

SIMATIC IPC547D



The SIMATIC IPC547D is a rugged industrial PC in 19" rack design (4U).

It offers:

- Maximum performance
- Attractive price
- Intel Core i technology

Design

Basic design

- All-metal 19" enclosure for flush mounting (4U) for high electromagnetic compatibility and mechanical ruggedness; lacquered on the outside
- Prepared for mounting on telescopic rails
- Horizontal and vertical installation is possible. It can be used as an industrial tower PC with the appropriate kit
- Lockable front flap for authorized access to front swap media, operator controls (Reset, Power), USB interfaces, front fan and dust filter
- Card retainer for PC modules for safe transport (vibration and shock)
- Replacement of PC components (e.g. PC cards or HDD) with a single tool
- Replacement of the dust filter without tool
- Dust protection by means of overpressure ventilation using bearing seated front fan through filter
- 6 slots for installing drives
 - Front: 1 x 3.5"; 3 x 5.25" or 1 x 3.5"; 1 x 5.25"; 3 x HDD swap frames (low profile)
 - Internal: 2 x 3.5"
- Graphics on-board, Intel HD 2000 integrated in the processor, up to 2560 x 1600 pixels, 60 Hz, 32-bit colors

- Interfaces:
 - 2 x Intel Gbit Ethernet (RJ45, teaming-capable)
 - 11 x USB 2.0: 8 x rear, 2 x front, 1 x internal e.g. for software dongle with optional interlocking
 - 1 x DisplayPort, 1 x DVI-I, 1 x COM1, 2 x PS/2
 - Audio: Line In/Out, Mic
- 7 spare slots for expansions (all long):
 - 4 x PCI
 - 1 x PCI-Express x16
 - 1 x PCI-Express x16 (4 lanes)
 - 1 x PCI-Express x8 (1 lane)
- Power supply:
 - AC (100 ... 240 V, 50 ... 60 Hz)

Design versions

- Processors:
 - Intel Core i7-2600 (4C/8T, 3.40 GHz, 8 MB Last Level Cache, Turbo Boost 2.0, EM64T, VT-x/-d, iAMT 7.0)
 - Intel Core i5-2400 (4C/4T, 3.10 GHz, 6 MB Last Level Cache, Turbo Boost 2.0, EM64T, VT-x/-d, iAMT 7.0)
 - Intel Pentium Dual Core G850 (2C/2T, 2.90 GHz, 3 MB Last Level Cache, EM64T, VT)
- Main memory expansion of 1 GB up to 32 GB, DDR3 1333 SDRAM (configured as dual channel for the highest performance from 2 GB upwards)
 - Available memory configurations: 1 GB, 2 GB, 4 GB, 8 GB ¹⁾, 16 GB ¹⁾
- Graphics expansion:
 - PCI-Express graphics card x16 (Dual Head: 2 x VGA or 2 x DVI-D), 512 MB, up to 2048 x 1536 pixels, 85 Hz, 32-bit colors
 - Adapter cable (DVI-I to VGA) for the onboard graphics interface (1 x VGA) for connecting an analog monitor
- Drives:
 - Serial ATA 3.5" Hard Disks with NCQ technology
 - Solid-State Drive (SSD) Serial ATA 2.5" with SLC technology
 - Internal installation:
 - 1 x 500 GB
 - 1 x 1 TB
 - RAID1, 1 TB (2 x 1 TB, mirror disks), RAID controller onboard
 - 1 x 50 GB SSD (SLC) ²⁾
 - Installed on front in low-profile swap frame (hot swapping in RAID configuration):
 - 1 x 500 GB
 - 2 x 500 GB
 - RAID1, 1 TB (2 x 1 TB, mirror disks), RAID controller onboard
 - RAID5, 2 TB (3 x 1 TB, striping with parity), RAID controller onboard
 - 1 x 50 GB SSD (SLC) ²⁾
 - RAID1, 1 TB (2 x 1 TB, mirror disks), RAID controller onboard + 1 x 50 GB SSD (SLC) (operating system installed)

- on SSD, if configured) ²⁾
- Optical drives: DVD-ROM or DVD±R/RW
- Interfaces:
 - 1 x COM2 and 1 x LPT on rear
- Power supply:
 - Redundant 100 ... 240 V AC, 50 ... 60 Hz ²⁾
- Country-specific power cable
- Preinstalled and activated operating systems
 - Windows XP Professional Multi-Language (32-bit)
 - Windows 7 Ultimate Multi-Language (32/64-bit)
 - Windows Server 2008 Standard Edition incl. 5 Clients Multi-Language (32-bit) ²⁾
 - Windows Server 2008 R2 Standard Edition incl. 5 Clients Multi-Language (64-bit) ²⁾

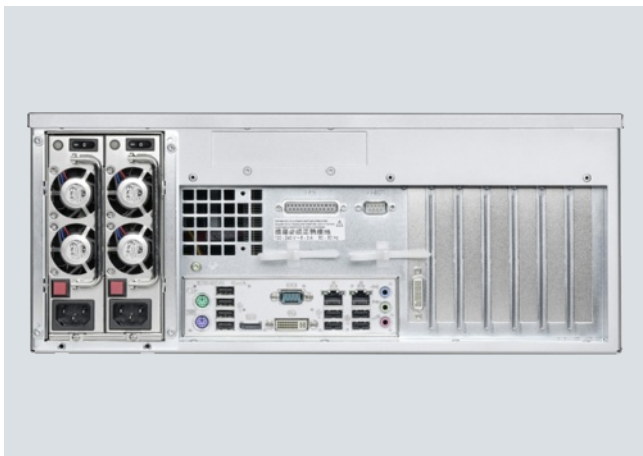
1) Can only be used on 64-bit operating systems

2) Available in Q4/2011

A Tower Kit can be ordered as an accessory for converting the computer into an industrial tower PC.



Front view of SIMATIC Rack IPC547D, with open front flap



SIMATIC IPC547D rear side

Technical specifications SIMATIC IPC547D

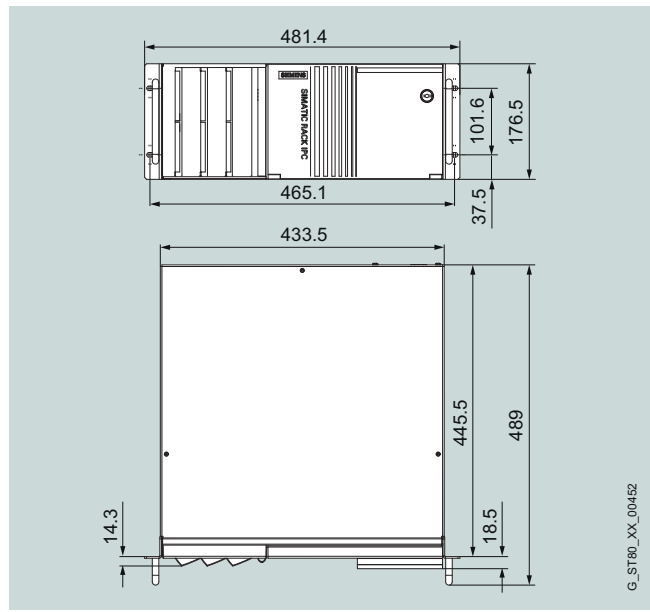
General features	SIMATIC IPC547D		
Design	19" rack, 4U, externally painted		
Processor	<ul style="list-style-type: none"> Intel Core i7-2600 (4C/8T, 3.40 GHz, 8 MB Last Level Cache, Turbo Boost 2.0, EM64T, VT-x/-d, iAMT) Intel Core i5-2400 (4C/4T, 3.10 GHz, 6 MB Last Level Cache, Turbo Boost 2.0, EM64T, VT-x/-d, iAMT) Intel Pentium Dual Core G850 (2C/2T, 2.90 GHz, 3 MB Last Level Cache, EM64T, VT) 		
Chipset	<ul style="list-style-type: none"> Intel Q67 		
Main memory	<ul style="list-style-type: none"> From 1 GB DDR3 1333 SDRAM Dual channel support 4 DIMM base Expandable up to 32 GB ¹⁾ 		
Spare slots for expansions (all long)	<ul style="list-style-type: none"> 4 x PCI 1 x PCI-Express x16 1 x PCI-Express x16 (4 lanes) 1 x PCI-Express x8 (1 Lane) 		
Graphics	<ul style="list-style-type: none"> Onboard Intel HD 2000 graphics controller integrated in processor; Shared Video Memory up to 1.7 GB; up to 2560 x 1600 pixels at 60 Hz image refresh rate and 32-bit colors PCI Express graphics card (Dual Head: 2 x VGA or 2 x DVI-D) in the PCIe x16 slot; 512 MB; up to 2048 x 1536 pixels at 85 Hz image refresh rate and 32 bit colors (optional) 		
Operating system	<ul style="list-style-type: none"> without Preinstalled and activated or supplied on restore DVD: <ul style="list-style-type: none"> Windows XP Professional MUI (32-bit) Windows 7 Ultimate MUI (32/64-bit) Windows Server 2008 incl. 5 Client MUI (32-bit) ³⁾ Windows Server 2008 R2 incl. 5 Client MUI (64-bit) ³⁾ MUI: Multilanguage User Interface; 5 languages, English, German, French, Italian, Spanish; Project-specific on request: <ul style="list-style-type: none"> Linux ⁴⁾ Other 		
Power supply		<ul style="list-style-type: none"> 100 ... 240 V AC, 50 ... 60 Hz, with bridging of short-term power failures: max. 20 ms at 0.85% rated voltage Redundant 100 ... 240 V AC, 50 ... 60 Hz 	
Drives			
Hard Disk, SATA 3.5" with NCQ technology Solid-State Drive, SATA 2.5" with SLC technology		Installation in internal drive support <ul style="list-style-type: none"> 500 GB 1 TB RAID1 ²⁾ 1 TB (2 x 1 TB, mirror disks) 50 GB Solid-State Drive ³⁾ Installation at the front in swap frame (low profile) <ul style="list-style-type: none"> 500 GB 2 x 500 GB RAID1 ²⁾ 1 TB (2 x 1 TB, mirror disks), "hot swap" RAID5 ²⁾ 2 TB (3 x 1 TB, striping with parity), "hot swap" 50 GB Solid-State Drive ³⁾ RAID1²⁾ 1 TB (2 x 1 TB, mirror disks), "hot swap" + 50 GB Solid-State Drive (operating system installed on SSD, if configured) ³⁾ 	
DVD-ROM, 5.25", SATA		<ul style="list-style-type: none"> 16 x (DVD media) 32 x (CD media) 	
DVD±R/RW, 5.25", SATA		<ul style="list-style-type: none"> 16 x 24 x 8 x (DVD media) 48 x 48 x 32 x (CD media) 	
Slots for drives		Front: <ul style="list-style-type: none"> 3 x 5.25" 1 x 3.5" Internal: <ul style="list-style-type: none"> 2 x 3.5" 	
Interfaces			
Ethernet		2 x Intel Gbit Ethernet (RJ45, teaming-capable)	
USB 2.0		<ul style="list-style-type: none"> 2 x front (high current) 8 x rear (high current) 1 x internal (high current), e.g. for USB dongle with optional interlocking 	
Serial		9-pole COM1 (V.24); COM2 (V.24) (optional)	
Parallel		LPT (optional)	
VGA		Optional via adapter cable	
DVI-I		1 x	
DisplayPort		1 x	

Keyboard	PS/2
Mouse	PS/2
Audio	1 x Line In; 1 x Line Out; 1 x Micro
Monitoring functions	
Basic functionality	Message locally via DiagBase software
Temperature	When permitted operating temperature range is exceeded
Fan	Speed monitoring <ul style="list-style-type: none"> • 1 x front fan • 1 x CPU fan • 1 x power supply fan
Watchdog	<ul style="list-style-type: none"> • Monitoring of program execution • Monitoring time can be parameterized in software
Monitoring functions via the network	SIMATIC IPC DiagMonitor Version V4.3.x.x or higher (optional) ³⁾ Remote monitoring capability for: <ul style="list-style-type: none"> • Watchdog • Temperature • Fan speed • Battery • Hard Disk (SMART) • System/Ethernet Communication: <ul style="list-style-type: none"> • Ethernet interface (SNMP protocol) • OPC for integration in SIMATIC software • Client server architecture • Structure of log files
Front LEDs	<ul style="list-style-type: none"> • POWER (PC switched on) • HARDDISK (access to Hard Disk) • TEMP (temperature monitoring) • FAN (fan monitoring) Additional HDD alarm LEDs for RAID configurations behind the front flap
Ambient conditions	
Degree of protection	IP30 front, IP20 rear according to EN 60529
Dust protection	With the front door closed according to IEC 60529 filter class G2 EN 779, 99% of particles > 0.5 mm are filtered

Protection class	Protection class I according to IEC 61140
Vibration load during operation	IEC 60068-2-6, 10 cycles <ul style="list-style-type: none"> • 20 ... 58 Hz: 0.015 mm • 58 ... 200 Hz: 2 m/s² (approx. 0.2 g) Note: Restrictions in use of optical drives and HDD in swap frames
Shock load during operation	IEC 60068-2-27 <ul style="list-style-type: none"> • Half-sine: 9.8 m/s², 20 ms • (approx. 1 g), 100 shocks per axis Note: Restrictions in use of optical drives and HDD in swap frames
Electromagnetic compatibility (EMC)	
Emitted interference	EN 61000-6-3; EN 61000-6-4; CISPR 22 / EN 55022 Class B; FCC Class A; EN 61000-3-2 Class D; EN 61000-3-3
Immunity to conducted interference on the supply lines	<ul style="list-style-type: none"> • ± 2 kV (IEC 61000-4-4, burst) • ± 1 kV (IEC 61000-4-5, symm. surge) • ± 2 kV (IEC 61000-4-5, asymm. surge)
Immunity to interference on signal lines	<ul style="list-style-type: none"> • ±2 kV (IEC 61000-4-4, burst, length > 30 m) • ± 1 kV (IEC 61000-4-4, burst, length < 30°m) • ± 2 kV (IEC 61000-4-5, surge, length > 30 m)
Immunity to static discharge	<ul style="list-style-type: none"> • ± 4 kV, contact discharge (IEC 61000-4-2) • ±8 kV, air discharge (IEC 61000-4-2)
Immunity to high radio frequency interference	<ul style="list-style-type: none"> • 1 V/m 80% AM; 2 ... 2.7 GHz (IEC 61000-4-3) • 10 V/m 80% AM; 80 MHz ... 1 GHz and 1.4 GHz ... 2 GHz (IEC 61000-4-3); • 10 V, 10 kHz ... 80 MHz (IEC 61000-4-6)
Immunity to magnetic fields	100 A/m, 50/60 Hz (IEC 61000-4-8)
Ambient temperature during operation	5 ... 40 °C Note: Limitations for operation of DVD±R/RW
Humidity during operation	5 ... 80% at 25 °C (no condensation)

Approvals	
Safety regulations	IEC 60950-1; UL60950; CSA
Approvals	cULus 60950
CE mark	For use in industrial areas as well as domestic, business and commercial environments: <ul style="list-style-type: none"> • Emitted interference: EN 61000-6-3:2007 • Noise immunity: EN 61000-6-2:2005
Dimensions and weights	
Mounting dimensions (W x H x D) in mm	434 x 177 x 446
Weight, approx.	19 kg

Dimensional drawings



- 1) Memory information:
In order to use a memory with more than 4 GB, a 64-bit operating system is required. In configurations with at least 4 GB, the visible memory can be reduced to about 3.5 GB or less (with 32-bit operating systems) and in configurations with 8 GB, the visible memory can be reduced to about 7.5 GB or less.
- 2) SATA RAID controller onboard in Intel Q67 chipset.
- 3) Available in Q4/2011.
- 4) Suitable for specific LINUX versions in accordance with the specifications of the Siemens manufacturer's declaration "Suitable for LINUX", see <http://www.siemens.de/simatic-pc/geeignet-fuer-linux> (LINUX is a trademark of Linus Torvald).

.Note regarding SIMATIC PC operating system licenses

The accompanying operating system license is only valid for installation on the supplied SIMATIC PC. Installation can only be performed on these SIMATIC systems in accordance with Microsoft OEM licensing regulations.

Technical data of the telescopic rails

Ultimate load per pair, min.	30 kg
Full extraction length, min.	470 mm
Rail thickness, max.	9.7 mm
Fixing screws	M5 x 6 mm

The fixing screws of the telescopic rails may not protrude more than 5 mm into the enclosure.

The enclosure is prepared for the following telescopic rails:

- Rittal: Type 3659.180 for 600 mm cabinet / Type RP 3659.190 for 800 mm cabinet
- Schroff: Type 20110-072

SIMATIC IPC – the more Industrial PC	
More information on SIMATIC IPC is available at:	www.siemens.com/simatic-pc
The optimum configuration for your application:	www.siemens.com/ipc-configurator
In-depth information is available in the SIMATIC manuals:	www.siemens.com/simatic-doku
Information material for download:	www.siemens.com/simatic/printmaterial
Technical documentation is available in our Service& Support portal:	www.siemens.com/automation/support
Your personal contact partner is listed at:	www.siemens.com/automation/partner
Electronic ordering via the Internet with the Mall:	www.siemens.com/automation/mall
Online Service Tool PED – for fast information on the equipment of your SIMATIC PC and the management of your field inventory:	www.siemens.com/ped
More information on SIMATIC Rack IPC is available at:	www.siemens.com/rack-pc