

PC-based AutomationIndustrial 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	Box PC, built-in unit
Supply voltage	
Type of supply voltage	24 V DC
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Intel Celeron N2807 / N2930
Drives	
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; ≥ 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)

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

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Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Germanischer Lloyd (GL) American Bureau of Shipping (ABS) Bureau Veritas (BV) Det Norske Veritas (DNV) Lloyds Register of Shipping (LRS) Nippon Kaiji Kyokai (Class NK) 	Yes Yes Yes Yes Yes Yes
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> Ambient temperature during operation 	0 °C up to 60 °C
Relative humidity	
<ul style="list-style-type: none"> Relative humidity 	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condens.), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
Vibrations	
<ul style="list-style-type: none"> Vibration resistance during operation acc. to IEC 60068-2-6 	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s ² (1 g)
Shock testing	
<ul style="list-style-type: none"> 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, MUJ; Windows Embedded Standard 7 E/P, 32-bit / 64-bit
pre-installed operating system	Yes
without operating system	Yes
pre-installed operating system	
<ul style="list-style-type: none"> Windows 7 Windows 10 Enterprise 	Yes; Ultimate 32 bit or 64 bit Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUJ
Software	
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX
Dimensions	
Width	191 mm
Height	100 mm
Depth	60 mm

