SIEMENS

SIMATIC

Industrial PC
SIMATIC IPC547D

Compact Operating Instructions

Preface

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Technical Support A

06/2011

A5E03473797-01

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠ DANGER
indicates that death or severe personal injury **will** result if proper precautions are not taken.

⚠ WARNING
indicates that death or severe personal injury **may** result if proper precautions are not taken.

⚠ CAUTION
with a safety alert symbol, indicates that minor personal injury can result if proper precautions are not taken.

CAUTION
without a safety alert symbol, indicates that property damage can result if proper precautions are not taken.

NOTICE
indicates that an unintended result or situation can occur if the relevant information is not taken into account.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

⚠ WARNING
Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of Siemens AG. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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Preface

Purpose of compact operating instructions

These compact operating instructions contain all information required to commission the device.

Validity of the compact operating instructions

These compact operating instructions are valid for all supplied versions of the SIMATIC IPC547D.

Conventions

The term "PC" or "device" is sometimes used to refer to the SIMATIC IPC547D product in these compact operating instructions.

Note

Operating instructions SIMATIC IPC547D

The complete operating instructions are supplied with the device in electronic form as a PDF file on the "Documentation and Drivers" DVD.

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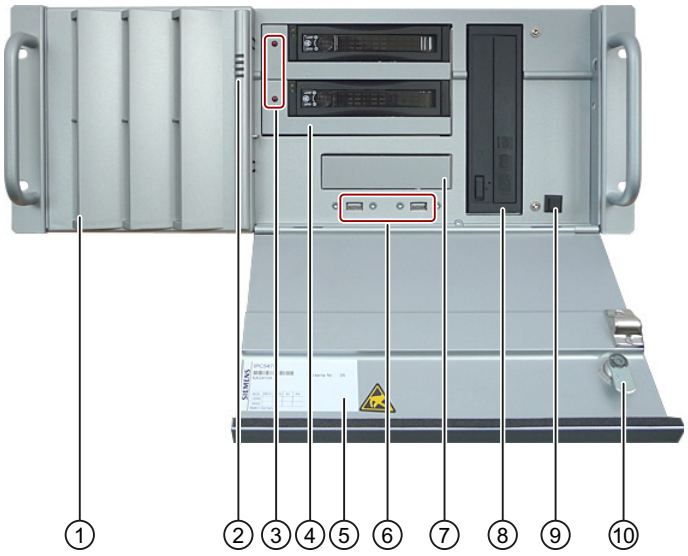
Design of the device

1

1.1 Exterior design

Front view



① Front cover

② Status displays

③ HDD alarm LEDs, for RAID systems in removable rack

④ Installation options for DVD ROM drives, DVD burners and removable racks

⑤ Rating plate

⑥ USB ports

⑦ Installation option for 3.5" device

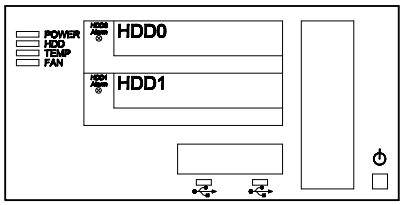
⑧ Installation options for DVD ROM drives, DVD burners

⑨ On/off button

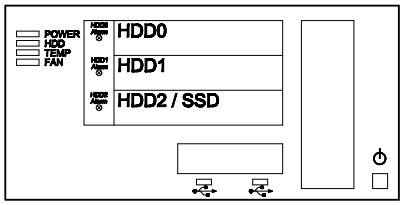
⑩ Front cover with lock

Drive labeling

In a RAID system with a removable rack, one of the following labels is located on the inside of the front panel cover of the device.

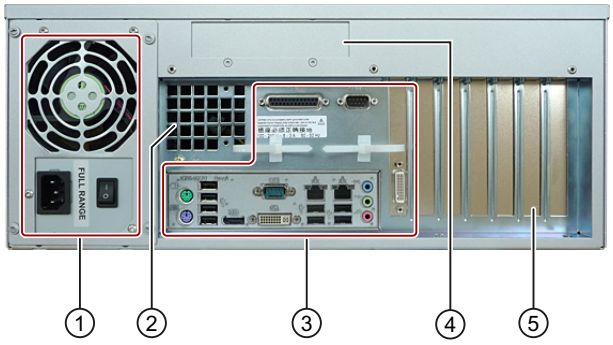


RAID1



RAID5/RAID1+SSD

Rear view



① Power supply

② Air outlet

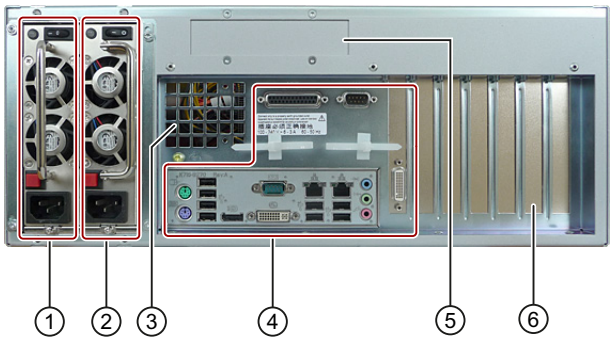
③ Interfaces

④ Blanking plate, allows installation of external interfaces

⑤ Expansion slots for:

- 4 × PCI
- 1 × PCIe x8 (1 Lane)
- 1 × PCIe x16 (4 lanes)
- 1 × PCIe x16

Rear view with redundant power supply



① Power supply 1

② Power supply 2

③ Air outlet

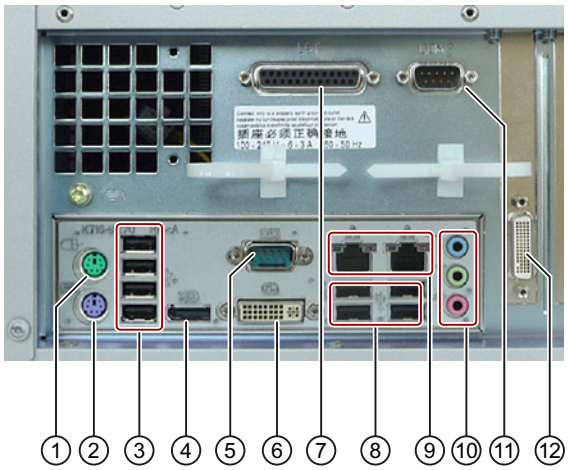
④ Interfaces

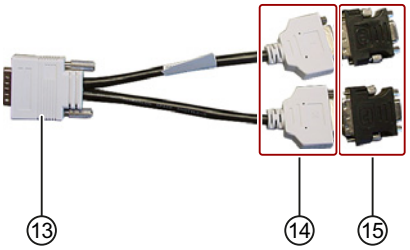
⑤ Blanking plate, allows installation of external interfaces

⑥ Expansion slots for:

- 4 × PCI
- 1 × PCIe x8 (1 Lane)
- 1 × PCIe x16 (4 lanes)
- 1 × PCIe x16

Interfaces





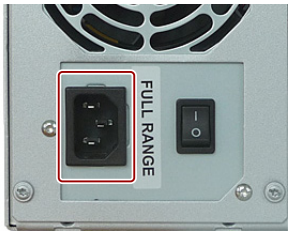
①	MOUSE	Connection for a PS/2 mouse
②	KEYBOARD	Connection for a PS/2 keyboard
③	USB	Connection for USB devices
④	Display Port	Connection for a monitor with display port
⑤	COM1	Serial interface 1 (V.24), 9-pin D-sub socket
⑥	DVI-I	Connection for CRT or LCD monitor with DVI interface, VGA via DVI/VGA adapter (optional)
⑦	LPT	Parallel interface, 25-pin (optional)
⑧	USB	Connectors for USB devices
⑨	Ethernet 1, 2	RJ45 Ethernet connectors for 10/100/1000 Mbps [1)] Ethernet 1 is iAMT-capable.
⑩	Line in (blue) Line out (green) Micro (pink)	Connector for analog audio source, 3.5 mm jack socket connector for active speakers or headset, 3.5 mm jack socket for microphone, 3.5 mm jack socket
⑪	COM2	Serial interface 2 (V.24), 9-pin D-sub socket (optional)
⑫	DMS59	Connection to the dual-head graphics module (optional)
⑬	Dual-head adapter [2)]	DMS59 connector for dual-head graphics module (optional)
⑭	DVI-I [2)]	DVI-I connection
⑮	VGA [2)]	VGA connection, adapter installed

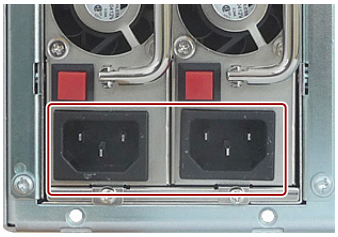
1 To identify them clearly, the LAN interfaces are numbered on the housing.
The numbering by the operating system may deviate from this.

2 Using the graphic card

Power supply

The following figure shows the connectors for the power supply for devices with single or redundant power supply.





1.2 Operator controls

WARNING

No mains disconnection

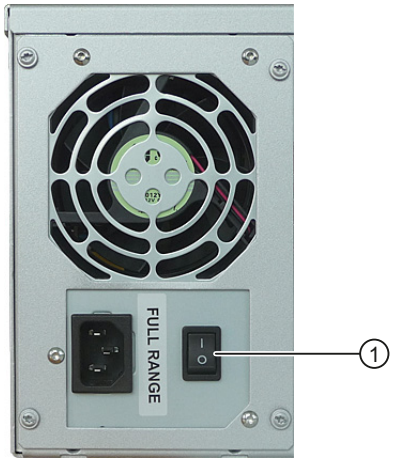
The on/off button and on/off switch(es) do not disconnect the device from the mains.

In the case of damage to the device or connecting cables, there is a risk of fire. Risk of electric shock in the case of improper opening of the device.

Always pull out the power plug when the device is not in use. Disconnect the device from the network by additional measures, for example, with an isolating switch.

On/off switch

The following figure shows the location of the on/off switch and the location of the alarm reset button for a device with redundant power supply.



① On/off switch

② Alarm reset button can be used to switch off the warning signal

On/off button

Note

The on/off button is only effective if the power supply is switched on via the on/off switch at the rear of the device.

NOTICE

On/off button has no function when "Power Failure Recovery" is active

Depending on the BIOS setup, "Power Failure Recovery" entry, the PC switches on automatically or you must press the on/off button on the front. The BIOS setting only becomes effective when the device is without mains voltage for at least 20 seconds.

Automatic startup may endanger the operation of the machine or plant, for example, after a power failure. Take this into account when designing the plant.

The following figure shows the position of the on/off button at the front of the device.

The on/off/reset buttons have three functions:

- Switch on the PC, 1 × press briefly
- Shut down the operating system and switch off PC, 1 × press briefly
- Switch off PC without shutting down the operating system, press for more than 4 seconds – hardware reset

CAUTION

Data loss

The device is restarted in the case of a hardware reset. Data in the main memory is deleted. Data on the hard disk drive may be lost.

The device is damaged.

Perform a hardware reset only in the case of an emergency. Close all running programs. Make sure that there is no more read or write access to drives and I/O.

1.3 Status displays

Front status displays

Note the labeling of the status display on the front cover.

Pos	Display	Meaning	LED	Description
①	POWER	PC operating status display	OFF	Hibernate, switched off or unplugged
			GREEN flashing	Windows standby
			GREEN	PC in operation
②	HDD	Display for hard disk access	OFF	No access
			GREEN	Access
③	TEMP	Temperature status	OFF	No error
			RED flashing	Critical temperature (CPU temperature, device temperature)
④	FAN	Fan status	RED flashing	• CPU heat sink fan fault • Housing fan fault • Power supply fan fault

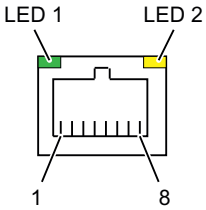
The HDD alarm LEDs are located behind the hinged front panel in a RAID system with removable rack.

Display	Meaning	LED	Description
HDD0 alarm HDD1 alarm HDD2 alarm [1]	Hard disk alarm in conjunction with RAID and monitoring software	OFF	RAID is OK
		A RED LED is lit up	Associated HDD not OK
		All RED LEDs are flashing	RAID synchronized
		All RED LEDs are lit up	RAID not OK, the monitoring software failed to locate the faulty hard disk. It may be possible to determine the defective hard disk with the RAID software, see chapter "RAID system" in the operating instructions.

[1] Only for RAID5/RAID1+SSD

Rear status displays

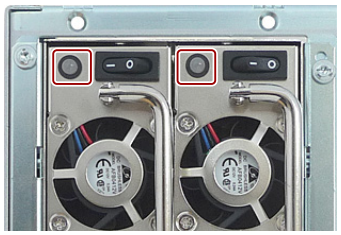
The following figure shows the location of the LEDs on the Ethernet interface.



Display	Meaning	LED	Description
Ethernet LAN 1, 2 [1]	Green LED Link status display	OFF	• No cable connected • Cable disabled • Interface disabled
		GREEN	Active cable connected
	Yellow LED Activity status display	OFF	• No cable connected • Cable disabled • Interface disabled • No activity
		YELLOW	Data transfer active

[1] To identify them clearly, the LAN interfaces are numbered on the housing. The numbering by the operating system may deviate from this.

The following figure shows the location of the "Power" LEDs on a device with redundant power supply.



The LED has the following meaning:

- Lit green: Power supply module is in operation
  When there is no redundancy, an acoustic signal sounds continuously. Redundancy is in effect when both power supply units are in operation.
- Not lit: Power supply module is out of service

Safety information 2

2.1 General safety instructions

Open equipment and machinery directive

⚠ WARNING

The device is open equipment

The device is open equipment. This means that the device may only be installed in enclosures or cabinets which provide front panel access for operating the device.

The enclosure or cabinet in which the device is installed may only be accessed with a key or tool and only by trained personnel.

Life-threatening voltages are present with an open control cabinet

When you open the control cabinet, some areas or components may be carrying life-threatening voltages.

If you touch these areas or components, you may be killed by electric shock.

Switch off the power supply to the cabinet before opening it.

Device must be operated only in machinery that conforms to the machinery directive

The "Machinery Directive" regulates, among other things, the precautions for commissioning and operating machines within the European Economic Area.

Failure to observe the guidelines represents a violation of the Machinery Directive. In addition, personal injury and property damage cannot be ruled out, depending on the operated machine.

Commission the device only in a machine that meets the provisions of Directive 2006/42/EC.

System expansions

CAUTION

Damage through system expansions

Device and system expansions may be faulty and can affect the entire machine or plant.

The installation of expansions can damage the device, machine or plant. Device and system expansions may violate safety rules and regulations regarding radio interference suppression. If you install or exchange system expansions and damage your device, the warranty becomes void.

Note the following for system expansions:

- Only install system expansion devices designed for this device. Contact your technical support team or where you purchased your PC to find out which system expansion devices may safely be installed.
- Observe the information on electromagnetic compatibility (Page 31).

CAUTION

Risk of fire

Expansion modules generate additional heat.

The device can overheat or cause a fire.

Observe the safety and installation regulations of the expansion or PCIe modules. If necessary, install the device in an enclosure that meets the requirements of paragraphs 4.6 and 4.7.3 of the standards EN 60950-1:2006 and DIN EN 60950-1:2006-11.

Battery and rechargeable battery

WARNING

Risk of explosion and release of harmful substances

Improper handling of lithium batteries can result in an explosion of the batteries.

Explosion of the batteries and the released pollutants can cause severe physical injury. Worn batteries jeopardize the function of the device.

Note the following when handling lithium batteries:

- Replace a used battery in good time; see chapter "Replacing the backup battery" in the operating instructions.
- Replace the lithium battery only with an identical battery or types recommended by the manufacturer (order no.: A5E30314053).
- Do not throw lithium batteries into fire, do not solder on the cell body, do not recharge, do not open, do not short-circuit, do not reverse polarity, do not heat above 100°C and protect from direct sunlight, moisture and condensation.

High frequency radiation

CAUTION

Unintentional operating situations

High frequency radiation, e g. from a cellular phone, interferes with device functions and can result in malfunctioning of the device.

Persons are injured and the plant is damaged.

Avoid high-frequency radiation:

- Remove radiation sources from the environment of the device.
- Switch off radiating devices.
- Reduce the radio output of radiating devices.
- Observe the information on electromagnetic compatibility (Page 31).

ESD Guidelines

Electrostatic sensitive devices can be labeled with an appropriate symbol.

CAUTION

Electrostatic sensitive devices (ESD)

When you touch electrostatic sensitive components, you can destroy them through voltages that are far below the human perception threshold.

If you work with components that can be destroyed by electrostatic discharge, observe the ESD guidelines.

Headphones

CAUTION

Impaired hearing due to excessive sound pressure

The setting of the volume and the equalizer can increase the sound pressure in the headphones. Other factors not mentioned by the manufacturer can also influence the sound pressure, for example the operating system. equalizer software, firmware and driver.

Excessive sound pressure from headphones can result in impaired hearing or even loss of hearing.

Set the volume control and equalizer to the lowest value before you put on the headphones. Keep checking the volume control setting. Only use headphones and software approved by the manufacturer.

Access protection

CAUTION

Protection against access by unauthorized persons

An unauthorized user can operate the device incorrectly and bypass logon by restarting the device.

Operator actions by unauthorized persons jeopardize operational reliability.

Take the following safety precautions:

- Lock the front panel cover.
- Do not use keyboards with an on/off button (Power button).
- If the device has a on/off button, assign the parameters of the function of the on/off button to meet your requirements under Windows. You can find the settings in the "Power Options" menu.

2.2 Notes on use

WARNING

Dangers relating to unprotected machines or plant

According to the results of a risk analysis, an unprotected machine poses a threat. These dangers can lead to personal injury.

According to the risk analysis, you can avoid these potential dangers to persons by taking the following measures:

- Additional protective mechanisms on the machine or system. In particular, the programming, paramater assignment and wiring of the inserted I/O modules must be executed in accordance with the safety performance identified by the necessary risk analysis (SIL, PL or Cat.).
- The proper use of the device must be verified by a function test on the system. This test can detect programming, parameter assignment and wiring errors.
- Documentation of the test results that you can enter in the relevant safety verification documents, if necessary.

CAUTION

Ambient conditions

Ambient conditions for which is the device is not suitable can cause faults or damage the device.

Note the following:

- Operate the device only in closed rooms. Failure to comply nullifies the warranty.
- Operate the device only in accordance with the ambient conditions specified in the technical specifications.
- Protect the device against dust, moisture and heat.
- Do not expose the device to direct sunlight or other strong sources of light.

Note

Use in industrial environments

The device has been designed for use in a normal industrial environment in accordance with IEC 60721-3-3 (pollutant class 3C2 for chemical influences, 3S2 for sand and dust). Without additional measures, such as a supply of clean air, the PC cannot be operated in locations with harsh operating conditions caused by acidic vapors or gases.

Installing and connecting the device 3

3.1 Preparing for Installation

3.1.1 Unpacking and checking the delivery

Procedure

1. When accepting a delivery, please check the packaging for visible transport damage.
2. If any transport damage is present at the time of delivery, lodge a complaint at the shipping company in charge. Have the shipper confirm the transport damage immediately.
3. Unpack the device at its installation location.
4. Keep the original packaging in case you have to transport the unit again.

NOTICE
Damage to the device during transport and storage If a device is transported or stored without packaging, shocks, vibrations, pressure and moisture may impact the unprotected unit. A damaged packaging indicates that ambient conditions have already had a massive impact on the device. The device may be damaged. Do not dispose of the original packaging. Pack the device during transportation and storage.

5. Check the contents of the packaging and any accessories you may have ordered for completeness and damage.
6. If the contents of the packaging are incomplete, damaged or do not match your order, inform the responsible delivery service immediately. Fax the enclosed form "SIMATIC IPC/PG Quality Control Report".

⚠ WARNING

Electric shock and fire hazard due to damaged device

A damaged device can be under hazardous voltage and trigger a fire in the machine or plant. A damaged device has unpredictable properties and states.

Death or serious injury could occur.

Make sure that the damaged device is not inadvertently installed and put into operation. Label the damaged device and keep it locked away. Send off the device for immediate repair.

CAUTION

Damage from condensation

If the device is subjected to low temperatures or extreme fluctuations in temperature during transportation, for example in cold weather, moisture could build up on or inside the HMI device.

Moisture can result in short-circuits in electrical circuits and damage the device.

In order to prevent damage to the device, proceed as follows:

- Store the device in a dry place.
- Bring the device to room temperature before starting it up.
- Do not expose the device to direct heat radiation from a heating device.
- If condensation develops, wait approximately 12 hours or until the device is completely dry before switching it on.

7. Please keep the enclosed documentation in a safe place. It belongs to the device. You need the documentation when you commission the device for the first time.
8. Write down the identification data of the device.

3.1.2 Identification data of the device

The device can be clearly identified with the help of this identification data in case of repairs or theft.

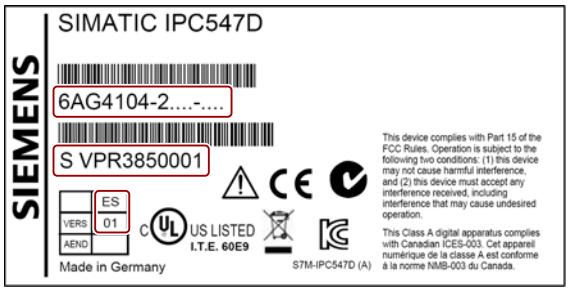
Enter the identification data in the following table:

Order number	6AG4
Serial number	S VP
Product version	ES
Windows "Product Key"	
Ethernet address 1 (MAC)	
Ethernet address 2 (MAC)	

Take the information from the rating plate, COA label and component label on the inside of the front panel cover of the device.

Procedure

1. Take down the order number, serial number and product version (ES) from the rating plate.



2. Write down the Windows "Product Key" from the COA label on the inside of the front cover.

3. Write down the Ethernet addresses from the component label.

SIMATIC IPC547D	Slot 1 .....
Order No.: 6AG4-....-...	Slot 2 .....
Serial No.: SVP...	Slot 3 .....
Core i5 CPU No. 2400 ...	Slot 4 .....
RAID1 (2x500GB ...	Slot 5 .....
1 GB DDR3 ...	Slot 6 .....
DVD+/-RW	Slot 7 .....
seriell (COM2) ...	
Windows Server 2008 ...	
110/230 VAC Industrie ...	
Onboard MAC-Adresses:	
Ethernet LAN 1: 000E8C8E81CE	Service & Support
Ethernet LAN 2: 000E8C8E07C8	//www.siemens.com/asis

The Ethernet addresses can also be found in the BIOS setup (F2) under "Main > System Information", entries "LAN 1 MAC" and "LAN 2 MAC".

3.2 Installing the device

3.2.1 Installation information

WARNING

Danger, high voltage

A high voltage may be present in the switchgear cabinet and could cause a dangerous electric shock.

It may result in death or serious physical injury.

Isolate the power supply to the switchgear cabinet before opening it. Ensure that the power to the switchgear cabinet cannot be turned on accidentally.

CAUTION

Risk of fire

If you install the device in an unapproved mounting position or if you do not observe the ambient conditions, the device can overheat. UL approval and conformity with the low-voltage directive (EN 60950-1:2006 and DIN EN 60950-1:2006-11) become void.

Overheating can cause a fire. Proper functioning of the device is no longer guaranteed.

Before you install the device, note the following general installation information.

Note

The device fulfills the requirements for a fire protection housing according to EN 60950-1. Therefore, it can be installed without additional fire protection.

- Install the device only in one of the described permitted mounting positions.
- Provide adequate volume in the switchgear cabinet for air circulation and heat transport. Keep at least 10 cm distance between the device and switchgear cabinet.
- Do not cover the vent slots of the device.
- Ensure that the maximum air intake temperature, measured 10 cm before the air intake opening, does not exceed 40° C. The maximum air intake temperature must be accounted for especially when sizing closed switchgear cabinets.
- The minimum distance between the device and the housing is 10 cm on the air output end.
- Install the device in such a way that it does not pose a danger, for example, by falling over.

3.2.2 Mounting location and position

Optional mounting locations

The device can be mounted in control desks, switching cabinets and 19" rack systems, both horizontally and vertically.

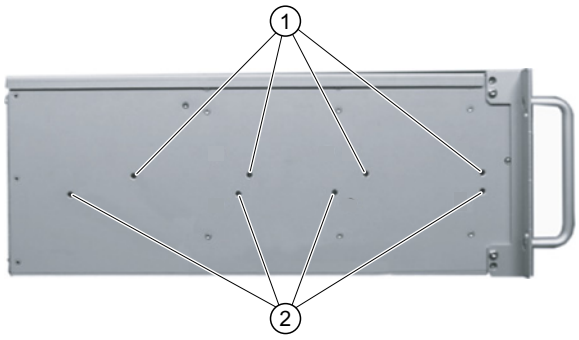
Possible mounting positions

You can mount the device as follows:

- Mounting with mounting brackets, horizontal
- Mounting on device bases, horizontal
- Tower installation, vertical: a separate tower kit can be ordered for tower installation (not available in some countries).
- Mounting on telescopic rails

  When telescopic rails are used for mounting, the device can be withdrawn fully from the cabinet or rack. For detailed information on telescopic rails, see the sections "Technical specifications of the telescopic rails (Page 33)" and "Dimensional drawing for the use of telescopic rails (Page 33)".

  The following figure shows the position of the mounting holes for angle brackets or telescopic rails.



① Threaded holes for type 3659 telescopic rails from the Rittal company

② Threaded holes for type 20110-072 telescopic rails from the Schroff company

⚠ CAUTION

Risk of physical injury

The device is too heavy to be mounted exclusively with the 19 inch brackets of the front panel.

The device may fall down, injure people and get damaged.

Secure the device using additional measures. The mounting screws of the telescopic rails may not protrude more than 5 mm into the device..

Note

For vertical operation, mount the device on a horizontal metal base and secure it from falling over. The following device bases are available from Rittal for this purpose:
Rittal Type TE 7000.620, Rittal Type VR 3861.580, Rittal Type DK 7063.710.

Please refer to the Cabinet manufacturer's instructions regarding device bases.

3.3 Connecting the device

3.3.1 Connection information

WARNING

Complete isolation

The on/off switch does not isolate the device from the mains.

In the case of damage to the device or connecting cables, there is a risk of fire. Risk of electric shock in the case of improper opening of the device.

Disconnect the device from the mains as follows:

- Always remove the power plug when you are not using the device. The power plug must be freely accessible.
- Use a central isolating switch in the case of cabinet installation.
- Always ensure that the socket on the device or the safety socket of the building installation is freely accessible and located as close as possible to the device, especially if the power plug is secured by a power plug lock.

WARNING

Risk of lightning strikes

A lightning flash may enter the mains cables and data transmission cables and jump to a person.

Death, serious injury and burns can be caused by lightning.

Take the following precautions:

- Pull out the power plug in good time when a thunderstorm is approaching.
- Do not touch mains cables and data transmission cables during a thunderstorm.
- Keep sufficient distance from electric cables, distributors, systems, etc.

CAUTION
Fault caused by I/O devices The connection of I/O devices can cause faults in the device. The result may be personal injury and damage to the machine or plant. Note the following when connecting I/O devices: • Read the documentation of the I/O devices. Follow all instructions in the documentation. • Connect only I/O devices which are approved for industrial applications in accordance with EN 61000-6-2/IEC 61000-6-2. • Peripheral devices that are incapable of hot-plugging may only be connected after the device has been disconnected from the power supply.

CAUTION
Damage through regenerative feedback Regenerative feedback of voltage to ground by a connected or installed component destroys the device. Connected or built-in I/Os, for example, a USB drive, are not permitted to supply any voltage to the device. Regenerative feedback is generally not permitted.

3.3.2 Connection of equipotential bonding

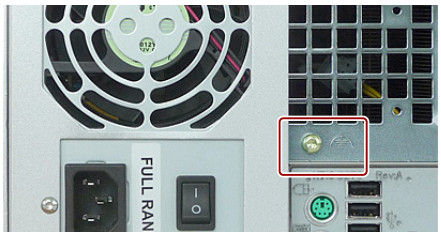
A low-impedance earth connection ensures that interference signals generated by external power supply cables, signal cables or other cables to the I/O devices are safely discharged to earth.

The equipotential bonding connection on a device has a large surface and makes contact over a large area. The equipotential bonding connection is identified by the following symbol:

Requirement

- T20 screwdriver

Procedure



1. Connect the marked equipotential bonding connection to the PE conductor of the switchgear cabinet where the device is installed.

   The minimum cross-section of the equipotential bonding line is 5 mm^2.

3.3.3 Connecting the power supply

Note before you connect the device

WARNING

Injury to persons or damage to property when operated on an incorrect power supply network

If you connect the device to an unsuitable power supply, the device receives voltages and currents that are too high or too low.

Injuries to persons, malfunctions or a damage to the device can result.

Note the following information regarding the power supply network:

- The permitted nominal voltage of the device must correspond to the local mains voltage.
- Do not operate the device via non-grounded or impedance-grounded networks (IT networks).
- Operate the device only in grounded power networks (TN networks in accordance with VDE 0100, Part 300 or IEC 60364-3).

NOTICE

Operation with uninterruptible power supply

An uninterruptible AC power supply (UPS) must be used when this device is operated with a PFC (Power Factor Correction) circuit that supplies a sinusoidal output voltage in normal and buffer mode.

UPS characteristics are described and classified in the standards EN 50091-3 or IEC 62040-3. Devices with sinusoidal output voltage in the normal and buffered mode are identified with the classification "VFI-SS-...." or "VI-SS-....".

Note

The power supply of the device contains a PFC (Power Factor Correction) circuit to conform to the EMC directive.

Country-specific information

Outside of the USA and Canada, 230 V supply voltage:

This device is equipped with a safety-tested power cord which may only be connected to a grounded shockproof power outlet. If you do not use a power supply cable, use a flexible cable with the following features: Min. 18 AWG conductor cross-section and 15-A / 250-V shock-proof connector. The cable set must be compliant with safety regulations and stipulated IDs of the country where the system is to be installed.

For USA and Canada:

Use a CSA or UL-listed power supply cable for operation in the United States and Canada.

The connector must be compliant with NEMA 5-15.

120 V supply voltage

Use a flexible cable with UL approval and CSA marking as well as the following features:

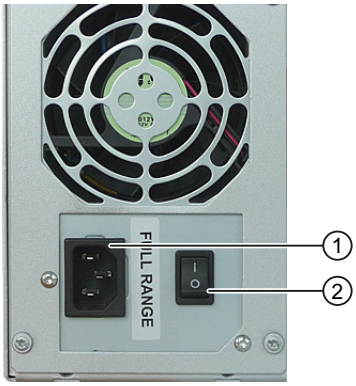
- Type SJT with three conductors
- At least 18 AWG conductor cross-section
- Max. length of 4.5 m
- Parallel safety plug 15 A, min. 125 V.

240 V supply voltage

Use a flexible cable with UL approval and CSA marking as well as the following features:

- Type SJT with three conductors
- At least 18 AWG conductor cross-section
- Max. length of 4.5 m
- Tandem safety plug 15 A, min. 250 V.

Procedure - connecting the power supply

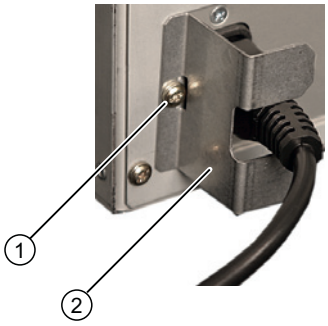


1. Make sure that the on/off switch ② is in the '0' (off) position.

   This prevents unintentional startup of the device when you plug in the power cable.
2. Connect the power cable to socket ①.
3. Insert the power cable in the electrical socket.
4. Switch on the on/off switch ②.

Secure the power plug

To prevent unintentional removal of the power cable, you can secure the plug as follows:



1. Remove the retaining screw ①.
2. Screw on the latch for the power plug ②.

Procedure - connecting redundant power supply

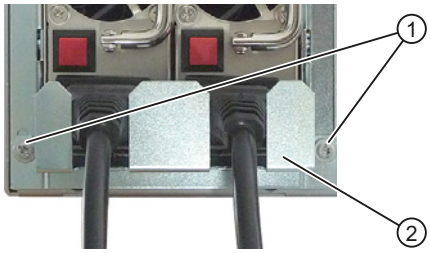
1. Turn off both on/off switches ①.
2. Connect a power cable to the two sockets ④.
3. Turn on the two on/off switches ①.

   The LEDs on the power supply modules ② light up green.

   Note:
   If only one of the power supply modules works, a warning signal sounds. You turn off the warning signal by pressing the ③ button on the working power supply module.

Securing the power plug of the redundant power supply

To prevent unintentional removal of the power cable, you can secure the power plug as follows:



1. Remove the retaining screws ①.
2. Screw on the latch for the power plug ②.

Commissioning the device 4

4.1 Requirements for commissioning

The following requirements have to be met before you can start commissioning:

- I/O devices, keyboard, mouse and monitor are connected.
- The power supply is connected.

The device can be supplied without an operating system. The following sections describe commissioning with an operating system.

4.2 Initial commissioning

Following the initial switch on, the operating system is set up automatically on the device.

CAUTION
Faulty installation If you change the default values in the BIOS setup or if you turn off the device during installation, you disrupt the installation and the operating system is not installed correctly. The operating safety of the device and the plant is at risk. Do not switch off the device during the entire installation process. Do not change the default values in the BIOS setup.

Procedure

1. Press the on/off button.

   The green POWER LED lights up. The module carries out a self-test. During the self-test, the following message appears:

   ```
   Press <F2> to go to Setup Utility
   Press <F12> to go to Boot Manager
   ```

2. Wait for the message to disappear.
3. Follow the instructions on the screen.
4. Type in the Product Key as required.

   The product key is located on the "Certificate of Authentication", in the "Product Key" line.

Result

The interface of the operating system is displayed every time you turn on the device and after the startup routine.

4.3 Switching off the device

- If you work with Windows, always shut down the PC by clicking "Start > Shut down".
- If you do not work with Windows, press the on/off button for 4 seconds.

  The green POWER LED goes out.

If the device will not be used for a long period time, turn the on/off switch on the power supply unit to "0".

Disconnect the mains connector to isolate the device from mains.

4.4 Reinstalling the software

4.4.1 General installation procedure

If your software no longer functions correctly, you can reinstall it from either the Recovery DVD, the "Documentation and Drivers" DVD or the Restore DVD.

Recovery DVD:

The recovery DVD contains the installation program with tools for configuring the hard drives and installing the operating system and the languages supported by the operating system (MUI package).

The basic language of the installed operating system is English. To add other languages, install these languages from the Recovery DVD at a later time.

"Documentation and Drivers" DVD:

The "Documentation and Drivers" DVD contains the documentation and the hardware drivers.

Restore DVD:

The Restore DVD is included in the scope of delivery when you have ordered a device with operating system. The DVD contains a hard disk image file with the original software package: Operating system with installed hardware drivers and monitoring software, e.g. DiagBase.

4.4.2 Restoring the delivery state

Procedure

1. Insert the Restore DVD into the DVD drive.
2. Restart the device with the on/off button.
3. Press the <F12> key when the following BIOS message appears.

   ```
   Press <F2> to go to Setup Utility
   Press >F12> to go to Boot Manager
   ```

   The "Boot Menu" is displayed when initialization is completed.
4. Select the optical drive with your cursor keys which is identified with a "P" in front of the SATA port number.

   Example:

   ```
   P3 - OPTIARC DVD-ROM DDU1681S.
   ```
5. Follow the on-screen instructions.

CAUTION
All existing data, programs, user settings, authorizations and license keys on the drives will be deleted and are thereby lost.

Technical specifications 5

5.1 Certificates and approvals

CE approval

The device meets the general and safety-related requirements of the EMC Directive (2004/108/EC "Electromagnetic Compatibility") and conforms to the harmonized European standards (EN) for programmable logic controllers published in the official gazettes of the European Union:

- 94/9/EC "Equipment and protective systems for use in potentially explosive atmospheres" (explosion protection directive)

EC Declaration of Conformity

The EC declarations of conformity are available for the relevant authorities at the following address:

Siemens Aktiengesellschaft
Industry Sector
I IA AS RD ST PLC
P.O. Box 1963
D-92209 Amberg, Germany

DIN ISO 9001 certificate

The Siemens quality management system for all production processes (development, production and sales) meets DIN ISO 9001:2000 requirements.

This has been certified by DQS (the German society for the certification of quality management systems).

EQ-Net certificate no.: DE-001108 QM

Software license agreements

If the device is supplied with installed software, observe the corresponding license agreements.

UL approval

The following approval is available for the device: Underwriters Laboratories (UL) to standard UL 60950-1, File no. E11 5352 and Canadian National Standard CAN/CSA-C22.2 No. 60950-1-07 (I.T.E).

FCC and Canada

USA	
Federal Communications Commission Radio Frequency Interference Statement	This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
Shielded cables	Shielded cables must be used with this equipment to maintain compliance with FCC regulations.
Modifications	Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.
Conditions of operations	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CANADA	
Canadian notice	This Class A digital apparatus complies with Canadian ICES-003.
Avis Canadian	Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

AUSTRALIA

This product meets requirements of EN 61000--6--3:2007 Generic standards - Emission standard for residential areas, business and commercial operations, and small businesses.

5.2 Directives and declarations

5.2.1 Electromagnetic compatibility

This product meets the requirements of EC Directive 2004/108/EC "Electromagnetic Compatibility".

The device is designed for the following areas of application corresponding to the CE marking:

Scope of application	Requirements for	
	Interference emission	Immunity to interference
Industrial area	EN 61000-6-4 : 2007	EN 61000-6-2 : 2005
Residential and commercial areas and small businesses	EN 61000-6-3 : 2007	EN 61000-6-1 : 2007

The devices comply with the standards EN 61000-3-2:2006 +A1:2009 +A2:2009 (harmonic currents) and EN 61000-3-3:2008 (voltage fluctuations and flicker).

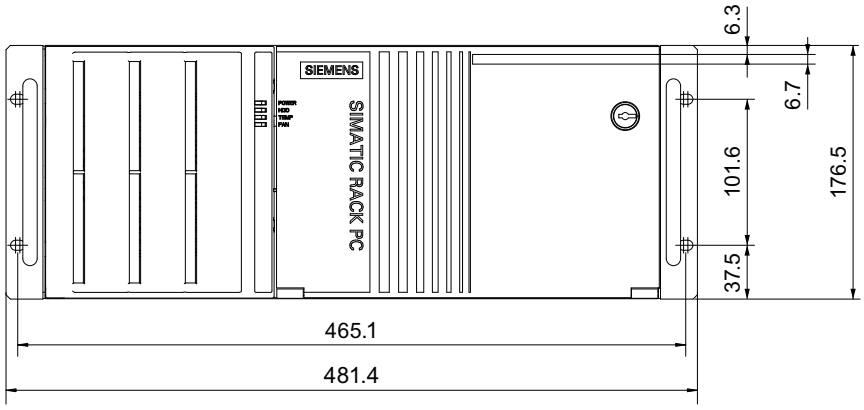
5.2.2 Low-voltage guideline

The devices complies with the requirements of the EC Directive 2006/95/EC "Low Voltage Directive". Compliance with this standard has been verified according to EN 60950-1:2006 + A11:2009.

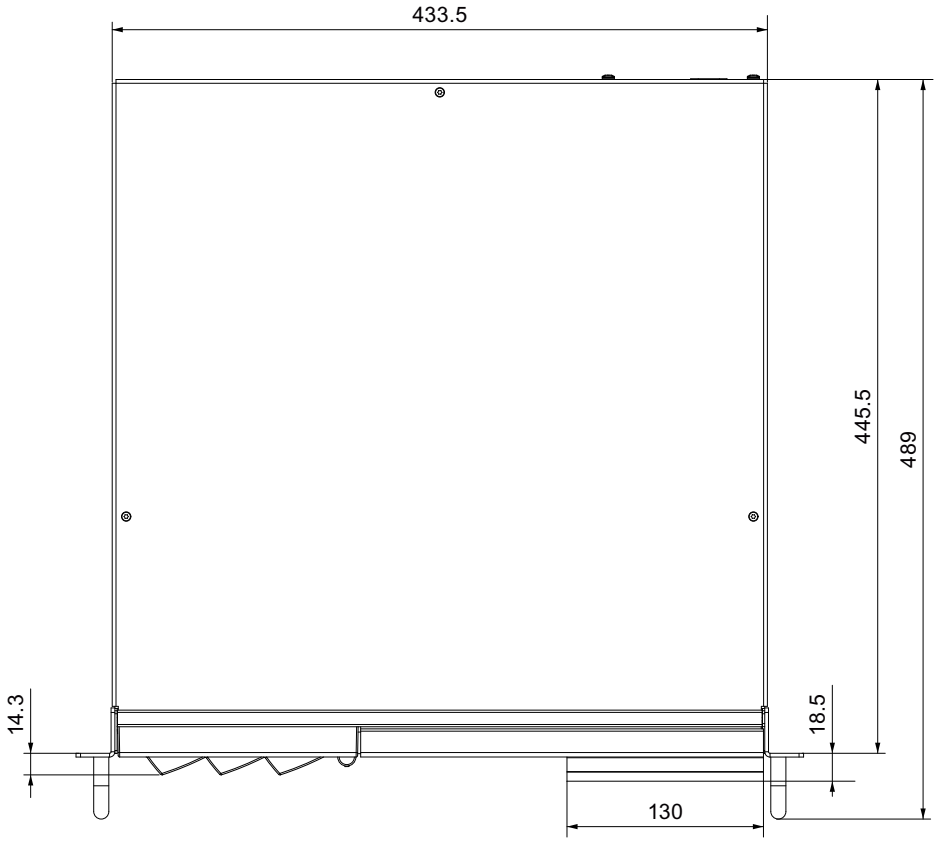
5.3 Dimensional drawings

5.3.1 Dimension drawing of the device

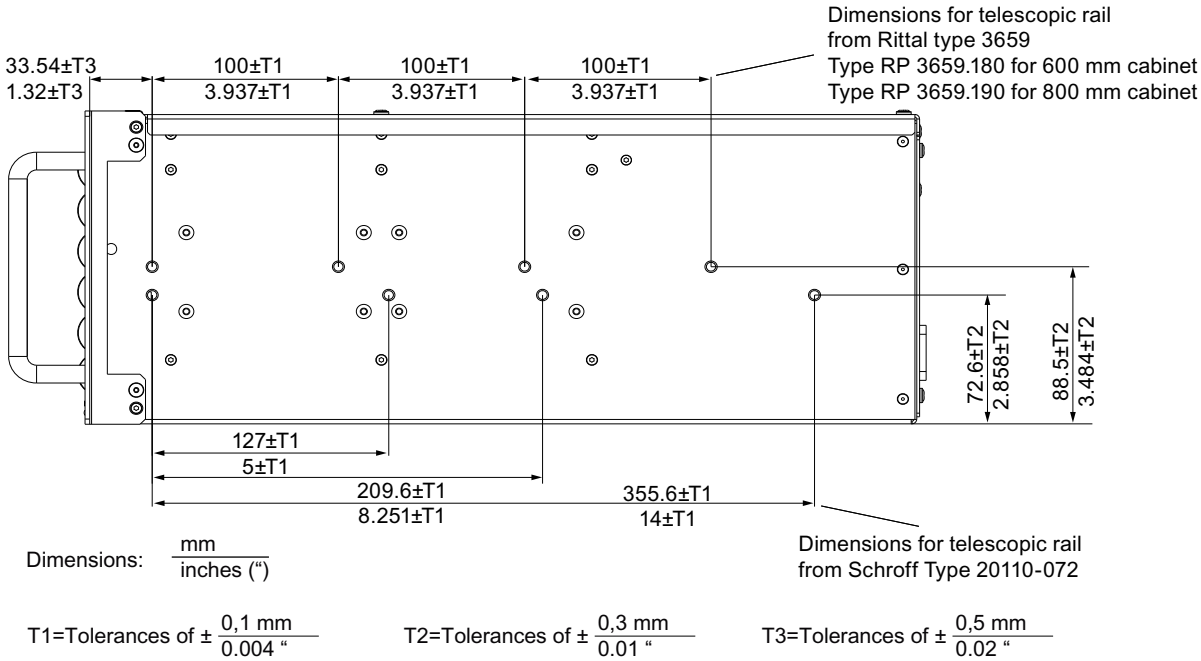
Front view and plan view



All dimensions in mm.



5.3.2 Dimension drawing for the use of telescopic rails



Dimensions: mm / inches (“)

T1=Tolerances of ± 0,1 mm / 0.004 “ T2=Tolerances of ± 0,3 mm / 0.01 “ T3=Tolerances of ± 0,5 mm / 0.02 “

5.4 Technical data of the telescopic rails

Ultimate load per pair	At least 30 kg	
Full extraction length	At least 470 mm	
Rail thickness	Maximum 9.7 mm	
Mounting screws	M5 x 6 mm	

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

Technical Support A

You can find additional information and support for the products described on the Internet at the following addresses:

- Technical support
  (http://support.automation.siemens.com/WW/view/en/4000024)
- Support request form
  (http://www.siemens.com/automation/support-request)
- After-sales information system for SIMATIC PC / PG
  (http://www.siemens.com/asis)
- SIMATIC Documentation Collection
  (http://www.siemens.com/simatic-tech-doku-portal)
- Your local representative
  (http://www.automation.siemens.com/mcms/aspa-db/en/Pages/default.aspx)
- Training center
  (http://sitrain.automation.siemens.com/sitrainworld/?AppLang=en)
- Industry Mall
  (http://mall.automation.siemens.com)

When contacting your local representative or Technical Support, please have the following information at hand:

- Order number of the device (MLFB)
- BIOS version (industry PC) or image version (HMI device)
- Installed additional hardware
- Installed additional software

Tools & downloads

Please check regularly if updates and hotfixes are available for download to your device. The downloads are available on the Internet under "After Sales Information System SIMATIC PC/PG" (see above).