

# Industrial Computing

## Rack PC

### Introduction

#### Overview



Rack IPCs are flexible, expandable, high-availability industrial PC systems for powerful yet compact applications using 19-inch technology for 24-hour continuous duty.

The new classification of Rack IPCs allows customers to easily select devices that are precisely focused on an application without having to compromise on the desired configuration.

The following 3 device classes are available for various requirements:

| Device classes    | Product name | Product description   | Focus applications   |
|-------------------|--------------|---|--|
| Server class      | IPC RS-xxx   | <ul style="list-style-type: none"> <li>High availability system with remote manageability</li> <li>Computing power and expandability with AI accelerator</li> <li>Server operating system</li> <li>RAID 1/5 configurations</li> <li>Storage and network capability</li> <li>Redundant power supply units</li> </ul> | Computationally-intensive CPU/GPU-heavy applications with advanced manageability: <ul style="list-style-type: none"> <li>Virtualization</li> <li>Artificial intelligence (AI) training</li> <li>Shopfloor micro data centers</li> <li>Network appliances</li> </ul>    |
| Workstation class | IPC RW-xxx   | <ul style="list-style-type: none"> <li>Computing power and expandability with high-end graphics cards</li> <li>Desktop operating system</li> <li>RAID 1 configurations</li> <li>Redundant optional power supply units</li> </ul>  | Complex and graphically demanding applications: <ul style="list-style-type: none"> <li>Industrial image processing</li> <li>Artificial intelligence (AI) inference</li> <li>Simulation</li> <li>SCADA/visualization</li> <li>Instrumentation and monitoring</li> </ul> |
| Client class      | IPC RC-xxx   | <ul style="list-style-type: none"> <li>Cost-optimized product</li> <li>Expandability with one graphics card for multi-monitoring</li> <li>Desktop operating system</li> </ul>   | Simple applications: <ul style="list-style-type: none"> <li>Visualization / HMI</li> <li>Instrumentation and monitoring</li> </ul>   |

Different platforms are provided for performance requirements, which can also be found in the product name:

| Processor performance | Product name | Platform properties                                 | Power |
|-----------------------|--------------|---|-------|
| > 95 Watt, 2 bases    | IPC Rx-8xx   | Memory expansion up to 6 TB, no integrated graphics | ***   |
| > 95 Watt, 1 base     | IPC Rx-7xx   | Memory expansion up to 4 TB, no integrated graphics | **    |
| > 35-65 Watt, 1 base  | IPC Rx-5xx   | Memory expansion up to 128 GB, integrated graphics  | *     |

In each device class, devices with different range of functions stand for the properties according to the following numbering:

| Scope of functions | Product name       | Properties, e.g.   | Price |
|--------------------|--------------------|--|-------|
| Premium            | IPC Rx-xx <b>8</b> | <ul style="list-style-type: none"> <li>Higher robustness (temperature, shock/vibration)</li> <li>Advanced efficient self-diagnostics and status LEDs</li> <li>Highest expandability</li> <li>Additional certifications or approvals</li> <li>Extended availability of spare parts and repairs</li> </ul> | ***   |
| Medium             | IPC Rx-xx <b>5</b> | <ul style="list-style-type: none"> <li>Standard robustness (temperature, shock/vibration)</li> <li>User-friendly enclosure concept and status LEDs</li> <li>Standard availability of spare parts and repair</li> </ul>   | **    |
| Basic              | IPC Rx-xx <b>3</b> | <ul style="list-style-type: none"> <li>Standard robustness (temperature, shock/vibration)</li> <li>Standard availability of spare parts and repair</li> </ul>  | *     |

#### New devices. New names.

**SIMATIC IPC RS-828, IPC1047** - maximum system performance and expandability

**SIMATIC IPC847** - maximum expandability and industrial functionality

**SIMATIC IPC647** - maximum compactness combined with maximum industrial functionality

**SIMATIC IPC RW-545, IPC547** - latest technology and maximum performance at an attractive price

**SIMATIC IPC RW-543, IPC347** - high performance at an optimized price

# Industrial Computing

## Rack PC

### Introduction

#### Technical specifications

| Article number                             | <b>6AG4011-3....-...1</b><br>SIMATIC IPC RW-543A   | <b>6AG4012-2....-0.X0</b><br>SIMATIC IPC347G<br>(Rack PC, 19, 4HE) | <b>6AG4105-6....-....</b><br>SIMATIC IPC RS-545A  | <b>6AG4104-6....-....</b><br>SIMATIC IPC RW-545A  | <b>6AG4103-6....-....</b><br>SIMATIC IPC RC-545A  |
|--|--|--|---|---|---|
| <b>General information</b>                 |  |  |   |   |   |
| Product type designation                   | RW-543A  | IPC347G  | RS-545A   | RW-545A   | RC-545A   |
| <b>Installation type/mounting</b>          |  |  |   |   |   |
| Mounting                                   | for horizontal or vertical installation  | For horizontal and vertical mounting                               | For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional) | For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)   | For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)                           |
| Design                                     | Rack PC, 19", 4U   | Rack PC, 19", 4U   | Rack PC, 19", 4U  | Rack PC, 19", 4U  | Rack PC, 19", 4U  |
| <b>Supply voltage</b>                      |  |  |   |   |   |
| Type of supply voltage                     | 100 - 240 V AC   | 100 - 240 V AC   | 100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC  | 100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC  | 100/240V AC (autorange) 50/60 Hz  |
| <b>Line frequency</b>                      |  |  |   |   |   |
| • Rated value 50 Hz                        | Yes  | Yes  | Yes   | Yes   | Yes   |
| • Rated value 60 Hz                        | Yes  | Yes  | Yes   | Yes   | Yes   |
| <b>Mains buffering</b>                     |  |  |   |   |   |
| • Mains/voltage failure stored energy time |  |  | 20 ms   | 20 ms   | 20 ms   |
| <b>Processor</b>                           |  |  |   |   |   |
| Processor type                             | Pentium 6400 (2C/4T, 4.0 GHz, 4 MB Cache) / Intel Core i3-10100E (4C/8T, 3.2 (3.8) GHz, 6 MB Cache) / Intel Core i5-10500E (6C/12T, 3.1 (4.2) GHz, 12 MB Cache) / Intel Core i7-10700E (8C/16T, 2.9 (4.5) GHz, 16 MB Cache) / Intel Core i9-10900E (10C/20T, 2.8 (4.7) GHz, 20 MB Cache) | Core i7-6700 (4C/4T, 3.6 (4.0) GHz, 8 MB Cache)                    | Core i5-12500E 6C(4P)/12T, 2.9 (4.5) GHz, 18 MB cache; Core i3-12100E 4C(4P)/8T, 3.2 (4.2) GHz, 12 MB cache;                                  | Core i9-12900E 16C(8P+8E)/24T, 2.3 (5.0) GHz, 30 MB cache; Core i7-12700E 12C(8P+4E)/20T, 2.1 (4.8) GHz, 25 MB cache; Core i5-12500E 6C(4P)/12T, 2.9 (4.5) GHz, 18 MB cache; Core i5-12500E 6C(4P)/12T, 2.9 (4.5) GHz, 18 MB cache; Core i3-12100E 4C(4P)/8T, 3.2 (4.2) GHz, 12 MB cache; | Core i7-12700E 12C(8P+4E)/20T, 2.1 (4.8) GHz, 25 MB cache; Core i5-12500E 6C(6P)/12T, 2.9 (4.5) GHz, 18 MB cache; Core i3-12100E 4C(4P)/8T, 3.2 (4.2) GHz, 12 MB cache; |
| Chipset                                    | Intel Q470   | Intel H110   | Intel R680E   | Intel R680E   | Intel H610E   |
| <b>Graphic</b>                             |  |  |   |   |   |
| Graphics controller                        |  |  | Intel® UHD Graphics 730 / 770   | Intel® UHD Graphics 730 / 770   | Intel® UHD Graphics 730 / 770   |
| Graphics card                              |  |  | No  | Yes; NVIDIA T400, RTX A2000, RTX A4000, RTX A5000   | Yes; NVIDIA T400  |

# Industrial Computing

## Rack PC

### Introduction

### Technical specifications

| Article number                | 6AG4011-3.....-1                                  | 6AG4012-2.....-0.X0  | 6AG4105-6.....-.....  | 6AG4104-6.....-.....  | 6AG4103-6.....-.....  |
|-------------------------------|---|--|---|---|---|
|                               | SIMATIC IPC RW-543A                               | SIMATIC IPC347G (Rack PC, 19, 4HE)                                       | SIMATIC IPC RS-545A   | SIMATIC IPC RW-545A   | SIMATIC IPC RC-545A   |
| <b>Drives</b>                 |   |  |   |   |   |
| Hard disk                     | HDD & SSD   | HDD & SSD  | 1x 2 TB HDD 3.5" SATA, RAID1;<br>2x 2 TB HDD [Enterprise] 3.5" SATA, RAID1;<br>2x 4 TB HDD [Enterprise] 3.5" SATA, RAID1;<br>2x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare, RAID5;<br>3x 4 TB HDD [Enterprise] 3.5" SATA, RAID5;<br>3x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare | 1x 2 TB HDD 3.5" SATA, 2x 2 TB HDD 3.5" SATA, RAID1 2x 2 TB HDD [Enterprise] 3.5" SATA, RAID1 2x 4 TB HDD [Enterprise] 3.5" SATA  | 1x 2 TB HDD 3.5" SATA, 2x 2 TB HDD 3.5" SATA  |
| SSD                           |   |  | Yes; 1x 960 GB 2.5" SATA SSD, RAID1;<br>2x 480 GB 2.5" SATA SSD, RAID1;<br>2x 960 GB 2.5" SATA SSD, 1x 1024 GB M.2 NVMe SSD, RAID1;<br>2x 512 GB M.2 NVMe SSD, RAID1;<br>2x 1024 GB M.2 NVMe SSD  | Yes; 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 960 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD, RAID1 2x 960 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1024 GB M.2 NVMe SSD, 2x 1024 GB M.2 NVMe SSD         | Yes; 1x 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 960 GB 2.5" SATA SSD  |
| Slot for drives               |   |  | Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional   | Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional | mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays in drive cage Type A; mounting internally on the fixed drive cage optional |
| <b>Memory</b>                 |   |  |   |   |   |
| Main memory                   | 4 GB to 128 GB DDR4 2666 SDRAM DIMM, ECC optional | 4 / 8 / 16 GB, supports up to 32 GB                                      | 8 GB to 128 GB DDR5 4800 SDRAM DIMM   | 8 GB to 128 GB DDR5 4800 SDRAM DIMM   | 8 GB to 64 GB DDR5 4800 SDRAM DIMM  |
| <b>Hardware configuration</b> |   |  |   |   |   |
| <b>Slots</b>                  |   |  |   |   |   |
| • free slots                  | 2x PCI, 3x PCIe*4, 2x PCIe*16                     | 3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane) | 7 free slots for expansions (all long); 2x PCIe x16 (1 x 16 or 2 x 8 lanes) Gen 4; 1x PCIe x8 (4 lanes) Gen 3; 1x PCIe x4 (4 lanes) Gen 3; 1x PCIe x4 (4 lanes) Gen 4; 1x PCIe x4 (4 lanes) Gen 4; 1x PCI   | 7 free slots for expansions (all long); 2x PCIe x16 (1 x 16 or 2 x 8 lanes) Gen 4; 1x PCIe x8 (4 lanes) Gen 3; 1x PCIe x4 (4 lanes) Gen 3; 1x PCIe x4 (4 lanes) Gen 4; 1x PCIe x4 (4 lanes) Gen 4; 1x PCI                   | 7 spare slots for expansions (all long); 1x PCIe x16 (16L) Gen4; 1x PCIe x16 (2L) Gen3; 1x PCIe x8 (1L) Gen3; 2x PCIe x4 (1L) Gen3; 2x PCI  |

# Industrial Computing

## Rack PC

### Introduction

### Technical specifications

| Article number                                   | 6AG4011-3....-...1<br>SIMATIC IPC RW-543A  | 6AG4012-2....-0.X0<br>SIMATIC IPC347G<br>(Rack PC, 19, 4HE)                                    | 6AG4105-6....-.....<br>SIMATIC IPC RS-545A  | 6AG4104-6....-.....<br>SIMATIC IPC RW-545A  | 6AG4103-6....-.....<br>SIMATIC IPC RC-545A   |
|--|--|--|---|---|--|
| <b>Interfaces</b>                                |  |  |   |   |  |
| Interfaces/bus type                              |  |  | 2x Gigabit Ethernet (IE/PN), RJ 45, teaming-capable;<br>1x 2.5 Gigabit Ethernet (IE/PN), RJ 45, teaming-capable;<br>USB 3.2 Gen 2:<br>4x type A, USB 3.2 Gen 2x2: 2x type C, on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 2x internal e.g. for software dongle with option interlock,<br>3x DisplayPort V1.4a, 1x DVI-D, 1x COM1 and 1x COM2 (optional), audio: line in, line out, micro | 2x Gigabit Ethernet (IE/PN), RJ 45, teaming-capable;<br>1x 2.5 Gigabit Ethernet (IE/PN), RJ 45, teaming-capable;<br>USB 3.2 Gen 2:<br>4x type A, USB 3.2 Gen 2x2: 2x type C, on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 2x on front, USB 2.0: 2x internal e.g. for software dongle with option interlock,<br>3x DisplayPort V1.4a, 1x DVI-D, 1x COM1 and 1x COM2 (optional), audio: line in, line out, micro | 1x Gigabit Ethernet (IE/PN), RJ 45, teaming-capable;<br>USB 3.2 Gen 1: 2x type A on rear, USB 2.0: 2x type A on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 1x internal e.g. for software dongle with option interlock,<br>2x DisplayPort V1.4a, 1x DVI-D, 1x COM1, 1x COM2 and 1x COM3 (optional), audio: line in, line out, micro |
| PROFIBUS/MPI                                     |  |  |   |   |  |
| USB port   | 4x USB3.2 and 2x USB2.0 on rear panel, 2x USB2.0 on front panel, 1x USB2.0 vertical and 2x USB2.0 on motherboard | 4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB | USB 3.2 Gen 2: 4x type A, USB 3.2 Gen 2x2: 2x type C, on rear;<br>2x USB 3.1 Gen. 2 type A internally, e.g. for software dongle with optional interlock;<br>2x USB 3.1 Gen. 1 type A on the front, can be used with door closed   | USB 3.2 Gen 2: 4x type A, USB 3.2 Gen 2x2: 2x type C, on rear;<br>2x USB 3.1 Gen. 2 type A internally, e.g. for software dongle with optional interlock;<br>2x USB 3.1 Gen. 1 type A on the front, can be used with door closed   | USB 3.2 Gen 1: 2x type A on rear, USB 2.0: 2x type A on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 1x internal   |
| Connection for keyboard/mouse                    | PS/2 or USB; PS/2 or USB   | 2x PS/2  | USB   | USB   | USB  |
| serial interface version                         | 1x RS232 on the rear panel, 3x RS232, 1x RS232/RS422/RS485, 1x RS232/RS485 on the motherboard                    | 2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header                                    | COM1 (optional): 1x RS 232 or RS 485; COM2 (optional) 1x RS 232   | COM1 (optional): 1x RS 232 or RS 485; COM2 (optional) 1x RS 232   | COM1: 1x RS 232 or RS 485; COM2 and COM3 (optional) 1x RS 232  |
| Multimedia                                       |  |  |   |   |  |
| • Audio In/Out                                   | Yes  | Yes  | Yes   | Yes   | Yes  |
| • Microphone In                                  | Yes  | Yes  | Yes   | Yes   | Yes  |
| <b>Video interfaces</b>                          |  |  |   |   |  |
| • Graphics interface                             | 1x VGA, 1x DVI-D, 1x HDMI  | 1x DisplayPort, 1x VGA   | 3x DisplayPort; 1x DVI-D  | 3x DisplayPort; 1x DVI-D  | 2x DisplayPort; 1x DVI-D   |
| <b>Industrial Ethernet</b>                       |  |  |   |   |  |
| • Industrial Ethernet interface                  |  |  | 3x Ethernet (RJ45)  | 3x Ethernet (RJ45)  | 2x Ethernet (RJ45)   |
| - 100 Mbps                                       | Yes  | Yes  | Yes   | Yes   | Yes  |
| - 1000 Mbps                                      | Yes  | Yes  | Yes   | Yes   | Yes  |
| • number of interfaces (1 000 Mbps)              |  |  | 2   | 2   | 2  |
| • number of interfaces (2 500 Mbps)              |  |  | 1   | 1   |  |
| <b>Interrupts/diagnostics/status information</b> |  |  |   |   |  |
| LED status display                               | POWER, HDD   | POWER, HDD   | POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM   | POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM   | POWER, HDD, ETHERNET 1, ETHERNET 2, WATCHDOG, TEMP, FAN  |
| <b>Integrated Functions</b>                      |  |  |   |   |  |
| <b>Monitoring functions</b>                      |  |  |   |   |  |
| • Temperature monitoring                         |  |  | Yes   | Yes   | Yes  |
| • Watchdog                                       |  |  | Yes   | Yes   | Yes  |
| • Fan  |  |  | Yes   | Yes   | Yes  |
| • Monitoring function via network                |  |  |   |   |  |

# Industrial Computing

## Rack PC

### Introduction

#### Technical specifications

| Article number   | 6AG4011-3....-...1   | 6AG4012-2....-0.X0   | 6AG4105-6....-.....  | 6AG4104-6....-.....  | 6AG4103-6....-.....  |
|--|--|--|--|--|--|
|  | SIMATIC IPC RW-543A  | SIMATIC IPC347G<br>(Rack PC, 19, 4HE)  | SIMATIC IPC RS-545A  | SIMATIC IPC RW-545A  | SIMATIC IPC RC-545A  |
| <b>EMC</b>   |  |  |  |  |  |
| <b>Interference immunity against discharge of static electricity</b> <ul style="list-style-type: none"> <li>Interference immunity against discharge of static electricity</li> </ul>   | ±4 kV contact discharge (acc. to IEC 1000-4-2: 1995); ±8 kV contact discharge (acc. to IEC 1000-4-2: 1995)   | ±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2   | ±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2   | ±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2   | ±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2   |
| <b>Interference immunity against high-frequency electromagnetic fields</b> <ul style="list-style-type: none"> <li>Interference immunity against high frequency radiation</li> </ul>  | 10 V/m for 80 - 1 000 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 1 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 150 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6 | 10 V/m, 80 MHz to 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6 | 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 | 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 | 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 |
| <b>Interference immunity to cable-borne interference</b> <ul style="list-style-type: none"> <li>Interference immunity on supply cables</li> <li>Interference immunity on signal cables &gt;30m</li> <li>Interference immunity on signal cables &lt; 30m</li> </ul> | ±2 kV (according to IEC 61000-4-4; burst); ±0,5 kV (according to IEC 61000-4-5; surge pulse/line to line); ±1 kV (according to IEC 61000-4-5; surge pulse/line to ground)  | ±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                                    | ±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  | ±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  | ±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  |
| <b>Interference immunity against voltage surge</b> <ul style="list-style-type: none"> <li>asymmetric interference</li> <li>symmetric interference</li> </ul>   | ±2 kV acc. to IEC 61000-4-5, surge asymmetric  | ±2 kV acc. to IEC 61000-4-5, surge asymmetric  | ±2 kV acc. to IEC 61000-4-5, surge asymmetric  | ±2 kV acc. to IEC 61000-4-5, surge asymmetric  | ±2 kV acc. to IEC 61000-4-5, surge asymmetric  |
| <b>Interference immunity to magnetic fields</b> <ul style="list-style-type: none"> <li>Interference immunity to magnetic fields at 50 Hz</li> </ul>  |  |  | 30 A/m; to IEC 61000-4-8   | 30 A/m; to IEC 61000-4-8   | 30 A/m; to IEC 61000-4-8   |
| <b>Emission of conducted and non-conducted interference</b> <ul style="list-style-type: none"> <li>Interference emission via line/ AC current cables</li> </ul>  | IEC 61000-6-4, CISPR 22, FCC Class A   | IEC 61000-6-4, CISPR 22, FCC Class A   | EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3   | EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3   | EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3   |
| <b>Compliance with line harmonic distortion limits</b> <ul style="list-style-type: none"> <li>Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3</li> </ul>   | Yes; EN 61000-3-2 Class D; EN 61000-3-3  | Yes; EN 61000-3-2 Class D; EN 61000-3-3  | Yes; EN 61000-3-2 Class D; EN 61000-3-3  | Yes; EN 61000-3-2 Class D; EN 61000-3-3  | Yes; EN 61000-3-2 Class D; EN 61000-3-3  |

# Industrial Computing

## Rack PC

### Introduction

#### Technical specifications

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|---|---|--|--|--|--|
| <b>Degree and class of protection</b>     |   |  |  |  |  |
| IP (at the front)                         | IP20  | IP20   | IP30   | IP30   | IP30   |
| IP (rear)                                 | IP20  | IP20   | IP20   | IP20   | IP20   |
| <b>Standards, approvals, certificates</b> |   |  |  |  |  |
| 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) | 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) | 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) |
| UKCA mark                                 |   |  |  | Yes  |  |
| CSA approval                              |   |  | Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition  | Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition  | Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition  |
| UL approval                               |   |  | UL 61010-2-201 Second Edition, File E85972   | UL 61010-2-201 Second Edition, File E85972   | UL 61010-2-201 Second Edition, File E85972   |
| cULus                                     |   |  | Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition   | Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition   | Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition   |
| RCM (formerly C-TICK)                     |   |  | Yes  | Yes  | Yes  |
| KC approval                               |   |  | Yes; in preparation  | Yes  | Yes; in preparation  |
| EAC (formerly Gost-R)                     |   |  | Yes  |  | Yes  |
| FCC                                       |   |  | Yes  |  | Yes  |
| BSMI                                      |   |  |  |  |  |
| EMC                                       |   |  | EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3   | EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3   | EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3   |
| Dust protection                           |   |  | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered  | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered  | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered  |
| <b>Marine approval</b>                    |   |  |  |  |  |
|   | <ul style="list-style-type: none"> <li>• Germanischer Lloyd (GL)</li> <li>• American Bureau of Shipping (ABS)</li> <li>• Bureau Veritas (BV)</li> <li>• Det Norske Veritas (DNV)</li> </ul> |  |  |  |  |

# Industrial Computing

## Rack PC

### Introduction

#### Technical specifications

| Article number  | 6AG4011-3.....-1<br>SIMATIC IPC RW-543A | 6AG4012-2.....-0.X0<br>SIMATIC IPC347G<br>(Rack PC, 19, 4HE) | 6AG4105-6.....-.....<br>SIMATIC IPC RS-545A   | 6AG4104-6.....-.....<br>SIMATIC IPC RW-545A   | 6AG4103-6.....-.....<br>SIMATIC IPC RC-545A   |
|---|---|--|---|---|---|
| <b>Ambient conditions</b>                                     |   |  |   |   |   |
| <b>Ambient temperature during operation</b>                   |   |  |   |   |   |
| • min.  | 5 °C                                    | 5 °C   | 0 °C; Max. 10 °C/h<br>(no condensation)   | 0 °C; Max. 10 °C/h<br>(no condensation)   | 0 °C; Max. 10 °C/h<br>(no condensation)   |
| • max.  | 40 °C                                   | 40 °C  | 40 °C   | 40 °C   | 40 °C   |
| <b>Relative humidity</b>                                      |   |  |   |   |   |
| • Relative humidity   |   |  | tested according to IEC 60068-2-78, IEC 60068-2-30: operation: 0 °C to 31 °C: 5-85%; decreasing linearly to 5-50% at 40 °C (no condensation), storage/transportation: 5% to 95% at 25 °C to 55 °C (gradient: ≤ 20 K/h; no condensation) | tested according to IEC 60068-2-78, IEC 60068-2-30: operation: 0 °C to 31 °C: 5-85%; decreasing linearly to 5-50% at 40 °C (no condensation), storage/transportation: 5% to 95% at 25 °C to 55 °C (gradient: ≤ 20 K/h; no condensation) | tested according to IEC 60068-2-78, IEC 60068-2-30: operation: 0 °C to 31 °C: 5-85%; decreasing linearly to 5-50% at 40 °C (no condensation), storage/transportation: 5% to 95% at 25 °C to 55 °C (gradient: ≤ 20 K/h; no condensation) |
| <b>Vibrations</b>   |   |  |   |   |   |
| • Vibration resistance during operation acc. to IEC 60068-2-6 |   |  | Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s <sup>2</sup> (0.2 g)   | Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s <sup>2</sup> (0.2 g)   | Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s <sup>2</sup> (0.2 g)   |
| <b>Shock testing</b>  |   |  |   |   |   |
| • Shock load during operation                                 |   |  | Tested according to IEC 60068-2-27; half-sine: 9.8 m/s <sup>2</sup> (1 g), 20 ms, 100 shocks per axis   | Tested according to IEC 60068-2-27; half-sine: 9.8 m/s <sup>2</sup> (1 g), 20 ms, 100 shocks per axis   | Tested according to IEC 60068-2-27; half-sine: 9.8 m/s <sup>2</sup> (1 g), 20 ms, 100 shocks per axis   |
| <b>Operating systems</b>                                      |   |  |   |   |   |
| pre-installed operating system                                |   |  | Server 2022 Standard Edition incl. 5 clients, multi-language (64-bit)   | Windows 10 IoT Enterprise 2021 LTSC   | Windows 10 IoT Enterprise 2021 LTSC   |
| Additional info on operating system                           |   |  | Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)  | Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)  | Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)  |
| without operating system                                      | Yes                                     |  | Yes   | Yes   | Yes   |
| <b>Software</b>   |   |  |   |   |   |
| SIMATIC Software  |   |  |   | Optional package with SIMATIC WinCC   | Optional package with SIMATIC WinCC   |
| <b>Dimensions</b>   |   |  |   |   |   |
| Width   | 430 mm                                  | 430 mm   | 430 mm  | 430 mm  | 430 mm  |
| Height  | 176 mm; 4U                              | 176 mm   | 177 mm; 4U  | 177 mm; 4U  | 177 mm; 4U  |
| Depth   | 465.8 mm                                | 465.8 mm   | 446 mm  | 446 mm  | 446 mm; Device with short enclosure: 356 mm   |

# Industrial Computing

## Rack PC

### Introduction

### Technical specifications

| Article number                             | <b>6AG4104-5....-....</b><br>SIMATIC IPC547J  | <b>6AG4112-3....-....</b><br>SIMATIC IPC647E<br>(Rack PC)  | <b>6AG4114-3....-....</b><br>SIMATIC IPC847E<br>(Rack PC)  | <b>6AG4102-0....-....</b><br>SIMATIC IPC RS-828A   | <b>6BK1801-1....-....</b><br>SIMATIC IPC1047E<br>(Rack PC)   |
|--|---|--|--|--|--|
| <b>General information</b>                 |   |  |  |  |  |
| Product type designation                   | IPC547J   | IPC647E  | IPC847E  | IPC RS-828A  | IPC1047E   |
| <b>Installation type/mounting</b>          |   |  |  |  |  |
| Mounting                                   | For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)   | For horizontal installation; prepared for telescopic rails; 19" mounting bracket can be removed externally   | For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)  | For horizontal rack mounting   | For horizontal rack mounting   |
| Design                                     | Rack PC, 19", 4U  | Rack PC, 19", 2U   | Rack PC, 19", 4U   | Rack PC, 19", 2U   | Rack PC, 19", 4U   |
| <b>Supply voltage</b>                      |   |  |  |  |  |
| Type of supply voltage                     | 100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC  | 100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC   | 100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC   | AC redundant 100/240 V (autorange) 50 Hz/60 Hz   | 110/230V AC (autorange) 50/60 Hz   |
| <b>Line frequency</b>                      |   |  |  |  |  |
| • Rated value 50 Hz                        | Yes   | Yes  | Yes  | Yes  | Yes  |
| • Rated value 60 Hz                        | Yes   | Yes  | Yes  | Yes  | Yes  |
| <b>Mains buffering</b>                     |   |  |  |  |  |
| • Mains/voltage failure stored energy time | 20 ms   | 20 ms  | 20 ms  | 5 ms   | 20 ms  |
| <b>Processor</b>                           |   |  |  |  |  |
| Processor type                             | Intel Xeon W-1270E (8C/16T, 3.4 (4.8) GHz, 16 MB Cache); Intel Core i9-10900E (10C/20T, 2.8 (4.7) GHz, 20 MB Cache); Intel Core i7-10700E (8C/16T, 2.9 (4.5) GHz, 16 MB Cache); Intel Core i5-10500E (6C/12T, 3.1 (4.2) GHz, 12 MB Cache); Intel Core Core i3-10100E (4C/8T, 3.2 (3.8) GHz, 6 MB Cache) | Intel Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB Cache, VT-x/-d-Technology) | Intel Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB Cache, VT-x/-d-Technology) | Dual Socket SP5 - 2x AMD EPYC™ 9454 Embedded Series Server Processors - max. 400 W cTDP, 48 Cores/each; Dual Socket SP5 - 2x AMD EPYC™ 9354 Embedded Series Server Processors - max. 300 W cTDP, 32 Cores/each; Dual Socket SP5 - 2x AMD EPYC™ 9254 Embedded Series Server Processors - max. 240 W cTDP, 24 Cores/each; Dual Socket SP5 - 2x AMD EPYC™ 9124 Embedded Series Server Processors - max. 240 W cTDP, 16 Cores/each | 2x Intel Xeon SP Silver 4210 10C/20T - 2.2 GHz/ 3.2 GHz; 2x Intel Xeon SP Silver 4216 16C/32T - 2.1 GHz/ 3.2 GHz; 2x Intel Xeon SP Gold 6226 12C/24T - 2.7 GHz/ 3.7 GHz; 2x Intel Xeon SP Gold 6230 20C/40T - 2.1 GHz/ 3.9 GHz |
| Chipset                                    | Intel W480E / Intel H410  | Intel C246   | Intel C246   | SoC  | Intel C621   |
| <b>Graphic</b>                             |   |  |  |  |  |
| Graphics controller                        | Intel® UHD Graphics 630   | Onboard Intel UHD graphics P630/630 integrated in processor; graphics card NVIDIA Quadro P400 PCIe (x16) triple head (optional)  | Onboard Intel UHD graphics P630/630 integrated in processor; graphics card NVIDIA Quadro P400 PCIe (x16) triple head (optional)  | ASPEED AST2600 Graphics Family (WDDM)  | Onboard VGA / 2D controller 1 920 x 1 200 @ 60 Hz 32 bpp   |
| Graphics card                              | Yes; NVIDIA T400, Quadro RTX P2200, Quadro RTX 4000   |  |  | Yes; NVIDIA A100, NVIDIA H100, NVIDIA L4, NVIDIA L40   | Yes; NVIDIA Quadro P620, RTX4000, RTX5000 and RTX A4000  |

# Industrial Computing

## Rack PC

### Introduction

### Technical specifications

| Article number  | 6AG4104-5.....-....  | 6AG4112-3.....-....   | 6AG4114-3.....-....   | 6AG4102-0.....-....   | 6BK1801-1.....-....   |
|-----------------|--|---|---|---|---|
|                 | SIMATIC IPC547J  | SIMATIC IPC647E<br>(Rack PC)  | SIMATIC IPC847E<br>(Rack PC)  | SIMATIC IPC RS-828A   | SIMATIC IPC1047E<br>(Rack PC)   |
| <b>Drives</b>   |  |   |   |   |   |
| Hard disk       | 1 TB HDD 3.5" SATA,<br>2x 1 TB HDD 3.5"<br>SATA, 1 TB HDD 3.5"<br>SATA + 960 GB SSD<br>2.5" SATA, RAID1,<br>2x 1 TB HDD 3.5"<br>SATA, RAID1,<br>2x 1 TB HDD<br>[Enterprise] 3.5" SATA,<br>RAID1,<br>2x 2 TB HDD<br>[Enterprise] 3.5" SATA,<br>RAID1,<br>2x 2 TB HDD<br>[Enterprise] 3.5" SATA<br>+ 2 TB HDD<br>[Enterprise] 3.5" SATA<br>as hot spare, RAID1,<br>2x 2 TB HDD<br>[Enterprise] 3.5" SATA<br>+ 960 GB SSD 2.5"<br>SATA, RAID5,<br>3x 2 TB HDD<br>[Enterprise] 3.5" SATA,<br>RAID5,<br>3x 2 TB HDD<br>[Enterprise] 3.5" SATA<br>+ 2 TB HDD<br>[Enterprise] 3.5" SATA<br>as hot spare | 1x 1 TB 3.5" SATA<br>HDD,<br>2x 1 TB 3.5" SATA<br>HDD,<br>RAID1 2x 1 TB 3.5"<br>SATA HDD,<br>RAID1 2x 1 TB 3.5"<br>SATA HDD<br>(Enterprise),<br>RAID1 2x 2 TB 3.5"<br>SATA HDD<br>(Enterprise),<br>RAID1 2x 2 TB 3.5"<br>SAS HDD (Enterprise)<br>with PCIe x8<br>RAID controller incl.<br>ZMCP module | 1x 1 TB 3.5" SATA<br>HDD,<br>2x 1 TB 3.5" SATA<br>HDD,<br>RAID1 2x 1 TB 3.5"<br>SATA HDD,<br>RAID1 2x 1 TB 3.5"<br>SATA HDD<br>(Enterprise),<br>RAID1 2x 2 TB 3.5"<br>SATA HDD<br>(Enterprise),<br>RAID1 2x 2 TB 3.5"<br>SATA HDD (Enterprise)<br>+ 2 TB 3.5" SATA HDD<br>(Enterprise) as hot<br>spare,<br>RAID5 3x 2 TB 3.5"<br>SATA HDD<br>(Enterprise),<br>RAID5 3x 2 TB 3.5"<br>SATA HDD (Enterprise)<br>+ 2 TB 3.5" SATA HDD<br>(Enterprise) as hot<br>spare,<br>RAID1 2x 2 TB 3.5"<br>SAS HDD (Enterprise)<br>with PCIe x8<br>RAID controller incl.<br>ZMCP module,<br>RAID5 3x 2 TB 3.5"<br>SAS HDD (Enterprise)<br>with PCIe x8<br>RAID controller incl.<br>ZMCP module | 1x 2 TB 2.5" SATA<br>SSD;<br>2x 2 TB 2.5" SATA<br>SSD;<br>4x 2 TB 2.5" SATA<br>SSD;<br>6x 2 TB 2.5" SATA<br>SSD;<br>1x 2 TB 2.5" U.3 NVMe<br>SSD;<br>2x 2 TB 2.5" U.3 NVMe<br>SSD;<br>4x 2 TB 2.5" U.3 NVMe<br>SSD;<br>6x 2 TB 2.5" U.3 NVMe<br>SSD | 4 TB & 8 TB 3.5" SATA   |
| SSD             | Yes;<br>480 GB 2.5" SATA<br>SSD,<br>1x 960 GB 2.5" SATA<br>SSD,<br>2x 480 GB 2.5" SATA<br>SSD,<br>RAID1 2x 480 GB 2.5"<br>SATA SSD,<br>RAID1 2x 960 GB 2.5"<br>SATA SSD;<br>1x 512 GB M.2 NVMe<br>SSD,<br>1x 1 024 GB M.2<br>NVMe SSD  | Yes;<br>1x 480 GB 2.5" SATA<br>SSD,<br>1x 960 GB 2.5" SATA<br>SSD,<br>2x 480 GB 2.5" SATA<br>SSD,<br>RAID1 2x 480 GB 2.5"<br>SATA SSD;<br>1x 512 GB M.2 NVMe<br>SSD, 1x 1 024 GB M.2<br>NVMe SSD  | Yes;<br>1x 480 GB 2.5" SATA<br>SSD,<br>1x 960 GB 2.5" SATA<br>SSD, 2x 480 GB 2.5"<br>SATA SSD,<br>RAID1 2x 480 GB 2.5"<br>SATA SSD;<br>1x 512 GB M.2 NVMe<br>SSD,<br>1x 1 024 GB M.2<br>NVMe SSD  | Yes;<br>1x 1/2 TB SSD M.2<br>NVMe   | Yes;<br>960 GB / 1.9 TB /<br>3.8 TB SATA SSD and<br>1 TB / 2 TB M.2 NVMe<br>and 1.92 TB / 7.68 TB<br>U.3 NVMe SSD             |
| Slot for drives | Mounting internally in<br>vibration/shock-<br>absorbing drive cage<br>Type B or mounting on<br>the front in removable<br>trays (hot swap in<br>RAID configurations)<br>in drive cage Type A;<br>mounting internally on<br>the fixed drive cage<br>optional   | Mounting internally in<br>vibration/shock-<br>absorbing drive cage<br>Type B or mounting on<br>the front in removable<br>trays (hot swap in<br>RAID configurations)<br>in drive cage Type A;<br>mounting internally on<br>the fixed drive cage<br>optional  | Mounting internally in<br>vibration/shock-<br>absorbing drive cage<br>Type B or mounting on<br>the front in removable<br>trays (hot swap in<br>RAID configurations)<br>in drive cage Type A;<br>mounting internally on<br>the fixed drive cage<br>optional  |   | 4x 3.5" HDD or<br>8x 2.5" SSD internal;<br>4x 3.5" HDD or 4x 2.5"<br>SSD front changeable;<br>8x 2.5" SSD front<br>changeable |
| <b>Memory</b>   |  |   |   |   |   |
| Main memory     | 4 GB to 128 GB DDR4<br>2933 SDRAM DIMM   | 4 GB to 128 GB DDR4<br>2666 SDRAM DIMM,<br>ECC optional   | 4 GB to 128 GB DDR4<br>2666 SDRAM DIMM,<br>ECC optional   | 256 GB ... 1.5 TB<br>DDR5-4800 MHZ<br>RDIMM ECC   | 64 ... 512 GB   |

# Industrial Computing

## Rack PC

### Introduction

### Technical specifications

| Article number                | 6AG4104-5....-....<br>SIMATIC IPC547J  | 6AG4112-3....-....<br>SIMATIC IPC647E<br>(Rack PC)  | 6AG4114-3....-....<br>SIMATIC IPC847E<br>(Rack PC)   | 6AG4102-0....-....<br>SIMATIC IPC RS-828A   | 6BK1801-1....-....<br>SIMATIC IPC1047E<br>(Rack PC) |
|-------------------------------|--|---|--|---|---|
| <b>Hardware configuration</b> |  |   |  |   |   |
| <b>Slots</b>                  |  |   |  |   |   |
| • free slots                  | 7 spare slots for expansions (all long); mainboard with H410 chip set:<br>1x PCIe (x16) (16 lane) Gen 3,<br>1x PCIe (x16) (1 lanes) Gen 3,<br>1x PCIe (x8) (1 lane) Gen 3,<br>1x PCIe (x4) (1 lane) Gen 3,<br>1x PCIe (x4) (1 lane) Gen 3, 2x PCI;<br>mainboard with W480E chip set:<br>1x PCIe (x16) (16 lane) Gen 3,<br>1x PCIe (x16) (4 lanes) Gen 3,<br>1x PCIe (x8) (1 lane) Gen 3,<br>1x PCIe (x4) (4 lane) Gen 3,<br>1x PCIe (x4) (1 lane) Gen 3, 2x PCI  | 2 slots:<br>1x PCI Express (x16) (16 lanes),<br>1x PCI Express (x16) (4 lanes)<br>or 4 slots:<br>2x PCI Express (x16) (8 lanes),<br>1x PCI Express (x16) (4 lanes),<br>1x PCI Express (x16) (1 lane);<br>expansion modules up to 312 mm in length can be used | 9 slots:<br>7x PCI, 2x PCI Express (x16) (8 lanes)<br>or 11 slots:<br>3x PCI,<br>1x PCI Express (x16) (8 lanes),<br>5x PCI Express (x16) (4 lanes),<br>2x PCI Express (x4) (4 lanes)<br>or 11 slots:<br>3x PCI,<br>1x PCI Express (x16) (16 lanes),<br>3x PCI Express (x16) (4 lanes),<br>2x PCI Express (x16) (1 lane),<br>2x PCI Express (x4) (4 lanes);<br>expansion modules up to a length of 312 mm can be used | 7 Slots:<br>2 x PCI-E Gen5 x16<br>Slot optional for<br>2 x DW GPU Card or<br>4 x PCI-E Gen5 x8 (FHFL) +<br>3 x PCI-E Gen5 x16 Slot (FHHL)   | 6x PCIe slots<br>(2x PCIe x8 +<br>4x PCIe x16)      |
| <b>Interfaces</b>             |  |   |  |   |   |
| Interfaces/bus type           | mainboard (H410 chip set):<br>2x Intel Gigabit Ethernet (RJ45, teaming-capable),<br>USB 3.1 Gen 1:<br>2x on rear,<br>2x on front, USB 2.0:<br>4x on rear,<br>1x internal e.g. for software dongle with optional interlock,<br>1x DisplayPort V1.2,<br>1x DVI-D,<br>1x COM1,<br>audio: line in, line out, micro;<br>mainboard (W480E chip set):<br>3x Intel Gigabit Ethernet (RJ45, teaming-capable),<br>USB 3.1 Gen 2:<br>4x type A,<br>2x type C, on rear,<br>USB 3.1 Gen 1:<br>2x on front, USB 2.0:<br>2x internal e.g. for software dongle with optional interlock,<br>2x DisplayPort V1.2,<br>1x DVI-D, 1x COM1,<br>audio: line in, line out, micro | 1x COM1,<br>1x COM2 (optional),<br>2x DisplayPort,<br>1x DVI-D,<br>audio (microphone in, line in, line out),<br>9x USB,<br>3x Gigabit Ethernet  | 1x COM1,<br>1x COM2 (optional),<br>2x DisplayPort,<br>1x DVI-D,<br>audio (microphone in, line in, line out),<br>9x USB,<br>3x Gigabit Ethernet   | Interfaces front:<br>2x USB 3.1 (Type A) frontside;<br>LED Indicators: Power, SSD, Ethernet 1-2, Watchdog, Temp, Fans, drives alarm, PS alarm<br>Interfaces rear:<br>2x 10 Gbit Ethernet (IE/PN), RJ45;<br>1x 1 Gbit Ethernet (BMC), RJ45;<br>1x COM1;<br>1x VGA;<br>4x USB 3.1 Gen. 2, Type A<br>Interfaces internally:<br>2x M.2 PCIe x4, Key M, 22110 Slot;<br>Riser card:<br>2 x PCI-E Gen5 x16<br>Slot optional for<br>2 x DW GPU Card or<br>4 x PCI-E Gen5 x8 (FHFL) + 3 x PCI-E Gen5 x16 Slot (FHHL)<br>System Management:<br>IPMI 2.0 / RedFish,<br>TPM 2.0 | 2x 1 GB LAN (RJ45),<br>COM1, IPMI, VGA              |
| PROFIBUS/MPI                  |  | can be implemented with plug-in card  | can be implemented with plug-in card   |   |   |

# Industrial Computing

## Rack PC

### Introduction

### Technical specifications

| Article number  | 6AG4104-5.....-.....<br>SIMATIC IPC547J  | 6AG4112-3.....-.....<br>SIMATIC IPC647E<br>(Rack PC)  | 6AG4114-3.....-.....<br>SIMATIC IPC847E<br>(Rack PC)  | 6AG4102-0.....-.....<br>SIMATIC IPC RS-828A  | 6BK1801-1.....-.....<br>SIMATIC IPC1047E<br>(Rack PC) |
|---|--|---|---|--|---|
| USB port  | mainboard<br>(H410 chip set):<br>USB 3.1 Gen 1:<br>2x on rear, 2x on front,<br>USB 2.0:<br>4x on rear, 1x internal<br>e.g. for software<br>dongle with optional<br>interlock;<br>mainboard<br>(W480E chip set):<br>USB 3.1 Gen 2:<br>4x type A, 2x type C,<br>on rear,<br>USB 3.1 Gen 1:<br>2x on front,<br>USB 2.0:<br>2x internal e.g. for<br>software dongle with<br>optional interlock | 4x USB 3.1 Gen. 2<br>Type A,<br>2x USB 3.1 Gen. 2<br>Type C on the rear;<br>1x USB 3.1 Gen. 2<br>Type A internally, e.g.<br>for software dongle<br>with optional interlock,<br>2x USB 3.1 Gen. 1<br>Type A on the front,<br>can be used with door<br>closed         | 4x USB 3.1 Gen. 2<br>Type A,<br>2x USB 3.1 Gen. 2<br>Type C on the rear;<br>1x USB 3.1 Gen. 2<br>Type A internally, e.g.<br>for software dongle<br>with optional interlock,<br>2x USB 3.1 Gen. 1<br>Type A on the front,<br>can be used with door<br>closed         | Interfaces front:<br>2x USB 3.1 (Type A)<br>Interfaces rear:<br>4x USB 3.1 Gen. 2,<br>Type A | 2x front,<br>2x rear USB 3.0,<br>2x rear USB 2.0      |
| Connection for keyboard/mouse<br>serial interface version | USB<br>COM1: 1x RS 232 or<br>RS 485;<br>COM2 (optional)<br>1x RS 232   | USB<br>COM1: 1x RS 232,<br>COM2 (optional):<br>1x RS 232  | USB<br>COM1: 1x RS 232,<br>COM2 (optional):<br>1x RS 232  | USB<br>1x COM  | USB<br>1x COM   |
| Multimedia  |  |   |   |  |   |
| • Audio In/Out  | Yes  | Yes   | Yes   |  | No  |
| • Microphone In   | Yes  | Yes   | Yes   |  | No  |
| <b>Video interfaces</b>                                   |  |   |   |  |   |
| • Graphics interface                                      | 2x DisplayPort and<br>1x DVI-D onboard;<br>1x VGA via DP-VGA<br>adapter cable<br>(optional);<br>graphics card PCIe<br>(x16), Triple Head<br>(3x mini DisplayPort,<br>2 GB graphics<br>memory,<br>3x mini DisplayPort to<br>DisplayPort adapter<br>cable) (optional)  | 2x DisplayPort and<br>1x DVI-D onboard;<br>1x VGA via DP-VGA<br>adapter cable<br>(optional);<br>graphics card PCIe<br>(x16), Triple Head<br>(3x mini DisplayPort,<br>2 GB graphics<br>memory,<br>3x mini DisplayPort to<br>DisplayPort adapter<br>cable) (optional) | 2x DisplayPort and<br>1x DVI-D onboard;<br>1x VGA via DP-VGA<br>adapter cable<br>(optional);<br>graphics card PCIe<br>(x16), Triple Head<br>(3x mini DisplayPort,<br>2 GB graphics<br>memory,<br>3x mini DisplayPort to<br>DisplayPort adapter<br>cable) (optional) | 1x VGA   | VGA, with optional<br>graphics card<br>3x or 4x DP1.4 |
| <b>Industrial Ethernet</b>                                |  |   |   |  |   |
| • Industrial Ethernet interface                           | 2x or 3x Gigabit<br>Ethernet (IE/PN), RJ45   | 3x Gigabit Ethernet<br>(IE/PN), RJ45  | 3x Gigabit Ethernet<br>(IE/PN), RJ45  | 2x 10 Gbit Ethernet<br>(IE/PN), RJ45;<br>1x 1 Gbit Ethernet<br>(BMC), RJ45                   | 2x Ethernet (RJ45)                                    |
| - 100 Mbps  | Yes  | Yes   | Yes   | Yes  | No  |
| - 1000 Mbps   | Yes  | Yes   | Yes   | Yes  | Yes   |
| • number of interfaces (1 000 Mbps)                       |  |   |   |  | 2   |
| • number of interfaces (2 500 Mbps)                       |  |   |   |  |   |
| <b>Interrupts/diagnostics/status<br/>information</b>      |  |   |   |  |   |
| LED status display  | POWER, HDD,<br>ETHERNET 1,<br>ETHERNET 2,<br>ETHERNET 3,<br>WATCHDOG, TEMP,<br>FAN, HDD3 ALARM,<br>HDD2 ALARM,<br>HDD1 ALARM,<br>HDD0 ALARM  | Power, HDD,<br>Ethernet 1, Ethernet 2,<br>Ethernet 3, Watchdog,<br>Temp, Fan,<br>HDD1 alarm,<br>HDD0 alarm  | POWER, HDD,<br>ETHERNET 1,<br>ETHERNET 2,<br>ETHERNET 3,<br>WATCHDOG, TEMP,<br>FAN, HDD3 ALARM,<br>HDD2 ALARM,<br>HDD1 ALARM,<br>HDD0 ALARM   | Power, SSD,<br>Ethernet 1-2,<br>Watchdog, Temp,<br>Fans, drives alarm,<br>PS alarm           | POWER, HDD,<br>FAN Fail                               |
| <b>Integrated Functions</b>                               |  |   |   |  |   |
| <b>Monitoring functions</b>                               |  |   |   |  |   |
| • Temperature monitoring                                  | Yes  | Yes   | Yes   | Yes  | Yes   |
| • Watchdog  | Yes  | Yes   | Yes   | Yes  |   |
| • Fan   | Yes  | Yes   | Yes   | Yes  | Yes   |
| • Monitoring function via network                         | Optional   | Optional  | Optional  | Yes (per IPMI)   | Yes (per IPMI)  |

# Industrial Computing

## Rack PC

### Introduction

#### Technical specifications

| Article number  | 6AG4104-5....-....<br>SIMATIC IPC547J  | 6AG4112-3....-....<br>SIMATIC IPC647E<br>(Rack PC)   | 6AG4114-3....-....<br>SIMATIC IPC847E<br>(Rack PC)   | 6AG4102-0....-....<br>SIMATIC IPC RS-828A  | 6BK1801-1....-....<br>SIMATIC IPC1047E<br>(Rack PC)                                      |
|---|--|--|--|--|--|
| <b>EMC</b>  |  |  |  |  |  |
| <b>Interference immunity against discharge of static electricity</b>  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>Interference immunity against discharge of static electricity</li> </ul>   | ±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2   | ±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2   | ±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2   | ±6 kV contact; ±8 kV air (to IEC 61000-4-2, ESD)   | ±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2 |
| <b>Interference immunity against high-frequency electromagnetic fields</b>  |  |  |  |  |  |
| <ul style="list-style-type: none"> <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 | 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 | 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 | 10 V/m; 80 up to 2 700 MHz 80 % AM to IEC 61000-4-3 3 V/m; 2.7 to 6 GHz 80 % AM to IEC 61000-4-3 10 V; 150 kHz up to 80 MHz 80 % AM to IEC 61000-4-6 |  |
| <b>Interference immunity to cable-borne interference</b>  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>Interference immunity on supply cables</li> <li>Interference immunity on signal cables &gt;30m</li> <li>Interference immunity on signal cables &lt; 30m</li> </ul> | ±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  | ±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  | ±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  | ±2 kV; acc. to IEC 61000-4-4; burst  |  |
|   | ±2 kV acc. to IEC 61000-4-5, surge, length > 30 m  | ±2 kV acc. to IEC 61000-4-5, surge, length > 30 m  | ±2 kV acc. to IEC 61000-4-5, surge, length > 30 m  | ± 2 kV; in accordance with IEC 61000-4-4; burst; length > 30 m   |  |
|   | ±1 kV acc. to IEC 61000-4-4, Burst   | ±1 kV acc. to IEC 61000-4-4; burst, length < 3 m   | ±1 kV acc. to IEC 61000-4-4; burst, length < 3 m   | ± 1 kV; in accordance with IEC 61000-4-4; burst; length < 30 m   |  |
| <b>Interference immunity against voltage surge</b>  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>asymmetric interference</li> <li>symmetric interference</li> </ul>   | ±2 kV acc. to IEC 61000-4-5, surge asymmetric  | ±2 kV acc. to IEC 61000-4-5, surge asymmetric  | ±2 kV acc. to IEC 61000-4-5, surge asymmetric  | ±2 kV acc. to IEC 61000-4-5, surge asymmetric  |  |
|   | ±1 kV acc. to IEC 61000-4-5, surge symmetric   | ±1 kV acc. to IEC 61000-4-5, surge symmetric   | ±1 kV acc. to IEC 61000-4-5, surge symmetric   | ±1 kV acc. to IEC 61000-4-5, surge symmetric   |  |
| <b>Interference immunity to magnetic fields</b>   |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>Interference immunity to magnetic fields at 50 Hz</li> </ul>   | 30 A/m; to IEC 61000-4-8   | 100 A/m; to IEC 61000-4-8  | 100 A/m; to IEC 61000-4-8  | 100 A/m; to IEC 61000-4-8  |  |
| <b>Emission of conducted and non-conducted interference</b>   |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>Interference emission via line/ AC current cables</li> </ul>   | EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3                                    | EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3                                    | EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3                                    | EN 61000-6-3; EN 61000-6-4 EN 55032 Class A; FCC Class A; KS C 9832 Class A EN 61000-3-2 Class D; EN 61000-3-3                                       |  |
| <b>Compliance with line harmonic distortion limits</b>  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3</li> </ul>   | Yes; EN 61000-3-2 Class D; EN 61000-3-3  | Yes; EN 61000-3-2 Class D; EN 61000-3-3  | Yes; EN 61000-3-2 Class D; EN 61000-3-3  |  |  |
| <b>Degree and class of protection</b>   |  |  |  |  |  |
| IP (at the front)   | IP30   | IP41   | IP41   | IP20   | IP30   |
| IP (rear)   | IP20   | IP20   | IP20   | IP20   | IP20   |

# Industrial Computing

## Rack PC

### Introduction

### Technical specifications

| Article number                              | 6AG4104-5....-....<br>SIMATIC IPC547J  | 6AG4112-3....-....<br>SIMATIC IPC647E<br>(Rack PC)   | 6AG4114-3....-....<br>SIMATIC IPC847E<br>(Rack PC)   | 6AG4102-0....-....<br>SIMATIC IPC RS-828A  | 6BK1801-1....-....<br>SIMATIC IPC1047E<br>(Rack PC)   |
|---|--|--|--|--|---|
| <b>Standards, approvals, certificates</b>   |  |  |  |  |   |
| 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) | 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) | 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) | Yes; use in industry (interference emission: EN 61000-6-4)   | Yes; Industry   |
| UKCA mark                                   |  |  |  |  |   |
| CSA approval                                | Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition  | Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition  | Yes; CAN/CSA-C22.2 No. 61010-2-201 Second Edition  | Yes; CAN/CSA-C22.2 No. 62368-1   | Yes; CAN/CSA-C22.2 No. 61010-2-201 Third Edition  |
| UL approval                                 | UL 61010-2-201 Second Edition, File E85972   | Yes; UL 61010-2-201 Second Edition, File E85972  | Yes; UL 61010-2-201 Second Edition, File E85972  | Yes; standard UL 62368-1   | Yes; UL 61010-2-201 Third Edition, File E115352 (I.T.E.)  |
| cULus                                       | Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition   | Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition   | Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition   | Yes; standard UL 62368-1   | Yes; UL 61010-2-201 Third Edition; CAN/CSA-C22.2 No. 61010-2-201 Third Edition  |
| RCM (formerly C-TICK)                       | Yes  | Yes  | Yes  | Yes  |   |
| KC approval                                 | Yes  | Yes  | Yes  | Yes; in preparation  | Yes   |
| EAC (formerly Gost-R)                       | Yes  | Yes  | Yes  |  |   |
| FCC   |  |  |  | Yes  | Yes   |
| BSMI  |  |  |  | Yes  |   |
| EMC   | EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3  | EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3  | EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3  | EN 61000-6-3; EN 61000-6-4, EN 55032 Class A; 9832 Class A, EN 61000-3-2 Class D; EN 61000-3-3   | EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 32 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3 |
| Dust protection                             | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered  | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered  | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered  | dust filter with mounted front bezel   | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered   |
| <b>Marine approval</b>                      |  |  |  |  |   |
| • 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)                  |  | Yes; Only with SSD   |  |  |   |
| <b>Ambient conditions</b>                   |  |  |  |  |   |
| <b>Ambient temperature during operation</b> |  |  |  |  |   |
| • min.                                      | 0 °C; Max. 10 °C/h (no condensation)   | 0 °C; Max. 10 °C/h (no condensation)   | 0 °C; Max. 10 °C/h (no condensation)   | 5 °C; Max. 10 °C/h (no condensation)   | 0 °C; Max. 10 °C/h (no condensation)  |
| • max.                                      | 40 °C  | 50 °C  | 50 °C  | 45 °C  | 50 °C; Basic configuration (without graphics card)  |
| <b>Relative humidity</b>                    |  |  |  |  |   |
| • Relative humidity                         | Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)          | Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)          | Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)          | tested to IEC 60068-2-78; IEC 60068-2-30: 5 % to 85 % at 30 °C; no condensation gradient: ≤ 10 K/h; no condensation 5 % to 95 % at 25 °C to 55 °C; no condensation gradient: ≤ 20 K/h; no condensation | permissible range for 0 to 31 °C: 5 ... 80 %; no condensation   |

# Industrial Computing

## Rack PC

### Introduction

#### Technical specifications

| Article number  | 6AG4104-5....-....<br>SIMATIC IPC547J  | 6AG4112-3....-....<br>SIMATIC IPC647E<br>(Rack PC)   | 6AG4114-3....-....<br>SIMATIC IPC847E<br>(Rack PC)   | 6AG4102-0....-....<br>SIMATIC IPC RS-828A  | 6BK1801-1....-....<br>SIMATIC IPC1047E<br>(Rack PC)  |
|---|--|--|--|--|--|
| <b>Vibrations</b>   |  |  |  |  |  |
| • Vibration resistance during operation acc. to IEC 60068-2-6 | Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s <sup>2</sup> (0.2 g)  | 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)   | 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)   | 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) | 10 - 58 Hz: amplitude 0.0375 mm; 58 ... 200 Hz: acceleration 2 m/s <sup>2</sup>                                  |
| <b>Shock testing</b>  |  |  |  |  |  |
| • Shock load during operation                                 | Tested according to IEC 60068-2-27; half-sine: 9.8 m/s <sup>2</sup> (1 g), 20 ms, 100 shocks per axis  | Tested according to DIN IEC 60068-2-7: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks  | 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   | Tested according to IEC 60068-2-27: 50 m/s <sup>2</sup> , 30 ms  | half-sine: acceleration 50 m/s <sup>2</sup> , duration 30 ms   |
| <b>Operating systems</b>                                      |  |  |  |  |  |
| pre-installed operating system                                | Windows 10 IoT Enterprise 2021 LTSC, Windows 10 IoT Enterprise 2019 LTSC; Windows Server 2022 Standard Edition incl. 5 clients; Windows Server 2019 Standard Edition incl. 5 clients | Windows 10 Enterprise 2016 LTSC, multi-language (64-bit); Windows 10 IoT Enterprise 2019 LTSC, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 multi-language clients (64-bit); Windows Server 2019 Standard Edition incl. 5 multi-language clients (64-bit) | Windows 10 Enterprise 2016 LTSC, multi-language (64-bit); Windows 10 IoT Enterprise 2019 LTSC, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 multi-language clients (64-bit); Windows Server 2019 Standard Edition incl. 5 multi-language clients (64-bit) | Windows Server 2022 IoT Standard Edition incl. unlimited Clients for this server, 64bit, MUI (en, de, fr, it, sp)      | Windows 10 Enterprise LTSC 2019 or Windows 10 Enterprise LTSC 2021 or Windows Server 2019 or Windows Server 2022 |
| Additional info on operating system                           | Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)   | Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)   | Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)   | optional: SIMATIC Industrial OS  | Multilingual User Interface (MUI): 5 languages (English, German, French, Spanish, Italian); 64 bit               |
| without operating system                                      | Yes  | Yes  | Yes  | Yes  | Yes  |
| <b>Software</b>   |  |  |  |  |  |
| SIMATIC Software  | Optional package with SIMATIC WinCC  | Optional package with SIMATIC WinCC  | Optional package with SIMATIC WinCC  |  |  |
| <b>Dimensions</b>   |  |  |  |  |  |
| Width   | 430 mm   | 430 mm   | 430 mm   | 444 mm   | 430 mm   |
| Height  | 177 mm; 4U   | 88 mm; 2U  | 177 mm; 4U   | 88 mm; 2U  | 176.6 mm; 4U   |
| Depth   | 446 mm; Device with short enclosure: 356 mm  | 444 mm   | 444 mm   | 585 mm   | 572 mm   |

#### More information

More information is available on the internet at <https://www.siemens.com/simatic-rack-pc>.

# Industrial Computing

## Rack PC

### SIMATIC IPC RW-543A

#### Overview



#### **SIMATIC IPC RW-543A**

SIMATIC IPC RW-543A is an industrial PC in 19" rack design (4 U).

It offers:

- Optimized price
- High performance
- Intel Core i technology of the 10th generation

#### Ordering data

##### SIMATIC IPC RW-543A

Rack PC, 19", 4 U

Interfaces:

4x USB 3.2 on rear;  
7x USB 2.0 (2x on front, 2x on rear,  
1x internal, 2x pin connector);  
1x VGA, 1x HDMI, 1x DVI-D,  
1x PS/2, 1x COM,  
Audio (line in/out, mic),  
each on rear,  
5x COM pin connector;  
Slots (all long):  
3 x PCI, 2 x PCI Express x16  
(1x PCIe\*16 or 2x PCIe\*8),  
3 x PCI Express x4 (4 lanes);  
temperature and fan monitoring;  
watchdog; card retainer

##### Processor

- Intel Pentium G6400 (2C/4T,  
4.0 GHz, 4 MB cache)
- Intel Core i3-10100E (4C/8T,  
3.2 (3.8) GHz, 6 MB cache)
- Intel Core i5-10500E (6C/12T,  
3.1 (4.2) GHz, 12 MB cache)
- Intel Core i7-10700E (8C/16T,  
2.9 (4.5) GHz, 16 MB cache)
- Intel Core i9-10900E (10C/20T,  
2.8 (4.7) GHz, 20 MB cache)

#### Article No.

6AG4011- 3 ■ ■ ■ ■ - 0 ■ X 1

A  
B  
C  
D  
E

#### Article No.

##### SIMATIC IPC RW-543A

Drives

- 1 TB HDD
- 2x 1 TB HDD
- 256 GB SSD
- 512 GB SSD
- 1 TB HDD and 256 GB SSD

Memory configuration

- 4 GB DDR4 RAM
- 8 GB DDR4 RAM
- 16 GB DDR4 RAM
- 32 GB DDR4 RAM
- 64 GB DDR4 SDRAM  
(2x 32 GB DDR4 SDRAM)
- 128 GB DDR4 SDRAM  
(4x 32 GB DDR4 SDRAM)

Type of enclosure

- Standard chassis, 350 W
- Standard chassis, 500 W
- Standard chassis, 850 W
- Eco chassis, 350 W
- Eco chassis, 500 W

Operating system

- Windows 10 IoT Enterprise 2021  
LTSC, multi-language  
(en, de, fr, it, sp),  
64-bit (Pentium, Core i3/i5)
- Windows 10 IoT Enterprise 2021  
LTSC, multi-language  
(en, de, fr, it, sp),  
64-bit (Core i7/i9)
- Without operating system

6AG4011- 3 ■ ■ ■ ■ - 0 ■ X 1

A  
B  
C  
D  
E

0  
1  
2  
3  
4  
5

0  
1  
2  
4  
5

A  
B  
X

#### Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

You can find the configurator at

<https://www.siemens.com/ipc-configurators>.

# Industrial Computing

## Rack PC

### SIMATIC IPC RW-543A

#### Technical specifications

|  |  |
|--|--|
| Article number   | <b>6AG4011-3....-...1</b><br>SIMATIC IPC RW-543A   |
| <b>General information</b>                             |  |
| Product type designation                               | RW-543A  |
| <b>Installation type/mounting</b>                      |  |
| Mounting   | for horizontal or vertical installation  |
| Design   | Rack PC, 19", 4U   |
| <b>Supply voltage</b>                                  |  |
| Type of supply voltage                                 | 100 - 240 V AC   |
| <b>Line frequency</b>                                  |  |
| • Rated value 50 Hz                                    | Yes  |
| • Rated value 60 Hz                                    | Yes  |
| <b>Processor</b>                                       |  |
| Processor type   | Pentium 6400 (2C/4T, 4.0 GHz, 4 MB Cache) / Intel Core i3-10100E (4C/8T, 3.2 (3.8) GHz, 6 MB Cache) / Intel Core i5-10500E (6C/12T, 3.1 (4.2) GHz, 12 MB Cache) / Intel Core i7-10700E (8C/16T, 2.9 (4.5) GHz, 16 MB Cache) / Intel Core i9-10900E (10C/20T, 2.8 (4.7) GHz, 20 MB Cache) |
| Chipset  | Intel Q470   |
| <b>Drives</b>  |  |
| Hard disk  | HDD & SSD  |
| <b>Memory</b>  |  |
| Main memory  | 4 GB to 128 GB DDR4 2666 SDRAM DIMM, ECC optional  |
| <b>Hardware configuration</b>                          |  |
| <b>Slots</b>   |  |
| • free slots   | 2x PCI, 3x PCIe*4, 2x PCIe*16  |
| <b>Interfaces</b>                                      |  |
| USB port   | 4x USB3.2 and 2x USB2.0 on rear panel, 2x USB2.0 on front panel, 1x USB2.0 vertical and 2x USB2.0 on motherboard   |
| Connection for keyboard/mouse serial interface version | PS/2 or USB; PS/2 or USB<br>1x RS232 on the rear panel, 3x RS232, 1x RS232/RS422/RS485, 1x RS232/RS485 on the motherboard  |
| Multimedia   |  |
| • Audio In/Out   | Yes  |
| • Microphone In  | Yes  |
| <b>Video interfaces</b>                                |  |
| • Graphics interface                                   | 1x VGA, 1x DVI-D, 1x HDMI  |
| <b>Industrial Ethernet</b>                             |  |
| • Industrial Ethernet interface                        |  |
| - 100 Mbps   | Yes  |
| - 1000 Mbps  | Yes  |
| <b>Interrupts/diagnostics/status information</b>       |  |
| LED status display                                     | POWER, HDD   |

|   |  |
|---|--|
| Article number  | <b>6AG4011-3....-...1</b><br>SIMATIC IPC RW-543A   |
| <b>EMC</b>  |  |
| <b>Interference immunity against discharge of static electricity</b>            |  |
| • Interference immunity against discharge of static electricity                 | ±4 kV contact discharge (acc. to IEC 1000-4-2: 1995); ±8 kV contact discharge (acc. to IEC 1000-4-2: 1995)   |
| <b>Interference immunity against high-frequency electromagnetic fields</b>      |  |
| • Interference immunity against high frequency radiation                        | 10 V/m for 80 - 1 000 MHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 1 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 150 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6 |
| <b>Interference immunity to cable-borne interference</b>                        |  |
| • Interference immunity on supply cables  | ±2 kV (according to IEC 61000-4-4; burst); ±0,5 kV (according to IEC 61000-4-5; surge pulse/line to line); ±1 kV (according to IEC 61000-4-5; surge pulse/line to ground)  |
| • Interference immunity on signal cables > 30m                                  | ±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±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   |
| <b>Interference immunity against voltage surge</b>                              |  |
| • asymmetric interference   | ±2 kV acc. to IEC 61000-4-5, surge asymmetric  |
| • symmetric interference  | ±1 kV acc. to IEC 61000-4-5, surge symmetric   |
| <b>Emission of conducted and non-conducted interference</b>                     |  |
| • Interference emission via line/ AC current cables                             | IEC 61000-6-4, CISPR 22, FCC Class A   |
| <b>Compliance with line harmonic distortion limits</b>                          |  |
| • Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3 | Yes; EN 61000-3-2 Class D; EN 61000-3-3  |
| <b>Degree and class of protection</b>   |  |
| IP (at the front)   | IP20   |
| IP (rear)   | IP20   |
| <b>Ambient conditions</b>   |  |
| <b>Ambient temperature during operation</b>                                     |  |
| • min.  | 5 °C   |
| • max.  | 40 °C  |
| <b>Operating systems</b>  |  |
| without operating system  | Yes  |
| <b>Dimensions</b>   |  |
| Width   | 430 mm   |
| Height  | 176 mm; 4U   |
| Depth   | 465.8 mm   |

# Industrial Computing

## Rack PC

### SIMATIC IPC347G

#### Overview



#### **SIMATIC IPC347G**

SIMATIC IPC347G is an industrial PC in 19" rack design (4 U).

It offers:

- Optimized price
- High performance
- 6th generation Intel Core i technology

#### Ordering data

##### SIMATIC IPC347G

All-metal enclosure with high electromagnetic compatibility and mechanical ruggedness, dust protection through overpressure ventilation;

Status LEDs: POWER, HDD;  
 interfaces: 4x USB 3.0 on rear,  
 2x USB 2.0 on front,  
 2x USB 2.0 internal and  
 2x USB male connector,  
 2 x Gb Ethernet, 1 x DVI-DP,  
 1 x VGA, 2 x COM, 2 x PS/2, audio;  
 Slots: 3x PCI, 1x PCIe (x16),  
 1xPCIe (x4) (4 or 2 tracks),  
 2x PCIe (x4) (1 track)

##### Processors

- Pentium G4400 (2C/2T, 3.3 GHz, 3 MB cache) **A**
- Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache) **B**
- Core i7-6700 (4C/4T, 3.4 (4.0) GHz, 8 MB cache) **C**

#### Article No.

6AG4012- 2 ■ ■ ■ 0 - 0 ■ X 0

#### Article No.

6AG4012-2 ■ ■ ■ 0 - 0 ■ X 0

##### SIMATIC IPC347G

##### Drives (SATA)

- 1 x TB HDD **A**
- 256 GB SSD **B**
- 512 GB SSD **C**

##### Memory configuration

- 4 GB DDR4 RAM **1**
- 8 GB DDR4 RAM **2**
- 16 GB DDR4 RAM **3**
- 32 GB DDR4 RAM **4**

##### Operating systems

- Without operating system; driver and documentation on USB flash drive **X**
- Windows 10 IoT Enterprise Value (Pentium/i3/i5) **A**
- Windows 10 IoT Enterprise High End (i7) **B**

#### Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

You can find the configurator at

<https://www.siemens.com/ipc-configurators>.

# Industrial Computing

## Rack PC

### SIMATIC IPC347G

| Ordering data  | Article No.               | Ordering data   | Article No.               |
|--|---------------------------|---|---------------------------|
| <b>SIMATIC IPC347G</b><br><b>Configuration 1</b><br>Pentium Dual Core G4400 (2C/2T, 3.3 GHz, 3 MB cache);<br>2x Gb Ethernet, 1x DP,<br>1x VGA, 2x USB on front,<br>4x USB on rear, 2x USB internal,<br>2x serial, 2x PS/2, audio;<br>1x 1 TB HDD, internal;<br>4 GB DDR4 (1x 4 GB),<br>no DVD +/-RW;<br><u>Windows 10 IoT Enterprise for Pentium/i3/i5;</u><br>100/240 V industrial power supply unit, without power supply cord | <b>6AG4012-2AA10-0AX0</b> | <b>Configuration 5</b><br>Core i7 6700 (4C/8T, 3.4 (4.0) GHz, 8 MB cache);<br>2x Gb Ethernet, 1x DP,<br>1x VGA, 2x USB on front,<br>4x USB on rear, 2x USB internal,<br>2x serial, 2x PS/2, audio;<br>1x 1 TB HDD, internal;<br>8 GB DDR4 (1x 8 GB),<br>no DVD +/-RW;<br>Windows 10 IoT Enterprise for i7;<br>100/240 V industrial power supply unit, without power supply cord | <b>6AG4012-2CA20-0BX0</b> |
| <b>Configuration 2</b><br>Pentium Dual Core G4400 (2C/2T, 3.3 GHz, 3 MB cache);<br>2x Gb Ethernet, 1x DP,<br>1x VGA, 2x USB on front,<br>4x USB on rear, 2x USB internal,<br>2x serial, 2x PS/2, audio;<br>1x 1 TB HDD, internal;<br>4 GB DDR4 (1x 4 GB),<br>no DVD +/-RW;<br>without operating system;<br>100/240 V industrial power supply unit, without power supply cord   | <b>6AG4012-2AA10-0XX0</b> | <b>Configuration 6</b><br>• Pentium G4400 (2C/2T, 3.3 GHz, 3 MB cache), 1 TB HDD, 8 GB DDR4 RAM, without operating system   | <b>6AG4012-2AA20-0XX0</b> |
| <b>Configuration 3</b><br>Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache);<br>2x Gb Ethernet, 1x DP,<br>1x VGA, 2x USB on front,<br>4x USB on rear, 2x USB internal,<br>2x serial, 2x PS/2, audio;<br>1x 1 TB HDD, internal;<br>4 GB DDR4 (1x 4 GB),<br>no DVD +/-RW;<br><u>Windows 10 IoT Enterprise for Pentium/i3/i5;</u><br>100/240 V industrial power supply unit, without power supply cord                                | <b>6AG4012-2BA10-0AX0</b> | <b>Configuration 7</b><br>• Pentium G4400 (2C/2T, 3.3 GHz, 3 MB cache), 1 TB HDD, 8 GB DDR4 RAM, Windows 10 IoT Enterprise Value (Pentium/i3/i5)  | <b>6AG4012-2AA20-0AX0</b> |
| <b>Configuration 4</b><br>Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache);<br>2x Gb Ethernet, 1x DP,<br>1x VGA, 2x USB on front,<br>4x USB on rear, 2x USB internal,<br>2x serial, 2x PS/2, audio;<br>1x 1 TB HDD, internal;<br>8 GB DDR4 (1x 8 GB),<br>no DVD +/-RW;<br><u>Windows 10 IoT Enterprise for Pentium/i3/i5;</u><br>100/240 V industrial power supply unit, without power supply cord                                | <b>6AG4012-2BA20-0AX0</b> | <b>Configuration 8</b><br>• Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache), 1 TB HDD, 8 GB DDR4 RAM, without operating system  | <b>6AG4012-2BA20-0XX0</b> |
|  |                           | <b>Configuration 9</b><br>• Core i5-6500 (4C/4T, 3.2 (3.6) GHz, 6 MB cache), 256 GB SSD, 8 GB DDR4 RAM, Windows 10 IoT Enterprise Value (Pentium/i3/i5)   | <b>6AG4012-2BB20-0AX0</b> |
|  |                           | <b>Configuration 10</b><br>• Core i7-6700 (4C/4T, 3.4 (4.0) GHz, 8 MB cache), 1 TB HDD, 8 GB DDR4 RAM, without operating system   | <b>6AG4012-2CA20-0XX0</b> |
|  |                           | <b>Configuration 11</b><br>• Core i7-6700 (4C/4T, 3.4 (4.0) GHz, 8 MB cache), 256 GB SSD, 8 GB DDR4 RAM, Windows 10 IoT Enterprise High End (i7)  | <b>6AG4012-2CB20-0BX0</b> |

# Industrial Computing

## Rack PC

### SIMATIC IPC347G

#### Technical specifications

|  |   |
|--|---|
| Article number   | <b>6AG4012-2....-0.X0</b><br>SIMATIC IPC347G<br>(Rack PC, 19", 4HU)                                     |
| <b>General information</b>                             |   |
| Product type designation                               | IPC347G   |
| <b>Installation type/mounting</b>                      |   |
| Mounting Design  | For horizontal and vertical mounting<br>Rack PC, 19", 4U  |
| <b>Supply voltage</b>                                  |   |
| Type of supply voltage                                 | 100 - 240 V AC  |
| <b>Line frequency</b>                                  |   |
| • Rated value 50 Hz                                    | Yes   |
| • Rated value 60 Hz                                    | Yes   |
| <b>Processor</b>                                       |   |
| Processor type   | Core i7-6700 (4C/4T, 3.6 (4.0) GHz, 8 MB Cache)   |
| Chipset  | Intel H110  |
| <b>Drives</b>  |   |
| Hard disk  | HDD & SSD   |
| <b>Memory</b>  |   |
| Main memory  | 4 / 8 / 16 GB, supports up to 32 GB   |
| <b>Hardware configuration</b>                          |   |
| <b>Slots</b>   |   |
| • free slots   | 3x PCI, 1x PCIe (x16), 1xPCIe (x4) (4 or 2 lanes), 2x PCIe (x4) (1 lane)                                |
| <b>Interfaces</b>                                      |   |
| USB port   | 4x USB 3.0 on rear panel,<br>2x USB 2.0 on front panel,<br>2x USB 2.0 internal and<br>2x pin header USB |
| Connection for keyboard/mouse serial interface version | 2x PS/2<br>2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header                                  |
| Multimedia   |   |
| • Audio In/Out   | Yes   |
| • Microphone In  | Yes   |
| <b>Video interfaces</b>                                |   |
| • Graphics interface                                   | 1x DisplayPort, 1x VGA  |
| <b>Industrial Ethernet</b>                             |   |
| • Industrial Ethernet interface                        |   |
| - 100 Mbps   | Yes   |
| - 1000 Mbps  | Yes   |
| <b>Interrupts/diagnostics/status information</b>       |   |
| LED status display                                     | POWER, HDD  |

|   |  |
|---|--|
| Article number  | <b>6AG4012-2....-0.X0</b><br>SIMATIC IPC347G<br>(Rack PC, 19, 4HU)   |
| <b>EMC</b>  |  |
| <b>Interference immunity against discharge of static electricity</b>            |  |
| • Interference immunity against discharge of static electricity                 | ±4 kV contact discharge acc. to IEC 61000-4-2;<br>±8 kV air discharge acc. to IEC 61000-4-2  |
| <b>Interference immunity against high-frequency electromagnetic fields</b>      |  |
| • Interference immunity against high frequency radiation                        | 10 V/m, 80 MHz to 2 GHz,<br>80 % AM acc. to IEC 61000-4-3;<br>3 V/m, 2 GHz to 2.7 GHz,<br>80 % AM acc. to IEC 61000-4-3;<br>10 V, 10 kHz to 80 MHz,<br>80 % AM acc. to IEC 61000-4-6 |
| <b>Interference immunity to cable-borne interference</b>                        |  |
| • Interference immunity on supply cables  | ±2 kV acc. to IEC 61000-4-4, burst;<br>±1 kV acc. to IEC 61000-4-5, surge symmetric;<br>±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; length > 30 m;<br>±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   |
| <b>Interference immunity against voltage surge</b>                              |  |
| • asymmetric interference   | ±2 kV acc. to IEC 61000-4-5, surge asymmetric  |
| • symmetric interference  | ±1 kV acc. to IEC 61000-4-5, surge symmetric   |
| <b>Emission of conducted and non-conducted interference</b>                     |  |
| • Interference emission via line/ AC current cables                             | IEC 61000-6-4, CISPR 22, FCC Class A   |
| <b>Compliance with line harmonic distortion limits</b>                          |  |
| • Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3 | Yes; EN 61000-3-2 Class D;<br>EN 61000-3-3   |
| <b>Degree and class of protection</b>   |  |
| IP (at the front)   | IP20   |
| IP (rear)   | IP20   |
| <b>Ambient conditions</b>   |  |
| <b>Ambient temperature during operation</b>                                     |  |
| • min.  | 5 °C   |
| • max.  | 40 °C  |
| <b>Dimensions</b>   |  |
| Width   | 430 mm   |
| Height  | 176 mm   |
| Depth   | 465.8 mm   |

# Industrial Computing

## Rack PC

### SIMATIC IPC347G

#### Technical specifications

| Article number   | <b>6AG4012-2AA10-0AX0</b><br>SIMATIC IPC347G<br>(Rack PC, 19, 4U)                              | <b>6AG4012-2AA10-0XX0</b><br>SIMATIC IPC347G<br>(Rack PC, 19, 4U)                              | <b>6AG4012-2BA10-0AX0</b><br>SIMATIC IPC347G<br>(Rack PC, 19, 4U)                              | <b>6AG4012-2BA20-0AX0</b><br>SIMATIC IPC347G<br>(Rack PC, 19, 4U)                              | <b>6AG4012-2CA20-0BX0</b><br>SIMATIC IPC347G<br>(Rack PC, 19, 4U)                              |
|--|--|--|--|--|--|
| <b>General information</b>                             |  |  |  |  |  |
| Product type designation                               | IPC347G  | IPC347G  | IPC347G  | IPC347G  | IPC347G  |
| <b>Installation type/mounting</b>                      |  |  |  |  |  |
| Mounting   | For horizontal and vertical mounting   | For horizontal and vertical mounting   | For horizontal and vertical mounting   | For horizontal and vertical mounting   | For horizontal and vertical mounting   |
| Design   | Rack PC, 19", 4U   | Rack PC, 19", 4U   | Rack PC, 19", 4U   | Rack PC, 19", 4U   | Rack PC, 19", 4U   |
| <b>Supply voltage</b>                                  |  |  |  |  |  |
| Type of supply voltage                                 | 100 - 240 V AC   | 100 - 240 V AC   | 100 - 240 V AC   | 100 - 240 V AC   | 100 - 240 V AC   |
| <b>Line frequency</b>                                  |  |  |  |  |  |
| • Rated value 50 Hz                                    | Yes  | Yes  | Yes  | Yes  | Yes  |
| • Rated value 60 Hz                                    | Yes  | Yes  | Yes  | Yes  | Yes  |
| <b>Processor</b>                                       |  |  |  |  |  |
| Processor type   | Intel Pentium G4400  | Intel Pentium G4400  | Core i5-6500<br>(4C/4T, 3.2 (3.6) GHz,<br>6 MB Cache)  | Core i5-6500<br>(4C/4T, 3.2 (3.6) GHz,<br>6 MB Cache)  | Core i7-6700<br>(4C/4T, 3.6 (4.0) GHz,<br>8 MB Cache)  |
| Chipset  | Intel H110   | Intel H110   | Intel H110   | Intel H110   | Intel H110   |
| <b>Graphic</b>   |  |  |  |  |  |
| Graphics card  | Yes  | Yes  | Yes  | Yes  | Yes  |
| <b>Drives</b>  |  |  |  |  |  |
| Hard disk  | 1 TB HDD   | 1 TB HDD   | 1 TB HDD   | 1 TB HDD   | 1 TB HDD   |
| <b>Memory</b>  |  |  |  |  |  |
| Main memory  | 4 GB (pre-installed),<br>support up to 32 GB   | 4 GB (pre-installed),<br>support up to 32 GB   | 4 GB (pre-installed),<br>support up to 32 GB   | 8 GB (pre-installed),<br>support up to 32 GB   | 8 GB (pre-installed),<br>support up to 32 GB   |
| <b>Hardware configuration</b>                          |  |  |  |  |  |
| <b>Slots</b>   |  |  |  |  |  |
| • free slots   | 3x PCI,<br>1x PCIe (x16),<br>1xPCIe (x4)<br>(4 or 2 lanes),<br>2x PCIe (x4) (1 lane)           | 3x PCI,<br>1x PCIe (x16),<br>1xPCIe (x4)<br>(4 or 2 lanes),<br>2x PCIe (x4) (1 lane)           | 3x PCI,<br>1x PCIe (x16),<br>1xPCIe (x4)<br>(4 or 2 lanes),<br>2x PCIe (x4) (1 lane)           | 3x PCI,<br>1x PCIe (x16),<br>1xPCIe (x4)<br>(4 or 2 lanes),<br>2x PCIe (x4) (1 lane)           | 3x PCI,<br>1x PCIe (x16),<br>1xPCIe (x4)<br>(4 or 2 lanes),<br>2x PCIe (x4) (1 lane)           |
| <b>Interfaces</b>                                      |  |  |  |  |  |
| Number of industrial Ethernet interfaces               | 2  | 2  | 2  | 2  | 2  |
| Number of PROFINET interfaces                          | 2  | 2  | 2  | 2  | 2  |
| USB port   | 4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB | 4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB | 4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB | 4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB | 4x USB 3.0 on rear panel, 2x USB 2.0 on front panel, 2x USB 2.0 internal and 2x pin header USB |
| Connection for keyboard/mouse serial interface version | 2x PS/2<br>2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header                         | 2x PS/2<br>2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header                         | 2x PS/2<br>2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header                         | 2x PS/2<br>2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header                         | 2x PS/2<br>2x COM ports (RS 232, RS 422, RS 485) and 2x COM pin header                         |
| <b>Multimedia</b>                                      |  |  |  |  |  |
| • Audio In/Out   | Yes  | Yes  | Yes  | Yes  | Yes  |
| • Microphone In  | Yes  | Yes  | Yes  | Yes  | Yes  |
| <b>Video interfaces</b>                                |  |  |  |  |  |
| • Graphics interface                                   | 1x DisplayPort,<br>1x VGA  | 1x DisplayPort,<br>1x VGA  | 1x DisplayPort,<br>1x VGA  | 1x DisplayPort,<br>1x VGA  | 1x DisplayPort,<br>1x VGA  |
| <b>Industrial Ethernet</b>                             |  |  |  |  |  |
| • Industrial Ethernet interface                        |  |  |  |  |  |
| - 100 Mbps   | Yes  | Yes  | Yes  | Yes  | Yes  |
| - 1000 Mbps  | Yes  | Yes  | Yes  | Yes  | Yes  |
| <b>Interrupts/diagnostics/status information</b>       |  |  |  |  |  |
| LED status display                                     | POWER, HDD   | POWER, HDD   | POWER, HDD   | POWER, HDD   | POWER, HDD   |

# Industrial Computing

## Rack PC

### SIMATIC IPC347G

#### Technical specifications

| Article number   | 6AG4012-2AA10-0AX0  | 6AG4012-2AA10-0XX0                            | 6AG4012-2BA10-0AX0                               | 6AG4012-2BA20-0AX0                               | 6AG4012-2CA20-0BX0  |
|--|---|---|--|--|---|
|  | SIMATIC IPC347G (Rack PC, 19, 4U)   | SIMATIC IPC347G (Rack PC, 19, 4U)             | SIMATIC IPC347G (Rack PC, 19, 4U)                | SIMATIC IPC347G (Rack PC, 19, 4U)                | SIMATIC IPC347G (Rack PC, 19, 4U)   |
| <b>EMC</b>   |   |   |  |  |   |
| <b>Interference immunity against discharge of static electricity</b>   |   |   |  |  |   |
| <ul style="list-style-type: none"> <li>Interference immunity against discharge of static electricity</li> </ul>  | ±4 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2  |   |  |  |   |
| <b>Interference immunity against high-frequency electromagnetic fields</b>   |   |   |  |  |   |
| <ul style="list-style-type: none"> <li>Interference immunity against high frequency radiation</li> </ul>   | 10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6   |   |  |  |   |
| <b>Interference immunity to cable-borne interference</b>   |   |   |  |  |   |
| <ul style="list-style-type: none"> <li>Interference immunity on supply cables</li> <li>Interference immunity on signal cables &gt; 30m</li> <li>Interference immunity on signal cables &lt; 30m</li> </ul> | ±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<br>±2 kV acc. to IEC 61000-4-4, burst; length > 30 m; ±2 kV acc. to IEC 61000-4-5, surge; length > 30 m<br>±1 kV acc. to IEC 61000-4-4, Burst |   |  |  |   |
| <b>Interference immunity against voltage surge</b>   |   |   |  |  |   |
| <ul style="list-style-type: none"> <li>asymmetric interference</li> <li>symmetric interference</li> </ul>  | ±2 kV acc. to IEC 61000-4-5, surge asymmetric   | ±2 kV acc. to IEC 61000-4-5, surge asymmetric | ±2 kV acc. to IEC 61000-4-5, surge asymmetric    | ±1 kV acc. to IEC 61000-4-5, surge symmetric     | ±2 kV acc. to IEC 61000-4-5, surge asymmetric<br>±1 kV acc. to IEC 61000-4-5, surge symmetric |
| <b>Emission of conducted and non-conducted interference</b>  |   |   |  |  |   |
| <ul style="list-style-type: none"> <li>Interference emission via line/ AC current cables</li> </ul>  | IEC 61000-6-4, CISPR 22, FCC Class A  |   |  |  |   |
| <b>Compliance with line harmonic distortion limits</b>   |   |   |  |  |   |
| <ul style="list-style-type: none"> <li>Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3</li> </ul>  | Yes; EN 61000-3-2 Class D; EN 61000-3-3   |   |  |  |   |
| <b>Degree and class of protection</b>  |   |   |  |  |   |
| IP degree of protection  | IP20  | IP20  | IP20   | IP20   | IP20  |
| IP (rear)  | IP20  | IP20  | IP20   | IP20   | IP20  |
| <b>Ambient conditions</b>  |   |   |  |  |   |
| <b>Ambient temperature during operation</b>  |   |   |  |  |   |
| <ul style="list-style-type: none"> <li>min.</li> <li>max.</li> </ul>   | 5 °C<br>40 °C   | 5 °C<br>40 °C                                 | 5 °C<br>40 °C                                    | 5 °C<br>40 °C                                    | 5 °C<br>40 °C   |
| <b>Operating systems</b>   |   |   |  |  |   |
| pre-installed operating system   | Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI  | without operating system                      | Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI | Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI | Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI  |
| without operating system   |   |   |  | No   | No  |
| <b>Dimensions</b>  |   |   |  |  |   |
| Width  | 430 mm  | 430 mm  | 430 mm   | 430 mm   | 430 mm  |
| Height   | 176 mm  | 176 mm  | 176 mm   | 176 mm   | 176 mm  |
| Depth  | 465.8 mm  | 465.8 mm                                      | 465.8 mm   | 465.8 mm   | 465.8 mm  |

#### More information

More information is available on the internet at <https://www.siemens.com/simatic-rack-pc>.





# Industrial Computing

## Rack PC

### SIMATIC IPC RS-545A

#### Technical specifications

|  |   |
|--|---|
| Article number                             | <b>6AG4105-6....-.....</b><br>SIMATIC IPC RS-545A   |
| <b>General information</b>                 |   |
| Product type designation                   | RS-545A   |
| <b>Installation type/mounting</b>          |   |
| Mounting                                   | For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)   |
| Design                                     | Rack PC, 19", 4U  |
| <b>Supply voltage</b>                      |   |
| Type of supply voltage                     | 100/240 V AC (autorange)<br>50 / 60 Hz;<br>optional redundant 100/240 V AC  |
| <b>Line frequency</b>                      |   |
| • Rated value 50 Hz                        | Yes   |
| • Rated value 60 Hz                        | Yes   |
| <b>Mains buffering</b>                     |   |
| • Mains/voltage failure stored energy time | 20 ms   |
| <b>Processor</b>                           |   |
| Processor type                             | Core i5-12500E 6C(4P)/12T,<br>2.9 (4.5) GHz, 18 MB cache;<br>Core i3-12100E 4C(4P)/8T,<br>3.2 (4.2) GHz, 12 MB cache;   |
| Chipset                                    | Intel R680E   |
| <b>Graphic</b>                             |   |
| Graphics controller                        | Intel® UHD Graphics 730 / 770   |
| Graphics card                              | No  |
| <b>Drives</b>                              |   |
| Hard disk                                  | 1x 2 TB HDD 3.5" SATA, RAID1;<br>2x 2 TB HDD [Enterprise] 3.5" SATA, RAID1;<br>2x 4 TB HDD [Enterprise] 3.5" SATA, RAID1;<br>2x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare, RAID5;<br>3x 4 TB HDD [Enterprise] 3.5" SATA, RAID5;<br>3x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare |
| SSD  | Yes;<br>1x 960 GB 2.5" SATA SSD, RAID1;<br>2x 480 GB 2.5" SATA SSD, RAID1;<br>2x 960 GB 2.5" SATA SSD,<br>1x 1024 GB M.2 NVMe SSD, RAID1;<br>2x 512 GB M.2 NVMe SSD, RAID1;<br>2x 1024 GB M.2 NVMe SSD  |
| Slot for drives                            | Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional   |
| <b>Memory</b>                              |   |
| Main memory                                | 8 GB to 128 GB DDR5 4800 SDRAM DIMM   |
| <b>Hardware configuration</b>              |   |
| <b>Slots</b>                               |   |
| • free slots                               | 7 free slots for expansions (all long);<br>2x PCIe x16 (1 x 16 or 2 x 8 lanes) Gen 4;<br>1x PCIe x8 (4 lanes) Gen 3;<br>1x PCIe x4 (4 lanes) Gen 3;<br>1x PCIe x4 (4 lanes) Gen 4;<br>1x PCIe x4 (4 lanes) Gen 4: 1x PCI  |

|  |  |
|--|--|
| Article number   | <b>6AG4105-6....-.....</b><br>SIMATIC IPC RS-545A  |
| <b>Interfaces</b>  |  |
| Interfaces/bus type  | 2x Gigabit Ethernet (IE/PN), RJ 45, teaming-capable;<br>1x 2.5 Gigabit Ethernet (IE/PN), RJ 45, teaming-capable;<br>USB 3.2<br>Gen 2: 4x type A, USB 3.2 Gen 2x2: 2x type C, on rear,<br>USB 3.1<br>Gen 1: 2x on front, USB 2.0:<br>2x internal e.g. for software dongle with option interlock,<br>3x DisplayPort V1.4a, 1x DVI-D,<br>1x COM1 and 1x COM2 (optional),<br>audio: line in, line out, micro |
| USB port   | USB 3.2 Gen 2: 4x type A,<br>USB 3.2 Gen 2x2: 2x type C, on rear;<br>2x USB 3.1 Gen. 2 type A internally, e.g. for software dongle with optional interlock; 2x USB 3.1 Gen. 1 type A on the front, can be used with door closed  |
| Connection for keyboard/mouse serial interface version                     | USB<br>COM1 (optional):<br>1x RS 232 or RS 485;<br>COM2 (optional) 1x RS 232   |
| <b>Multimedia</b>  |  |
| • Audio In/Out   | Yes  |
| • Microphone In  | Yes  |
| <b>Video interfaces</b>  |  |
| • Graphics interface   | 3x DisplayPort; 1x DVI-D   |
| <b>Industrial Ethernet</b>   |  |
| • Industrial Ethernet interface  | 3x Ethernet (RJ45)   |
| - 100 Mbps   | Yes  |
| - 1000 Mbps  | Yes  |
| • number of interfaces (1 000 Mbps)  | 2  |
| • number of interfaces (2 500 Mbps)  | 1  |
| <b>Interrupts/diagnostics/status information</b>                           |  |
| LED status display   | POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM  |
| <b>Integrated Functions</b>  |  |
| <b>Monitoring functions</b>  |  |
| • Temperature monitoring   | Yes  |
| • Watchdog   | Yes  |
| • Fan  | Yes  |
| <b>EMC</b>   |  |
| <b>Interference immunity against discharge of static electricity</b>       |  |
| • Interference immunity against discharge of static electricity            | ±4 kV contact discharge acc. to IEC 61000-4-2;<br>±8 kV air discharge acc. to IEC 61000-4-2  |
| <b>Interference immunity against high-frequency electromagnetic fields</b> |  |
| • Interference immunity against high frequency radiation                   | 10 V/m for 80 ... 2 700 MHz, 80% AM acc. to IEC 61000-4-3;<br>3 V/m for 2.7 to 6 GHz, 80% AM acc. to IEC 61000-4-3;<br>10 V for 10 kHz to 80 MHz, 80% AM acc. to IEC 61000-4-6   |

# Industrial Computing

## Rack PC

### SIMATIC IPC RS-545A

#### Technical specifications

|   |  |
|---|--|
| Article number  | <b>6AG4105-6....-....</b><br>SIMATIC IPC RS-545A   |
| <b>Interference immunity to cable-borne interference</b>                        |  |
| • 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   |
| <b>Interference immunity against voltage surge</b>                              |  |
| • asymmetric interference   | ±2 kV acc. to IEC 61000-4-5, surge asymmetric  |
| • symmetric interference  | ±1 kV acc. to IEC 61000-4-5, surge symmetric   |
| <b>Interference immunity to magnetic fields</b>                                 |  |
| • Interference immunity to magnetic fields at 50 Hz                             | 30 A/m; to IEC 61000-4-8   |
| <b>Emission of conducted and non-conducted interference</b>                     |  |
| • Interference emission via line/ AC current cables                             | EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3   |
| <b>Compliance with line harmonic distortion limits</b>                          |  |
| • Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3 | Yes; EN 61000-3-2 Class D; EN 61000-3-3  |
| <b>Degree and class of protection</b>   |  |
| IP (at the front)   | IP30   |
| IP (rear)   | IP20   |
| <b>Standards, approvals, certificates</b>                                       |  |
| 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; CAN/CSA-C22.2 No. 61010-2-201 Second Edition  |
| UL approval   | UL 61010-2-201 Second Edition, File E85972   |
| cULus   | Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition   |

|   |   |
|---|---|
| Article number  | <b>6AG4105-6....-....</b><br>SIMATIC IPC RS-545A  |
| RCM (formerly C-TICK)   | Yes   |
| KC approval   | Yes; in preparation   |
| EAC (formerly Gost-R)   | Yes   |
| FCC   | Yes   |
| EMC   | EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B; FCC Class A; KS C 9832; EN 61000-3-2 Class D; EN 61000-3-3  |
| Dust protection   | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered   |
| <b>Ambient conditions</b>                                     |   |
| <b>Ambient temperature during operation</b>                   |   |
| • min.  | 0 °C; Max. 10 °C/h (no condensation)  |
| • max.  | 40 °C   |
| <b>Relative humidity</b>                                      |   |
| • Relative humidity   | tested according to IEC 60068-2-78, IEC 60068-2-30: operation: 0 °C to 31 °C: 5-85%; decreasing linearly to 5-50% at 40 °C (no condensation), storage/transportation: 5% to 95% at 25 °C to 55 °C (gradient: ≤ 20 K/h; no condensation) |
| <b>Vibrations</b>   |   |
| • Vibration resistance during operation acc. to IEC 60068-2-6 | Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s <sup>2</sup> (0.2 g)   |
| <b>Shock testing</b>  |   |
| • Shock load during operation                                 | Tested according to IEC 60068-2-27; half-sine: 9.8 m/s <sup>2</sup> (1 g), 20 ms, 100 shocks per axis   |
| <b>Operating systems</b>                                      |   |
| pre-installed operating system                                | Server 2022 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   |
| <b>Dimensions</b>   |   |
| Width   | 430 mm  |
| Height  | 177 mm; 4U  |
| Depth   | 446 mm  |

#### More information

More information is available on the internet at <https://www.siemens.com/simatic-rack-ipc>

#### Note:

Assemble the required IPC configuration using the configurator in the Industry Mall in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

<http://www.siemens.com/ipc-configurators>



# Industrial Computing

## Rack PC

### SIMATIC IPC RW-545A

| Ordering data  | Article No.                         | Article No.   |
|--|-------------------------------------|---|
| <b>SIMATIC IPC RW-545A (rack IPC, 19", 4 U)</b>  | <b>6AG4104-</b> 6 ■ ■ ■ ■ - ■ ■ ■ ■ | <b>SIMATIC IPC RW-545A (rack IPC, 19", 4 U)</b>   |
| <b>Enclosure type, drive cage, interfaces</b>  |                                     | <b>Operating system (preinstalled)</b>  |
| Enclosure with drive cage type B (for internal installation; 0.2 g vibration, 2 g shock), blue-chromated   | 1                                   | Windows 10 IoT Enterprise 2021 LTSC for Core i3/i5; without USB flash drive (restore image; D&D)  |
| Enclosure with drive cage type A (for removable trays on the front), blue-chromated  | 3                                   | Windows 10 IoT Enterprise 2021 LTSC for Core i7/i9; without USB flash drive (restore image; D&D)  |
| Enclosure with drive cage type A (for removable trays on the front), painted   | 4                                   | Windows 10 IoT Enterprise 2021 LTSC for Core i3/i5; with USB flash drive (restore image; D&D)   |
| Enclosure with drive cage type B (for internal installation; 0.2 g vibration, 2 g shock), blue-chromated + 2x COM interface                          | 6                                   | Windows 10 IoT Enterprise 2021 LTSC for Core i7/i9; with USB flash drive (restore image; D&D)   |
| Enclosure with drive cage type A (for removable trays), blue-chromated + 2x COM interface  | 7                                   | Without operating system; without USB flash drive (D&D)   |
| Enclosure with drive cage type A (for removable trays on the front), painted + 2x COM interface  | 8                                   |   |
| <b>Power supply unit, graphics cards</b>   |                                     | <b>Power supply cable</b>   |
| 550 W 100/240 V AC industrial power supply unit  | A                                   | Without power supply cord   |
| 850 W 100/240 V AC industrial power supply unit  | B                                   | Power supply cord for Europe  |
| 700 W 2x100/240 V AC redundant industrial power supply unit  | C                                   | Power supply cord for USA   |
| Graphics card NVIDIA T400 (4 GB, 3x mDP: 3x adapter mDP on DP) (1 slot occupied), 550 W 100/240 V AC industrial power supply unit                    | D                                   | Power supply cord for China   |
| Graphics card NVIDIA RTX A2000 (12 GB, 4x mDP: 3x adapter mDP on DP) (2 slots occupied), 550 W 100/240 V AC industrial power supply unit             | E                                   |   |
| Graphics card NVIDIA RTX A4000 (16 GB, 4x DP: without adapter) (1 slot occupied), 850 W 100/240 V AC industrial power supply unit                    | F                                   |   |
| Graphics card NVIDIA RTX A5000 (24 GB, 4x DP: without adapter) (2 slots occupied), 850 W 100/240 V AC industrial power supply unit                   | G                                   |   |
| Graphics card NVIDIA T400 (4 GB, 3x mDP: 3x adapter mDP on DP) (1 slot occupied), 700 W 2x100/240 V AC redundant industrial power supply unit        | H                                   |   |
| Graphics card NVIDIA RTX A2000 (12 GB, 4x mDP: 3x adapter mDP on DP) (2 slots occupied), 700 W 2x100/240 V AC redundant industrial power supply unit | J                                   |   |
|  |                                     | <b>Note:</b>  |
|  |                                     | Please select the required IPC configuration via the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves. |
|  |                                     | The SIMATIC IPC online configurator offers a current overview at <a href="https://www.siemens.com/ipc-configurators">https://www.siemens.com/ipc-configurators</a> .  |
|  |                                     | <b>Accessories</b>  |
|  |                                     | <b>Removable drive bay</b> <b>6ES7648-0EH00-1BA0</b>  |
|  |                                     | For 3.5" hard drive (SATA/SAS) or 2.5" SSD (SATA), without drive  |
|  |                                     | <b>Retainer</b> <b>6ES7648-1AA00-0XK0</b>   |
|  |                                     | For interlocking the internal USB interface   |
|  |                                     | <b>Mounting accessories</b>   |
|  |                                     | Tower kit for converting the rack IPC into an industrial tower PC   |
|  |                                     | • For IPC RW-545A/IPC547J/IPC547G   |
|  |                                     | <b>Adapter cable</b>  |
|  |                                     | • Adapter cable DisplayPort to DVI-D for onboard graphics <b>6ES7648-3AF00-0XA0</b>   |
|  |                                     | • Adapter cable DisplayPort according to VGA for onboard graphics <b>6ES7648-3AG00-0XA0</b>   |

# Industrial Computing

## Rack PC

### SIMATIC IPC RW-545A

#### Technical specifications

|  |   |
|--|---|
| Article number                             | <b>6AG4104-6....-.....</b><br>SIMATIC IPC RW-545A   |
| <b>General information</b>                 |   |
| Product type designation                   | RW-545A   |
| <b>Installation type/mounting</b>          |   |
| Mounting                                   | For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)   |
| Design                                     | Rack PC, 19", 4U  |
| <b>Supply voltage</b>                      |   |
| Type of supply voltage                     | 100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC  |
| <b>Line frequency</b>                      |   |
| • Rated value 50 Hz                        | Yes   |
| • Rated value 60 Hz                        | Yes   |
| <b>Mains buffering</b>                     |   |
| • Mains/voltage failure stored energy time | 20 ms   |
| <b>Processor</b>                           |   |
| Processor type                             | Core i9-12900E 16C(8P+8E)/24T, 2.3 (5.0) GHz, 30 MB cache;<br>Core i7-12700E 12C(8P+4E)/20T, 2.1 (4.8) GHz, 25 MB cache;<br>Core i5-12500E 6C(4P)/12T, 2.9 (4.5) GHz, 18 MB cache;<br>Core i3-12100E 4C(4P)/8T, 3.2 (4.2) GHz, 12 MB cache; |
| Chipset                                    | Intel R680E   |
| <b>Graphic</b>                             |   |
| Graphics controller                        | Intel® UHD Graphics 730 / 770   |
| Graphics card                              | Yes; NVIDIA T400, RTX A2000, RTX A4000, RTX A5000   |
| <b>Drives</b>                              |   |
| Hard disk                                  | 1x 2 TB HDD 3.5" SATA,<br>2x 2 TB HDD 3.5" SATA, RAID1<br>2x 2 TB HDD [Enterprise]<br>3.5" SATA, RAID1<br>2x 4 TB HDD [Enterprise]<br>3.5" SATA   |
| SSD  | Yes; 480 GB 2.5" SATA SSD,<br>1x 960 GB 2.5" SATA SSD,<br>2x 960 GB 2.5" SATA SSD, RAID1<br>2x 480 GB 2.5" SATA SSD, RAID1<br>2x 960 GB 2.5" SATA SSD;<br>1x 512 GB M.2 NVMe SSD,<br>1x 1 024 GB M.2 NVMe SSD,<br>2x 1 024 GB M.2 NVMe SSD  |
| Slot for drives                            | Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional                 |
| <b>Memory</b>                              |   |
| Main memory                                | 8 GB to 128 GB DDR5 4800 SDRAM DIMM   |
| <b>Hardware configuration</b>              |   |
| <b>Slots</b>                               |   |
| • free slots                               | 7 free slots for expansions (all long);<br>2x PCIe x16 (1 x 16 or 2 x 8 lanes) Gen 4;<br>1x PCIe x8 (4 lanes) Gen 3;<br>1x PCIe x4 (4 lanes) Gen 3;<br>1x PCIe x4 (4 lanes) Gen 4;<br>1x PCIe x4 (4 lanes) Gen 4: 1x PCI                    |

|  |   |
|--|---|
| Article number   | <b>6AG4104-6....-.....</b><br>SIMATIC IPC RW-545A   |
| <b>Interfaces</b>  |   |
| Interfaces/bus type  | 2x Gigabit Ethernet (IE/PN), RJ 45, teaming-capable; 1x 2.5 Gigabit Ethernet (IE/PN), RJ 45, teaming-capable; USB 3.2 Gen 2: 4x type A, USB 3.2 Gen 2x2: 2x type C, on rear, USB 3.1 Gen 1: 2x on front, USB 2.0: 2x internal e.g. for software dongle with option interlock, 3x DisplayPort V1.4a, 1x DVI-D, 1x COM1 and 1x COM2 (optional), audio: line in, line out, micro |
| USB port   | USB 3.2 Gen 2: 4x type A, USB 3.2 Gen 2x2: 2x type C, on rear; 2x USB 3.1 Gen. 2 type A internally, e.g. for software dongle with optional interlock; 2x USB 3.1 Gen. 1 type A on the front, can be used with door closed   |
| Connection for keyboard/mouse serial interface version                     | USB<br>COM1 (optional): 1x RS 232 or RS 485; COM2 (optional) 1x RS 232  |
| Multimedia   |   |
| • Audio In/Out   | Yes   |
| • Microphone In  | Yes   |
| <b>Video interfaces</b>  |   |
| • Graphics interface   | 3x DisplayPort; 1x DVI-D  |
| <b>Industrial Ethernet</b>   |   |
| • Industrial Ethernet interface  | 3x Ethernet (RJ45)  |
| - 100 Mbps   | Yes   |
| - 1000 Mbps  | Yes   |
| • number of interfaces (1 000 Mbps)  | 2   |
| • number of interfaces (2 500 Mbps)  | 1   |
| <b>Interrupts/diagnostics/status information</b>                           |   |
| LED status display   | POWER, HDD, ETHERNET 1, ETHERNET 2, ETHERNET 3, WATCHDOG, TEMP, FAN, HDD3 ALARM, HDD2 ALARM, HDD1 ALARM, HDD0 ALARM   |
| <b>Integrated Functions</b>  |   |
| <b>Monitoring functions</b>  |   |
| • Temperature monitoring   | Yes   |
| • Watchdog   | Yes   |
| • Fan  | Yes   |
| <b>EMC</b>   |   |
| <b>Interference immunity against discharge of static electricity</b>       |   |
| • Interference immunity against discharge of static electricity            | ±4 kV contact discharge acc. to IEC 61000-4-2;<br>±8 kV air discharge acc. to IEC 61000-4-2   |
| <b>Interference immunity against high-frequency electromagnetic fields</b> |   |
| • 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  |

# Industrial Computing

## Rack PC

### SIMATIC IPC RW-545A

#### Technical specifications

|   |  |
|---|--|
| Article number  | <b>6AG4104-6....-....</b><br>SIMATIC IPC RW-545A   |
| <b>Interference immunity to cable-borne interference</b>                        |  |
| • Interference immunity on supply cables  | ±2 kV acc. to IEC 61000-4-4, burst;<br>±1 kV acc. to IEC 61000-4-5,<br>surge symmetric;<br>±2 kV acc. to IEC 61000-4-5,<br>surge asymmetric                                      |
| • Interference immunity on signal cables > 30m                                  | ±2 kV acc. to IEC 61000-4-5, surge,<br>length > 30 m   |
| • Interference immunity on signal cables < 30m                                  | ±1 kV acc. to IEC 61000-4-4, Burst   |
| <b>Interference immunity against voltage surge</b>                              |  |
| • asymmetric interference   | ±2 kV acc. to IEC 61000-4-5, surge<br>asymmetric   |
| • symmetric interference  | ±1 kV acc. to IEC 61000-4-5, surge<br>symmetric  |
| <b>Interference immunity to magnetic fields</b>                                 |  |
| • Interference immunity to magnetic fields at 50 Hz                             | 30 A/m; to IEC 61000-4-8   |
| <b>Emission of conducted and non-conducted interference</b>                     |  |
| • Interference emission via line/ AC current cables                             | EN 61000-6-3; EN 61000-6-4,<br>CISPR 32, EN 55032 Class B;<br>FCC Class A; KS C 9832;<br>EN 61000-3-2 Class D; EN 61000-3-3  |
| <b>Compliance with line harmonic distortion limits</b>                          |  |
| • Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3 | Yes; EN 61000-3-2 Class D;<br>EN 61000-3-3   |
| <b>Degree and class of protection</b>   |  |
| IP (at the front)   | IP30   |
| IP (rear)   | IP20   |
| <b>Standards, approvals, certificates</b>                                       |  |
| 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; CAN/CSA-C22.2 No. 61010-2-201 Second Edition  |
| UL approval   | UL 61010-2-201 Second Edition, File E85972   |
| cULus   | Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition   |

|   |  |
|---|--|
| Article number  | <b>6AG4104-6....-....</b><br>SIMATIC IPC RW-545A   |
| RCM (formerly C-TICK)   | Yes  |
| KC approval   | Yes  |
| EAC (formerly Gost-R)   | Yes  |
| FCC   | Yes  |
| EMC   | EN 61000-6-3; EN 61000-6-4,<br>CISPR 32, EN 55032 Class B;<br>FCC Class A; KS C 9832;<br>EN 61000-3-2 Class D; EN 61000-3-3  |
| Dust protection   | With front door closed: G2 EN 779,<br>99% of particles > 0.5 mm are filtered   |
| <b>Ambient conditions</b>                                     |  |
| <b>Ambient temperature during operation</b>                   |  |
| • min.  | 0 °C; Max. 10 °C/h (no condensation)   |
| • max.  | 40 °C  |
| <b>Relative humidity</b>                                      |  |
| • Relative humidity   | tested according to IEC 60068-2-78,<br>IEC 60068-2-30: operation:<br>0 °C to 31 °C: 5-85%; decreasing<br>linearly to 5-50% at 40 °C<br>(no condensation),<br>storage/transportation:<br>5% to 95% at 25 °C to 55 °C<br>(gradient: ≤ 20 K/h; no condensation) |
| <b>Vibrations</b>   |  |
| • Vibration resistance during operation acc. to IEC 60068-2-6 | Tested according to IEC 60068-2-6,<br>10 cycles; 20 to 58 Hz: 0.015 mm;<br>58 to 200 Hz: 2 m/s <sup>2</sup> (0.2 g)  |
| <b>Shock testing</b>  |  |
| • Shock load during operation                                 | Tested according to IEC 60068-2-27;<br>half-sine: 9.8 m/s <sup>2</sup> (1 g), 20 ms,<br>100 shocks per axis  |
| <b>Operating systems</b>                                      |  |
| pre-installed operating system                                | Windows 10 IoT Enterprise 2021 LTSC  |
| Additional info on operating system                           | Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)   |
| without operating system                                      | Yes  |
| <b>Software</b>   |  |
| SIMATIC Software  | Optional package with SIMATIC WinCC  |
| <b>Dimensions</b>   |  |
| Width   | 430 mm   |
| Height  | 177 mm; 4U   |
| Depth   | 446 mm   |

#### More information

More information is available on the internet at

<https://www.siemens.com/simatic-rack-ipc>

#### Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

More information is available at

<http://www.siemens.com/ipc-configurators>



# Industrial Computing

## Rack PC

### SIMATIC IPC RC-545A

#### Ordering data

##### SIMATIC IPC RC-545A (Rack IPC, 19", 4U)

##### Enclosure type, drive cage, interfaces

- Enclosure (short) with drive cage type C (for internal installation / 0.2 g vibration, 2 g shock), blue-chromated 0
- Enclosure with drive cage type B (for internal installation; 0.2 g vibration, 2 g shock), blue-chromated 1
- Enclosure with drive cage type B (for internal installation; 0.2 g vibration, 2 g shock), blue-chromated 3
- Enclosure (short) with drive cage type C (for internal installation / 0.2 g vibration, 2 g shock), blue-chromated + 2x COM interface 5
- Enclosure with drive cage type B (for internal installation; 0.2 g vibration, 2 g shock), blue-chromated + 2x COM interface 6
- Enclosure with drive cage type A (for removable trays), blue-chromated + 2x COM interface 7

##### Power supply unit, graphics cards

- 550 W 100/240 V AC industrial power supply unit A
- Graphics card NVIDIA T400 (4 GB, 3x mDP: 3x adapter mDP on DP) (1 slot occupied), 550 W 100/240 V AC industrial power supply unit D

##### Operating system (preinstalled)

- Windows 10 IoT Enterprise 2021 LTSC for Core i3/i5; without USB flash drive (restore image; D&D) A
- Windows 10 IoT Enterprise 2021 LTSC for Core i7/i9; without USB flash drive (restore image; D&D) B
- Windows 10 IoT Enterprise 2021 LTSC for Core i3/i5; with USB flash drive (restore image; D&D) C
- Windows 10 IoT Enterprise 2021 LTSC for Core i7/i9; with USB flash drive (restore image; D&D) D
- Without operating system; without USB flash drive (D&D) X

##### Power supply

- Without power supply cord 0
- Power supply cord for Europe 1
- Power supply cord for USA 2
- Power supply cord for China 3

#### Article No.

6AG4103- 6 ■ ■ ■ ■ ■ - ■ ■ ■ ■ ■

#### Article No.

##### Accessories

##### Removable drive bay

- For 3.5" hard disk (SATA/SAS) or 2.5" SSD (SATA), without drive

6ES7648-0EH00-1BA0

##### Retainer

- For interlocking the internal USB interface

6ES7648-1AA00-0XK0

##### Mounting accessories

- Tower kit for converting the rack IPC into an industrial tower PC - For IPC Rx-545A/IPC547J 6ES7648-1AA01-0XC0
- Tower kit for converting the rack IPC into an industrial tower PC - For IPC RC-545A/IPC547J (device with short enclosure) 6ES7648-1AA01-0XE0

##### Adapter cable

- Adapter cable DisplayPort to DVI-D for onboard graphics 6ES7648-3AF00-0XA0
- Adapter cable DisplayPort to VGA for onboard graphics 6ES7648-3AG00-0XA0

#### Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

For an up-to-date overview, see the SIMATIC IPC online configurator at <https://www.siemens.com/ipc-configurators>.

# Industrial Computing

## Rack PC

### SIMATIC IPC RC-545A

#### Technical specifications

|  |   |
|--|---|
| Article number                             | <b>6AG4103-6....-....</b><br>SIMATIC IPC RC-545A  |
| <b>General information</b>                 |   |
| Product type designation                   | RC-545A   |
| <b>Installation type/mounting</b>          |   |
| Mounting                                   | For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)   |
| Design                                     | Rack PC, 19", 4U  |
| <b>Supply voltage</b>                      |   |
| Type of supply voltage                     | 100/240V AC (autorange) 50/60 Hz  |
| <b>Line frequency</b>                      |   |
| • Rated value 50 Hz                        | Yes   |
| • Rated value 60 Hz                        | Yes   |
| <b>Mains buffering</b>                     |   |
| • Mains/voltage failure stored energy time | 20 ms   |
| <b>Processor</b>                           |   |
| Processor type                             | Core i7-12700E 12C(8P+4E)/20T, 2.1 (4.8) GHz, 25 MB cache;<br>Core i5-12500E 6C(6P)/12T, 2.9 (4.5) GHz, 18 MB cache;<br>Core i3-12100E 4C(4P)/8T, 3.2 (4.2) GHz, 12 MB cache;             |
| Chipset                                    | Intel H610E   |
| <b>Graphic</b>                             |   |
| Graphics controller                        | Intel® UHD Graphics 730 / 770   |
| Graphics card                              | Yes; NVIDIA T400  |
| <b>Drives</b>                              |   |
| Hard disk                                  | 1x 2 TB HDD 3.5" SATA,<br>2x 2 TB HDD 3.5" SATA   |
| SSD  | Yes; 1x 480 GB 2.5" SATA SSD,<br>1x 960 GB 2.5" SATA SSD,<br>2x 960 GB 2.5" SATA SSD  |
| Slot for drives                            | mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays in drive cage Type A; mounting internally on the fixed drive cage optional |
| <b>Memory</b>                              |   |
| Main memory                                | 8 GB to 64 GB DDR5 4800 SDRAM DIMM  |
| <b>Hardware configuration</b>              |   |
| <b>Slots</b>                               |   |
| • free slots                               | 7 spare slots for expansions (all long);<br>1x PCIe x16 (16L) Gen4;<br>1x PCIe x16 (2L) Gen3;<br>1x PCIe x8 (1L) Gen3;<br>2x PCIe x4 (1L) Gen3; 2x PCI                                    |

|  |   |
|--|---|
| Article number   | <b>6AG4103-6....-....</b><br>SIMATIC IPC RC-545A  |
| <b>Interfaces</b>  |   |
| Interfaces/bus type  | 1x Gigabit Ethernet (IE/PN), RJ 45, teaming-capable;<br>USB 3.2 Gen 1: 2x type A on rear,<br>USB 2.0: 2x type A on rear,<br>USB 3.1 Gen 1: 2x on front,<br>USB 2.0: 1x internal e.g. for software dongle with option interlock,<br>2x DisplayPort V1.4a, 1x DVI-D,<br>1x COM1, 1x COM2 and 1x COM3 (optional),<br>audio: line in, line out, micro |
| USB port   | USB 3.2 Gen 1: 2x type A on rear,<br>USB 2.0: 2x type A on rear,<br>USB 3.1 Gen 1: 2x on front,<br>USB 2.0: 1x internal   |
| Connection for keyboard/mouse serial interface version                     | USB<br>COM1: 1x RS 232 or RS 485;<br>COM2 and COM3 (optional)<br>1x RS 232  |
| <b>Multimedia</b>  |   |
| • Audio In/Out   | Yes   |
| • Microphone In  | Yes   |
| <b>Video interfaces</b>  |   |
| • Graphics interface   | 2x DisplayPort; 1x DVI-D  |
| <b>Industrial Ethernet</b>   |   |
| • Industrial Ethernet interface  | 2x Ethernet (RJ45)  |
| - 100 Mbps   | Yes   |
| - 1000 Mbps  | Yes   |
| • number of interfaces (1 000 Mbps)  | 2   |
| <b>Interrupts/diagnostics/status information</b>                           |   |
| LED status display   | POWER, HDD, ETHERNET 1,<br>ETHERNET 2, WATCHDOG, TEMP,<br>FAN   |
| <b>Integrated Functions</b>  |   |
| <b>Monitoring functions</b>  |   |
| • Temperature monitoring   | Yes   |
| • Watchdog   | Yes   |
| • Fan  | Yes   |
| <b>EMC</b>   |   |
| <b>Interference immunity against discharge of static electricity</b>       |   |
| • Interference immunity against discharge of static electricity            | ±4 kV contact discharge acc. to IEC 61000-4-2;<br>±8 kV air discharge acc. to IEC 61000-4-2   |
| <b>Interference immunity against high-frequency electromagnetic fields</b> |   |
| • Interference immunity against high frequency radiation                   | 10 V/m for 80 ... 2 700 MHz,<br>80% AM acc. to IEC 61000-4-3;<br>3 V/m for 2.7 to 6 GHz,<br>80% AM acc. to IEC 61000-4-3;<br>10 V for 10 kHz to 80 MHz,<br>80% AM acc. to IEC 61000-4-6   |
| <b>Interference immunity to cable-borne interference</b>                   |   |
| • Interference immunity on supply cables                                   | ±2 kV acc. to IEC 61000-4-4, burst;<br>±1 kV acc. to IEC 61000-4-5, surge symmetric;<br>±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  |

# Industrial Computing

## Rack PC

### SIMATIC IPC RC-545A

#### Technical specifications

|   |  |
|---|--|
| Article number  | <b>6AG4103-6....-....</b><br>SIMATIC IPC RC-545A   |
| <b>Interference immunity against voltage surge</b>                              |  |
| • asymmetric interference   | ±2 kV acc. to IEC 61000-4-5, surge asymmetric  |
| • symmetric interference  | ±1 kV acc. to IEC 61000-4-5, surge symmetric   |
| <b>Interference immunity to magnetic fields</b>                                 |  |
| • Interference immunity to magnetic fields at 50 Hz                             | 30 A/m; to IEC 61000-4-8   |
| <b>Emission of conducted and non-conducted interference</b>                     |  |
| • Interference emission via line/ AC current cables                             | EN 61000-6-3;<br>EN 61000-6-4, CISPR 32,<br>EN 55032 Class B; FCC Class A;<br>KS C 9832; EN 61000-3-2 Class D;<br>EN 61000-3-3   |
| <b>Compliance with line harmonic distortion limits</b>                          |  |
| • Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3 | Yes; EN 61000-3-2 Class D;<br>EN 61000-3-3   |
| <b>Degree and class of protection</b>   |  |
| IP (at the front)   | IP30   |
| IP (rear)   | IP20   |
| <b>Standards, approvals, certificates</b>                                       |  |
| 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; CAN/CSA-C22.2 No. 61010-2-201 Second Edition  |
| UL approval   | UL 61010-2-201 Second Edition, File E85972   |
| cULus   | Yes; UL 61010-2-201 Second Edition;<br>CAN/CSA-C22.2 No. 61010-2-201 Second Edition  |
| RCM (formerly C-TICK)   | Yes  |
| KC approval   | Yes; in preparation  |
| EAC (formerly Gost-R)   | Yes  |
| FCC   | Yes  |
| EMC   | EN 61000-6-3; EN 61000-6-4, CISPR 32, EN 55032 Class B;<br>FCC Class A; KS C 9832;<br>EN 61000-3-2 Class D;<br>EN 61000-3-3  |
| Dust protection   | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered  |

|   |  |
|---|--|
| Article number  | <b>6AG4103-6....-....</b><br>SIMATIC IPC RC-545A   |
| <b>Ambient conditions</b>                                     |  |
| <b>Ambient temperature during operation</b>                   |  |
| • min.  | 0 °C; Max. 10 °C/h (no condensation)   |
| • max.  | 40 °C  |
| <b>Relative humidity</b>                                      |  |
| • Relative humidity   | tested according to IEC 60068-2-78, IEC 60068-2-30:<br>operation: 0 °C to 31 °C: 5-85%;<br>decreasing linearly to 5-50% at 40 °C (no condensation),<br>storage/transportation: 5% to 95% at 25 °C to 55 °C (gradient: ≤ 20 K/h; no condensation) |
| <b>Vibrations</b>   |  |
| • Vibration resistance during operation acc. to IEC 60068-2-6 | Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s <sup>2</sup> (0.2 g)  |
| <b>Shock testing</b>  |  |
| • Shock load during operation                                 | Tested according to IEC 60068-2-27; half-sine: 9.8 m/s <sup>2</sup> (1 g), 20 ms, 100 shocks per axis  |
| <b>Operating systems</b>                                      |  |
| pre-installed operating system                                | Windows 10 IoT Enterprise 2021 LTSC  |
| Additional info on operating system                           | Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)   |
| without operating system                                      | Yes  |
| <b>Software</b>   |  |
| SIMATIC Software  | Optional package with SIMATIC WinCC  |
| <b>Dimensions</b>   |  |
| Width   | 430 mm   |
| Height  | 177 mm; 4U   |
| Depth   | 446 mm; Device with short enclosure: 356 mm  |

#### More information

More information is available on the internet at <https://www.siemens.com/simatic-rack-ipc>

#### Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the Industry Mall in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

More information is available at <http://www.siemens.com/ipc-configurators>

# Industrial Computing

## Rack PC

### SIMATIC IPC547J

#### Overview



#### **SIMATIC IPC547J**

A rugged industrial PC in 19" rack design (4 U).

It offers:

- Maximum performance
- Attractive price
- 10th generation Intel Core i/Xeon technology

#### Ordering data

##### **SIMATIC IPC547J**

Rack PC, 19", 4 U  
 Interfaces: 2x USB 3.1 Gen.1 at front;  
 COM1, audio at rear;  
 slots:  
 5 x PCI Express, 2 x PCI;  
 temperature and fan monitoring;  
 watchdog; card retainer

##### Processor / mainboard

- Core i3-10100E (4C/8T, 3.2 (3.8) GHz, 6 MB cache); MB (chip set H410, 2x Gb Ethernet, 1x DVI-D, 1x DisplayPort, 4x USB 2.0, 2x USB 3.1 Gen.1, 1x USB 2.0 internal)
- Core i5-10500E (6C/12T, 3.1 (4.2) GHz, 12 MB cache); MB (chip set H410, 2x Gb Ethernet, 1x DVI-D, 1x DisplayPort, 4x USB 2.0, 2x USB 3.1 Gen.1, 1x USB 2.0 internal)
- Core i7-10700E (8C/16T, 2.9 (4.5) GHz, 16 MB cache); MB (chip set H410, 2x Gb Ethernet, 1x DVI-D, 1x DisplayPort, 4x USB 2.0, 2x USB 3.1 Gen.1, 1x USB 2.0 internal)
- Core i9-10900E (10C/20T, 2.8 (4.7) GHz, 20 MB cache); MB (chip set H410, 2x Gb Ethernet, 1x DVI-D, 1x DisplayPort, 4x USB 2.0, 2x USB 3.1 Gen.1, 1x USB 2.0 internal)
- Core i3-10100E (4C/8T, 3.2 (3.8) GHz, 6 MB cache); MB (chip set W480E, 3x Gb Ethernet, 1x DVI-D, 2x DisplayPort, 6x USB 3.1 Gen.2, 2x USB 2.0 internal)
- Core i5-10500E (6C/12T, 3.1 (4.2) GHz, 12 MB cache); MB (chip set W480E, 3x Gb Ethernet, 1x DVI-D, 2x DisplayPort, 6x USB 3.1 Gen.2, 2x USB 2.0 internal, AMT)
- Core i7-10700E (8C/16T, 2.9 (4.5) GHz, 16 MB cache); MB (chip set W480E, 3x Gb Ethernet, 1x DVI-D, 2x DisplayPort, 6x USB 3.1 Gen.2, 2x USB 2.0 internal, AMT)
- Core i9-10900E (10C/20T, 2.8 (4.7) GHz, 20 MB cache); MB (chip set W480E, 3x Gb Ethernet, 1x DVI-D, 2x DisplayPort, 6x USB 3.1 Gen.2, 2x USB 2.0 internal, AMT)
- Xeon W-1270E (8C/16T, 3.4 (4.8) GHz, 16 MB cache); MB (chip set W480E, 3x Gb Ethernet, 1x DVI-D, 2x DisplayPort, 6x USB 3.1 Gen.2, 2x USB 2.0 internal, AMT)

#### Article No.

6AG4104- 5 ■■■■ - ■■■■

C

D

E

F

G

H

J

K

L

# Industrial Computing

## Rack PC

### SIMATIC IPC547J

| Ordering data   | Article No.       | Article No.       |
|---|-------------------|-------------------|
| <b>SIMATIC IPC547J</b>  | <b>6AG4104- 5</b> | <b>6AG4104- 5</b> |
| <u>Drives</u>   |                   |                   |
| • 1 TB HDD 3.5" SATA  | A                 | 0                 |
| • 1 TB HDD 3.5" SATA  | B                 |                   |
| • 1 TB HDD 3.5" SATA + 960 GB SSD 2.5" SATA (for operating system if M.2 SSD not ordered)   | C                 | 1                 |
| • 480 GB SSD 2.5" SATA  | D                 | 2                 |
| • 2x 480 GB SSD 2.5" SATA   | E                 | 3                 |
| • 960 GB SSD 2.5" SATA  | F                 | 4                 |
| • RAID1, 2x 1 TB HDD 3.5" SATA  | G                 | 5                 |
| • RAID1, 2x 480 GB SSD 2.5" SATA  | H                 |                   |
| • RAID1, 2x 960 GB SSD 2.5" SATA  | J                 |                   |
| • RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA   | K                 |                   |
| • RAID1, 2x 4 TB HDD [Enterprise] 3.5" SATA   | L                 | A                 |
| • RAID1, 2x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare  | M                 | B                 |
| • RAID1, 2x 4 TB HDD [Enterprise] 3.5" SATA + 960 GB SSD 2.5" SATA (for operating system if M.2 SSD not ordered)                                      | N                 | C                 |
| • RAID5, 3x 4 TB HDD [Enterprise] 3.5" SATA   | P                 | D                 |
| • RAID5, 3x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare  | Q                 | J                 |
| • Without drives  | X                 | K                 |
| <u>Enclosure type / drive cage</u>  |                   |                   |
| • Enclosure (short) with drive cage Type C (for installation internal / 0.2 g vibration, 2 g shock), blue-chromated                                   | 0                 |                   |
| • Enclosure with drive cage type B (for internal installation/ 0.2 g vibration, 2 g shock), blue chromated  | 1                 | A                 |
| • Enclosure with drive cage type B (for internal installation/ 0.2 g vibration, 2 g shock); coated  | 2                 | B                 |
| • Enclosure with drive cage type B (for internal installation/ 0.2 g vibration, 2 g shock); coated  | 3                 | C                 |
| • Enclosure with drive cage type A (for removable trays on the front), coated   | 4                 | D                 |
| <u>Power supply unit, cable</u>   |                   |                   |
| • 100/240 V AC industrial power supply unit; without power cable  | 0                 | N                 |
| • 100/240 V AC industrial power supply unit; power cable for Europe   | 1                 | P                 |
| • 100/240 V AC industrial power supply unit; power cable for USA  | 2                 |                   |
| • 100/240 V AC industrial power supply unit; power cable for China  | 3                 |                   |
| • 2 x 100/240 V AC redundant industrial power supply unit; without power cable  | 4                 | X                 |
| • 2 x 100/240 V AC redundant industrial power supply unit; 2x power cable for Europe  | 5                 |                   |
| <b>SIMATIC IPC547J</b>  |                   |                   |
| <u>Memory configuration</u>   |                   |                   |
| • 4 GB DDR4 SDRAM (1x 4 GB), single channel   |                   | 0                 |
| • 8 GB DDR4 SDRAM (2x 4 GB), dual channel   |                   | 1                 |
| • 16 GB DDR4 SDRAM (2x 8 GB), dual channel  |                   | 2                 |
| • 32 GB DDR4 SDRAM (2x 16 GB), dual channel   |                   | 3                 |
| • 32 GB DDR4 SDRAM (2x 16 GB), dual channel   |                   | 4                 |
| • 64 GB DDR4 SDRAM (2x 32 GB), dual channel   |                   | 5                 |
| <u>Expansions / hardware</u>  |                   |                   |
| • Without expansion   |                   | A                 |
| • COM2 interface  |                   | B                 |
| • 512 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system) [only with W480E chip set]   |                   | C                 |
| • 512 GB SSD M.2 NVMe (M.2 slot occupied) (for operating system) [only with W480E chip set]   |                   | D                 |
| • PCIe x16 graphics card NVIDIA Quadro T400 (3x mDP: 3x adapter mDP on DP) (1 slot occupied)  |                   | J                 |
| • PCIe x16 graphics card NVIDIA Quadro P2200 (4x DP: without adapter) (1 slot occupied) [only with W480E chip set / enclosure with drive cage Type A] |                   | K                 |
| <u>Operating system (preinstalled and activated)</u>  |                   |                   |
| • Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit [for Core i3/i5]   |                   | A                 |
| • Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit [for Core i7/i9/Xeon]  |                   | B                 |
| • PCIe x16 graphics card NVIDIA Quadro T400 (3x mDP: 3x adapter mDP on DP) (1 slot occupied)  |                   | C                 |
| • Windows 10 IoT Enterprise 2021 LTSC, multi-language (en, de, fr, it, es), 64-bit [for Core i3/i5]   |                   | D                 |
| • Windows Server 2019 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es) [only with W480E chip set / Xeon]                            |                   | N                 |
| • Windows 10 IoT Enterprise 2021 LTSC, multi-language (en, de, fr, it, sp), 64-bit [for Core i7/i9/Xeon]  |                   | P                 |
| • Without operating system  |                   | X                 |

# Industrial Computing

## Rack PC

### SIMATIC IPC547J

#### Ordering data

#### Article No.

#### SIMATIC IPC547J

6AG4104- 5 ■ ■ ■ ■ - ■ ■ ■ ■

#### Software / adapters / security expansions

- Without expansions 0
- SIMATIC IPC DiagMonitor software included 1
- SIMATIC IPC Image & Partition Creator software included 2
- SIMATIC IPC DiagMonitor + Image & Partition Creator software included 3
- Adapter cable DP to VGA for onboard graphics / graphics card 4
- Adapter cable DP to DVI-D for onboard graphics / graphics card 5
- TPM 2.0<sup>1)</sup> 8

1) TPM = Trusted Platform Module

#### Note:

Please assemble the required IPC configuration using the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

You can find the configurator at

<https://www.siemens.com/ipc-configurators>.

#### Accessories

#### Memory expansions

- 4 GB DDR4 DIMM (1x 4)
- 8 GB DDR4 DIMM (1x 8)
- 16 GB DDR4 DIMM (1x 16)
- 32 GB DDR4 DIMM (1x 32)

6ES7648-2AL60-0QA0

6ES7648-2AL70-0QA0

6ES7648-2AL80-0QA0

6ES7648-2AL81-0QA0

#### Removable drive bay

For 3.5" hard disk (SATA/SAS) or 2.5" SSD (SATA), without drive

6ES7648-0EH00-1BA0

#### Retainer

For interlocking the internal USB interface

6ES7648-1AA00-0XK0

#### Mounting accessories

Tower kit for converting the rack IPC into an industrial tower PC

- For IPC547G/IPC547J
- For IPC547G/IPC547J (device with short enclosure)

6ES7648-1AA01-0XC0

6ES7648-1AA01-0XE0

#### Adapter cable

- Adapter cable DisplayPort to DVI-D for onboard graphics
- Adapter cable DisplayPort to VGA for onboard graphics

6ES7648-3AF00-0XA0

6ES7648-3AG00-0XA0

#### Technical specifications

|  |   |
|--|---|
| Article number                             | 6AG4104-5....-.....<br>SIMATIC IPC547J  |
| <b>General information</b>                 |   |
| Product type designation                   | IPC547J   |
| <b>Installation type/mounting</b>          |   |
| Mounting                                   | For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)   |
| Design                                     | Rack PC, 19", 4U  |
| <b>Supply voltage</b>                      |   |
| Type of supply voltage                     | 100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC  |
| <b>Line frequency</b>                      |   |
| • Rated value 50 Hz                        | Yes   |
| • Rated value 60 Hz                        | Yes   |
| <b>Mains buffering</b>                     |   |
| • Mains/voltage failure stored energy time | 20 ms   |
| <b>Processor</b>                           |   |
| Processor type                             | Intel Xeon W-1270E (8C/16T, 3.4 (4.8) GHz, 16 MB Cache); Intel Core i9-10900E (10C/20T, 2.8 (4.7) GHz, 20 MB Cache); Intel Core i7-10700E (8C/16T, 2.9 (4.5) GHz, 16 MB Cache); Intel Core i5-10500E (6C/12T, 3.1 (4.2) GHz, 12 MB Cache); Intel Core Core i3-10100E (4C/8T, 3.2 (3.8) GHz, 6 MB Cache)   |
| Chipset                                    | Intel W480E / Intel H410  |
| <b>Graphic</b>                             |   |
| Graphics controller                        | Intel® UHD Graphics 630   |
| Graphics card                              | Yes; NVIDIA T400, Quadro RTX P2200, Quadro RTX 4000   |
| <b>Drives</b>                              |   |
| Hard disk                                  | 1 TB HDD 3.5" SATA, 2x 1 TB HDD 3.5" SATA, 1 TB HDD 3.5" SATA + 960 GB SSD 2.5" SATA, RAID1, 2x 1 TB HDD 3.5" SATA, RAID1, 2x 1 TB HDD [Enterprise] 3.5" SATA, RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA, RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as hot spare, RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA + 960 GB SSD 2.5" SATA, RAID5, 3x 2 TB HDD [Enterprise] 3.5" SATA, RAIDS, 3x 2 TB HDD [Enterprise] 3.5" SATA + 2 TB HDD [Enterprise] 3.5" SATA as hot spare |
| SSD  | Yes; 480 GB 2.5" SATA SSD, 1x 960 GB 2.5" SATA SSD, 2x 480 GB 2.5" SATA SSD, RAID1 2x 480 GB 2.5" SATA SSD, RAID1 2x 960 GB 2.5" SATA SSD; 1x 512 GB M.2 NVMe SSD, 1x 1 024 GB M.2 NVMe SSD   |
| Slot for drives                            | Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional   |
| <b>Memory</b>                              |   |
| Main memory                                | 4 GB to 128 GB DDR4 2933 SDRAM DIMM   |

# Industrial Computing

## Rack PC

### SIMATIC IPC547J

#### Technical specifications

|   |   |
|---|---|
| Article number  | <b>6AG4104-5....-....</b><br>SIMATIC IPC547J  |
| <b>Hardware configuration</b>                             |   |
| <b>Slots</b>  |   |
| • free slots  | 7 spare slots for expansions (all long);<br>mainboard with H410 chip set:<br>1x PCIe (x16) (16 lane) Gen 3,<br>1x PCIe (x16) (1 lanes) Gen 3,<br>1x PCIe (x8) (1 lane) Gen 3,<br>1x PCIe (x4) (1 lane) Gen 3,<br>1x PCIe (x4) (1 lane) Gen 3,<br>2x PCI; mainboard with<br>W480E chip set:<br>1x PCIe (x16) (16 lane) Gen 3,<br>1x PCIe (x16) (4 lanes) Gen 3,<br>1x PCIe (x8) (1 lane) Gen 3,<br>1x PCIe (x4) (4 lane) Gen 3,<br>1x PCIe (x4) (1 lane) Gen 3, 2x PCI   |
| <b>Interfaces</b>   |   |
| Interfaces/bus type                                       | mainboard (H410 chip set):<br>2x Intel Gigabit Ethernet (RJ45,<br>teaming-capable), USB 3.1 Gen 1:<br>2x on rear, 2x on front, USB 2.0:<br>4x on rear, 1x internal e.g. for<br>software dongle with optional<br>interlock, 1x DisplayPort V1.2,<br>1x DVI-D, 1x COM1,<br>audio: line in, line out, micro;<br>mainboard (W480E chip set):<br>3x Intel Gigabit Ethernet (RJ45,<br>teaming-capable), USB 3.1 Gen 2:<br>4x type A, 2x type C, on rear,<br>USB 3.1 Gen 1: 2x on front, USB 2.0:<br>2x internal e.g. for software dongle<br>with optional interlock,<br>2x DisplayPort V1.2, 1x DVI-D,<br>1x COM1, audio: line in, line out,<br>micro |
| USB port  | mainboard (H410 chip set):<br>USB 3.1 Gen 1: 2x on rear,<br>2x on front, USB 2.0: 4x on rear,<br>1x internal e.g. for software dongle<br>with optional interlock; mainboard<br>(W480E chip set): USB 3.1 Gen 2:<br>4x type A, 2x type C, on rear,<br>USB 3.1 Gen 1: 2x on front, USB 2.0:<br>2x internal e.g. for software dongle<br>with optional interlock  |
| Connection for keyboard/mouse<br>serial interface version | USB<br>COM1: 1x RS 232 or RS 485;<br>COM2 (optional) 1x RS 232  |
| Multimedia  |   |
| • Audio In/Out  | Yes   |
| • Microphone In   | Yes   |
| <b>Video interfaces</b>                                   |   |
| • Graphics interface                                      | 2x DisplayPort and 1x DVI-D onboard;<br>1x VGA via DP-VGA adapter cable<br>(optional);<br>graphics card PCIe (x16),<br>Triple Head (3x mini DisplayPort,<br>2 GB graphics memory,<br>3x mini DisplayPort to DisplayPort<br>adapter cable) (optional)  |
| <b>Industrial Ethernet</b>                                |   |
| • Industrial Ethernet interface                           | 2x or 3x Gigabit Ethernet (IE/PN),<br>RJ45  |
| - 100 Mbps  | Yes   |
| - 1000 Mbps   | Yes   |

|   |   |
|---|---|
| Article number  | <b>6AG4104-5....-....</b><br>SIMATIC IPC547J  |
| <b>Interrupts/diagnostics/<br/>status information</b>                                 |   |
| LED status display  | POWER, HDD, ETHERNET 1,<br>ETHERNET 2, ETHERNET 3,<br>WATCHDOG, TEMP, FAN,<br>HDD3 ALARM, HDD2 ALARM,<br>HDD1 ALARM, HDD0 ALARM   |
| <b>Integrated Functions</b>   |   |
| <b>Monitoring functions</b>   |   |
| • Temperature monitoring  | Yes   |
| • Watchdog  | Yes   |
| • Fan   | Yes   |
| • Monitoring function via network   | Optional  |
| <b>EMC</b>  |   |
| <b>Interference immunity against<br/>discharge of static electricity</b>              |   |
| • Interference immunity against<br>discharge of static electricity                    | ±4 kV contact discharge acc. to<br>IEC 61000-4-2;<br>±8 kV air discharge acc. to<br>IEC 61000-4-2   |
| <b>Interference immunity against<br/>high-frequency electromagnetic<br/>fields</b>    |   |
| • Interference immunity against high<br>frequency radiation                           | 10 V/m for 80 ... 2 700 MHz,<br>80% AM acc. to IEC 61000-4-3;<br>3 V/m for 2.7 to 6 GHz,<br>80% AM acc. to IEC 61000-4-3;<br>10 V for 10 kHz to 80 MHz,<br>80% AM acc. to IEC 61000-4-6 |
| <b>Interference immunity to<br/>cable-borne interference</b>                          |   |
| • Interference immunity on supply<br>cables   | ±2 kV acc. to IEC 61000-4-4, burst;<br>±1 kV acc. to IEC 61000-4-5,<br>surge symmetric;<br>±2 kV acc. to IEC 61000-4-5,<br>surge asymmetric   |
| • Interference immunity on signal<br>cables > 30m                                     | ±2 kV acc. to IEC 61000-4-5, surge,<br>length > 30 m  |
| • Interference immunity on signal<br>cables < 30m                                     | ±1 kV acc. to IEC 61000-4-4, Burst  |
| <b>Interference immunity against<br/>voltage surge</b>                                |   |
| • asymmetric interference   | ±2 kV acc. to IEC 61000-4-5,<br>surge asymmetric  |
| • symmetric interference  | ±1 kV acc. to IEC 61000-4-5,<br>surge symmetric   |
| <b>Interference immunity to magnetic<br/>fields</b>                                   |   |
| • Interference immunity to magnetic<br>fields at 50 Hz                                | 30 A/m; to IEC 61000-4-8  |
| <b>Emission of conducted and<br/>non-conducted interference</b>                       |   |
| • Interference emission via line/<br>AC current cables                                | EN 61000-6-3; EN 61000-6-4,<br>CAN/CSA CISPR 22 Class B,<br>EN 55032 Class B; FCC Class A;<br>KN32 Class B,<br>EN 61000-3-2 Class D; EN 61000-3-3                                       |
| <b>Compliance with line harmonic<br/>distortion limits</b>                            |   |
| • Compliance with line harmonic<br>distortion acc. to IEC 61000-3-2,<br>IEC 61000-3-3 | Yes; EN 61000-3-2 Class D;<br>EN 61000-3-3  |
| <b>Degree and class of protection</b>   |   |
| IP (at the front)   | IP30  |
| IP (rear)   | IP20  |

# Industrial Computing

## Rack PC

### SIMATIC IPC547J

#### Technical specifications

|   |  |
|---|--|
| Article number  | <b>6AG4104-5....-....</b><br>SIMATIC IPC547J   |
| <b>Standards, approvals, certificates</b>                     |  |
| 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; CAN/CSA-C22.2 No. 61010-2-201 Second Edition  |
| UL approval   | UL 61010-2-201 Second Edition, File E85972   |
| cULus   | Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition   |
| RCM (formerly C-TICK)   | Yes  |
| KC approval   | Yes  |
| EAC (formerly Gost-R)   | Yes  |
| EMC   | EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3  |
| Dust protection   | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered  |
| <b>Ambient conditions</b>                                     |  |
| <b>Ambient temperature during operation</b>                   |  |
| • min.  | 0 °C; Max. 10 °C/h (no condensation)   |
| • max.  | 40 °C  |
| <b>Relative humidity</b>                                      |  |
| • Relative humidity   | Tested according to IEC 60068-2-78, IEC 60068-2-30:<br>Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)       |
| <b>Vibrations</b>   |  |
| • Vibration resistance during operation acc. to IEC 60068-2-6 | Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s <sup>2</sup> (0.2 g)  |
| <b>Shock testing</b>  |  |
| • Shock load during operation                                 | Tested according to IEC 60068-2-27; half-sine: 9.8 m/s <sup>2</sup> (1 g), 20 ms, 100 shocks per axis  |

|                                     |  |
|-------------------------------------|--|
| Article number                      | <b>6AG4104-5....-....</b><br>SIMATIC IPC547J   |
| <b>Operating systems</b>            |  |
| pre-installed operating system      | Windows 10 IoT Enterprise 2021 LTSC, Windows 10 IoT Enterprise 2019 LTSC; Windows Server 2022 Standard Edition incl. 5 clients; Windows Server 2019 Standard Edition incl. 5 clients |
| Additional info on operating system | Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)   |
| without operating system            | Yes  |
| <b>Software</b>                     |  |
| SIMATIC Software                    | Optional package with SIMATIC WinCC  |
| <b>Dimensions</b>                   |  |
| Width                               | 430 mm   |
| Height                              | 177 mm; 4U   |
| Depth                               | 446 mm; Device with short enclosure: 356 mm  |

#### More information

More information is available on the internet at  
<https://www.siemens.com/simatic-rack-pc>

# Industrial Computing

## Rack PC

### SIMATIC IPC647E

#### Overview



#### **SIMATIC IPC647E**

Very rugged, high-performance industrial PC in 19" rack design (2 U) with excellent industrial functionality

It offers:

- Extreme compactness
- Extreme ruggedness
- Intel® Core® i / Xeon technology 8th/9th Generation

#### Ordering data

##### **SIMATIC IPC647E**

Rack PC, 19", 2 U  
 Interfaces:  
 3x Gbit Ethernet (IE/PN), RJ45;  
 1x DVI-D;  
 2x DisplayPort; 1x COM1; audio;  
 4x USB 3.1, 2x USB 3.1 (type C) on the rear;  
 2x USB 3.0 on the front,  
 1x USB 3.1 internal;  
 1x M.2 slot internal;  
 Temperature and fan monitoring, watchdog, card retainer

##### Processor / motherboard

- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d);  
Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L)
- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d);  
Board 4 slots: 2x PCI, 2x PCIe x16 (8 L)
- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d);  
Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT);  
Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT);  
Board 4 slots: 2x PCI, 2x PCIe x16 (8 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT);  
Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT);  
Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT);  
Board 4 slots: 2x PCI, 2x PCIe x16 (8 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT);  
Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT);  
Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT);  
Board 4 slots: 2x PCI, 2x PCIe x16 (8 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT);  
Board 4 slots: 2x PCIe x16 (8 L), 1x PCIe x16 (4 L), 1x PCIe x16 (1 L)
- Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT);  
Board 2 slots: 1x PCIe x16 (16 L), 1x PCIe x16 (4 L)

#### Article No.

6AG4112- 3 ■■■■ - ■■■■

A

B

C

D

E

F

G

H

J

K

L

M

N



# Industrial Computing

## Rack PC

### SIMATIC IPC647E

| Ordering data  | Article No.                             | Article No.   |
|--|---|---|
| <b>SIMATIC IPC647E</b><br><u>Software / adapters / security expansions</u> <ul style="list-style-type: none"> <li>• SIMATIC IPC DiagMonitor software included</li> <li>• SIMATIC IPC Image &amp; Partition Creator software included</li> <li>• SIMATIC IPC DiagMonitor + Image &amp; Partition Creator software included</li> <li>• Adapter cable DP to VGA for onboard graphics</li> <li>• Adapter cable DP to DVI-D for onboard graphics</li> <li>• Without expansions</li> <li>• TPM<sup>1)</sup> 2.0 (not for China)</li> </ul> | <b>6AG4112-</b> 3 ■ ■ ■ ■ ■ - ■ ■ ■ ■ ■ | <b>Accessories</b><br><b>Memory expansions</b> <ul style="list-style-type: none"> <li>• 4 GB DDR4 2666 SDRAM, DIMM</li> <li>• 8 GB DDR4 2666 SDRAM, DIMM</li> <li>• 16 GB DDR4 2666 SDRAM, DIMM</li> <li>• 32 GB DDR4 2666 SDRAM, DIMM</li> </ul> <b>Removable drive bay</b><br>For 3.5" hard disk or 2.5" solid-state drive, SATA (without hard disk drive/solid-state drive)  |
| <u>Cables, country-specific versions</u> <ul style="list-style-type: none"> <li>• Without power supply cord</li> <li>• Power supply cord for Europe</li> <li>• Power supply cord for USA</li> <li>• Power supply cord for China</li> </ul>   | 0<br>1<br>2<br>3                        | <b>Retainer</b><br>For mechanically interlocking the internal USB interface<br><b>Adapter cable</b> <ul style="list-style-type: none"> <li>• DisplayPort to DVI-D for onboard graphics</li> <li>• DisplayPort to VGA for onboard graphics</li> <li>• Mini DisplayPort to VGA for graphics card</li> <li>• Mini DisplayPort to DVI-D for graphics card</li> <li>• Mini DisplayPort to DVI-D for graphics card (3 units per pack)</li> <li>• Mini DisplayPort to DisplayPort for graphics card</li> <li>• Mini DisplayPort to DisplayPort for graphics card (3 units per pack)</li> </ul> |

<sup>1)</sup> TPM = Trusted Platform Module

#### Note:

Please select the required IPC configuration via the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

The SIMATIC IPC online configurator offers a current overview at <https://www.siemens.com/ipc-configurators>.

# Industrial Computing

## Rack PC

### SIMATIC IPC647E

#### Technical specifications

|  |  |
|--|--|
| Article number                             | <b>6AG4112-3....-....</b><br>SIMATIC IPC647E (Rack PC)   |
| <b>General information</b>                 |  |
| Product type designation                   | IPC647E  |
| <b>Installation type/mounting</b>          |  |
| Mounting                                   | For horizontal installation; prepared for telescopic rails; 19" mounting bracket can be removed externally   |
| Design                                     | Rack PC, 19", 2U   |
| <b>Supply voltage</b>                      |  |
| Type of supply voltage                     | 100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC   |
| <b>Line frequency</b>                      |  |
| • Rated value 50 Hz                        | Yes  |
| • Rated value 60 Hz                        | Yes  |
| <b>Mains buffering</b>                     |  |
| • Mains/voltage failure stored energy time | 20 ms  |
| <b>Processor</b>                           |  |
| Processor type                             | Intel Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT);<br>Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT);<br>Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT);<br>Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT);<br>Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB Cache, VT-x/-d-Technology) |
| Chipset                                    | Intel C246   |
| <b>Graphic</b>                             |  |
| Graphics controller                        | Onboard Intel UHD graphics P630/630 integrated in processor; graphics card NVIDIA Quadro P400 PCIe (x16) triple head (optional)  |
| <b>Drives</b>                              |  |
| Hard disk                                  | 1x 1 TB 3.5" SATA HDD,<br>2x 1 TB 3.5" SATA HDD, RAID1<br>2x 1 TB 3.5" SATA HDD, RAID1<br>2x 1 TB 3.5" SATA HDD (Enterprise), RAID1<br>2x 2 TB 3.5" SATA HDD (Enterprise), RAID1<br>2x 2 TB 3.5" SAS HDD (Enterprise) with PCIe x8 RAID controller incl. ZMCP module   |
| SSD  | Yes; 1x 480 GB 2.5" SATA SSD,<br>1x 960 GB 2.5" SATA SSD,<br>2x 480 GB 2.5" SATA SSD, RAID1<br>2x 480 GB 2.5" SATA SSD;<br>1x 512 GB M.2 NVMe SSD,<br>1x 1 024 GB M.2 NVMe SSD   |
| Slot for drives                            | Mounting internally in vibration/shock-absorbing drive cage Type B or mounting on the front in removable trays (hot swap in RAID configurations) in drive cage Type A; mounting internally on the fixed drive cage optional  |
| <b>Memory</b>                              |  |
| Main memory                                | 4 GB to 128 GB DDR4 2666 SDRAM DIMM, ECC optional  |

|  |  |
|--|--|
| Article number   | <b>6AG4112-3....-....</b><br>SIMATIC IPC647E (Rack PC)   |
| <b>Hardware configuration</b>  |  |
| <b>Slots</b>   |  |
| • free slots   | 2 slots:<br>1x PCI Express (x16) (16 lanes),<br>1x PCI Express (x16) (4 lanes) or<br>4 slots:<br>2x PCI, 2x PCI Express (x16) (8 lanes) or 4 slots:<br>2x PCI Express (x16) (8 lanes),<br>1x PCI Express (x16) (4 lanes),<br>1x PCI Express (x16) (1 lane);<br>expansion modules up to<br>312 mm in length can be used |
| <b>Interfaces</b>  |  |
| Interfaces/bus type  | 1x COM1, 1x COM2 (optional),<br>2x DisplayPort, 1x DVI-D, audio (microphone in, line in, line out),<br>9x USB, 3x Gigabit Ethernet   |
| PROFIBUS/MPI   | can be implemented with plug-in card   |
| USB port   | 4x USB 3.1 Gen. 2 Type A,<br>2x USB 3.1 Gen. 2 Type C on the rear;<br>1x USB 3.1 Gen. 2 Type A internally,<br>e.g. for software dongle with optional interlock,<br>2x USB 3.1 Gen. 1 Type A on the front, can be used with door closed   |
| Connection for keyboard/mouse serial interface version                     | USB<br>COM1: 1x RS 232, COM2 (optional):<br>1x RS 232  |
| Multimedia   |  |
| • Audio In/Out   | Yes  |
| • Microphone In  | Yes  |
| <b>Video interfaces</b>  |  |
| • Graphics interface   | 2x DisplayPort and 1x DVI-D onboard;<br>1x VGA via DP-VGA adapter cable (optional); graphics card PCIe (x16),<br>Triple Head (3x mini DisplayPort,<br>2 GB graphics memory,<br>3x mini DisplayPort to DisplayPort adapter cable) (optional)  |
| <b>Industrial Ethernet</b>   |  |
| • Industrial Ethernet interface  | 3x Gigabit Ethernet (IE/PN), RJ45  |
| - 100 Mbps   | Yes  |
| - 1000 Mbps  | Yes  |
| <b>Interrupts/diagnostics/status information</b>                           |  |
| LED status display   | Power, HDD, Ethernet 1, Ethernet 2,<br>Ethernet 3, Watchdog, Temp, Fan,<br>HDD1 alarm, HDD0 alarm  |
| <b>Integrated Functions</b>  |  |
| <b>Monitoring functions</b>  |  |
| • Temperature monitoring   | Yes  |
| • Watchdog   | Yes  |
| • Fan  | Yes  |
| • Monitoring function via network  | Optional   |
| <b>EMC</b>   |  |
| <b>Interference immunity against discharge of static electricity</b>       |  |
| • Interference immunity against discharge of static electricity            | ±6 kV contact discharge acc. to IEC 61000-4-2;<br>±8 kV air discharge acc. to IEC 61000-4-2  |
| <b>Interference immunity against high-frequency electromagnetic fields</b> |  |
| • Interference immunity against high frequency radiation                   | 10 V/m for 80 ... 2 700 MHz,<br>80% AM acc. to IEC 61000-4-3;<br>3 V/m for 2.7 to 6 GHz,<br>80% AM acc. to IEC 61000-4-3;<br>10 V for 10 kHz to 80 MHz,<br>80% AM acc. to IEC 61000-4-6  |

# Industrial Computing

## Rack PC

### SIMATIC IPC647E

#### Technical specifications

|   |  |
|---|--|
| Article number  | <b>6AG4112-3....-.....</b><br>SIMATIC IPC647E (Rack PC)  |
| <b>Interference immunity to cable-borne interference</b>                        |  |
| • Interference immunity on supply cables  | ±2 kV acc. to IEC 61000-4-4, burst;<br>±1 kV acc. to IEC 61000-4-5, surge symmetric;<br>±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   |
| <b>Interference immunity against voltage surge</b>                              |  |
| • asymmetric interference   | ±2 kV acc. to IEC 61000-4-5, surge asymmetric  |
| • symmetric interference  | ±1 kV acc. to IEC 61000-4-5, surge symmetric   |
| <b>Interference immunity to magnetic fields</b>                                 |  |
| • Interference immunity to magnetic fields at 50 Hz                             | 100 A/m; to IEC 61000-4-8  |
| <b>Emission of conducted and non-conducted interference</b>                     |  |
| • Interference emission via line/ AC current cables                             | EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3  |
| <b>Compliance with line harmonic distortion limits</b>                          |  |
| • Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3 | Yes; EN 61000-3-2 Class D; EN 61000-3-3  |
| <b>Degree and class of protection</b>   |  |
| IP (at the front)   | IP41   |
| IP (rear)   | IP20   |
| <b>Standards, approvals, certificates</b>                                       |  |
| 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; CAN/CSA-C22.2 No. 61010-2-201 Second Edition  |
| UL approval   | Yes; UL 61010-2-201 Second Edition, File E85972  |
| cULus   | Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition   |
| RCM (formerly C-TICK)   | Yes  |
| KC approval   | Yes  |
| EAC (formerly Gost-R)   | Yes  |
| EMC   | EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3  |
| Dust protection   | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered  |

|   |  |
|---|--|
| Article number  | <b>6AG4112-3....-.....</b><br>SIMATIC IPC647E (Rack PC)  |
| <b>Marine approval</b>  |  |
| • 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)                                    | Yes; Only with SSD   |
| <b>Ambient conditions</b>                                     |  |
| <b>Ambient temperature during operation</b>                   |  |
| • min.  | 0 °C; Max. 10 °C/h (no condensation)   |
| • max.  | 50 °C  |
| <b>Relative humidity</b>                                      |  |
| • Relative humidity   | Tested according to IEC 60068-2-78, IEC 60068-2-30:<br>Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)   |
| <b>Vibrations</b>   |  |
| • 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)   |
| <b>Shock testing</b>  |  |
| • Shock load during operation                                 | Tested according to DIN IEC 60068-2-7: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks  |
| <b>Operating systems</b>                                      |  |
| pre-installed operating system                                | Windows 10 Enterprise 2016 LTSC, multi-language (64-bit); Windows 10 IoT Enterprise 2019 LTSC, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 multi-language clients (64-bit); Windows Server 2019 Standard Edition incl. 5 multi-language clients (64-bit) |
| Additional info on operating system                           | Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)   |
| without operating system                                      | Yes  |
| <b>Software</b>   |  |
| SIMATIC Software  | Optional package with SIMATIC WinCC  |
| <b>Dimensions</b>   |  |
| Width   | 430 mm   |
| Height  | 88 mm; 2U  |
| Depth   | 444 mm   |

#### More information

More information is available on the internet at <https://www.siemens.com/simatic-rack-pc>.

# Industrial Computing

## Rack PC

### SIMATIC IPC847E

#### Overview



#### **SIMATIC IPC847E**

Very rugged, high-performance industrial PC in 19" rack design (4 U) with excellent industrial functionality.

It offers:

- Maximum expandability
- Extreme ruggedness
- Intel® Core® i / Xeon technology of the 8th/9th generation

#### Ordering data

#### Article No.

##### SIMATIC IPC847E

Rack PC, 19", 4 U  
 Interfaces:  
 3x Gbit Ethernet (IE/PN), RJ45;  
 1x DVI-D; 2x DisplayPort;  
 1x COM1; audio; 4x USB 3.1,  
 2x USB 3.1 (type C) on the rear;  
 2x USB 3.0 on the front,  
 1x USB 3.1 internal.  
 Temperature and fan monitoring,  
 watchdog, card retainer

##### Processors / Boards

- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d).  
Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)
- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d).  
Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Core i3-8100 (4C/4T, 3.6 GHz, 6 MB cache, VT-d).  
Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT)  
Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT)  
Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB cache, TB, VT-d, AMT)  
Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT)  
Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)

6AG4114- 3



A

B

C

D

E

F

G

#### Article No.

##### SIMATIC IPC847E

- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT)  
Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB cache, TB, VT-d, AMT)  
Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT)  
Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT)  
Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB cache, TB, VT-d, AMT)  
Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)
- Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT);  
Board 9 slots: 7x PCI, 2x PCIe x16 (8 L)
- Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT);  
Board 11 slots: 3x PCI, 1x PCIe x16 (8 L), 5x PCIe x16 (4 L), 2x PCIe x4 (4 L)
- Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB cache, TB, VT-d, AMT);  
Board 11 slots: 3x PCI, 1x PCIe x16 (16 L), 3x PCIe x16 (4 L), 2x PCIe x16 (1 L), 2x PCIe x4 (4 L)

6AG4114- 3



H

J

K

L

M

N

Q

R

# Industrial Computing

## Rack PC

### SIMATIC IPC847E

#### Ordering data

#### Article No.

#### SIMATIC IPC847E

6AG4114- 3 ■ ■ ■ ■ - ■ ■ ■ ■ ■

#### Drives

- 1 TB HDD 3.5" SATA A
- 2x 1 TB HDD 3.5" SATA B
- RAID1, 2x 1 TB HDD 3.5" SATA C
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SATA D
- RAID1, 2x 4 TB HDD [Enterprise] 3.5" SATA E
- RAID1, 2x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare F
- RAID1, 2x 4 TB HDD [Enterprise] 3.5" SATA + 480 GB 2.5" SSD SATA (for operating system if M.2 SSD not ordered) G
- RAID5, 3x 4 TB HDD [Enterprise] 3.5" SATA H
- RAID5, 3x 4 TB HDD [Enterprise] 3.5" SATA + 4 TB HDD [Enterprise] 3.5" SATA as hot spare J
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SAS; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied) K
- RAID1, 2x 2 TB HDD [Enterprise] 3.5" SAS; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied) + 480 GB SSD 2.5" SATA L
- RAID5, 3x 2 TB HDD [Enterprise] 3.5" SAS; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied) M
- RAID5, 3x 2 TB HDD [Enterprise] 3.5" SAS + 2 TB HDD [Enterprise] 3.5" SAS as hot spare; PCIe x8 RAID controller incl. ZMCP module (1 slot occupied) N
- 1 TB HDD 3.5" SATA + 480 GB SSD 2.5" SATA (for operating system if M.2 SSD not ordered) P
- 480 GB SSD 2.5" SATA Q
- 960 GB SSD 2.5" SATA R
- 2x 480 GB SSD 2.5" SATA S
- RAID1, 2x 480 GB SSD 2.5" SATA T
- Without drives X

#### Article No.

#### SIMATIC IPC847E

6AG4114- 3 ■ ■ ■ ■ - ■ ■ ■ ■ ■

#### Type of enclosure/power supplies

- Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock); 100/240 V AC industrial power supply unit 0
- Enclosure with drive cage type A (for removable trays on the front); 100/240 V AC industrial power supply unit 1
- Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock); 2x 100/240 V AC redundant industrial power supply unit 2
- Enclosure with drive cage type A (for removable trays on the front); 2x 100/240 V AC redundant industrial power supply unit 3
- Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock) + COM2 port; 100/240 V AC industrial power supply unit 4
- Enclosure with drive cage type A (for removable trays on the front) + COM2 interface; 100/240 V AC industrial power supply unit 5
- Enclosure with drive cage type B (for internal installation/ 0.5 g vibration, 5 g shock) + COM2 port; 2x 100/240 V AC redundant industrial power supply unit 6
- Enclosure with drive cage type A (for removable trays on the front) + COM2 port; 2x 100/240 V AC redundant industrial power supply unit 7
- Enclosure with drive cage type A (for removable trays on the front) + COM2 interface; 100/240 V AC industrial power supply unit, 850 W 8

# Industrial Computing

## Rack PC

### SIMATIC IPC847E

| Ordering data   | Article No.       | Article No.   |
|---|-------------------|---|
| <b>SIMATIC IPC847E</b>  | <b>6AG4114- 3</b> | <b>SIMATIC IPC847E</b>  |
| <u>Memory configuration</u>   |                   | <u>Operating system</u><br>(preinstalled and activated)   |
| <ul style="list-style-type: none"> <li>4 GB DDR4 SDRAM (1x 4 GB), single channel <b>0</b></li> <li>8 GB DDR4 SDRAM (2x 4 GB), dual channel <b>1</b></li> <li>16 GB DDR4 SDRAM (2x 8 GB), dual channel <b>2</b></li> <li>32 GB DDR4 SDRAM (2x 16 GB), dual channel <b>3</b></li> <li>64 GB DDR4 SDRAM (4x 16 GB), dual channel <b>4</b></li> <li>128 GB DDR4 SDRAM (4x 32 GB), dual channel <b>5</b></li> <li>16 GB DDR4 SDRAM (2x 8 GB), ECC, dual channel (only with Core i3/Xeon) <b>6</b></li> <li>32 GB DDR4 SDRAM (2x 16 GB), ECC, dual channel (only with Core i3/Xeon) <b>7</b></li> <li>64 GB DDR4 SDRAM (4x 16 GB), ECC, dual channel (only with Core i3/Xeon) <b>8</b></li> </ul>   |                   | <ul style="list-style-type: none"> <li>Windows 10 Enterprise 2016 LTSB, multi-language (en, de, fr, it, es), 64-bit (for Core i3/i5) <b>A</b></li> <li>Windows 10 Enterprise 2016 LTSB, multi-language (en, de, fr, it, es), 64-bit (for Core i7/Xeon) <b>B</b></li> <li>Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit (for Core i3/i5) <b>C</b></li> <li>Windows 10 IoT Enterprise 2019 LTSC, multi-language (en, de, fr, it, sp), 64-bit, (for Core i7/Xeon) <b>D</b></li> <li>PCIe x16 graphics card NVIDIA RTX 4000 (3x DP) (1 slot occupied) [only with 850 W PS] <b>E</b></li> <li>Windows 10 IoT Enterprise 2021 LTSC, multi-language (en, de, fr, it, es), 64-bit [for Core i3/i5] <b>F</b></li> <li>Windows Server 2016 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es) <b>H</b></li> <li>Windows Server 2019 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es) <b>J</b></li> <li>Windows Server 2022 Standard Edition incl. 5 clients, 64-bit, MUI (en, de, fr, it, es) <b>K</b></li> <li>Without operating system <b>X</b></li> </ul> |
| <u>Expansion hardware</u>   |                   | <u>Software / adapters / security expansions</u>  |
| <ul style="list-style-type: none"> <li>Without expansion <b>0</b></li> <li>PCIe x4 adapter card for M.2 NVMe module without SSD (1 slot occupied) <b>1</b></li> <li>PCIe x16 graphics card (3x mDP; 3x adapter mDP on DP) (1 slot occupied) <b>2</b></li> <li>PCIe x4 adapter card for M.2 NVMe module without SSD (1 slot occupied) + PCIe x16 graphics card (3x mDP; 3x adapter mDP on DP) (1 slot occupied) <b>3</b></li> <li>512 GB SSD M.2 NVMe on PCIe x4 adapter card (1 slot occupied) (for operating system) <b>4</b></li> <li>512 GB SSD M.2 NVMe on PCIe x4 adapter card (1 slot occupied) (for operating system) + PCIe x16 graphics card (3x mDP; 3x adapter mDP on DP) (1 slot occupied) <b>5</b></li> <li>1 024 GB SSD M.2 NVMe on PCIe x4 adapter card (1 slot occupied) (for operating system) <b>6</b></li> <li>PCIe x16 graphics card NVIDIA RTX 4000 (3x DP) (1 slot occupied) [only with 850 W PS] <b>7</b></li> </ul> |                   | <ul style="list-style-type: none"> <li>SIMATIC IPC DiagMonitor software included <b>A</b></li> <li>SIMATIC IPC Image &amp; Partition Creator software included <b>B</b></li> <li>SIMATIC IPC DiagMonitor + Image &amp; Partition Creator software included <b>C</b></li> <li>Adapter cable DP to VGA for onboard graphics <b>H</b></li> <li>Adapter cable DP to DVI-D for onboard graphics <b>J</b></li> <li>Without expansions <b>X</b></li> <li>TPM<sup>1)</sup> 2.0 (not for China) <b>Y</b></li> </ul>  |
|   |                   | <u>Cables, country-specific versions</u>  |
|   |                   | <ul style="list-style-type: none"> <li>Without power supply cord <b>0</b></li> <li>Power supply cord for Europe <b>1</b></li> <li>Power supply cord for USA <b>2</b></li> <li>Power supply cord for China <b>3</b></li> </ul>   |
|   |                   | SIMATIC IPC847E (Rack PC)<br>6AG4114-3RR15-0WY0   |

**Note:**

Please select the required IPC configuration via the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

The SIMATIC IPC online configurator offers a current overview at

<https://www.siemens.com/ipc-configurators>.

<sup>1)</sup> TPM = Trusted Platform Module

**Option for Industrial Edge**

**SIMATIC IPC847E (Rack PC)**

3x Gbit Ethernet (IE/PN)  
1x DVI-D, 2x DP,  
1x COM1, audio, 6x USB3.1;  
Xeon E-2278GE (8C/16T);  
11 slots (8x PCIe, 3x PCI);  
960 GB SSD 2.5 SATA;  
Enclosure with drive cage  
Type A (for removable trays);  
100/240 V AC  
industrial power supply unit;  
128 GB DDR4 SDRAM (4x 32 GB);  
Industrial Edge (Simatic);  
TPM 2.0

**6AG4114-3RR15-0WY0**



# Industrial Computing

## Rack PC

### SIMATIC IPC847E

#### Ordering data

#### Article No.

##### Accessories

##### Memory expansions

- 4 GB DDR4 2666 SDRAM, DIMM
- 8 GB DDR4 2666 SDRAM, DIMM
- 16 GB DDR4 2666 SDRAM, DIMM
- 32 GB DDR4 2666 SDRAM, DIMM

6ES7648-2AL60-0QA0

6ES7648-2AL70-0QA0

6ES7648-2AL80-0QA0

6ES7648-2AL81-0QA0

##### Removable drive bay

For 3.5" hard disk or 2.5" solid-state drive, SATA (without hard disk drive/solid-state drive)

6ES7648-0EH00-1BA0

##### Tower kit

To convert the computer into an industrial tower PC

6ES7648-1AA01-0XC0

##### Retainer

For mechanically interlocking the internal USB interface

6ES7648-1AA00-0XK0

##### Adapter cable

- DisplayPort to DVI-D for onboard graphics
- DisplayPort to VGA for onboard graphics
- Mini DisplayPort to VGA for graphics card
- Mini DisplayPort to DVI-D for graphics card
- Mini DisplayPort to DVI-D for graphics card (3 units per pack)
- Mini DisplayPort to DisplayPort for graphics card
- Mini DisplayPort to DisplayPort for graphics card (3 units per pack)

6ES7648-3AF00-0XA0

6ES7648-3AG00-0XA0

6ES7648-3AL00-0XA0

6ES7648-3AK00-0XA0

6ES7648-3AK00-1XA0

6ES7648-3AJ00-0XA0

6ES7648-3AJ00-1XA0

#### Note:

Please select the required IPC configuration via the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

The SIMATIC IPC online configurator offers a current overview at

<https://www.siemens.com/ipc-configurators>.

#### Technical specifications

|  |  |
|--|--|
| Article number                             | <b>6AG4114-3....-....</b><br>SIMATIC IPC847E (Rack PC)   |
| <b>General information</b>                 |  |
| Product type designation                   | IPC847E  |
| <b>Installation type/mounting</b>          |  |
| Mounting                                   | For horizontal and vertical installation; prepared for telescopic rails; 19" mounting bracket can be removed externally; tower kit (optional)  |
| Design                                     | Rack PC, 19", 4U   |
| <b>Supply voltage</b>                      |  |
| Type of supply voltage                     | 100/240 V AC (autorange) 50 / 60 Hz; optional redundant 100/240 V AC   |
| <b>Line frequency</b>                      |  |
| • Rated value 50 Hz                        | Yes  |
| • Rated value 60 Hz                        | Yes  |
| <b>Mains buffering</b>                     |  |
| • Mains/voltage failure stored energy time | 20 ms  |
| <b>Processor</b>                           |  |
| Processor type                             | Intel Xeon E-2278GE (8C/16T, 3.3 (4.7) GHz, 16 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Xeon E-2176G (6C/12T, 3.7 (4.7) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i7-8700 (6C/12T, 3.2 (4.6) GHz, 12 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i5-8500 (6C/6T, 3.0 (4.1) GHz, 9 MB Cache, Turbo Boost 2.0, VT-x/-d-Technology, iAMT); Intel Core i3-8100 (4C/4T, 3.6 GHz, 6 MB Cache, VT-x/-d-Technology) |
| Chipset                                    | Intel C246   |
| <b>Graphic</b>                             |  |
| Graphics controller                        | Onboard Intel UHD graphics P630/630 integrated in processor; graphics card NVIDIA Quadro P400 PCIe (x16) triple head (optional)  |

# Industrial Computing

## Rack PC

### SIMATIC IPC847E

#### Technical specifications

|                               |   |
|-------------------------------|---|
| Article number                | <b>6AG4114-3....-....</b><br>SIMATIC IPC847E (Rack PC)  |
| <b>Drives</b>                 |   |
| Hard disk                     | 1x 1 TB 3.5" SATA HDD,<br>2x 1 TB 3.5" SATA HDD, RAID1<br>2x 1 TB 3.5" SATA HDD, RAID1<br>2x 1 TB 3.5" SATA HDD (Enterprise),<br>RAID1<br>2x 2 TB 3.5" SATA HDD (Enterprise),<br>RAID1<br>2x 2 TB 3.5" SATA HDD (Enterprise)<br>+ 2 TB 3.5" SATA HDD (Enterprise)<br>as hot spare, RAID5<br>3x 2 TB 3.5" SATA HDD (Enterprise),<br>RAID5<br>3x 2 TB 3.5" SATA HDD (Enterprise)<br>+ 2 TB 3.5" SATA HDD (Enterprise)<br>as hot spare, RAID1<br>2x 2 TB 3.5" SAS HDD (Enterprise)<br>with PCIe x8 RAID controller incl.<br>ZMCP module, RAID5<br>3x 2 TB 3.5" SAS HDD (Enterprise)<br>with PCIe x8 RAID controller incl.<br>ZMCP module |
| SSD                           | Yes; 1x 480 GB 2.5" SATA SSD,<br>1x 960 GB 2.5" SATA SSD,<br>2x 480 GB 2.5" SATA SSD, RAID1<br>2x 480 GB 2.5" SATA SSD;<br>1x 512 GB M.2 NVMe SSD,<br>1x 1 024 GB M.2 NVMe SSD  |
| Slot for drives               | Mounting internally in<br>vibration/shock-absorbing drive<br>cage Type B or mounting on the front<br>in removable trays (hot swap in RAID<br>configurations) in drive cage Type A;<br>mounting internally on the fixed drive<br>cage optional   |
| <b>Memory</b>                 |   |
| Main memory                   | 4 GB to 128 GB DDR4 2666 SDRAM<br>DIMM, ECC optional  |
| <b>Hardware configuration</b> |   |
| <b>Slots</b>                  |   |
| • free slots                  | 9 slots: 7x PCI,<br>2x PCI Express (x16) (8 lanes) or<br>11 slots:<br>3x PCI, 1x PCI Express (x16)<br>(8 lanes),<br>5x PCI Express (x16) (4 lanes),<br>2x PCI Express (x4) (4 lanes) or<br>11 slots:<br>3x PCI, 1x PCI Express (x16)<br>(16 lanes),<br>3x PCI Express (x16) (4 lanes),<br>2x PCI Express (x16) (1 lane),<br>2x PCI Express (x4) (4 lanes);<br>expansion modules up to a length of<br>312 mm can be used   |
| <b>Interfaces</b>             |   |
| Interfaces/bus type           | 1x COM1, 1x COM2 (optional),<br>2x DisplayPort, 1x DVI-D, audio<br>(microphone in, line in, line out),<br>9x USB, 3x Gigabit Ethernet   |
| PROFIBUS/MPI                  | can be implemented with plug-in card  |
| USB port                      | 4x USB 3.1 Gen. 2 Type A,<br>2x USB 3.1 Gen. 2 Type C on the rear;<br>1x USB 3.1 Gen. 2 Type A internally,<br>e.g. for software dongle with optional<br>interlock,<br>2x USB 3.1 Gen. 1 Type A on the<br>front, can be used with door closed  |
| Connection for keyboard/mouse | USB   |
| serial interface version      | COM1: 1x RS 232, COM2 (optional):<br>1x RS 232  |
| Multimedia                    |   |
| • Audio In/Out                | Yes   |
| • Microphone In               | Yes   |

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| Article number   | <b>6AG4114-3....-....</b><br>SIMATIC IPC847E (Rack PC)  |
| <b>Video interfaces</b>  |   |
| • Graphics interface   | 2x DisplayPort and 1x DVI-D onboard;<br>1x VGA via DP-VGA adapter cable<br>(optional); graphics card PCIe (x16),<br>Triple Head (3x mini DisplayPort,<br>2 GB graphics memory,<br>3x mini DisplayPort to DisplayPort<br>adapter cable) (optional) |
| <b>Industrial Ethernet</b>   |   |
| • Industrial Ethernet interface  | 3x Gigabit Ethernet (IE/PN), RJ45   |
| - 100 Mbps   | Yes   |
| - 1000 Mbps  | Yes   |
| <b>Interrupts/diagnostics/<br/>status information</b>                              |   |
| LED status display   | POWER, HDD, ETHERNET 1,<br>ETHERNET 2, ETHERNET 3,<br>WATCHDOG, TEMP, FAN,<br>HDD3 ALARM, HDD2 ALARM,<br>HDD1 ALARM, HDD0 ALARM   |
| <b>Integrated Functions</b>  |   |
| <b>Monitoring functions</b>  |   |
| • Temperature monitoring   | Yes   |
| • Watchdog   | Yes   |
| • Fan  | Yes   |
| • Monitoring function via network  | Optional  |
| <b>EMC</b>   |   |
| <b>Interference immunity against<br/>discharge of static electricity</b>           |   |
| • Interference immunity against<br>discharge of static electricity                 | ±6 kV contact discharge acc. to<br>IEC 61000-4-2;<br>±8 kV air discharge acc. to<br>IEC 61000-4-2   |
| <b>Interference immunity against<br/>high-frequency electromagnetic<br/>fields</b> |   |
| • Interference immunity against high<br>frequency radiation                        | 10 V/m for 80 ... 2 700 MHz,<br>80% AM acc. to IEC 61000-4-3;<br>3 V/m for 2.7 to 6 GHz,<br>80% AM acc. to IEC 61000-4-3;<br>10 V for 10 kHz to 80 MHz,<br>80% AM acc. to IEC 61000-4-6   |
| <b>Interference immunity to<br/>cable-borne interference</b>                       |   |
| • Interference immunity on supply<br>cables  | ±2 kV acc. to IEC 61000-4-4, burst;<br>±1 kV acc. to IEC 61000-4-5,<br>surge symmetric;<br>±2 kV acc. to IEC 61000-4-5,<br>surge asymmetric   |
| • Interference immunity on signal<br>cables > 30m                                  | ±2 kV acc. to IEC 61000-4-5, surge,<br>length > 30 m  |
| • Interference immunity on signal<br>cables < 30m                                  | ±1 kV acc. to IEC 61000-4-4; burst,<br>length < 3 m   |
| <b>Interference immunity against<br/>voltage surge</b>                             |   |
| • asymmetric interference  | ±2 kV acc. to IEC 61000-4-5,<br>surge asymmetric  |
| • symmetric interference   | ±1 kV acc. to IEC 61000-4-5,<br>surge symmetric   |
| <b>Interference immunity to magnetic<br/>fields</b>                                |   |
| • Interference immunity to magnetic<br>fields at 50 Hz                             | 100 A/m; to IEC 61000-4-8   |
| <b>Emission of conducted and<br/>non-conducted interference</b>                    |   |
| • Interference emission via line/<br>AC current cables                             | EN 61000-6-3; EN 61000-6-4,<br>CAN/CSA CISPR 22 Class B,<br>EN 55032 Class B; FCC Class A;<br>KN32 Class B, EN 61000-3-2<br>Class D; EN 61000-3-3   |

# Industrial Computing

## Rack PC

### SIMATIC IPC847E

#### Technical specifications

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| Article number  | <b>6AG4114-3....-....</b><br>SIMATIC IPC847E (Rack PC)   |
| <b>Compliance with line harmonic distortion limits</b>  |  |
| <ul style="list-style-type: none"> <li>Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3</li> </ul> | Yes; EN 61000-3-2 Class D; EN 61000-3-3  |
| <b>Degree and class of protection</b>   |  |
| IP (at the front)   | IP41   |
| IP (rear)   | IP20   |
| <b>Standards, approvals, certificates</b>   |  |
| 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; CAN/CSA-C22.2 No. 61010-2-201 Second Edition  |
| UL approval   | Yes; UL 61010-2-201 Second Edition, File E85972  |
| cULus   | Yes; UL 61010-2-201 Second Edition; CAN/CSA-C22.2 No. 61010-2-201 Second Edition   |
| RCM (formerly C-TICK)   | Yes  |
| KC approval   | Yes  |
| EAC (formerly Gost-R)   | Yes  |
| EMC   | EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 22 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3  |
| Dust protection   | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered  |

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| Article number  | <b>6AG4114-3....-....</b><br>SIMATIC IPC847E (Rack PC)   |
| <b>Ambient conditions</b>   |  |
| <b>Ambient temperature during operation</b>   |  |
| <ul style="list-style-type: none"> <li>min.</li> <li>max.</li> </ul>  | 0 °C; Max. 10 °C/h (no condensation)<br>50 °C  |
| <b>Relative humidity</b>  |  |
| <ul style="list-style-type: none"> <li>Relative humidity</li> </ul>   | Tested according to IEC 60068-2-78, IEC 60068-2-30:<br>Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)   |
| <b>Vibrations</b>   |  |
| <ul style="list-style-type: none"> <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/s <sup>2</sup> (0.5 g)   |
| <b>Shock testing</b>  |  |
| <ul style="list-style-type: none"> <li>Shock load during operation</li> </ul>                                 | 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   |
| <b>Operating systems</b>  |  |
| pre-installed operating system  | Windows 10 Enterprise 2016 LTSB, multi-language (64-bit); Windows 10 IoT Enterprise 2019 LTSC, multi-language (64-bit); Windows Server 2016 Standard Edition incl. 5 multi-language clients (64-bit); Windows Server 2019 Standard Edition incl. 5 multi-language clients (64-bit) |
| Additional info on operating system   | Multi-Language User Interface (MUI): 5 languages (English, German, French, Spanish, Italian)   |
| without operating system  | Yes  |
| <b>Software</b>   |  |
| SIMATIC Software  | Optional package with SIMATIC WinCC  |
| <b>Dimensions</b>   |  |
| Width   | 430 mm   |
| Height  | 177 mm; 4U   |
| Depth   | 444 mm   |

#### More information

More information is available on the internet at <https://www.siemens.com/simatic-rack-pc>.

# Industrial Computing

## Rack PC

### SIMATIC IPC1047E

#### Overview



#### SIMATIC IPC1047E

Industrial PC for maximum computing, memory and graphic capacity requirements with high expandability in 19" installation design (4 U).

It offers:

- Maximum CPU performance thanks to two Intel® Xeon® SP 2<sup>nd</sup> Gen Silver/ Gold
- Maximum GPU performance with NVIDIA® Quadro® RTX5000 or up to two RTX A4000 graphics cards
- High system performance with M.2 NVME SSD and up to 2 TB RAM
- A lot of space for your data with up to 32 TB HDD or SSD
- High AI performance with NVIDIA® Quadro® RTX5000 or up to two RTX A4000 graphics cards
- High expandability with 6x PCIe slots and fast data transfer through direct CPU connection of the PCIe lanes
- Product design and safety requirements for industrial environment

#### Ordering data

| Article No.   | 1        | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | Y |
|---|----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <b>SIMATIC IPC1047E</b>   | 6BK1801- |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Rack PC, 19", 4 U; 572 mm;<br>2x 1 GB LAN (RJ45);<br>COM1; IPMI; 6 PCIe slots<br>(2x PCIe x8 + 4x PCIe x16) |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| <u>Processor</u>  |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| • 2x Intel Xeon SP Silver 4210<br>10C/ 20T - 2.2 GHz/ 3.2 GHz   |          |   |   |   |   |   |   |   |   |   |   |   |   |   | A |   |   |   |   |   |   |   |   |   |   |   |
| • 2x Intel Xeon SP Silver 4216<br>16C/ 32T - 2.1 GHz/ 3.2 GHz   |          |   |   |   |   |   |   |   |   |   |   |   |   |   | B |   |   |   |   |   |   |   |   |   |   |   |
| • 2x Intel Xeon SP Gold 6226<br>12C/ 24T - 2.7 GHz/ 3.7 GHz   |          |   |   |   |   |   |   |   |   |   |   |   |   |   | D |   |   |   |   |   |   |   |   |   |   |   |
| • 2x Intel Xeon SP Gold 6230<br>20C/ 40T - 2.1 GHz/ 3.9 GHz   |          |   |   |   |   |   |   |   |   |   |   |   |   |   | E |   |   |   |   |   |   |   |   |   |   |   |
| <u>Drives/ mass storage</u>   |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| • 1x SSD 1 TB M.2 NVMe  |          |   |   |   |   |   |   |   |   |   |   |   |   |   | A |   |   |   |   |   |   |   |   |   |   |   |
| • 1x SSD 2 TB M.2 NVMe  |          |   |   |   |   |   |   |   |   |   |   |   |   |   | B |   |   |   |   |   |   |   |   |   |   |   |
| • 1x SSD 1 TB M.2 NVMe + 1x HDD<br>4 TB 3.5" SATA   |          |   |   |   |   |   |   |   |   |   |   |   |   |   | C |   |   |   |   |   |   |   |   |   |   |   |
| • 1x SSD 1 TB M.2 NVMe + 1x HDD<br>8 TB 3.5" SATA   |          |   |   |   |   |   |   |   |   |   |   |   |   |   | D |   |   |   |   |   |   |   |   |   |   |   |
| • 1x SSD 1 TB M.2 NVMe + 2x HDD<br>4 TB 3.5" SATA (HW RAID 1)   |          |   |   |   |   |   |   |   |   |   |   |   |   |   | E |   |   |   |   |   |   |   |   |   |   |   |
| • 1x SSD 1 TB M.2 NVMe + 4x HDD<br>8 TB 3.5" SATA (HW RAID 5 +<br>hot spare)                                |          |   |   |   |   |   |   |   |   |   |   |   |   |   | F |   |   |   |   |   |   |   |   |   |   |   |
| • 1x SSD 1 TB M.2 NVMe + 2x SSD<br>3.8 TB 2.5" SATA (HW RAID 1)   |          |   |   |   |   |   |   |   |   |   |   |   |   |   | G |   |   |   |   |   |   |   |   |   |   |   |
| • 1x SSD 1 TB M.2 NVMe + 3x SSD<br>3.8 TB 2.5" SATA (HW RAID 5)   |          |   |   |   |   |   |   |   |   |   |   |   |   |   | H |   |   |   |   |   |   |   |   |   |   |   |
| • 1x SSD 1 TB M.2 NVMe + 4x SSD<br>3.8 TB 2.5" SATA (HW RAID 5 +<br>hot spare)                              |          |   |   |   |   |   |   |   |   |   |   |   |   |   | J |   |   |   |   |   |   |   |   |   |   |   |
| • 2x SSD 960 GB 2.5" SATA<br>(HW RAID 1) + 2x HDD 8 TB<br>3.5" SATA (HW RAID 1)                             |          |   |   |   |   |   |   |   |   |   |   |   |   |   | K |   |   |   |   |   |   |   |   |   |   |   |
| • 2x SSD 960 GB 2.5" SATA<br>(HW RAID 1) + 2x SSD 3.8 TB<br>2.5" SATA (HW RAID 1)                           |          |   |   |   |   |   |   |   |   |   |   |   |   |   | L |   |   |   |   |   |   |   |   |   |   |   |
| • 1x SSD 1 TB M.2 NVMe +<br>2x SSD 7.68 TB 2.5" U.3 NVMe<br>(only internal installation)                    |          |   |   |   |   |   |   |   |   |   |   |   |   |   | M |   |   |   |   |   |   |   |   |   |   |   |
| • 1x SSD 1 TB M.2 NVMe + 2x SSD<br>1.92 TB 2.5" U.3 NVMe VROC<br>RAID 1 (only internal installation)        |          |   |   |   |   |   |   |   |   |   |   |   |   |   | N |   |   |   |   |   |   |   |   |   |   |   |
| • 1x SSD 1 TB M.2 NVMe + 3x SSD<br>1.92 TB 2.5" U.3 NVMe VROC<br>RAID 5 (only internal installation)        |          |   |   |   |   |   |   |   |   |   |   |   |   |   | P |   |   |   |   |   |   |   |   |   |   |   |
| • 1x SSD 1 TB M.2 NVMe + 8x SSD<br>1.92 TB 2.5" (internal or<br>8x removable drive bay)                     |          |   |   |   |   |   |   |   |   |   |   |   |   |   | Q |   |   |   |   |   |   |   |   |   |   |   |
| • No drives   |          |   |   |   |   |   |   |   |   |   |   |   |   |   | Y |   |   |   |   |   |   |   |   |   |   |   |

| Article No.  | 1        | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | A | B | C | D | E | F | G | H | J | K | L |  |  |  |   |   |
|--|----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|---|---|
| <b>SIMATIC IPC1047E</b>  | 6BK1801- |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| <u>Memory configuration</u>  |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • 64 GB 2933 MHz DDR4  |          |   |   |   |   |   |   |   |   | 0 |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • 128 GB 2933 MHz DDR4   |          |   |   |   |   |   |   |   |   | 1 |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • 192 GB 2933 MHz DDR4   |          |   |   |   |   |   |   |   |   | 2 |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • 256 GB 2933 MHz DDR4   |          |   |   |   |   |   |   |   |   | 3 |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • 384 GB 2933 MHz DDR4   |          |   |   |   |   |   |   |   |   | 4 |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • 512 GB 2933 MHz DDR4   |          |   |   |   |   |   |   |   |   | 5 |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| <u>Graphics cards</u>  |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • Without graphics card<br>(onboard VGA)   |          |   |   |   |   |   |   |   |   | 0 |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • 1x Nvidia Quadro P620<br>(1x PCIe x16 occupied)  |          |   |   |   |   |   |   |   |   | 1 |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • 1x Nvidia Quadro RTX4000<br>(1x PCIe x16 occupied)   |          |   |   |   |   |   |   |   |   | 2 |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • 1x Nvidia Quadro RTX5000<br>(1x PCIe x16 occupied) -<br>occupied + 1x PCIe x8 covered -<br>only with 860 W power supply unit |          |   |   |   |   |   |   |   |   | 3 |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • 1x Nvidia Quadro RTX A4000<br>(1x PCIe x16 occupied)   |          |   |   |   |   |   |   |   |   | 4 |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| <u>Further plug-in cards</u>   |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • Without plug-in cards  |          |   |   |   |   |   |   |   |   | 0 |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • Intel I350-T2 (2x 1 GB LAN)  |          |   |   |   |   |   |   |   |   | 1 |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • Intel I350-T4 (4x 1 GB LAN)  |          |   |   |   |   |   |   |   |   | 2 |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • Intel X710-T2L (2x 10 GB LAN)  |          |   |   |   |   |   |   |   |   | 4 |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| <u>Operating system (preinstalled<br/>and activated, only with installed<br/>HDDs/ SSDs)</u>                                   |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   |   |
| • Without operating system   |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  | A |   |
| • Windows 10 Enterprise LTSC 2019  |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   | B |
| • Windows Server 2019 -<br>for XEON Silver 4210 (20C)  |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   | C |
| • Windows Server 2019 -<br>for XEON Silver 4216 (32C)  |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   | D |
| • Windows Server 2019 -<br>for XEON Gold 6226 (24C)  |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   | E |
| • Windows Server 2019 -<br>for XEON Gold 6230 (40C)  |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   | F |
| • Windows 10 Enterprise LTSC 2021  |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   | G |
| • Windows Server 2022 -<br>for XEON Silver 4210 (20C)  |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   | H |
| • Windows Server 2022 -<br>for XEON Silver 4216 (32C)  |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   | J |
| • Windows Server 2022 -<br>for XEON Gold 6226 (24C)  |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   | K |
| • Windows Server 2022 -<br>for XEON Gold 6230 (40C)  |          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |   | L |

# Industrial Computing

## Rack PC

### SIMATIC IPC1047E

| Ordering data   | Article No.   | Article No.   |
|---|---|---|
| <b>SIMATIC IPC1047E</b><br><u>Power supply</u> <ul style="list-style-type: none"> <li>• 860 W without power supply cable</li> <li>• 860 W power supply cable EU</li> <li>• 860 W power supply cable US</li> <li>• 860 W power supply cable China</li> <li>• 700 W, redundant, without power supply cable</li> <li>• 700 W, redundant, power supply cable EU</li> <li>• 700 W power supply cable US</li> <li>• 700 W power supply cable China</li> </ul> | <b>6BK1801-</b> 1 ■ ■ ■ ■ ■ - ■ ■ ■ ■ ■<br><b>A</b><br><b>B</b><br><b>C</b><br><b>D</b><br><b>E</b><br><b>F</b><br><b>G</b><br><b>H</b> | <b>Preferred versions</b><br><b>SIMATIC IPC1047E CPU</b> <b>6BK1801-1AA00-0BB0</b> <ul style="list-style-type: none"> <li>• 2x Xeon SP Silver 4210 10C/ 20T - 2.2GHz/ 3.2GHz</li> <li>• 1x SSD 1 TB M.2 NVMe</li> <li>• 64 GB 2933 MHz DDR4 ECC</li> <li>• Without graphics card (onboard VGA)</li> <li>• Without plug-in cards</li> <li>• Windows 10 Enterprise LTSC 2019</li> <li>• 860 W power supply cable EU</li> <li>• Holder for 4x 3.5" or 8x 2.5" SSD/HDD - internal drives</li> </ul>   |
| <u>Enclosure variant</u> <ul style="list-style-type: none"> <li>• Holder for 4x 3.5" or 8x 2.5" SSD/HDD; internal drives</li> <li>• Holder for 4x 3.5" or 4x 2.5" SSD/HDD; removable drive bay</li> <li>• Holder for 8x 2.5" SSD/HDD; removable drive bay</li> </ul>  | <b>0</b><br><b>1</b><br><b>2</b>  | <b>SIMATIC IPC1047E GPU</b> <b>6BK1801-1AA02-0BB0</b> <ul style="list-style-type: none"> <li>• 2x Intel Xeon SP Silver 4210 10C/ 20T - 2.2 GHz/ 3.2 GHz</li> <li>• 1x SSD 1 TB M.2 NVMe</li> <li>• 64 GB 2933 MHz DDR4 ECC</li> <li>• 1x Nvidia Quadro RTX4000 (1x PCIe x16 occupied)</li> <li>• Without plug-in cards</li> <li>• Windows 10 Enterprise LTSC 2019</li> <li>• 860 W power supply cable EU</li> <li>• Holder for 4x 3.5" or 8x 2.5" SSD/HDD - internal drives</li> </ul>  |
|   |   | <b>SIMATIC IPC1047E Virtualize</b> <b>6BK1801-1EF10-0FF1</b> <ul style="list-style-type: none"> <li>• 2x Intel Xeon SP Gold 6230 20C/ 40T - 2.1 GHz/ 3.9 GHz</li> <li>• 1x SSD 1 TB M.2 NVMe + 4x HDD 8 TB 3.5" SATA (HW RAID 5 + hot spare)</li> <li>• 128 GB 2933 MHz DDR4 ECC</li> <li>• Without graphics card (onboard VGA)</li> <li>• Without plug-in cards</li> <li>• Windows Server 2019 - for XEON Gold 6230 (40C)</li> <li>• 700 W, redundant, power supply cable EU</li> <li>• Holder for 4x 3.5" or 4x 2.5" SSD/HDD - removable drive bay</li> </ul> |

#### Note:

For customer-specific configurations, please contact your Siemens sales specialist.

# Industrial Computing

## Rack PC

### SIMATIC IPC1047E

#### Technical specifications

|  |   |
|--|---|
| Article number   | <b>6BK1801-1....-....</b><br>SIMATIC IPC1047E (Rack PC)   |
| <b>General information</b>                             |   |
| Product type designation                               | IPC1047E  |
| <b>Installation type/mounting</b>                      |   |
| Mounting   | For horizontal rack mounting  |
| Design   | Rack PC, 19", 4U  |
| <b>Supply voltage</b>                                  |   |
| Type of supply voltage                                 | 110/230V AC (autorange) 50/60 Hz  |
| <b>Line frequency</b>                                  |   |
| • Rated value 50 Hz                                    | Yes   |
| • Rated value 60 Hz                                    | Yes   |
| <b>Mains buffering</b>                                 |   |
| • Mains/voltage failure stored energy time             | 20 ms   |
| <b>Processor</b>                                       |   |
| Processor type   | 2x Intel Xeon SP Silver 4210 10C/20T - 2.2 GHz/ 3.2 GHz;<br>2x Intel Xeon SP Silver 4216 16C/32T - 2.1 GHz/ 3.2 GHz;<br>2x Intel Xeon SP Gold 6226 12C/24T - 2.7 GHz/ 3.7 GHz;<br>2x Intel Xeon SP Gold 6230 20C/40T - 2.1 GHz/ 3.9 GHz |
| Chipset  | Intel C621  |
| <b>Graphic</b>   |   |
| Graphics controller                                    | Onboard VGA / 2D controller<br>1 920 × 1 200 @ 60 Hz 32 bpp   |
| Graphics card  | Yes; NVIDIA Quadro P620, RTX4000, RTX5000 and RTX A4000   |
| <b>Drives</b>  |   |
| Hard disk  | 4 TB & 8 TB 3.5" SATA   |
| SSD  | Yes; 960 GB / 1.9 TB / 3.8 TB SATA SSD and 1 TB / 2 TB M.2 NVMe and 1.92 TB / 7.68 TB U.3 NVMe SSD  |
| Slot for drives  | 4x 3.5" HDD or 8x 2.5" SSD internal;<br>4x 3.5" HDD or 4x 2.5" SSD front changeable; 8x 2.5" SSD front changeable   |
| <b>Memory</b>  |   |
| Main memory  | 64 ... 512 GB   |
| <b>Hardware configuration</b>                          |   |
| <b>Slots</b>   |   |
| • free slots   | 6x PCIe slots<br>(2x PCIe x8 + 4x PCIe x16)   |
| <b>Interfaces</b>                                      |   |
| Interfaces/bus type                                    | 2x 1 GB LAN (RJ45), COM1, IPMI, VGA   |
| USB port   | 2x front, 2x rear USB 3.0,<br>2x rear USB 2.0   |
| Connection for keyboard/mouse serial interface version | USB<br>1x COM   |
| Multimedia   |   |
| • Audio In/Out   | No  |
| • Microphone In  | No  |
| <b>Video interfaces</b>                                |   |
| • Graphics interface                                   | VGA, with optional graphics card<br>3x or 4x DP1.4  |
| <b>Industrial Ethernet</b>                             |   |
| • Industrial Ethernet interface                        | 2x Ethernet (RJ45)  |
| - 100 Mbps   | No  |
| - 1000 Mbps  | Yes   |
| • number of interfaces (1 000 Mbps)                    | 2   |

|  |   |
|--|---|
| Article number   | <b>6BK1801-1....-....</b><br>SIMATIC IPC1047E (Rack PC)   |
| <b>Interrupts/diagnostics/status information</b>                     |   |
| LED status display   | POWER, HDD, FAN Fail  |
| <b>Integrated Functions</b>  |   |
| <b>Monitoring functions</b>  |   |
| • Temperature monitoring   | Yes   |
| • Fan  | Yes   |
| • Monitoring function via network                                    | Yes (per IPMI)  |
| <b>EMC</b>   |   |
| <b>Interference immunity against discharge of static electricity</b> |   |
| • Interference immunity against discharge of static electricity      | ±4 kV contact discharge acc. to IEC 61000-4-2;<br>±8 kV air discharge acc. to IEC 61000-4-2   |
| <b>Degree and class of protection</b>                                |   |
| IP (at the front)  | IP30  |
| IP (rear)  | IP20  |
| <b>Standards, approvals, certificates</b>                            |   |
| CE mark  | Yes; Industry   |
| CSA approval   | Yes; CAN/CSA-C22.2 No. 61010-2-201 Third Edition  |
| UL approval  | Yes; UL 61010-2-201 Third Edition, File E115352 (I.T.E.)  |
| cULus  | Yes; UL 61010-2-201 Third Edition; CAN/CSA-C22.2 No. 61010-2-201 Third Edition  |
| KC approval  | Yes   |
| FCC  | Yes   |
| EMC  | EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 32 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3 |
| Dust protection  | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered   |
| <b>Ambient conditions</b>  |   |
| <b>Ambient temperature during operation</b>                          |   |
| • min.   | 0 °C; Max. 10 °C/h (no condensation)  |
| • max.   | 50 °C; Basic configuration (without graphics card)  |
| <b>Relative humidity</b>   |   |
| • Relative humidity  | permissible range for 0 to 31 °C: 5 ... 80 %; no condensation   |
| <b>Vibrations</b>  |   |
| • Vibration resistance during operation acc. to IEC 60068-2-6        | 10 - 58 Hz: amplitude 0.0375 mm;<br>58 ... 200 Hz: acceleration 2 m/s <sup>2</sup>  |
| <b>Shock testing</b>   |   |
| • Shock load during operation  | half-sine: acceleration 50 m/s <sup>2</sup> , duration 30 ms  |
| <b>Operating systems</b>   |   |
| pre-installed operating system                                       | Windows 10 Enterprise LTSC 2019 or Windows 10 Enterprise LTSC 2021 or Windows Server 2019 or Windows Server 2022                      |
| Additional info on operating system                                  | Multilingual User Interface (MUI): 5 languages (English, German, French, Spanish, Italian); 64 bit                                    |
| without operating system   | Yes   |
| <b>Dimensions</b>  |   |
| Width  | 430 mm  |
| Height   | 176.6 mm; 4U  |
| Depth  | 572 mm  |

# Industrial Computing

## Rack PC

### SIMATIC IPC1047E

#### Technical specifications

| Article number   | <b>6BK1801-1AA00-0AA0</b><br>SIMATIC IPC1047E (Rack PC)   | <b>6BK1801-1EF10-OFF1</b><br>SIMATIC IPC1047E (Rack PC)   | <b>6BK1801-1AA02-0BB0</b><br>SIMATIC IPC1047E (Rack PC)   |
|--|---|---|---|
| <b>General information</b>   |   |   |   |
| Product type designation   | IPC1047E  | IPC1047E  | IPC1047E  |
| <b>Installation type/mounting</b>                                    |   |   |   |
| Mounting   | For horizontal rack mounting  | For horizontal rack mounting  | For horizontal rack mounting  |
| Design   | Rack PC, 19", 4U  | Rack PC, 19", 4U  | Rack PC, 19", 4U  |
| <b>Supply voltage</b>  |   |   |   |
| Type of supply voltage   | 110/230V AC (autorange) 50/60 Hz  | 110/230V AC (autorange) 50/60 Hz  | 110/230V AC (autorange) 50/60 Hz  |
| <b>Line frequency</b>  |   |   |   |
| • Rated value 50 Hz  | Yes   | Yes   | Yes   |
| • Rated value 60 Hz  | Yes   | Yes   | Yes   |
| <b>Mains buffering</b>   |   |   |   |
| • Mains/voltage failure stored energy time                           | 20 ms   | 20 ms   | 20 ms   |
| <b>Processor</b>   |   |   |   |
| Processor type   | 2x Intel Xeon SP Silver 4210 10C/20T - 2.2 GHz/ 3.2 GHz;<br>2x Intel Xeon SP Silver 4216 16C/32T - 2.1 GHz/ 3.2 GHz;<br>2x Intel Xeon SP Gold 6226 12C/24T - 2.7 GHz/ 3.7 GHz;<br>2x Intel Xeon SP Gold 6230 20C/40T - 2.1 GHz/ 3.9 GHz | 2x Intel Xeon SP Silver 4210 10C/20T - 2.2 GHz/ 3.2 GHz;<br>2x Intel Xeon SP Silver 4216 16C/32T - 2.1 GHz/ 3.2 GHz;<br>2x Intel Xeon SP Gold 6226 12C/24T - 2.7 GHz/ 3.7 GHz;<br>2x Intel Xeon SP Gold 6230 20C/40T - 2.1 GHz/ 3.9 GHz | 2x Intel Xeon SP Silver 4210 10C/20T - 2.2 GHz/ 3.2 GHz;<br>2x Intel Xeon SP Silver 4216 16C/32T - 2.1 GHz/ 3.2 GHz;<br>2x Intel Xeon SP Gold 6226 12C/24T - 2.7 GHz/ 3.7 GHz;<br>2x Intel Xeon SP Gold 6230 20C/40T - 2.1 GHz/ 3.9 GHz |
| Chipset  | Intel C621  | Intel C621  | Intel C621  |
| <b>Graphic</b>   |   |   |   |
| Graphics controller  | Onboard VGA / 2D controller 1 920 × 1 200 @ 60 Hz 32 bpp  | Onboard VGA / 2D controller 1 920 × 1 200 @ 60 Hz 32 bpp  | Onboard VGA / 2D controller 1 920 × 1 200 @ 60 Hz 32 bpp  |
| Graphics card  | Yes   | Yes   | Yes   |
| <b>Drives</b>  |   |   |   |
| Hard disk  | 4 TB & 8 TB 3.5" SATA   | 4 TB & 8 TB 3.5" SATA   | 4 TB & 8 TB 3.5" SATA   |
| SSD  | Yes   | Yes   | Yes   |
| <b>Memory</b>  |   |   |   |
| Main memory  | 64 ... 512 GB   | 64 ... 512 GB   | 64 ... 512 GB   |
| <b>Interfaces</b>  |   |   |   |
| Interfaces/bus type  | 2x 1 GB LAN (RJ45), COM1, IPMI, VGA   | 2x 1 GB LAN (RJ45), COM1, IPMI, VGA   | 2x 1 GB LAN (RJ45), COM1, IPMI, VGA   |
| USB port   | 2x front, 2x rear USB 3.0, 2x rear USB 2.0  | 2x front, 2x rear USB 3.0, 2x rear USB 2.0  | 2x front, 2x rear USB 3.0, 2x rear USB 2.0  |
| Connection for keyboard/mouse  | USB   | USB   | USB   |
| Multimedia   |   |   |   |
| • Audio In/Out   | No  | No  | No  |
| • Microphone In  | No  | No  | No  |
| <b>Video interfaces</b>  |   |   |   |
| • Graphics interface   | VGA, with optional graphics card 3x or 4x DP1.4   | VGA, with optional graphics card 3x or 4x DP1.4   | VGA, with optional graphics card 3x or 4x DP1.4   |
| <b>Industrial Ethernet</b>   |   |   |   |
| • Industrial Ethernet interface                                      | 2x Ethernet (RJ45)  | 2x Ethernet (RJ45)  | 2x Ethernet (RJ45)  |
| - 100 Mbps   | No  | No  | No  |
| - 1000 Mbps  | Yes   | Yes   | Yes   |
| • number of interfaces (1 000 Mbps)                                  | 2   | 2   | 2   |
| <b>Integrated Functions</b>  |   |   |   |
| <b>Monitoring functions</b>  |   |   |   |
| • Temperature monitoring   | Yes   | Yes   | Yes   |
| • Fan  | Yes   | Yes   | Yes   |
| • Monitoring function via network                                    | Yes (per IPMI)  | Yes (per IPMI)  | Yes (per IPMI)  |
| <b>EMC</b>   |   |   |   |
| <b>Interference immunity against discharge of static electricity</b> |   |   |   |
| • Interference immunity against discharge of static electricity      | ±4 kV contact discharge acc. to IEC 61000-4-2;<br>±8 kV air discharge acc. to IEC 61000-4-2   | ±4 kV contact discharge acc. to IEC 61000-4-2;<br>±8 kV air discharge acc. to IEC 61000-4-2   | ±4 kV contact discharge acc. to IEC 61000-4-2;<br>±8 kV air discharge acc. to IEC 61000-4-2   |
| <b>Degree and class of protection</b>                                |   |   |   |
| IP (at the front)  | IP30  | IP30  | IP30  |
| IP (rear)  | IP20  | IP20  | IP20  |

# Industrial Computing

## Rack PC

### SIMATIC IPC1047E

#### Technical specifications

| Article number  | <b>6BK1801-1AA00-0AA0</b><br>SIMATIC IPC1047E (Rack PC)   | <b>6BK1801-1EF10-OFF1</b><br>SIMATIC IPC1047E (Rack PC)   | <b>6BK1801-1AA02-0BB0</b><br>SIMATIC IPC1047E (Rack PC)   |
|---|---|---|---|
| <b>Standards, approvals, certificates</b>                     |   |   |   |
| CE mark   | Yes; Industry   | Yes; Industry   | Yes; Industry   |
| CSA approval  | Yes; CAN/CSA-C22.2 No. 61010-2-201 Third Edition  | Yes; CAN/CSA-C22.2 No. 61010-2-201 Third Edition  | Yes; CAN/CSA-C22.2 No. 61010-2-201 Third Edition  |
| UL approval   | Yes; UL 61010-2-201 Third Edition, File E115352 (I.T.E.)  | Yes; UL 61010-2-201 Third Edition, File E115352 (I.T.E.)  | Yes; UL 61010-2-201 Third Edition, File E115352 (I.T.E.)  |
| cULus   | Yes; UL 61010-2-201 Third Edition; CAN/CSA-C22.2 No. 61010-2-201 Third Edition  | Yes; UL 61010-2-201 Third Edition; CAN/CSA-C22.2 No. 61010-2-201 Third Edition  | Yes; UL 61010-2-201 Third Edition; CAN/CSA-C22.2 No. 61010-2-201 Third Edition  |
| KC approval   | Yes   | Yes   | Yes   |
| FCC   | Yes   | Yes   | Yes   |
| EMC   | EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 32 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3 | EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 32 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3 | EN 61000-6-3; EN 61000-6-4, CAN/CSA CISPR 32 Class B, EN 55032 Class B; FCC Class A; KN32 Class B, EN 61000-3-2 Class D; EN 61000-3-3 |
| Dust protection   | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered   | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered   | With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered   |
| <b>Ambient conditions</b>                                     |   |   |   |
| <b>Ambient temperature during operation</b>                   |   |   |   |
| • min.  | 0 °C; Max. 10 °C/h (no condensation)  | 0 °C; Max. 10 °C/h (no condensation)  | 0 °C; Max. 10 °C/h (no condensation)  |
| • max.  | 50 °C; Basic configuration (without graphics card)  | 50 °C; Basic configuration (without graphics card)  | 50 °C; Basic configuration (without graphics card)  |
| <b>Relative humidity</b>                                      |   |   |   |
| • Relative humidity   | permissible range for 0 to 31 °C: 5 ... 80 %; no condensation   | permissible range for 0 to 31 °C: 5 ... 80 %; no condensation   | permissible range for 0 to 31 °C: 5 ... 80 %; no condensation   |
| <b>Vibrations</b>   |   |   |   |
| • Vibration resistance during operation acc. to IEC 60068-2-6 | 10 - 58 Hz: amplitude 0.0375 mm; 58 ... 200 Hz: acceleration 2 m/s <sup>2</sup>   | 10 - 58 Hz: amplitude 0.0375 mm; 58 ... 200 Hz: acceleration 2 m/s <sup>2</sup>   | 10 - 58 Hz: amplitude 0.0375 mm; 58 ... 200 Hz: acceleration 2 m/s <sup>2</sup>   |
| <b>Shock testing</b>  |   |   |   |
| • Shock load during operation                                 | half-sine: acceleration 50 m/s <sup>2</sup> , duration 30 ms  | half-sine: acceleration 50 m/s <sup>2</sup> , duration 30 ms  | half-sine: acceleration 50 m/s <sup>2</sup> , duration 30 ms  |
| <b>Operating systems</b>                                      |   |   |   |
| without operating system                                      | Yes   | Yes   | Yes   |
| <b>Dimensions</b>   |   |   |   |
| Width   | 430 mm  | 430 mm  | 430 mm  |
| Height  | 176.6 mm; 4U  | 176.6 mm; 4U  | 176.6 mm; 4U  |
| Depth   | 572 mm  | 572 mm  | 572 mm  |

#### More information

More information is available on the internet at

<https://www.siemens.com/simatic-rack-pc>.



# Industrial Computing

## Rack PC

### SIMATIC IPC RS-828A

#### Ordering data

#### Article No.

##### SIMATIC IPC RS-828A

6AG4102- 0 ■ ■ ■ ■ ■ - ■ ■ ■ ■ ■

##### AI accelerator

- AI accelerator 1x NVIDIA L4 (1 slot occupied) **A**
- AI accelerator 2x NVIDIA L4 (2 slots occupied) **B**
- AI accelerator 3x NVIDIA L4 (3 slots occupied) **C**
- AI accelerator 4x NVIDIA L4 (4 slots occupied) **D**
- AI accelerator 1x NVIDIA L40 (2 slots occupied) **E**
- AI accelerator 2x NVIDIA L40 (4 slots occupied) **F**
- AI accelerator 1x NVIDIA A100 (2 slots occupied) **G**
- AI accelerator 2x NVIDIA A100 (4 slots occupied) **H**
- AI accelerator 1x NVIDIA H100 (2 slots occupied) **J**
- AI accelerator 2x NVIDIA H100 (4 slots occupied) **K**
- Without AI accelerator **X**

##### Operating system (preinstalled and activated)

- Windows Server 2022 IoT Standard Edition incl. unlimited clients for this server, 64-bit, MUI (en, de, fr, it, es) **!**
- Windows Server 2022 IoT Standard Edition incl. unlimited clients for this server, 64-bit, MUI (en, de, fr, it, es) **!**
- Windows Server 2022 IoT Standard Edition incl. unlimited clients for this server, 64-bit, MUI (en, de, fr, it, es) **!**
- Windows Server 2022 IoT Standard Edition incl. unlimited clients for this server, 64-bit, MUI (en, de, fr, it, es) **D**
- Without operating system **X**

##### Power supply unit and country-specific power supply cord

- Power supply unit 2600 W (2 modules 2600 W each, redundant) - without power supply cord **0**
- Power supply unit 2600 W (2 modules 2600 W each, redundant) - power supply cord Europe **1**
- Power supply unit 2600 W (2 modules 2600 W each, redundant) - power supply cord USA **2**
- Power supply unit 2600 W (2 modules 2600 W each, redundant) - power supply cord China **3**

#### Technical specifications

|  |   |
|--|---|
| Article number                             | <b>6AG4102-0....-....</b><br>SIMATIC IPC RS-828A  |
| <b>General information</b>                 |   |
| Product type designation                   | IPC RS-828A   |
| <b>Installation type/mounting</b>          |   |
| Mounting                                   | For horizontal rack mounting  |
| Design                                     | Rack PC, 19", 2U  |
| <b>Supply voltage</b>                      |   |
| Type of supply voltage                     | AC redundant 100/240 V (autorange)<br>50 Hz/60 Hz   |
| <b>Line frequency</b>                      |   |
| • Rated value 50 Hz                        | Yes   |
| • Rated value 60 Hz                        | Yes   |
| <b>Mains buffering</b>                     |   |
| • Mains/voltage failure stored energy time | 5 ms  |
| <b>Processor</b>                           |   |
| Processor type                             | Dual Socket SP5 -<br>2x AMD EPYC™ 9454 Embedded Series Server Processors - max. 400 W cTDP, 48 Cores/each;<br>Dual Socket SP5 -<br>2x AMD EPYC™ 9354 Embedded Series Server Processors - max. 300 W cTDP, 32 Cores/each;<br>Dual Socket SP5 -<br>2x AMD EPYC™ 9254 Embedded Series Server Processors - max. 240 W cTDP, 24 Cores/each;<br>Dual Socket SP5 -<br>2x AMD EPYC™ 9124 Embedded Series Server Processors - max. 240 W cTDP, 16 Cores/each |
| Chipset                                    | SoC   |
| <b>Graphic</b>                             |   |
| Graphics controller                        | ASPEED AST2600 Graphics Family (WDDM)   |
| Graphics card                              | Yes; NVIDIA A100, NVIDIA H100, NVIDIA L4, NVIDIA L40  |
| <b>Drives</b>                              |   |
| Hard disk                                  | 1x 2 TB 2.5" SATA SSD;<br>2x 2 TB 2.5" SATA SSD;<br>4x 2 TB 2.5" SATA SSD;<br>6x 2 TB 2.5" SATA SSD;<br>1x 2 TB 2.5" U.3 NVMe SSD;<br>2x 2 TB 2.5" U.3 NVMe SSD;<br>4x 2 TB 2.5" U.3 NVMe SSD;<br>6x 2 TB 2.5" U.3 NVMe SSD   |
| SSD  | Yes; 1x 1/2 TB SSD M.2 NVMe   |
| <b>Memory</b>                              |   |
| Main memory                                | 256 GB ... 1.5 TB DDR5-4800 MHZ RDIMM ECC   |
| <b>Hardware configuration</b>              |   |
| <b>Slots</b>                               |   |
| • free slots                               | 7 Slots:<br>2 x PCI-E Gen5 x16 Slot optional for 2 x DW GPU Card or<br>4 x PCI-E Gen5 x8 (FHFL) +<br>3 x PCI-E Gen5 x16 Slot (FHHL)   |

#### Note:

Please select the required IPC configuration via the TIA Selection Tool or configurator in the SiePortal in order to ensure availability; we do not accept any liability for configurations compiled by users themselves.

The SIMATIC IPC online configurator offers a current overview at

<https://www.siemens.com/ipc-configurators>.

# Industrial Computing

## Rack PC

### SIMATIC IPC RS-828A

#### Technical specifications

|  |   |
|--|---|
| Article number   | <b>6AG4102-0....-....</b><br>SIMATIC IPC RS-828A  |
| <b>Interfaces</b>  |   |
| Interfaces/bus type  | Interfaces front: 2x USB 3.1 (Type A) frontside; LED Indicators: Power, SSD, Ethernet 1-2, Watchdog, Temp, Fans, drives alarm, PS alarm<br>Interfaces rear: 2x 10 Gbit Ethernet (IE/PN), RJ45; 1x 1 Gbit Ethernet (BMC), RJ45; 1x COM1; 1x VGA; 4x USB 3.1 Gen. 2, Type A<br>Interfaces internally: 2x M.2 PCIe x4, Key M, 22110 Slot; Riser card: 2 x PCI-E Gen5 x16 Slot optional for 2 x DW GPU Card or 4 x PCI-E Gen5 x8 (FHFL) + 3 x PCI-E Gen5 x16 Slot (FHHL) System Management: IPMI 2.0 / RedFish, TPM 2.0 |
| USB port   | Interfaces front: 2x USB 3.1 (Type A)<br>Interfaces rear: 4x USB 3.1 Gen. 2, Type A   |
| Connection for keyboard/mouse serial interface version               | USB<br>1x COM   |
| <b>Video interfaces</b>  |   |
| • Graphics interface   | 1x VGA  |
| <b>Industrial Ethernet</b>   |   |
| • Industrial Ethernet interface                                      | 2x 10 Gbit Ethernet (IE/PN), RJ45;<br>1x 1 Gbit Ethernet (BMC), RJ45  |
| - 100 Mbps   | Yes   |
| - 1000 Mbps  | Yes   |
| <b>Interrupts/diagnostics/status information</b>                     |   |
| LED status display   | Power, SSD, Ethernet 1-2, Watchdog, Temp, Fans, drives alarm, PS alarm  |
| <b>Integrated Functions</b>  |   |
| <b>Monitoring functions</b>  |   |
| • Temperature monitoring   | Yes   |
| • Watchdog   | Yes   |
| • Fan  | Yes   |
| • Monitoring function via network                                    | Yes (per IPMI)  |
| <b>EMC</b>   |   |
| <b>Interference immunity against discharge of static electricity</b> |   |
| • Interference immunity against discharge of static electricity      | ±6 kV contact;<br>±8 kV air (to IEC 61000-4-2, ESD)   |
| <b>Interference immunity to cable-borne interference</b>             |   |
| • Interference immunity on supply cables                             | ±2 kV; acc. to IEC 61000-4-4; burst cables  |
| • Interference immunity on signal cables > 30m                       | ± 2 kV; in accordance with IEC 61000-4-4; burst; length > 30 m  |
| • Interference immunity on signal cables < 30m                       | ± 1 kV; in accordance with IEC 61000-4-4; burst; length < 30 m  |
| <b>Interference immunity against voltage surge</b>                   |   |
| • asymmetric interference  | ±2 kV acc. to IEC 61000-4-5, surge asymmetric   |
| • symmetric interference   | ±1 kV acc. to IEC 61000-4-5, surge symmetric  |
| <b>Interference immunity to magnetic fields</b>                      |   |
| • Interference immunity to magnetic fields at 50 Hz                  | 100 A/m; to IEC 61000-4-8   |
| <b>Emission of conducted and non-conducted interference</b>          |   |
| • Interference emission via line/ AC current cables                  | EN 61000-6-3; EN 61000-6-4<br>EN 55032 Class A; FCC Class A;<br>KS C 9832 Class A EN 61000-3-2 Class D; EN 61000-3-3  |

|   |  |
|---|--|
| Article number  | <b>6AG4102-0....-....</b><br>SIMATIC IPC RS-828A   |
| <b>Degree and class of protection</b>                         |  |
| IP (at the front)   | IP20   |
| IP (rear)   | IP20   |
| <b>Standards, approvals, certificates</b>                     |  |
| CE mark   | Yes; use in industry (interference emission: EN 61000-6-4)   |
| CSA approval  | Yes; CAN/CSA-C22.2 No. 62368-1   |
| UL approval   | Yes; standard UL 62368-1   |
| cULus   | Yes; standard UL 62368-1   |
| RCM (formerly C-TICK)   | Yes  |
| KC approval   | Yes; in preparation  |
| FCC   | Yes  |
| BSMI  | Yes  |
| EMC   | EN 61000-6-3; EN 61000-6-4<br>EN 55032 Class A; FCC Class A;<br>KS C 9832 Class A EN 61000-3-2 Class D; EN 61000-3-3   |
| Dust protection   | dust filter with mounted front bezel   |
| <b>Ambient conditions</b>                                     |  |
| <b>Ambient temperature during operation</b>                   |  |
| • min.  | 5 °C; Max. 10 °C/h (no condensation)   |
| • max.  | 45 °C  |
| <b>Relative humidity</b>                                      |  |
| • Relative humidity   | tested to IEC 60068-2-78;<br>IEC 60068-2-30 5 % to 85 % at 30 °C;<br>no condensation gradient: ≤ 10 K/h;<br>no condensation 5 % to 95 % at 25 °C to 55 °C;<br>no condensation gradient: ≤ 20 K/h;<br>no condensation |
| <b>Vibrations</b>   |  |
| • Vibration resistance during operation acc. to IEC 60068-2-6 | Tested according to IEC 60068-2-6:<br>10 cycles, 10 Hz to 58 Hz: 0.0375 mm,<br>58 Hz to 500 Hz: 4.9 m/s <sup>2</sup> (0.5 g)   |
| <b>Shock testing</b>  |  |
| • Shock load during operation                                 | Tested according to IEC 60068-2-27:<br>50 m/s <sup>2</sup> , 30 ms   |
| <b>Operating systems</b>                                      |  |
| pre-installed operating system                                | Windows Server 2022 IoT Standard Edition incl. unlimited Clients for this server, 64bit, MUI (en, de, fr, it, sp)  |
| Additional info on operating system without operating system  | optional: SIMATIC Industrial OS<br>Yes   |
| <b>Dimensions</b>   |  |
| Width   | 444 mm   |
| Height  | 88 mm; 2U  |
| Depth   | 585 mm   |