SIEMENS

SIMATIC

Industrial PC
SIMATIC Panel PC 577

Operating Instructions (compact)

Release 04/2006
A5E00795255

Safety Guidelines

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 corresponding 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 device/system may only be set up and used in conjunction with this documentation. Commissioning and operation of a device/system may only be performed by **qualified personnel**. Within the context of the safety notes in this documentation qualified persons are defined as persons who are authorized to commission, ground and label devices, systems and circuits in accordance with established safety practices and standards.

Prescribed Usage

Note the following:

Warning

This device may only be used for the applications described in the catalog or the technical description and only in connection with devices or components from other manufacturers which have been approved or recommended by Siemens. Correct, reliable operation of the product requires proper transport, storage, positioning and assembly as well as careful operation and maintenance.

Trademarks

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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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Edition 04/2006

Operating Instructions (compact)

1

1.1 Components of the product

Number	Name	Description
1	SIMATIC Panel PC 577	
1	Restore DVD	Contains a hard disk image file with the original software (operating system with installed hardware drivers).
1	Documentation and Drivers CD	Contains the documentation and the hardware drivers.
1	Operating Instructions (compact) SIMATIC Panel PC 577	Print copy of the Operating Instructions (compact) SIMATIC Panel PC 577
6 / 8	Clamp	Mounting bracket for the SIMATIC Panel PC 577. Device with 12"/15" display: 6 pieces Device with 19" display: 8 pieces
1	AC power cable	Power cable for 110 / 230V AC power supply.
1	Lock for mains connector	Lock for AC power cable
1	Card retainer	Retainer for mounting PCI modules
1	Paper template	Template for preparing the mounting cut-out

1.2 Device identification data

Enter the identification data of the device in the table:	
Serial number (on the rating plate)	
Order number of the device	
For the Windows 2000 / XP Professional variants: **Microsoft Windows Product Key** from the "Certificate of Authenticity" (COA). The COA label is attached to the device	
Ethernet address: BIOS setup (F2 key) under Main > Hardware Options > Ethernet Address	

1.3 Product documentation

The detailed operating instructions for Panel PC 577 can be downloaded as a PDF file on the internet under the following address: **http://www4.ad.siemens.de**

1.4 Safety instructions

Caution

In order to avoid substantial damage and for your own safety, note the safety instructions in this documentation and in the operating instructions.

Warning

Function test while installing the device in machines or execute systems

Following the results of a risk analysis, additional protection equipment on the machine or the system is necessary to avoid endangering persons. With this, especially the programming, configuration and wiring of the inserted I/O modules have to be executed, in accordance with the safety performance (SIL, PL or Cat.) identified by the necessary risk analysis. The intended use of the device has to be ensured.

The proper use of the device has to be verified with a function test on the system. This test can detect programming, configuration and wiring errors. The test results have to be documented and, if necessary, entered into the relevant documents that verify safety.

1.5 Mounting / panel-mounting

1.5.1 Permitted mounting positions

Mounting positions

Only vertical installation with a deviation of up to +5° and -5° in the specified directions is permitted for the device.

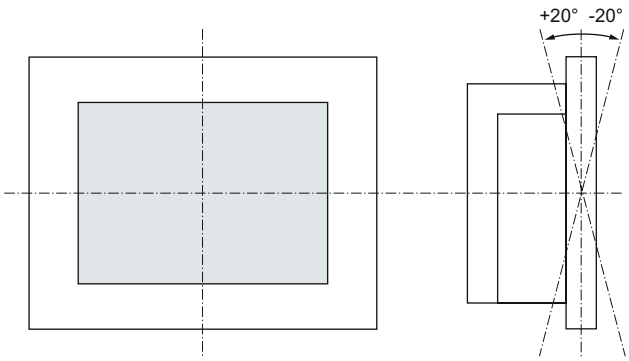


Figure 1-1 Permitted mounting positions

1.5.2 Preparing the mounting cut-out

The following illustration shows the dimensions for the mounting cut-out. You can also obtain these dimensions from the paper template supplied with the device.

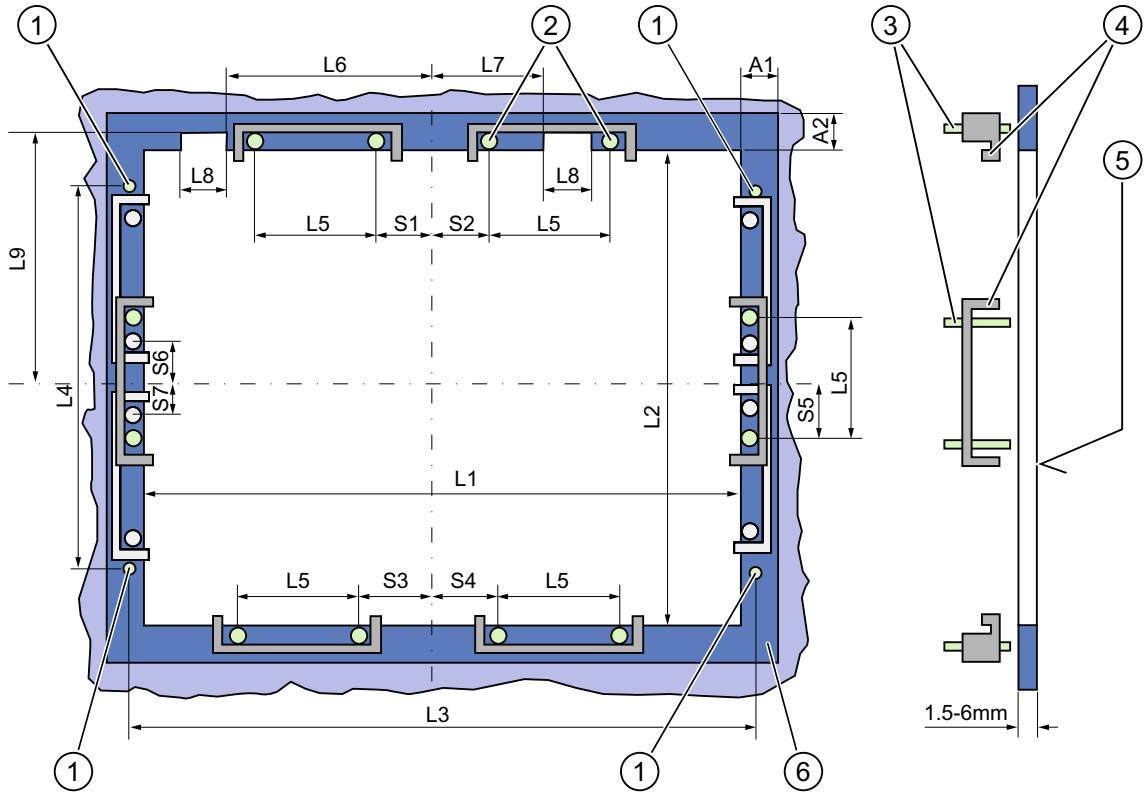


Figure 1-2 Drill holes for the screws and pressure points for the clamp screws

(1) Drill hole for screw attachment
(2) Pressure points for clamp
(3) Setscrews
(4) Clamp
(5) R_Z 120 in the seal area
(6) Seal area

Table 1-1 Dimensions for the mounting cut-out in mm

Control unit	L1	L2	L3 1)	L4 1)	L5	L6 2)	L7 2)	L8 2)	L9 2)	A1	A2	S1	S2	S3	S4	S5 3)	S6 3)	S7 3)
Tolerance	**+1**	**+1**	**±0.2**	**±0.2**	**±0.5**	**±0.5**	**±0.5**	**±0.5**	**+1**	**±1**	**±1**	**±1**	**±1**	**±1**	**±1**	**±1**	**±1**	**±1**
Key panel																		
12" TFT																		
15" TFT	450	290	465	235	112	—	—	—	—	16	10	78	78	78	78	56	—	—
	450	321	465	279	112	186	135	25	165	16	17	51	51	51	51	56	—	—
Touch panel																		
12" TFT	368	290	—	—	112	—	—	—	—	16	10	19	35	35	35	56	—	—
15" TFT	450	290	465	235	112	—	—	—	—	16	10	81	81	81	81	56	—	—
19" TFT	450	380	465	235	112	—	—	—	—	16	10	46	46	46	46	—	33	33

[1] M6 thread or drill holes with a diameter of 7 mm

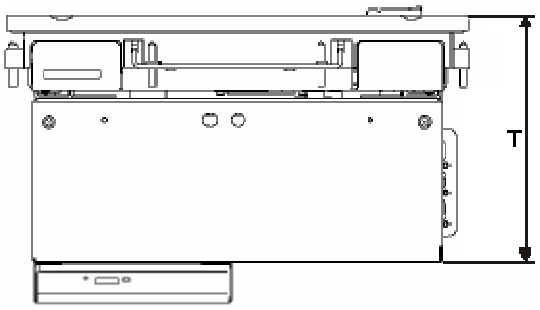
[2] Cut-outs for the shafts of the insert strips are only necessary for 15" key panels.

[3] Only for 19" touch panels are two clamps necessary for vertically securing clamps.

Preparing the mounting cut-out

Steps for preparing the mounting cut-out	
1	Select a location suitable for mounting, taking into account the mounting position.
2	On the basis of the dimensions, check whether the required screw and pressure points on the rear and the seal area are easily accessible after the completion of the mounting cut-out. Otherwise the mounting cut-out is useless.
3	Complete the mounting cut-out in accordance with the dimensions. Use the paper template supplied with the device for this purpose.

1.5.3 Mounting depth of the device



Control unit	T
Key panel with 12" TFT	147 mm
Key panel with 15" TFT	172 mm
Touch panel with 12" TFT	162 mm
Touch panel with 15" TFT	166 mm
Touch panel with 19" TFT	182 mm

Note

Additional mounting depth with DVD drive

The device depth increases by 28 mm when a DVD drive is installed in the device.

1.5.4 Securing the device with clamps

You require 6 clamps in order to mount the device with a 12"/15" display. A device with a 19" display must be mounted with 8 clamps. The required number of clamps is included in your Panel PC delivery package.

Required tool for fastening the clamps: Allen wrench 2.5 mm

Figure 1-3 Clamp assembly

Rack installation

Steps for securing the device with clamps	
1	Disconnect the device from the power supply.
2	Working from the front, insert the device into the 19" rack.
3	Fasten the control unit in the rack from the rear using the clamps. Tighten the setscrews to a torque of 0.4-0.5 Nm.

Swivel arm installation

Steps for securing the device with clamps	
1	Disconnect the device from the power supply.
2	Working from the front, place the device onto the swivel arm.
3	Fasten the control unit on the swivel arm from the rear using the clamps. Tighten the setscrews to a torque of 0.4-0.5 Nm.

Control cabinet installation

Steps for securing the device with clamps	
1	Disconnect the device from the power supply.
2	Working from the front, insert the device into the mounting cut-out.
3	Secure the control unit in the mounting cut-out from behind with the clamps, as shown in the mounting cut-out in the dimensions. Tighten the setscrews to a torque of 0.4-0.5 Nm.

IP65 degree of protection

The IP65 degree of protection is only guaranteed for clamp mounting together with the ring seal.

Notice

Control cabinet installation: Material strength at the mounting cut-out

Please ensure that the material strength at the mounting cut-out is a maximum of 6 mm. Please follow the specifications for the dimensions in the "Preparing the mounting cut-out" section.

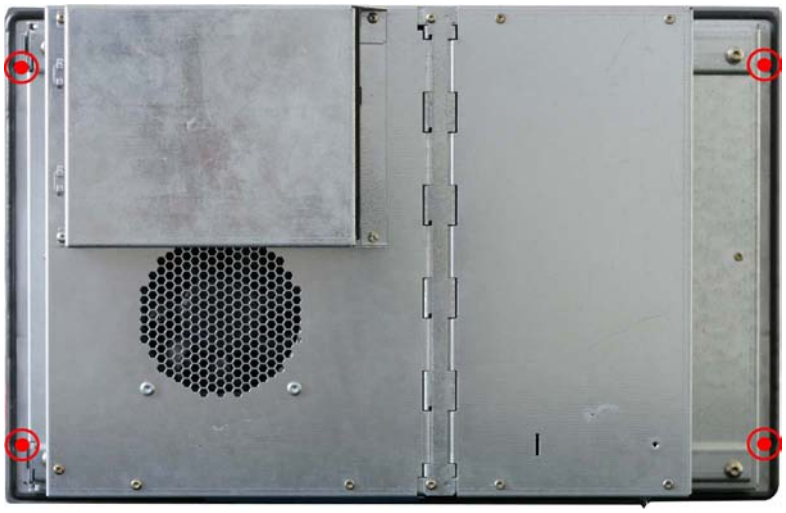
The degree of protection can only be guaranteed when the following requirements are met:
1. The material strength at the mounting cut-out must be at least 2 mm.
2. The deviation from the plane of the mounting cut-out in relation to the external dimensions for an installed HMI device is ≤ 0.5 mm.

1.5.5 Securing with screws

Note

Securing with screws is not possible with the 12" touch screen variant.
For securing the 19" touch screen variant with screws, you will need the accessory with MLFB No. 6AV7672-8KE00-0AA0

Drilling holes

Steps for drilling holes	
1	Drill a through-hole (Ø approx. 2.5 mm) from the rear in the 4 recesses of the control unit. 
2	Use a Ø 5.5 mm bit for M5 and a Ø 6.5 mm bit for M6 for drilling these holes.
3	Deburr the holes from the front of the control unit

Notice

Risk of damage

Ensure that no metal cuttings enter the device when the holes are drilled. Cover the device with film or when drilling, or use a suction.

Rack installation

Steps for securing the device with screws	
1	Drill the holes.
2	Working from the front, insert the device into the 19" rack.
3	Secure the control unit by inserting suitable screws through the holes and attaching nuts.

Swivel arm installation

Steps for securing the device with screws	
1	Drill the holes.
2	Working from the front, place the device onto the swivel arm.
3	Secure the control unit by inserting suitable screws through the holes and attaching nuts.

Control cabinet installation

Steps for securing the device with screws	
1	Drill holes at the prepared mounting cut-out in accordance with the specifications for L4 and L5, as shown in the dimensions of the mounting cut-out
2	Carefully drill the respective holes in the control unit at the designed location from the rear.
3	Working from the front, insert the device into the mounting cut-out.
4	Secure the control unit by inserting suitable screws through the holes and attaching nuts.

IP 54 degree of protection

The IP 54 degree of protection is guaranteed for screw mounting.

Caution

Protect the panel seal when screw mounting

Ensure you do not damage the panel seal when mounting the device with screws.

Notice

Control cabinet installation: Material strength at the mounting cut-out

Please ensure that the material strength at the mounting cut-out is a maximum of 6 mm. Please follow the specifications for the dimensions in the "Preparing the mounting cut-out" section.

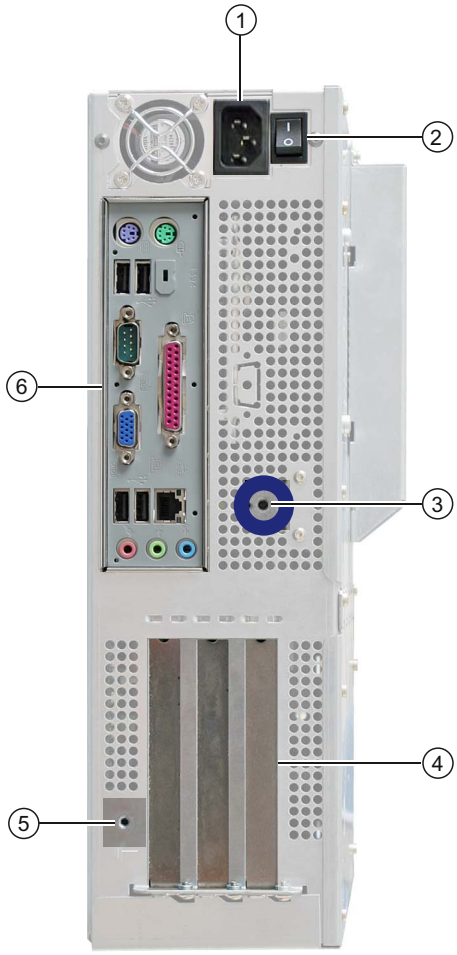
The degree of protection can only be guaranteed when the following requirements are met:
1. The material strength at the mounting cut-out must be at least 2 mm.
2. The deviation from the plane of the mounting cut-out in relation to the external dimensions for an installed HMI device is ≤ 0.5 mm.

1.6 Connecting

1.6.1 Connection elements and operator controls

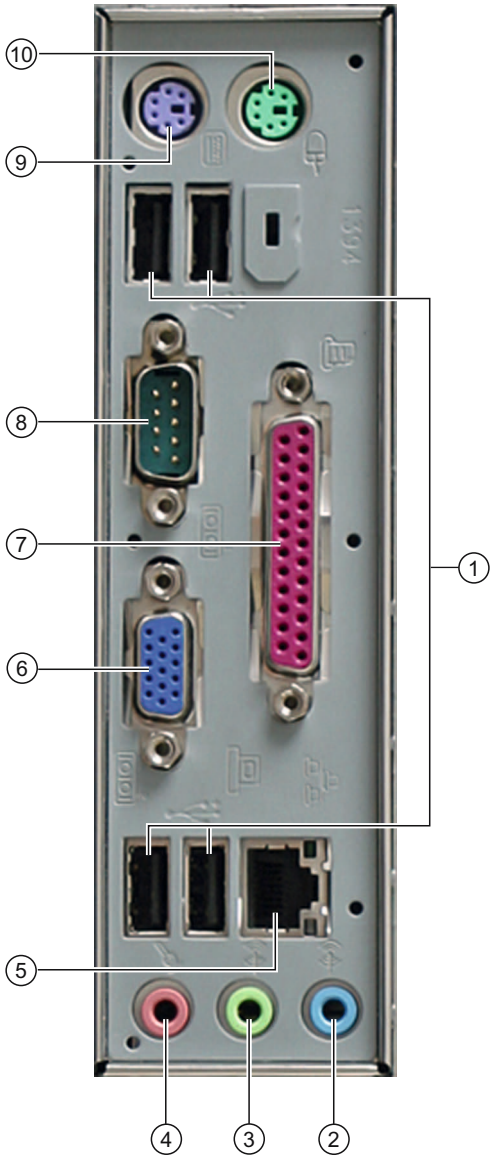
Connection elements and operator controls of the computer unit

Location of connection elements and operator controls



Item	Name	Description
(1)	110/230 V AC	Connection for the AC power supply
(2)	On / Off switch	-
(3)	Soft power key	See below
(4)	PCI slots	3 slots for PCI expansion modules
(5)	Equipotential bonding	Connection for low-resistance grounding connection
(6)	Interfaces	-

Location of the interfaces



Item	Name	Description
(1)	USB	4 USB 2.0 connections high speed / 500 mA
(2)	Line in	Audio input
(3)	Line out	Audio output
(4)	Microphone connection	-
(5)	Ethernet	RJ45 connection for 10/100/1000 Mbps
(6)	VGA	VGA socket
(7)	LPT 1	Parallel interface 25-pin Sub D socket
(8)	COM 1	Serial interface (RS232) 9-pin sub-D connector
(9)	PS/2	Keyboard connection
(10)	PS/2	Mouse connection

Connection elements of the control unit

USB connection of the control unit

Item	Name	Description
(1)	USB	1 connection USB 2.0 high speed / 500 mA under sealed cover

Notice

Guarantee for the IP 65 degree of protection

When the sealed cover over the USB interface is removed in order to connect a USB component, the IP 65 degree of protection for the device is no longer guaranteed.

Note

Use of USB devices

- Wait at least 10 seconds between the unplugging and replugging of USB devices. This also applies in particular to touch control in control units with touch screen panels.
- When using standard USB peripherals, please bear in mind that their EMC immunity level is frequently designed for office applications only. These devices are adequate for commissioning and servicing purposes. However, only industry-standard devices are allowed for industrial operation.
- The peripherals are developed and marketed by individual vendors. The respective manufacturers offer support for the peripherals. Moreover, the terms of liability of the individual vendors or suppliers apply here.

Soft power key

The soft power key can trigger two shutdown functions during active operation:

- **Correct shutdown of the operating system and shutdown of the device**
  To perform this function, press the key briefly with a pointed object.
- **Immediate switch-off of the device without correct shutdown of the operating system**
  This function is used to shut down the device when it no longer responds. Press the key for approximately 4 seconds with a pointed object

Caution

Data loss

Although this function does not trigger a hardware reset, loss of data cannot be ruled out as a result.

Then you can start the device again in one of two ways:

- **Restart via soft power key**
  If you wait at least 7 s after shutdown and then press the key, the device will boot again.
- **Restart via On/Off switch**
  After shutdown, place the On/Off switch in Position 0 and wait for at least 7 s. Then, when you place the On/Off switch in Position 1, the device will boot up again.

1.6.2 Connecting the power supply (110 / 230 V AC)

General connection information

Note the following in order to operate the device safely and according to regulation:

Note

Voltage range

The varying voltage power supply module is designed for operation on 110 to 230 V AC networks. It is not necessary to adjust the voltage range.

Notice

Risk of damage

Do not connect or disconnect power and data cables during thunderstorms.

Notice

Power supply systems

The device is designed for operation on grounded power supply systems (TN systems to VDE 0100, Part 300, or IEC 60364-3).

It is not designed for operation on ungrounded or impedance-grounded power systems (IT systems).

Notice

Permitted mains voltage

The permitted nominal voltage of the device must conform with the local mains voltage.

Notice

Power disconnection

The mains connector must be disconnected to fully isolate the device from mains. Ensure easy access to this area.

A master mains disconnect switch must be installed if the device is mounted in a control cabinet.

Always ensure free and easy access to the power inlet on the device or that the grounding outlet of the building installation is freely accessible and located close to the device.

Note

Power factor correction

The power supply contains an active PFC (Power Factor Correction) circuit to conform to the EMC directive.

Uninterruptible AC power supplies (UPS) must supply a sinusoidal output voltage in the normal and buffered mode when used with SIMATIC PCs with active PFC.

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

Country-specific connection information

For the USA and Canada

A UL-listed power supply cable must be used in the United States and Canada.
Power cables are provided as an accessory for the specific country of delivery.

- **110 V supply voltage**
  Use a flexible power cable with UL approval and the following features: Type SJT with three leads, min. 18 AWG conductor cross-section, max. 4.5 m long and parallel grounding plug 15 A, min. 125 V.
- **230 V supply voltage**
  Use a flexible power cable with UL approval and the following features: Type SJT with three leads, min. 18 AWG conductor cross-section, max. 4.5 m long and tandem grounding plug 15 A, min. 250 V.

For countries other than the USA and Canada

- **230 V supply voltage**
  This device is equipped with a safety-tested power cable which may only be connected to a grounding outlet. If you choose not to use this cable, you must use a flexible cable of the following type: Min. 18 AWG conductor cross-section and 15 A / 250 V grounding plug. The cable set must be compliant with the safety regulations and stipulated IDs of the country where the system is to be installed.

Connecting the power supply

Steps for connecting the device to the 110 / 230 V AC power supply		
1	Switch off the AC power source.	
2	Connect the power supply using the plug.	
3	Lock the power plug to the device (1).	

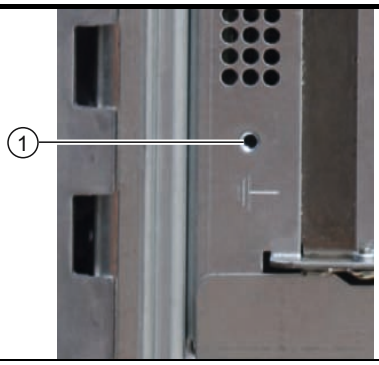
1.6.3 Connecting the equipotential bonding

A low-impedance ground connection ensures that interference signals generated by external power supply cables, signal cables or cables to the I/O modules are safely discharged to ground. The equipotential bonding connection of the device is located at the connection elements of the computer unit and is identified by the following symbol:

Figure 1-4 Equipotential bonding

Connecting the equipotential bonding

Required tool for equipotential bonding terminal: TORX T20 screwdriver

Steps for connecting the equipotential bonding		
(1)	Connect the equipotential bonding connection (M4 thread) (1) on the device (large surface, large-area contact) with the central grounding point of the control cabinet. The minimum conductor cross-section may not amount to less than 5 mm^2.	

1.7 Commissioning

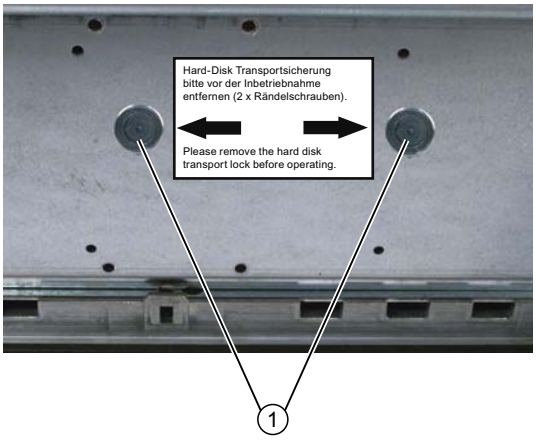
1.7.1 Removing the transport lock for the hard disk

Note

Not every device has a hard disk transport lock.

To enhance the ruggedness of the SIMATIC Panel PC 577 during shipping, the device is fitted with a transport lock for the hard disk. This comprises two knurled screws that clamp the hard disk to prevent undesirable vibrations. The hard disk transport lock is located on the top of the SIMATIC Panel PC 577 and is marked with an adhesive label. When shipped, the transport lock is locked. Before you switch on the device for the first time, you must remove the transport lock for the hard disk.

Removing the transport lock for the hard disk

Procedure for removing the transport lock for the hard disk		
(1)	Unscrew 2 knurled screws (1) by hand	
(2)	Screw the knurled screws into the nuts on the rear of the device for safe-keeping.	

Notice

Risk of damage

If you do not remove the hard disk transport lock before starting up the device, the SIMATIC Panel PC 577 may suffer damage.

Notice

Fitting the hard disk transport lock again

Transport the device only in the original packaging. Fit the hard disk transport lock again for this purpose: Switch off the device and place it in the operating position. Screw in the knurled screws as far as the stop.

1.7.2 Initial startup

Configuring the operating system

When the computer starts up for the **first** time, the Windows 2000 / Windows XP Professional operating system on the hard disk is configured automatically. Proceed as follows:

1. Connect the device to the 110 / 230 V AC power supply. The PC performs a self-test. During the self-test, this message appears:

Press <F2> to enter SETUP or <F12> to display the boot menu.

2. Wait until the message is cleared, then follow the instructions on the screen.

Notice

The device may not be switched off at any time during the installation process.

Do not change the default BIOS settings, otherwise the operating system setup may become corrupted.

3. Automatic restart
After you have entered all necessary information and the operating system is configured, the PC automatically restarts and displays the user interface of the operating system.

Note

System startup can take longer than usual for the initial commissioning.

When you switch on the PC now, the user interface of the Windows 2000 / Windows XP Professional operating system is automatically opened when the startup routine is completed.

Note

To prevent data loss, it is advisable to create an image of your system partition after initial commissioning.

Switching off the device

When you work with Windows 2000 / Windows XP Professional, always shut down the PC with the command **Start > Shutdown**.

1.7.3 Setting up the language selection

The **M**ultilanguage **U**ser **I**nterface (MUI) allows you to set up the Windows 2000 / Windows XP Professional menus and dialogs for additional languages.

The default setting on your device is Windows 2000 / Windows XP MUI with English menus and dialog boxes and a US keyboard layout. You can change the language in the Control Panel. Select:

Start > Control Panel > Regional and Language Options **Languages,** tab **Language used in menus and dialogs** field. For the **Regional and Language Options** set the default to **non-Unicode programs** under **Advanced** in addition to the language for menus and dialog boxes

1.7.4 Setting the panel type

After the device is restarted, different dialogs appear on the screen. Drivers and applications can be installed from these dialogs.

1. In the "Panel Wizard" dialog, click the type of panel that corresponds to your device.

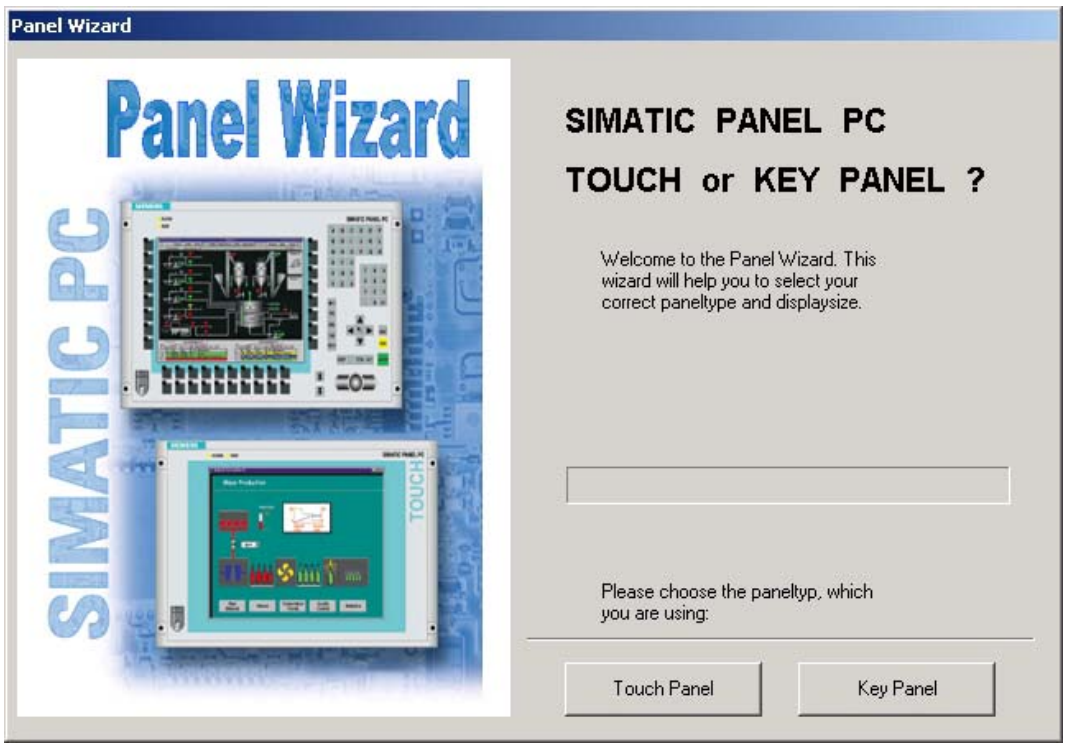


Figure 1-5 Panel Wizard, selection of the panel type

2. Follow the instructions on the screen.

1.7.5 KeyTools (for key panel devices only)

SIMATIC KeyTools is one selection of the applications for your Panel PC. These applications allow you to adapt key codes that are sent by the key panel of the control unit. SIMATIC KeyTools consists of the following applications:

- Key code table: Loading and editing of key code tables
- WinCC hotkey function: WinCC hotkey function activation and deactivation
- Security features: Lock function that prevents two function keys from being activated simultaneously. This prevents incorrect operations and undefined states of the user program.

Note

For a detailed description of the SIMATIC KeyTools please refer to the help menu and the application description on the "Documentation and Drivers" CD.

Calling up KeyTools

1. Call KeyTools using the "Start" menu and command "Settings > Control Panel > SIMATIC KeyTools"
2. Select the desired application and follow the instructions on the screen.

Notice

Malfunctions of the user software

For security reasons always use the "Security features". If you deactivate it nevertheless, serious malfunctions of the user software may occur when the additional function keys and softkeys F11 to F20 and S1 to S16 are used or if own key code tables are used.

1.7.6 Screen keyboard (for touch panel device only)

You can operate the device by means of a virtual screen keyboard. You can use it to enter the characters directly on the touch screen or with an externally connected mouse.

Calling up TouchInput

Call up the "TouchInput" application on the desktop. The screen keyboard is displayed.

(1) Key for selecting the keyboard layouts for specific countries: German, English, Italian, Spanish, French

1.8 Service and support

Additional support

If you have any further questions relating to the products described in this documentation, contact your local representative at the SIEMENS office nearest you.

Find your contact partner at:

http://www.siemens.com/automation/partner

A guide to the technical documentation for the various SIMATIC products and systems is available at:

http://www.siemens.de/simatic-tech-doku-portal

The online catalog and the online ordering system is available at:

http://mall.automation.siemens.com/

Training center

Siemens offers a number of training courses to familiarize you with the SIMATIC automation system. Please contact your regional Training Center, or the central Training Center in D90327 Nuremberg.

Phone: +49 (911) 895-3200.

Internet: http://www.sitrain.com

Technical support

You can reach technical support for all A&D products at:

- Support request form on the web:
  http://www.siemens.de/automation/support-request
- Phone: +49 180 5050 222
- Fax: +49 180 5050 223

Further information about our technical support is available in the Internet at www.siemens.com/automation/service

When you contact the customer support, please have the following information for the technician on hand:

- BIOS version
- Order No. (MLFB) of the device
- Installed additional software
- Installed additional hardware

Service & support on the Internet

In addition to our documentation, we offer our complete knowledge base on the Internet at.

http://www.siemens.com/asis

There you will find:

- The newsletter which provides the latest information on your products
- Relevant documentation for your application which you can access via the search function in our service & support database.
- The current BIOS version
- A forum is available for users and specialists from all over the world to exchange experiences
- Your local Siemens partner for Automation & Drives in our partner database
- Information about on-site service, repairs, spare parts. Lots more is available under ”Services”

You can find the latest information about your device at the following address:

http://support.automation.siemens.com