SIEMENS

Data sheet

6AG4131-3GM20-3AA0

SIMATIC IPC627E (Box PC), UHD Graphics onboard; DP/DVI-D; 3x Gigbit Ethernet (IE/PN); 6x USB V3.1 Gen.2; 1x serial (COM 1); RAID controller onboard; Watchdog, temperature and fan monitoring; Core i7-8700 (6C/12T, 3.2(4.6) GHz, 12 MB cache, VT-d, AMT); M.2 SSD NVMe 512 GB; SSD 2.5" SATA 960 GB internal; 16 GB DDR4-2666 (2x8); 24 V DC industrial power supply Windows 10 Enterprise 2019 LTSC, 64-bit, MUI (en, de, fr, it, es) For Core i7; without expansion (software); without expansion (HW); 2x PCI

Mounting Wall mounting, portrait mounting Design Box PC, built-in unit Supply voltage 100/240 V AC (autorange); 24 V DC Interespency • Rated value 50 Hz Yes • Rated value 60 Hz Yes Mains-voltage failure stored energy time 20 ms Processor Processor Processor Processor Cleiron G4900 (2C/2T, 3.1 GHz, 2 MB cache, VT-d); Core (3.8100 (4C/4T, 3.6 GHz, 16 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core (7.8700 (6C/12T, 3.2 MB cache, VT-d); Co	Installation type/mounting	
Supply voltage	Mounting	Wall mounting, portrait mounting
Type of supply voltage	Design	Box PC, built-in unit
Line frequency	Supply voltage	
Rated value 50 Hz Rated value 60 H	Type of supply voltage	100/240 V AC (autorange); 24 V DC
■ Rated value 60 Hz	Line frequency	
Mains buffering • Mains/voltage failure stored energy time • Mains/voltage failure stored energy time Processor	Rated value 50 Hz	Yes
◆ Mains/voltage failure stored energy time 20 ms Processor 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, MT-d, MT) Chipset Intel C246 Graphic Graphic scontroller Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron) Drives Pres: SSD M.2 NVMe 512 GB; SSD 2.5" SATA 480 / 960 GB; RAID1 2x SSD 2.5" SATA 480 / 960 GB in removable drive bay Momory DDR4-2666 DIMM Main memory 4 / 8 / 16 / 32 / 64 GB Capacity of main memory, max. D4 Gyte Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. Hardware configuration S1ots Slots 2x PCI: optional: 1x PCI & 1x PCIe (x16): 2x PCIe (x4, x16): 3x PCI & 2x PCIe (x16, x4): 5x PCIe (x16, x4): 5x PCIe (x4, x16): 3x PCI & 2x PCIe (x16, x4): 5x PCIe (x16, x4): 5x PCIe (x16, x4): 5x PCIe (x4, x16): 3x PCI & 2x PCIe (x16, x4): 5x PCIe (x16, x4): 5x PCIe (x16, x4): 5x PCIe (x4, x16): 3x PCI & 2x PCIe (x16, x4): 5x PCIe (x16, x4	Rated value 60 Hz	Yes
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) Intel C246 Graphic Intel C246 Graphic Graphic sontroller Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron) Divise	Mains buffering	
Processor type	Mains/voltage failure stored energy time	20 ms
GHz, 6 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.8) GHz, 12 MB cache, VT-d, AMT) Chipset	Processor	
Graphics controller Intel UHD Graphics 630 (Core I); Intel UHD Graphics 610 (Celeron) Drives Hard disk 2.5" SATA ≥ 320 GB SSD Yes; SSD M.2 RVW6 512 GB; SSD 2.5" SATA 480 / 960 GB; RAID1 2x SSD 2.5" SATA 480 / 960 GB in removable drive bay Memory DDR4-2666 DIMM Main memory, max. 64 GByte Capacity of main memory, max. 64 Gbyte Data areas and their rotentivity Retentive data area (incl. timers, counters, flags), max. 512 kbyte; 128 KB can be stored in the buffer time Hardware confliguration Slots 6 free slots 2x PCI; optional: 1x PCI & 1x PCIe (x16): 2x PCIe (x4, x16); 3x PCI & 2x PCIe (x4, x16); 3x PCI & 2x PCIe (x16, x4); 5x PCIe (x4, x16); 3x PCI & 2x PCIe (x16, x4); 5x PCIe (x4, x16); 3x PCI & 2x PCIe (x16, x4); 5x PCIe (x4, x16); 3x PCI & 2x PCIe (x16, x4); 5x PCIe (x16, x4)	Processor type	GHz, 6 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache,
Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)	Chipset	Intel C246
Drives	Graphic	
Hard disk 2.5" SATA ≥ 320 GB	Graphics controller	Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)
SSD Yes; SSD M.2 NVMe 512 GB; SSD 2.5" SATA 480 / 960 GB; RAID1 2x SSD 2.5" SATA 480 / 960 GB; RAID1 2x SSD 2.5" SATA 480 / 960 GB in removable drive bay Memory Type of memory DDR4-2666 DIMM Main memory 4 / 8 / 16 / 32 / 64 GB Capacity of main memory, max. 64 Gbyte Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. Fardware configuration Slots • free slots • free slots • Number of PCI slots • Number of PCI slots • Number of PCI slots • Number of industrial Ethernet interfaces Number of industrial Ethernet interfaces USB / USB serial interface • Oraphics interface • Oraphics interface • Industrial Ethernet • Industrial Ethernet interface 3x Ethernet (RJ45) Yes Integrated Functions Monitoring functions • Temperature monitoring Yes	Drives	
Memory Type of memory Main memory A / 8 / 16 / 32 / 64 GB Capacity of main memory, max. 64 Gbyte Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. Hardware configuration Slots • free slots • Number of PCI slots • Sc Optional Interfaces Number of industrial Ethernet interfaces USB port Connection for keyboard/mouse serial interface • USB 7 / USB serial interface • Industrial Ethernet interface 3x Ethernet (RJ45) USB port 4x COM Video interfaces • Graphics interface 1x COM Video interface • 1x	Hard disk	2.5" SATA ≥ 320 GB
Type of memory Main memory 4 / 8 / 16 / 32 / 64 GB Capacity of main memory, max. 64 Gbyte Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. Hardware configuration Slots • free slots • free slots • Number of PCI slots • Number of PCI slots • Number of PCI slots • Number of industrial Ethernet interfaces Number of industrial Ethernet interfaces USB port Connection for keyboard/mouse serial interface • Graphics interface • Industrial Ethernet interface • Industrial	SSD	
Main memory 4 / 8 / 16 / 32 / 64 GB Capacity of main memory, max. 64 Gbyte Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. 512 kbyte; 128 KB can be stored in the buffer time Hardware configuration Slots • free slots • free slots • Number of PCI slots • Number of industrial Ethernet interfaces Number of industrial Ethernet interface USB y USB serial interface • Graphics interface • Graphics interface • Industrial Ethernet interface	Memory	
Capacity of main memory, max. Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. Hardware configuration Slots • free slots • Number of PCI slots • Number of PCI slots • Number of PCI slots • Number of industrial Ethernet interfaces USB port Connection for keyboard/mouse serial interface • Graphics interface • Industrial Ethernet • Industrial Ethernet interface 1x COM Video interfaces • Industrial Ethernet interface 1x COM Video interfaces • Industrial Ethernet interface 1x COM Video interfaces • Graphics interface 1x COM Video	Type of memory	DDR4-2666 DIMM
Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. #### Star Substance Star Substance	Main memory	4 / 8 / 16 / 32 / 64 GB
Retentive data area (incl. timers, counters, flags), max. Hardware configuration Siots Interfaces Number of PCI slots Number of industrial Ethernet interface Serial interface Ordinaterface Ordinaterface Industrial Ethernet Industrial Ethernet Industrial Ethernet Industrial Ethernet Industrial Ethernet interface Ordinaterface Industrial Ethernet interface Industrial Ethernet interface Industrial Ethernet Industrial Ethernet interface Industria	Capacity of main memory, max.	64 Gbyte
Slots • free slots • free slots • Number of PCI slots • Number of PCI slots • Number of PCI slots • Number of PCI slots • Number of PCI slots • Si Optional Interfaces Number of industrial Ethernet interfaces USB port Connection for keyboard/mouse serial interface • Graphics interface Industrial Ethernet • Industrial Ethernet interface - 100 Mbps - 100 Mbps - 100 Mbps - 1000 Mbps Yes Integrated Functions Monitoring functions • Temperature monitoring Yes	Data areas and their retentivity	
Slots • free slots • free slots 2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); 3x PCI & 2x PCIe (x16, x4); 5x PCIe (x16, x4); 5x PCIe (x16, x4); with card retainer • Number of PCI slots • Number of PCI slots 5; Optional Interfaces Number of industrial Ethernet interfaces 3; 3x Ethernet (RJ45) USB port 6x USB 3.1 Gen. 2 (2x type C) Connection for keyboard/mouse serial interface 1x COM Video interfaces • Graphics interface 1x COM Industrial Ethernet • Industrial Ethernet • Industrial Ethernet • Industrial Ethernet interface 3x Ethernet (RJ45) Yes Integrated Functions Monitoring functions • Temperature monitoring Yes	Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time
free slots 2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); 3x PCI & 2x PCIe (x16, x4); 5x PCIe (x16, x4); 5x PCIe (x16, 2x4, 2x1); with card retainer Number of PCI slots Number of PCI slots 5; Optional Interfaces Number of industrial Ethernet interfaces 3; 3x Ethernet (RJ45) USB port 6x USB 3.1 Gen. 2 (2x type C) Connection for keyboard/mouse serial interface 1x COM Video interfaces Graphics interface 2x DisplayPort; 1x DVI-D Industrial Ethernet Industrial Ethernet interface 3x Ethernet (RJ45) - 100 Mbps Yes Integrated Functions Monitoring functions Temperature monitoring Yes	Hardware configuration	
(x16, x4); 5x PCIe (1x16, 2x4, 2x1); with card retainer • Number of PCI slots • Number of PCI slots 5; Optional Interfaces Number of industrial Ethernet interfaces USB port Connection for keyboard/mouse serial interface • Graphics interface • Graphics interface • Industrial Ethernet interface • Industrial Ethernet interface • Industrial Ethernet interface • Industrial Ethernet interface - 100 Mbps - 100 Mbps Yes Integrated Functions Monitoring functions • Temperature monitoring Yes	Slots	
Number of PCI slots Interfaces Number of industrial Ethernet interfaces 3; 3x Ethernet (RJ45) USB port 6x USB 3.1 Gen. 2 (2x type C) Connection for keyboard/mouse USB / USB serial interface 1x COM Video interfaces • Graphics interface 1x DVI-D Industrial Ethernet • Industrial Ethernet interface - 100 Mbps - 100 Mbps Yes Integrated Functions Monitoring functions • Temperature monitoring Yes	• free slots	
Interfaces Number of industrial Ethernet interfaces 3; 3x Ethernet (RJ45) USB port 6x USB 3.1 Gen. 2 (2x type C) Connection for keyboard/mouse USB / USB serial interface 1x COM Video interfaces • Graphics interface 2x DisplayPort; 1x DVI-D Industrial Ethernet • Industrial Ethernet interface 3x Ethernet (RJ45) —100 Mbps —100 Mbps —Yes —1000 Mbps Yes Integrated Functions Monitoring functions • Temperature monitoring Yes	 Number of PCI slots 	5; Optional
Number of industrial Ethernet interfaces USB port 6x USB 3.1 Gen. 2 (2x type C) Connection for keyboard/mouse USB / USB serial interface 1x COM Video interfaces • Graphics interface 1x DVI-D Industrial Ethernet • Industrial Ethernet interface - 100 Mbps - 100 Mbps - 1000 Mbps Yes Integrated Functions Monitoring functions • Temperature monitoring Yes	 Number of PCI slots 	5; Optional
USB port Connection for keyboard/mouse USB / USB serial interface 1x COM Video interfaces Graphics interface 2x DisplayPort; 1x DVI-D Industrial Ethernet Industrial Ethernet interface Integrated Functions Monitoring functions Temperature monitoring Yes	Interfaces	
Connection for keyboard/mouse serial interface 1x COM Video interfaces Graphics interface 2x DisplayPort; 1x DVI-D Industrial Ethernet Industrial Ethernet interface Industrial Ethernet interface Industrial Ethernet interface Yes 1000 Mbps Yes Integrated Functions Monitoring functions Temperature monitoring Yes	Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
serial interface Video interfaces Graphics interface Video interface SubsplayPort; 1x DVI-D Industrial Ethernet Industrial Ethernet interface Industrial Ethernet interface Industrial Ethernet interface Ves Integrated Functions Monitoring functions Temperature monitoring Yes	USB port	6x USB 3.1 Gen. 2 (2x type C)
Video interfaces ● Graphics interface 2x DisplayPort; 1x DVI-D Industrial Ethernet ● Industrial Ethernet interface 3x Ethernet (RJ45) — 100 Mbps Yes — 1000 Mbps Yes Integrated Functions Monitoring functions ● Temperature monitoring Yes	Connection for keyboard/mouse	USB / USB
● Graphics interface 2x DisplayPort; 1x DVI-D Industrial Ethernet ● Industrial Ethernet interface 3x Ethernet (RJ45)	serial interface	1x COM
Industrial Ethernet Industrial Ethernet interface Industrial Ethernet interface Industrial Ethernet interface Industrial Ethernet interface Yes Industrial Ethernet interface Yes Yes Integrated Functions Integrated Functions Integrated Functions Integrated Functions Integrated Functions Yes	Video interfaces	
● Industrial Ethernet interface 3x Ethernet (RJ45) — 100 Mbps Yes — 1000 Mbps Yes Integrated Functions Monitoring functions ● Temperature monitoring Yes	Graphics interface	2x DisplayPort; 1x DVI-D
 — 100 Mbps — 1000 Mbps Yes Integrated Functions Monitoring functions Temperature monitoring Yes 	Industrial Ethernet	
— 1000 Mbps Yes Integrated Functions Monitoring functions ◆ Temperature monitoring Yes	 Industrial Ethernet interface 	3x Ethernet (RJ45)
Integrated Functions Monitoring functions • Temperature monitoring Yes	— 100 Mbps	Yes
Monitoring functions • Temperature monitoring Yes	— 1000 Mbps	Yes
Temperature monitoring Yes	Integrated Functions	
	Monitoring functions	
Watchdog Yes	 Temperature monitoring 	Yes
	 Watchdog 	Yes

Status LEDs	1x power, 3x user
• Fan	Yes
Monitoring function via network	Optional
EMC	
Interference immunity against discharge of static electricity	
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	
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
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
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
cULus	Yes
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
Marine approval	
American Bureau of Shipping (ABS)	Yes
Det Norske Veritas (DNV)	Yes
Nippon Kaiji Kyokai (Class NK)	Yes
Ambient conditions	
Ambient temperature during operation	
• min.	5 °C
• max.	55 °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 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)
Vibrations	,, ,,
 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/s² (1 g)
Shock testing	
Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s² (5 g), 30 ms, 100 shocks
Operating systems	
pre-installed operating system	Windows 10 Enterprise 2016 LTSB or 2019 LTSC 64-bit, MUI
without operating system	Yes; Optional
pre-installed operating system	.,,,,
Windows 10 Enterprise	Yes; Windows 10 Enterprise 2016 LTSB or 2019 LTSC 64-bit, MUI
Software	The state of the s
SIMATIC Software	Optional package with SIMATIC WinCC
Dimensions	

Width	314 mm
Height	93 mm; For variant 5x PCI(e): 155 mm
Depth	301 mm; incl. mounting rail

last modified:

7/24/2020