

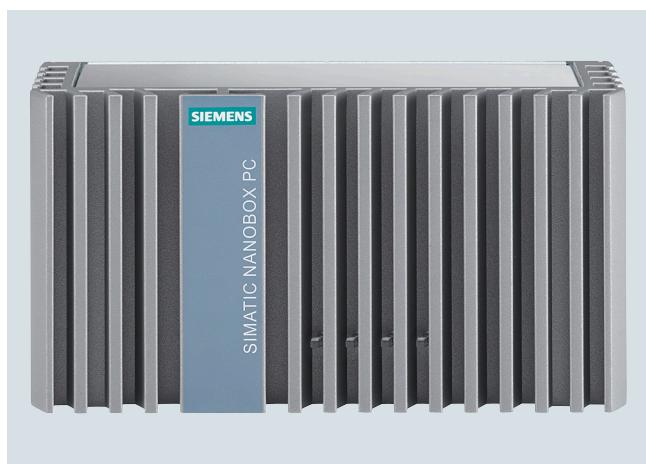
PC-based Automation

Industrial PC

Box PC

SIMATIC IPC227E

Overview



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

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

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

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

Technical specifications

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

Technical specifications (continued)

Article number	6ES7647-8B...-.... SIMATIC IPC227E (Nanobox PC)	Article number	6ES7647-8B...-.... SIMATIC IPC227E (Nanobox PC)
EMC			
Interference immunity against discharge of static electricity			±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity against high-frequency electromagnetic fields			10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
Interference immunity to cable-borne interference			±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 supply cables			±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables >30m			±1 kV acc. to IEC 61000-4-4; burst; length < 3 m;
• Interference immunity on signal cables < 30m			±2 kV acc. to IEC 61000-4-4; burst; length > 3 m
Interference immunity against voltage surge			±2 kV acc. to IEC 61000-4-5, surge asymmetric
• asymmetric interference			±1 kV acc. to IEC 61000-4-5, surge symmetric
• symmetric interference			100 A/m; to IEC 61000-4-8
Interference immunity to magnetic fields			EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Emission of conducted and non-conducted interference			IP (at the front) IP (rear)
• Interference emission via line/AC current cables			IP40 IP40
Degree and class of protection			
Standards, approvals, certificates			
CE mark			Yes
UL approval			Yes
• UL 508			Yes
cULus			Yes
RCM (formerly C-TICK)			Yes
KC approval			Yes
FCC			Yes
EMC			CE, EN 61000-6-4:2007, EN 61000-6-2:2005
Dust protection			Protection against foreign bodies > 1 mm
Marine approval			
• Germanischer Lloyd (GL)			Yes
• American Bureau of Shipping (ABS)			Yes
• Bureau Veritas (BV)			Yes
• Det Norske Veritas (DNV)			Yes
• Lloyds Register of Shipping (LRS)			Yes
• Nippon Kaiji Kyokai (Class NK)			Yes
Ambient conditions			
Ambient temperature during operation			0 °C up to 60 °C
Relative humidity			
• Relative humidity			Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condens.), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
Vibrations			
• Vibration resistance during operation acc. to IEC 60068-2-6:			10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s ² (1 g)
Shock testing			
• Shock load during operation			Tested according to IEC 60068-2-27: 150 m/s ² , 11 ms
Operating systems			
Operating system			Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bit
pre-installed operating system			Yes
without operating system			Yes
pre-installed operating system			
• Windows 7			Yes; Ultimate 32 bit or 64 bit
• Windows 10 Enterprise			Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI
Software			
SIMATIC Software			Optional package with SIMATIC WinCC or WinAC RTX
Dimensions			
Width			191 mm
Height			100 mm
Depth			60 mm

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Ordering data	Article No.	Article No.
SIMATIC IPC227E	6ES7647- 8 B	6ES7647- 8 B
Processor	A	A
• Celeron N2807 (2C/2T)	B	E
• Celeron N2930 (4C/4T)	C	C
• Celeron N2807 (2C/2T)/TPM (not for China)	D	D
• Celeron N2930 (4C/4T)/TPM (not for China)		K
<u>Work memory/NVRAM</u>		
• 2 GB	1	L
• 4 GB	2	M
• 8 GB	3	N
• 2 GB/NVRAM	4	R
• 4 GB/NVRAM	5	
• 8 GB/NVRAM	6	
<u>Device version/interface</u>		
• Basis without COM	1	A
• Basis with COM1/2	2	B
• PCIe without COM	3	D
• PCIe with COM1/2	4	E
<u>Operating system</u>		
• Without operating system	0	F
• Windows Embedded Standard 7 E SP1, English, 32-bit	1	G
• Windows Embedded Standard 7 E SP1, English, 64-bit	2	J
• Windows Embedded Standard 7 P SP1, English, 32-bit	3	K
• Windows Embedded Standard 7 P SP1, English, 64-bit	4	L
• Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)	5	M
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)	6	
• Windows 10 IoT Enterprise 2016 LTSB, 64-bit, MUI (en, de, fr, it, es)	7	
SIMATIC IPC227E		
<u>Mass storage</u>		
• None		
• 128 GB SSD		
• 240 GB SSD		
• 480 GB SSD		
• 4 GB CFast		
• 8 GB CFast		
• 16 GB CFast		
• 30 GB CFast		
• 320 GB HDD		
<u>Software</u>		
• Without SIMATIC software		
• CPU 1507S		
• WinCC RT Advanced V14, 128 PT (V15 license package)		
• WinCC RT Advanced V14, 512 PT (V15 license package)		
• WinCC RT Advanced V14, 2 048 PT (V15 license package)		
• WinCC RT Advanced V14, 4 096 PT (V15 license package)		
• CPU 1507S/WinCC RT Advanced V14, 128 PT (V15 license package)		
• CPU 1507S/WinCC RT Advanced V14, 512 PT (V15 license package)		
• CPU 1507S/WinCC RT Advanced V14, 2 048 PT (V15 license package)		
• CPU 1507S/WinCC RT Advanced V14, 4 096 PT (V15 license package)		
<u>Mounting accessories</u>		
• Standard mounting rail	1	
• Wall mounting	2	
• Portrait mounting	3	
• Standard rail mounting with ATEX/IECEx Cat 3G Zone 2/cULus Class I Div. 2	4	
• Wall mounting with ATEX/IECEx Cat 3G Zone 2/cULus Class I Div. 2	5	
• Portrait mounting with ATEX/IECEx Cat 3G Zone 2/cULus Class I Div. 2	6	

Note:

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

Additional information is available on the Internet at:

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