

SIEMENS

SIMATIC Power PG P4

Getting Started

Edition 02/2004

First Steps in Commissioning



Safety guidelines

This Getting Started contains notices intended to ensure personal safety, as well as to protect the products and connected equipment against damage. These notices are highlighted by the symbols shown below and graded according to severity by the following texts:



Danger

indicates that death, severe personal injury or substantial property damage will result if proper precautions are not taken.



Warning

indicates that death, severe personal injury or substantial property damage can result if proper precautions are not taken.



Caution

indicates that minor personal injury can result if proper precautions are not taken.

Caution

indicates that property damage can result if proper precautions are not taken.

Notice

draws your attention to particularly important information on the product, handling the product, or to a particular part of the documentation.

Qualified Personnel

Repair, maintenance and servicing of device only to be carried out by qualified personnel. Qualified persons are defined as persons who are authorized to commission, to ground, and to tag circuits, equipment, and systems in accordance with established safety practices and standards.

Correct Usage

Note the following:



Warning

This device and its components 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.

This product can only function correctly and safely if it is transported, stored, set up, and installed correctly, and operated and maintained as recommended.

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Disclaim of Liability

We have checked the contents of this manual for agreement with the hardware and software described. Since deviations cannot be precluded entirely, we cannot guarantee full agreement. However, the data in this manual are reviewed regularly and any necessary corrections included in subsequent editions. Suggestions for improvement are welcomed.

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Technical data subject to change.

This Getting Started offers you step by step instructions on how to install and start SIMATIC Power PG P4.

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The references to the manual are intended to give you an initial overview of the information in the manual.

Electronic Manual

You can find the electronic manual on the included CD "Backup PG" under the filename "HBPowerPG_b.pdf". This manual offers information on many useful topics, for example, on optional hardware expansion, modification of the device configuration and technical data.

To read or to print out the manual you need the Adobe Acrobat Reader. The Adobe software is preinstalled on the PC and can also be installed from the CD "Backup PG".

The manual also includes declarations of conformity with regard to safety and EMC requirements.



Warning

To avoid damage to assets and for the sake of your own personal safety, please take note of the information on safety in this user guide and in the electronic manual. These notes are partially highlighted with triangular warning signs. They are presented in different ways and in accordance with the degree of risk.

Hotline Services

SIMATIC Hotline open round the clock, worldwide:

<p>Worldwide (Nuernberg) Technical Support</p> <p>24 hours a day, 365 days a year Phone: +49 (180) 5050-222 Fax: +49 (180) 5050-223 E-Mail: adsupport@siemens.com GMT: +1:00</p>		
<p>Europe / Africa (Nuernberg) Authorization</p> <p>Local time: Mon.-Fri. 7:00 to 17:00 Phone: +49 (180) 5050-222 Fax: +49 (180) 5050-223 E-Mail: adsupport@siemens.com GMT: +1:00</p>	<p>United States (Johnson City) Technical Support and Authorization</p> <p>Local time: Mon.-Fri. 8:00 to 17:00 Phone: +1 (423) 262 2522 Fax: +1 (423) 262 2289 E-Mail: simatic.hotline@sea.siemens.com GMT: -5:00</p>	<p>Asia / Australia (Beijing) Technical Support and Authorization</p> <p>Local time: Mon.-Fri. 8:00 to 17:00 Phone: +86 10 64 75 75 75 Fax: +86 10 64 74 74 74 E-Mail: adsupport.asia@siemens.com GMT: +8:00</p>
<p>The languages of the SIMATIC Hotlines and the authorization hotline are generally German and English.</p>		

Unpacking the SIMATIC Power PG P4

Unpack your SIMATIC Power PG P4 as follows:

1. Remove the packing.
2. Do not throw the original packing away. Keep it in case you have to transport the unit again sometime in the future.

Checking the Contents

3. Check with the packing list to make sure no components are missing.
4. Check the packing and its contents for any shipping or transport damage.
5. Please inform your local dealer of any shipping or transport damages and of outstanding items indicated on the packing list.

Entering the Serial number (S VP...) and the Ethernet address

6. Enter the **serial number** (S VP...) and the **Ethernet address** of your programming device in the table below. You can find the serial number on the type label attached to the base of the device. The Ethernet address can be found in the BIOS setup settings in the main menu under the 'Hardware Options' function.

If a PC is stolen and subsequently submitted for repair, the repair center will be able to identify it by these numbers.

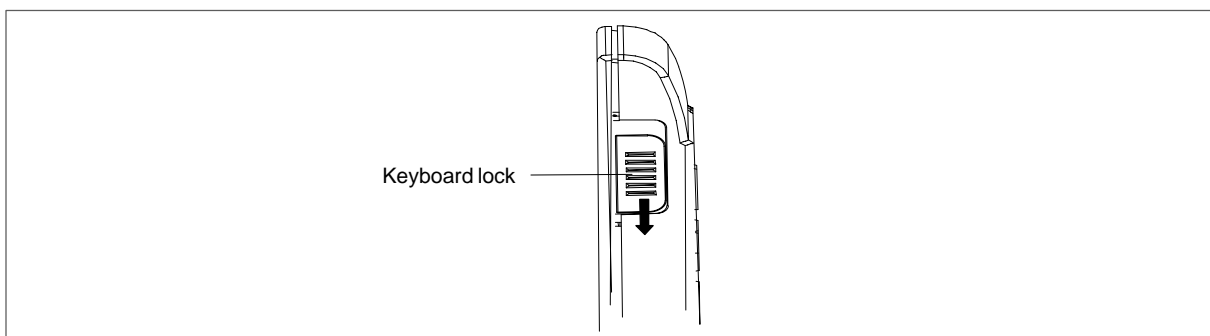
Enter the Microsoft Windows “Product Key” from the “Certificate of Authenticity”

7. Enter the Microsoft Windows “Product Key” from the “Certificate of Authenticity” (COA) in the table. You will find the “Product Key” on the device behind the tiltable display. You need the Windows “Product Key” if you want to reinstall the operating system.

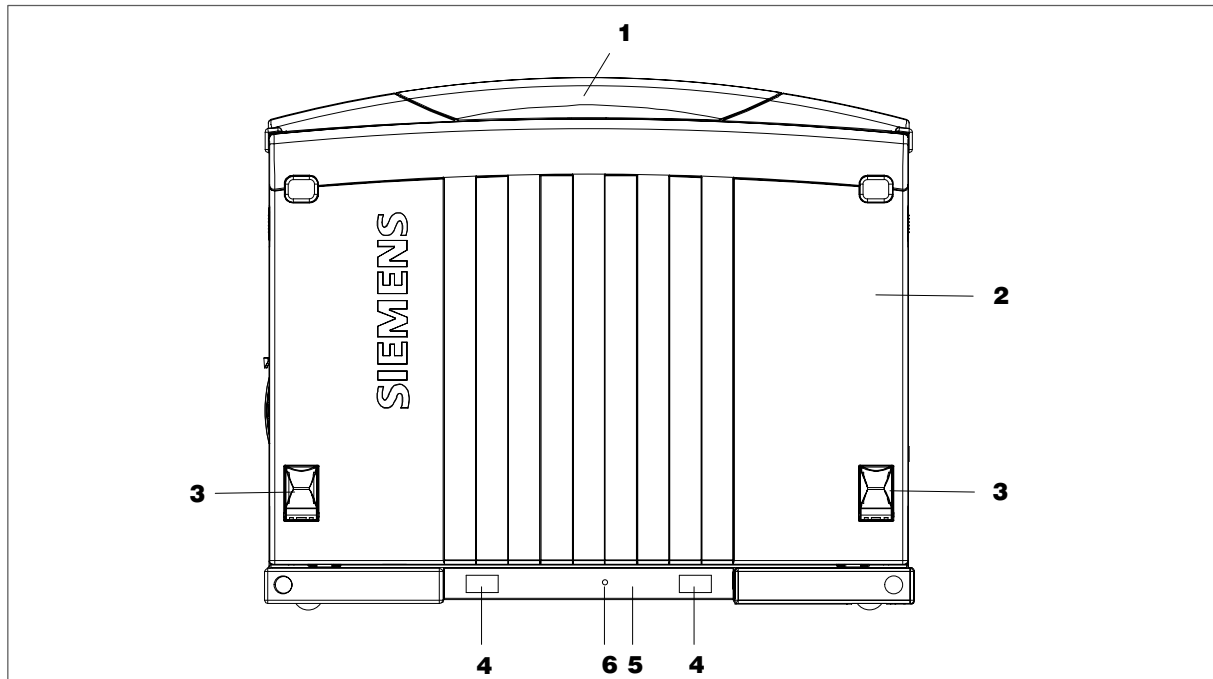
Serial number	S VP...
Order No.	6ES...
Microsoft Windows Product Key	
Ethernet Address	

Installing the SIMATIC Power PG P4

1. Set up the SIMATIC Power PG P4 to ensure safety and a comfortable posture.
2. Pull the slide lock at the side of the display forward to open the display.
3. Remove the keyboard. You can change the angle of the keyboard by folding out the feet.
4. Open the battery compartment in the keyboard and insert the four supplied Mignon cells. Close the battery compartment.
5. Open the display towards the top and adjust it to a comfortable angle of vision. The display can be adjusted within any inclination angle from 0 to 180°.



View with closed display



1 Device handle

Swing-out handle.

2 Keyboard placed in front

The keyboard can be removed and serves as a display cover in a closed state.

3 Adjustment feet of the keyboard

The angle of the keyboard can be adjusted by folding out its adjustment field. This ensures that the ergonomic requirements for ideal working conditions are fulfilled.

4 Adhesive surfaces for keyboard identifier

The supplied labels with the identifier of the corresponding keyboard can be applied to these adhesive surfaces.

5 Receiver unit for keyboard signals

The receiver unit contains the keyboard transmission LED and the infrared receiver for the keyboard signals.

6 LED for keyboard transmission status

Green flashing Keyboard is transferring data.

Red flashing Faulty data transmission from the keyboard or keyboard identifier is wrong.

Red Battery in the keyboard is discharged.

Notice

If the receipt is poor, correct the position of the keyboard to the unit.

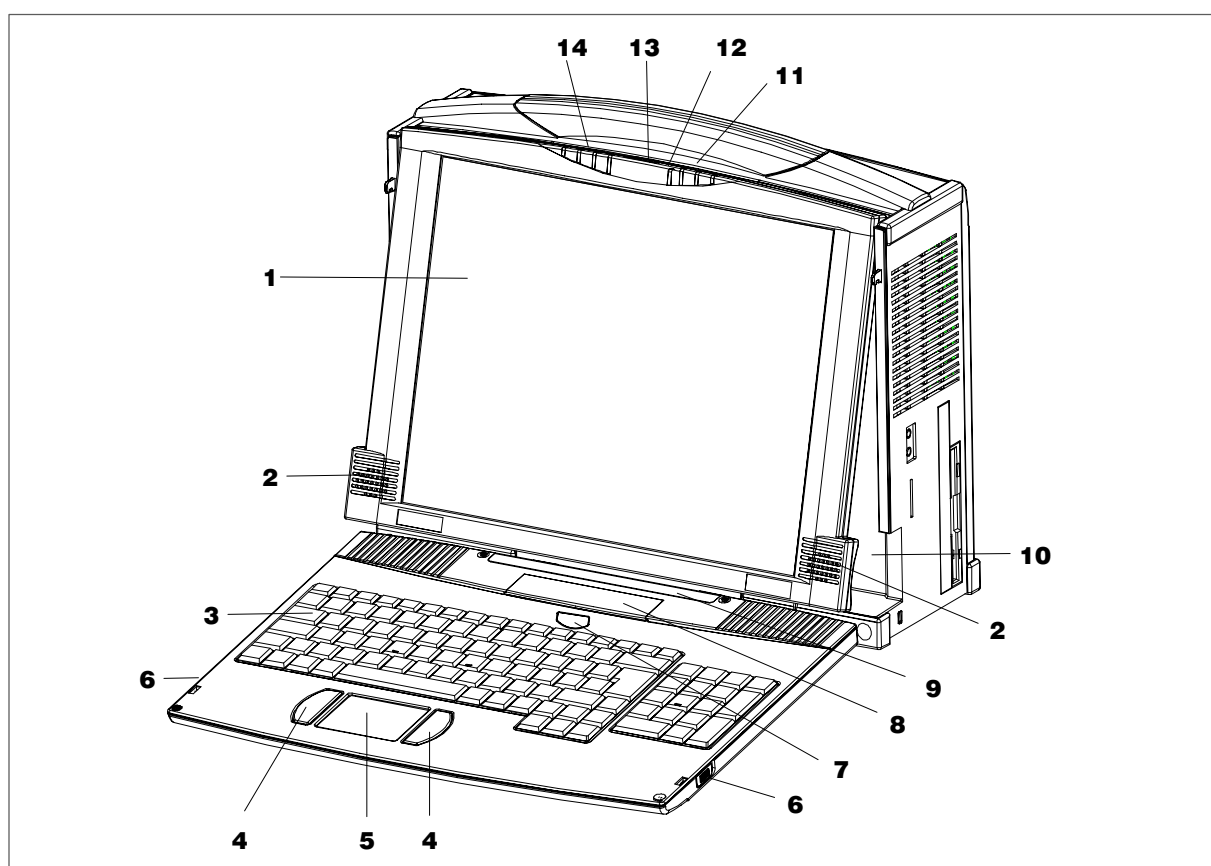
If the LED displays the status "Battery discharged", the batteries in the keyboard have to be replaced. A battery set lasts several months.

The keyboard can be supplied via the USB cable if necessary.

When using a USB cable to connect the touchpad/keyboard with the PG, high frequency interference immunity is limited to office environments (3V/m).

In order to differentiate between various keyboards the keyboard can be assigned to the basic unit. The procedure is described on page 11.

Front View of the Unit Ready-to-operate



1 Adjustable display

The Power PG P4 has a 5" TFT display with a resolution of 1024 x 768 pixels (XGA) or 1400 x 1050 pixels (SXGA+). When the keyboard of the basic unit has been removed, the angle of inclination of the display can be adjusted.

2 Stereo speaker

The speaker outputs system alarm signals and audio signals generated by the software. Loudness is adjusted via speaker icon in the task bar or in the Windows Start menu via [all Programs > Accessories > Entertainment > Volume Control](#).

3 Keyboard

The keyboard consists of 3 key areas: The alphanumeric keyboard field with special keys, the function keys, the numerical keyboard field with the control keys.

4 Mouse buttons

You can use the left or right mouse button to select menu items or process text or graphic objects after having marked the respective object.

5 Touchpad

The touchpad has a pressure sensitive surface for precise mouse pointer positioning. The touchpad function (mouse pointer and buttons) can be toggled on and off with the key combinations Fn + ~, the tap function on the touchpad with Fn + Tab.

6 Keyboard interlock

The keyboard is connected to the base unit with two locks. The slide interlock is mounted at the side of the keyboard.

7 Additional send window for infrared signals of the keyboard

An additional send window ensures improved transmission of the infrared signals.

8 Battery compartment

The battery compartment contains 4 Mignon cells of type AA, LR6 or AM3.




9 Send window for infrared signals of the keyboard

The infrared sender transmits the keyboard signals to the unit. The send window is provided with areas for the keyboard ID stickers.

10 Certificate of Authenticity

"Certificate of Authenticity" with the Microsoft Windows "Product Key". You need this to install new software.

11 Keyboard-LEDs

The keyboard LEDs display the current status of the shift keys Num Lock , Caps Lock  and Scroll Lock . When the unit is powered up, the displays of these keys are actuated briefly. The keyboard is ready for operation.





12 Infrared receiver for the keyboard

The infrared receiver can be used to receive keyboard signals.

13 On/Off-button (Power Button)

Use the On/Off pushbutton to power up the Power PG P4 (into active state) or to switch it from active to inactive state (Off or Hibernate). The Power Button can be parameterized under Windows. The Windows NT versions do not support this power management. *Refer to Chapter 2.5 of the electronic manual.*

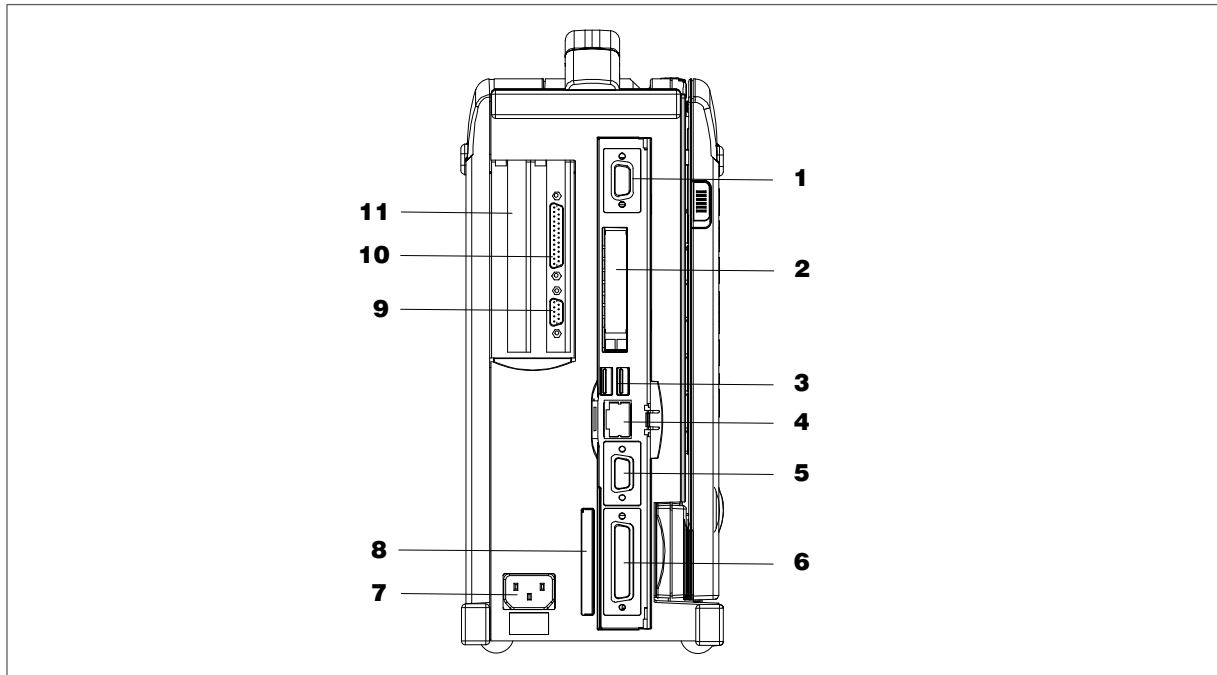
14 System-LEDs

The system LEDs (device , drives , MPI/DP  MPI/DP and Memory Card ) indicate the operate state of the rechargeable battery, unit, drives, MPI/DP and Memory Card interface.

The drive access displays are arranged on the right hand side of the corresponding drives.

For detailed information on the LED displays refer to Chapter 2.4 of the electronic manual.

Left-hand Side View



The connector shaft is positioned behind a hinged door.

1 VGA

You can connect an appropriate external monitor to this connector.

Caution

Ensure the monitor can handle the resolution and refresh rate settings. Otherwise, it can result in damage.

2 PC-Card slots

The PC-Card slots can be used for Cardbus (32 Bit) and PCMCIA (16 bit) cards. You can insert card-size communication modules for MODEM, FAX-MODEM, ISDN, Token Ring, ETHERNET, memory expansions and SCSI interfaces. CardBus Cards are not supported by Windows NT. *Refer to Chapter 3.9 of the electronic manual.*

3 USB 2.0

Two Universal Serial Bus connectors. You can use the USB port to connect external devices, for example, CD drives, printers, modems as well as a mouse and keyboard. The Windows NT versions only support mouse and keyboard.

4 Ethernet

RJ45 Ethernet connector. Ethernet is a local area network with a bus structure for data communication with a data transfer rate of 10 or 100 megabit per second (Mbps).

5 MPI/DP Multipoint Interface

The MPI/DP interface is isolated from line potential. You can use it to connect the SIMATIC Power PG P4 to an S7 automation system or to a PROFIBUS network. *Refer to Chapter 3.11 of the electronic manual.*

6 S5 Online/AG

The COM 1(TTY) interface is used to connect, for example, S5 automation units (AG). *Refer to Chapter 3.10 of the electronic manual.*

7 Inlet connector for non-heating apparatus

The Power PG P4 can be operated at 120V and 230V circuits. The transition is carried automatically.

8 SIMATIC Memory Card interface

This interface can be used to read, program or delete SIMATIC Memory Cards for SIMATIC S5 and SIMATIC S7. The supplied S5 adapter can also be used to program or read out SIMATIC S5 EPROM modules.

9 COM2 Standard V.24

This interface can be used to connect serial interface devices (standard V.24) such as a modem, mouse or printer.

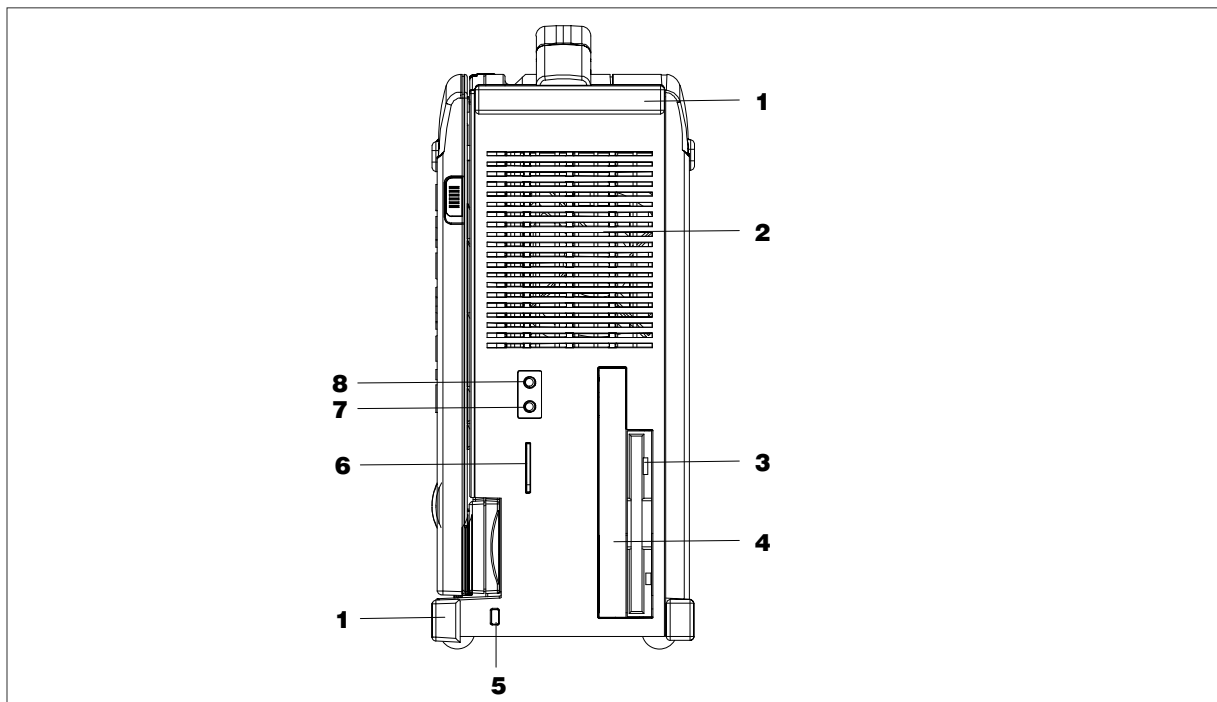
10 LPT1/Printer

The parallel port connection for devices with parallel port (e.g. printer)

11 Expansion slots

The expansion slots are covered by blanking covers. The mounting shaft is covered by a sliding door.

Right-hand Side View



1 Protectors

These are used to protect the corners of the unit.

2 Air venting slots

Here is the ventiduct.



Caution

The ventiducts for outgoing air must not be obstructed. Otherwise, there is a risk of overheating.

3 Floppy disk drive

You can use 3.5 disks with 1.44 Mbytes or 720 Kbytes of memory.

4 Optical drive

Depending on the device configuration, it can come with a DVD/CD-ROM, a DVD-R/-RW or a DVD-ROM/CD-RW drive. For example, you can read the electronic manual of the supplied "Backup PG" CD with this drive.

5 Opening for the Kensington lock

A security cable with a lock is connected to this opening. You can use it to protect your PG against theft by locking the cable to the writing desk or any heavy appliance.

6 SIMATIC Micro Memory Card interface

This interface can be used to read, program or delete SIMATIC Micro Memory Cards.

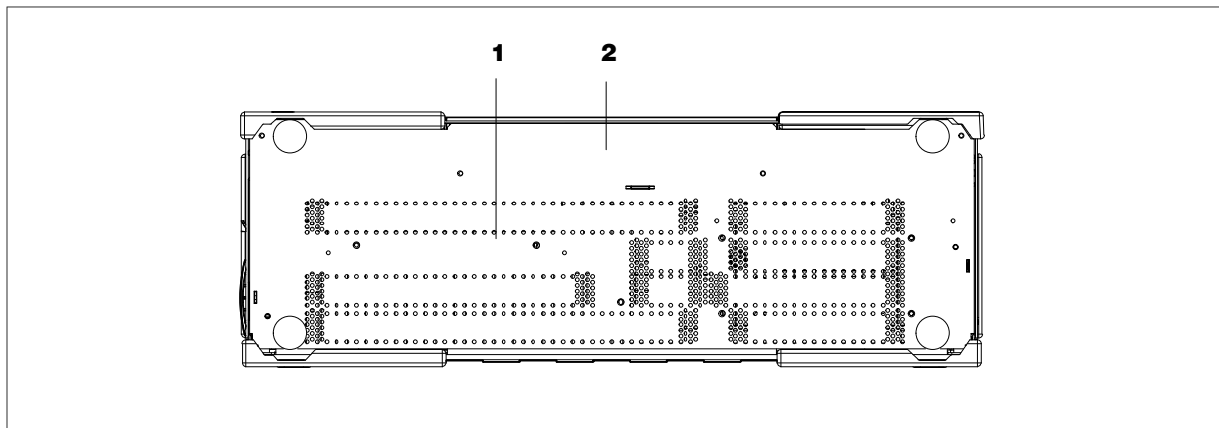
7 Microphone

You can connect an external microphone or another audio output device to this microphone jack.

8 Headphones

You can connect an external stereo headphone or another audio output device to this headphone jack. The internal speaker is automatically disabled when a headphone is connected.

Bottom View



1 Air venting slots

Here is the ventiduct.



Caution

The ventiducts for incoming air must not be obstructed. Otherwise, there is a risk of overheating.

2 Rating plate

The rating plate displays the identification data of your data, e.g. the serial number (S VP...).

Connection to the Power Supply Unit

The SIMATIC Power PG P4 can be operated on 120 V/230 V power supply networks. The power supply automatically selects the voltage.

1. Plug the supplied patch cord into the unit's inlet connector for non-heating apparatus.
2. Connect the power supply to a socket outlet with grounded protective conductor.



Warning

For reasons of safety you must use the patch cord that is included in the delivery. Operation of the unit is only permitted on grounded 120V/230V power supply networks.

Powering Up the SIMATIC Power PG P4

- Press the On-/Off pushbutton (Power Button) to power up the unit.

The operating system and system software supplied with the SIMATIC Power PG P4 are preinstalled on the hard disk. Time consuming installation of the operating system and SIMATIC software programs is not required. Just unpack and power up your unit and you can immediately start your programming tasks without having to take extensive setup actions.

When powering up the device you have to distinguish between the following:

- **Initial start** to set up the SIMATIC Power PG P4's software and a
- **Complete restart** after initial start and software activation.

Initial Start of the SIMATIC Power PG P4

Assigning a New Keyboard Identifier

In the factory setting, your device uses 0 as its specific keyboard ID. A message (ERROR) on your screen however means no specific keyboard ID was given; you are prompted to enter a keyboard ID.

- If you now respond with F1 to this message, the unit continues to operate without a specific keyboard identifier and all the keyboards can act on the unit.
- If you respond with F2 to this message, the system starts the BIOS Setup.

Proceed as follows:

1. Select one of the offered IDs in the menu **Main > Keyboard Features > Keyboard ID:**.
2. Open the keyboard ID menu with the enter key and select a "Num ID" (ID = 0-9) with the cursor keys.
3. After selecting, it is necessary to synchronize the keyboard via the key combination Fn + ALT + ID (ID = 0-9 of the numeric keyboard area).

Example (setting the Num ID to 5):

Select the menu **Main > Keyboard Features > Keyboard ID:** in the BIOS setup. Use the enter key, then the cursor keys to select the Num ID **5** and acknowledge with the enter key. Synchronize the keyboard with the PG via the key combination Fn+Alt+5 .

Powering up to the first time

When powering up the SIMATIC Power PG P4 for the **first** time the operating system is set up automatically (depending on the version delivered: Windows NT, Windows 2000 Professional or Windows XP Professional). Please proceed as follows:

1. Switch on the SIMATIC Power PG P4.
2. The PC executes a self-test. During self-test the following message appears on the screen:
Press <F2> to enter SETUP or <ESC> to show Bootmenu

Wait until the message disappears and follow the instructions displayed on the screen.

3. If necessary, enter your product key. The product key can be found on the device behind the adjustable display in the line "Product Key" of the "Certificate of Authenticity".

Caution

Do not switch off the PG during initial startup. Otherwise, full initialization will fail.
Do **not** change the BIOS default values.

Startup under Microsoft Windows

The operating system is set up once you have entered the requisite information. The **Welcome to Windows** screen helps you to get familiar with the Desktop user interface.

Now, the user interface is displayed following system startup every time you power up or reset the P.

Authorization / License Key

To use the STEP 5 or STEP 7 programming software, you require a product-specific authorization or a License Key. Software protected thus may only be used with the corresponding activation. The authorizations and license keys for the SIMATIC software can be found on the License Key Disk supplied with your PG.

To perform the software activation:

- Insert the License Key Disk in drive A:
- Click on the Windows **Start** button and
- select the menu command **Simatic > License Management > Automation License Manager** to open the Automation License Manager. It will guide you through the installation routine of the authorizations or License Keys onto your hard disk.

Notice

The License Key Disk supplied with the PG contains only authorizations or License Keys for the SIMATIC software you ordered only. The SIMATIC software you receive will correspond to your order form.

The License Key Disk of the supplied version "Upgrade Installation" contains only the software for upgrading already existing authorizations or License Key.

Software without authorizations or a License Key in the scope of supply cannot be used when installed on the PG.

Keep the License Key Disk in a safe place so that you can save the authorizations or License Keys to diskette.

Additional software

You can now install the the supplied operating software for the DVD-ROM, the DVD-ROM/CD-RW or the DVD-R/-RW drive. Place the CD in the drive and follow the instructions on the screen.

Complete restart of the SIMATIC Power PG P4

Once the SIMATIC Power PG P4s operating system is set up, the user interface of the operating system is displayed following system startup every time you switch on or reset the PC.

Starting the SIMATIC software programs

STEP 5 (does not exist on all delivered versions)

- Click **Start** on the Windows task bar and select the desired program choosing **Simatic > STEP 5**.
Please note that you have to install the authorization disk before working with STEP 5.

STEP 7

- Click on the icon **SIMATIC Manager** on the Windows desktop or
- Click **Start** on the Windows task bar and select the desired program choosing **Simatic > STEP 7**.

Note

The transfer of a STEP 7-configuration from one PG to another is supported by the archive/retrieve options in STEP 7.

Open the SIMATIC Manager. For the transfer select the menu command **File > Archive** or **File > Retrieve**.

The procedure is explained in detail in the Online Help of STEP 7, in the chapter "Steps for File Archiving/Retrieval".

STEP 7-Micro/WIN 32

- Click on the icon **STEP7-MicroWIN** on the Windows desktop or
- Click **Start** on the Windows task bar and select the desired program choosing **Simatic > STEP 7-MicroWIN 32**.

Shut down the SIMATIC Power PG P4

Press the On-/Off-pushbutton (Power Button) or select the respective Windows Start menu command to switch the Power PG P4 from normal mode to one of the following modes:

- Hibernate (save to Disk),
- Off (Windows is shut down).

If the unit is shut down under Windows OS it is switched off automatically. If not operated under Windows you can switch the unit off via On-/Off-pushbutton.

Notice

The Windows NT versions do not support the hibernate operating mode. After shut down the Power PG P4 always has to be switched off via the Power Button.

Hold down the On-/Off pushbutton for more than 4 seconds to trigger the "Override" function. The device is switched off.

For details on operate states refer to Chapter 2.5 in the electronic manual. We strongly recommend to read this chapter.

Note

Via **Setup > Control Panel > Power Management** under Windows 2000 and Windows XP you can parameterize the reaction of the On-/Off-pushbutton and of the display lid.

To isolate the unit totally from the power supply network, you must unplug the patch cord and remove the rechargeable battery. *Refer to Chapter 3.2 in the electronic manual.*

Reinstallation of the Software

In case of software errors reinstall your software using the Recovery CD, the Backup PG CD and the Restore CD.

Recovery CD: contains the tools for installing the hard disk and the operating system.

Backup PG CD: contains the documentation, the SIMATIC Software and the hardware drivers.

Restore CD: contains an hard disk Image file with the original delivery software (Operating system with installed hardware drivers).

To restore the delivery state, proceed as follows:

- Insert the **Restore CD** in the drive, restart the device and press the **ESC button** when the BIOS message "Press <F2> to enter Setup" is output. After initialization, a "Boot Menu" is displayed.
- Press Enter to confirm your entries.
- Select the **CD-ROM Drive** using the cursor.
- Now follow the instructions on the screen.

Caution

All the existing **data, programs, user settings** and **authorizations or License Keys** on the drives **will be deleted** in the process and will thus be lost.

You will find the description of the functions in the README.TXT file on the Restore CD.

Error Diagnosis

The information in the following section offers support for you to diagnose and partially remedy common errors by yourself.

Error/Cause	Remedy
Power-ON LED is not lit	
<ul style="list-style-type: none">• PG is switched off and power supply is disconnected.• Power supply connection error	<ul style="list-style-type: none">• Push the Power Button• Check the connection to the power supply, mains cable, mains plug
External monitor stays dark	
<ul style="list-style-type: none">• LCD enabled is entered in SETUP	<ul style="list-style-type: none">• CRT enabled or SIMULTAN entered in SETUP
The message: "Invalid configuration information... Press the F1 key for continue, F2 to run Setup utility" appears on the display/monitor	
<ul style="list-style-type: none">• Incorrect configuration data	<ul style="list-style-type: none">• Press the "F2" key, check the configuration data in the Setup program, enter default values if necessary, check error messages in the first Setup mask
The message: "No boot device available" appears on the display/monitor	
<ul style="list-style-type: none">• No bootable disk in the drive• Wrong hard disk type entered in Setup	<ul style="list-style-type: none">• Use the "Fixed Disk Function" in the Setup program
The message: "Keyboard stuck key failure" appears on the display/monitor	
<ul style="list-style-type: none">• A blocked key was found during the system self-test of the keyboard	<ul style="list-style-type: none">• Check keyboard• Restart system
Every time a key is pressed, a beep sounds without characters being displayed	
<ul style="list-style-type: none">• Keyboard buffer overflow	<ul style="list-style-type: none">• <CTRL > <PAUSE>

< \ > Key does not exist	
<ul style="list-style-type: none"> • Incorrect keyboard driver being used 	<ul style="list-style-type: none"> • Load correct keyboard driver <ALT> <9>< 2>
Entered characters are not transmitted correctly by the keyboard	
<ul style="list-style-type: none"> • Transmission path is faulty LED for keyboard transmission status flashes red • Battery set in the keyboard is discharged LED for keyboard transmission status lights up red • Keyboard and device have different identifications 	<ul style="list-style-type: none"> • Align the keyboard better to the device • Replace the battery set or connect the keyboard via the emergency cable to the USB port • Assign keyboard ID correctly (see Section 2.2.1 of the electronic manual)

Further Support and Sales Information

If you have further questions on how to use the SIMATIC Power PG P4, please contact your Siemens representative or the SIMATIC Hotline:

- You can obtain general up-to-date information in the **Internet** under <http://www.siemens.com/simatic-pg>
- You can find your local partner for Automation & Drives in our Partner Database in the **Internet** under the URL <http://www.siemens.com/automation/partner>

Repair Centers

Country	City	Code	Phone	Fax
Argentina	Buenos Aires	+54	11 4738 7323	11 4738 7279
Australia	Melbourne	+61	3 9721 7519	3 9721 7500
Austria	Vienna	+43	0 51707 23235	0 51707 53730
Belgium	Huizingen	+32	2 536 4971	2 536 6851
Brazil	Sao Paulo Lapa	+55	11 3833 4455	11 3833 4848
China	Shanghai	+86	10 64719990	10 64719991
Czech Republic	Mlada Boleslav	+420	326 713 888	326 713 889
Denmark	Copenhagen	+45	4477 4844	4477 4005
Finland	Helsinki	+358	10 511 3835	10 511 3661
France	Paris	+33	0 821 801 144	
Germany	Augsburg	+49	821 2595 248	821 2595 252
Germany	Berlin	+49	30 386 33212	30 386 34947
Germany	Bielefeld	+49	521 291 479	521 291 538
Germany	Bremen	+49	421 364 2111	
Germany	Chemnitz	+49	371 475 3870	371 475 3877
Germany	Erlangen	+49	9131 7 34219	9131 7 35263
Germany	Essen	+49	201 816 1382	201 816 1522
Germany	Hamburg	+49	40 2889 2938	40 2889 4362
Germany	Hamburg	+49	40 2889 2061	40 2889 3618
Germany	Hannover	+49	511 877 2241	511 877 1320
Germany	Karlsruhe	+49	721 595 4183	721 595 8709

Country	City	Code	Phone	Fax
Germany	Cologne	+49	221 576 2997	221 576 3112
Germany	Leipzig	+49	341 210 2049	341 210 2480
Germany	Mannheim	+49	621 456 1334	621 456 3334
Germany	Munich	+49	89 9221 6213	89 9221 4080
Germany	Nuremberg	+49	911 654 6117	911 654 6125
Germany	Saarbrücken	+49	681 386 2145	681 386 1066
Germany	Stuttgart	+49	711 137 6001	711 137 6203
Great Britain	Manchester	+44	161 446 6400	161 446 5232
India	Bombay Mumbai	+91	22 4949838	22 4931358
Italy	Milan	+39	02 24362000	02 24362100
Japan	Tokyo	+81	3 3570 3050	3 3570 3066
Mexico	Mexico D.F.	+52	5 328 2060	5 328 2058
Netherlands	The Hague	+31	70 333 3515	70 333 3414
Philippines	Makati City	+63	2 814 9685	2 814 9894
Poland	Warsaw	+48	22 870 9162	22 870 9149
Portugal	Lisbon	+351	21 417 8823/8824/8843/8875	21 417 8050
Russia	Moscow	+7	0 95 737 2416	0 95 737 2398
Singapore	Singapore	+65	6490 8866	6490 8867
South Africa	Johannesburg	+27	12 309 0162	12 309 0142
South Korea	Seoul	+82	2 5277 797	2 5277 875
Spain	Madrid	+34	91 514 8400	
Sweden	Stockholm	+46	8 728 1100	8 728 1411
Switzerland	Zurich	+41	0 848 222/811	0 848 815
Taiwan	Taipei	+886	2 2376 1849	2 2378 8959
Thailand	Bangkok	+66	2 715 4141	2 715 4871
USA	Johnson City, TN	+1	423 262 2510	423 262 2337