

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 with PROFINET (3x RJ45, CP 1616-compatible) RAID1, 1 TB (2x 1 TB HDD SATA, mirror disks), in removable frame, hot swap; front-side 32 GB DDR3 SD-RAM (4x 8 GB), Dual channel Bus module 2 slots: 2x PCIE X16; DVD +/-RW (SLIM) without expansion (HW); Graphics onboard Windows Server 2012 R2 Standard Edition incl. 5 clients, 64 bit, MUI (de, en, fr, es, it) without software 110/240V industrial power supply unit; with NAMUR, Power supply cable China

| Installation type/mounting                 |                                                                                                                                                                                |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                             |                                                                                                                                                                                |
| • Rated value 50 Hz                        | Yes                                                                                                                                                                            |
| • Rated value 60 Hz                        | Yes                                                                                                                                                                            |
| Mains buffering                            |                                                                                                                                                                                |
| • 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) |
| <b>Memory</b>                                                                                                                                                         |                                                                                                                                                                                                                           |
| Main memory                                                                                                                                                           | 2 GB to 32 GB DDR3-1600 DIMM, ECC optional                                                                                                                                                                                |
| Capacity of main memory, max.                                                                                                                                         | 32 Gbyte                                                                                                                                                                                                                  |
| <b>Hardware configuration</b>                                                                                                                                         |                                                                                                                                                                                                                           |
| <b>Slots</b>                                                                                                                                                          |                                                                                                                                                                                                                           |
| <ul style="list-style-type: none"> <li>free slots</li> </ul>                                                                                                          | 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                                        |
| <b>Interfaces</b>                                                                                                                                                     |                                                                                                                                                                                                                           |
| 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                                                                                                                                                            |                                                                                                                                                                                                                           |
| <ul style="list-style-type: none"> <li>Audio In/Out</li> <li>Microphone In</li> </ul>                                                                                 | Yes<br>Yes                                                                                                                                                                                                                |
| <b>Video interfaces</b>                                                                                                                                               |                                                                                                                                                                                                                           |
| <ul style="list-style-type: none"> <li>Graphics interface</li> </ul>                                                                                                  | 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)                                               |
| <b>Industrial Ethernet</b>                                                                                                                                            |                                                                                                                                                                                                                           |
| <ul style="list-style-type: none"> <li>Industrial Ethernet interface</li> <li>— 100 Mbps</li> <li>— 1000 Mbps</li> </ul>                                              | 2x Ethernet (RJ45)<br>Yes<br>Yes                                                                                                                                                                                          |
| <b>Integrated Functions</b>                                                                                                                                           |                                                                                                                                                                                                                           |
| <b>Monitoring functions</b>                                                                                                                                           |                                                                                                                                                                                                                           |
| <ul style="list-style-type: none"> <li>Temperature monitoring</li> <li>Watchdog</li> <li>Status LEDs</li> <li>Fan</li> <li>Monitoring function via network</li> </ul> | Yes<br>Yes<br>POWER, HDD, ETHERNET 1, ETHERNET 2, PROFIBUS / MPI, SF PROFINET, WATCHDOG, TEMP, FAN, HDD0 ALARM, HDD1 ALARM<br>Yes<br>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                                                                                                                                                                   |

- Det Norske Veritas (DNV)
- Lloyds Register of Shipping (LRS)

Yes; Only with SSD

Yes; Only with SSD

## Ambient conditions

### Ambient temperature during operation

- 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

- min.
  - max.
- 20 °C  
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

- 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<sup>2</sup> (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<sup>2</sup> (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:

11/02/2020