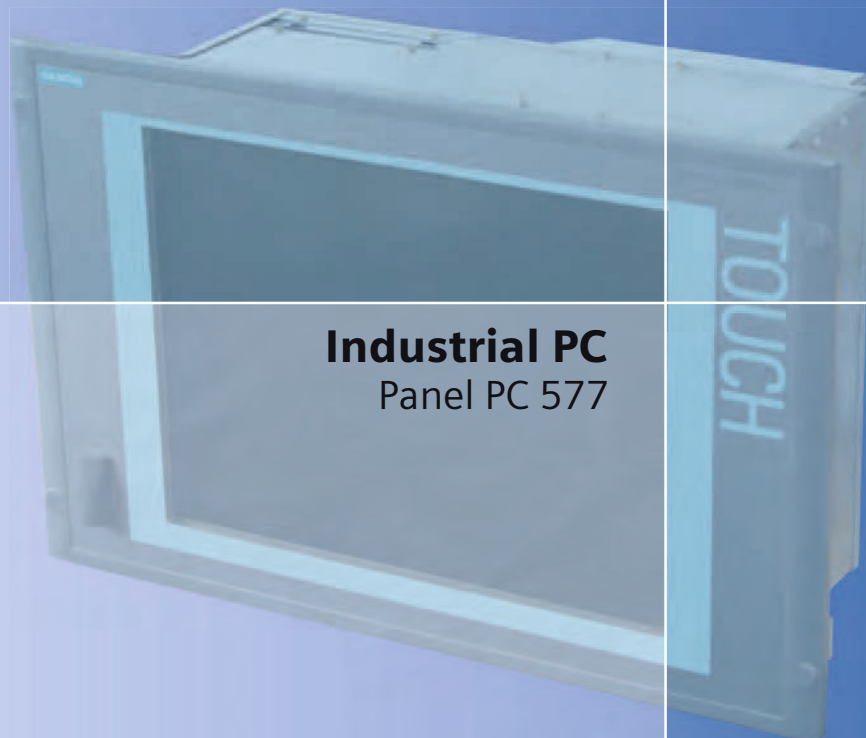


Operating Instructions Edition 04/2006



Industrial PC
Panel PC 577

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Industrial PC SIMATIC Panel PC 577

Operating Instructions

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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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Preface

This manual

Purpose of the manual

This manual provides information based on the requirements defined by DIN 8418 regarding mechanical engineering documentation. This information relates to the device, its place of use, transport, storage, installation, use and maintenance.

This manual is intended for the following target groups:

- Users
- Commissioning engineers
- Service technicians
- Maintenance technicians

Please read the section "Safety instructions and general notes" carefully.

Knowledge required

A solid background in personal computers and Microsoft operating systems is required to understand this manual. General knowledge in the field of automation control engineering is recommended.

Scope of this manual

This manual applies to devices with the order numbers 6AV782....

Related documentation

The documentation for the Panel PC includes the following sections:

- SIMATIC Panel PC 577, Operating Instructions (compact) with the following information:
 - Commissioning
 - Legal information
- SIMATIC Panel PC 577, Operating Instructions

The documentation is supplied with the Panel PC in electronic form as a PDF file on the "Documentation & Drivers" CD. QuickStart for the Panel PC 577 is also supplied in printed form. The documentation is available in German, English, French, Italian and Spanish.

Additional information about the Windows operating system is available in the Internet at the Microsoft homepage, "[www.Microsoft.com](http://www.microsoft.com)".

Online Availability

The following links will bring you directly to the technical documentation collection for SIMATIC products and systems in the languages German, English, French, Italian and Spanish.

- SIMATIC Guide Technische Dokumentation in Deutsch:
http://www.ad.siemens.de/simatic/portal/html_00/techdoku.htm
- SIMATIC guide to technical documentation in English:
http://www.ad.siemens.de/simatic/portal/html_76/techdoku.htm

Conventions

The following text notation will facilitate reading this manual:

Representation	Scope
"File"	<ul style="list-style-type: none">• Terminology that occurs in the user interface, e.g., dialog names, tabs, buttons, menu commands.• Inputs required, e.g., limit values, tag values• Path information
"File > Edit"	Operational sequences, e.g., menu items/shortcut menu items.
<F1>, <Shift>+<F1>	Keys and key combinations

The term "Panel PC 577", "control unit" and "computer unit" is uniformly referred to as the "device" in these operating instructions. The full term is only used when a concrete reference is necessary.

Note

A note is important information about the product, handling the product or a reference to specific sections of the documentation that require special consideration.

Trademarks

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HMI®
SIMATIC®
SIMATIC HMI®
SIMATIC ProTool®
SIMATIC WinCC®
SIMATIC WinCC flexible®
Panel PC 577®
Panel PC 677®
Panel PC 877®

Additional support

Representatives and offices

If you have questions concerning the use of the described product which are not answered in this manual, please contact the Siemens representative in your area.

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.com/simatic-tech-doku-portal>

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

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

Training center

To familiarize you with automation systems, we offer a variety of courses. Please contact your regional training center or the central training center in D-90327 Nuremberg, Germany.

Phone: +49 (911) 895-3200

Internet: <http://www.sitrain.com>

Technical support

You can reach the technical support for all A&D products via the support request form on the web:

- <http://www.siemens.com/automation/support-request>
- Phone: + 49 180 5050 222
- Fax: + 49 180 5050 223

Additional information about our technical support is available in the Internet at:

<http://www.siemens.com/automation/service>

Service & support on the Internet

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

<http://www.siemens.com/automation/service&support>

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.
- A forum where users and experts from all over the world exchange ideas.
- Your local Automation & Drives representative.
- Information about on-site service, repairs, spare parts. And lots more under "Services".

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Safety instructions and general notes

1.1 Safety instructions



Warning
Emergencies

In the event of a device fault, remove the mains connector immediately. Inform the customer service personnel responsible. Malfunctions can occur when the operator controls or power cable are damaged or when liquids or foreign objects penetrate the device.



Caution

Please observe the safety instructions on the back of the cover sheet of this documentation. You should not expand your device unless you have read the relevant safety instructions.

This device is compliant with the relevant safety measures to IEC, EN, VDE, UL, and CSA. If you have questions about the validity of the installation in the planned environment, please contact your service representative.

Repairs

Only authorized personnel are permitted to repair the device.



Warning

Unauthorized opening and improper repairs can cause considerable damage to property or danger for the user.

System expansions

Only install system expansion devices designed for this device. The installation of other expansions can damage the system and violate the radio-interference suppression regulations. Contact your technical support team or where you purchased your PC to find out which system expansion devices may safely be installed.

Caution

If you install or exchange system expansions and damage your device, the warranty becomes void.

Battery

This device is equipped with a Lithium battery. Batteries may only be replaced by qualified personnel.



Caution

There is the risk of an explosion if the battery is not replaced as directed. Replace only with the same type or with an equivalent type recommended by the manufacturer. Dispose of used batteries in accordance with local regulations.



Warning

Risk of explosion and release of harmful substances!

Therefore, do not throw Lithium batteries into an open fire, do not solder or open the cell body, do not short-circuit or reverse polarity, do not heat up above 100° C, dispose of in accordance with regulations and protect against direct exposure to sunlight, moisture and condensation.

ESD guidelines

Modules containing electrostatic sensitive devices (ESDs) can be identified by the following label:



Strictly follow the guidelines mentioned below when handling modules which are sensitive to ESD:

- Always discharge your body's static electricity before handling modules which are sensitive to ESD (for example, by touching a grounded object).
- All devices and tools must be free of static charge.
- Always pull the mains connector and disconnect the battery before you install or remove modules which are sensitive to ESD.
- Handle modules fitted with ESDs by their edges only.
- Do not touch any wiring posts or conductors on modules containing ESDs.



Warning

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.

Electrical connection



Warning

Disconnect the device from the mains before every intervention.

Do not touch power cables or data transmission cables during electrical storms and do not connect any cables.

High frequency radiation

Caution

Unintentional operating situations

High frequency radiation, e.g. from cell phones, can cause unintentional operating situations under some circumstances. For more details, consult the technical data in the "EMC requirements" chapter.

1.2 General information, download "Panel PC"

Overview

Caution

The device is approved for operation in closed rooms only. The guarantee is void if this stipulation is ignored.

Avoid extreme environmental operating conditions. Protect your device against dust, moisture and heat. For additional information, refer to the Technical data.

Do not place the device in direct sunlight.

Transport

Unpack the device at its installation location.

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.

Notice

Adhere to these stipulations each time the device is transported, otherwise the guarantee is void.

Caution

Condensation

When transporting the device in low temperatures, ensure that no moisture gets on or into the device. This also applies if the device is subjected to extreme changes in temperature.

Commissioning

Allow the device to slowly adjust to room temperature before commissioning the device. Do not place the device near direct heat radiation. If moisture condensation occurs, wait at least about 12 hours before you switch on the device.

Vibration

DVD drives are sensitive to vibration. Prohibited vibration during operation may result in loss of data or damage to the drive or data medium.

Before transporting the device, wait at least 20 seconds to allow the drive to stop completely.

Tools & downloads

Please check regularly whether updates and hotfixes are available for download to your device.

Downloads are available on the Internet at "<http://www.siemens.com/asis>" under "Support". Click on "Tools & Demosoftware" on "Overview Panel PCs". Using the global search function, you can then also search for any downloads you require.

Processor and CD-ROM drive

Caution

Danger of overheating the processor!

Do not activate the "Silent mode" option in the BIOS setup.

Notice

A CD-ROM drive should only be operated in a mechanically undisturbed environment without vibrations and shock.

Safety-relevant applications



Warning **Maloperation**

Do not perform safety-relevant functions of the user software with the touch screen.

Chemical resistance

Caution

Adhere to the information regarding chemical resistance. Please refer to the "Tools & Demosoftware" Internet site for more information. Enter "Chemical resistance" as the search term. The available articles are displayed.

Sources of light

Notice

Position the screen so that it is not subject to direct sunlight or other strong sources of light.

Defective pixels in the display

At present, the manufacturing process of modern displays does not guarantee that all pixels of the display will be perfect. A small number of defective pixels in the display is therefore unavoidable. This does not present a functional problem as long as the defective pixels are not bunched in one location.

Refer to the "Technical data" section for more information.

Burn-in effect on TFT displays

A permanent picture with bright images can lead to a burn-in effect on the TFT LCD.

If a screen saver is activated, please observe the following:

- The liquid crystals in screen savers which actuate active black when the backlighting is on, e.g. flying stars "starfield simulation," renew themselves. Pay attention to the length of time the backlighting is activated.
- The following applies to screen savers which turn off the backlighting: Each time the backlighting is turned on, its life is reduced by 50 minutes.

Consider the following carefully:

- Screensaver
- Switch off the backlighting regularly
- Permanent display of the customer application

Description

2.1 Application features

Introduction

The Panel PC 577 provides a high standard of quality based on the protection type of the control unit, high-level EMC and CE certification for industrial application.

The device is designed for 24 hour operation. Further information is available in the section "Ambient and environmental conditions of the "Technical data" chapter.

The Panel PC 577 is scalable beginning with the processor type and the memory modules all the way to the operating system.

Interfaces

- The integrated Ethernet interface ensures communication with the office world and the management level.
- PC peripherals can be connected via the integrated USB interfaces at the rear and front of the device.
- Connection to the process is made with communication cards and PC expansion modules in the available PC slots.

2.2 Design

The device serves as a base for PC-based HMI devices, the Panel PCs. The Panel PC 577 fulfills the basic requirements for industrial compatibility and provides high performance at a low price.

The device consists of the control unit with a key or touch panel and the computer unit. The control unit is screwed to the back of the computer unit.



Figure 2-1 Panel PC 577

- 1 Control unit
- 2 Computer unit

2.3 Technical features

General features	
Processor	- Intel® Pentium 4 2.4 GHz - Intel® Celeron 2.0 GHz
Chipset	Intel 865G
Main memory	256 MB = 2 x 128 MB SDRAM or 1 x 256 MB SDRAM 512 MB = 2 x 256 MB SDRAM 4 slots, expandable to 4 GB maximum
Slots for add-ons	<ul style="list-style-type: none"> • Uppermost slot is suitable for WinAC Slot module • 2 x PCI 175 mm long (below)
Device variants The device is available with different control units which are distinguished by the size of the display and by a membrane keyboard or touch screen.	Keyboard variants <ul style="list-style-type: none"> • 12"/15" TFT technology • Color display with backlighting • Membrane keyboard with alphanumeric keys, numeric keys, cursor keys and control keys • Function keys and softkeys • Integrated mouse • Softkeys, <Shift> und <ACK> • Front-mounted USB 2.0 interface for connecting external I/O modules Touch screen variants <ul style="list-style-type: none"> • 12"/15"/19" TFT technology • Color display with backlighting • Front-mounted USB 2.0 interface for connecting external I/O modules
Graphics	On-board graphics (865G chipset) 12": 800 x 600, 60 Hz 15": 1024 x 768, 60 Hz 19": 1280 x 1024, 60 Hz
Power supply	110/230 V AC, 350 W; variable voltage with short-term buffering against power failure at maximum 16 ms
Drives optional	CD-ROM drive
Hard disks	≥ 40 GB HDD small, 1x 2.5"
Operating system, optional	Preinstalled, also installed on the Restore CD - Windows 2000 Professional MUI* - Windows XP Professional MUI* *MUI: Multi-language user interface; German, English, French, Italian, Spanish, Japanese, Korean, Chinese simplified and Chinese traditional

Interfaces	
Installed via expansion cards: PROFIBUS / MPI	CP 5611-compatible (not included in the scope of supply)
Ethernet	LAN 10/100/1000 Mbps
USB	4x USB 2.0 high current, external 2x USB 2.0 high current available, internal via male connector 1x USB 2.0 high current, front mounted
Serial interfaces	COM1 V.24
Parallel interfaces	LPT1
Keyboard	PS/2
Mouse	PS/2

Accessories not supplied with the device package	
SIMATIC PC Image Creator SW	Software for local data backup
Film for protecting the touch screen panel against dirt and scratches for the 12" touch screen variant for the 15" touch screen variant for the 19" touch screen variant	6AV7671-2BA00-0AA0 6AV7671-4BA00-0AA0 6AV7672-1CE00-0AA0
Labeling strips for 12" keyboard variant for 15" keyboard variant	6AV7672-0DA00-0AA0 The labeling strips and printing templates can be obtained from the Internet address mentioned in the preface.
Screw fixing elements for 19" touch screen variant	6AV7672-8KE00-0AA0

Planning use

3.1 Overview

Introduction

This section describes the first steps after unpacking, the permitted mounting positions and the fixation. This section describes the necessary considerations for EMC.

Field of application

The Panel PC is an industry-standard PC platform for demanding tasks in the field of PC-based automation. The Panel PC is designed for on-site use on the machine, installed for example in:

- Control cabinets
- Swivel arms
- In consoles

Note

In the following, the term "control cabinet" also refers to rack, mounting rack, switchboard, operator panel and console. The term "device" represents the Panel PC and its variants.

3.2 Unpacking and checking the delivery

Procedure

1. Please check the packaging material for transport damage upon delivery.
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.

Caution

Do not lie the device on its back. This will avoid any damage to an optical drive which may be present. Lie the front side on a soft surface to avoid damaging the front panel USB interface.

4. Keep the packaging material in case you have to transport the unit again.

Notice

The packaging protects the device during transport and storage. Therefore, never dispose of the original packaging material!

5. Please keep the enclosed documentation in a safe place. You will need the documentation when you start up the device for the first time.
6. Check the package contents for completeness and any visible transport damage. Check for completeness using the "Contents of Delivery" list in the Operating Instructions (compact).
7. Notify the delivery service in charge immediately if the packages contents are incomplete or damaged.



Warning

Make sure that a damaged device is not installed or put into operation.

8. Note the identification information as described in the "Operating Instructions (compact)" document.



Warning

Risk of damage

Do not transport the device when it is mounted. During transport, use the hard disk transport lock (if present).

The device is approved for use with the following operating systems:

Approvals

- Windows 2000 Professional Multi-Language SP4 and higher, German, English, French, Italian, Spanish, Japanese, Korean, Chinese Simplified and Chinese Traditional
- Windows XP Professional Multi-Language, German, English, French, Italian, Spanish, Japanese, Korean, Chinese Simplified and Chinese Traditional

Windows XP Professional is only approved as of Service Pack 2.

The operating system is provided with the Windows function modes "Hibernate" and "Standby" deactivated when shutting down the operating system and with "Fast User Switch" (Windows XP Professional) deactivated.

3.3 Make note of identification data

Procedure

1. Write down the Microsoft Windows product key of the Certificate of Authenticity COA in the table at the end of this section. The product key can be found on the back of the device. You will need the product key during the reinstallation of the operating system.
2. Write down the manufacturer's number SVP and the order number , e.g. "6AV782...", in the table. If repairs are necessary, the device can be identified by the service center on the basis of the SVP number and order number.

Both numbers can be found on the rating plate attached to the side of the device where the power unit is located.

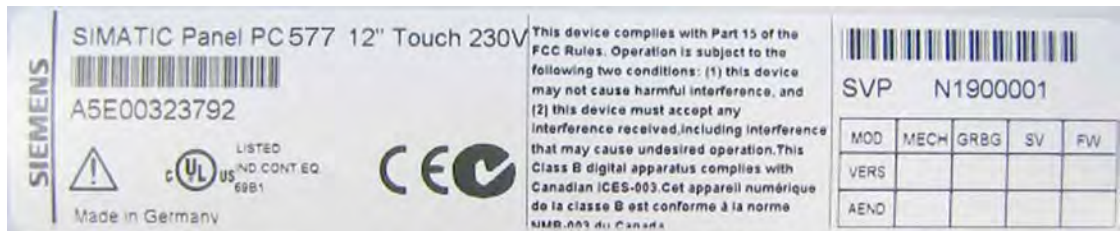


Figure 3-1 Rating plate

3. Enter the Ethernet address of the device: The Ethernet address is located in the "Main" menu of the BIOS setup, "Hardware Options > Ethernet Address."

Identification	Number
1	Microsoft Windows Product Key
2	SVP number
3	Order number
10	Ethernet address (MAC address)

3.4 EMC directive

Electromagnetic compatibility

The device fulfills the requirements of the EMC law of the Federal Republic of Germany as well as the EMC directive of the Single European Market.

The device is designed as a built-in model with front-sided IP65 degree of protection. Ensure compliance with the EN 61000-4-2 standard by installing the device in grounded metal cabinets, e.g. 8 MC cabinets, Siemens catalog NV21.

Note

For additional information about EMC requirements, refer to the Technical data section.

Installing the device according to EMC directive

Basics for interference-free operation:

- Install the controller according to EMC directive
- Use interference-immune cable

Note

The instructions "Guidelines for the assembly of interference-immune programmable logic controllers" with the article ID 1064706 and the manual "PROFIBUS networks" with the article ID 1971286, which also applies to the installation of the device, is located on the "Documentation and Drivers" CD.

3.5 Mounting positions and fastening

3.5.1 Installation instructions

Before mounting the device, read the following general notes relating to installation.



Warning

Dangerous Voltage

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

Caution

The device is approved for operation in closed rooms only.

- Ensure that the grounding outlet of the building installation is easily accessible and that there is a mains disconnect switch in control cabinet installations.
- Position the screen in an ergonomic position favorable to the user. Choose a suitable mounting height.
- Position the screen so that it is not subject to direct sunlight or other strong sources of light.
- DVD drives are susceptible to shock. Shocks during operation can lead to the loss of data or damage to the drive or data carrier. Burners and DVDs are not suitable for continuous operation.
- Applies to devices which are installed in swivel arm housings: Avoid rapid or jerky movements of the swivel arm during operation. The ensuing forces could lead to possible irreversible damage of the hard disk.
- Provide adequate volume in the control cabinet for air circulation and heat transport. Keep at least 10 cm distance between the device and control cabinet.
- Do not allow the maximum air intake temperature to exceed 45° C. Decisive is the temperature measured at a distance of 10 cm from an air intake. The maximum air intake temperature must be accounted for especially when sizing closed control cabinets.
- Position the device so that the air vents of the housing are not covered up following mounting.
- Ensure there is enough free space in the control cabinet to allow the sheet metal cover to be removed. You will otherwise have to remove the device from the control cabinet or swivel arm when replacing the memory or the battery.

- Also provide enough free space to add on to the device.
- Equip the control cabinet with struts for stabilizing the mounting cut-out. Install struts where necessary.
- Avoid extreme environmental operating conditions. Protect your device against dust, moisture and heat.
- Install the device in such a way that it poses no danger, e.g. by falling over.
- During assembly, please comply with the approved mounting positions.

Notice

The device must be mounted in a fireproof cabinet to fulfill the requirements for UL508 certification.

To fulfill the requirements for EN 60950, the device must be mounted in a permitted position.

For additional information, refer to the dimensional drawings in the appendix.



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.

3.5.2 Permitted mounting positions

Approval

Only certain mounting positions are approved for the device.

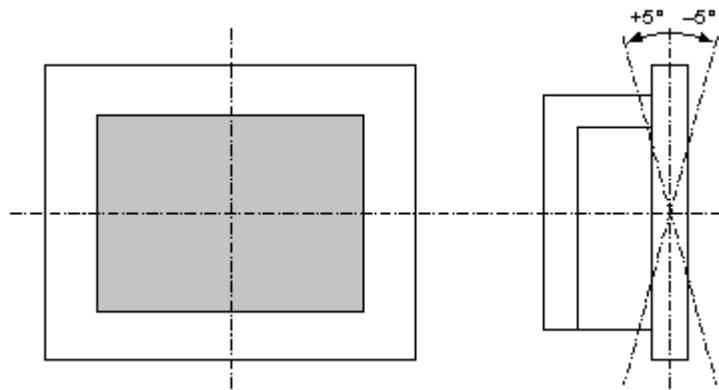


Figure 3-2 Permitted mounting position

The device can be mounted in a vertical position with deviations between $+5^\circ$ and -5° in the given directions.

3.5.3 Mounting type

The control unit is secured in the mounting cut-out either with clamps or screws.

Notice

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

Select the type of mounting suitable to your requirements for the degree of protection.

3.5.4 Degree of protection

Principle

The degree of protection provided at the front is assured when the mounting seal lies completely against the mounting cut-out.

Caution

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 "Mounting cut-out" section.

The degrees of protection are only guaranteed when the following is observed:

- The material strength at the mounting cut-out is at least 2 mm.
 - The surface plane deviation of the mounting cut-out in relation to the external dimensions of the control unit amounts to ≤ 0.5 mm when the control unit is mounted.
-

IP65 degree of protection and NEMA4

The IP65 degree of protection and NEMA4 is only provided for clamp mounting together with a ring seal.

IP54 degree of protection

This degree of protection is assured when fixed using screws and the mounting components for 19" rack accessories.

Note

For screw fixing of the 19" touch panel front, a backing plate is available as an accessory. For further information, see "<http://mall.ad.siemens.com/>".

3.6 Mounting cut-out

3.6.1 Selecting and creating the mounting cut-out

Requirement

The degree of protection suitable to the field of application and thereby the mounting method have been selected.

Procedure

1. Follow the installation instructions.
2. Select a location suitable for installation, taking into account the installation instructions and the chosen mounting position.
3. On the basis of the dimensional drawings, check whether the required screw and pressure points on the rear and the hatched seal area are easily accessible after the completion of the mounting cut-out. Otherwise the mounting cut-out is useless.
4. Complete the mounting cut-out in accordance with the dimensions. You can also obtain these dimensions from the mounting template supplied with the device.

3.6.2 Dimensions

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

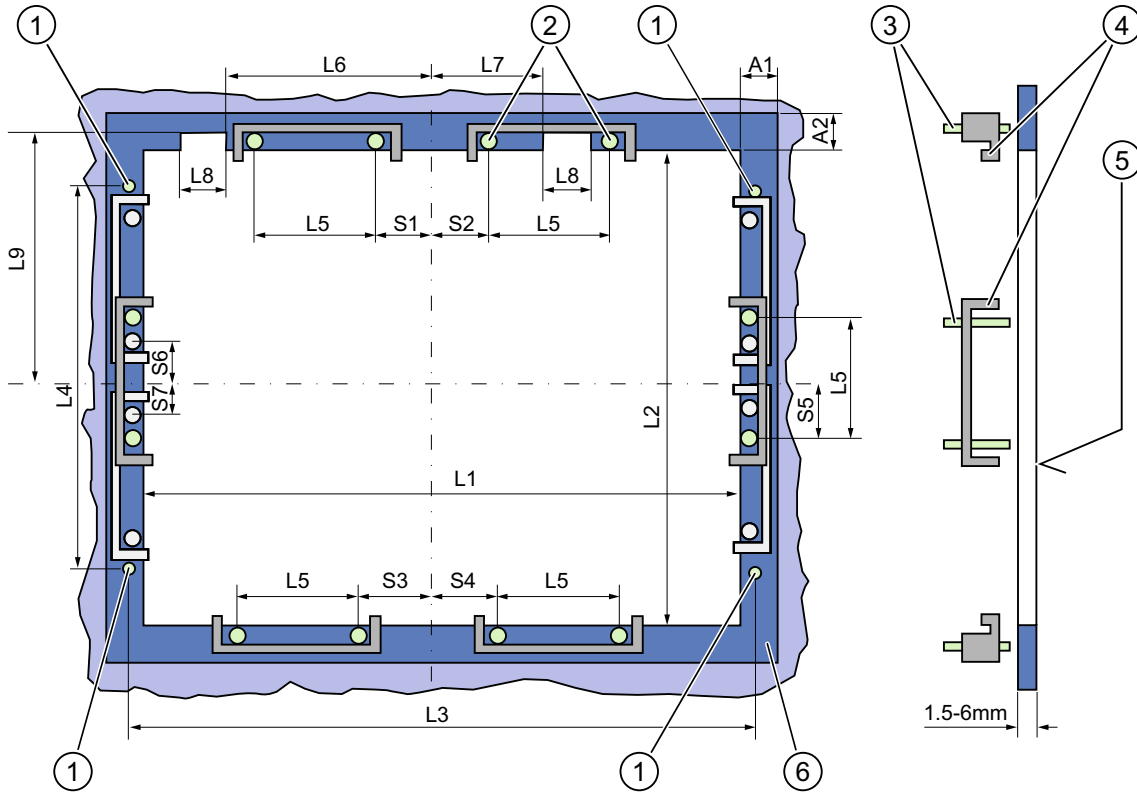


Figure 3-3 Drill holes for the screws and pressure points for the clamp screws

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

3.6 Mounting cut-out

Table 3-1 Dimensions for the mounting cut-out in mm

Control units	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 panels																		
12" TFT	450	290	465	235	112	—	—	—	—	16	10	78	78	78	78	56	—	—
15" TFT	450	321	465	279	112	186	135	25	165	16	17	51	51	51	51	56	—	—
Touch screen panels																		
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.

More information about device dimensions, e.g. mounting depth, can be found in the "Dimensional drawings" section.

Installation

4.1 Securing with clamps

Scope

Skip this step if you have selected "screw mounting."

Note

The 12" touch screen variant can only be fixed in place using clamps.

Requirement

- The mounting cut-out has been completed.
- Clamps are readily available in the accessories. Clamps and setscrews are included in the contents of delivery.



Figure 4-1 Clamp assembly

Procedure

1. Follow the installation instructions.
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.

4.2 Securing with screws

Scope

Skip this step if you have selected "clamp mounting."

Notice

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

Requirement

The mounting cut-out has been completed.

Procedure

1. Follow the installation instructions.
2. Drill suitable holes at the prepared mounting cut-out in accordance with the specifications for L4 and L5, as shown in the mounting cut-out in the dimensions.
3. Carefully drill the respective holes in the control unit at the designated location (1) from the rear.

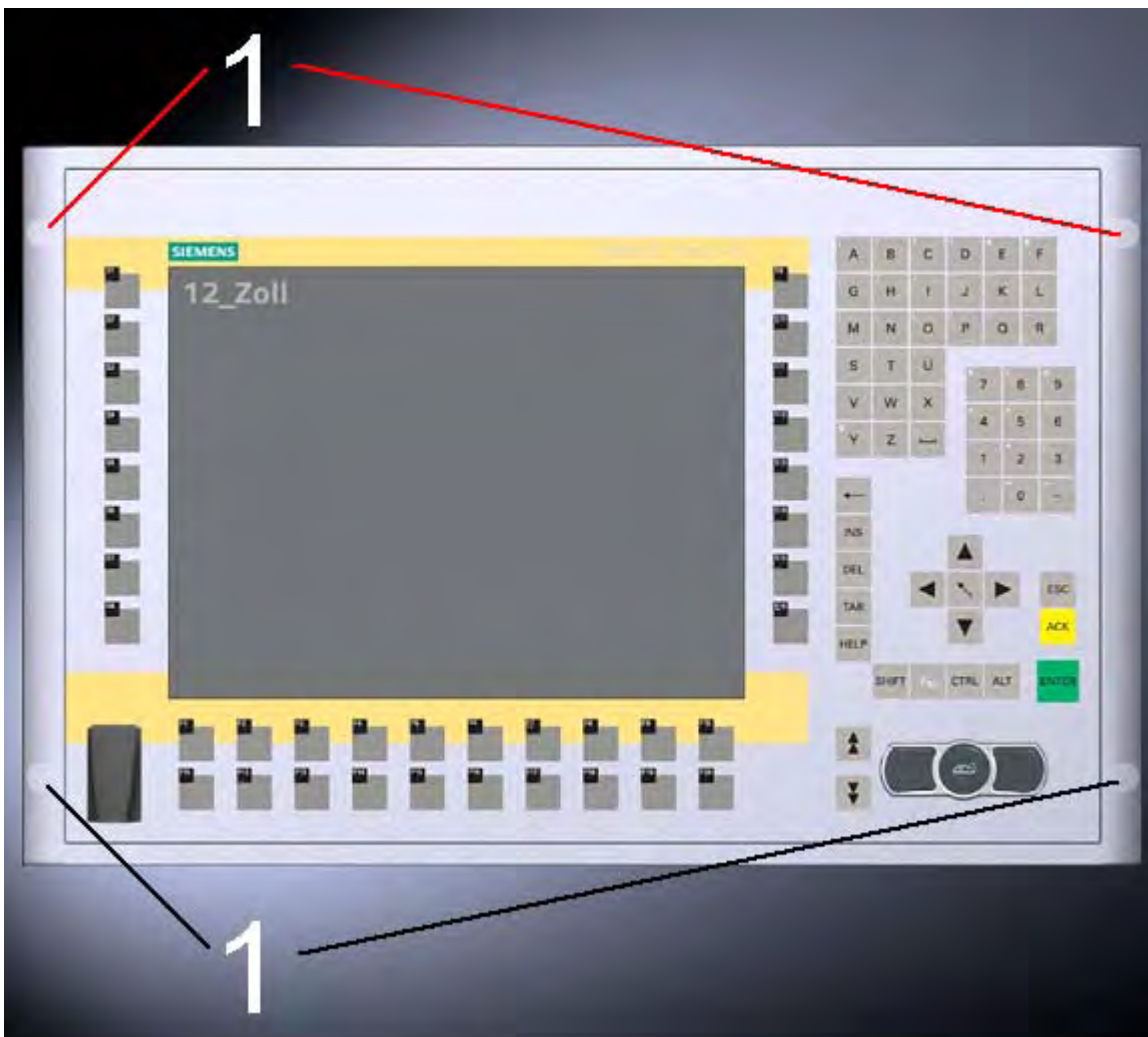


Figure 4-2 Designated location for holes on the control unit

4. Working from the front, insert the device into the mounting cut-out.
5. Secure the control unit by inserting suitable screws through the holes and attaching nuts.

4.3 Dimensions

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

Refer to the dimensional drawings in the "Technical specifications" section for the exact measurements.

Connecting

5.1 Overview

Introduction

Once you have mounted the device, connect it.



Warning

Do not touch power cables or data transmission cables during electrical storms and do not connect any cables.

Unplug the mains connector from the socket to be sure the electricity is disconnected.

Caution

Connection sequence

Follow the described sequence when connecting the device to avoid damaging it.

Commissioning

Allow the device to adjust to the room temperature before connecting the device. Do not place the device near direct heat radiation. If moisture condensation occurs, wait at least about 12 hours before you switch on the device.

Risk of data loss!

Do not disconnect the power supply when the device is in operation. Disconnect the power only after the device has been correctly shut down.

Requirement

- The device has been installed in conformity with the EMC directive
- The device has been installed according to the information provided in these operating instructions.

Procedure

1. Connect the equipotential bonding.
2. Connect peripherals:
 - Connect an external monitor if desired.
 - Connect the PS/2 mouse.
 - Connect the PS/2 keyboard.
 - Connect a USB device such as a USB mouse if desired.
 - Connect a printer.
3. Connect the power supply.

5.2 Interfaces

5.2.1 Front interfaces

Introduction

A USB interface is located on the front side. For more information, please refer to the chapter "Operation." Attach an external keyboard or an external mouse, for example, to the USB interface. The front-side USB interface supports the standard USB 2.0.

Caution

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.

Notice

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

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.

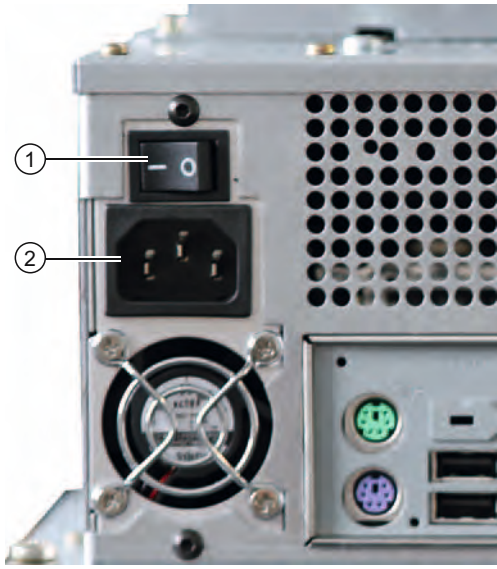
The peripherals are developed and marketed by individual vendors. The respective manufacturers offer support for the peripherals. Moreover, the terms of liability of the individual vendors or suppliers apply here.

5.2.2 Rear interfaces

Interfaces

Arrangement of the interfaces		
Item	Name	Description
(1)	KEYBOARD	Connection for a PS/2 keyboard
(2)	Mouse	Connection for a PS/2 mouse
(3)	USB 2.0	Connection for USB devices
(4)	COM 1	Serial interface, 9-pin Sub-D connector
(5)	LPT 1	Parallel interface, 25-pin sub D socket
(6)	VGA	VGA connection
(7)	USB 2.0	Connection for USB devices
(8)	Ethernet	RJ 45 Ethernet connection 10/100/1000 Mbps

Power supply

Position of the IEC power connector	Description
	<p>IEC power connector (2) for the AC power supply to the device. The maximum permitted power supply range is 120 V AC to 230 V AC.</p> <p>On / Off switch (1)</p>

Note

You can also switch on the device using the soft power key. Refer to the "Operator controls" chapter for more information.

5.3 Connecting peripherals

5.3.1 Overview

When connecting the device for the first time, connect a PS/2 keyboard and PS/2 mouse. Connect any required USB components such as a USB hub.

Caution

Disconnect the device from the power supply before connecting peripherals. This does not apply to connecting and disconnecting USB devices.

Connect only I/O modules approved for industrial applications according to EN 61000-6-2:2001. Use shielded cables and metal connectors to connect peripherals. Otherwise, the specified standards and specifications declared by Siemens AG are no longer valid. Secure the plugs of the interface cables to the device housing with screws. This improves the electrical shielding.

Mouse

Connect a PS/2 or USB mouse.

5.3.2 Connecting a monitor

The front panel is activated as the display by default when the operating system starts. An external monitor connected to the VGA port is therefore deactivated.

Learn how to activate an external monitor by reading the section "Installing and removing hardware components" in the "Service and maintenance" chapter.

5.3.3 USB

Introduction

Commercially available USB peripherals can be easily and flexibly connected via the USB interface. For example, you can connect an external USB keyboard and a USB mouse. If the USB keyboard has a USB interface, you can connect other USB peripherals, such as a USB mouse, directly to the keyboard.

USB interface

There are several types of USB peripherals:

- Low power devices: maximum 100 mA power consumption, e.g. mouse and keyboard
- High power devices maximum 500 mA power consumption, e.g. hard disk and floppy drive

Note

The general USB specifications apply to the USB interfaces on the computer unit.

The USB interface on the front panel has been approved for a maximum of one additional USB hub.

Using USB peripherals

Notice

When installing a USB device for the first time, make sure you have the required device driver.

Before removing an intelligent USB device, deactivate the device in the operating system using the dialog "Unplug or Eject Hardware". For additional information, refer to the documentation for the operating system.

Connecting USB devices

Caution

Wait at least 10 seconds between removal and reconnection of USB devices. This also applies to control units with touch screens, especially for touch operation.

Notice

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. More information about connecting USB devices is available in the "Commissioning" section.

Procedure

1. Insert the USB cable into one of the USB interfaces. The device is automatically detected by the Plug and Play operating system. The operating system may prompt you to install a driver when necessary.

5.4 Connecting the power supply

Principle

The device can be optionally operated on 110 or 230 V AC systems. The device features an automatic voltage switch and a power switch.

Caution

Do not touch power cables or data transmission cables during electrical storms and do not connect any cables.

Unplug the mains connector from the socket to be sure the electricity is disconnected.

The device features a safety-certified power cable. Connect the device only to a grounding outlet. Operate the device only on grounded power cables and not on impedance grounding systems such as IT systems.

Make sure that the local supply voltage complies with the permissible rated voltage for the device.



Warning

Select an adequately large cable diameter so that the device is not damaged by the cable during a short circuit.

Localized information

Outside of the USA and Canada, 230 V AC power supply:

If you do not use the safety-certified power cable, use a flexible cable with the following characteristics:

- At least 18 AWG conductor cross-section
- Grounding plug 15 A, 250 V

Notice

Ensure that the cable set conforms to the respective national safety regulations and is appropriately labeled.

For USA and Canada:

A UL-listed power supply cable must be used in the United States and Canada.

110V power supply

Use a flexible cable with the following characteristics:

- UL approval
- Type SJT with three conductors
- At least 18 AWG conductor cross-section
- Maximum 4.5 m length
- Parallel grounding plug 15 A, min. 125 V

230V power supply

Use a flexible cable with the following characteristics:

- UL approval
- Type SJT with three conductors
- At least 18 AWG conductor cross-section
- Maximum 4.5 m length
- Tandem grounding plug 15 A, min. 250 V

Procedure

1. Insert the supplied power cable into the AC/DC power socket of the device.
2. Lock the power plug with the interlocking device supplied in the package. This will prevent unintentional detachment of the IEC power connector on the device.

5.5 Uninterruptible AC power supplies

Introduction

This chapter describes the considerations involved in using an uninterruptible AC power supply (AC UPS) for the Panel PC.

Due to legal regulations related to reducing reactive-power consumption in public and private electrical networks, all AC voltage supplies in Panel PCs feature a power factor correction (PFC) circuit. Technically, there is passive PFC and active PFC.

Active PFC

All Panel PC 87x, Panel PC 577 and Panel PC 677 feature an active PFC. Active PFC requires almost perfect sinusoidal input voltage.

Caution

Uninterruptible AC power supplies (AC UPS) with non-sinusoidal wave form damage the power supply unit of Panel PCs with active PFC.

Make that the AC UPS supplies a sinusoidal output voltage in normal and battery mode for use on a Panel PC with active PFC.

Selection criteria for an uninterruptible power supply

Uninterruptible power supplies with sinusoidal output voltage in normal and battery mode are classified as "VFI-SS-..." or "VI-SS-...".

UPS characteristics are described and classified in EN 50091-3 and IEC 62040-3.

Note

More information is available on the Internet at "www.ad.siemens.de" under "Products & Solutions." Click on "Service & Support" under "Services" and search for the article ID "17241008" on the "Product Support" page. At the end of the article there is a link to the document, "UPS Classification Based On Operational Performance".

5.6 Connecting the equipotential bonding

A low-resistance 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.

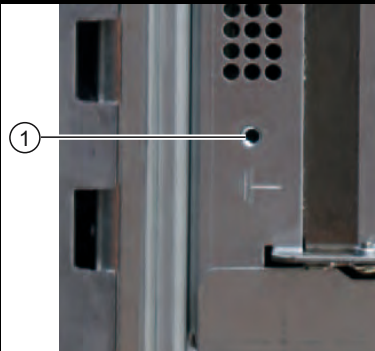
The equipotential bonding connection of the device is located at the connection elements of the computer unit and is identified by the following symbol:



Figure 5-1 Equipotential bonding

Connecting the equipotential bonding

Required tool for equipotential bonding terminal: TORX T20 screwdriver

Steps for connecting the equipotential bonding	
1	<p>Connect the equipotential bonding connection (M4 thread) on the device (1) (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 mm².</p> 

Avoiding differences in potential

Differences in potential arise between separated system parts, which in some cases lead to high equalization currents. This situation may arise if the cable shielding is terminated at both ends and grounded at different system parts. Potential differences can be caused, for example, by different power inputs.

Reduce the differences in potential by laying the equipotential bonding cables in such a way that the affected electronic components function properly. Observe the following guidelines when setting up equipotential bonding:

- When two system parts are connected by means of a shielded signal cable, and their shields are both connected to the ground or protective conductor, the following must be observed: The impedance of the additional equipotential bonding cable amounts to 10% of the shield impedance, at the most.
- Ensure that the equipotential bonding cable cross-section is selected to accommodate the maximum equalization current. The equipotential bonding conductor cross-section that has proven best in practice is 16 mm².
- Use equipotential bonding conductors made of copper or galvanized steel. Connect the cables to the ground or protective conductor over a wide area. Protect the ground or protective conductor from corrosion.
- Lay the equipotential bonding cable in such a way that the area between the equipotential bonding cable and signal cables is as small as possible.

Commissioning

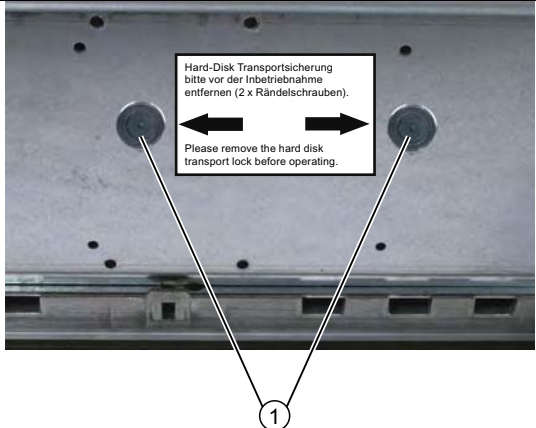
6.1 Removing the transport lock for the hard disk

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.

6.2 Overview

Checklist

Before starting up the device for the first time, go through the following checklist:

- Have you taken into account the proper ambient and environmental conditions for the device and the connected I/O modules, as described in the technical information?
- Have you removed the hard disk transport lock?
- Have you learned how to connect the equipotential bonding?
- Have you learned how to connect the power supply?
- Read over this information in the respective "Connecting" chapter of the operating instructions. Please follow all guidelines.

Caution

Condensation

- When transporting the device at low temperatures, ensure that no moisture gets on or in the device. This also applies if the device is subjected to extreme changes in temperature. Wait 12 hours before switching the device on.
- Allow the device to slowly adjust to room temperature before commissioning the device. Do not subject the device to direct heat radiation from devices such as heaters.

Peripheral devices

- Use shielded cables and metal connectors to connect peripherals. Otherwise, the specified standards and specifications declared by Siemens AG are no longer valid. Secure the plugs of the interface cables to the device housing with screws. This improves the electrical shielding.

Startup

- Do not switch off the device during the initial startup. Otherwise, parts of the software which are necessary for trouble-free operation will be lost.
 - Use the standard settings in the BIOS as described in the "Detailed Descriptions" chapter of the operating instructions under the section "BIOS setup", "BIOS setup default settings." Otherwise the operating system will not be installed properly.
-

Requirement

- A PS/2 mouse is connected.
- A PS/2 keyboard is connected.

Procedure

1. Switch on the device.
2. Install Microsoft Windows operating system.
3. Install the applications and drivers.

6.3 Switching on the device.

Procedure

1. Plug the mains connector of the supplied power supply cable in the AC power supply connector of the device.
2. Screw on the lock for the mains connector (1).



Figure 6-1 Lock mains connector

3. Lock the mains connector in place as shown in the illustration.
4. Plug the power supply cable into a socket with a grounded protective conductor.
5. Switch on the power switch of the device.

The device starts up and boots. If it does not, use a pointed object to press the soft power key.

Note

Soft power key

For further instructions on using the soft power key, refer to the section "Operator control / Command elements".

Self-test

After connection to the power supply, the device performs a self test. During the self test, the message "Press <F2> to enter SETUP" appears briefly.

When the self-test is finished, the operating system will be loaded.

6.4 Setting up the Microsoft Windows operating system

Introduction

The setup wizard appears immediately following the startup of the device. The wizard is used to set the parameters of the operating system.

Note

The dialogs of the setup wizards differ slightly in some places for the Windows 2000 Professional and Windows XP Professional operating systems.

In order to change to the next dialog, click on the ">>" button. In order to change the entry in the previous dialog, click on the "<<" button.

Procedure

1. Accept the Microsoft licensing agreement.
2. Leave the regional settings of the operating system unchanged. If required, adjust the regional settings of the operating system only after commissioning.
3. Enter the company names and user names.
4. If this PC name is already in use as you attempt to connect the device to a network: Enter a new PC name for identification.

The operating system will restart automatically.

The system settings are updated. The desktop is set up. The setup of the operating system is complete.

6.5 Installing applications and drivers, Touch-Base

Introduction

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

Additional hardware and software components

You can install and configure additional hardware and software components such as a network. For additional information, refer to the documentation of the hardware and software.

Note

The directory "c:\i386" contains special Windows components for subsequent installation.

Energy-saving mode

The "Suspend timeout" option is disabled by default in the "Power" menu of the BIOS setup.

Caution

Do not activate the "Suspend timeout" option! The safe operation of the automatic plant or system is otherwise no longer guaranteed.

The "Suspend timeout" BIOS option is not an authorized function.

Procedure

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



Figure 6-2 Panel Wizard, selection of the panel type

2. In the "Panel Wizard Touch" dialog, click on the screen size that corresponds to your device. The screen resolution is set correspondingly for the device.

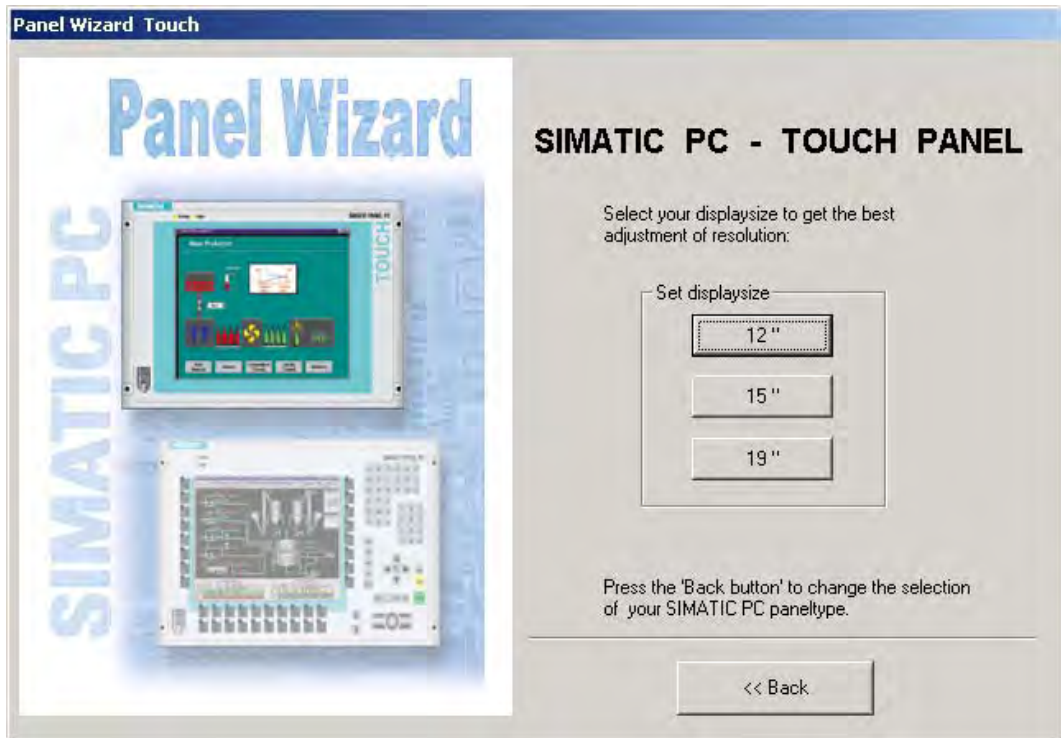


Figure 6-3 Panel Wizard Touch, selection of the screen size

The next step only applies to control units with touch screen panels.

Once the screen size is selected, the wizard will search for new hardware, the touch controller. The Panel Wizard closes and the Touch-Base-25-point touch calibration appears. Carry out the following steps carefully.

3. Briefly touch the touch screen at every cross hair.

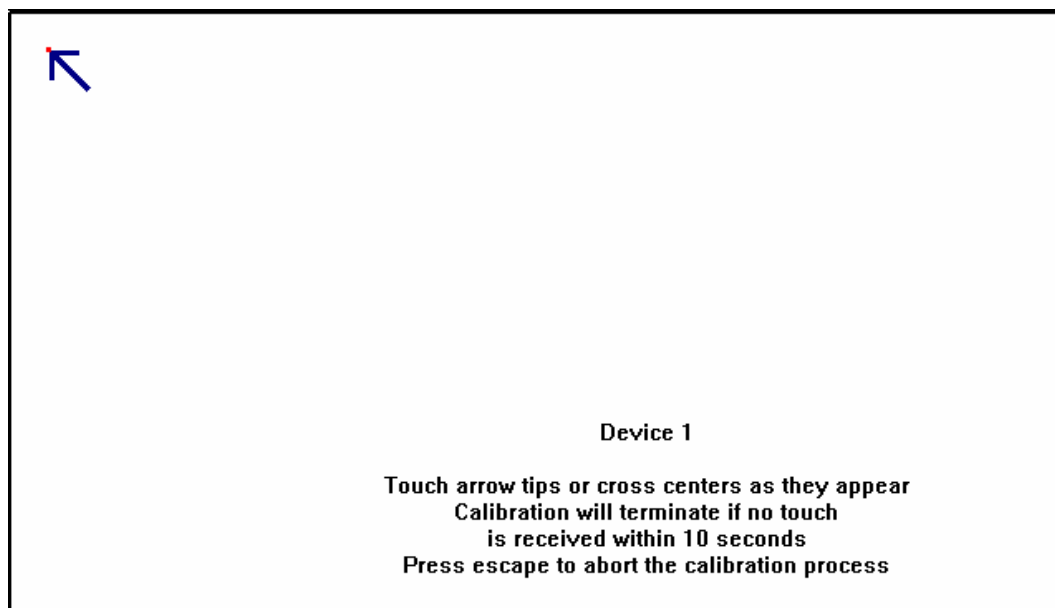


Figure 6-4 Touch screen calibration

4. The following only applies to control units with key panels: Exit the operating system session and restart the device. Otherwise the "Security features" from "KeyTools" will not be activated.



Warning

Use "KeyTools" as described in the "Additional drivers and applications" section of the "Operation and configuration" chapter.

The following applies when the "Security features" of "KeyTools" is deactivated:

When the additional function keys and softkeys F13 to S16 are used, or when using your own key code table, serious malfunctions of the user software can occur because the key codes behind the function keys can also be activated by pressing keys other than the configured ones.

5. No administrator password is assigned in the factory state. When the logon dialog appears the next time the device starts up, therefore, leave the field empty and close the dialog with the "OK" button.

Notice

Then configure an administrator password for security.

The installation of the drivers and applications is complete. Further information is available in the "Operation and configuration" chapter of the operating instructions under the section, "Additional drivers and applications."

Notice

After starting up your device, find out more about the particulars of the operating system in the chapter "Start-up" in the device's operating instructions under the section, "Microsoft Windows operating systems". Further information is available in the chapter "Service and maintenance" under the section, "Installing software."

6.6 Notes about new installation of Windows 2000

Service pack

After a new installation of Windows 2000, install at least Service Pack 4. Service Pack 4 is supplied in the product package.

Note

If you are using SIMATIC WinCC or SIMATIC WinCC flexible, pay heed to the operating system releases. For additional information, refer to the SIMATIC WinCC and SIMATIC WinCC flexible documentation.

Automatic updates

The "Automatic updates" function is installed with Service Pack 3 or later for Windows 2000.

Call

Start menu "Start", command "Settings > Control panel > Automatic Updates"

You can deactivate this function in the dialog "Automatic Updates" "Keep my computer up to date". With this setting enabled,

Updates will then no longer be performed automatically on the device via the Internet.

Notice

When the check-box is activated, updates will be installed automatically on the device via the Internet even when they have not been released by Siemens AG.

Operation and configuration

7.1 Normal operation

7.1.1 Switching the device on and off

Switching on the device

Requirement

- The I/O modules, e.g. mouse and keyboard, have been connected.

Caution

Use shielded cables and metal connectors to connect peripherals. Otherwise, the specified standards and specifications declared by Siemens AG are no longer valid. Secure the plugs of the interface cables to the device housing with screws. This improves the electrical shielding.

Follow the guidelines in the "Interfaces" section of the chapter "Connecting."

- The operating system and the service packs have been installed and set up on the hard disk of the device. For additional information, please refer to the chapter "Start-up" in the computer unit operating instructions.
- The pre-installed drivers and applications have been set up appropriately. For more information, please refer to the chapter "Additional drivers and applications."
- The proper ambient and environmental conditions according to the technical data for the device and the connected I/O modules have been observed.

Procedure



Warning

Danger of maloperation!

The following applies to external input devices or combinations of external input devices and control units with key panels: Ambiguous key codes can cause serious malfunctions of the application program.

Always activate the "Security features" of "KeyTools." Please follow the relevant safety instructions in the chapter "Additional drivers and applications."

Caution

If moisture condensation occurs, wait at least about 12 hours before you switch on the device.

1. Connect the device to the power mains.
2. Plug the power supply cable of the device into a socket with a grounded protective conductor.
3. Switch on the power switch of the device.

The device is now in operation and booting.

Caution

Risk of data loss!

Do not switch off the power supply when the device is in operation. Disconnect the power only after the device has been correctly shut down.

After switching on the power supply, the device performs a self-test. During the self test, the message "Press <F2> to enter SETUP" appears briefly.

When the self-test is finished, the operating system will be loaded and the desktop will be displayed.

The booting process has been completed successfully.

Switching off the device

Shut down the operating system correctly before switching off the device.

Caution

Wait for the display to go dark.

Then switch off the power switch of the device.



Warning

Always pull out the power cable to isolate the device from the mains.

7.2 Additional drivers and applications

7.2.1 Overview

The necessary drivers and applications are contained in the supplied "Documentation and Drivers" CD.

Note

The supplied drivers and applications have been system-tested and are approved for this device. No warranty can be provided for other software.

Press the "Help" button to obtain information concerning the buttons of a dialog.

7.2.2 Setting the touch screen

Call

- Start menu "Start", command "Programs > UPDD > Settings"

Function

Recalibrates the touch screen.

If the touch screen does not react as expected when touched, repeat the calibration. To do this, first activate the 25 point calibration and then calibrate the touch screen.

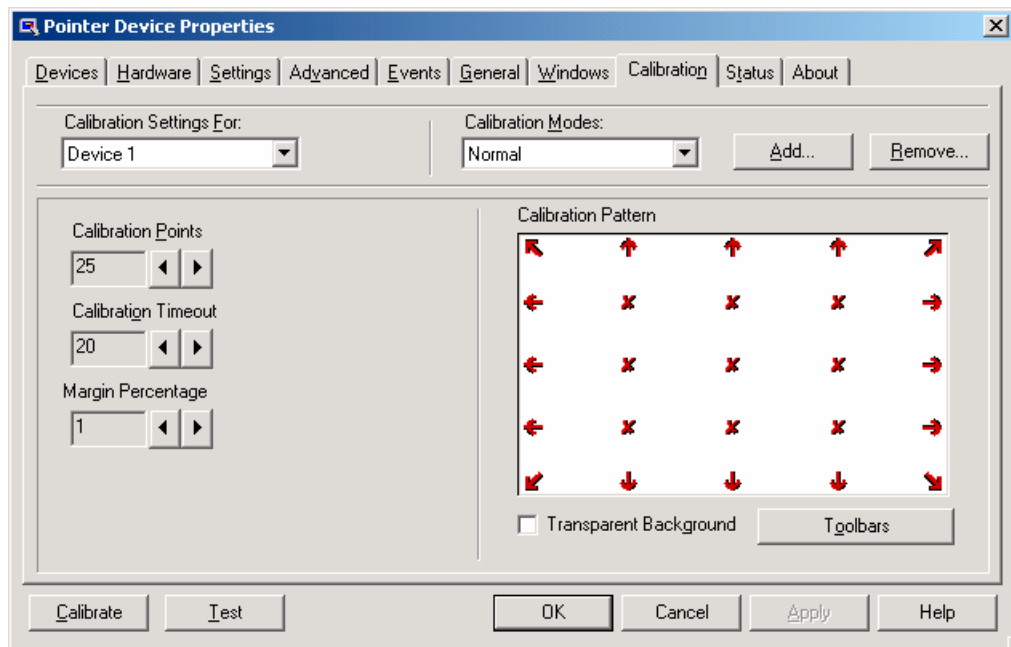


Figure 7-1 Touch defaults, "Calibration" tab

Note

For further information press the "Help" button.

Special features

Note

When the edges of the touch screen are used intensively, it is recommended that 25 point calibration is performed instead of the 9 point calibration.



Warning

Maloperation

If you touch the touch screen while the screen saver is active, the SIMATIC process visualization software, e.g. WinCC, will carry out the functions which happen to be behind it.

Caution

Only touch one point on the touch screen and not several points at one time. You may otherwise trigger unintended reactions.

Do not touch the screen in the following situations:

- When the device is booting until the boot process is completed
 - When plugging or unplugging USB components
 - While Scandisk is running
 - During calibration of the touch screen
-

USB keyboard controller

The USB keyboard controller supports the following additional functions for key models:

- Keyboard programming with the "KeyTools" application
- Adjustment of the backlighting brightness with the application "SetBrightness."
- Control of the key LEDs

The USB keyboard controller must be installed before this function can be used. For installation instructions, see the description on the "Documentation and Drivers" CD.

7.2.3 KeyTools

Call

Start menu "Start", command "Settings > Control panel > SIMATIC Key Tools"

Function

SIMATIC KeyTools is one selection of the applications for Panel PC. With it, key codes which are sent from the key panel of the control unit are adjusted. A description of the "KeyTools" is located in the "Help" menu, and more information is located in the menu "Info > About."

"KeyTools" consists of the following tools:

- "Keycode table", previously "KeyPad": Loading and editing of key code tables.
- "WinCC hotkey function", previously "KeyHook": WinCC hotkey function activation und deactivation.
- "Security features": prevents two function keys from being activated simultaneously. This prevents incorrect operations and undefined states of the user program.



Warning

For security reasons, always use "Security features". Do not deactivate "Security features".

The following applies when the "Security features" of "KeyTools" is deactivated:

When the additional function keys and softkeys F13 to S16 are used, or when using your own key code table, serious malfunctions of the user software can occur because the key codes behind the function keys can also be activated by pressing keys other than the configured ones. Further information is available in the description of "KeyTools" on the supplied "Documentation & Drivers" CD.

7.2.4 SystemGuard

Call

"SystemGuard" icon in the message field. SystemGuard is activated automatically after the device is started.

Function

SystemGuard indicates temperatures, fan speeds and voltages.

Notice

SystemGuard is a freeware tool for which Siemens AG offers no technical support. Observe the notes in the online help of the application.

Example

In the "Temperatures" tab you can see the current temperature of the CPU for the first and a second processor and the internal temperature of the device. The motherboard's on-board sensor supplies this information. An optional AUX sensor is also available.

This shows the current temperature. The current temperature and range are displayed graphically.

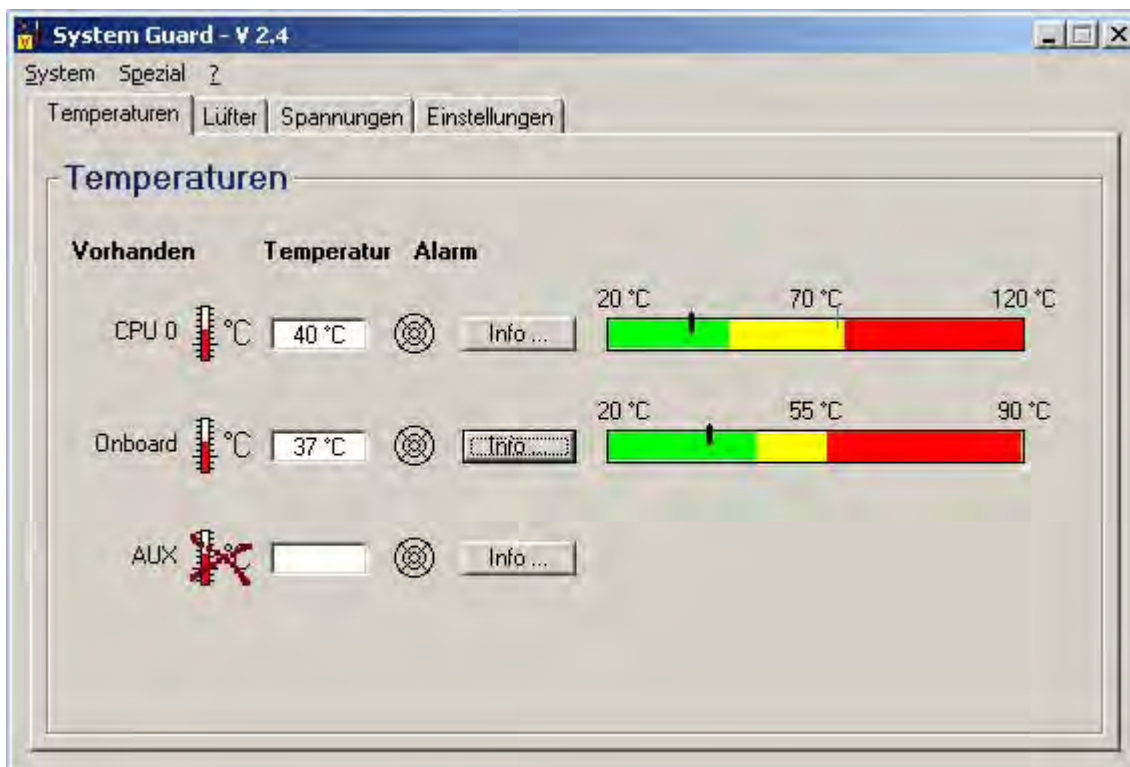


Figure 7-2 SystemGuard

7.2.5 TouchInput

Call

"TouchInput" symbol on the desktop.

Function

TouchInput provides a screen keyboard. On the screen keyboard, the characters are entered directly on the touch screen or with the mouse.



Figure 7-3 TouchInput

7.2.6 CheckLanguageID

Scope

The following applies to Windows 2000 Professional Multi-Language and Windows XP Professional Multi-Language.

Call

c:\drivers\checklang\checklangid.exe or reinstallation from the "Documentation and Drivers" CD.

Function

"CheckLanguageID" displays the currently installed languages.

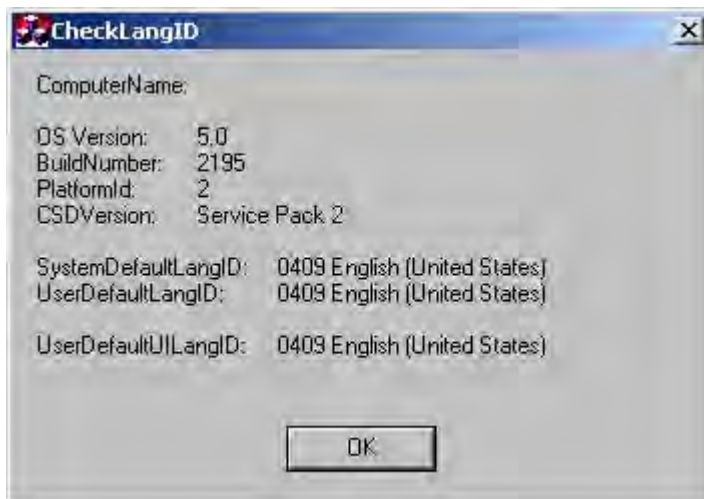


Figure 7-4 CheckLanguageID

- SystemDefaultLangID: System language
- UserDefaultLangID: Standard language
- UserDefaultUILangID: User interface language

Notice

All three languages displayed should have the same ID assigned.

7.2.7 Multilingual settings for the operating system

Windows MultiLanguage MUI operating system enables users to set the language of the GUI to their individual preference. Some elements are not localized, however, and remain in the original language of the system - English.

You should therefore always install English language service packs. Further information about the language of the GUI, regional settings and inputs is available in the Internet at <http://support.microsoft.com>.

Setting up the language selection for Windows 2000 Professional

The **Multilanguage User Interface (MUI)** allows you to set up the Windows 2000 Professional menus and dialogs for additional languages.

To set the required languages for the Windows 2000 Professional menus, dialogs and keyboard layout, select:

Start > Settings > Control Panel > Regional Options > General tab, Setting for current user field and Language settings for the system field and the Keyboard layout field in the Input locales tab.

In addition to the menu and dialog language settings, you also need to set the default language by selecting **Set Default...** from the **Regional Options** dialog box.

The default language setting of your Windows 2000 Professional installation is English and a US keyboard layout. To change to another language and keyboard layout, open the Control Panel and select:

Start > Settings > Control Panel > Regional Options > General tab, Setting for current user field and Language settings for the system field and the Input language field in the Input Locales tab.

Setting up the language selection for Windows XP Professional

The **Multilanguage User Interface (MUI)** allows you to set up the Windows XP Professional menus and dialogs for additional languages.

Default language of your Windows XP Professional MUI installation is English and a US keyboard layout. You can change the language in the Control Panel. Select:


Start > Control Panel > Date, Time, Language, and Regional Options > Add other languages > Languages tab, Language used in menus and dialogs field.

For the **Date, Time, Language and Regional Options** set the default as **non-Unicode programs** under **Advanced** in addition to the language for menus and dialogs.

Operating

8.1 Operator controls

On / Off switch

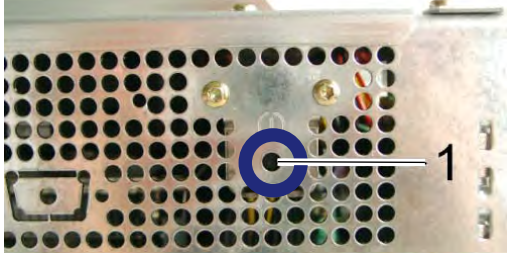
On / Off switch	Description
	<p>The device is on when the power switch (1) is in position "0". Voltage is supplied to the device even when it is switched off.</p>



Warning

The On / Off switch does not disconnect the device from mains.

"Soft power" key

"Soft power" key	Description
	<p>The soft power key (1) can trigger two shutdown functions during active operation:</p> <ol style="list-style-type: none"> 1) Correct shutdown of the operating system and shutdown of the device To perform this function, press the key briefly with a pointed object. 2) 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. <p>Caution: Data loss Although this function does not trigger a hardware reset, loss of data cannot be ruled out as a result.</p> <p>Then you can start the device again in one of two ways:</p> <ol style="list-style-type: none"> 1) Restart via soft power key If you wait at least 7 s after shutdown and then press the key, the device will boot again. 2) 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.

8.2 Operator controls on key panels

8.2.1 Overview

The device has the following keypads:

- 2 x 8 vertical keypads with softkey functions
- 2 x 10 horizontal keypads with function keys F1 -F20

The number of keys, their labeling and function is the same on all key panels. The various panel types differ only in the arrangement of the keys and in the size and type of the display. The following figure is therefore only an example using the front view of the 12" variant.

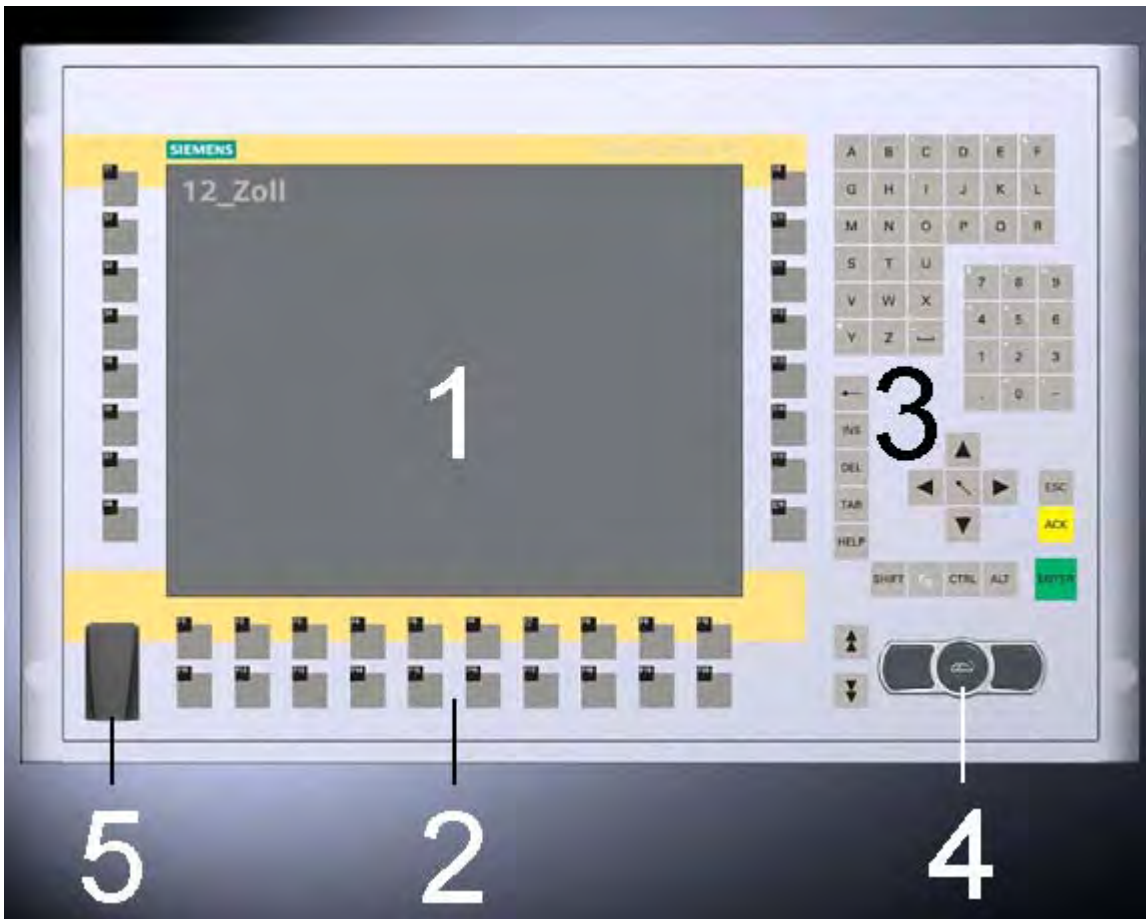


Figure 8-1 Example of a 12" control unit with key panel

- 1 Display
- 2 Function keys, softkeys
- 3 Alphanumeric, numeric, cursor keys and control keys
- 4 Integrated mouse
- 5 USB interface

8.2.2 Keyboard

Principle

The layout of the membrane keyboard is "English/USA international."



Warning

Maloperation

If you activate several keys simultaneously, a malfunction on the device cannot be excluded. Activate function keys and softkeys only in sequence! Use "KeyTools" as described in the chapter "Additional drivers and applications."

Applies after the deactivation of the "security features" of "Key Tools" or after the deinstallation of "KeyHook":

When the additional function keys and softkeys F13 to S16 are used, or when using your own key code table, serious malfunctions of the user software can occur because the key codes behind the function keys can also be activated by pressing keys other than the configured ones.

Activating a key using a hard object, e.g. a screwdriver, reduces the life of the key.

Overview

The keyboard is divided into different functional groups:

- Function keys and softkeys
- Control keys
- Alphanumeric keys
- Numeric keys
- Cursor keys

Function keys and softkeys

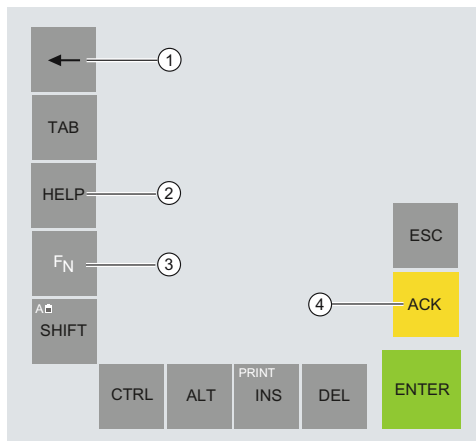
The softkeys are arranged on the left and on the right, and the function keys in a double row below the display.



Figure 8-2 Function keys and softkeys

Control keys

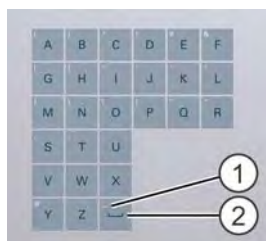
The control keys activate editing functions and control functions in different applications:



- 1 Backspace
- 2 Open Help
- 3 Toggling between the pre-defined key assignment and special characters, arithmetic symbols and signs
- 4 Acknowledge

Alphanumeric keys

Enter letters, special characters, blank spaces and underline using the alphanumeric keys.



- 1 Underline
- 2 Blank

Numeric keys

Enter the numerals "0" to "9" and special characters, e.g. the decimal point, using the pre-defined assignment of the numeric keys.



Figure 8-3 Numeric keys

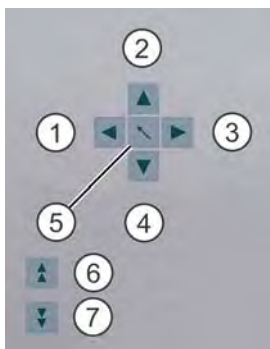
Enter special characters, arithmetic signs and signs

Special characters, arithmetic signs and signs are also assigned to most of the alphanumeric and numeric keys. These signs are indicated by white symbols on the top left of the keys. To enter such a sign, proceed as follows:

1. Hold down the <FN> key.
2. Activate the desired alphanumeric or numeric key at the same time. The displayed special character, arithmetic sign or signs will be entered.
3. To enter the signs of the pre-defined assignment again, release the <FN> key.

Cursor keys

Navigate, scroll or move the writing mark using the cursor keys. The cursor keys correspond to the usual keys of the PC keyboard.



- 1 <Left> key
- 2 <Up> key
- 3 <Right> key
- 4 <Down> key
- 5 <Pos 1> key
- 6 <Page up> key
- 7 <Page down> key

External keyboards

The keyboard layout has been set to "English/USA international." If you use a keyboard with a layout other than the "English/USA international" layout, the key codes of the internal and external keyboards might no longer correspond.

8.2.3 Labeling function keys and softkeys

Scope

This section applies only to control units with key panels.

Introduction

The control unit has two horizontal and two vertical keypads. Assign user specific functions to the keys as needed and mark them using labeling strips.

DIN A4 film is available for the production and insertion of the labelling strips, as described under Service and Maintenance in the options. You will find printer templates for the labeling strips on the "Documentation and Drivers" CD.



Warning

Labeling

Label the function keys and softkeys to conform with the project. Labeling without reference to a project leads to incorrect operations on the system to be observed.

Procedure

1. Label the DIN A4 film with a laser printer using the printing templates from the "Documentation and Drivers" CD.
2. Cut the labeling strips along the pre-printed lines.

Note

Do not insert handwritten labeling strips until the ink has dried.

3. Insert the labeling strips from the rear side of the control unit. The highlighted elements in the following illustrations show the slits provided and the corresponding sections of the labeling strips.

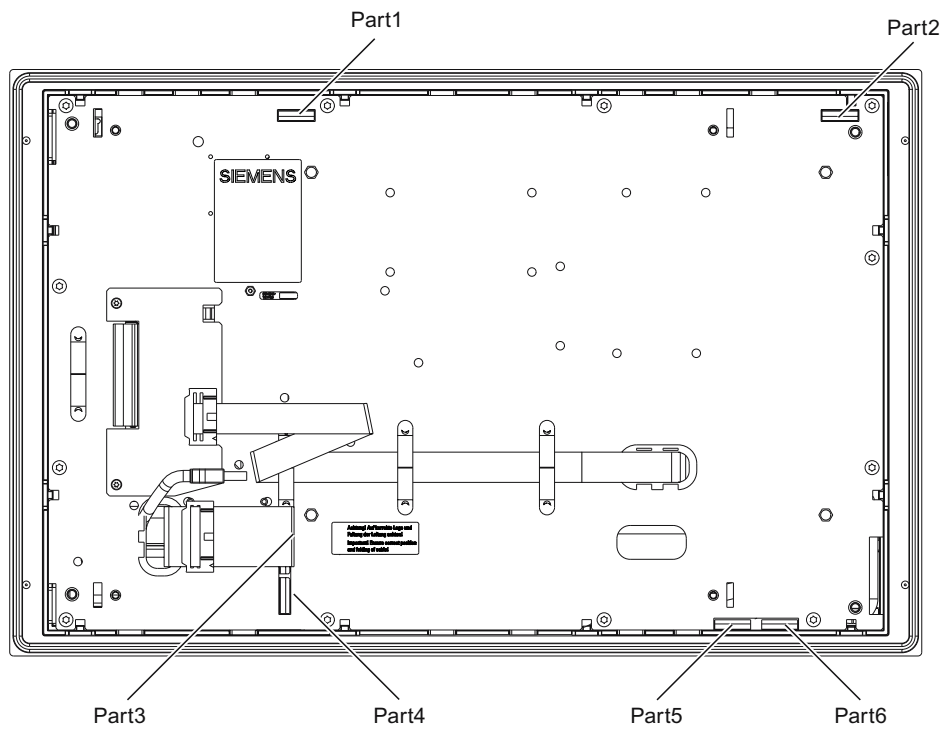


Figure 8-4 12" device: Rear of the control unit with connectors and slots for the labeling strips

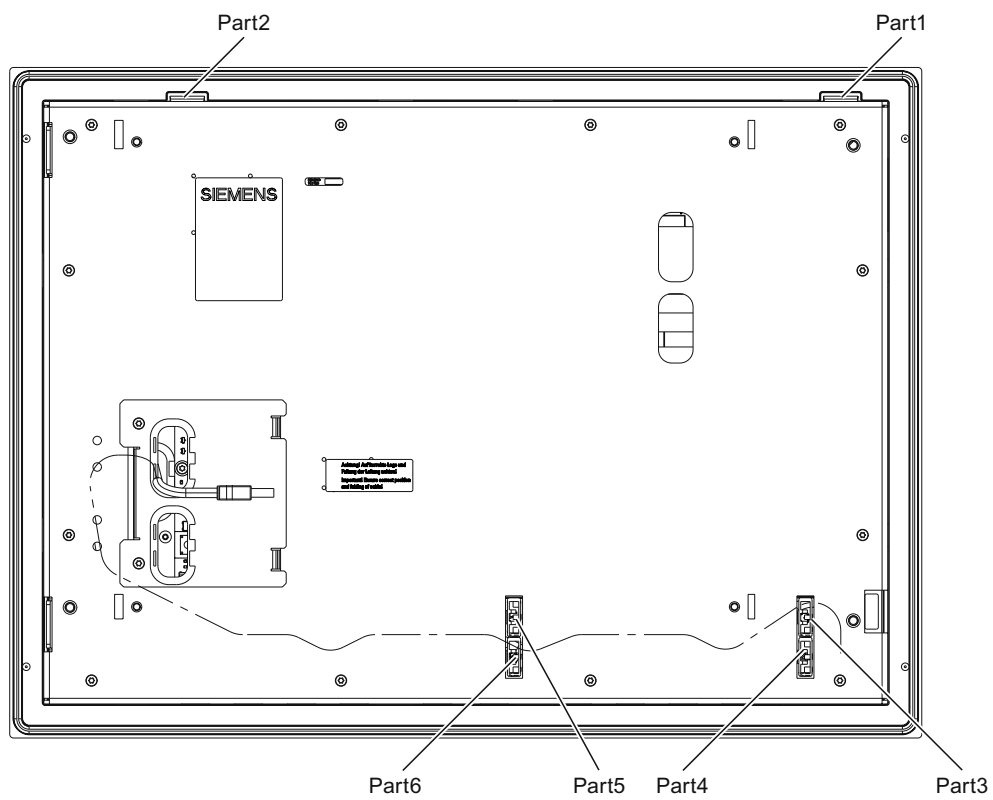


Figure 8-5 15" device: Rear of the control unit with connectors and slots for the labeling strips

8.3 Operator controls of the touch screen panels

8.3.1 Overview

The 12", 15" and 19" variants differ in their dimensions and the size of the display. The 12" and 19" variants do not have side drill hole covers.

The following figure is therefore only an example using the front view of the 15" variant.

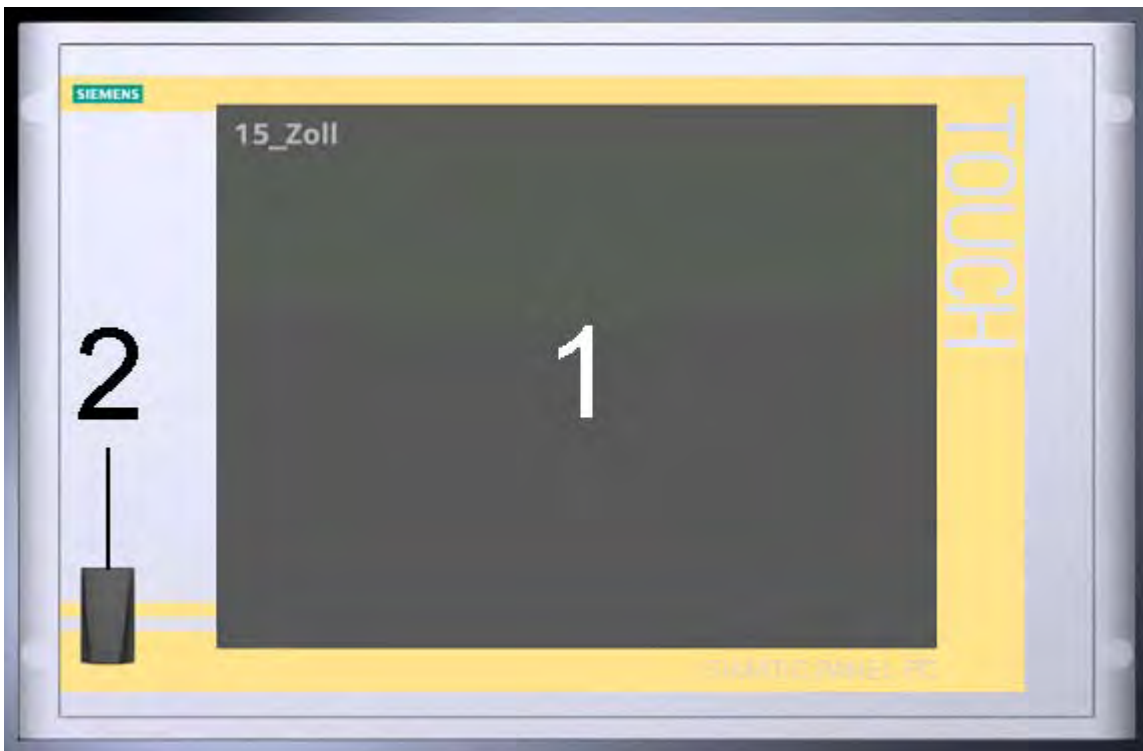


Figure 8-6 Example of a 15" touch screen panel

- 1 Display
- 2 USB interface

8.3.2 Touch screen

The display is sensitive to touch and application-specific surface elements, e.g. a button, appear on the screen. By tapping the button with your finger, the function assigned to the button is activated.

Caution

Only touch one point on the touch screen and not several points at one time. You may otherwise trigger unintended reactions.

Do not touch the screen in the following situations:

- When the device is booting until the boot process is completed
 - When plugging or unplugging USB components
 - While Scandisk is running
-

The following types of pressure are permissible:

- Using a plastic pen with a 1 mm radius at the point: 25 g.
- Using a silicone finger with a diameter of 1.6 cm: 50 g.

8.4 DVD-ROM drive

Introduction

The DVD-ROM or DVD burner drive is used to install software during commissioning or when servicing a device.

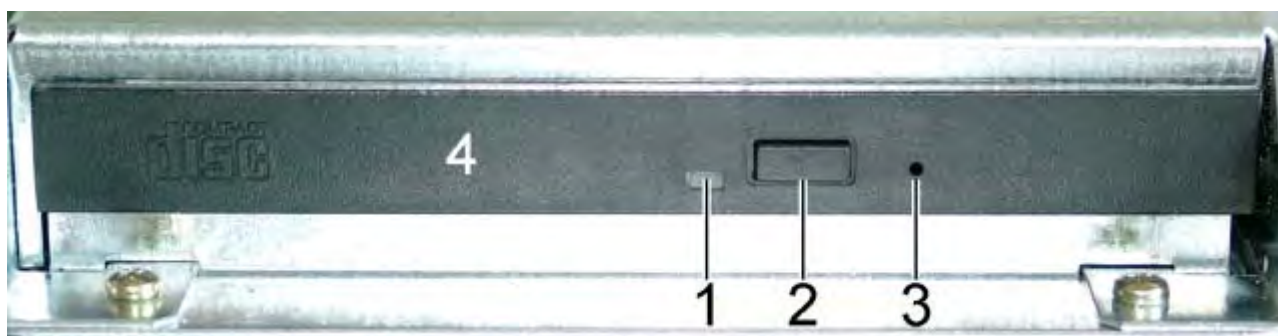


Figure 8-7 CD-ROM drive

- | | |
|---|----------------------------|
| 1 | Access LED |
| 2 | Eject key |
| 3 | Emergency removal aperture |
| 4 | Tray |

Emergency removal

An emergency removal involves removing a CD when the tray is blocked or there is no power for the drive. In this case the tray can be moved manually instead of motor-driven

Procedure

1. Ensure that the power to the drive is really interrupted. Switch off the device.
2. Insert a long thin prong such as a bent paper clip, maximum 1.3 mm thick and at least 55 mm long, into the emergency removal aperture.
3. Carefully open the tray with as little pressure as necessary and then pull it out of the drive.
4. Pull the tray out until the CD is easily accessible.
5. Remove the CD.

8.5 Transferring authorizations

Note

The device has no floppy disk drive. Therefore, transfer the authorizations for SIMATIC HMI software from a USB floppy disk drive.

The following devices have been tested:

SINUMERIK FLOPPY DISK DRIVE, order number 6FC5235-0AA05-1AA2

Caution

The USB floppy disk drive is only suitable when mounted in a control cabinet.

Integration in TIA

9.1 Industrial communications

Introduction

The following options are available for integrating the device in existing or planned system environments and networks.

Ethernet

The integrated Ethernet interface can be used for communication and for data exchange with automation devices such as SIMATIC S7.

You need a suitable software package for this: STEP7, WinCC, ProTool, WinCC flexible, WinAC, SIMATIC NET.

PROFIBUS / MPI

The potentially isolated Profibus interface can be used to connect distributed field devices or to couple with SIMATIC S7.

You require suitable software for this: STEP7, WinCC, ProTool, WinCC flexible, WinAC, SIMATIC NET.

Profinet

Additional information

For further information, refer to the catalog and to the online ordering system of Siemens A&D.

Internet address: <https://mall.ad.siemens.com>

9.2 PROFIBUS/MPI interface and WinAC card

Note

You can use a CP 5613 communication module for the PROFIBUS/MPI interface. A PROFIBUS/MPI interface is also provided on WinAC cards.

You can find further information in the documentation for the CP 5613 communication module and in the "Servicing and maintenance" chapter under the section "Installing and removing hardware components", "PCI/WinAC cards".

Servicing and maintenance

10.1 Servicing

Scope of maintenance

When working in areas where there is dust that may be hazardous to functionality, the device must be operated in a control cabinet with a heat exchanger or with suitable supply air.

Note

The dust deposits must be removed at appropriate time intervals.

Maximum dust content in the air circulating in the cabinet	
Suspended component	0.2 mg/m ³
Deposits	1.5 mg/m ³ /h

Cleaning agents

Use dish soap or foaming screen cleaner only as cleaning agents.

Caution

Do not clean the device with aggressive solvents or scrubbing agents or with pressurized air or steam cleaner.

Chemical resistance

Caution

Adhere to the information regarding chemical resistance of the panel front. Please refer to the "Tools & Demosoftware" Internet site for more information. Enter "Chemical resistance" as the search term. The available articles are displayed.

Procedure

1. Switch off the device. This prevents the accidental triggering of functions when the screen is touched.
2. Dampen the cleaning cloth.
3. Spray the cleaning agent on the cloth and not directly on the device.
4. Clean the device with the cleaning cloth.

10.2 Removing and installing hardware components

10.2.1 Repairs

Notice**Similar to figure**

The images presented below deviate slightly from the actual device in some respects.

Carrying out repairs

Only authorized personnel are permitted to repair the device.



Warning

Unauthorized opening and improper repairs on the device may result in substantial damage to equipment or endanger the user.

- Before you open the device, always disconnect the mains plug.
- Install only system expansions designated for this computer. The installation of other expansions can damage the system and violate the radio-interference suppression regulations. Contact your technical support team or your sales outlet to find out which system expansions are suitable for installation.

If you install or exchange system expansions and damage your device, the warranty becomes void.

Notice

Note the ESD instructions.

Limitation of liability

All technical data and licenses apply only to upgrades approved by SIEMENS.

No liability can be accepted for impairment of functions caused by the use of third-party devices or components.

Tools

You can perform all installation tasks on the device using Torx T6, Torx T10, and Torx T20 screwdrivers and a Philips screwdriver.

10.2.2 Opening the device



Warning

Do not touch power cables or data transmission lines during electrical storms and do not connect any cables.



Caution

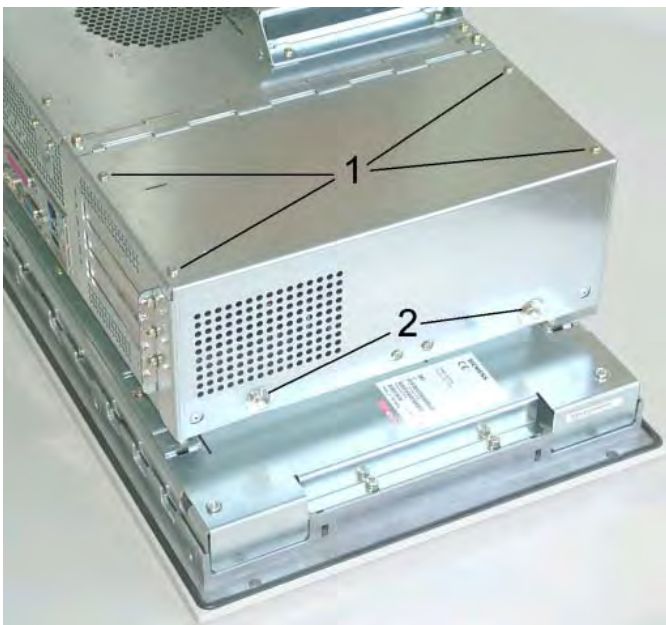

Warranty period

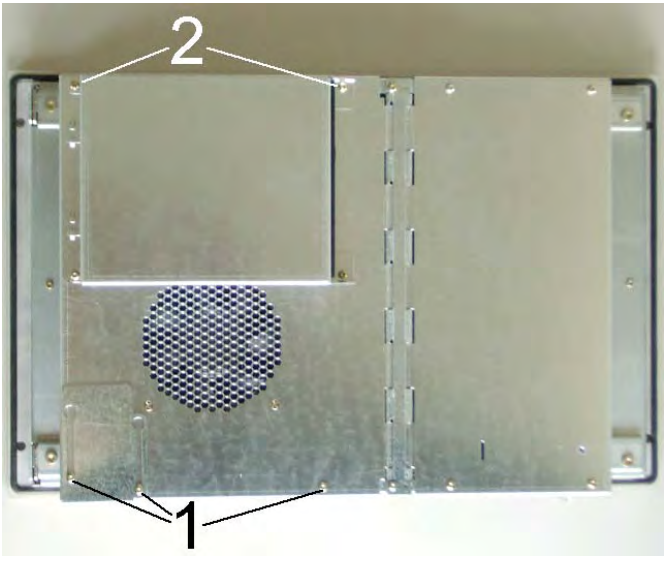
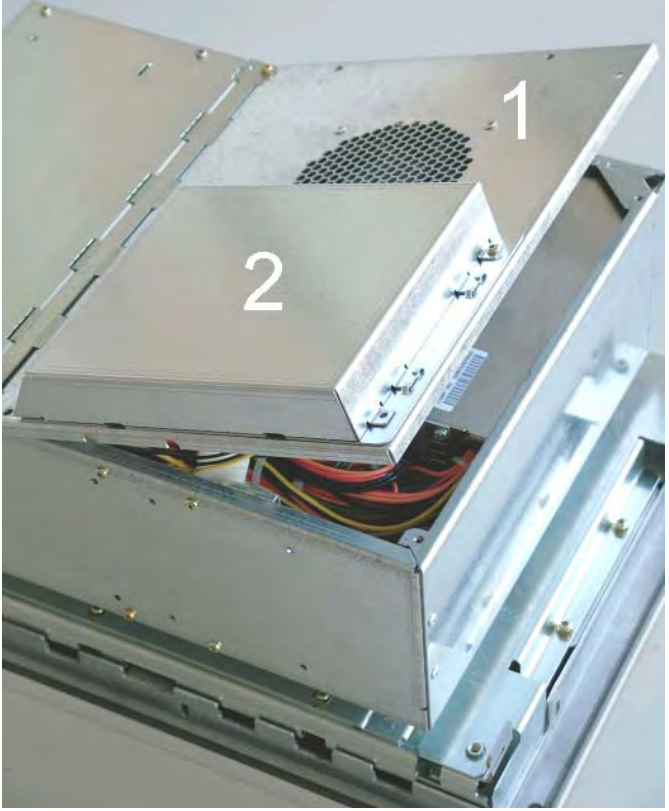
Within the warranty time, you are only allowed to install expansions for memory and expansion card modules.

Requirement

- If the fastening screws are not accessible due to the mounting:
The device is removed from the control cabinet.
- Disconnect the device from mains.
- Unplug the cables and plugs including the keyboard cable from the device.

Opening the device

Accessing expansion modules	
<p>1 Remove the four screws (1). Remove the 2 screws (2).</p>	
<p>2 Lift the lid up and remove it.</p>	

Access to memory modules, processor, heat sinks, back-up battery and power supply	
<p>1 Remove the 3 screws (1). Remove 2 screws (2) from the CD-ROM drive.</p>	 <p>The image shows the rear of a CD-ROM drive cover. Three screws are labeled '1' and are located at the bottom edge. Two screws are labeled '2' and are located at the top edge. A circular ventilation grille is visible in the center of the cover.</p>
<p>3 Tilt the cover (1) CD-ROM drive (2) upward.</p>	 <p>The image shows the CD-ROM drive cover tilted upwards. The cover is labeled '1' and the drive unit is labeled '2'. The drive unit is partially open, revealing internal components and cables.</p>

Closing the device



Caution

Avoid crimping the cables

When closing the housing cover, make sure you do not crimp a cable between the fan and heat sink and that no cable is in contact with the heat sink.

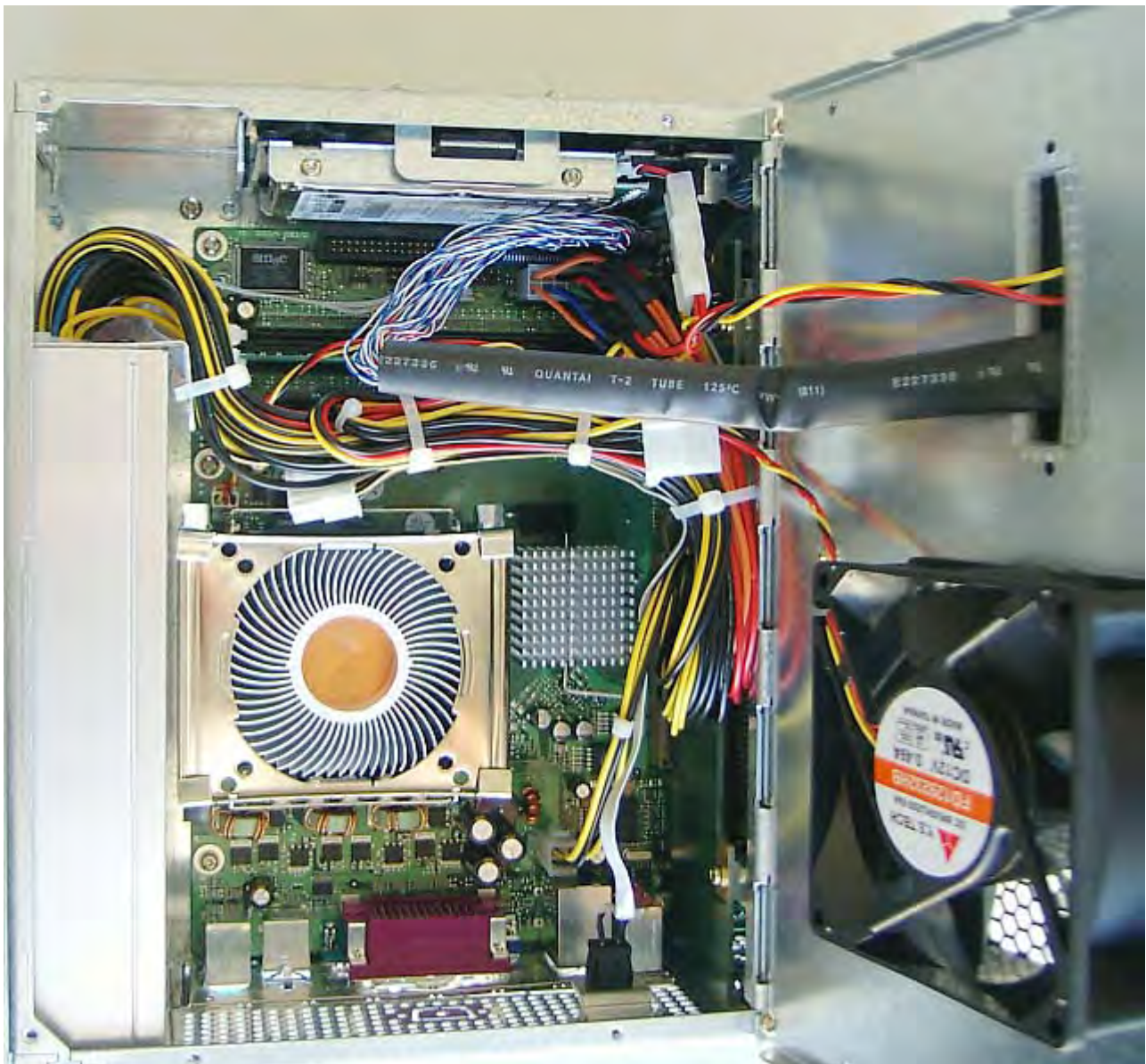


Figure 10-1 Closing the device, cable arrangement

10.2.3 View of internal components with open device

The following components can be seen when the device is open:

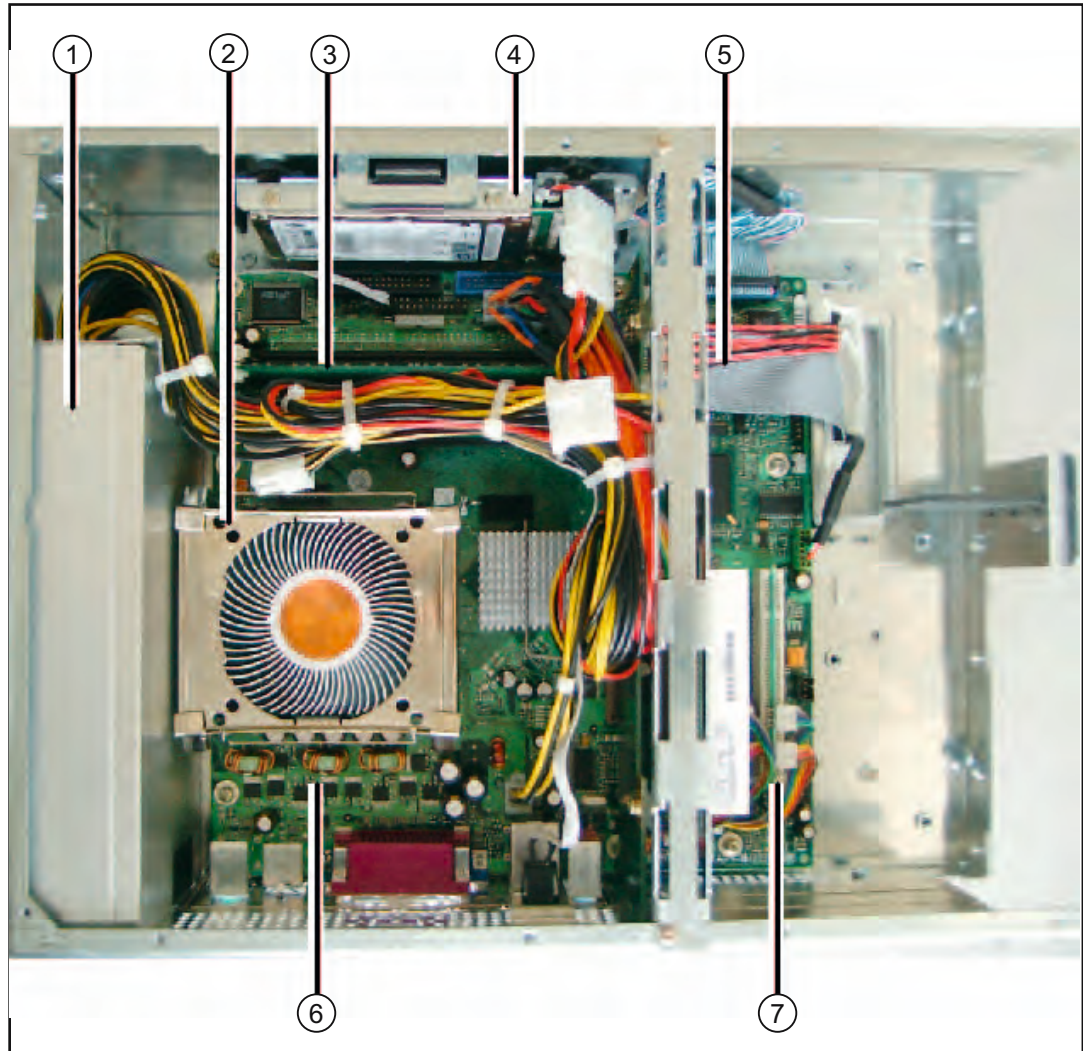


Figure 10-2 Components

- 1 Power supply
- 2 Processor with fan
- 3 Slots for memory modules
- 4 Hard disk
- 5 Back-up battery under the ribbon cable
- 6 Motherboard
- 7 Slots for expansion boards

10.2.4 Removing/installing memory modules

Memory expansion


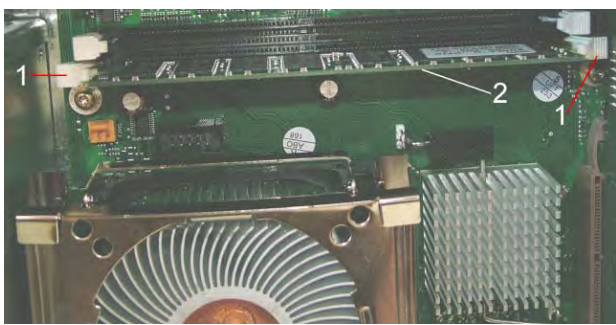
The motherboard is equipped with 4 slots for memory modules. This enables you to expand the memory capacity of the device to a maximum of 3 GB.

Depending on the variant you have ordered, the basic configuration may include 2 X 128 MB SDRAM or 2 X 256 MB DDR400.

Caution

Read the information in the manual of the motherboard on the "Documentation and Drivers" CD.

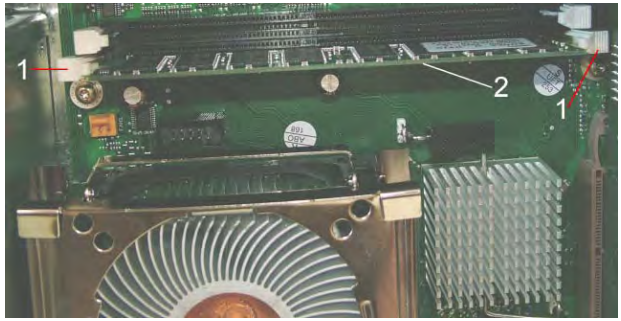
Installing the memory module

Steps for installing a memory module		
1	Open the device.	
2	Insert the memory module in the socket. Pay attention to the notch of the locking element.	
3	Lightly and carefully, press the memory module (2) into the slot until the interlocks (1) engage.	
4	Close the device.	

Caution

Ensure that the memory modules are securely inserted into the socket. They may otherwise fall out or be damaged. Incorrectly inserted modules result in device malfunctions.

Removing a memory module

Steps for removing a memory module		
1	Open the device.	
2	Snap the interlocks (1) to the side.	
3	Pull the memory module (2) upwards out of the slot.	
4	Close the device.	

Display of the current memory expansion

Changes to the memory expansion are automatically detected. The memory allocation is displayed when the device boots.

10.2.5 PCI/WinAC cards

10.2.5.1 Notes on the modules

Notes on module specifications

The device is designed for use with modules conforming to AT/PCI specifications. PCI modules with 5 V and 3.3 V supply voltage can be operated.

Note about long PCI modules

Before long PCI modules can be inserted into the guide rails, they must be fitted with an extender (this should be supplied with the long PCI board).

Power demand

A maximum consumption of 15 W per slot is permitted for PCI cards.

Notice

Ensure that the total consumption does not exceed 25 W on the 3.3 V line and 25 W on the 5 V line.

Note

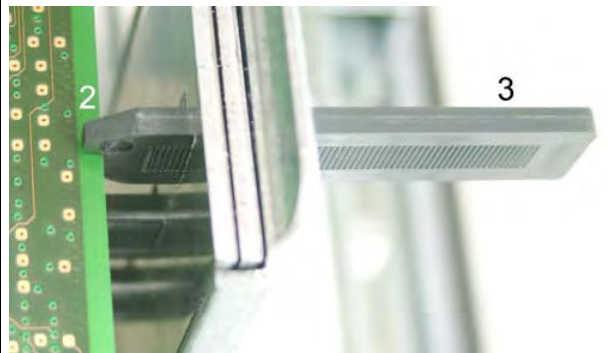
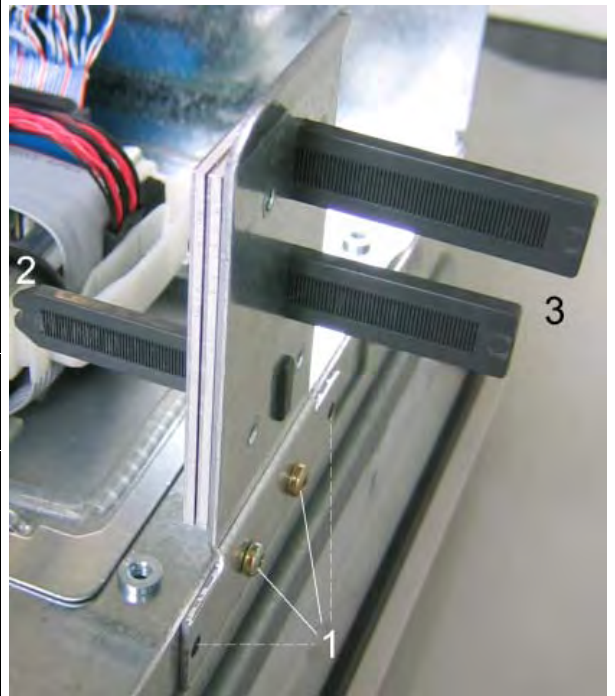
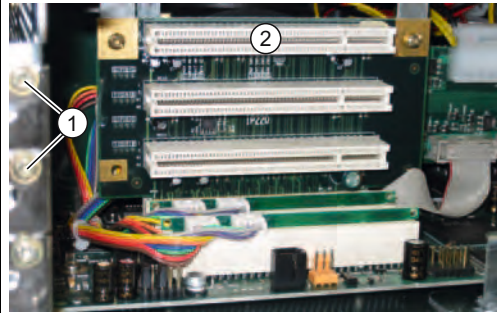
Slots for add-ons

The uppermost slot is suitable for a WinAC Slot module. The two lower slots are suitable for PCI cards of 175 mm in length.

10.2.5.2 Installing expansion modules

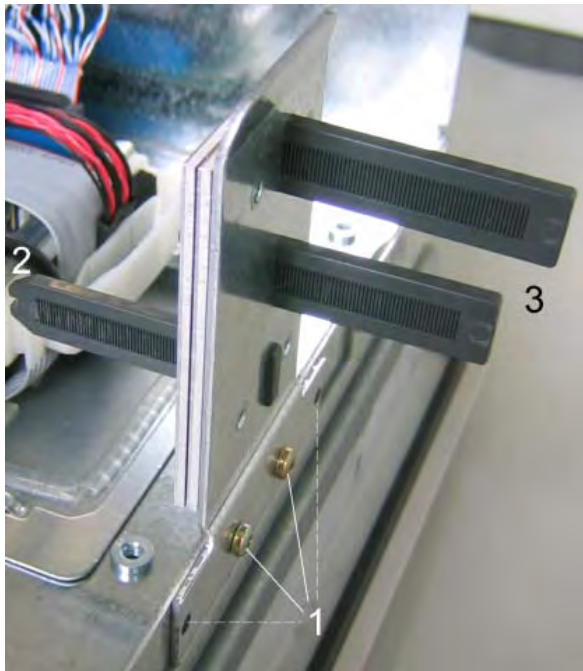


PCI card

Steps for installing a PCI card:	
1	Open the device.
2	Remove the relevant steel slot cover (1)
3	Insert the expansion module (2) into the relevant slot.
4	Secure the frame with the (2, 3) card retainers <ul style="list-style-type: none"> • Make sure that the frame is connected to the device from the outside. • To adapt to different cards, the frame can be offset horizontally and secured by 2 of the 4 threaded holes (1). • Screw on the frame from the outside using the suitable threaded holes (1).
5	Carefully insert the card retainer from the outside (3) until the notch (2) securely grips the card.
6	Saw off the projecting end (3). Otherwise you cannot close the device.
7	Close the device.

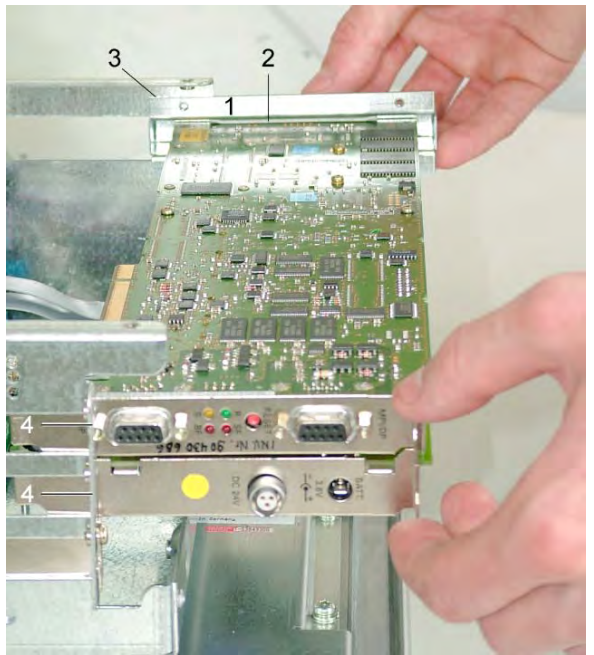


WinAC card

Further information is available in the section "WinAC card" of the "Integration in TIA" chapter.

Steps for installing a WinAC card		
1	Open the device.	
2	Remove the frame with the card retainer (2, 3): remove the 2 retaining screws (1) of the threads from the outside.	
3	Unscrew the steel slot cover of the upper two slots (1).	
4	Unscrew the WinAC cover plate from the outside.	

Steps for installing a WinAC card	
5	Place the WinAC cover plate (1) over the WinAC card from the right. Ensure that the WinAC card is inserted in the guide rail (2).
6	Insert the WinAC card into the upper slot. <ul style="list-style-type: none"> • Ensure that the threaded holes (3) are toward the inside. • Insert the WinAC card squarely. Ensure that the WinAC card is aligned correctly. • Insert the interfaces through the cut-outs (4) in the holding plate.
7	Screw on the WinAC cover plate (1) from the outside using the threaded holes (3).



Steps for installing a WinAC card		
8	Secure the frame with the (2, 3) card retainers <ul style="list-style-type: none"> • Make sure that the frame is connected to the device from the outside. • To adapt to different cards, the frame can be offset horizontally and secured by 2 of the 4 threaded holes (1). • Screw on the frame from the outside using the suitable threaded holes (1). 	
9	Carefully insert the card retainer from the outside (3) until the notch (2) securely grips the card.	
10	Saw off the projecting end (3). Otherwise you cannot close the device.	
11	Close the device.	

Notes on the allocation of resources

The upper two slots provide non-shared interrupts for WinAC cards.

If the new expansion module requires exclusive resources, disable functions on the motherboard as required. You can disable functions in BIOS setup in the "Peripheral Configuration" submenu of the "Advanced" menu.

For information on allocated resources, refer to the "System resources" section in the "Detailed descriptions" chapter. For additional information, refer to the documentation of the BIOS.

10.2.6 Drives

10.2.6.1 Removing and installing a DVD-ROM drive

Procedure

1. Loosen the 4 screws (1).

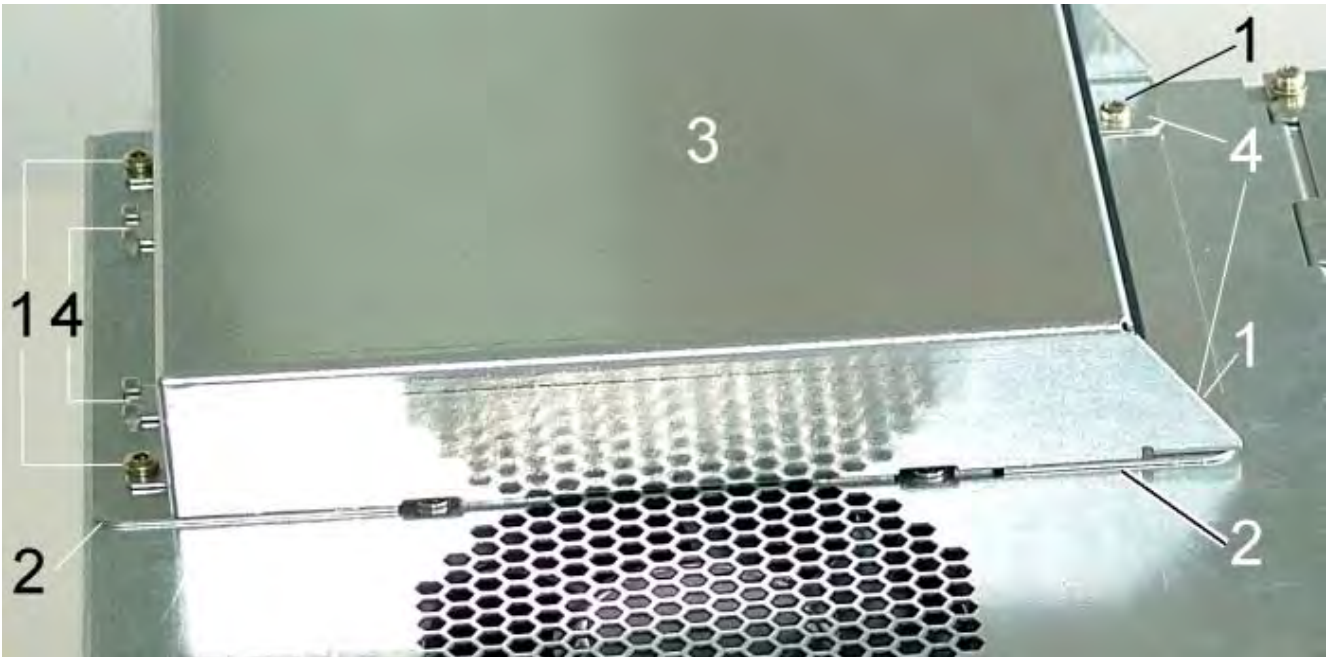


Figure 10-3 Drive with housing

2. To remove the housing of the drive, hold down the base plate (2) of the drive securely and slide the housing (3) to the right until the eyes (4) are free.
3. Lift the housing (3) from the drive.
4. Detach the IDE plug (1) and the power supply plug (2).



Figure 10-4 Drive without housing

5. Loosen the 4 screws (3) that secure the drive to the base plate.
 6. Lift the drive out.
 7. To remove the terminal pcb, loosen the 2 screws (4).
- The drive is now fully removed.



Figure 10-5 Removed drive

Reverse the procedure to install the drive.

10.2.6.2 Replacing the hard disk

Procedure

1. Open the device.
2. Detach the plug (1) from the motherboard.



Figure 10-6 Ribbon cable and IDE cable on the motherboard

3. Remove the 4 screws (1) while securely holding the retaining frame (2).

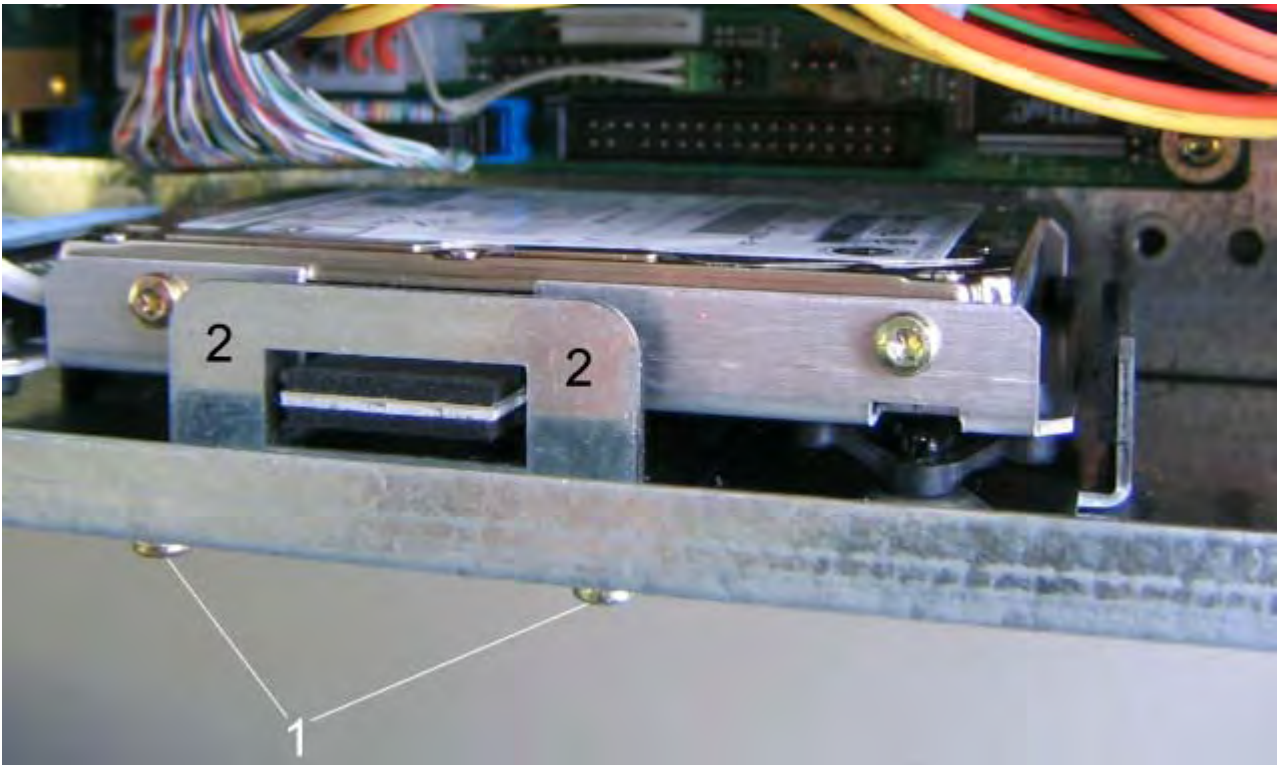


Figure 10-7 Removing the hard disk

10.2 Removing and installing hardware components

- 4. Remove the drive from the retaining frame.
- 5. Loosen the 4 screws (1) that secure the drive (2) to the retaining frame.

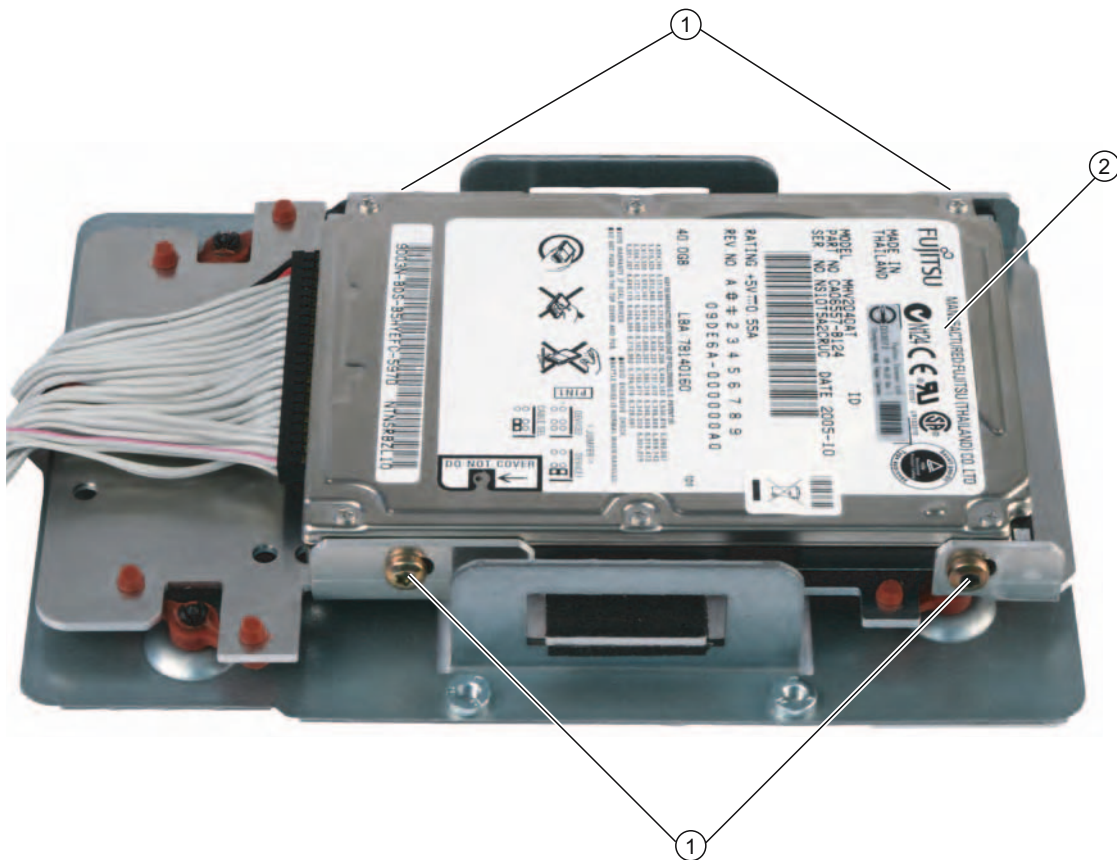


Figure 10-8 Removed hard disk

1. Remove the drive (2) from the bracket.
2. Detach the plug (1) from the drive.

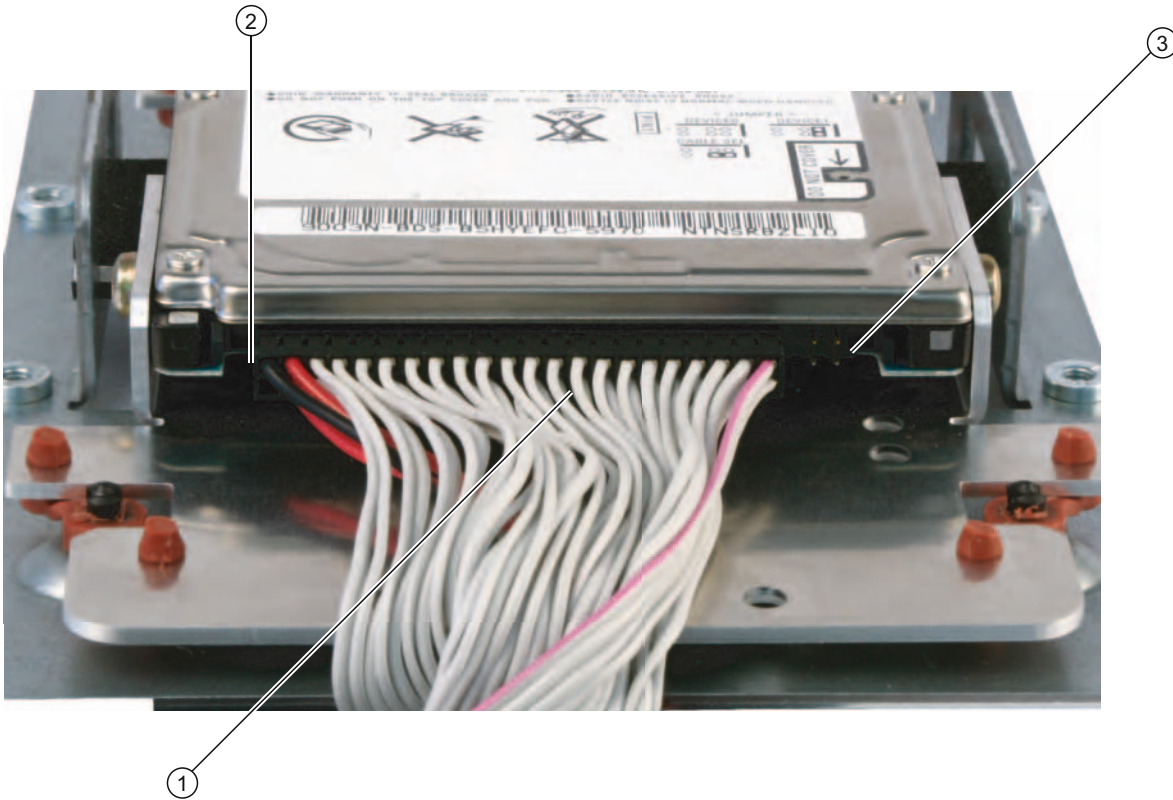


Figure 10-9 Hard disk connection

Reverse the procedure to install the drive.

Caution

Pin connection

The plug (1) is connected to the drive. Ensure that the pins of the circuit board are correctly aligned to the left when inserted into the drive (2). The two pins on the right (3) are open. The drive may otherwise malfunction.

10.2.7 Changing processors and heat sinks

Introduction

To exchange the processor, first remove the heat sink.

Procedure

1. Open the device.
2. Open the clips (1) of the heat sink retainer (2).

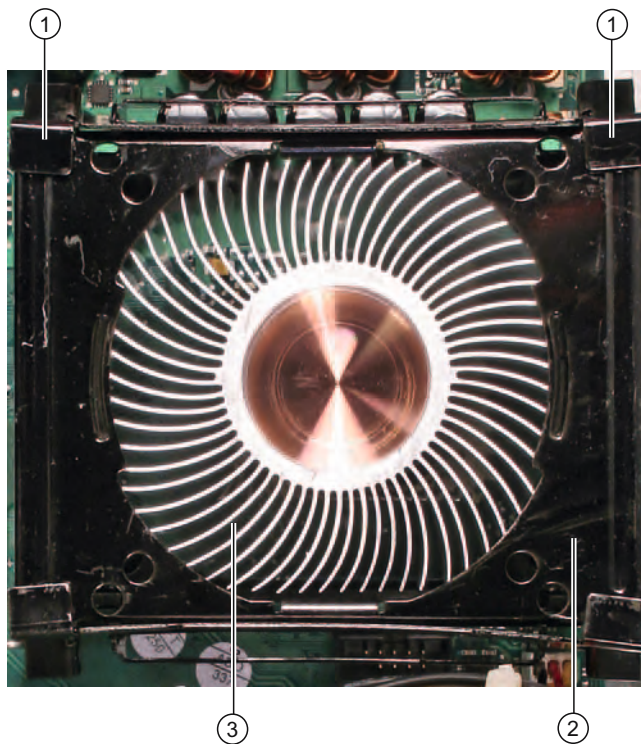


Figure 10-10 Removing the heat sink

3. The heat sink retainer is hooked into the base frame from below. Unhook the heat sink retainer and lift it out.
4. Lift out the heat sink (3). The processor is now accessible.
5. Lift the lever (1) and press it until it stops.



Figure 10-11 Processor

6. Lift the processor (2) out of the slot.

Reverse the procedure to install the processor and heat sink. The processor will be automatically detected by the BIOS.

Caution

Insert the new processor into the slot so that the notch on the processor matches the marking on the processor slot (3). Swing the lever (1) downwards until it clicks into position.

Ensure that the processor (2) is covered with a thin transparent layer of heat conductive paste. Clean the heat sink if necessary and apply new heat conductive paste before installing it.

If the heat sink has a heat conductive pad (a rubbery foil), use the heat conductive pad instead. Only use a heat conductive pad once.

10.2.8 Replacing the back-up battery

To be noted before you replace the battery

Note

The life span of a back-up battery is approximately 3 - 5 years, depending on the operating conditions.

Caution**Risk of damage**

The lithium battery may only be replaced with an identical battery or with a type recommended by the manufacturer.



Warning**Risk of explosion and release of harmful substances**

Therefore, do not throw Lithium batteries into an open fire, do not solder or open the cell body, do not short-circuit or reverse polarity, do not heat up above 100° C, dispose of in accordance with regulations and protect against direct exposure to sunlight, moisture and condensation.

Disposal

Caution

Depleted batteries must be disposed of in accordance with local regulations.

Preparation

Note

The configuration data and contents of the SRAM in the device are lost when the battery is replaced.

1. Note down the current settings of the BIOS setup.
 A list in which you can note down this information is found in the BIOS description.
2. Isolate the device from mains and disconnect all cables.

Procedure

Steps for replacing the battery	
1	Open the device.
2	Open the terminal clamp (1). The back-up battery will pop slightly out of the holder.
3	Lift out the back-up battery (2).
4	Insert the new back-up battery at an angle and push it under the terminal strip (3).
5	Press the back-up battery down until the terminal clamp clicks (1).
6	Close the device.



Reconfiguring the BIOS setup

The configuration data of the device are lost when the battery is replaced. Re-enter the configuration data in the BIOS setup. The default settings are described in the "Detailed descriptions" chapter under the section "BIOS setup", "BIOS setup default settings." Re-enter the date and time in the BIOS setup.


10.2.9 Removing/installing the power supply

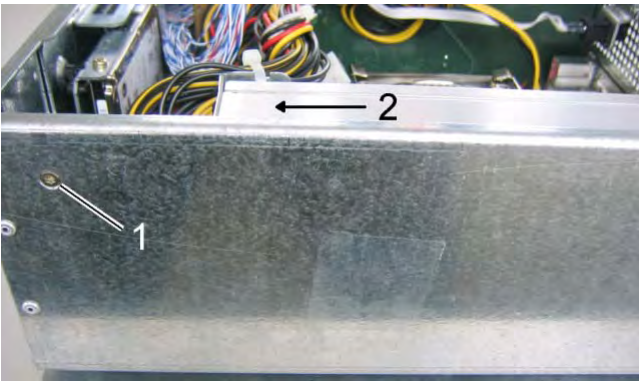
Requirement

- The device is opened.
- All power supply cables are unplugged.

Procedure

Steps for removing and installing the power supply module	
1	Remove the 2 screws (1).



Steps for removing and installing the power supply module		
2	Remove the screw (1).	
3	Slide the power supply module (2) until the recesses for the screw (1) are free.	
4	Lift out the power supply module (2).	
5	Proceed in reverse order to install the new power supply module.	

10.2.10 Separating the control unit from the computer unit

Introduction

The control unit is separated from the computer unit to carry out repairs or to replace the control unit, for example.

Procedure

1. Disconnect the device from mains.
2. Open the control cabinet.
3. Remove the device from the control cabinet. Secure the device against falling out and unscrew it. Or remove the clamps which secure the control unit to the installation wall, as shown in the mounting cut-out in the dimensions.
4. Carefully set the unit down with the control unit at the bottom.
5. Open the device.
6. Make a note of the arrangement of the ribbon cable plugs in the sockets on the motherboard.

7. Detach the plugs (2) and (3) and also plug (4) when a 19" touch or key panel is used.



Figure 10-12 Ribbon cable and IDE cable on the motherboard

8. The next two steps apply to control units with 12" touch panels: Loosen the 2 screws (1) that secure the computer unit to the control unit.

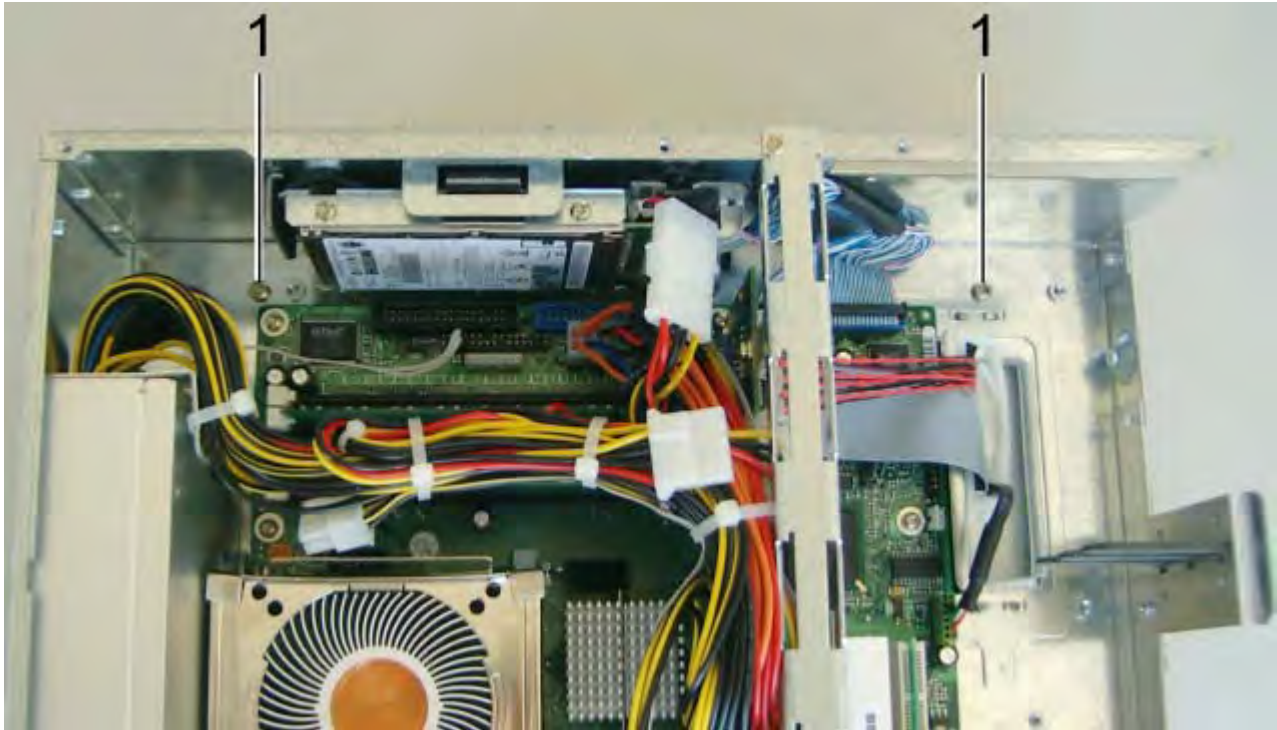


Figure 10-13 Separating a 12" touch screen from the computer unit

A fastening rail (2) with 2 female threads is located on the control unit for screws (1). Its counterpart, a fastening rail with hooks (3), is located on the computer unit. The control unit latches into these hooks.

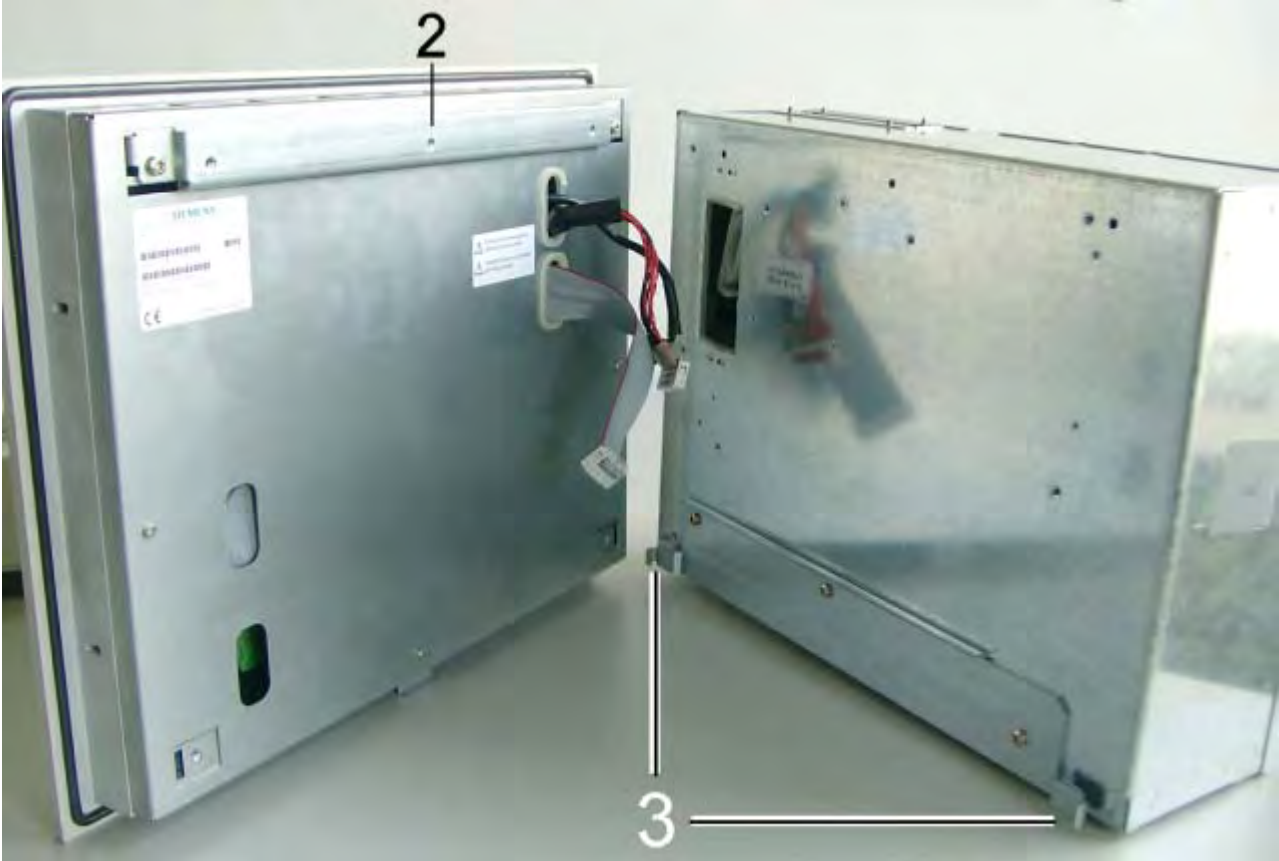


Figure 10-14 Fastening rails on the computer unit and control unit

9. Carefully swing the computer unit down until it releases from the hooks of the control unit. Now remove the computer unit entirely and carefully set it down.

10. The next two steps only apply to control units that do not have 12" touch panels: Loosen all screws (1) which attach the computer unit to the rear of the control unit.

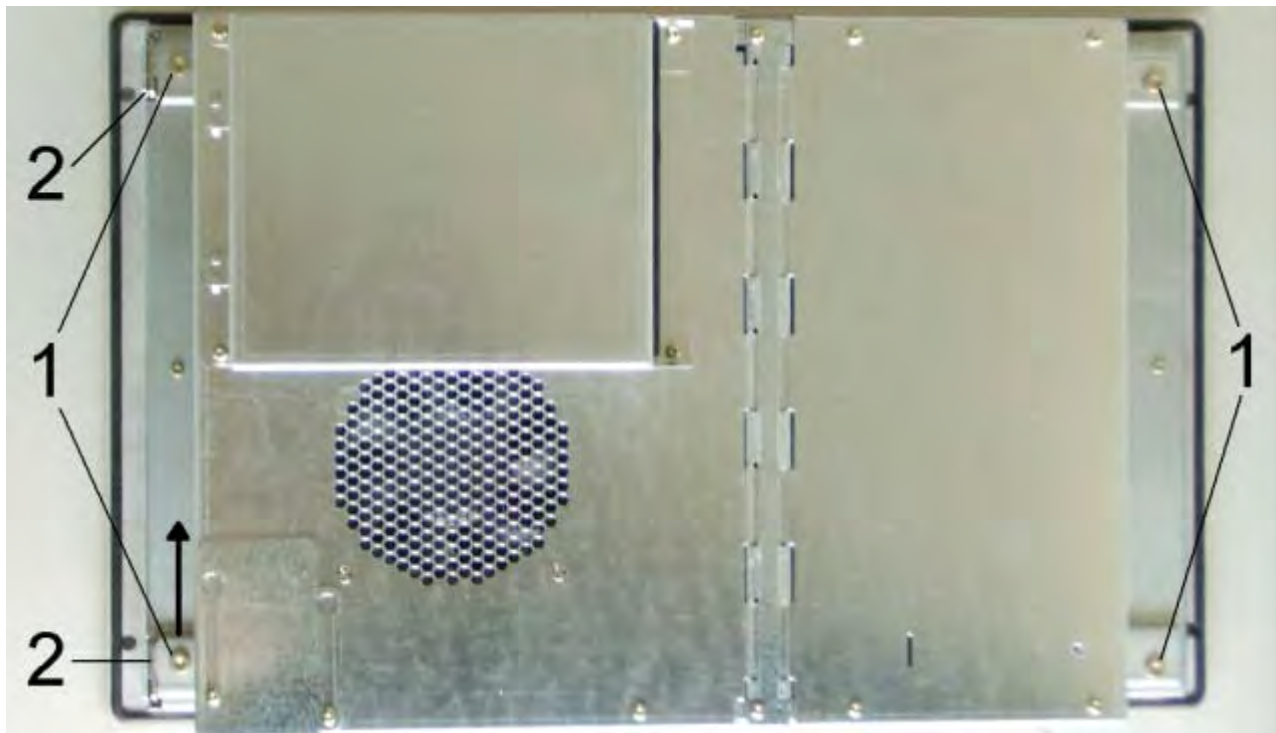


Figure 10-15 Separating the control unit from the computer unit

The control unit and the computer unit are connected to each other by a hinge joint(2) on the left of the illustration.

11. Tilt the computer unit slightly upwards from the control unit, slide the computer unit as indicated by the arrows out of the hinge joint and set it down carefully.

Mounting the device

To reinstall the device, follow the reverse procedure.

Caution

Please note the following. Device malfunctions may otherwise occur.

- Ensure that the ribbon cable is plugged into the correct sockets.
- Ensure that the ribbon cable is not kinked or crimped.
- Check the switch settings (1). Ensure that the switch is set to match the settings in the following table.

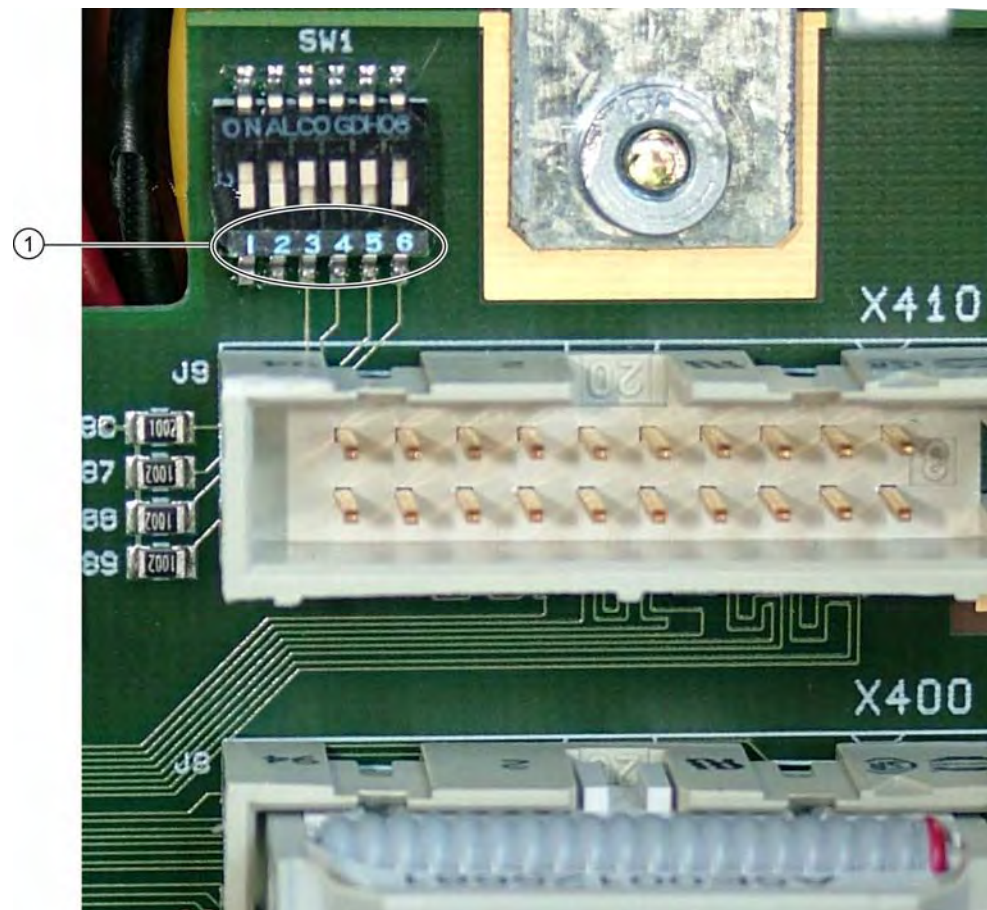


Figure 10-16 Separating the control unit from the computer unit, switch settings and connections

Table 10-1 Switch settings for the various control units

Switch						Display type	Resolution	Ribbon cable socket
1	2	3	4	5	6			
OFF	OFF	ON	ON	ON	ON	12" touch/key panel	800 x 600	X400
OFF	OFF	ON	ON	ON	OFF	15" touch/key panel	1024 x 768	X400
OFF	OFF	ON	ON	OFF	ON	19" touch panel	1280 x 1024	X400, X410
OFF	OFF	ON	ON	OFF	OFF	—	—	—
OFF	OFF	ON	OFF	ON	ON	—	—	—

- Insert the ribbon cable through the aperture underneath the computer unit.
- When rejoining the computer unit and the control unit, ensure that the ribbon cable is not pinched.



Figure 10-17 Separating the control unit from the computer unit, ribbon cable

10.2.11 Connecting an external monitor

Introduction

When exchanging the control unit or when it fails, operate an external monitor with VGA connector through the VGA interface. You can activate the monitor in the operating system setup.

Procedure

1. Isolate the device from mains and switch the monitor off.

Caution

Damage to the device!

Ensure that the device and the monitor are switched off.

2. Plug the monitor cable into the VGA socket.
3. Screw the monitor cable plug tight.
4. Connect the monitor cable to the monitor.
5. Reconnect the device to the electrical power system.
6. Switch on the device and the monitor.
7. When the operating system starts, press the <F8> key.
8. In the dialog that appears, select "640 x 480" as the resolution for the VGA mode.
The use of the monitor is limited with this resolution.

Note

Restricted functions in dual display operation

Only a clone mode is available during dual display operation; the extended mode is not supported.

10.3 Installing software

10.3.1 Overview

Introduction

Recommission the device after exchanging the hard disk drive. Or reinstall the software as required.

Caution

Do not turn off the device during software installation. Otherwise, parts of the software which are necessary for trouble-free operation will be lost. For commissioning, use the default BIOS settings described in "BIOS setup" and "BIOS setup default settings" in the section on "Detailed descriptions."

Note

The supplied drivers and applications have been system-tested and are approved for this device. No warranty can be provided for other software.

Procedure

1. Format and partition the hard disk drive as required.
2. Transfer the backed up data back to drives C and D using the backup utility. Use the Restore CD, for example, to transfer the original image back to the device's hard disk.
3. You can also install an operating system yourself.
4. Install the required Windows service packs and security updates. Refer to the "Commissioning" section for more information.
5. For new Windows 2000 installations, install the chipset driver before installing any other drivers.
6. The following applies if you are installing Windows XP SP1 on the Panel PC without the Restore CDs:



Caution

Maloperation

Install Microsoft update KB822603. Otherwise, the USB interfaces and therefore the touch and key operation may not work correctly.

You can download the update and obtain additional information in the Internet at "<http://support.microsoft.com>".

7. Install any other required drivers.
8. If you install an operating system yourself, install all of the required drivers and applications.
9. Install any other required software.
10. Configure the drivers and applications as needed. For more information, refer to "Additional drivers and applications" in the control unit operating instructions.
11. Save the hard disk data to a DVD-ROM or network drive.

Note

To verify that the data on the DVD-ROM is in order, transfer the data on the DVD-ROM back to an empty hard disk and quickly test the device by switching it on.

10.3.2 Supplied software CDs / DVDs

If your software is corrupt, reinstall your software using the Restore DVD and Documentation and Drivers CD.

Restore DVD:

Contains a hard disk image with the factory software consisting of the operating system and installed hardware drivers.

Documentation and Drivers CD:

Contains the documentation and required system drivers and applications, such as Microsoft Internet Explorer and hotfixes.

Caution

Use the supplied Restore DVDs for the device. Verify that the order number of the Restore DVD matches that of the device. You can find the order number of the device on the rating plate.

Do not use the supplied images for any other device. The chipsets and drivers differ.

10.3.3 Restoring the factory state of the software using the Restore DVD

Introduction

With the Restore DVD, you can restore the original factory-supplied software:

- Restoring the hard disk with drive "C: (system) and drive "D":
- Restoring only drive "C:" This allows you to retain any user data on drive "D". .

The DVD includes the necessary images and tools for this purpose. Use these tools to transfer the factory-supplied software to the hard disk of the device.

Backing up authorizations

- Check whether you can back up authorizations or license keys. If so, perform the backup as described below.
- If it is not possible to back up your authorization, please contact customer support. Customer support can provide you with the necessary information for your software authorization.

Caution

With the option "Restore system partition only", all data on drive "C: (system)" will be deleted. All data, e.g., user settings and authorizations will be lost! All data on Drive "C:" of your hard disk drive will be deleted. Setup formats the hard disk partition and reinstalls the original factory software.

When you select the "Restore entire hard disk" option, all the data, user settings, and authorizations will be lost on the hard disk.

Procedure

1. Place the Restore DVD in the device's drive.
2. Restart the system.
3. When the BIOS message "Press <F2> to enter Setup or <F12> to show boot menu" appears, press <F12>. After initialization, a "Boot Menu" is displayed.
4. Select the "DVD-ROM Drive".
5. Now follow the instructions on the screen.

Caution

All existing data, such as programs, user settings, and authorizations will be deleted from the drives.

For more information on the functions, refer to the "README.TXT" file on the Restore DVD.

10.3.4 Factory state without operating system

The device can be optionally purchased without an operating system. If you want to install the operating system yourself, read the information available in the Internet at <http://www.siemens.com/asis>

Notice

You must integrate the required software components yourself if you install an operating system not offered by Siemens AG. Note the following in this regard:

- The device has features that a standard PC does not, for example, a touch screen and front panel function keys.
 - Siemens AG can only guarantee the availability of these features for operating systems that have been released.
 - Siemens AG only provides support within a strictly defined framework.
-

10.3.5 Installing individual drivers

Introduction

The "Documentation and Drivers" CD contains the required drivers for the device.

Procedure

1. Start "cdstart.exe" in the root directory of the CD.
2. Follow the instructions displayed on the screen.

Note

Further information on reinstalling the drivers is available on the Internet at "<http://www2.automation.siemens.com/hmi>" under "Support".

10.4 Maintenance and spare parts

The following spare parts are available for the device:

Spare part	Order No. (MLFB)
12" Touch Panel PC577	6AV7672-2AA00-0AA0
15" Touch Panel PC577	6AV7672-2AC00-0AA0
19" Touch Panel PC577	6AV7672-2AE00-0AA0
12" Key Panel PC577	6AV7672-2AB00-0AA0
15" Key Panel PC577	6AV7672-2AD00-0AA0
DVD-ROM module	6AV7672-2HA00-0AA0
DVD+-R/+ -RW module	6AV7672-2HC00-0AA0
Small accessories*)	A5E00365306
USB plugs, set of 10	6AV7672-1JA00-0AA0
Computer box	6AV7672-0BA00-0AA0
Motherboard D1562	A5E00294719
HDD 2.5"/EIDE/40GB	A5E00239956
HD/2.5"/40GB module	A5E00323795
256 MB DDR SDRAM, PC2700 (1 x 256 MB)	6ES7648-2AD20-0EA0
512 MB DDR SDRAM, PC2700 (1 x 512 MB)	6ES7648-2AD30-0EA0
1 GB DDR SDRAM, PC2700 (1 x 1.0 GB)	6ES7648-2AD40-0EA0
CPU Celeron P4 2GHz	A5E00253134
CPU Pentium4 2.4GHz	A5E00253136
Power supply ENH-0635A Siemens cable length ATX 20PIN	A5E00353154
Riser card 3 PCI passive	A5E00300535
Siemens OEM LVDS card	A5E00314602

*) Back-up battery, cord packing control panel, hard disk and CD-ROM drive cables, fans, keys, guide rail in the Win AC cover plate

Alarm, error and system messages

11.1 BIOS error messages

Introduction

This chapter contains a selection of alarms, error messages and troubleshooting information.

Self-test POST

During booting, the BIOS first performs a Power On Self-Test or POST. This checks to ensure that certain device components are functioning properly. The boot sequence is interrupted immediately if critical errors occur.

If the POST does not find an error, the BIOS initializes and tests further components. The graphics are already initialized in this phase of booting. Any error messages that occur are displayed on the screen.

Error diagnosing

The following describes the error messages from the system BIOS.

Note

For information on error messages from the operating system or programs, refer to the corresponding manuals.

Error	Cause	Remedy
Display remains dark	Power supply not connected properly	Check the power outlet, power cable and mains connector.
A beep sounds when a key is pressed but no character is displayed.	Keyboard buffer is full	<CTRL> <PAUSE> keys
COM 1 or LPT 1 interface does not respond.	The interface is deactivated in the BIOS setup.	Activate the COM 1 or LPT 1 interface in the submenu "Hardware Options".
Mouse pointer no longer moves.	The PS/2 interface is deactivated in the BIOS setup.	Check the Setup setting.

11.2 Motherboard error messages

Error diagnosing

The manual for the motherboard contains information about error messages originating from the motherboard.

Note

For information on error messages from the operating system or programs, refer to the corresponding manuals.

Troubleshooting and FAQs

12.1 General problems

This chapter provides you with tips on how to localize and troubleshoot frequently occurring problems.

Problem	Possible cause	Possible remedy
The device is not operational	There is no power supply to the device.	<ul style="list-style-type: none"> • Check the power supply, the network cable and the mains connector. • Check whether the On/Off switch is in the correct position. • Press the soft power key.
	Device is being operated outside the specified ambient conditions	<ul style="list-style-type: none"> • Check the ambient conditions. • After transport in cold weather, wait approximately 12 hours before switching on the device.
The external monitor remains dark.	The monitor is switched off.	Switch on the monitor.
	The monitor is in "power save" mode.	Press any key on the keyboard.
	The brightness button has been set to dark.	Increase the screen brightness. For detailed information, refer to the monitor operating instructions.
	The power cable or the monitor cable is not connected.	<ul style="list-style-type: none"> • Check whether the power cable has been properly connected to the monitor and to the system unit or to the grounding outlet. • Check whether the monitor cable has been properly connected to the system unit and to the monitor.
		If the monitor screen still remains dark after you have performed these checks, please contact your technical support team.
The mouse pointer does not appear on the screen.	The mouse driver is not loaded.	Check whether the mouse driver is properly installed and present when you start the application program. For more detailed information, refer to the manuals for the mouse or application programs.
	The mouse is not connected.	Check whether the mouse cable is properly connected to the system unit. If you use an adapter or extension on the mouse cable, also check the connectors.
		If the mouse pointer still does not appear on the screen after you have performed these checks and measures, please contact your technical support team.
Wrong time and/or date on the PC.		<ol style="list-style-type: none"> 1. Press <F2> within the boot sequence to open the BIOS setup. 2. Set the time and date in the Setup menu.

12.1 General problems

Problem	Possible cause	Possible remedy
Although the BIOS setting is OK, the time and data are still wrong.	The back-up battery is dead.	In this case, please contact your technical support team.
USB device is not responding.	The USB ports are disabled in the BIOS.	Use a different USB port or enable the port.
	USB 2.0 device connected but USB 2.0 is disabled.	Enable USB 2.0.
	Operating system does not support the USB interface.	Enable USB Legacy Support for the mouse and keyboard. For all other devices you need USB drivers for the specific operating system.
DVD: The front loader does not open.	The device is switched off or the open/close button is disabled by a software application.	Emergency removal of the data medium: <ol style="list-style-type: none"> 1. Switch off the device 2. Insert a pointed object, a pin for example, or an opened paper clip into the emergency extraction opening of the drive. Apply slight pressure to the contact until the front loader opens. 3. Pull the loader further out.

12.2 Problems when using modules of third-party manufacturers

Problem	Possible cause	Possible remedy
The PC crashes during startup.	<ul style="list-style-type: none"> • I/O addresses are assigned twice. • Hardware interrupts and/or DMA channels are assigned twice • Signal frequencies or signal levels are not adhered to • Different connector pin assignments • No "Reset Configuration" in BIOS-SETUP 	Check your computer configuration: <ul style="list-style-type: none"> • If the computer configuration corresponds with factory state, contact your technical support team. • If the computer configuration has changed, restore the factory state. Remove the third-party modules and reboot the computer. If the error no longer occurs, the third-party module was the cause of the fault. Replace this module with a Siemens module or contact the module supplier. • Force a "Reset Configuration" using the BIOS setup.
		If the PC still crashes, contact your technical support team.

12.3 SystemGuard errors

Notice

SystemGuard is a freeware application for which Siemens AG offers no technical support. Observe the notes in the online help of the application.

Hardware alarms

The Silent Fan controller reports hardware alarms such as a fan failure. When a hardware alarm occurs, an information window opens for the affected object and displays an error message. You can reset the alarm.

Software alarms

SystemGuard also monitors specific components such as the battery voltage or voltage fluctuations. When a software alarm occurs, an information window opens for the affected object.

Technical specifications

13.1 Technical data

13.1.1 EMC requirements

	Standard	
EMC requirements	EN 61000-6-4 EN 61000-6-2	
Emitted interference AC	EN 55011 EN 61000-3-2 EN 61000-3-3	Class A Class D
Noise immunity: Mains borne disturbance variables on supply lines	IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-5	± 2 kV, burst ± 1 kV, surge sym ± 2 kV, surge asym
Noise immunity on signal lines	IEC 61000-4-4 IEC 61000-4-4 IEC 61000-4-5	± 1 kV, burst, length < 3 m ± 2 kV, burst, length > 3 m ± 2 kV, surge, length > 30 m
Immunity to discharge of static electricity ESD	EN 61000-4-2	± 8 kV with air discharge ± 6 kV on contact, direct/indirect Interference criterion B
Immunity to RF interference	IEC 61000-4-3 IEC 61000-4-3 IEC 61000-4-6	10 V/m 80-1000 MHz, 80% AM 10 V/m 900 MHz und 1.89 GHz, 50% ED 10 V 9 KHz-80 MHz
HF radiation in cables and cable shields	EN 61000-4-6	On signal lines and data lines 150 kHz to 80 MHz: 10 V Modulation: 80% AM with 1 kHz, interference criterion A
Interference immunity against magnetic fields	IEC 61000-4-8	50/60 Hz, 30 A/m effective value

13.1 Technical data

13.1.2 General technical data

Color display ¹⁾	12" TFT Key	15" TFT Key	12" TFT Touch screen	15" TFT Touch screen	19" TFT Touch screen
Resolution	800 x 600	1024 x 768	800 x 600	1024 x 768	1280 x 1024
Lifetime Backlighting	50,000 h for 24 hours continuous duty, temperature dependent				
Membrane keyboard with alphanumeric and numeric keys	X		—		
Function keys	36		—		
Labeling strips for function keys	X		—		
Front-mounted integrated mouse	X		—		
Resistive analog touch screen	—		X		
Dimensions 2)	12"	15"	12" touch	15" touch	19" touch
HU = Height unit in mm in inches	7 HU 483 x 310 x 147 19.0 x 12.2 x 5.8	8 HU 483 x 355 x 172 19.0 x 14.0 x 6.7	7 HU 400 x 310 x 167 15.7 x 12.2 x 6.6	7 HU 483 x 310 x 166 19.0 x 12.2 x 6.5	9 HU 483 x 400 x 162 19.0 x 15.7 x 6.4
Total weight	Approx. 12.9 kg	Approx. 17.0 kg	Approx. 13.5 kg	Approx. 15.5 kg	Approx. 18.5 kg
Safety	Control unit			Computer unit	
Protection class	In accordance with VDE 0106 T1: 1982 IEC 536			Protection class I to IEC 61140	
Safety regulations	IEC in accordance with DIN VDE 0805/11.93			AC: UL508, EN 61131-2, CSA C22.2 No 14-95	
Approvals	CE, cULUS 508				
Degree of protection	a	With clamp attachment, encircling seal and attached plastic seal cover for USB interface		IP 65, NEMA 4	
	b	With screw attachment		IP 54	
Period of warranty	24 months				
Quality assurance	According to ISO 9001				
Electrical data					
AC voltage supply	110/230 V AC				
Line voltage frequency	50/60 Hz				
Transient voltage interruption	Max. 16 ms				
Maximum power consumption	<ul style="list-style-type: none"> • PPC with 12"/15" TFT display • PPC with 19" TFT display 				
	<ul style="list-style-type: none"> • 190 W • 210 W Each PCI slot equipped with 15 W				

Color display ¹⁾	12" TFT Key	15" TFT Key	12" TFT Touch screen	15" TFT Touch screen	19" TFT Touch screen
Noise emission	< 55 dB(A) according to DIN 45635-1				
Motherboard					
Processor	Chipset: Intel 865G - Intel® Pentium 4 2.4 GHz - Intel® Celeron 2.0 GHz				
Main memory	4 slots for 256 MB, 512 MB, 1GB, 2GB, 3GB 3GB max. memory expansion				
Free expansion slots	<ul style="list-style-type: none"> • Uppermost slot is suitable for WinAC Slot module • 2 x PCI 175 mm long (below) 				
Maximum permitted power consumption Maximum permitted total of all slots	Maximum 15 W per slot 36 W				
Drives					
Hard disk	2.5" EIDE, UDMA, ATA-100 mode See ordering information for hard disk capacity.				
DVD-ROM	EIDE, master on secondary EIDE interface				
Graphics					
Display	<ul style="list-style-type: none"> • Colors • Luminance 				
Contrast ratio	<ul style="list-style-type: none"> • 262k or greater • 200 cd/m² or greater 				
Luminance	<ul style="list-style-type: none"> • 12" touch screen: 600:1 • 12" key panel: 600:1 • 15" touch screen: 450:1 • 15" key panel: 450:1 • 19" touch screen: 700:1 				
Graphic controller	<ul style="list-style-type: none"> • 12" device: 350 cd/m² • 15" device: 250 cd/m² • 19" device: 200 cd/m² 				
Resolutions/frequencies	SXGA-LCD controller on the AGP bus				
Resolutions/frequencies	12": 800 x 600, 60 Hz 15": 1024 x 768, 60 Hz 19": 1280 x 1024, 60 Hz				
Interfaces					
COM 1	Serial interface 1, 9-pin Sub D connector				
LPT 1	Parallel interface, 25-pin Sub D connector				
VGA	Connection for external monitor				
Keyboard	PS/2 keyboard				
Mouse	PS/2 mouse				
USB 2.0	4x external 2x internal 1 x front				
Ethernet	LAN 10/100/1000 Mbps				

1) A small number of faults in the display is unavoidable.

Bad pixels	Acceptable number
Permanently bright and permanently dark pixels	≤ 12
Permanently bright, green pixels	≤ 5

Information concerning resistance to chemicals is located in the section "General information."

2) Additional mounting depth with DVD-ROM drive: + 28 mm = + 1.102 inches

13.1.3 Ambient and environmental conditions

EMC		
Electromagnetic compatibility (EMC)	EN 61000-6-4/EN 55022, EN 61000-6-2 / EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6	
Mechanical conditions		Tested according to
Vibration load during operation	10 to 58 Hz: 0.0185 mm, 58 to 200 Hz: 0.25 g	IEC 60068-2-6
Shock load during operation	1 g, 30 ms, 3 shocks	IEC 60068-2-27
Climatic environmental conditions		
Temperature limits		
Operation	5° C ... 45° C	IEC 60068-2-1
Storage/transport	-20° C ... 60° C	IEC 60068-2-14
Relative humidity limits		
Operation	5 ... 80% at 25° C	IEC 60068-2-30
Storage/transport	5 ... 95% at 25° C	IEC 60068-2-56
Temperature change	Maximum 10 K/h	
Condensation	Not permitted	
Supply air	No corrosive gases	

13.2 Dimensional drawing of the device

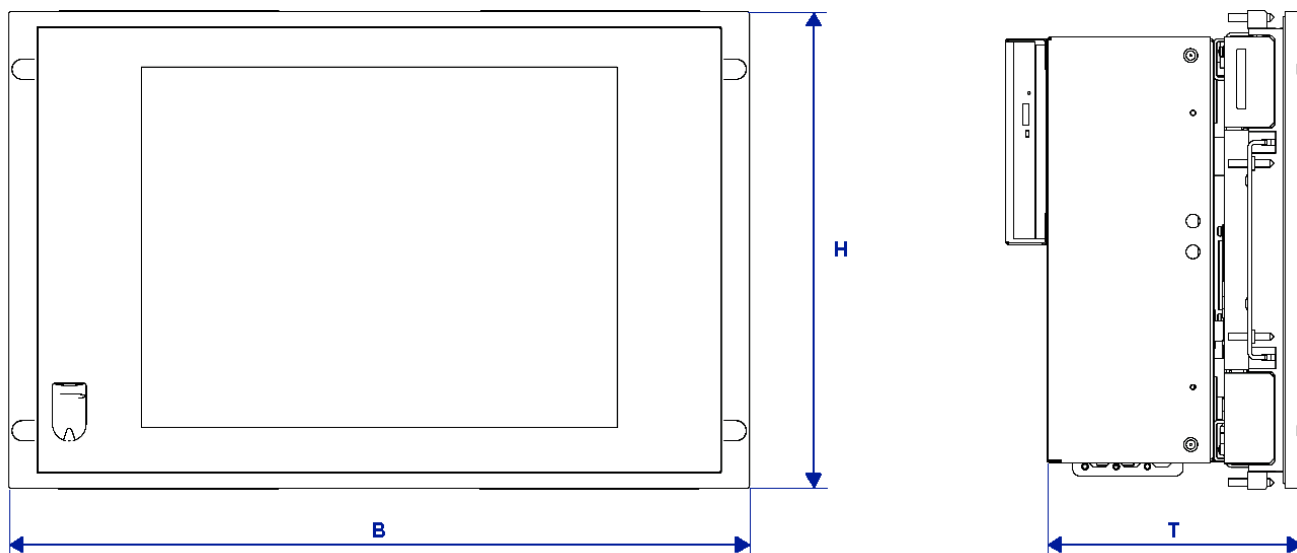


Figure 13-1 Dimensional drawing of the device

Control units	B	H	T 1)
With key panel			
12" TFT	483	310	147
15" TFT	483	355	172
With touch screen panel			
12" TFT	400	310	162
15" TFT	483	310	166
19" TFT in mm	483	400	182

1) Additional device depth with CD-ROM drive: + 28 mm = + 1.102 inches

13.3 Keyboard table

Key codes

The following table applies only to control units with key panels. It contains all characters that can be entered in SIMATIC KeyTools in the "Key code table" area and under "User specific". The character that is triggered by pressing a specific key is listed in the "Display/function" column. Further information is available in the documentation for SIMATIC KeyTools on the "Documentation and Drivers" CD.

Name	Code (Hex) 0x	Check-box	Display/function
a A	4	—	a
		L Shift/R Shift	A
		R Alt	á
		R Alt+L Shift/R Shift	Á
b B	5	—	b
		L Shift/R Shift	B
c C	6	—	c
		L Shift/R Shift	C
		R Alt	©
		R Alt+L Shift/R Shift	ç
		L Ctrl/R Ctrl	Copy
d D	7	—	d
		L Shift/R Shift	D
		R Alt	ð
		R Alt+L Shift/R Shift	Ð
e E	8	—	e
		L Shift/R Shift	E
		R Alt	é
		L Shift/R Shift	É
		L Gui/R Gui	Start Windows Explorer
f F	9	—	f
		L Shift/R Shift	F
		L Gui/R Gui	Find folder and file
g G	0A	—	g
		L Shift/R Shift	G

13.3 Keyboard table

Name	Code (Hex) 0x	Check-box	Display/function
h H	0B	—	h
		L Shift/R Shift	H
i I	0C	—	i
		L Shift/R Shift	I
		R Alt	í
		R Alt+L Shift/R Shift	Í
j J	0D	—	j
		L Shift/R Shift	J
k K	0E	—	k
		L Shift/R Shift	K
l L	0F	—	l
		L Shift/R Shift	L
		R Alt	ø
		R Alt+L Shift/R Shift	Ø
m M	10	—	m
		L Shift/R Shift	M
		R Alt	μ
		L Gui/R Gui	Minimize all windows
n N	11	—	n
		L Shift/R Shift	N
		R Alt	ñ
		R Alt+L Shift/R Shift	Ñ
o O	12	—	o
		L Shift/R Shift	O
		R Alt	ó
		R Alt+L Shift/R Shift	Ó
		L Ctrl/R Ctrl	Open
p P	13	—	p
		L Shift/R Shift	P
		R Alt	ö
		R Alt+L Shift/R Shift	Ö
		L Ctrl/R Ctrl	Printing
q Q	14	—	q
		L Shift/R Shift	Q
		R Alt	ä
		R Alt+L Shift/R Shift	Ä

Name	Code (Hex) 0x	Check-box	Display/function
r R	15	—	r
		L Shift/R Shift	R
		R Alt	@
		L Gui/R Gui	Display "Run" dialog
s S	16	—	s
		L Shift/R Shift	S
		R Alt	ß
		R Alt+L Shift/R Shift	§
		L Ctrl/R Ctrl	Save
t T	17	—	t
		L Shift/R Shift	T
		R Alt	þ
		R Alt+L Shift/R Shift	Þ
u U	18	—	u
		L Shift/R Shift	U
		R Alt	ú
		R Alt+L Shift/R Shift	Ú
v V	19	—	v
		L Shift/R Shift	V
		L Ctrl/R Ctrl	Paste
w W	1A	—	w
		L Shift/R Shift	W
		R Alt	â
		R Alt+L Shift/R Shift	Â
x X	1B	—	x
		L Shift/R Shift	X
		L Ctrl/R Ctrl	Cut
y Y	1C	—	y
		L Shift/R Shift	Y
		R Alt	ÿ
		R Alt+L Shift/R Shift	ÿ
z Z	1D	—	z
		L Shift/R Shift	Z
		R Alt	æ
		R Alt+L Shift/R Shift	Æ
		L Ctrl/R Ctrl	

13.3 Keyboard table

Name	Code (Hex) 0x	Check-box	Display/function
1 !	1E	—	1
		L Shift/R Shift	!
		R Alt	i
		R Alt+L Shift/R Shift	¹
2 @	1F	—	2
		L Shift/R Shift	@
		R Alt	²
3 #	20	—	3
		L Shift/R Shift	#
		R Alt	³
4 \$	21	—	4
		L Shift/R Shift	\$
		R Alt	¤
		R Alt+L Shift/R Shift	£
5 %	22	—	5
		L Shift/R Shift	%
		R Alt	€
6 ^	23	—	6
		L Shift/R Shift	^
		R Alt	¼
7 &	24	—	7
		L Shift/R Shift	&
		R Alt	½
8 *	25	—	8
		L Shift/R Shift	*
		R Alt	¾
9 (26	—	9
		L Shift/R Shift	(
		R Alt	'
0)	27	—	0
		L Shift/R Shift)
		R Alt	'
Return	28	—	Return
Escape	29	—	Escape
Backspace	2A	—	Backspace
Tab	2B	—	Tab
Space	2C	—	Space
- _	2D	—	-
		L Shift/R Shift	_
		R Alt	¥

Name	Code (Hex) 0x	Check-box	Display/function
= +	2E	—	=
		L Shift/R Shift	+
		R Alt	×
		R Alt+L Shift/R Shift	÷
[{	2F	—	[
		L Shift/R Shift	{
		R Alt	«
] }	30	—]
		L Shift/R Shift	}
		R Alt	»
\	31	—	\
		L Shift/R Shift	
		R Alt	¬
		R Alt+L Shift/R Shift	¡
Europe 1	32	—	Europe 1
; :	33	—	;
		L Shift/R Shift	:
		R Alt	¶
		R Alt+L Shift/R Shift	°
' "	34	—	'
		L Shift/R Shift	"
		R Alt	'
		R Alt+L Shift/R Shift	""
' ~	35	—	'
		L Shift/R Shift	~
, <	36	—	,
		L Shift/R Shift	<
		R Alt	ç
		R Alt+L Shift/R Shift	Ç
. >	37	—	.
		L Shift/R Shift	>
/ ?	38	—	/
		L Shift/R Shift	?
		R Alt	¿
Caps Lock	39	—	Caps Lock

13.3 Keyboard table

Name	Code (Hex) 0x	Check-box	Display/function
F1	3A	—	F1
		L Shift/R Shift	F13
		L Ctrl/R Ctrl	S5
F2	3B	—	F2
		L Shift/R Shift	F14
		L Ctrl/R Ctrl	S6
F3	3C	—	F3
		L Shift/R Shift	F15
		L Ctrl/R Ctrl	S7
F4	3D	—	F4
		L Shift/R Shift	F16
		L Ctrl/R Ctrl	S8
F5	3E	—	F5
		L Shift/R Shift	F17
		L Ctrl/R Ctrl	S9
F6	3F	—	F6
		L Shift/R Shift	F18
		L Ctrl/R Ctrl	S10
F7	40	—	F7
		L Shift/R Shift	F19
		L Ctrl/R Ctrl	S11
F8	41	—	F8
		L Shift/R Shift	F20
		L Ctrl/R Ctrl	S12
F9	42	—	F9
		L Shift/R Shift	S1
		L Ctrl/R Ctrl	S13
F10	43	—	F10
		L Shift/R Shift	S2
		L Ctrl/R Ctrl	S14
F11	44	—	F11
		L Shift/R Shift	S3
		L Ctrl/R Ctrl	S15
F12	45	—	F12
		L Shift/R Shift	S4
		L Ctrl/R Ctrl	S16
Print Screen, FN+INS	46	—	Print Screen, FN+INS
Scroll Lock	47	—	Scroll Lock
Break, Ctrl+Pause	48	—	Break, Ctrl+Pause
Pause	48	—	Pause
Insert	49	—	Insert
Home	4A	—	Home

Name	Code (Hex) 0x	Check-box	Display/function
Page Up	4B	—	Page Up
Delete	4C	—	Delete
End	4D	—	End
Page Down	4E	—	Page Down
Right Arrow	4F	—	Right Arrow
Left Arrow	50	—	Left Arrow
Down Arrow	51	—	Down Arrow
Up Arrow	52	—	Up Arrow
Num Lock	53	—	Num Lock
Keypad /	54	—	Keypad /
Keypad *	55	—	Keypad *
Keypad -	56	—	Keypad -
Keypad +	57	—	Keypad +
Keypad Enter	58	—	Keypad Enter
Keypad 1 End	59	—	Keypad 1 End
Keypad 2 Down	5A	—	Keypad 2 Down
Keypad 3 PageDn	5B	—	Keypad 3 PageDn
Keypad 4 Left	5C	—	Keypad 4 Left
Keypad 5	5D	—	Keypad 5
Keypad 6 Right	5E	—	Keypad 6 Right
Keypad 7 Home	5F	—	Keypad 7 Home
Keypad 8 Up	60	—	Keypad 8 Up
Keypad 9 PageDn	61	—	Keypad 9 PageDn
Keypad 0 Insert	62	—	Keypad 0 Insert
Keypad . Delete	63	—	Keypad . Delete
Europe 2	64	—	Europe 2
App	65	—	App
Keyboard Power	66	—	Keyboard Power
Keypad =	67	—	Keypad =
F13	68	—	F13
F14	69	—	F14
F15	6A	—	F15
F16	6B	—	F16
F17	6C	—	F17
F18	6D	—	F18
F19	6E	—	F19
F20	6F	—	F20
F21	70	—	F21
F22	71	—	F22
F23	72	—	F23
F24	73	—	F24
Left Control	E0	—	Left Control

13.3 Keyboard table

Name	Code (Hex) 0x	Check-box	Display/function
Left Shift	E1	—	Left Shift
Left Alt	E2	—	Left Alt
Left GUI	E3	—	Left GUI
Right Control	E4	—	Right Control
Right Shift	E5	—	Right Shift
Right Alt	E6	—	Right Alt
Right GUI	E7	—	Right GUI

Detailed descriptions

14.1 Overview of the Panel PC 577 motherboard

The Panel PC 577 contains the Fujitsu-Siemens Premium Motherboard D1562-C. Further information is available in the manual for the motherboard on the "Documentation and Drivers" CD and in the Internet at "<http://www.fujitsu-siemens.de>".

14.2 Riser card

Introduction

A passive riser card is used as the bus board. With a passive riser card, the interrupts are fetched from the next slot on the motherboard via an adapter and cable. The cables are plugged into the riser card and the PCI adapter and are not soldered.

Functional features

- Three free PCI slots (uppermost slot is suitable for WinAC Slot module / two lower slots for PCI, 175 mm long)
- The 2 "top" and "middle" slots each have a non-shared interrupt.

Specifications

The riser card conforms to PCI Local Bus Specification Revision 2.3 and ATX Riser Card Specification 1.0.

Allocation of motherboard slots to the riser card

Motherboard slot	Slot on riser card
PCI 1: next to AGP slot	1, top
PCI 2: middle slot	2, middle
PCI 3: right slot	3, bottom

14.3 Touch sensor

Principle of operation

The touch device variant operates with an analog-resistive touch sensor. An electrical field is generated by electrodes along the edge of the sensor. These electrodes are arranged on a specific grid on the active surface.

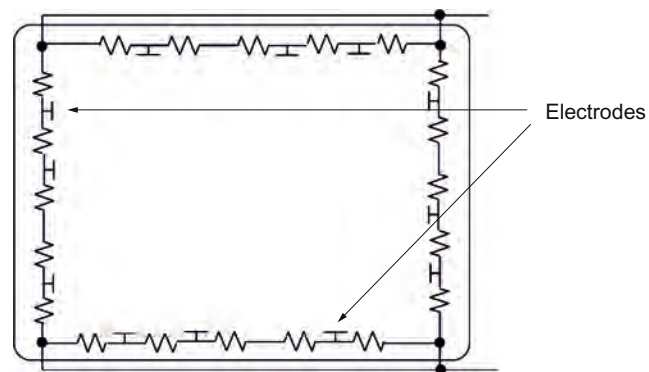


Figure 14-1 Operating principle of touch sensors

Functional restrictions caused by deformation of the field lines

A "scalping effect" occurs at the edge of the display near the electrodes on all analog-resistive touch sensors due to its intrinsic design. This leads to a deformation of the field lines.

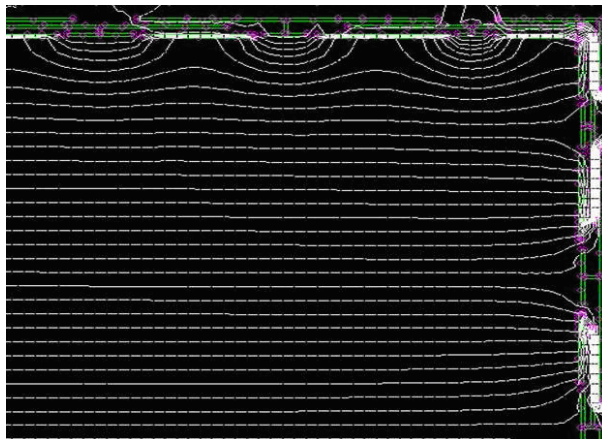


Figure 14-2 Scalping effect

Effects of the scalloping effect

Following the field lines at the edge of the display, the mouse pointer forms curves rather than straight lines.

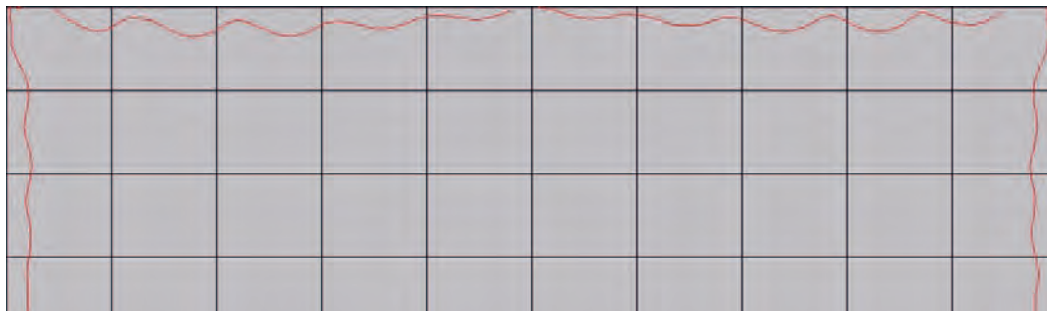


Figure 14-3 Effects of the scalloping effects on the mouse pointer

The scalloping effect, therefore, can make it difficult or almost impossible to select icons on the edge of the display in Windows applications.

Generally, the following applies:

- The scalloping effect is essentially influenced by the size of the touch sensor and margin area outside the active surface. The effect is smaller on a 12" touch sensor than on a 19" touch sensor, for example.
- Basically, the inaccuracy in the margin area of an analog-resistive touch screen caused by scalloping effect cannot be avoided.

14.4 System resources

14.4.1 Currently allocated system resources

The system resources (hardware address, memory configuration, IRQ, DMA channel) are assigned dynamically by the Windows OS, depending on the hardware configuration, drivers and externally connected peripheral devices. Dialogs show the current allocation of the system resources or existing conflicts.

Note

For additional information, search for the terms "System information" and "Diagnostics" in the Windows help.

14.4.2 Interrupt assignment

PCI Interrupt Line	Controller or slot INT												
	Onboard controller										Mechanischer Steckplatz		
	USB 1.1				USB 2.0	SMBus	AC97		LAN	AGP	PCI-Steckplatz		
	1 st	2 nd	3 rd	4 th			Audio	Modem			1	2	3
1 (A)	X	-	-	X	-	-	-	-	-	A	-	-	-
2 (B)	-	-	-	-	-	X	X	X	-	B	-	-	-
3 (C)	-	-	X	-	-	-	-	-	-	-	D	C	A
4 (D)	-	X	-	-	-	-	-	-	-	-	C	D	B
5 (E)	-	-	-	-	-	-	-	-	X	-	-	-	-
6 (F)	-	-	-	-	-	-	-	-	-	-	B	A	C
7 (G)	-	-	-	-	-	-	-	-	-	-	A	B	D
8 (H)	-	-	-	-	X	-	-	-	-	-	-	-	-

Figure 14-4 Interrupt assignment of the motherboard used

14.5 BIOS setup

14.5.1 Starting BIOS setup

Starting BIOS setup

Start the setup program as follows:

Reset the device (warm or cold restart).

In the figures shown, the default settings differ based on the device versions. With the default settings on the SIMATIC Panel PC 577, **for example**, the following screen appears after booting:

```
Phoenix cME FirstBIOS Desktop Pro
Copyright 1985–2004 Phoenix Technologies Ltd.
Copyright 2003-2004 Fujitsu Siemens Computers
Version 5.00 R2.xx.1562.01 (xx depends on version)
Intel® Pentium®4 x.xx GHz (x.xx depends on processor used)
xxxxxxK Extended RAM passed (xx depends on installed memory)
512K Cache SRAM Passed
```

2. On completion of the POST, the BIOS gives you the opportunity of starting the SETUP program. The following message appears on the screen:

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

3. Press the F2 key as long as the BIOS prompt appears on the screen.

14.5.2 BIOS setup default settings

Special default settings Panel PC 577

The default settings of the BIOS setup may reset in some circumstances, for example, when the back-up battery is exchanged or when the BIOS is updated.

If your device has a BIOS version that is older than V5.00 R2.15, the BIOS setup default settings will not correspond to the default settings of the device. The differences are shown in the following table and must be entered manually.

Notice

BIOS version older than V5.00 R2.15.1562.01.CB01

If the BIOS has been reset, enter the default settings of the SIMATIC Panel PC 577 listed below.

System parameters	BIOS setup default settings	Default settings SIMATIC Panel PC 577
Main		
Floppy disk A	1.44 MB 3 1/2"	None
Boot options		
POST errors	Halt on all errors	No halt on any errors
Advanced		
Advanced/peripheral configuration		
Diskette controller	Enabled	Disabled
Advanced/peripheral configuration/ATA controller config		
S-ATA interface	Enabled	Disabled
Advanced/system management		
SM fan control	Auto	Enhanced cooling
Power		
APM power saving	Customized	Disabled
Standby timeout	15 min	Disabled
Hard disk timeout	15 min	Disabled
Power/Power On/Off		
Power failure recovery	Previous state	Always ON

Note

BIOS update

If your device has a BIOS version older than V5.00 R2.15.1562.01.CB01, we recommend a BIOS update. Further information about this can be found under the item ID 22344494 on our Support pages.

Appendix

A.1 Certificates and guidelines

A.1.1 Guidelines and declarations

Notes on the CE marking

 The following applies to the SIMATIC product described in this documentation:

Notes for Norway, Sweden and Finland

Caution**Forsiktig**

Apparatet må tilkoples jordet stikkontakt.

Varo

Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan.

EMC directive

AC voltage supply

The devices with AC voltage supply fulfill the requirements of the EC directive 89/336/EEC Electromagnetic Compatibility and are intended for the following fields of application in accordance with the CE marking:

Area of application	Requirement for	
	Emitted interference	Noise immunity
Industry	EN 50022:1998 EN 61000-6-4: 2001	EN 50024:1998/A1:2001 EN 61000-6-2: 2001

The device is also compliant with EN 61000-3-2:2000, harmonic currents and EN 61000-3-3:1995/A1:2001 voltage fluctuation and flicker.

Low Voltage Directive

The devices complies with the requirements of the EC directive 73/23/EEC "Low Voltage Directive." Conformance with this standard has been verified according to EN 60950.

Declaration of conformity

The EC declaration of conformity and the corresponding documentation are made available to authorities in accordance with the EC directive stated above. Your sales representative can provide these on request.

Installation guidelines

Adhere to the installation guidelines and safety instructions given in this documentation during commissioning and operation.

Connecting peripherals

The requirements regarding noise immunity according to EN 61000-6-2:2001 are met when you connect an I/O device suitable for an industrial environment. Always use shielded cables to connect peripherals.

A.1.2 Certificates and approvals

DIN ISO 9001 certificate

The quality assurance system for the entire product process (development, production, and marketing) at Siemens fulfills the requirements of ISO 9001 (corresponds to EN29001: 1987).

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


EQ-Net certificate no.: 1323-01

Software license agreement

The device is shipped with software. Please observe the corresponding license agreements.

Certification for the USA, Canada and Australia

Safety

One of the following markings on a device is indicative of the corresponding approval:	
	Underwriters Laboratories (UL) to Standard UL 60950, Report E11 5352 and Canadian Standard C22.2 no. 60950 (I.T.E), or to UL508 and C22.2 no. 142 (IND.CONT.EQ)

The device also fulfills the requirements for FCC.

Note

The approval or certification is located on the rating plate. The rating plate is described in the "Operating Instructions (compact)" document.

EMC

USA	
General	<p>This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:</p> <ol style="list-style-type: none"> 1. This device may not cause harmful interferences. 2. This device must accept any interference received, including interference that may cause undesired operation.
Shielded cables	<p>The use of shielded I/O cables is required when connecting this equipment to any and all optional peripheral or host devices. Failure to do so may violate FCC rules.</p>
Modifications	<p>Siemens AG is not responsible for any radio television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by Siemens AG. The correction of interference caused by such unauthorized modification, substitution or attachment will be the responsibility of the user.</p>
Canadian notice	<p>This class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.</p>

A.1.3 ESD guideline

What does ESD mean?

Almost all electronic modules are equipped with highly integrated components and elements in MOS technology. For technological reasons, these electronic components are very sensitive to overvoltages and, consequently, to electrostatic discharge. These components are therefore marked as follows:

- **ESD: Electrostatically Sensitive Devices**
- **ESD:** Internationally recognized marking for components and modules susceptible to electrostatic discharge

The following symbols on switch cabinets, module carriers or packaging indicate their susceptibility to electrostatic discharge:



ESD components are destroyed by voltage and energy far below the limits of human perception. Voltages of this kind occur as soon as a device or an assembly is touched by a person who is not electrostatically discharged. ESD components which were subject to such voltage are usually not recognized immediately as being defective, because the malfunction does not occur until after a longer period of operation.

Note

More information is located on the rating plate. The rating plate is described in the chapter "Planning use."

Precautions against electrostatic discharge

Most plastics can be charged easily. Therefore, keep plastics away from ESD components!

When working with electrostatically sensitive components, make sure that the person, the workstation and the packaging are properly grounded. Conduct the electrostatic charge away from your body by touching the mounting plate for the interfaces, for example.

Handling ESD modules

As a rule: Only touch ESD components if unavoidable due to necessary tasks.

Only touch the components when the following holds true:

- You are permanently grounded by means of an ESD armband.
- You are wearing ESD shoes or ESD shoes grounding protective strips in connection with ESD floors.

Before you touch an electronic assembly, your body must be discharged. Touch a conductive object immediately beforehand, e.g. a bare metal part of a control cabinet or the water pipe.

Do not allow chargeable, highly insulated materials, e.g. plastic films, insulating tabletops, synthetic clothing fibers, to come into contact with ESD components.

Place ESD components only on conductive surfaces (work surfaces with ESD surface, conductive ESD foam, ESD packing bag, ESD transport container).

Do not expose ESD components to visual display units, monitors or televisions. Maintain a distance of at least 10 cm to screens.

Handle flat components only by their edges. Do not touch component connectors or conductors. This prevents charges from reaching and damaging sensitive components.

Measuring and modifying ESD components

Measure the ESD component under the following conditions only:

- The measuring device is grounded with a protective conductor, for example.
- The probe on the electrically isolated measuring device has been discharged, e.g. by touching the bare metal of a part of the control cabinet.
- Your body is discharged. To do so, touch a grounded metallic object.

Solder only with grounded soldering irons.

Shipping ESD modules

Always store or ship ESD components in conductive packaging, e.g. metallized plastic boxes or metal cans. Leave the components and parts in their packaging until installation.

If the packaging is not conductive, wrap the ESD component in a conductive material, e.g. rubber foam, ESD bag, household aluminum foil, or paper, before packing. Do not wrap the ESD component in plastic bags or plastic film.

In ESD components containing installed batteries, make sure that the conductive packaging does not touch the battery connectors or short circuit. Insulate the connectors with suitable material.

A.1.4 Electrostatic charging of individuals

Anyone who is not connected to the electrical potential of their surroundings can be electrostatically charged.

The figure below shows the maximum electrostatic voltages that can accumulate in a person who is operating equipment when he/she comes into contact with the materials indicated. These values comply with the specifications of IEC 801-2.

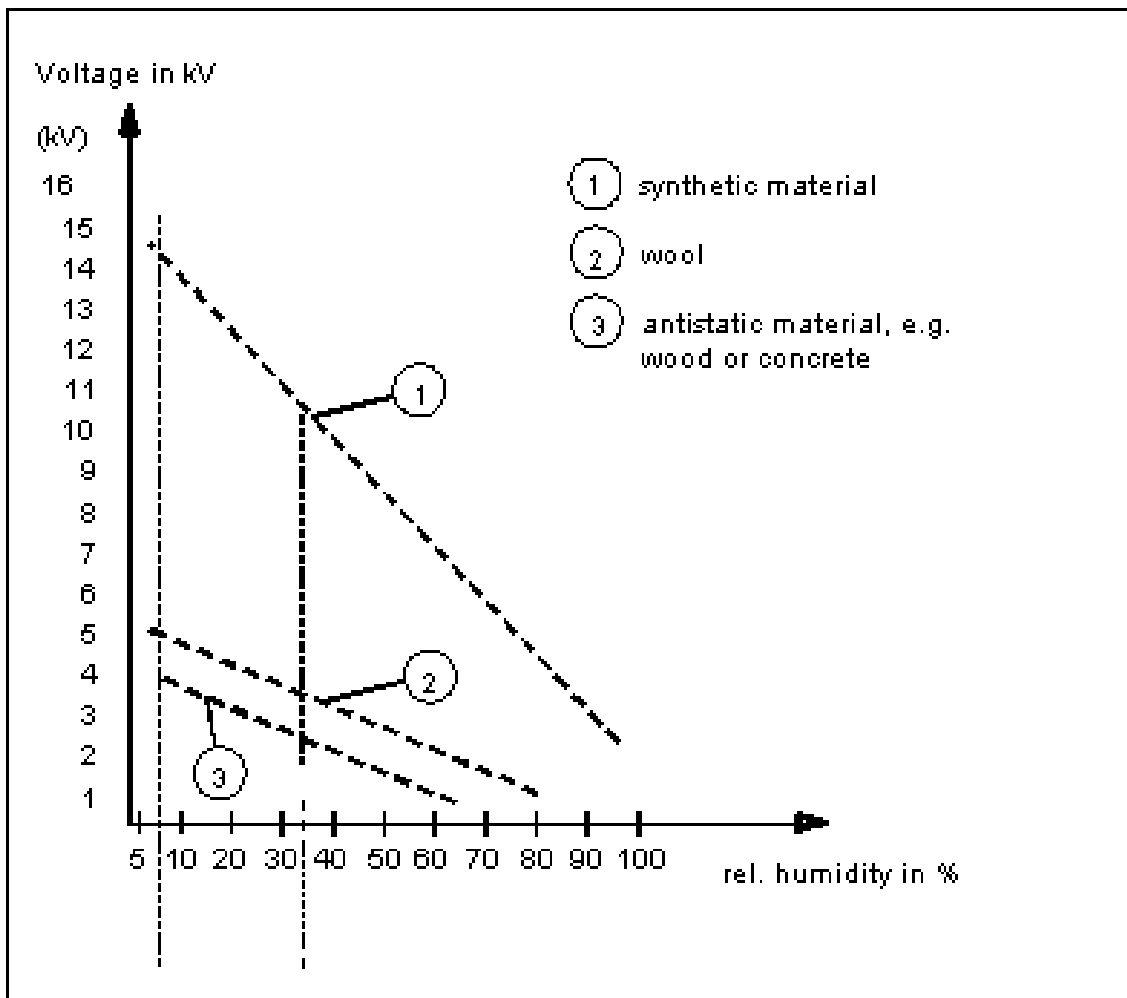


Figure A-1 Electrostatic voltages with which an operator can be charged.

- 1 Voltage in kV
- 2 Synthetic materials
- 3 Wool
- 4 Antistatic material such as wood or concrete
- 5 Relative humidity in %

A.2 Abbreviations

ANSI	American National Standards Institute
ASCII	American Standard Code for Information Interchange
B	Width
BIOS	Basic Input Output System
CD-ROM	Compact Disc – Read Only Memory
CPU	Central Processing Unit
DC	Direct Current
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name Service
DP	Distributed I/O
DSN	Data Source Name
DVD-ROM	Digital Versatile Disc – Read Only Memory
ESD	Electrostatic Sensitive Devices
EMC	ElectroMagnetic Compatibility
H	Height
HF	High Frequency
HMI	Human Machine Interface
IF	Interface: Interface
LCD	Liquid Crystal Display: Liquid crystal display
LED	Light Emitting Diode: Light emitting diode
Mbps	Megabits per second
PC	Personal Computer
PG	Programming device
PPI	Point to Point Interface SIMATIC S7
PS/2	Personal System 2
PLC	Programmable logic controller
T	Device depth
TCP/IP	Transmission Control Protocol/Internet Protocol
USB	Universal Serial Bus
VGA	Video Graphics Array

A.3 Glossary Definitions CU

Application

An application is a program which is put directly on the operating system MS-DOS or windows. An application on the PC/PG, for example, is STEP 7.

Programmable controller

The programmable controllers of the SIMATIC S5 system consist of a central unit, one or several CPUs, and other modules, e.g. input modules and output modules.

Automation system (AS)

A programmable logic controller (PLC), consisting of a central unit, a CPU, and various input and output modules.

Baud

Unit of measurement for the transmission speed. The unit of measurement, Baud, defines the number of transferred signal states per second. When only two states occur, one baud is equivalent to a transmission rate of 1 bps.

Module

Modules are plug-in units for PLCs, programming devices or PCs. Modules exist, for example, as central modules, power-ons, or as mass storage.

Boot diskette

A boot diskette is a bootstrap loader diskette, which has a boot sector that loads the operating system from the diskette.

Booting

Start or restart of the computer. During the boot sequence, the operating system is loaded from the system data carrier into RAM.

Cache

High-speed access buffer often used for interim storage (buffering) of requested data. The computer has two cache levels, the 2 level.

Chipset

Located on the motherboard, interconnects the processor with the RAM, the graphic controller, the PCI bus, and the external interfaces.

COM interface

The COM interface is a serial V.24 modem interface. The interface is suitable for asynchronous data transfer. As an alternative, connect printers with a serial interface.

Controller

Installed hardware and software which control the functions of specific internal or external devices, e.g. the keyboard controller.

Documentation and Drivers CD/DVD

The "Documentation and Drivers" CD/DVD is included. The CD/DVD contains specific drivers and applications for the supported operating system.

Drop down menu

Menu bar on the upper edge of the screen. The menu items are pre-set or can be set as drop down menus or pull down menus. Drop down menus roll down as soon as the cursor is moved over the menu title. Pull down menus roll down after clicking on the title.

EPROM, EEPROM

Plug-in module with EPROM/EEPROM chips. The chips store S5/S7 application programs permanently. This programmed module is then inserted into the prepared slots of the automation systems.

Ethernet

Local network with bus structure for data communication with a data transmission rate of 10/100/1000 Mbit/s.

Formatting

Partitioning of memory space on a magnetic data carrier into tracks and segments. Formatting deletes all data on a data carrier. All data carriers must be formatted prior to their first use.

Gender changer

The Gender changer 25-pin male / 25-pin male is used to convert the COM1/V24/AG interface of the SIMATIC PC family into the common 25-pin male connector.

Motherboard

The motherboard, as the central part of the computer, processes and stores data, controls and manages interfaces and peripheral devices.

Main memory

The main memory represents the complete RAM area on a PC/PG.

Hub

A term from network technology. A device which joins communication lines at a central location and provides a common connection to all devices on the network.

Image

An image is, for example, an image of hard disk partitions. Save the image in a file in order to restore it as needed.

Interface

See Interface.

Cold restart

A start sequence, starting when the computer is switched on. During a cold restart, the operating system carries out basic hardware checks and then boots.

LPT interface

The LPT interface is a parallel centronics interface to which a printer is connected, for example.

Plug and play

Through plug and play, the computer configures itself automatically to be able to communicate with peripheral devices, e.g. screens, modems and printers. User connects a peripheral device: plug. Afterwards, the peripheral device can be used immediately. play, without having to configure the operating system manually. The plug and play PC requires both a BIOS that supports plug and play and a corresponding expansion card.

Recovery CD/DVD

Contains tools for installing drivers in hard disks and Windows operating systems.

Restore CD/DVD

The Restore CD/DVD is used to restore the system partition or the entire hard disk to factory state if the system has crashed. The bootable CD/DVD contains all the necessary image files. They create a start diskette which restores the factory state through the network drive.

ROM memory

Read Only Memory The ROM memory is a read only memory in which every memory location can be addressed individually. The programs or data are permanently stored and are not lost in the event of a power failure.

Idle state

The screen and hard disk are shut off during idle state. All data located in the RAM is stored on the hard disk and the PG is shut off.

Interface

The connection of individual hardware elements, e.g. programmable controller, PCs, programming device, printer, or screen, by means of physical plug connectors.

Connection between different programs in order to exchange data.

Drivers

Program parts of the operating system. They adapt user program data to the specific formats required by peripheral devices, such as hard disk, monitors, and printers.

V.24 interface

The V.24 interface is a standardized interface for data transfer. Connect printers, modems, and other hardware components to the V.24 interfaces.

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