

PC-based Automation

Industrial PC
Rack PC

SIMATIC IPC1047

Overview



SIMATIC IPC1047

SIMATIC IPC1047 is an industrial PC for maximum computing and graphic capacity requirements with expansive expandability in 19" installation design (4 U).

It offers:

- Maximum computing capacity due to two Intel® Xeon® CPUs
- Maximum graphic capacity
- High degree of expandability
- Product design for industrial environment

Technical specifications

Article number	6BK1800-1HA01-0AA0 SIMATIC IPC1047 - CPU (Rack PC)	6BK1800-1HA02-0AA0 SIMATIC IPC1047 - GPU (Rack PC)	6BK1800-1HA03-0AA0 SIMATIC IPC1047 - Virtualize (Rack PC)
Installation type/mounting			
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
Rack mounting	Yes	Yes	Yes
Supply voltage			
Type of supply voltage	100/240V AC (autorange) 50/60 Hz	100/240V AC (autorange) 50/60 Hz	AC redundant 100/240 V (autorange) 50 Hz/60 Hz
Line frequency			
• Rated value 50 Hz	Yes	Yes	Yes
• Rated value 60 Hz	Yes	Yes	Yes
Mains buffering			
• Mains/voltage failure stored energy time	20 ms	20 ms	20 ms
Processor			
Processor type	Xeon E5-2620 v4 (8C/16T, 2.1 (3.0) GHz, 20 MB cache)	Xeon E5-2620 v4 (8C/16T, 2.1 (3.0) GHz, 20 MB cache)	Xeon E5-2658 v4 (14C/28T, 2.3 (2.8) GHz, 35 MB cache)
Chipset	Intel PCH C612	Intel PCH C612	Intel PCH C612
Graphic			
Graphics controller	Onboard VGA / 2D controller 1 920 x 1 200 @ 60 Hz 32 bpp	NVIDIA Quadro P5000, 2 560 cores, 16 GB DDR5	Onboard VGA / 2D controller 1 920 x 1 200 @ 60 Hz 32 bpp
Drives			
Hard disk	1x 480 GB SSD	1x 480 GB SSD	1x 480 GB SSD, 4x 1.9 TB SSD
SSD	Yes	Yes	Yes
Memory			
Type of memory	DDR4-SDRAM DIMM	DDR4-SDRAM DIMM	DDR4-SDRAM DIMM
Main memory	32 GB, 2 400 MHz	32 GB, 2 400 MHz	128 GB, 2 400 MHz
Hardware configuration			
Slots			
• free slots	6 slots: 3x PCIe (x16), 3x PCIe (x8)	6 slots: 3x PCIe (x16), 3x PCIe (x8)	6 slots: 3x PCIe (x16), 3x PCIe (x8)
Interfaces			
USB port	4x USB 3.0: 2x on rear, 2x on front; 2x USB 2.0: 2x on rear	4x USB 3.0: 2x on rear, 2x on front; 2x USB 2.0: 2x on rear	4x USB 3.0: 2x on rear, 2x on front; 2x USB 2.0: 2x on rear
Integrated Functions			
Monitoring functions			
• Temperature monitoring	Yes	Yes	Yes
• Status LEDs	POWER, HDD, FAN Fail	POWER, HDD, FAN Fail	POWER, HDD, FAN Fail
• Fan	Yes	Yes	Yes
• Monitoring function via network	Yes (per IPMI)	Yes (per IPMI)	Yes (per IPMI)

Technical specifications (continued)

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EMC			
Interference immunity against discharge of static electricity			
<ul style="list-style-type: none"> Interference immunity against discharge of static electricity 	±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
Interference immunity against high-frequency electromagnetic fields			
<ul style="list-style-type: none"> 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		
Interference immunity to cable-borne interference			
<ul style="list-style-type: none"> Interference immunity on supply cables Interference immunity on signal cables > 30 m Interference immunity on signal cables < 30 m 	±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
Interference immunity against voltage surge			
<ul style="list-style-type: none"> asymmetric interference symmetric interference 	±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 ±1 kV acc. to IEC 61000-4-5, surge symmetric	±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields			
<ul style="list-style-type: none"> Interference immunity to magnetic fields at 50 Hz 	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference			
<ul style="list-style-type: none"> Interference emission via line/AC current cables 	EN 61000-6-3, FCC Class A, EN 61000-6-4, CISPR 22, EN 55022 Class B, EN 61000-3-2 Class D, EN 61000-3-3	EN 61000-6-3, FCC Class A, EN 61000-6-4, CISPR 22, EN 55022 Class B, EN 61000-3-2 Class D, EN 61000-3-3	EN 61000-6-3, FCC Class A, EN 61000-6-4, CISPR 22, EN 55022 Class B, EN 61000-3-2 Class D, EN 61000-3-3
Degree and class of protection			
IP (at the front)	IP30	IP30	IP30
IP (rear)	IP20	IP20	IP20
Standards, approvals, certificates			
Approval	CE, cULus 60950	CE, cULus 60950	CE, cULus 60950
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)
CSA approval	Yes	Yes	Yes
cULus	Yes	Yes	Yes
FCC	Yes	Yes	Yes
EMC	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005	CE, EN 61000-6-3:2007 +A1:2011, EN 61000-6-2:2005
Dust protection	With front door closed: G2 EN 779, 99% of particles > 0.5 mm are filtered	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

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Ambient conditions			
Ambient temperature during operation			
<ul style="list-style-type: none"> Ambient temperature during operation 	0 °C to +50 °C in basic configuration; 0 °C to +40 °C in maximum configuration	0 to +40 °C	0 to +40 °C
Relative humidity			
<ul style="list-style-type: none"> 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)		
Vibrations			
<ul style="list-style-type: none"> Vibration resistance during operation acc. to IEC 60068-2-6 	Tested according to IEC 60068-2-6, 10 cycles; 20 to 58 Hz: 0.015 mm; 58 to 200 Hz: 2 m/s ² (0.2 g)		
Shock testing			
<ul style="list-style-type: none"> Shock load during operation 	Tested according to IEC 60068-2-27; half-sine: 9.8 m/s ² (1 g), 20 ms, 100 shocks per axis	Tested according to IEC 60068-2-27; half-sine: 9.8 m/s ² (1 g), 20 ms, 100 shocks per axis	Tested according to IEC 60068-2-27; half-sine: 9.8 m/s ² (1 g), 20 ms, 100 shocks per axis
Operating systems			
Operating system	Windows 7 Professional x64 bit	Windows 7 Professional x64 bit	Windows Server 2012 R2
pre-installed operating system	Yes	Yes	No
pre-installed operating system			
<ul style="list-style-type: none"> Windows 7 	Yes	Yes	Yes
Dimensions			
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

Ordering data

SIMATIC IPC1047

SIMATIC IPC1047 CPU

- 2x Intel Xeon E5-2620v4; 32 GB DDR4 ECC SDRAM;
- 1x system-SSD 480 GB;
- 2x Gbit Ethernet, IPMI, RJ45
- 1x VGA, 1x COM 1, TPM1.2
- 2x USB 3.0, 2x USB rear; 2x USB 3.0 front
- WIN 7 Professional x64bit
- ATX power supply 860 W; temp. and fan monitoring
- SW RAID onboard

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SIMATIC IPC1047 GPU

- 2x Intel Xeon E5-2620v4; 32 GB DDR4 ECC SDRAM;
- 1x system SSD 480 GB;
- 1x GPU NVIDIA P5000;
- 2x Gbit Ethernet, IPMI, RJ45; 1x VGA, 1x COM 1, TPM1.2;
- 2x USB 3.0, 2x USB rear; 2x USB 3.0 front
- WIN 7 Professional x64bit
- ATX power supply 860 W; temp. and fan monitoring
- SW RAID onboard

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Article No.

SIMATIC IPC1047 Virtualize

- 2x Intel Xeon E5-2658v4; 128 GB DDR4 ECC SDRAM
- 1x system-SSD 480 GB;
- 4x DATA-SSD 1.9TB
- 2x Gbit Ethernet, IPMI, RJ45; 1x VGA, 1x COM 1, TPM1.2;
- 2x USB 3.0, 2x USB rear; 2x USB 3.0 front
- Windows Server 2012 R2
- 700 W redundant power supply; temp. and fan monitoring
- HW RAID controller

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Note:

Request customized configurations via Siemens Customized Automation.

Further information can be found on the Internet at:

<http://www.siemens.com/simatic-pc>