINET interfaces	3; Optional
USB port	4x USB 3.0
Connection for keyboard/mouse serial interface	USB / USB
parallel interface	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface	optional LPT1
<b>Video interfaces</b>	
• Graphics interface	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps / 1000 Mbps	Yes / Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Yes
• Fan	Yes
• Monitoring function via network	Optional
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• 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
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A

Article number	<b>6AG4131-2....-....</b> SIMATIC IPC627D (Box PC)
<b>Degree and class of protection</b>	
IP (at the front)	IP20
IP (rear)	IP20
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
<b>Marine approval</b>	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	+5 °C up to 55 °C
<b>Relative humidity</b>	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s <sup>2</sup> (1g)
<b>Shock testing</b>	
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks
<b>Operating systems</b>	
Operating system	Windows 7 Ultimate, 32-bit/64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI; Windows 10 Enterprise 2015 or 2016 LTSP, 64-bit, MUI
pre-installed operating system without operating system	Yes
pre-installed operating system	Yes
<b>pre-installed operating system</b>	
• Windows 7	Yes; Ultimate 32 bit or 64 bit
• Windows 10 Enterprise	Yes; Windows 10 Enterprise 2015 or 2016 LTSP, 64-bit, MUI
<b>Software</b>	
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX
<b>Dimensions</b>	
Width	312 mm
Height	81 mm; with DVD drive: 105 mm
Depth	301 mm; incl. mounting rail

# PC-based Automation

Industrial PC

Box PC

## SIMATIC IPC627D

### Ordering data

#### SIMATIC IPC627D <sup>1)</sup>

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

#### Processor:

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

#### Drives

- 500 GB HDD SATA **A**
- 500 GB HDD SATA; DVD+/-RW **B**
- 1 TB HDD SATA **D**
- 1 TB HDD SATA; DVD+/-RW **E**
- RAID1 2 x 320 GB SATA (2.5") **G**
- RAID1 2 x 320 GB SATA (2.5"); DVD+/-RW **H**
- Exchangeable SSD RAID1 2x 240 GB solid-state drive **J**
- Exchangeable HDD RAID1 2 x 320 GB SATA (2.5") **K**
- Exchangeable HDD RAID1 2 x 320 GB SATA (2.5"); solid-state drive, 240 GB **L**
- Solid-state drive, 240 GB **M**
- Solid-state drive, 240 GB; 320 GB HDD SATA (2.5") **N**
- Solid-state drive, 240 GB; 320 GB HDD SATA (2.5"); DVD+/-RW **P**
- Solid-state drive, 240 GB; DVD+/-RW **S**
- Without drives; prepared for 2x 2.5" HDD **X**

### Article No.

<b>6AG4131-</b>	<b>2</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>P</b>	<b>S</b>	<b>X</b>
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### Article No.

#### SIMATIC IPC627D <sup>1)</sup>

#### Memory configuration

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

#### Expansion 1 (HW)

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

#### Expansion 2 (HW)

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

#### Operating system

- Windows 7 Ultimate, 32-bit SP1, MUI (en, de, fr, it, es) **A**
- Windows 7 Ultimate, 64-bit SP1, MUI (en, de, fr, it, es) **B**
- Windows 10 Enterprise 2015 LTSB, 64-bit, MUI (en, de, fr, it, es) **C**
- Windows Embedded Standard 7 P, 32-bit, SP1, MUI (en, de, fr, it, es) with SSD 240 GB option (without RAID) **D**
- Windows 10 Enterprise 2016 LTSB, 64-bit, MUI (en, de, fr, it, es), for Celeron and i3 processors **E**
- Windows 10 Enterprise 2016 LTSB, 64-bit, MUI (en, de, fr, it, es) for Xeon processors **F**
- Without **X**

#### Expansion (SW)

- SIMATIC IPC DiagMonitor incl. **A**
- SIMATIC IPC Image & Partition Creator included **B**
- SIMATIC IPC DiagMonitor, Image & Partition Creator included **C**
- Without **X**
- TPM <sup>2)</sup> (not for China or Russia) **Y**

#### Country-specific version / power supply

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

<b>6AG4131-</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>8</b>
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<sup>1)</sup> For an up-to-date overview, see the SIMATIC PC Online Configurator at: <http://www.siemens.com/ipc-configurator>

<sup>2)</sup> TPM = Trusted Platform Module

Ordering data	Article No.	More information
<b>Accessories</b>  <b>Memory expansion</b> <ul style="list-style-type: none"> <li>• 2 GB DDR3 1600 SDRAM, DIMM</li> <li>• 4 GB DDR3 1600 SDRAM, DIMM</li> <li>• 8 GB DDR3 1600 SDRAM, DIMM</li> <li>• 8 GB DDR3 1600 SDRAM, DIMM, ECC</li> </ul>	<b>6ES7648-2AJ50-0MA0</b> <b>6ES7648-2AJ60-0MA0</b> <b>6ES7648-2AJ70-0MA0</b> <b>6ES7648-2AJ70-1MA0</b>	Additional information is available on the Internet at: <a href="http://www.siemens.com/simatic-pc">http://www.siemens.com/simatic-pc</a>
<b>Assembly kit for portrait mounting</b> <ul style="list-style-type: none"> <li>• Upward or downward interface outlet</li> <li>• Interface outlet to the front</li> </ul>	<b>6ES7648-1AA10-1YA0</b> <b>6ES7648-1AA10-1YB0</b>	
<b>SIMATIC PC graphics adapter cable</b> DVI-I acc. to VGA, 250 mm long	<b>6ES7648-3AB00-0XA0</b>	
<b>SIMATIC PC power cable</b> For Box PC and Panel PC, 230 V AC, angled, 3 m <ul style="list-style-type: none"> <li>• For Germany, France, Spain, the Netherlands, Belgium, Sweden, Austria, Finland</li> <li>• For United Kingdom</li> <li>• For Switzerland</li> <li>• For the USA</li> <li>• For Italy</li> <li>• For China</li> </ul>	<b>6ES7900-1AA00-0XA0</b> <b>6ES7900-1BA00-0XA0</b> <b>6ES7900-1CA00-0XA0</b> <b>6ES7900-1DA00-0XA0</b> <b>6ES7900-1EA00-0XA0</b> <b>6ES7900-1FA00-0XA0</b>	

Note:

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

**PC-based Automation**

Industrial PC

Box PC

**SIMATIC IPC827D****Overview**

IPC827D with opened DVD drive

**SIMATIC IPC827D (Box PC): The high-end IPC – with maximum performance, functional scope and expansion capability**

It offers:

- Maximum performance and high expandability
- with Intel Xeon technology
- Removable hard disks (RAID1)

**Technical specifications**

Article number	<b>6AG4132-2....-....</b> SIMATIC IPC827D (Box PC)
<b>Installation type/mounting</b>	
Mounting	Wall mounting, portrait mounting
Design	Box PC, built-in unit
<b>Supply voltage</b>	
Type of supply voltage	100/240 V AC (autorange); 24 V DC
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Mains buffering</b>	
• Mains/voltage failure stored energy time	20 ms
<b>Processor</b>	
Processor type	Celeron G1820TE (2C/2T, 2.2 GHz, 2 MB Cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB Cache); Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB Cache, AMT)
Chipset	Intel DH82C226 PCH
<b>Graphic</b>	
Graphics controller	Intel HD graphics controller P4600 GT2 (Xeon, Core i3); Intel HD graphics controller (Celeron)
<b>Drives</b>	
Optical drives	DVD±R±RW combi-drive, optional
Hard disk	3.5" SATA ≥ 500 GB, optional: 3.5" SATA ≥ 1 TB; RAID1 2x 2.5" SATA ≥ 320 GB; solid-state drive (SSD) ≥ 240 GB; all hard disk drives within the enclosure are vibration-damped; RAID1 2x 2.5" SATA ≥ 320 GB byte in removable drive bay
SSD	Yes; ≥ 240 GB optional
<b>Memory</b>	
Type of memory	DDR3 1600 DIMM
Main memory	2 / 4 / 8 / 16 GB; ECC optional
<b>Data areas and their retentivity</b>	
Retentive data area (incl. timers, counters, flags), max.	2 Mbyte; 128 KB can be stored in the buffer time; optional
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	3x PCI, 1x PCIe (x4), 1x PCIe (x16); with card retainer



**Technical specifications (continued)**

Article number	<b>6AG4132-2....-....</b> SIMATIC IPC827D (Box PC)
<b>Interfaces</b>	
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbit/s, compatible with CP 5622
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)
Number of PROFINET interfaces	3; Optional
USB port	4x USB 3.0
Connection for keyboard/mouse serial interface	USB / USB
parallel interface	1x COM1 (RS 232), optional: 1x COM2 (RS 232)
parallel interface	optional LPT1
<b>Video interfaces</b>	
• Graphics interface	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	Onboard, 2x 10 / 100 / 1000 Mbit, RJ45
- 100 Mbps/1000 Mbps	Yes/Yes
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Yes
• Fan	Yes
• Monitoring function via network	Optional
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>	
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
<b>Interference immunity to cable-borne interference</b>	
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
• Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
<b>Interference immunity against voltage surge</b>	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
<b>Interference immunity to magnetic fields</b>	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A

Article number	<b>6AG4132-2....-....</b> SIMATIC IPC827D (Box PC)
<b>Degree and class of protection</b>	
IP (at the front)	IP20
IP (rear)	IP20
<b>Standards, approvals, certificates</b>	
CE mark	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
<b>Marine approval</b>	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	+5 °C up to 55 °C
<b>Relative humidity</b>	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condens.), Storage: 5% to 95% at 25 °C (no condensation)
<b>Vibrations</b>	
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm; 58 Hz to 500 Hz 9.8 m/s <sup>2</sup> (1g)
<b>Shock testing</b>	
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks
<b>Operating systems</b>	
Operating system	Windows 7 Ultimate, 32-bit/64-bit, MUI; Windows Embedded Standard 7 P, 32-bit, MUI; Windows 10 Enterprise 2015 or 2016 LTSB, 64-bit, MUI
pre-installed operating system	Yes
without operating system	Yes
<b>pre-installed operating system</b>	
• Windows 7	Yes; Ultimate 32 bit or 64 bit
• Windows 10 Enterprise	Yes; Windows 10 Enterprise 2015 or 2016 LTSB, 64-bit, MUI
<b>Software</b>	
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX
<b>Dimensions</b>	
Width	312 mm
Height	155 mm; With DVD drive: 179 mm
Depth	301 mm; incl. mounting rail



Ordering data	Article No.	More information
<b>Accessories</b>  <b>Memory expansion</b> <ul style="list-style-type: none"> <li>• 2 GB DDR3 1600 SDRAM, DIMM</li> <li>• 4 GB DDR3 1600 SDRAM, DIMM</li> <li>• 8 GB DDR3 1600 SDRAM, DIMM</li> <li>• 8 GB DDR3 1600 SDRAM, DIMM, ECC</li> </ul>	<b>6ES7648-2AJ50-0MA0</b> <b>6ES7648-2AJ60-0MA0</b> <b>6ES7648-2AJ70-0MA0</b> <b>6ES7648-2AJ70-1MA0</b>	Additional information is available on the Internet at: <a href="http://www.siemens.com/simatic-pc">http://www.siemens.com/simatic-pc</a>
<b>Assembly kit for portrait mounting</b> <ul style="list-style-type: none"> <li>• Upward or downward interface outlet</li> <li>• Interface outlet to the front</li> </ul>	<b>6ES7648-1AA30-1YA0</b> <b>6ES7648-1AA30-1YB0</b>	
<b>SIMATIC PC graphics adapter cable</b> DVI-I acc. to VGA, 250 mm long	<b>6ES7648-3AB00-0XA0</b>	
<b>SIMATIC PC power cable</b> For Box PC and Panel PC, 230 V AC, angled, 3 m <ul style="list-style-type: none"> <li>• For Germany, France, Spain, the Netherlands, Belgium, Sweden, Austria, Finland</li> <li>• For United Kingdom</li> <li>• For Switzerland</li> <li>• For the USA</li> <li>• For Italy</li> <li>• For China</li> </ul>	<b>6ES7900-1AA00-0XA0</b> <b>6ES7900-1BA00-0XA0</b> <b>6ES7900-1CA00-0XA0</b> <b>6ES7900-1DA00-0XA0</b> <b>6ES7900-1EA00-0XA0</b> <b>6ES7900-1FA00-0XA0</b>	

Note:

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