## **SIEMENS**

## **Data sheet**

## 6AG4131-3GD20-3AA2

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); 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 PCIe (x16, x4)

Mounting		(NV), 2X PCIE (X 10, X4)
Design	Installation type/mounting	
Type of supply voltage  Type of supply voltage  Line frequency	Mounting	Wall mounting, portrait mounting
Type of supply voltage	Design	Box PC, built-in unit
Rated value 50 Hz	Supply voltage	
• Rated value 50 Hz • Rated value 50 Hz • Rated value 60 Hz  Mains buffering • Mains/voltage failure stored energy time  20 ms  Processor  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 i7-9700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d, AMT)  Intel C246  Graphic  Graphic scontroller  Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)  Drives  Hard disk  2.5° SATA ≥ 320 GB  SSD  Yes; 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  Type of memory  DDR4-2666 DIMM  Main memory  4 / 8 / 16 / 32 / 64 GB  Capacity of main memory, max.  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  • Number of PCI slots  • Number of Reyboard/mouse  Serial interfaces  Number of Reyboard/mouse  serial interface  USB / USB  serial interfaces  1x COM  Video interfaces	Type of supply voltage	100/240 V AC (autorange); 24 V DC
Rated value 60 Hz  Mains buffering  Mains/voltage failure stored energy time  Processor  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); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz,	Line frequency	
Mains buffering         • Mains/voltage failure stored energy time         20 ms           Processor         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)           Chipset         Intel C246           Graphic         Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)           Drives         Hard disk           SSD         Yes; 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           Memory         DR4-2666 DIMM           Main memory         4 / 8 / 16 / 32 / 64 GB           Capacity of main memory, max.         94 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         2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); 3x PCI & 2x PCIe (x16, x4); 5x PCIe (1x16, 2x4, 2x1); with card retainer         • Number of PCI slots           • Number of PCI slots         5; Optional           Interfaces         3; 3x Ethernet (RJ45)           Number of industrial Ethernet interfaces         3; 3x Ethernet (RJ45)           USB port         6x USB 3.1 Gen. 2 (2x type C)           Connection for keyboard/mouse         1x COM	Rated value 50 Hz	Yes
◆ Mains/voltage failure stored energy time         20 ms           Processor           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); Core I7-8700 (6C/12T, 3.2 CHz, 12 MB cache, VT-d); Core I7-8700 (6C/12T, 3.2 CHz, 12 MB ca	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)   Chipset	Mains buffering	
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)           Chipset         Intel C246           Graphic         Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)           Drives           Hard disk         2.5" SATA ≥ 320 GB           SSD         Yes; 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           Memory           DDR4-2666 DIMM           Main memory         4 / 8 / 16 / 32 / 64 GB           Capacity of main memory, max.           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           Slots         2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); 3x PCI & 2x PCIe (x16, x4, x4); 5x PCIe (1x16, 2x4, 2x1); with card retainer           • Number of PCI slots         5; Optional           • Number of industrial Ethernet interfaces         3; 3x Ethernet (RJ45)           USB / USB         1x COM           Video interfaces         1x COM	<ul> <li>Mains/voltage failure stored energy time</li> </ul>	20 ms
Chipset	Processor	
Graphic Graphics controller  Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)  Drives  Hard disk  2.5" SATA ≥ 320 GB  SSD  Yes, SATA ≥ 820 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  Memory  Type of memory  DDR4-2666 DIMM  Main memory  4 / 8 / 16 / 32 / 64 GB  Capacity of main memory, max.  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 PCI slots  • Number of PCI slots  • Number of industrial Ethernet interfaces  Number of industrial Ethernet interfaces  USB 7 USB  serial interface  1x COM  Video interfaces	Processor type	GHz, 6 MB cache, VT-d); Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache,
Graphics controller       Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)         Drives	Chipset	Intel C246
Hard disk  SSD  Yes; SSD N.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.  Hardware configuration  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, 2x4, 2x1); with card retainer  • 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  1x COM  Video interfaces	Graphic	
Hard disk  2.5" SATA ≥ 320 GB  Yes; 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  Memory  Type of memory  DDR4-2666 DIMM  Main memory  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 industrial Ethernet interfaces  Number of industrial Ethernet interfaces  USB port  6x USB 3.1 Gen. 2 (2x type C)  Connection for keyboard/mouse  serial interfaces  1x COM  Video interfaces	Graphics controller	Intel UHD Graphics 630 (Core i); Intel UHD Graphics 610 (Celeron)
Yes; 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  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.  Hardware configuration  Slots  • free slots  2x PCI; optional: 1x PCI & 1x PCI & 1x PCI e (x16); 2x PCIe (x4, x16); 3x PCI & 2x PCIe (x16, x4); 5x PCIe (1x16, 2x4, 2x1); with card retainer  • Number of PCI slots  • Number of PCI slots  • Number of industrial Ethernet interfaces  Number of industrial Ethernet interfaces  USB port  6x USB 3.1 Gen. 2 (2x type C)  Connection for keyboard/mouse  serial interface  1x COM  Video interfaces	Drives	
Memory  Type of memory  Main 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  Number of the very connection for keyboard/mouse  Serial interface  USB / USB  serial interfaces  DDR4-2666 DIMM  4 / 8 / 16 / 32 / 64 GB  64 Gbyte  512 kbyte; 128 KB can be stored in the buffer time  4 / 8 / 16 / 32 / 64 GB  64 GByte  64 GByte  512 kbyte; 128 KB can be stored in the buffer time  812 kByte; 128 KB can be stored in the buffer time  813 x PCI & 1x PCI &	Hard disk	2.5" SATA ≥ 320 GB
Type of memory  Main 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  Number of industrial Ethernet interfaces  Number of rekyboard/mouse  Sign of memory  4 / 8 / 16 / 32 / 64 GB  64 Gbyte  512 kbyte; 128 KB can be stored in the buffer time  812 x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); 3x PCI & 2x PCIe (x16, x4); 5x PCIe (1x16, 2x4, 2x1); with card retainer  5; Optional  Interfaces  Number of industrial Ethernet interfaces  3; 3x Ethernet (RJ45)  6x USB 3.1 Gen. 2 (2x type C)  Connection for keyboard/mouse  serial interface  1x COM  Video interfaces	SSD	
Main 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  Number of industrial Ethernet interfaces  Serial interface  Video interfaces  Video interfaces  14 / 8 / 16 / 32 / 64 GB  64 Gbyte  64 GB  64 Gbyte  64	Memory	
Capacity of main memory, max.  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 PCI slots  • Number of PCI slots  15; Optional  Interfaces  Number of industrial Ethernet interfaces  USB port  6x USB 3.1 Gen. 2 (2x type C)  Connection for keyboard/mouse  serial interfaces  1x COM  Video interfaces	Type of memory	DDR4-2666 DIMM
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  • 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 interfaces  Video interfaces  Video interfaces	Main memory	4 / 8 / 16 / 32 / 64 GB
Retentive data area (incl. timers, counters, flags), max.  Hardware configuration  Slots  • free slots  • Number of PCI slots • Number of PCI slots • Number of industrial Ethernet interfaces  Number of industrial Ethernet interfaces  Substitute of the slots of the slots of the solution of the slots of t	Capacity of main memory, max.	64 Gbyte
Hardware configuration  Slots  ● free slots  PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); 3x PCI & 2x PCIe (x16, x4); 5x PCIe (1x16, 2x4, 2x1); with card retainer  Number of PCI slots  Number of PCI slots  Number of industrial Ethernet interfaces  Number of industrial Ethernet interfaces  String port	Data areas and their retentivity	
Slots  • free slots  • free slots  • Number of PCI 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  • Super Street (RJ45)  USB yort  • Super Street (RJ45)  USB / USB  serial interface  1x COM	Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time
<ul> <li>free slots</li> <li>2x PCI; optional: 1x PCI &amp; 1x PCIe (x16); 2x PCIe (x4, x16); 3x PCI &amp; 2x PCIe (x16, x4); 5x PCIe (1x16, 2x4, 2x1); with card retainer</li> <li>Number of PCI slots</li> <li>Number of PCI slots</li> <li>5; Optional</li> <li>Interfaces</li> <li>Number of industrial Ethernet interfaces</li> <li>3; 3x Ethernet (RJ45)</li> <li>USB port</li> <li>6x USB 3.1 Gen. 2 (2x type C)</li> <li>Connection for keyboard/mouse</li> <li>USB / USB</li> <li>serial interfaces</li> <li>1x COM</li> </ul>	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  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	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 USB / USB  serial interface 1x COM  Video interfaces	• 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	Number of PCI slots	5; Optional
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	Number of PCI slots	5; Optional
USB port 6x USB 3.1 Gen. 2 (2x type C)  Connection for keyboard/mouse USB / USB  serial interface 1x COM  Video interfaces	Interfaces	
Connection for keyboard/mouse USB / USB serial interface 1x COM Video interfaces	Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
serial interface 1x COM Video interfaces	USB port	6x USB 3.1 Gen. 2 (2x type C)
Video interfaces	Connection for keyboard/mouse	USB / USB
	serial interface	1x COM
Graphics interface     2x DisplayPort: 1x DVI-D	Video interfaces	
	Graphics interface	2x DisplayPort; 1x DVI-D
Industrial Ethernet	Industrial Ethernet	
• Industrial Ethernet interface 3x Ethernet (RJ45)	Industrial Ethernet interface	3x Ethernet (RJ45)
— 100 Mbps Yes	— 100 Mbps	Yes
— 1000 Mbps Yes	— 1000 Mbps	Yes
Integrated Functions	Integrated Functions	
Monitoring functions	Monitoring functions	
• Temperature monitoring Yes	Temperature monitoring	Yes
Watchdog     Yes	Watchdog	Yes

a Status I EDa	Av nower 2v year
Status LEDs     Fan	1x power, 3x user Yes
Monitoring function via network	Optional
EMC	Optional
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
electricity	61000-4-2
Interference immunity against high-frequency electromagnetic field	ds
<ul> <li>Interference immunity against high frequency radiation</li> </ul>	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
<ul> <li>Interference immunity on signal cables &gt;30m</li> </ul>	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
<ul> <li>Interference immunity on signal cables &lt; 30m</li> </ul>	$\pm$ 1 kV acc. to IEC 61000-4-4; burst; length < 3 m; $\pm$ 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	FN 04000 0 0 FN 04000 0 / 01000 00 01
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	IDOO
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 CF EN 64000 6 2:2007 1.44:2044 EN 64000 6 2:2005
EMC Marine enproval	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	
<ul> <li>Vibration resistance during operation acc. to IEC 60068- 2-6</li> </ul>	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	
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:

6/25/2021