SIEMENS

SIMATIC PC

Panel PC Industrial Lite

Start-Up Instructions

Edition 08/02

A5E00152083-01

Safety Guidelines

This manual contains notices which you should observe to ensure your own personal safety, as well as to protect the product and connected equipment. These notices are marked as follows according to the level of danger:

Danger

indicates an imminently hazardous situation which, if not avoided, **will** result in death or serious injury.

Warning

indicates a potentially hazardous situation which, if not avoided, **could** result in death or serious injury.

Caution

used with the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

Caution

used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

Notice

indicates that unwanted events or status can occur if the relevant information is not observed.

Note

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

Qualified Personnel

Equipment may be commissioned and operated only by qualified personnel. Qualified personnel within the meaning of the safety notices in this manual are persons who are authorized to commission, ground and identify equipment, systems and circuits in accordance with safety engineering standards.

Correct Usage

Please note the following:

Warning

The device may only be used for the application cases specified in the catalog and the technical description and may only be used in combination with third-party equipment and components recommended or approved by Siemens.

Startup must not take place until it is established that the machine which is to accommodate this component is conforms with the guideline 98/37 EC.

Appropriate transport, and appropriate storage, installation and assembly, as well as careful operation and maintenance, are required to ensure that the product operates perfectly and safely.

Trademarks

The registered trademarks of the Siemens AG can be found in the preface.

Impressum

Editor and Publisher: A&D PT1 D1

Preface

This manual

This Start-Up Instruction manual is a component part of the documentation for the SIMATIC Panel PC Industrial Lite (subsequently referred to as Panel PC IL).

It describes the most important steps for starting up the Panel PC IL for technicians responsible for the installation.

Caution

The contents of the Panel PC IL Start-Up Instructions are superordinated to those of the Panel PC IL Equipment Manual.

History

Output	Comment
07/01	First edition
08/02	New operating system Modified hardware

Notation

Different font formats simplify orientation within the text:

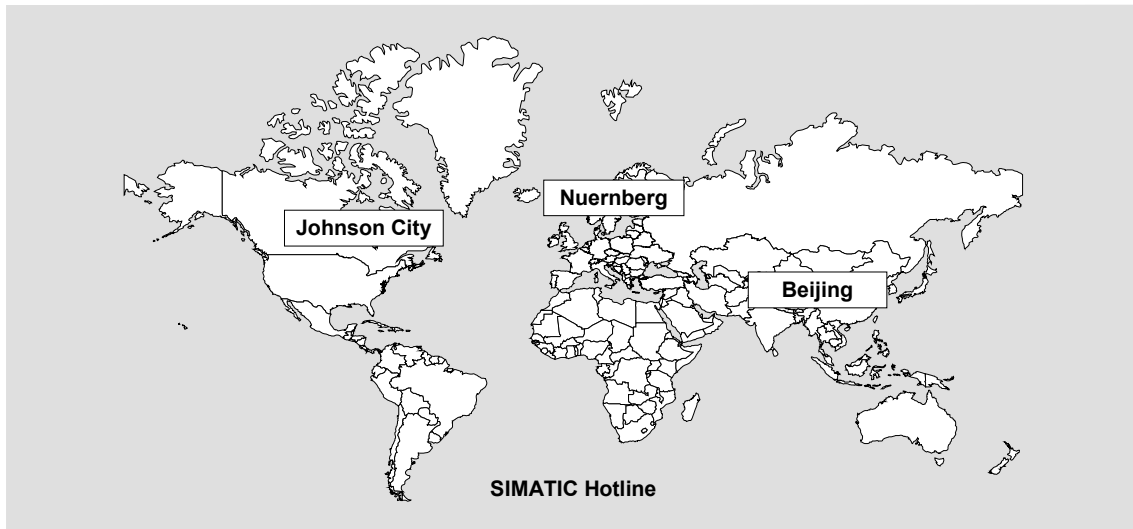|	
`Motor on`	The text on the screen of the operating unit is displayed in typewriter font.
Output	Inputs and outputs on the screen of the operating unit are displayed in italic typewriter font.
File → Edit	Menu items, dialog names, tab controls and buttons of the operating system and the application are displayed in italic font.
	In context with menu items the complete path is always described.

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- SIMATIC Panel PC®
- HMI®
- ProTool®
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GMT: +1:00	GMT: –5:00	GMT: +8:00

The languages of the SIMATIC Hotlines and the authorization hotline are generally German and English.

Service & Support on the Internet

The Service & Support team offers you substantial additional information about SIMATIC products via its online services:

- General current information can be obtained

  - In the Internet under
    http://www.siemens.com/simatic

- Current Product Information leaflets, FAQs (Frequently Asked Questions), Downloads, Tips and Tricks can be obtained

  - In the Internet under
    http://www.siemens.com/automation/service&support

Training Center

Siemens offers a number of training courses to familiarize you with the SIMATIC S7 automation system. Please contact your regional training center or our central training center in D 90327 Nuernberg, Germany for details.

Telephone: +49 (911) 895-3200

Internet: http://www.sitrain.com

E-Mail: info@sitrain.com

Other Sources of Assistance

In case of technical queries, please contact the Siemens representatives in the subsidiaries and branches responsible for your area.

The addresses can be found:

- In the Siemens Catalog ST 80

- In the Internet under
  http://www.siemens.com/automation/partner

- In the Interactive Catalog CA01
  http://www.siemens.com/automation/ca01

Table of Contents

Installing and Hooking Up the Panel PC IL

<div style="text-align: right; font-size: 2em; font-weight: bold">1</div>

1.1   Unpacking and Checking the Delivery Contents

Unpacking

- Check the packaging of the Panel PC IL for visible transport damages.
- Remove the packaging.

Note

Do not dispose of the original packaging – save it for a possible new transportation of the Panel PC IL.

Keep all supplied documents! They belong to the Panel PC IL and are required for the initial startup.

Checking

- Check the contents of the packaging for visible transport damages.
- Should you find any transport damage at the Panel PC IL, contact your sales office immediately.

Registering device numbers

Enter the SVP number (production number) and the MLFB number of the Panel PC IL into the following table.

Both numbers can be found on the manufacturer's name plate attached to the device.

SVP number	
MLFB number	

By means of the SVP number and the MLFB number, the device can be identified by the service point in case of any repairing required.

1.2 Transportation

Despite the solid construction of the Panel PC IL, the included components are sensitive to excessive shocks and impacts. Therefore protect the Panel PC IL against excessive mechanical stress during transportation.

Caution

Danger of damages to the Panel PC IL!

Ensure that no condensation is formed on the device when transporting it during cold weather periods or when it is exposed to extreme deviations of temperature.

Before commissioning, the device must be brought slowly to room temperature. In case of condensation, wait approximately 4 hours before switching on the device.

In order to ensure that the Panel PC IL operates reliably and safely, it must be transported, stored, assembled and installed according to the information in the Start-Up Instructions manual and must also be operated and maintained properly.

Notice

Only use the original Panel PC IL packing for storing, transporting and repacking purposes. Unpack the Panel PC IL at the installation site and carry out the installation work according to the information in the Start-Up Instructions.

Failure to comply with the instructions annuls any rights to claims under the terms of warranty in respect of the Panel PC IL.

1.3 Installing the Panel PC IL

Note

The Panel PC IL is approved for operation in closed rooms.

When installing the Panel PC IL observe Chapter "Technical Data" in the Panel PC Industrial Lite Equipment Manual as well as the following points:

- Place the screen in such a way that it is not exposed to direct radiation by sunlight or other light sources.

- Place the screen in an ergonomic position for the user – select an appropriate installation height.

- The air vents in the housing must not be covered by the installation components.

- Ensure that the cabinet/panel has sufficient volume for the air exchange. The free space around the Panel PC IL must be at least 50 mm. At the rear side, a free space of 20 mm is permissible.

  The max. air temperature at the ventilation inlets of the Panel PC IL must not exceed 45°C.

- Maintain the proper installation positions of the Panel PC IL.

Installation position

Warning

When the Panel PC IL is installed in a position which is not permissible, any allowances according to UL 508 and EN 60950 will expire!

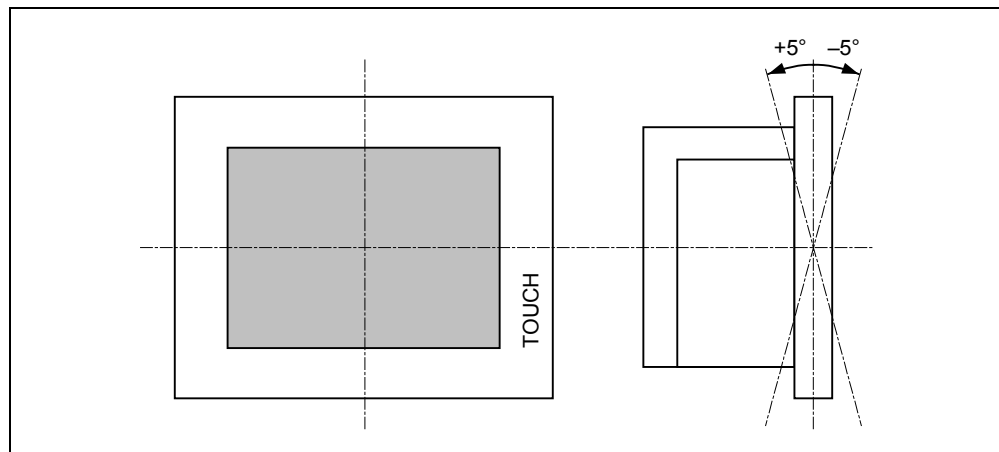For the Panel PC IL, the following installation positions are possible:

Figure 1–1   Permissible installation positions for the Panel PC IL

Vertical installation as well as deviations up to ± 5° in the indicated directions are permitted.

Installation cutout

When selecting the installation cut-out ensure that the switching cabinet/panel contains reinforcement bars to stabilize the installation cut-out. If necessary, install such reinforcement bars.

Caution

The degree of protection complying to IP65 is only guaranteed when a metal plate thickness ≥ 2 mm is used.

An installation cut-out is required corresponding to the following diagram:

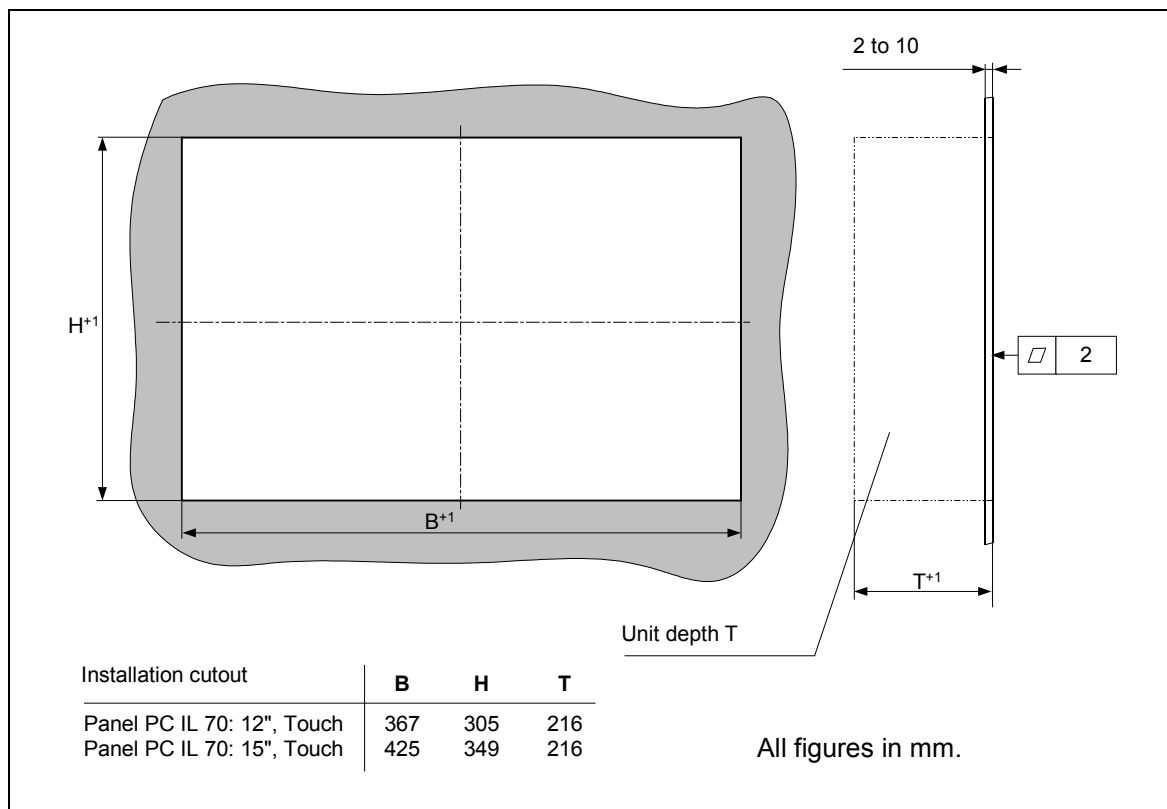| Installation cutout	B	H	T
Panel PC IL 70: 12", Touch	367	305	216
Panel PC IL 70: 15", Touch	425	349	216

All figures in mm.

Figure 1–2   Installation cut-out for standard installation

Note

Ensure sufficient air volume for heat transportation within the switching cabinet/panel. The free space around the Panel PC IL must be at least 50 mm. At the rear side, 20 mm are permissible.

Also ensure free space to pull out the Panel PC IL from the installation cut-out.

Any unevenness in the installation front must not exceed 2 mm.

Installation

Note

Before installing a 12" Panel PC IL, disconnect the monitor cable on the left side of the unit so that it does not hinder the installation of the Panel PC IL.

The Panel PC IL must be fixed in the installation cut-out by means of threaded clamping saddles. This kind of fixation (in conjunction with a continuous seal) meets the requirements for Protection Class IP65.
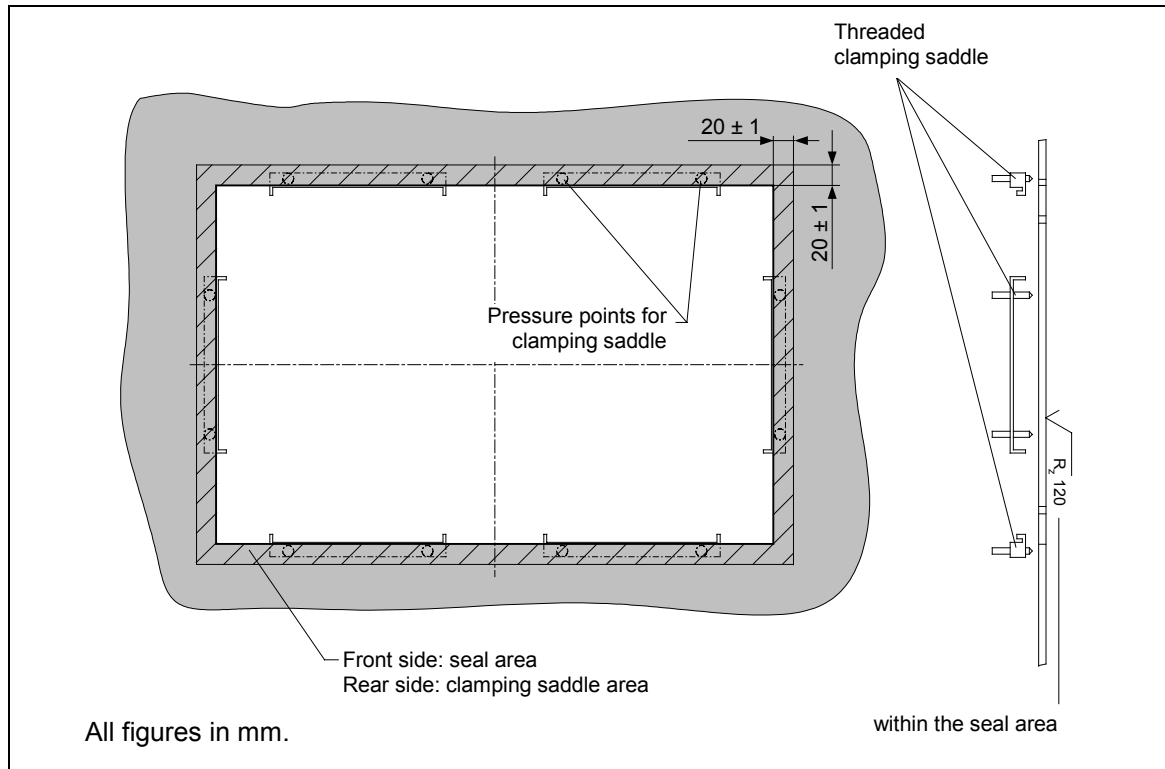

Figure 1–3   Dimensions for installation of the Panel PC IL

Installing the clamping saddles

Clamping saddle are supplied with the Panel PC IL in order to install it. Proceed as follows:

1.   Install the Panel PC IL in the prepared installation cut-out from the front.

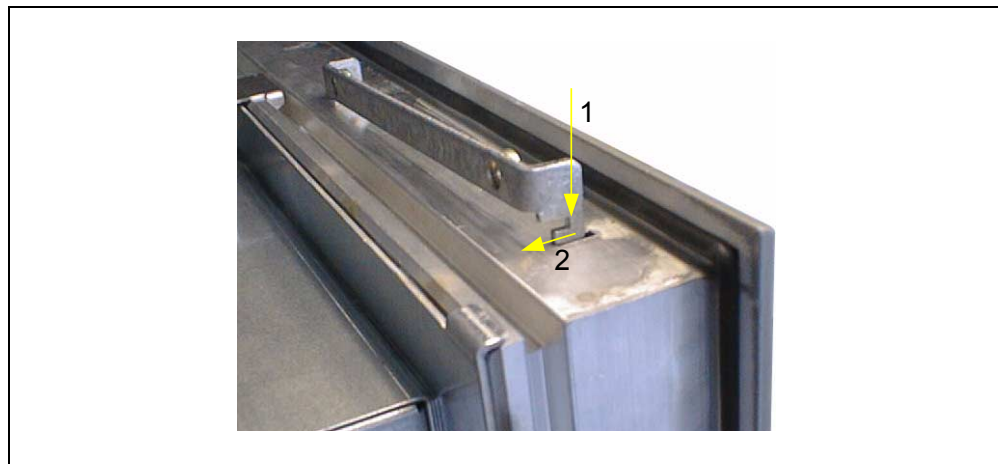2.   Hang on the clamping saddles as shown in Figure 1–4.

Figure 1–4   Installing the clamping saddles

For each Panel PC IL, 6 clamping saddles must be used.

3. Fix the clamping saddles by tightening the two threaded bolts (with a torque of 0,4–0,5 Nm).

4. Only applies to the 12" Panel PC IL:
Connect again the monitor cable and secure the connectors.

1.4 Preparing the Unit for Operation

Danger

The Panel PC IL must only be connected to a socket-outlet with earthing contact.

The unit is provided with a mains switch at the bottom side of the housing (see Figure 1–5). For complete disconnection from mains, the main switch must be switched off.

Note

Ensure that the socket-outlet with earthing contact of the internal installation is freely accessible and is as close as possible to the Panel PC IL.

For the installation in a cabinet, a central power disconnect switch must be provided.

The Panel PC IL can be operated on 115/230 VAC mains power supplies using the power cable provided. The power supply is provided with a manual mains voltage switch-over.

Switching the mains voltage

The mains voltage switch is located at the bottom side of the unit.

The set mains voltage is shown by the figure at the right side of the marking. It is preset to 230 V, as shown in the figure below.
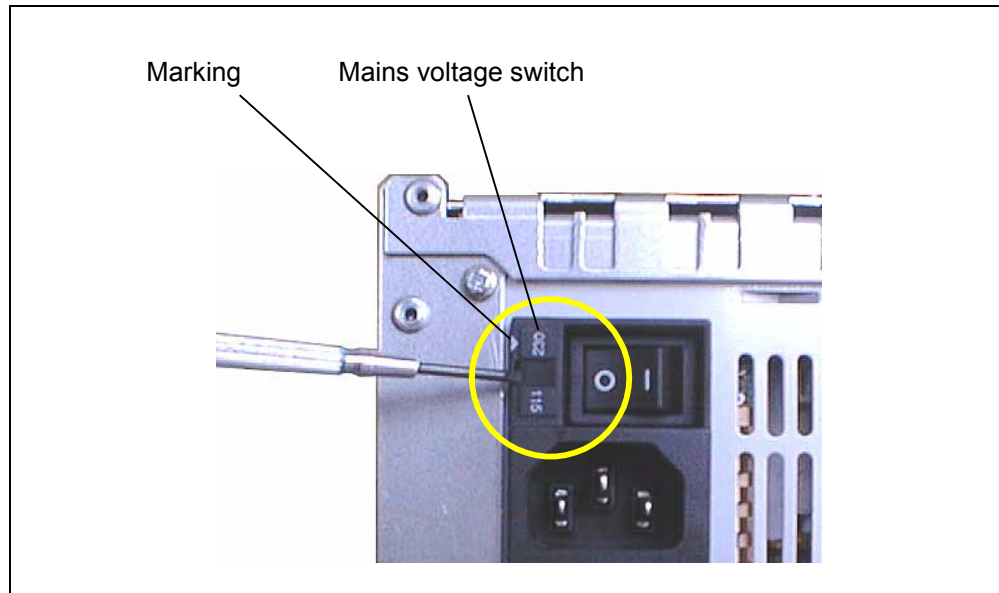

Figure 1–5   Switching the mains voltage

To change the setting, lever out the plug contact from the socket and reinsert it after turning it 180°. The triangle must then point to 115 (for 115 VAC).

1.5   Use of Peripheral Devices

USB components

The Panel PC IL is equipped with a USB interface. The USB interface enables commercially available USB peripheral devices to be connected quickly and easily.

Operating system	USB interface
Windows NT 4.0 TM	Not active
Windows 2000 Professional MultiLanguage	Active
Windows XP Professional MultiLanguage	Active

In this way, for example, an external USB-compliant keyboard and mouse can be connected. If the USB-capable keyboard is also equipped with an external USB port (USB hub), other USB-capable peripheral devices can be connected.

General information

Note

When using standard peripheral devices (USB, PS/2 connection etc.) please take into account that their electromagnetic interference immunity is often only sufficient for office environments. For startup and maintenance purposes, such devices are adequate. However, for the process operation suitable components for industrial environment are recommended.

The peripheral devices (e.g. keyboard, printer) are developed and marketed by individual vendors. Support for the devices is provided via the respective product supplier. The terms of liability of the individual vendors or suppliers shall apply.

1.6 Connection to the Power Supply

⚠️ **Danger**

The Panel PC IL must only be connected to a socket-outlet with earthing contact.

The unit is provided with a mains switch at the bottom side of the housing (see Figure 1–5). For complete disconnection from mains, the main switch must be switched off.

Note

For the installation in a cabinet, a central 'power disconnect' switch must be provided.

The Panel PC IL can be operated on 115/230 VAC mains power supplies using the power cable provided. The power supply is provided with a manual mains voltage switch-over.

1. Connect the provided power cable to the male connector jack at the bottom side of the unit.

2. Connect the provided power cable to socket-outlet with earthing contact.

The device is now ready for operation.

In order to avoid any unintentional disconnection of the plug, it is recommended to use the provided plug lock (see Figure 1–6).
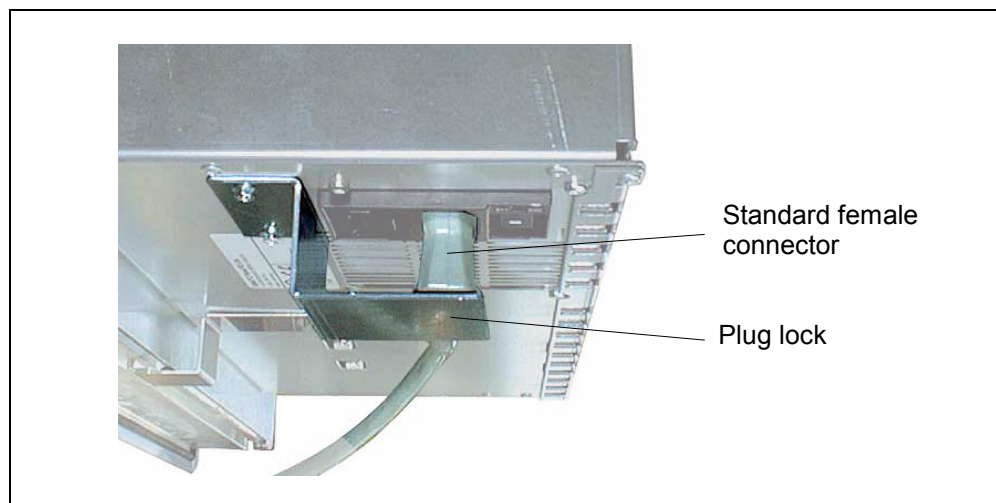

Figure 1–6   Power plug lock

Setting Up and Operating the Panel PC IL $\quad$ **2**

2.1 Operation

Touchscreen front panels

The 12.1" and 15.1" versions of the Panel PC IL differ in their dimensions and display sizes.
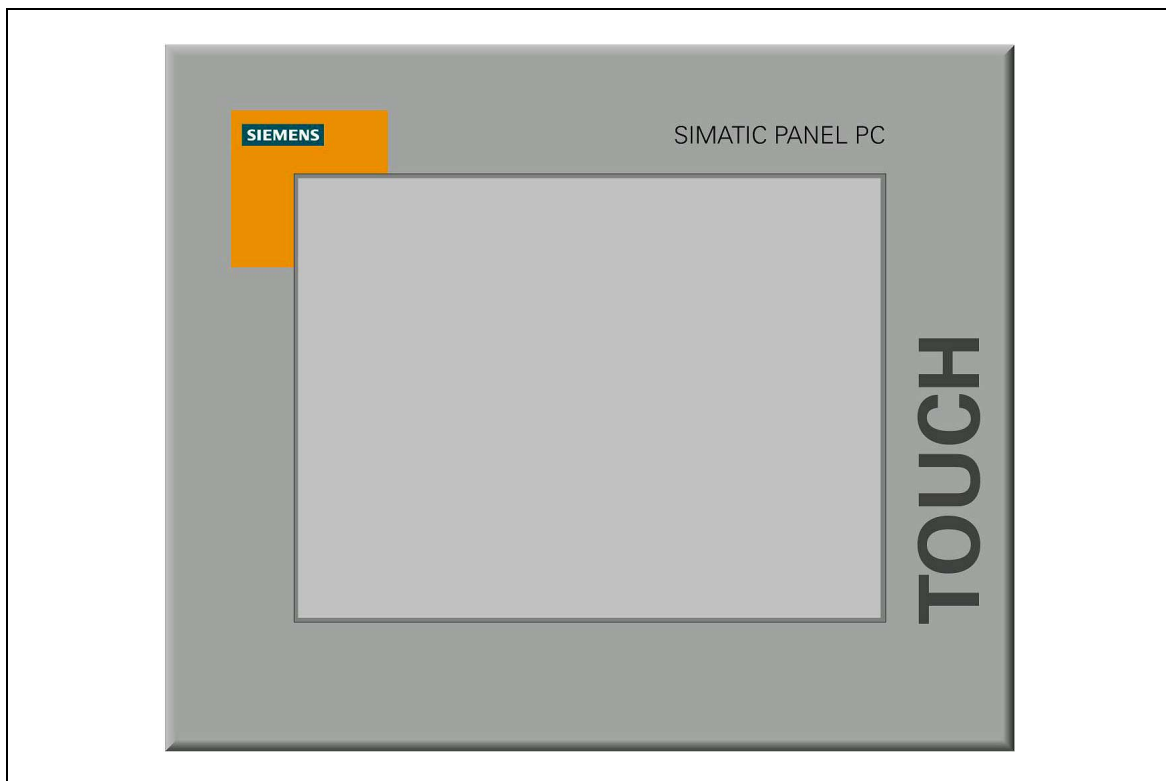

Figure 2–1 $\qquad$ 15" Panel PC IL

The Panel PC IL is operated by touching the touch-sensitive screen which contains application-specific functions, e.g. touching a button displayed.

2.2 Initial Startup and Normal Operation

Checklist before starting up

Before startup, go through the following checklist:

- Do the environmental conditions correspond to those defined in the Chapter "Technical Data" of the Panel PC Industrial Lite Equipment Manual?

- Before switching on the Panel PC IL, check if the mains voltage switch is set to the corresponding voltage of the mains network used (refer to Chapter 1.4).

- Are the peripheral devices connected properly and have all the required presettings been made?

- Are the keyboard and mouse connected for commissioning?

Caution

Danger of damage to the Panel PC IL!

Ensure that no condensation is formed on the device when transporting it during cold weather periods or when it is exposed to extreme deviations of temperature.

Before commissioning, the device must be brought slowly to room temperature. In case of condensation, wait approximately 4 hours before switching on the device.

Notice

Ensure that the Panel PC IL is not exposed to any shocks or vibrations when it is accessing to the CD ROM or floppy disk. Otherwise this could cause damages to the data carrier or the reading unit.

Operating system

The Panel PC IL is delivered without any operating system installed. The operating system is contained on the supplied CD ROM.

The Panel PC IL is currently approved for the following operating systems:

- MS Windows NT 4.0; German, English

- MS Windows 2000 Professional MultiLanguage Version;
  German, English, French, Italian, Spanish,
  Chinese (simplified), Chinese (traditional), Japanese, Korean

- MS Windows XP Professional MultiLanguage Version;
  German, English, French, Italian, Spanish,
  Chinese (simplified), Chinese (traditional), Japanese, Korean

During the installation, the partitions *PROG (C:)* with 4 Gbyte and *DATA (D:)* with 16 Gbyte are set up on the hard disk drive.

Note

The Panel PC IL is optionally available without operating system.

During the installation of a third party operating system, the user must integrate all software components (e. g. drivers) required for the operating system by himself.

Information on the support available when installing an operating system of your choice provided in Internet under Customer Support.

The Panel PC IL offers specific application functions (e. g. touchscreen, virtual keyboard) beyond the functional scope of a standard PC. When a third party operating system is installed by the user, the usability of these application functions cannot be guaranteed, in contrast to a Panel PC IL with operating system supplied by Siemens.

When a third party operating system is integrated on the Panel PC IL, the support service by Siemens can only be done in a small extent.

Install operating system from Restore CD

Note

Set the Mains voltage switch to the supplied mains voltage, if necessary (see Chapter 1.4).
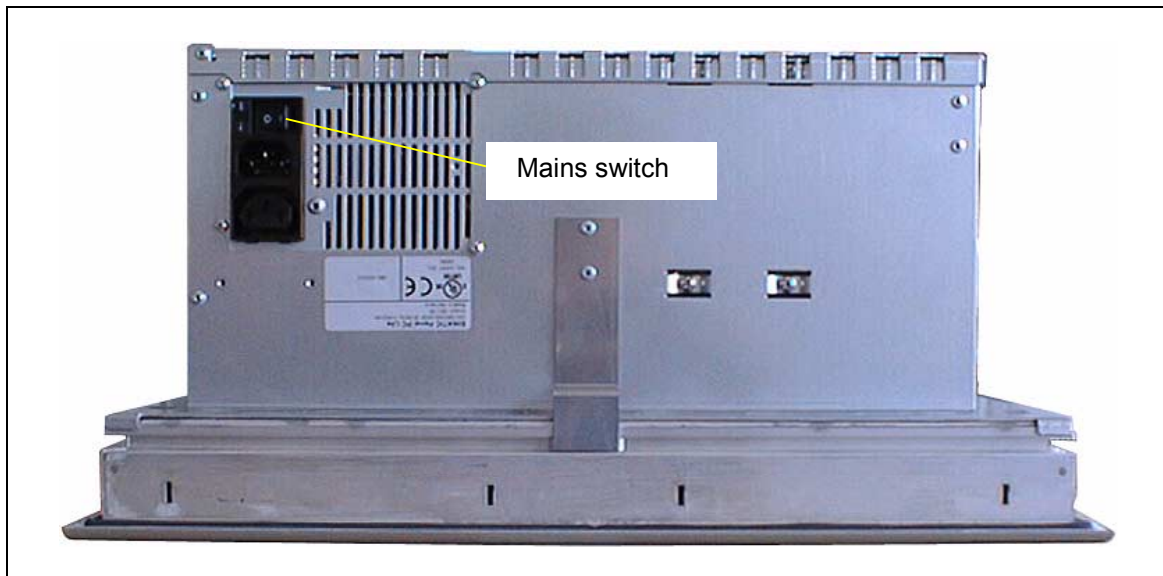

Figure 2–2   Switching on the Panel PC IL (bottom side of the unit)

1. Switch on the mains switch of the Panel PC IL to check its functioning.

   After switching on, the Panel PC IL will perform a self test.

   The Panel PC IL is booted. The message `Operating system not found` appears on the screen to indicate that no operating system has been installed yet.

If the Panel PC IL already contains an installation (in the case of restarting) and it should continue to be used, the operating system is started and the Desktop appears. You can then continue with Chapter 2.3.

2. Insert the Restore-CD supplied in the CD-ROM drive and close it.

3. Press twice the Soft Power key at the left side of the Panel PC IL.
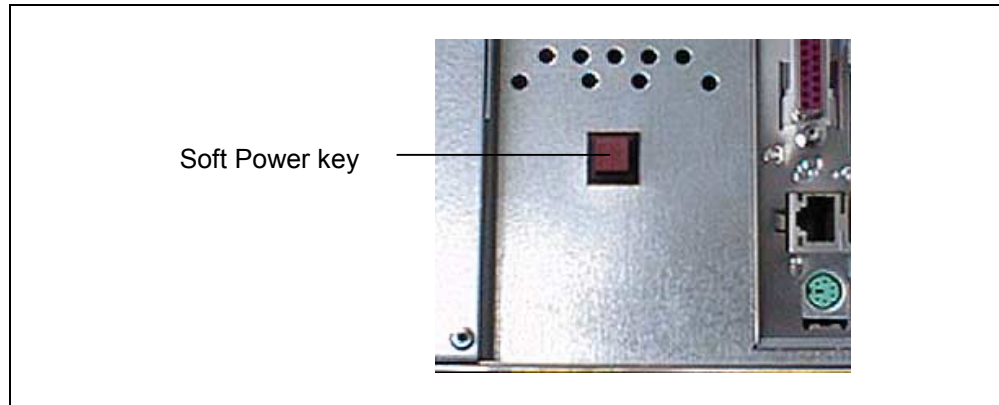

Soft Power key

Figure 2–3   Soft Power key

The Panel PC IL is rebooted. The following message appears on the Panel PC IL during the booting process:

```
!!! WARNING – RECOVERY !!!

Please Choose:
[0]   Full recovery:     Set hard disk to factory
                         defaults.
                         Any data will be destroyed!
[1]   Partial recovery:  Only data on partition C ("PROG")
                         will be destroyed!
[C]   Cancel Recovery
```

Note

Input must not be confirmed by pressing "Enter".

Note

The function of the Soft-Power button is described in the "Panel PC Industrial Lite" Equipment Manual.

The following message finally appears:

```
Please remove the CD and reboot the system.
```

Start the operating system after installation is completed

Note

The procedure below describes an example of the initial start-up of a Panel PC IL using the English version of the Windows 2000 Professional MultiLanguage operating system.

The start-up window of the operating system appears.

In case of new hardware, the dialog for hardware installation appears. Confirm the hardware installation.

Then the Touch software is started automatically (see Chapter 2.3). Follow the instructions.

The start-up window of the operating system reappears. Select and confirm your system settings. The Panel PC IL is booted.

After restart

- the time zone must be set and

- the license contract must be confirmed.

Confirm your settings – the system settings are updated now.

Then, the date/time dialog is opened. Enter the correct date/time, if necessary, and confirm your settings.

Installation or configuration of additional hardware and software components

In order to install or configure additional hardware and software components (e.g. network), please refer to commercially available manuals.

Note

If Windows-specific components need to be installed later, these are provided in the directory *c:\i386*.

Energy-saving mode

In the BIOS, under item *Power,* the menu item *Suspend Timeout* is preset to *Disabled*. Retain the BIOS settings. They are a precondition for the reliable operation of the automated plant or automated system.

Note

The menu item *Suspend Timeout* is not a released function of the Panel PC IL. If you set this menu item to *Enabled*, the Panel PC IL can only be reactivates using the menu item *Resume On Time* under *Power*.

Calibrating the display

For automatic calibration of the display, press briefly the two keys shown in the figure below. Observe the messages on the screen. After calibration, the message window is closed automatically.
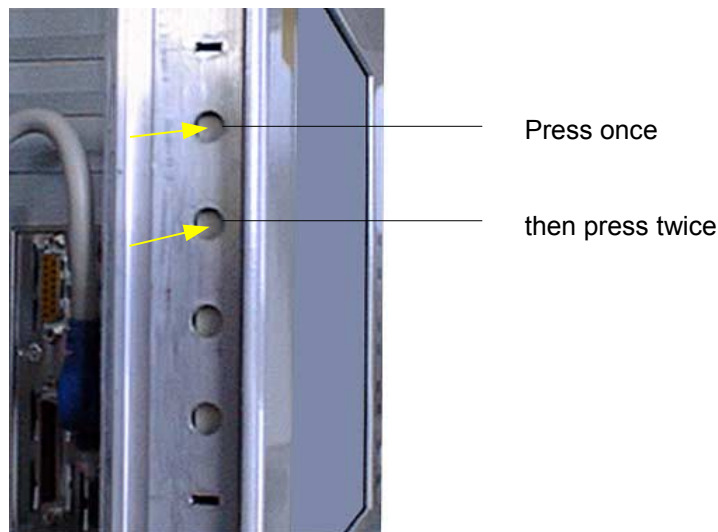

Press once

then press twice

Figure 2–4   Calibrating the display

Screen resolution

The following screen resolutions are permissible for 12" and 15" displays:

	12" display	**15" display**
Screen resolution	800 x 600	1024 x 768
No. of colors, max.	16 mill. (true color)	16 mill. (true color)
Display frequency, max.	56–75 Hz	56–75 Hz
Brightness	340 cdm^{-2}	250 cdm^{-2}
Viewing angle • From right to left • From above • From below	 50° 20° 40°	 75° 55° 70°

Table 2–1   Screen resolution

Note

Only applies to the Panel PC IL 70, 15", Touch:

Set the resolution to 1024 x 768 via *Start → Settings → Control Panel → Display* in window *Display properties,* Tab control *Settings*.

Notice

If a higher resolution is defined under *Control Panel → Display*, tab control *Settings* than listed in Table 2–1, display errors occur.

Press the key combination Ctrl + Alt + Del. Select the *Shut Down* button, the operating system is terminated.

Start the Panel PC IL in VGA mode – the screen resolution can then be set to a permissible value.

Terminating initial start-up

1.   Exit the operating system.

2.   Switch off the Panel PC IL.

3.   Disconnect mouse and keyboard.

This concludes commissioning of the Panel PC IL.

Activation

To switch on the Panel PC IL press the Soft Power key
(see Figure 2–3).

After switching on, the Panel PC IL will perform a self test.

At the conclusion of the self test, the operating system will be loaded and the desktop be displayed.

Special Features, Windows 2000

In order to activate *Auto-Logon*, log in as system administrator. Then perform the following settings:

1.   Select *Start → Settings → Control Panel → Users and Passwords:*

2.   Deactivate the check box *Users and enter user name and password for the computer*.

3.   Apply the settings and enter the password.

Shut Down

1. Exit the operating system.

2. If a disconnection from mains network is required:

Note

Do not disconnect the Panel PC IL from mains network until the operating system has been shut down.

Danger

The mains of the Panel PC IL does only disconnect one pole. For total disconnection of the device switch off the master switch in the switching cabinet/panel or disconnect the mains plug from the Panel PC IL.

Service Pack

Only applies to Windows NT 4.0.

In the case of a Service Pack upgrade, the existing service pack must first be deinstalled.

Access the Service Packs as follows:

- SP6.0a:
  Can be located directly by selecting the *Start* menu and then the directory *c:\sp6*.

- SP5:
  Can be located directly by selecting the *Start* menu and then the directory *c:\sp5*.

The Service Packs are also available on the "Panel PC IL Documentation and Drivers" CD.

2.3   Setting the Touchscreen

Notice

Do not touch the screen:
- during the booting of the PC,
- when plugging USB components in or out
- when the warning message `Do not touch the screen...` appears (wait for at least 1 second after the warning message has disappeared.) and
- when the program *Scandisk* is in progress.

The *Elo Touchscreen* software is automatically called in after installation of the operating system.

Note

After the *Elo Touchscreen* software has been called in, the associated window appears for approx. 20 seconds. The window is then closed without it being calibrated.

If the software needs to be called in later, select *Start → Settings → Control Panel*. A window opens containing the *Elo Touchscreen* software icon.

Note

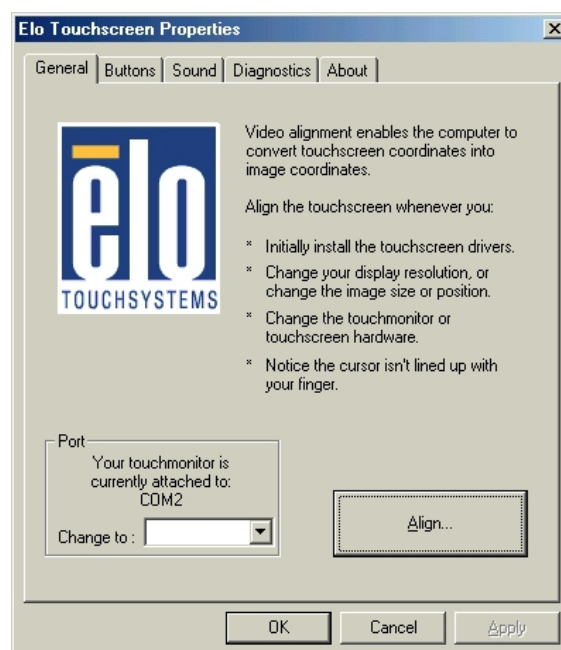Allow the Panel PC IL to warm up for a few minutes prior to calibrating the touchscreen.

Figure 2–5   Elo Touchscreen Properties

1.   Select the button *Align*.
     The following window is opened.

Figure 2–6   Setting the touchscreen

2.   Touch the crosshair with a touch pencil or something similar by applying soft pressure.

Note

Do not use any metal or pointed objects – they might damage the touch foil.

3.   Repeat this procedure for the remaining crosshairs.
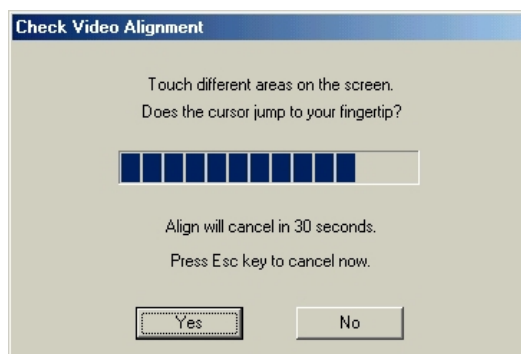   Then, the figure below is displayed.

Figure 2–7   Checking the touchscreen settings

4.   Select *Yes* to save the touchscreen settings.

5.   Close the window *Elo Touchscreen Properties*.

2.4   Special Features with Windows NT 4.0

Screen keyboard (Touchinput software) using Windows NT

The screen keyboard (Touchinput software) must not be specified in *Start → Programs → Autostart*. Otherwise, there may be a delay in starting the screen keyboard during the Panel PC IL 70 boot routine.

Network setup using Windows NT

The DHCP utility is set up during the installation of Windows NT. In its default setting, the DHCP utility is *deactivated*. An IP address is already entered.

In order to implement a network, the computer name must be identical to the DNS host name.

Check or change the DNS host name as follows:

1. Select the buttons *Start → Settings → Control Panel → Network*.
2. Select the *Protocols* tab control.
3. From the network protocols, select: *TCP/IP Protocols*.
4. Click on the *Properties* button and then select the *DNS* tab control.

   The DNS HOST name appears here.

Check or change the computer name as follows:

1. Select the buttons *Start → Settings → Control Panel → Network*.
2. Select the *Identification* tab control.

   The computer name appears here.

If the DHCP utility is to be used, it must be activated:

1. Select the buttons *Start → Settings → Control Panel → Utilities*.

   The *Utilities* window opens.
2. Select *DHCP Client Utility*.

   Double-clicking on it opens the *Utility* window.
3. Select the *Automatic* option button and confirm the selection with *OK*.
4. Close the window which is open.

2.5 Data Backup

The scope of delivery of the Panel PC IL contains the "Restore CD Panel PC IL 70" CD which can be used to reinstall the preferred Siemens installation within approx. 15 minutes.

Notice

There are two options available with which to overwrite the existing installation with the "Restore CD Panel PC IL 70" CD:

- **Full recovery:**
  The entire hard disk is overwritten.

- **Partial recovery:**
  A selected partition can be overwritten. A condition for this is that the partition name and size have not been changed.
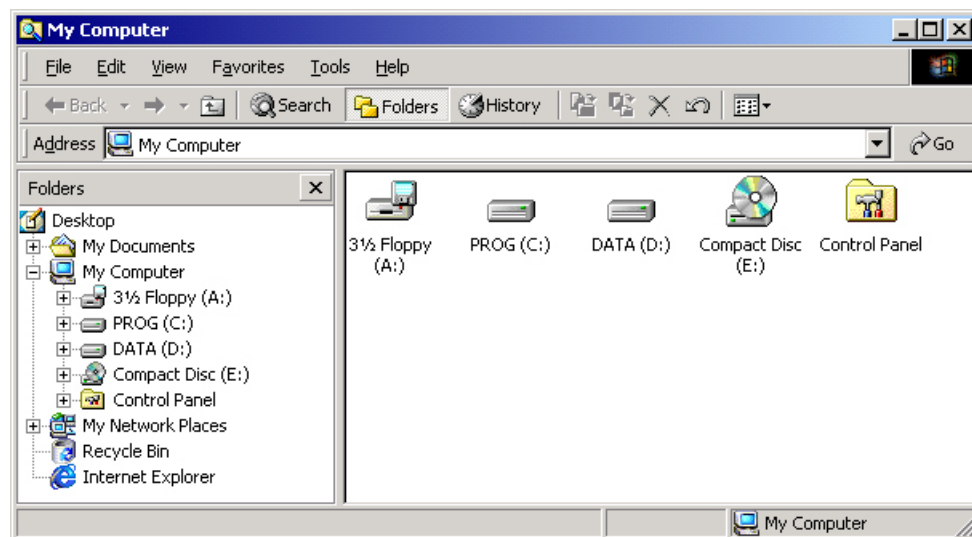
Figure 2–8   Partitions

Only applies to Panel PC ILs purchased with an operating system from Siemens AG.

2.6 Restart

Proceed as described in Chapter 2.2.

Electromagnetic Compatibility

3

The Panel PC IL meets the requirements of German EMC laws as well as European Directives concerning EMC.

The following includes information about the interference immunity of the Panel PC IL and information about the interference suppression:

Interference Emission

Interference emission of electromagnetic fields according to EN 55022: limit value class B, measured from a distance of 30 m.

from 30–230 MHz	< 30 dB (µV/m)Q
from 230–1000 MHz	< 37 dB (µV/m)Q

Radiated interference from AC line power supply according to EN 55022: Limit Value Class B (only 230V device)

from 0.15–0.5 MHz	< 66–56 dB (µV) Q < 56–46 dB (µV) A
from 0,5–5,0 MHz	< 56 dB (µV)Q < 46 dB (µV)A
from 5.0–30 MHz	< 50 dB (µV)Q < 60 dB (µV)A

Limit values EN 61000-3-2, EN 61000-3-2/A1, EN 61000-3-2/A2

	Guideline	Checks to be done
Emissions of harmonic currents	EN 61000-3-2	0,1–2 kHz

Limit values EN 61000-3-3, Corrigendum of DIN EN 61000-3-3

	Guideline	Checks to be done
Voltage deviations and flickers	EN 61000-3-3	P_{si} 1.0; P_H 0.65; d_0 3%, d_{max} 4%; $d_{(t)}$ 3% (t = 200 ms)

Resistance against interference

Limit values EN 61000-6-2

	Guideline	Checks to be done
Electrostatic discharge contact/air discharge	IEC 61000-4-2	4 kV/8 kV
Resistance against interference by electromagnetic high-frequency fields	IEC 61000-4-3	80–1000 MHz 10 V/m 80 % AM (1 kHz)
Electromagnetic HF field, pulse-modulated	IEC 61000-4-3	900 ± 5 MHz 10 V/m 50% ED 200 Hz, Pulse Repetition Frequency
Fast electrical transients – data lines – process data lines (> 30 m)	IEC 61000-4-4	1 kV 2 kV
Resistance against interference by peak voltages – symmetrical – asymmetrical	IEC 61000-4-5	1 kV 2 kV
Resistance against line interference induced by high-frequency fields	IEC 61000-4-6	0,15–80 MHz 10 V/m 80 % AM (1 kHz)
Resistance against interference by magnetic fields with energy-technical frequencies	IEC 61000-4-8	50 Hz 30 A/m
Resistance against interference by voltage drop-downs, short-time-interruptions and voltage fluctuations	IEC 61000-4-11	30 % Red., 10 ms 60 % Red., 100 ms 30 % Red., 1000 ms > 95 % Red., 5000 ms

Faulty pixels in display

The production process for modern flat screens (LCD) does not currently guarantee that all pixels in the screen are error free. As long as it is not a case of an accumulation of locally erroneous pixels, there are no relevant functional restrictions.

The following is permissible:

	Pixel number
Permanently light and permanently dark pixels	≤ 12
Permanently light green pixels	≤ 5

General Information

4

Please observe the following safety-related information on correct handling and disposal of lithium batteries:

Warning

Improper handling of lithium batteries represents a risk of explosion – therefore, lithium batteries:

- should never be recharged
- should never be opened
- should never be short circuited
- should never be reverse poled
- should never be heated over 100 °C
- should be protected from direct sunlight.

Condensation must not form on lithium batteries.

Only replace lithium batteries with those of the same type or one recommended by the manufacturer.

Used lithium batteries do not belong in normal, household waste. They must be disposed of individually as special waste, packed in a sealed plastic bag.

In the case of transport, applicable regulations on dangerous goods must be observed by the respective transporting company (identification requirements).

Abbreviations

AC	Alternating Current
BIOS	Basic Input Output System
CPU	Central Processing Unit
DC	Direct Current
ESD	Electrostatically Sensitive Devices
EMC	Electromagnetic Compatibility
H	Height
HMI	Human Machine Interface
IF	Interface
IL	Industrial Lite
LCD	Liquid Crystal Display
LED	Light Emitting Diode
PC	Personal Computer
PU	Programming Unit
PLC	Programmable Logic Controller
TCP/IP	Transmission Control Protocol/Internet Protocol
TFT	Thin Film Transistor
USB	Universal Serial Bus
VGA	Video Graphics Array
W	Width

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