SIEMENS

Data sheet

6ES7647-8BB31-2CA4

SIMATIC IPC227E (Nanobox PC); 1x display port; 2x 10/100/1000 Mbit/s Ethernet RJ45; 1 x USB3.0, 3 x USB2.0; CFast slot; 24 V DC industrial power supply Celeron N2930 (4C/4T) 8 GB RAM; Box: Basis without COM WIN Embedded Standard 7E SP1, English; 64 bit 240 GB SSD; without SIMATIC software mounting onto standard rail; with ATEX/IECEX CAT 3G Zone 2/ CULUS Class I Div. 2

Design	Installation type/mounting	
Type of supply voltage All and supply voltage Processor ye Processor type Processor ye Processor type Intel Celeron N2807 / N2930, Intel Atom E3845 Chipset ScC Graphics controller Prives Hard disk 2.5° SATA ≥ 320 GB Yes; 256 Eco / 240 / 480 GB Memory Type of memory Processor ye Type of memory Processor ye Type of memory Type of memory Type of memory Type of memory Type of main memory, max. 8 Goyte Data areas and their retentivity Retentive data area (and. timers, counters, flags), max. 1512 kbyte; 128 KB can be stored in the buffer time; optional Privativacy configuration Slots Interface Vinumber of Industrial Ethernet Interfaces Vision Vision Interface	Mounting	DIN rail, wall mounting, portrait mounting
Type of memory Type of memory Bota areas and full riter etertivity Retentive data area (incl. timers, counters, flags), max. 1 x PCIe (x1) (optional) 1 x USB 3.0 / 3x USB 2.0 Connection for keyboard/mouse Serial interface Integrated 1 x DisplayPort Integrated 2 4 V DC Main buffer imme E3845 Chipset SoC Craphic Craphic Controller Integrated Prives 1 Integrated Prives 1 Ald disk 2.5° SATA ≥ 320 GB SSD Yes; 256 Eco / 240 / 480 GB Memory Type of memory DDR3L SO-DIMM Alian memory 2 / 4 / 8 GB Sobjee Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. 1 x PCIe (x1) (optional) 2 x Ethernet (RJ45) 2 x Ethernet (RJ45) 3 x PCIE (x1) (optional) 2 x Ethernet (RJ45) 3 x PCIE (x1) (optional) 2 x Ethernet (RJ45) 3 x PCIE (x1) (optional) 2 x Ethernet (RJ45) 3 x PCIE (x1) (optional) 2 x Ethernet (RJ4	Design	Box PC, built-in unit
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Processor type Intel Celeron N2807 / N2930, Intel Atom E3845 Chipset SoC Graphic Graphic controller Integrated Drivos Hard disk 2.5° SATA ≥ 320 GB SSD Yes; 256 Eco / 240 / 480 GB Memory Type of memory DDR3L SC-DIMM Main memory 2.7 / 4 / 8 GB Capacity of main memory, max. 8 Gbyte Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. Hardware configuration Siots • free slots • free slots • Number of PCI slots • Number of PCI slots • Number of industrial Ethernet interfaces 1; CFast Interfaces Number of industrial Ethernet interfaces USB port Connection for keyboard/mouse serial interface Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS Video interfaces • Graphics interface Industrial Ethernet • Industrial Ethernet interface	Mains buffering	
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SSD Yes; 256 Eco / 240 / 480 GB	Drives	
Memory	Hard disk	2.5" SATA ≥ 320 GB
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Hardware configuration Slots • free slots • Number of PCI slots • Number of Compact flash slots 1; Optional 1; Optional 1; CFast Interfaces Number of industrial Ethernet interfaces 2; 2x Ethernet (RJ45) USB port 1x USB 3.0 / 3x USB 2.0 Connection for keyboard/mouse serial interface USB / USB viideo interface • Graphics interface 1x DisplayPort Industrial Ethernet interface 2x Ethernet (RJ45) - 100 Mbps - 1000 Mbps Yes - 1000 Mbps Yes Integrated Functions Monitoring functions • Status LEDs • Status LEDs • Monitoring function via network • Interference immunity against discharge of static • Ke KV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC		
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Number of industrial Ethernet interfaces 2; 2x Ethernet (RJ45) 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 1x DisplayPort Industrial Ethernet Industrial Ethernet interface 2x Ethernet (RJ45) — 100 Mbps Yes — 100 Mbps Yes — 1000 Mbps Yes Integrated Functions Monitoring functions • Temperature monitoring Yes • Watchdog Yes • Status LEDs 1x power, 3x user • Monitoring function via network Optional EMC Interference immunity against discharge of static ±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 6100		
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USB port Connection for keyboard/mouse serial interface Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS Video interfaces Graphics interface Industrial Ethernet Industrial Ethernet interface Indus	Number of industrial Ethernet interfaces	2: 2x Ethernet (RJ45)
Connection for keyboard/mouse serial interface Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS Video interfaces • Graphics interface Industrial Ethernet • Industrial Ethernet interface — 100 Mbps — 100 Mbps — 1000 Mbps — Yes — 1000 Mbps Yes Integrated Functions Monitoring functions • Temperature monitoring • Watchdog • Status LEDs • Status LEDs • Fan • Monitoring function via network • Monitoring function via network EMC Interference immunity against discharge of static #6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC	USB port	
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Industrial Ethernet Industrial Ethernet interface Industrial Ethernet interface Integrated Functions Monitoring functions Integrated Functions Monitoring functions Integrated Functions Integra	Graphics interface	1x DisplayPort
- 1000 Mbps Yes Integrated Functions Monitoring functions • Temperature monitoring Yes • Watchdog Yes • Status LEDs 1x power, 3x user • Fan No • Monitoring function via network Optional EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static ±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC		
- 100 Mbps Yes Integrated Functions Monitoring functions • Temperature monitoring Yes • Watchdog Yes • Status LEDs 1x power, 3x user • Fan No • Monitoring function via network Optional EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static ±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC	Industrial Ethernet interface	2x Ethernet (RJ45)
Integrated Functions Monitoring functions • Temperature monitoring • Watchdog • Status LEDs • Fan • Monitoring function via network • Monitoring function via network EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static ±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC	— 100 Mbps	
Monitoring functions • Temperature monitoring • Watchdog • Status LEDs • Status LEDs • Fan • Mo • Monitoring function via network EMC Interference immunity against discharge of static • Interference immunity against discharge of static ±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC	·	
Monitoring functions • Temperature monitoring • Watchdog • Status LEDs • Status LEDs • Fan • Mo • Monitoring function via network EMC Interference immunity against discharge of static • Interference immunity against discharge of static ±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC	Integrated Functions	
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 Monitoring function via network EMC Interference immunity against discharge of static electricity Interference immunity against discharge of static ±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 		
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Interference immunity against discharge of static electricity • Interference immunity against discharge of static ±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC		
• Interference immunity against discharge of static ±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC		
	Interference immunity against discharge of static	

Interference immunity against high-frequency electromagnetic fie	lds
Interference immunity against high frequency radiation	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 cable-borne interference	
 Interference immunity on supply cables 	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge
	symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric
Interference immunity on signal cables >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
Interference immunity on signal cables < 30m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±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 to magnetic fields	
 Interference immunity to magnetic fields at 50 Hz 	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
egree and class of protection	
IP degree of protection	IP40
tandards, 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
Use in hazardous areas	
ATEX Zone 2	Yes; Optional
• IECEx Zone 2	Yes; Optional
• cULus Class I Zone 2, Division 2	Yes; Optional
Marine approval	
 Germanischer Lloyd (GL) 	Yes
 American Bureau of Shipping (ABS) 	Yes
Bureau Veritas (BV)	Yes
 Det Norske Veritas (DNV) 	Yes
 Korean Register of Shipping (KRS) 	Yes
 Lloyds Register of Shipping (LRS) 	Yes
 Nippon Kaiji Kyokai (Class NK) 	Yes
 Chinese Classification Society (CCS) 	Yes
mbient conditions	
Ambient temperature during operation	
• min.	0 °C; -20 °C as option
• max.	60 °C
Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	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 condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)
Vibrations	out to the state of the state o
Vibration resistance during operation acc. to IEC 60068-	tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8
2-6 Shock testing	m/s² (1 g)
Shock testing	Tooland according to IEC 60000 0.07: 450 m/s² 44 ms
Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s², 11 ms
Operating systems	Windows 7 Illtimate 22 bit / 64 bit MIII: Windows Embedded Chardest 7 E/D
pre-installed operating system	Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bit
Additional info on operating system	optional: SIMATIC Industrial OS
	Yes; Optional

pre-installed operating system		
• Windows 7	Yes; Ultimate 32 bit or 64 bit	
• Windows 10	Yes; Windows 10 IoT Enterprise 2016 LTSB, 64bit, MUI	
Windows 10 Enterprise	Yes; Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI	
Software		
SIMATIC Software	Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle	
Dimensions		
Width	191 mm	
Height	100 mm	
Depth	60 mm	

last modified: 6/25/2021 🖸