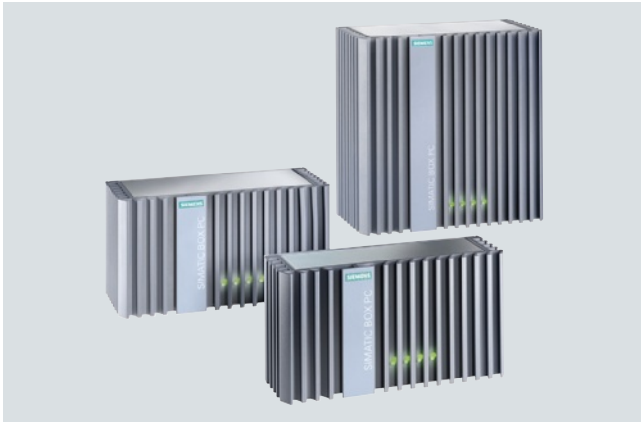


SIMATIC IPC227E



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.

Basic design

- All-metal enclosure, resistant to vibrations and shocks, also with high electromagnetic compatibility
- Isolated power supply:
 - 24 V DC (19.2 to 28.8 V)
- Graphics connection DisplayPort
 - Resolution: Up to 2 560 x 1 600 pixels
- Interfaces (accessible from one side):
 - 2 x LAN 10/100/1000 Mbps Ethernet interface (RJ45)
 - 1 x USB 3.0, 3 x USB 2.0
- Field bus
 - PROFINET Realtime via Standard Ethernet interface

Design versions

- Processor / main memory configuration:
 - Intel Celeron N2807, 1.58 GHz, dual-core
 - Intel Celeron N2930, 1.83 GHz, quad-core
- Main memory configuration
 - 2 GB, 4 GB or 8 GB RAM
- Retentive memory
 - 512 KB retentive memory (NVRAM) optional, of which 128 KB can be written within the buffer time (optional, available soon)
- Serial interface expansion as device version:
 - Without MPI interface
 - 2 COM interfaces (RS232 / RS485 / RS422; switchable in the BIOS)
- Hardware expansion as device versions:
 - 1 x PCIe slot (optional)
- Drives:
 - CFast drive (replaceable, accessible): 4 GB, 8 GB or 16 GB or
 - Solid-state drive 80 GB, 2.5" or
 - Solid-state drive 160 GB, 2.5" or
 - Hard disk 320 GB, 2.5"
- Preinstalled operating systems:
 - Windows Embedded Standard 7 E (P available soon)
 - Windows 7 Ultimate, Multi-Language
 - 32-bit or 64-bit respectively

Integrated diagnostics DiagBase

- Integrated, parameterizable monitoring functions (program execution / watchdog, internal enclosure temperature, mass storage)

Technical specifications SIMATIC IPC227E

Installation type/mounting	
Design	Box PC, built-in unit
Supply voltage	
Type of supply voltage	24 V
Mains buffering	
Mains/voltage failure stored energy time	20 ms
Processor	
Processor type	Intel Celeron N2807 / N2930
Drives	
Hard disk	CFast, SSD or HDD
SSD	yes; ≥ 80 GB optional
Memory	
Type of memory	DDR3L
Main memory	2 / 4 / 8 GB
Data areas and their retentivity	
retentive data area in total (incl. times, counters, flags), max.	512 KB; 128 KB can be stored in the buffer time; optional
Hardware configuration	
Slots	
free slots	1x PCIe x1 (optional)
Interfaces	
serial interfaces	Without / 2x COM (RS 232 / RS 485 / RS 422; switchable)
USB port	1 x USB 3.0 / 3 x USB 2.0
Connection for keyboard/mouse	USB / USB
Video interfaces	
Graphics interface	1x DisplayPort
Industrial Ethernet	
Industrial Ethernet interface	Onboard, 2 x 10/100/1000 Mbit/s, RJ45, no plug-in card necessary
100 Mbit/s / 1000 Mbit/s	Yes / Yes

Monitoring functions	
Temperature	Yes
Watchdog	Yes
Status LEDs	Yes
Fan	No
EMC	
Interference immunity against discharge of static electricity	
Interference immunity against discharge of static electricity	<ul style="list-style-type: none"> ±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
Interference immunity to cable-borne interference	
Interference immunity on supply cables	<ul style="list-style-type: none"> ±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	<ul style="list-style-type: none"> ±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	
asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity against high-frequency electromagnetic fields	
Interference immunity against high-frequency radiation	<ul style="list-style-type: none"> 10 V/m for 80 - 1 000 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 magnetic fields	
Interference immunity to magnetic fields at 50 Hz	100 A/m; acc. to IEC 61000-4-8
Emission of conducted and non-conducted interference	
Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 class B, FCC class A

Degree and class of protection	
IP (at the front)	IP20
Standards, approvals, certificates	
Approval	CE (industry), UL, cULus
CE mark	Yes
cULus	Yes
KC approval	Yes
EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005
Dust protection	foreign particles > 1 mm
Ambient conditions	
Ambient temperature during operation	0 °C ... 60 °C
min. / max.	0 °C / 50 °C
Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5 % to 80 % at 25 °C (no condensation)

Vibrations	
Vibration load in operation	Tested acc. 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	
Shock load during operation	Tested acc. to DIN IEC 60068-2-29: 50 m/s ² (5 g), 30 ms, 100 shocks
Operating systems	
Operating systems	<ul style="list-style-type: none"> • Windows 7 Ultimate (multi language) 32 bits / 64 bits • Windows Embedded Standard 7 E (P in preparation 32 bits / 64 bits)
operating system pre-installed and activated	Yes
without operating system	Yes
Software	
SIMATIC Software	Optional package with SIMATIC WinCC or WinAC RTX

SIMATIC IPC – the more Industrial PC	
More information on SIMATIC IPC is available at:	www.siemens.com/simatic-ipc
A current overview of the configurations is provided by the SIMATIC IPC Online-Konfigurator:	www.siemens.com/ipc-configurator
In-depth information is available in the SIMATIC manuals:	www.siemens.com/simatic-doku
Information material for download:	www.siemens.com/simatic/printmaterial
Technical documentation is available in our Service& Support portal:	www.siemens.com/automation/support
Your personal contact partner is listed at:	www.siemens.com/automation/partner
Electronic ordering via the Internet with the Mail:	www.siemens.com/industrymail
Additional information on PC-based Automation with SIMATIC is available under:	www.siemens.com/pc-based-automation
Additional information on the TIA Portal:	www.siemens.com/tia-portal
Additional information on SIMATIC Safety Integrated:	www.siemens.com/f-cpu