## **SIEMENS**

## **Data sheet**

## 6AG4112-2KT81-0BA6

SIMATIC IPC647D (Rack PC, 19", 2 HU); 2x Gbit Ethernet (IE/PN), RJ45; 1x DVI-I; 2x display ports; 1x COM 1; 2x PS/2; audio; 4x USB 3.0, incl. 1x internal; 3x USB 2.0; Temp. and fan monitoring; Watchdog, Card retainer XEON E3-1268LV3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache VT-D, AMT); mainboard without fieldbus 240 GB SSD SATA, in removable frame; front-side 32 GB DDR3 SD-RAM (4x 8 GB), ECC, Dual channel Bus module, 4 slots: 2x PCI, 2x PCIE X16; without HW expansions without expansion (HW); Graphics onboard Windows 7 Ultimate, 64 bit, MUI (de, en, fr, es, it), SP1 SIMATIC PC DiagMonitor V5.0 enclosed 2x 110/240V redund. power supply; without line cable

Design Rack PC, 19°, 2U Supsity Voltage 100/240 V AC (autorange) 50 / 80 Hz; optional redundant 100/240 V AC Line frequency Rack PC, 19°, 2U Supsity Voltage 100/240 V AC (autorange) 50 / 80 Hz; optional redundant 100/240 V AC Line frequency Rated value 80 Hz Rated value 80 Hz Yes Rated value 80 Hz Yes Mains buffering Mains-voltage failure stored energy time 20 ms Processor Processor Processor type Xeon E3-1288L v3 (4C/BT, 2.3 (3.3) GHz, 8 MB cache); Core i5-4570TE (2C/4T, 2.7 (3.9) GHz, 4 MB cache); Core i5-4570TE (2C/4T, 2.7 (3.9) GHz, 4 MB cache); Core i5-4530TE (2C/4T, 2.4 GHz, 4 MB cache); Core i5-4570TE (2C/4T, 2.7 (3.9) GHz, 4 MB cache); Core i5-4570TE (2C/4T, 2.7 (3.9) GHz, 4 MB cache); Core i5-4530TE (2C/4T, 2.4 GHz, 4 MB cache); Core i5-450TE (2C/4T, 2.7 (3.9) GHz, 4 MB cache); Core i5-4530TE (2C/4T, 2.4 GHz, 4 MB cache); Core i5-4530TE (2C/4T, 2.4 GHz, 4 MB cache); Core i5-450TE (2C/4T, 2.7 GHz, 4 MB cache); Core i5-450TE (2C/4T, 2.7 GHz, 4 MB cache); Core i5-450TE (2C/4T, 2.7 GHz, 4 MB cache); Core i5-450TE (2C/4T, 2.4 GHz, 4 MB cache); Core i5-450TE (2C/4T, 2.7 GHz, 4 MB cache); Core i5-450TE (2C/4T, 2.4 GHz, 4 MB cache); Core i5-450TE	Installation type/mounting	
Supply voltage   100/240 V AC (autorange) 50 / 60 Hz, optional redundant 100/240 V AC (limiter frequency	Mounting	
Type of supply voltage  100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC  Line frequency  Rated value 50 Hz  Rated value 50 Hz  Rated value 60 Hz  Yes  Mains-voltage failure stored energy time  20 ms  Processor  Processor type  Xeon E3-1288L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache); Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache); Core i6-4330TE (2C/4T, 2.4 GH	Design	Rack PC, 19", 2U
Line frequency  Rated value 50 Hz Rated value 50 Hz Rated value 50 Hz Rated value 60	Supply voltage	
Rated value 50 Hz Rated value 60 Hz Rated value	Type of supply voltage	100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC
■ Rated value 60 Hz  Mains buffering ■ Nains/voltage failure stored energy time Processor  Processor type  Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache); Core i5-4570TE (2C/4T, 2.4 GHz, 4 MB cache); Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache) Chipset  Intel DH82C226 PCH  Graphic  Graphic  Onboard graphics controller Intel HD 4600 Graphics integrated into the processor / PC/L-Express graphics card (Dual Head: 2x VGA or 2x DVI-D) in the PC/le (x16) slot (optional)  Drives  Optical drives  Optical drives  DVD±R/RW (SilmLine)  500 GB HDD, 17 B HDD, 2x 1 TB HDD, RAID1 (2x 1 TB HDD, mirror disks); RAID1 (2x 1 TB HDD SA5, mirror disks) with PC/le (x8) RAID controller incl. ZMCP module  Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks) with PC/le (x8) RAID controller incl. ZMCP module  Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks)  Slot for drives  Mounted internally on the fixed hard disk support, or mounted at the front in the low-profile removable drive bay (hot-swap in RAID configurations)  Mormory  Main memory  2 GB to 32 GB DDR3-1600 DIMM, ECC optional  32 Gbyte  Hardwaro configuration  Slots  • free slots  depending on slot or 2x PC/L 2x PC/le mech, (x16) (4 lanes / 8 lanes depending on slot) or 2x PC/L 2x PC/le mech, (x16) (8 lanes); all modules to a length of 312 mm can be used  Interfaces  Interfaces/bus type  1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS/MPI  Optionally onboard, isolated, max. 12 Mbif/s, no plug-in card necessary, CP 5522-compatible  Connection for keyboard/mouse  2x PS/2  Connection for keyboard/mouse  2x PS/2  Optional LPT1	Line frequency	
Mains buffering  Mains/voltage failure stored energy time  Processor type  Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache); Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache); Core i5-4570TE (2C/4T, 2.4 GHz, 4 MB cache) Chipset  Intel DH82C226 PCH  Graphic  Graphic  Onboard graphics controller Intel HD 4600 Graphics integrated into the processor / PCI-Express graphics card (Dual Head: 2x VGA or 2x DVI-D) in the PCIe (x16) sot (optional)  Processor / PCI-Express graphics card (Dual Head: 2x VGA or 2x DVI-D) in the PCIe (x16) sot (optional)  Brives  Optical drives  DVD±R/RW (SilmLine)  500 GB HDD, 1 TB HDD, 2x 1 TB HDD, RAID1 (2x 1 TB HDD, mirror disks); RAID1 (2x 1 TB HDD SAS, mirror disks) with PCIe (x8) RAID controller incl. ZMCP module  SSD  Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks)  Mounted internally on the fixed hard disk support, or mounted at the front in the low-profile removable drive bay (hot-swap in RAID configurations)  Memory  Main memory  2 GB to 32 GB DDR3-1600 DIMM, ECC optional  Stots  • free slots  • free slots  2x PCIe mech. (x16) (4 lanes) or 4x PCIe mech. (x16) (4 lanes); all modules to a length of 312 mm can be used  Interfaces  Interfaces/bus type  1x COM1; 1x COM2 (optional); 1x LPT (optional), 2x DisplayPort, 1x DVI-I; 2x PCI; and to (Microphone In. Line Out), 7x USB, 2x Gigabit Ethermet,  PROFIBUS/MPI  Optionally onboard, isolated, max. 12 MbIt/s, no plug-in card necessary, CP 5522-compatible  Value SSD, Value SSD, Ox USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal interface  COM1: 1x RS 232, COM2 (optional); 1x RS 232  optional LPT1  Multimedia	<ul> <li>Rated value 50 Hz</li> </ul>	Yes
Processor Processor type  Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache): Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache): Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache): Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache: Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache: Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache: Core i3-4330TE (2C/4T,	Rated value 60 Hz	Yes
Processor type  Xeon E3-1268L v3 (4C/8T, 2.7 (3.3) GHz, 8 MB cache); Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache) Chipset Intel DH62C226 PCH Graphic  Graphic  Graphic Controller  Obbard graphics controller intel HD 4600 Graphics integrated into the processor? PCI-Express graphics card (Dual Head: 2x VGA or 2x DVI-D) in the PCIe (x16) slot (optional)  Drives  Optical drives  DVD#R/RW (SlimLine)  Hard disk  500 GB HDD, 1 TB HDD, 2x 1 TB HDD, RAID1 (2x 1 TB HDD, mirror disks); RAID1 (2x 1 TB HDD, RAID1 (2x 1 TB HDD, mirror disks); RAID1 (2x 1 TB HDD, SS), mirror disks) with PCIe (x8) RAID controller incl.  SSD  Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks) with PCIe (x8) RAID controller incl.  Wounted Internally on the fixed hard disk support, or mounted internally in vibration/shock-absorbing hard disk support, or mounted at the front in the low-profile removable drive bay (hot-swap in RAID configurations)  Memory  Main memory  2 GB to 32 GB DDR3-1600 DIMM, ECC optional  Capacity of main memory, max.  32 Gbyte  Hardware configuration  Slots  • free slots  2x PCIe mech. (x16) (4 lanes) or 4x PCIe mech. (x16) (4 lanes / 8 lanes depending on slot) or 2x PCI, 2x PCIe mech. (x16) (8 lanes); all modules to a length of 312 mm can be used  Interfaces  Interfaces/bus type  1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2; audio (Microphone In, Line Qui), 7x USB, 2x Gigabit Ethernet, PROFIBUS or PROFINET optional  PROFIBUS/MPI  optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible  2x PS/2 audio (Microphone In, Line Qui), 7x USB, 2x Gigabit Ethernet, PROFIBUS or PROFINET optional  connection for keyboard/mouse  2x PS/2 serial interface  COM1: 1x RS 232, COM2 (optional): 1x RS 232 oparallel interface  Multimedia	Mains buffering	
Processor type  Xeon E3-1268L v3 (4C/8T, 2.3 (3.3) GHz, 8 MB cache); Core i5-4570TE (2C/4T, 2.7 (3.3) GHz, 4 MB cache); Core i5-4570TE (2C/4T, 2.4 GHz, 4 MB cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache; Core	<ul> <li>Mains/voltage failure stored energy time</li> </ul>	20 ms
(2C/dT, 2.7 (3.3) GHz, 4 MB cache); Core i3-4330TE (2C/dT, 2.4 GHz, 4 MB cache)  Chipset Intel DH82C226 PCH  Graphic  Graphic controller PO-Drives  Optical drives DVD2R/RW (SlimLine)  Drives DVD2R/RW (SlimLine)  Drives DVD2R/RW (SlimLine)  Hard disk SD0 GB HDD, 1 TB HDD, 2x 1 TB HDD, RAID1 (2x 1 TB HDD, mirror disks); RAID1 (2x 1 TB HDD SAS, mirror disks) with PCle (x8) RAID controller incl. ZMCP module  SSD Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks) with PCle (x8) RAID controller incl. ZMCP module  SSD Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks) with PCle (x8) RAID controller incl. ZMCP module  SSD Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks) with PCle (x8) RAID controller incl. ZMCP module  SSD Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks) with PCle (x8) RAID configurations with PCle removable drive bay (hot-swap in RAID configurations)  Memory  Main memory 2 GB to 32 GB DDR3-1600 DIMM, ECC optional 2 GB	Processor	
Graphic Graphics controller Graphics controller Graphics controller Graphics controller Graphics controller Graphics controller Drives  Optical drives  DVD±R/RW (SlimLine)  Hard disk  500 GB HDD, 1 TB HDD, RAID1 (2x 1 TB HDD, mirror disks); RAID1 (2x 1 TB HDD RAID1 (2x 1 TB HDD, mirror disks); RAID1 (2x 1 TB HDD SAS, mirror disks) with PCIe (x8) RAID controller incl. ZMCP module  SSD  Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks) Slot for drives  Mounted internally on the fixed hard disk support, or mounted internally in vibration/shock-absorbing hard disk support, or mounted at the front in the low-profile removable drive bay (hot-swap in RAID configurations)  Memory  Main memory  2 GB to 32 GB DDR3-1600 DIMM, ECC optional  2x PCIe mech. (x16) (4 lanes) or 4x PCIe mech. (x16) (4 lanes) / 8 lanes depending on slot) or 2x PCI, 2x PCIe mech. (x16) (8 lanes); all modules to a length of 312 mm can be used  Interfaces  Interfaces/bus type  1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS or PROFINET option.  PROFIBUS/MPI  optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible  2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal  Connection for keyboard/mouse  2x PS/2  serial interface  Optional LPT1  Multimedia	Processor type	(2C/4T, 2.7 (3.3) GHz, 4 MB cache); Core i3-4330TE (2C/4T, 2.4 GHz, 4 MB
Graphics controller  Onboard graphics controller Intel HD 4600 Graphics integrated into the processor / PCI-Express graphics card (Dual Head: 2x VGA or 2x DVI-D) in the PCIe (x16) sold (optional)  Drives  Optical drives  DVD±R/RW (SlimLine)  Hard disk  500 GB HDD, 1 TB HDD, 2x 1 TB HDD, RAID1 (2x 1 TB HDD, mirror disks): RAID1 (2x 1 TB HDD ASS, mirror disks) with PCIe (x8) RAID controller incl. ZMCP module  SSD  Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks)  Mounted internally on the fixed hard disk support, or mounted at the front in the low-profile removable drive bay (hot-swap in RAID configurations)  Memory  Main memory  2 GB to 32 GB DDR3-1600 DIMM, ECC optional  Capacity of main memory, max.  Hardware configuration  Slots  • free slots  2x PCIe mech, (x16) (4 lanes) or 4x PCIe mech, (x16) (4 lanes); all modules to a length of 312 mm can be used  Interfaces  Interfaces/bus type  1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS or PROFINET optional  PROFIBUS/MPI  optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible  2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal  Connection for keyboard/mouse  2x PS/2  serial interface  Optional LPT1  Multimedia	Chipset	Intel DH82C226 PCH
processor / PCI- Express graphics card (Dual Head: 2x VGA or 2x DVI-D) in the PCIe (x16) slot (optional)         Drives         Optical drives       DVD±R/RW (SlimLine)         Hard disk       500 GB HDD, 1 TB HDD, 2x 1 TB HDD, RAID1 (2x 1 TB HDD, mirror disks); RAID1 (2x 1 TB HDD, RAID1 (2x 21 TB HDD, mirror disks)); RAID1 (2x 240 GB SSD, mirror disks) with PCIe (x8) RAID controller incl. ZMCP module         SSD       Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks) mirror disks)         Slot for drives       Mounted internally on the fixed hard disk support, or mounted internally in vibration/shock-absorbing hard disk support, or mounted at the front in the low-profile removable drive bay (hot-swap in RAID configurations)         Memory         Main memory       2 GB to 32 GB DDR3-1600 DIMM, ECC optional         Capacity of main memory, max.         Hardware configuration         Slots       2x PCle mech. (x16) (4 lanes) or 4x PCle mech. (x16) (4 lanes / 8 lanes depending on slot) or 2x PCl, 2x PCle mech. (x16) (8 lanes); all modules to a length of 312 mm can be used         Interfaces       Interfaces/bus type       1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PSi2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS or PROFINET optional         PROFIBUS/MPI       optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible         USB port       2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal </td <td>Graphic</td> <td></td>	Graphic	
Optical drives  DVD±R/RW (SlimLine)  Hard disk  DVD±R/RW (SlimLine)  FAID (2x 1 TB HDD, RAID1 (2x 1 TB HDD, RAID1 (2x 1 TB HDD, mirror disks); RAID1 (2x 1 TB HDD SAS, mirror disks) with PCIe (x8) RAID controller incl. ZMCP module  SSD  Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks)  Mounted internally on the fixed hard disk support, or mounted internally in vibration/shock-absorbing hard disk support, or mounted at the front in the low-profile removable drive bay (hot-swap in RAID configurations)  Memory  Main memory  2 GB to 32 GB DDR3-1600 DIMM, ECC optional  Capacity of main memory, max.  Hardware configuration  Slots  • free slots  2x PCIe mech. (x16) (4 lanes) or 4x PCIe mech. (x16) (4 lanes / 8 lanes depending on slot) or 2x PCI, 2x PCIe mech. (x16) (8 lanes); all modules to a length of 312 mm can be used  Interfaces/bus type  1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS or PROFINET optional  PROFIBUS/MPI  Optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible  USB port  2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal  Connection for keyboard/mouse  2x PS/2  serial interface  Optional LPT1  Multimedia	Graphics controller	processor / PCI-Express graphics card (Dual Head: 2x VGA or 2x DVI-D) in the
Hard disk  Sou GB HDD, 1 TB HDD, 2x 1 TB HDD, RAID1 (2x 1 TB HDD, mirror disks); RAID1 (2x 1 TB HDD SAS, mirror disks) with PCIe (x8) RAID controller incl. ZMCP module  SSD  Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks)  Slot for drives  Mounted internally on the fixed hard disk support, or mounted internally in vibration/shock-absorbing hard disk support, or mounted at the front in the low-profile removable drive bay (hot-swap in RAID configurations)  Memory  Main memory  2 GB to 32 GB DDR3-1600 DIMM, ECC optional  Capacity of main memory, max.  Hardware configuration  Slots  • free slots  2x PCIe mech. (x16) (4 lanes) or 4x PCIe mech. (x16) (4 lanes / 8 lanes depending on slot) or 2x PCI, 2x PCIe mech. (x16) (8 lanes); all modules to a length of 312 mm can be used  Interfaces  Interfaces/bus type  1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS or PROFINET optional  PROFIBUS/MPI  optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible  USB port  2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal  connection for keyboard/mouse  2x PS/2  serial interface  Optional LPT1  Multimedia	Drives	
RAID1 (2x 1 TB HDD SAS, mirror disks) with PCIe (x8) RAID controller incl. ZMCP module  SSD  Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks)  Mounted internally on the fixed hard disk support, or mounted internally in vibration/shock-absorbing hard disk support, or mounted at the front in the low-profile removable drive bay (hot-swap in RAID configurations)  Memory  Main memory  2 GB to 32 GB DDR3-1600 DIMM, ECC optional  Capacity of main memory, max.  32 Gbyte  Hardware configuration  Slots  • free slots  2x PCIe mech. (x16) (4 lanes) or 4x PCIe mech. (x16) (4 lanes / 8 lanes depending on slot) or 2x PCI, 2x PCIe mech. (x16) (8 lanes); all modules to a length of 312 mm can be used  Interfaces  Interfaces/bus type  1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS/MPI  optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 6522-compatible  USB port  2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal  Connection for keyboard/mouse  2x PS/2  serial interface  OCM1: 1x RS 232, COM2 (optional): 1x RS 232  optional LPT1  Multimedia	Optical drives	DVD±R/RW (SlimLine)
Slot for drives  Mounted internally on the fixed hard disk support, or mounted internally in vibration/shock-absorbing hard disk support, or mounted at the front in the low-profile removable drive bay (hot-swap in RAID configurations)  Memory  Main memory  2 GB to 32 GB DDR3-1600 DIMM, ECC optional  Capacity of main memory, max.  32 Gbyte  Hardware configuration  Slots  • free slots  2x PCle mech. (x16) (4 lanes) or 4x PCle mech. (x16) (4 lanes / 8 lanes depending on slot) or 2x PCl, 2x PCle mech. (x16) (8 lanes); all modules to a length of 312 mm can be used  Interfaces  Interfaces/bus type  1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PSi/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS or PROFIBUS or PROFINET optional  PROFIBUS or PROFIBUS or PROFINET optional  Optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible  USB port  2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 intermal  Connection for keyboard/mouse  2x PS/2  serial interface  COM1: 1x RS 232, COM2 (optional): 1x RS 232  optional LPT1  Multimedia	Hard disk	RAID1 (2x 1 TB HDD SAS, mirror disks) with PCIe (x8) RAID controller incl.
wibration/shock-absorbing hard disk support, or mounted at the front in the low-profile removable drive bay (hot-swap in RAID configurations)  Memory  Main memory  Capacity of main memory, max.  Hardware configuration  Slots  • free slots  2x PCle mech. (x16) (4 lanes) or 4x PCle mech. (x16) (4 lanes / 8 lanes depending on slot) or 2x PCl, 2x PCle mech. (x16) (8 lanes); all modules to a length of 312 mm can be used  Interfaces  Interfaces/bus type  1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS/MPI  optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible  USB port  2x PS/2  serial interface  COM1: 1x RS 232, COM2 (optional): 1x RS 232  parallel interface  optional LPT1  Multimedia	SSD	Yes; 240 GB SSD; RAID1 (2x 240 GB SSD, mirror disks)
Main memory  Capacity of main memory, max.  Hardware configuration  Slots  ● free slots  Pree slots  1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS/MPI  Description of the yeboard/mouse  2x B to 32 GB DDR3-1600 DIMM, ECC optional 32 Gbyte  2x PCle mech. (x16) (4 lanes) or 4x PCle mech. (x16) (4 lanes / 8 lanes depending on slot) or 2x PCl, 2x PCle mech. (x16) (8 lanes); all modules to a length of 312 mm can be used  Interfaces  Interfaces/bus type  1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS or PROFINET optional  PROFIBUS/MPI  2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal  Connection for keyboard/mouse  2x PS/2  serial interface  COM1: 1x RS 232, COM2 (optional): 1x RS 232  parallel interface  Optional LPT1  Multimedia	Slot for drives	vibration/shock-absorbing hard disk support, or mounted at the front in the low-
Capacity of main memory, max.  Hardware configuration  Slots	Memory	
Hardware configuration  Slots  2x PCIe mech. (x16) (4 lanes) or 4x PCIe mech. (x16) (4 lanes / 8 lanes depending on slot) or 2x PCI, 2x PCIe mech. (x16) (8 lanes); all modules to a length of 312 mm can be used  Interfaces  Interfaces/bus type  1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS or PROFINET optional  PROFIBUS/MPI  optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible  USB port  2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal  Connection for keyboard/mouse  2x PS/2 serial interface  COM1: 1x RS 232, COM2 (optional): 1x RS 232 parallel interface  Multimedia	Main memory	2 GB to 32 GB DDR3-1600 DIMM, ECC optional
Slots  2x PCIe mech. (x16) (4 lanes) or 4x PCIe mech. (x16) (4 lanes / 8 lanes depending on slot) or 2x PCI, 2x PCIe mech. (x16) (8 lanes); all modules to a length of 312 mm can be used  Interfaces  Interfaces/bus type  1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS or PROFINET optional  PROFIBUS/MPI  optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible  USB port  2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal  Connection for keyboard/mouse  2x PS/2  serial interface  COM1: 1x RS 232, COM2 (optional): 1x RS 232  parallel interface  Multimedia	Capacity of main memory, max.	32 Gbyte
● free slots  2x PCle mech. (x16) (4 lanes) or 4x PCle mech. (x16) (4 lanes / 8 lanes depending on slot) or 2x PCl, 2x PCle mech. (x16) (8 lanes); all modules to a length of 312 mm can be used  Interfaces  Interfaces/bus type  1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS or PROFIBUS or PROFINET optional  PROFIBUS/MPI  optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible  USB port  2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal  Connection for keyboard/mouse  2x PS/2  serial interface  COM1: 1x RS 232, COM2 (optional): 1x RS 232  parallel interface  optional LPT1  Multimedia	Hardware configuration	
Interfaces  Interfaces/bus type  Interfaces/bus typ	Slots	
Interfaces/bus type  1x COM1, 1x COM2 (optional), 1x LPT (optional), 2x DisplayPort, 1x DVI-I, 2x PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet, PROFIBUS or PROFINET optional  PROFIBUS/MPI  optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible  USB port  2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal  Connection for keyboard/mouse  2x PS/2  serial interface  COM1: 1x RS 232, COM2 (optional): 1x RS 232  parallel interface  optional LPT1  Multimedia	• free slots	depending on slot) or 2x PCI, 2x PCIe mech. (x16) (8 lanes); all modules to a
PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Éthernet, PROFIBUS or PROFINET optional  PROFIBUS/MPI  optionally onboard, isolated, max. 12 Mbit/s, no plug-in card necessary, CP 5622-compatible  USB port  2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal  Connection for keyboard/mouse  2x PS/2  serial interface  COM1: 1x RS 232, COM2 (optional): 1x RS 232  parallel interface  optional LPT1  Multimedia	Interfaces	
USB port  2x USB 3.0, 2x USB 2.0 rear, 1x USB 3.0, 1x USB 2.0 front, 1x USB 3.0 internal  Connection for keyboard/mouse  2x PS/2  serial interface  COM1: 1x RS 232, COM2 (optional): 1x RS 232  parallel interface  optional LPT1  Multimedia	Interfaces/bus type	PS/2, audio (Microphone In, Line Out), 7x USB, 2x Gigabit Ethernet,
internal  Connection for keyboard/mouse  2x PS/2  serial interface  COM1: 1x RS 232, COM2 (optional): 1x RS 232  parallel interface  optional LPT1  Multimedia	PROFIBUS/MPI	
serial interface COM1: 1x RS 232, COM2 (optional): 1x RS 232 parallel interface optional LPT1 Multimedia	USB port	
parallel interface optional LPT1 Multimedia	Connection for keyboard/mouse	2x PS/2
Multimedia	serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232
	parallel interface	optional LPT1
Audio In/Out     Yes	Multimedia	
	<ul> <li>Audio In/Out</li> </ul>	Yes

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Microphone In  Video interfessor	Yes
Video interfaces	On Display Dept. and Ass DVIII.
Graphics interface	2x DisplayPort and 1x DVI-I onboard; 1x VGA via DVI-VGA adapter cable (optional); graphics card PCIe (x16), Dual Head (2x VGA or 2x DVI-D), 1 GB graphics memory (optional)
Industrial Ethernet	
<ul> <li>Industrial Ethernet interface</li> </ul>	2x Ethernet (RJ45)
— 100 Mbps	Yes
— 1000 Mbps	Yes
Integrated Functions	
Monitoring functions	
Temperature monitoring	Yes
Watchdog	Yes
Status LEDs	POWER, HDD, ETHERNET 1, ETHERNET 2, PROFIBUS / MPI, SF PROFINET, WATCHDOG, TEMP, FAN, HDD0 ALARM, HDD1 ALARM
● Fan	Yes
<ul> <li>Monitoring function via network</li> </ul>	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
electricity	61000-4-2
Interference immunity against high-frequency electromagnetic field	S
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
<ul> <li>Interference immunity on signal cables &gt;30m</li> </ul>	±2 kV acc. to IEC 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge
<ul> <li>Interference immunity on signal cables &lt; 30m</li> </ul>	±1 kV acc. to IEC 61000-4-4, Burst
Interference immunity against voltage surge	
<ul> <li>asymmetric interference</li> </ul>	±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	
<ul> <li>Interference immunity to magnetic fields at 50 Hz</li> </ul>	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, FCC Class A, EN 61000-6-4, CISPR 22, EN 55022 Class B, EN 61000-3-2 Class D, EN 61000-3-3
Degree and class of protection	
IP (at the front)	IP41
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes; For use in industrial areas as well as domestic, business and commercial environments (emitted interference: EN 61000-6-3:2007 +A1:2011, noise immunity: EN 61000-6-2:2005)
CSA approval	Yes; Included in cULus
UL approval	Yes
cULus	Yes; UL 60950-1, file number E115352
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
Dust protection  Marine approval	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered
Marine approval	Voc. Only with SSD
Germanischer Lloyd (GL)      American Ruragu of Shinning (ARS)	Yes; Only with SSD
American Bureau of Shipping (ABS)  Bureau Maritae (BM)	Yes; Only with SSD
Bureau Veritas (BV)	Yes; Only with SSD
Det Norske Veritas (DNV)	Yes; Only with SSD
Lloyds Register of Shipping (LRS)	Yes; Only with SSD
Ambient conditions	
Ambient temperature during operation	0.00
• min.	0 °C
• max.	50 °C

Ambient temperature during storage/transportation	
• min.	-20 °C
• max.	60 °C
Relative humidity	
Relative humidity	tested to IEC 60068-78, DIN IEC 68-2-30: 5 % to 80 % at 25 °C (no condensation)
Vibrations	
<ul> <li>Vibration resistance during operation acc. to IEC 60068- 2-6</li> </ul>	Tested according to IEC 60068-2-6: 10 cycles, 10 Hz to 58 Hz: 0.0375 mm, 58 Hz to 500 Hz: 4.9 m/s² (0.5 g)
Shock testing	
Shock load during operation	Tested according to IEC 60068-2-27, IEC 60068-2-29: half-sine: 50 m/s $^2$ (5 g), 30 ms, 100 shocks per axis
Operating systems	
pre-installed operating system	Windows 7 Ultimate, multi-language (32-bit/64-bit), Windows 10 Enterprise 2015 LTSB, multi-language (64-bit), Windows 10 Enterprise 2016 LTSB, multi-language (64-bit), Windows Server 2008 R2 Standard Edition incl. 5 clients, multi-language (64-bit); Windows Server 2012 R2 Standard Edition incl. 5 clients, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 clients, multi-language (64-bit)
Additional info on operating system	Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)
without operating system	Yes
Software	
SIMATIC Software	Optionally in package with SIMATIC WinCC or WinCC flexible
Dimensions	
Width	430 mm
Height	88 mm; 2U
Depth	444 mm

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