


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 RAID1, 1 TB (2x 1 TB HDD SATA, mirror disks), in removable frame, hot swap; front-side 16 GB DDR3 SD-RAM (2x 8 GB), Dual channel Bus module, 2 slots: 2x PCIE X16; without HW expansions without expansion (HW); Graphics onboard Windows Server 2016 Standard edition including 5 clients, 64 bit, MUI (en/de/fr/it/es); SIMATIC PC DiagMonitor V5.0 enclosed 110/240V industrial power supply unit; with NAMUR, Power supply cable USA

| Installation type/mounting | |
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| Mounting | For horizontal installation; prepared for telescopic rails; 19" mounting bracket can be removed externally |
| Design | Rack PC, 19", 2U |
| Supply voltage | |
| Type of supply voltage | 100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC |
| Line frequency | |
| <ul style="list-style-type: none"> Rated value 50 Hz Rated value 60 Hz | Yes Yes |
| Mains buffering | |
| <ul style="list-style-type: none"> Mains/voltage failure stored energy time | 20 ms |
| 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 i3-4330TE (2C/4T, 2.4 GHz, 4 MB cache) |
| Chipset | Intel DH82C226 PCH |
| Graphic | |
| 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) 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 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. | 32 Gbyte |
| Hardware configuration | |
| Slots | |
| <ul style="list-style-type: none"> 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 |

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| serial interface | COM1: 1x RS 232, COM2 (optional): 1x RS 232 |
| parallel interface | optional LPT1 |
| Multimedia | |
| • Audio In/Out | Yes |
| • Microphone In | Yes |
| Video interfaces | |
| • 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 | |
| • Industrial Ethernet interface | 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 |
| • 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 - 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 61000-4-4, burst; ±2 kV acc. to IEC 61000-4-5, surge |
| • Interference immunity on signal cables < 30m | ±1 kV acc. to IEC 61000-4-4, Burst |
| 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, 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 | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered |
| Marine approval | |
| • Germanischer Lloyd (GL) | Yes; Only with SSD |
| • American Bureau of Shipping (ABS) | Yes; Only with SSD |
| • Bureau Veritas (BV) | Yes; Only with SSD |

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| <ul style="list-style-type: none"> • Det Norske Veritas (DNV) • Lloyds Register of Shipping (LRS) | <p>Yes; Only with SSD</p> <p>Yes; Only with SSD</p> |
| Ambient conditions | |
| Ambient temperature during operation | |
| <ul style="list-style-type: none"> • Ambient temperature during operation | 0 ... 50 °C no ODD operation, no HDD operation in swap frame, no hardware RAID controller; 0 ... 45 °C no ODD operation, no hardware RAID controller, power loss of expansion cards in total < 55 W; 0 ... 40 °C no hardware RAID controller, power loss of the expansion cards in total < 55 W; 0 ... 35 °C no restrictions |
| Ambient temperature during storage/transportation | |
| <ul style="list-style-type: none"> • min. • max. | <p>-20 °C</p> <p>60 °C</p> |
| Relative humidity | |
| <ul style="list-style-type: none"> • Relative humidity | tested to IEC 60068-78, DIN IEC 68-2-30: 5 % to 80 % at 25 °C (no condensation) |
| Vibrations | |
| <ul style="list-style-type: none"> • Vibration resistance during operation acc. to IEC 60068-2-6 | 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/s ² (0.5 g) |
| Shock testing | |
| <ul style="list-style-type: none"> • 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 LTSC, multi-language (64-bit), Windows 10 Enterprise 2016 LTSC, 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 |
| last modified: | 4/21/2021  |