SIEMENS

SIMATIC

Net Panel 46"

Compact Operating Instructions

Legal information

Warning notice system

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

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

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

> ⚠ **CAUTION**
>
> indicates that minor personal injury can result if proper precautions are not taken.

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

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

Qualified Personnel

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

Proper use of Siemens products

Note the following:

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

Trademarks

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

Disclaimer of Liability

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

Preface

Purpose of this manual

This manual provides information based on the requirements defined by DIN 62079 regarding mechanical engineering documentation. This information relates to the place of use, transport, storage, mounting, use and maintenance.

This manual is intended for:

- Installation personnel
- Operators
- Maintenance personnel

Pay particular attention to the section "Safety instructions and instructions on use (Page 13)".

Required knowledge

General knowledge in the field of automation engineering is required to understand this manual.

Scope of the manual

This document applies to the SIMATIC Net Panel 46" with integrated SIMATIC IPC427D and a pre-installed Windows 7 operating system. This document describes the special technical features of the SIMATIC Net Panel 46" in comparison to the standard device, SIMATIC IPC427D, and applies in conjunction with the SIMATIC IPC427D operating instructions (http://support.automation.siemens.com/WW/view/en/67235073).

The information provided in this document takes precedence over information provided in the operating instructions of the SIMATIC IPC427D.

The following sections from the SIMATIC IPC427D operating instructions apply to the SIMATIC HMI Net Panel 46":

- 1.1.2 Characteristics
- 4 Commissioning the device
- 3.3.7 Connecting the device to networks
- 5 Extended device functions
- 8.7.11 Alarm, error and system messages

Style conventions

The following text notation will facilitate reading this manual:

Notation	Scope
"Add screen"	• Terminology that appears in the user interface, for example dialog names, tabs, buttons, menu commands • Required input, for example, limits, tag values. • Path information
"File > Edit"	Operational sequences, for example, menu commands, shortcut menu commands.
<F1>, <Alt+P>	Keyboard operation

Please observe notes labeled as follows:

Note

A note contains important information about the product and its use or a specific section of the manual to which you should pay particular attention.

Naming conventions

The following naming conventions apply:

Term	Applies to	
Plant	• Machining center • Machine	• System
Device, Net Panel 46"	• All device versions of the Net Panel 46"	

Illustrations in this manual

This manual contains illustrations of the described devices. The illustrations can deviate from the device in details.

Trademarks

The following designations marked with the symbol ® are registered trademarks of Siemens AG:

• HMI®

• SIMATIC®

• WinCC®

Table of contents

Overview

<div style="text-align: right">1</div>

1.1 Product overview

Professional display system for continuous, maintenance-free operation

The SIMATIC HMI Net Panel 46" is an all-rounder when it comes to large displays for industrial areas. The Net Panel is excellently suited for manufacturing, control rooms or for trade shows and information points frequented by persons.

The Net Panel is based on a reliable SIMATIC industrial PC and is designed for continuous, maintenance-free operation round-the-clock in an industrial environment. It is extremely flexible in operation and can be used as a stand-alone solution, or in the network as a complete industrial display system comprising several Net Panels. For applications that require audio signal output, versions of the Net Panel are available with audio support and speakers.

Benefits

- High degree of system availability through maintenance-free industrial design with IP65 degree of protection for continuous operation round-the-clock
- High level of investment protection through rugged industrial products from SIMATIC that will remain available in the long term
- Low costs through low-wear and power-saving LED backlighting.
- Easy and cost-efficient integration into standard network environment – without VGA and DVI/HDMI extensions or expensive video signal extenders
- Optional with audio module and speakers
- Flexible mounting on a support arm system for wall and ceiling mount with inclination angles of up to 20° from the vertical
- Mounting of several devices back-to-back
- RemoteControl software with the following functions:
  - Brightness control
  - Deactivation of the LED backlighting
  - Status messages of the display
  - "Anti-sticking (line move)" function
  - Speaker control
  - Reboot via the network environment

Device variants

- Basic version without speakers
- Basic variant with audio module and speakers
- Basic version with VISATON speakers
- Basic version with BOSE speakers

See also

Technical specifications (Page 39)

Glossary (Page 49)

1.2   Design of the Net Panel 46"

Front view of the Net Panel 46" without speakers
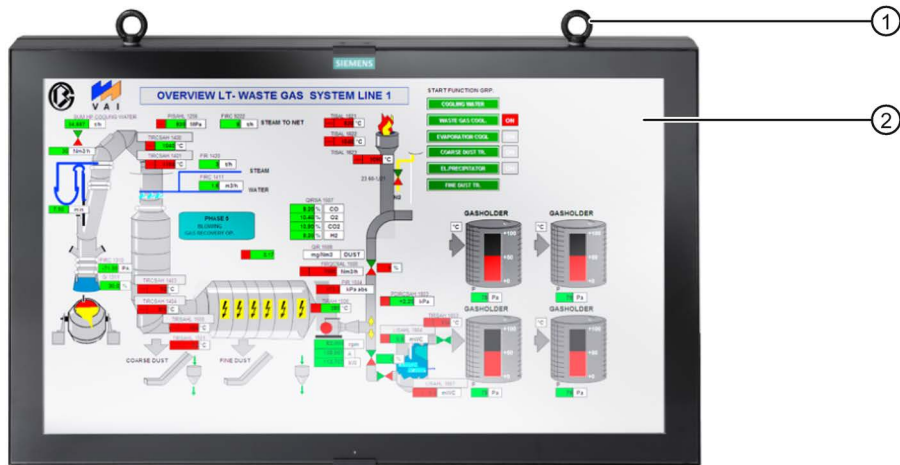
①   Eyebolt
②   Display

Front view of the Net Panel 46" with BOSE speakers
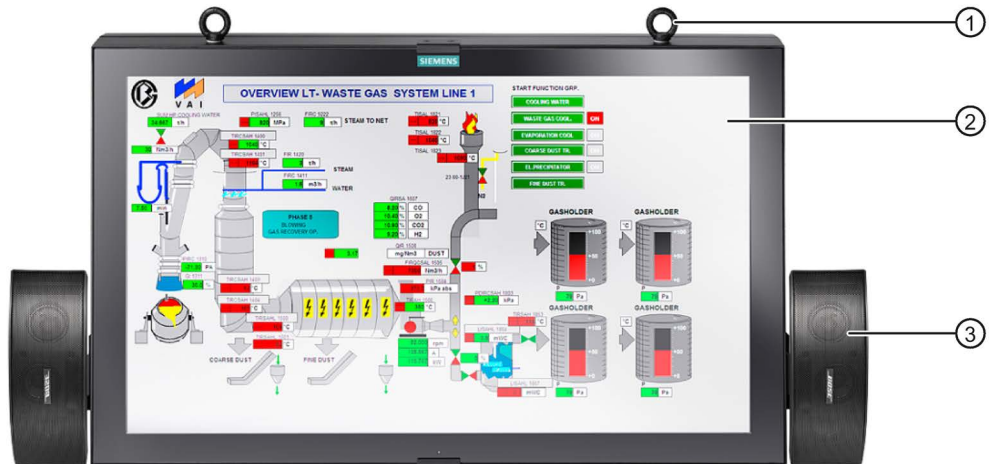
①   Eyebolt
②   Display
③   BOSE speaker

Front view of the Net Panel 46" with VISATON speakers
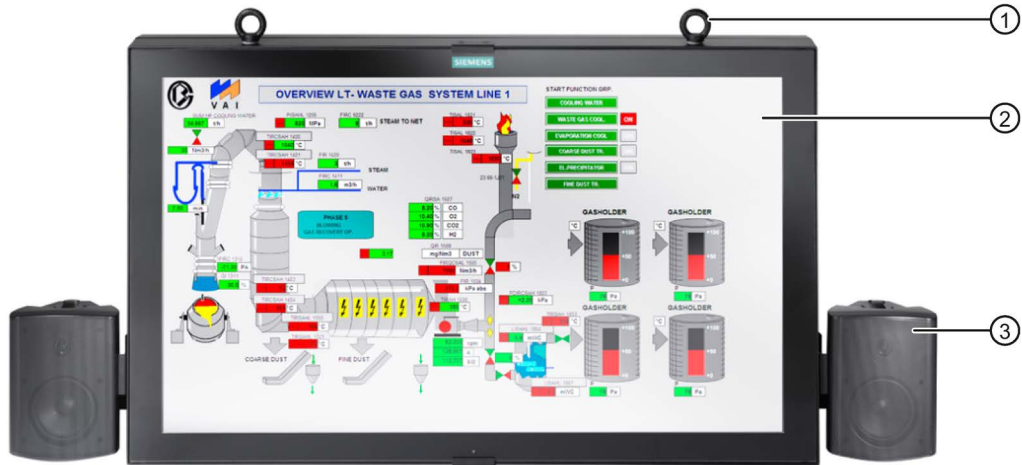
①   Eyebolt
②   Display
③   VISATON speaker

1.3   Interfaces and displays

The following figure shows the interfaces and displays of the Net Panel 46".
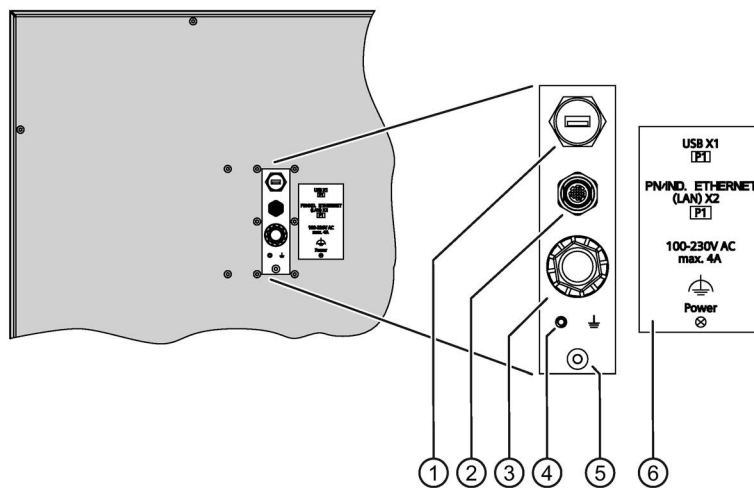
①   USB interface
②   Ethernet interface
③   Connection socket for the power supply
④   Connection for the functional grounding
⑤   LED "Status indicator"
⑥   Interface inscription

1.4 Scope of delivery

The scope of delivery includes a SIMATIC HMI Net Panel 46" and a package with the following components:

- Installation instructions and order form for support arm system
- 2 blanking plugs
- Quick-on connector for the power supply cable
- Wiring instructions for quick-on connector
- Windows license
- Restore DVD with:
  - SIMATIC HMI Net Panel Image
  - "RemoteControl Client" software
  - "RemoteControl Server" software
  - SIMATIC S7 function blocks "Remote Control for S7"
  - Readme file
  - Documentation in PDF format

Device versions with speakers are supplied with a pair of BOSE or VISATON speakers, as ordered, and the associated mounting material.

Windows 7 is installed with RemoteControl on the SIMATIC Net Panel.

1.5 Accessories

Accessories can be ordered from the catalog or the Industry Mall
(https://mall.industry.siemens.com).

You can order the following speaker sets for device variants with audio support or device variants with speakers:

- Speaker set VISATON Net Panel, content:
    - Two VISATON WB13 speakers
    - Two VISATON mounting brackets
    - 2 sets of screws
    - Mounting instructions

    Article number: 6AV7672-8GJ01-1AA0

- Speaker set BOSE Net Panel, content:
    - Two BOSE 151SE speakers
    - Two BOSE mounting brackets
    - 2 sets of screws
    - Mounting instructions

    Article number: 6AV7672-8GJ01-2AA0

Safety instructions and instructions on use

2

2.1   Safety instructions

⚠ WARNING
Dangerous voltage with open device
Individual sections or components inside the device are under high voltage. If you touch these areas or components, you may be killed by electric shock.
Do not open the device. Send a defective device for repair to the Returns Center, see section "Spare parts and repairs (Page 36)".

Storage and transport

NOTICE
Damage from condensation
If the device is subjected to extreme changes in temperature during transportation, for example, in the case of cold weather, moisture can built up on and in the device. Moisture can result in short-circuits in electrical circuits.
The device no longer works correctly.
In case of condensation, you need to store the device in a dry place and slowly warm it up to room temperature. However, do not expose the device to direct heat radiation. Wait 12 hours before you switch on the device.

System expansions

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

Note the following when carrying out the system expansion:

- Only install system expansion devices designed for this device. Contact your technical support team or where you purchased your PC to find out which system expansion devices may safely be installed.

- Refer to the EMC guideline in the section "Technical specifications".

Battery and rechargeable battery

⚠ WARNING
Risk of explosion and release of harmful substances
Improper handling of lithium batteries can result in an explosion of the batteries.
Explosion of the batteries and the released pollutants can cause severe physical injury. Worn batteries jeopardize the function of the device.

Note the following when handling lithium batteries:

- Replace the battery every 4 years.

- Replace the lithium battery only with an identical battery or a type recommended by the manufacturer (article number A5E30314053).

- Do not throw lithium batteries into fire, do not solder on the cell body, do not recharge, do not open, do not short-circuit, do not reverse polarity, do not heat above 100°C and protect from direct sunlight, moisture and condensation.

NOTICE
Disposal of batteries and rechargeable batteries
Do not dispose of used batteries and rechargeables in household waste. Users are obliged by law to return used batteries and rechargeable batteries.
Used batteries and rechargeable batteries pollute the environment as hazardous waste. Improper disposal of used batteries and rechargeables renders you liable to prosecution.

When disposing of batteries and rechargeable batteries, observe the following:

- Dispose of used batteries and rechargeable batteries separately as hazardous waste according to local regulations.

- You can return used batteries and rechargeables to public collection points and wherever batteries and rechargeable batteries of the type in question are sold.

- Label the battery container with "Used batteries and rechargeable batteries".

Intense high frequency radiation

NOTICE
Observe immunity to high frequency radiation
The device has an increased resistance to high frequency radiation according to the information on electromagnetic compatibility in the technical specifications.
Radiation exposure to immunity levels above the specified limits can impair device functions, result in malfunctions and cause harm to persons and machines.
Observe the information on immunity to high frequency radiation in the technical specifications.

ESD Guidelines

ESDs are labeled with the following symbol:

Strictly follow the ESD guidelines mentioned below when handling modules which are sensitive to ESD: Additional information is available in the section "Technical specifications", section "Directives and declarations".

Industrial Security

Siemens offers products and solutions with Industrial Security functions that support the safe operation of equipment, solutions, machines, devices and/or networks. They are important components in a comprehensive Industrial Security concept. As a result the products and solutions from Siemens are constantly evolving. Siemens recommends obtaining regular information regarding product updates.

For safe operation of Siemens products and solutions appropriate protective measures (e.g., cell protection concept) must be taken and each component must be integrated in a comprehensive Industrial Security concept, which corresponds with the current state of technology. The products of other manufacturers need to be taken into consideration if they are also used. You can find addition information on Industrial Security under (http://www.siemens.de/industrialsecurity).

Sign up for our product-specific newsletter to receive the latest information on product updates. For more information, see under (http://www.siemens.de/automation/csi_en_WW).

Disclaimer for third-party software updates

This product includes third-party software. Siemens AG only provides a warranty for updates/patches of the third-party software, if these have been distributed as part of a Siemens software update service contract or officially released by Siemens AG. Otherwise, updates/patches are undertaken at your own risk. You can find more information about our Software Update Service offer on the Internet at Software Update Service (http://www.automation.siemens.com/mcms/automation-software/de/software-update-service/Seiten/Default.aspx).

Notes on protecting administrator accounts

A user with administrator privileges has extensive access and manipulation options in the system.

Therefore, ensure there are adequate safeguards for protecting the administrator accounts to prevent unauthorized changes. To do this, use secure passwords and a standard user account for normal operation. Other measures, such as the use of security policies, should be applied as needed.

2.2 Notes about Usage

Operation in industrial environments

The device is designed for industrial use, limit class A. The following standards are met:

- Requirements for emissions EN 61000-6-4:2007
- Requirements for interference immunity DIN EN 61000-6-2:2005

Operation in residential areas

Note

The device is not suitable for operation in residential areas. Operation of a device in residential areas can have a negative impact on radio and TV reception.

If the device is used in a residential area, you must take measures to achieve Limit Class B conforming to EN 55016 for RF interference.

A suitable measure for achieving the RF interference level to Limit Class B includes, for example, the use of filters in power supply lines.

Individual acceptance is required.

Mounting, fastening and connecting the device

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3

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3.1 Preparations

3.1.1 Unpacking and checking the delivery

Procedure

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

2. If the packaging shows signs of transport damage, unpack the device and check the packaging content.

3. If package content is damaged, lodge a complaint at the shipping company in charge.

   Have the shipper confirm the transport damage.

4. Transport the device in its original packaging to the installation location.

5. Unpack the device at its installation location.

NOTICE
Damage to the device caused by incorrect transport
If you place the device on a hard surface, it can be damaged; the housing or display can be scratched, for example. Possible consequences include malfunctions of the device.
Place the device into the lower part of the packaging or on a soft surface.

   Keep the original packaging in case you have to transport the unit again. In addition, the packaging is required as a mounting aid.

6. Check whether the packed contents are complete and free of damage.

   Check for completeness using the enclosed product package list. If the contents of the packaging are incomplete, damaged or do not match your order, inform the responsible delivery service immediately. Fax the enclosed form "SIMATIC IPC/PG Quality Control Report".

7. Please keep the supplied documents in a safe place.

   The documents are part of the device.

8. Write down the identification data of the device.

See also

Maintenance and Care (Page 35)

3.1.2 Selecting the site of use and specifying the type of mounting

Selecting the mounting location

> ⚠ **WARNING**
>
> **Mounting location**
>
> Insufficient material properties at the mounting location can result in the Net Panel falling down or falling over.
>
> Ensure that the material properties at the mounting location meet the forces emitted by the Net Panel or acting on it.

Observe the following points when selecting the mounting location:

- The display was also designed for operation in direct sunlight.

  Avoiding direct light improves the contrast and reduces reflections.

- Position the device in an ergonomically favorable position.

  Select a mounting height and a device angle that is suitable for the viewer.

> **Note**
>
> **Malfunction of the device**
>
> If the device is equipped with a hard disk, vibrations and impacts can cause malfunctions or damage the device.
>
> Ensure that the mounting location is free of vibrations and impacts.

Specifying the type of mounting

Select one of the following mounting types depending on the number of persons obtaining information simultaneously from the Net Panel:

- Ceiling mounting

  Ceiling mounting is best if a large group of persons or a group of persons distributed across a larger area is to be informed. A large font and frequently changing information pages are required.

- Wall mounting
- Stand mounting

  Stand mounting is best for individual information. A small font provides a higher degree of information per information page.

3.1.3 Checking clearance

The device must be installed with the following ventilation clearances:

Where	Clearance, minimum
Above and below the device	200 mm
To the right and left of the device	100 mm
Rear	100 mm

3.2 Mounting and connecting the speakers

3.2.1 VISATON speakers

This section describes the mounting of the VISATON speakers to a Net Panel 46". Install the speakers before you mount the device to the ceiling, to the wall or on a stand.

Requirement

- Two VISATON speakers
- Mounting bracket
- Connection elements
- Phillips screwdriver
- Allen key

Procedure

1. Provide the screws with a retaining ring and a washer.

2. Fasten the mounting bracket to the Net Panel using two Allen screws.

   Observe the labeling at the mounting bracket. "LI" marks the mounting bracket that belongs on the left-hand side of the Net Panel.

3. Align the mounting bracket and tighten the Allen screws.

   The mounting bracket can be tilted by 20° to the vertical axis.

4. Fasten the speaker to the mounting bracket with the two Phillips screws.
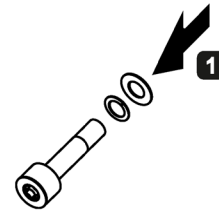
3.2.2 BOSE speakers

This section describes the mounting of the VISATON speakers to a Net Panel 46". Install the speakers before you mount the device to the ceiling, to the wall or on a stand.
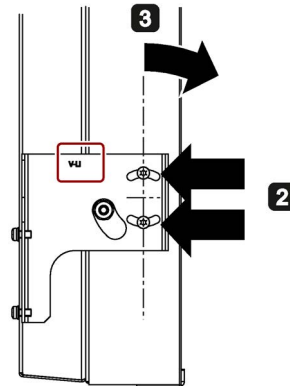
Requirement

- Two BOSE speakers
- Mounting bracket
- Connection elements
- Phillips screwdriver
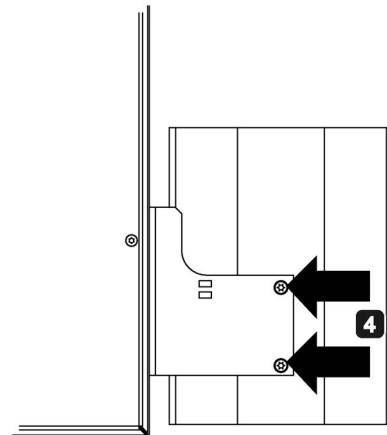- Allen key

Procedure

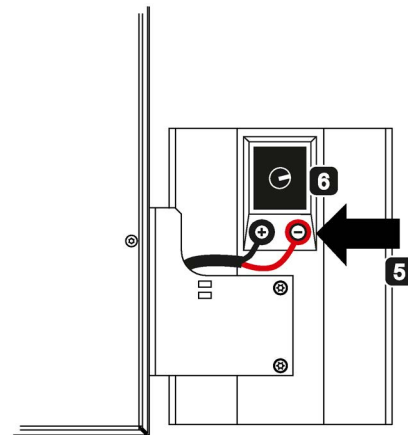1. Provide the screws with a retaining ring and a washer.

2. Fasten the mounting bracket to the Net Panel using two Allen screws.

   Observe the labeling at the mounting bracket. "LI" marks the mounting bracket that belongs on the left-hand side of the Net Panel.

3. Align the mounting bracket and tighten the Allen screws.

   The mounting bracket can be tilted by 20° to the vertical axis.

4. Fasten the speaker to the mounting bracket with the two Phillips screws.

5. Connect the speaker line of the Net Panel to the speaker according to the color identification.
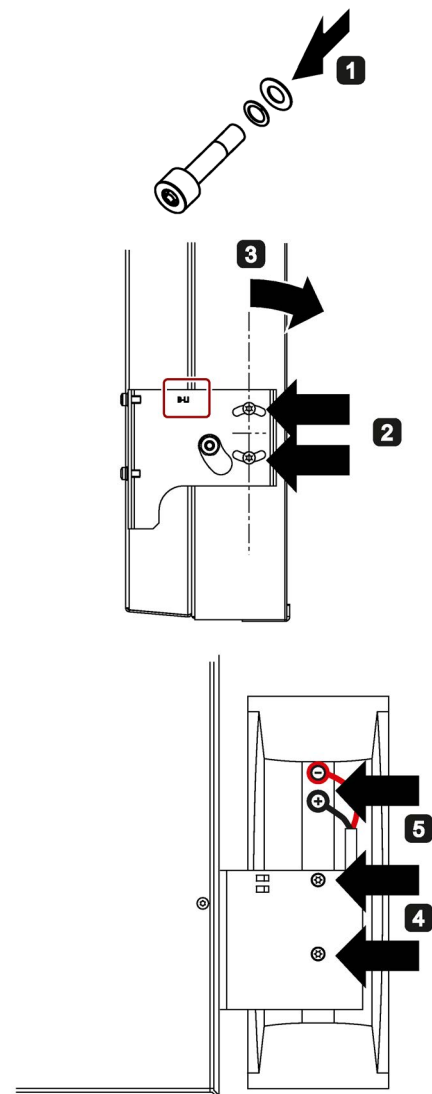
3.3 Mounting the support arm or stand

The following threaded holes are available on both sides of the Net Panel to fasten the support arm or the stand:
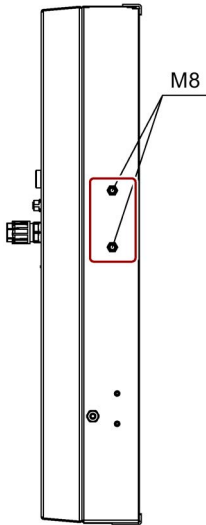
Screws should not be screwed in more than 12 mm.

Note

Use the Net Panel packaging to protect the display during mounting. Before mounting, place the Net Panel in the bottom half of the packaging.

Requirement

- 1 support arm or stand
- Four M8 screws
- 4 spring lock washers DIN 127, B8
- 4 washers DIN 440, zinc-plated, M8

Procedure

Fasten the support arm or the stand to the Net Panel using the corresponding connection elements according to the respective mounting instructions.

Note

The manufacturer of the Net Panel does not accept any liability for damage to the Net Panel resulting from incorrect mounting of the support arm or the stand.

3.4 Fastening the device

3.4.1 Ceiling and wall mounting

This section applies for ceiling and wall mounting of the Net Panel.

> ⚠ **WARNING**
>
> **Fixing material**
>
> Insufficiently dimensioned fixing material can cause the Net Panel to fall down.
>
> Ensure for mounting that the fixing material used is dimensioned sufficiently. When carrying out dimensioning take the force into account that results from the weight of the Net Panel and from the forces acting on the Net Panel. This applies in particular to the dynamic loads of the Net Panel.

Note

If additional securing of the Net Panel against falling is prescribed, you can use the two eyebolts that are screwed in at the device top to this purpose.

The Net Panel can be secured by two suitable cables. The cables may not be fastened to the support arm.

Requirement

- The mounting location has been specified and is suitable for mounting the Net Panel
- Suitable fixing elements for the support arm
- The support arm has been mounted to the Net Panel
- 1 lifting device
- 2 blanking plugs

  The blanking plugs are included in the scope of delivery.

Procedure

Note

The manufacturer of the Net Panel does not accept any liability for damage resulting from incorrect mounting to the ceiling or wall.

Observe the valid regulations on the use of lifting devices.

1. Fasten the Net Panel at the mounting location.
2. If no additional securing against falling is prescribed, remove the eyebolts.
3. Insert the blanking plugs into the threaded holes of the eyebolts.

3.4.2 Stand mounting

This section applies for stand mounting of the Net Panel.

⚠ WARNING
Fixing material
Insufficiently dimensioned fixing material can cause the Net Panel to fall over.
Ensure that the fixing material used is dimensioned sufficiently for stand mounting. When carrying out dimensioning take the force into account that results from the weight of the Net Panel and from the forces acting on the Net Panel. This applies in particular to the dynamic loads of the Net Panel.

⚠ WARNING
Stability
The stability of the Net Panel is not guaranteed while the Net Panel is being set up and fastened at the mounting location until the Net Panel has been securely fastened with screws at the mounting location.
During mounting, secure the Net Panel to prevent it falling or place it in the lower part of the packaging.

Requirement

- The mounting location has been specified and is suitable for mounting the Net Panel
- Suitable fixing elements for the stand
- The stand has been mounted at the Net Panel
- 1 lifting device
- 2 blanking plugs

  The blanking plugs are included in the scope of delivery.

Procedure

Note
The manufacturer of the Net Panel does not accept any liability for damage resulting from incorrect mounting to the floor.

1. Fasten the Net Panel at the mounting location.
2. Remove the eyebolts.
3. Insert the blanking plugs into the threaded holes of the eyebolts.

3.5 Connecting the unit

3.5.1 Overview

Requirement

- The device has been fastened according to the information provided in these operating instructions.

Connection sequence

Note

Observe the connection sequence

Failure to do so may result in damage to the device.

Observe the connection sequence.

Connect the device in the following sequence:

1. Functional ground

2. Power supply

3. LAN

4. USB peripheral

Disconnect the device from the terminals in reverse order of connection.

See also

Industry Mall (https://mall.industry.siemens.com)

3.5.2   Connecting the functional ground

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

Avoiding Differences in Potential

Differences in potential arise between separated system parts, which in some cases leads 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:

- The lower the impedance of an equipotential bonding conductor, the more effective is 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 protected conductor, the following must be observed:

  The impedance of the additional equipotential bonding cable amounts to a maximum of 10% of the shield impedance.

- Ensure that the equipotential bonding cable cross section is selected to accommodate the maximum equalization current. A cross-section of 16 mm^2 has proven most practical for equipotential bonding cables.

- Always 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.

Requirement

- Cable with a cross-section ≥ 5 mm^2
- T20 screwdriver

Procedure

1. Connect the cable to the connection for functional ground on the rear of the device.

   The corresponding connection point is marked with the following symbol.

   Make sure that the line at the connection point has a large-area contact.

2. Connect the cable to the connection for equipotential bonding at the system.

3.5.3 Connecting a USB I/O device

Observe the following points when you connect a USB I/O device:

Note

Excluding reverse voltage

If a reverse voltage > 0.5 V to ground is fed into the device at the +5 VDC connection by a connected or installed USB I/O device, malfunctions can be caused in the device or the device can be damaged.

Exclude a reverse voltage by a connected or installed USB I/O device.

Take the following into consideration when measuring the reverse voltage:

● The device must be turned off and the power supply connector should be plugged in.

● During the measurement, all cables from the plant have to be connected to the computer.

● All other components in the plant must be active.

Note

I/O devices incapable of hot-plugging only function when the device is switched off

If you connect an I/O device incapable of hot-plugging to the switched-on device, the I/O device may not function.

If you connect a USB I/O device incapable of hot-plugging, switch off the power supply of the device before connecting the I/O device.

Note

A USB line exceeding > 4 m does not ensure reliable data transfer. The line length of the connected USB device may not exceed 4 m.

Commissioning the device **4**

You can operate the Net as a PC standalone or integrated into a computer network. In the delivery state the "RemoteControl" program is installed on the Net Panel.

Alternatively, the SIMATIC programs released for the operating system can be installed.

NOTICE

Setting for automatic logon after new installation of Windows

The first time the device is switched on or after a new installation of Windows, you must create at least one user. The Windows logon window is then displayed each time the system starts. The RemoteControl software with its functions, e.g. temperature control or "Anti-sticking (line move)" becomes activated only after the first logon of a user. To activate the RemoteControl software directly after the system start, you can activate the automatic logon in Windows.

To activate automatic logon, perform the following steps directly after a Windows installation:

1. Open a command prompt, for example, by clicking "Start" and entering "cmd" in the command line.
2. Enter the command "control userpasswords2" in the prompt.

   The "User accounts" dialog appears.
3. Deactivate the option "Users must enter users names and password".
4. Enter your password when prompted.

The RemoteControl software

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5.1 Overview

In the delivery state RemoteControl is already installed on the Net Panel. RemoteControl has to be installed if you want to use any PC to remotely control one or more Net Panels. The installation is described in the following section.

RemoteControl allows you to make the settings for the HMI Net Panel via a user interface and to call up information. You can operate RemoteControl locally on the Net Panel or on a server.

For additional information, refer to the RemoteControl readme file.

Functional scope

RemoteControl provides the following functions:

- Setting the system volume
- Switching the display on and off
- Activate and deactivate "Anti-sticking (line move)"
- Setting the brightness of the backlight
- Reading out the temperature of the display
- Restarting the Net Panel

Configuration

RemoteControl comprises the following programs:

- RemoteControl Service

  As a client application, the "RemoteControl Service" program provides the option of acting as a server application through its communications interface using "RemoteControl GUI". In addition, "RemoteControl Service" offers an interface for communication with a SIMATIC S7-300 via the function blocks "RemoteControl for S7".

- RemoteControl GUI

  Regardless of whether "RemoteControl GUI" is started on a Net Panel or a PC, "RemoteControl GUI" can communicate with each "RemoteControl Service" in the network through a multi-point connection. Settings can be defined for the selected Net Panel or uniformly for several connected Net Panels.

RemoteControl Service" and "RemoteControl GUI" or "RemoteControl for S7" communicate with each other on the network level.

5.2 Installing RemoteControl

This procedure applies for a PC:

- On which "RemoteControl" is not installed.

- That is used as a server and is to remotely control all the connected Net Panels through a user interface.

Requirement

- If no Windows-specific firewall is used, UDP ports 27016 and 27017 must be enabled.

- To allow communication between "RemoteControl Service" and a SIMATIC S7-300, the UDP port 27015 has to be enabled if a Windows firewall is used.

- "Restore CD"

  The CD is included in the scope of delivery for every Net Panel.

Procedure

1. Turn on the PC.

2. Insert the CD into the PC drive.

3. Open the file "readme.rtf" on the CD.

4. Follow the instructions on starting the installation in the "readme.rtf" file.

5. Follow the instructions on the display.

6. Select the "Server" installation option.

   Setup installs the program. When the installation has been completed, the Desktop contains the "RemoteControl GUI" icon.

7. If you want to start the application, double-click the "RemoteControl GUI" icon.

   The "RemoteControl GUI" dialog is opened.

5.3 Operating RemoteControl

5.3.1 RemoteControl Service

"RemoteControl Service" is started automatically when a user logs on to Microsoft Windows.

Name of the application	rcService.exe
Path of the application	C:\Program Files\Siemens\RemoteControl

Feature	Value	
Commands [1]	rcService.exe /i	Registers "RemoteControl Service" as a task in Windows.
	rcService.exe /u	Stops the "RemoteControl Service" task and deregisters it.
Icon in the taskbar	If "RemoteControl Service" is running, this is indicated by an icon in the taskbar.	
Taskbar menu	**Open rcGUI** Stop rcService A right-click opens the menu with the commands for ending the task or starting the "RemoteControl GUI".	

[1]   Only possible as administrator

5.3.2 RemoteControl GUI

"RemoteControl GUI" can be called by clicking the icon on the desktop or in the taskbar.

Name of the application	rcGUI.exe
Path of the application	C:\Program Files\Siemens\RemoteControl

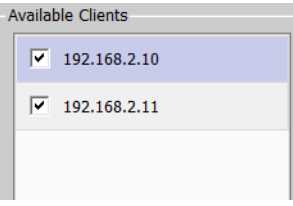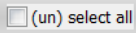| Command	Description	Value range
rcGUI.exe/backlight x	Sets the brightness of the backlighting	x = 0 to 100
rcGUI.exe/linemove x	Switches the screen saver on	x = 1
	Switches the screen saver off	x = 0
rcGUI.exe/display x	Switches the display on	x = 1
	Switches the display off	x = 0
rcGUI.exe/audio x	Sets the volume	x = 0 to 100
	Sets the muting	x = 200 to 300
	Example: • Audio 256 sets the volume to 65 and switches Audio muted (+200 for silent) • Audio 65 sets volume to 65 and switches Audio on.	
rcGUI.exe /reboot x	Reboots the device	x = 0 to 1

5.3.3 Operating RemoteControl GUI
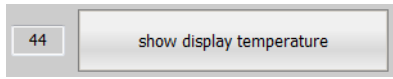
The following diagram shows the "RemoteControl GUI" dialog.
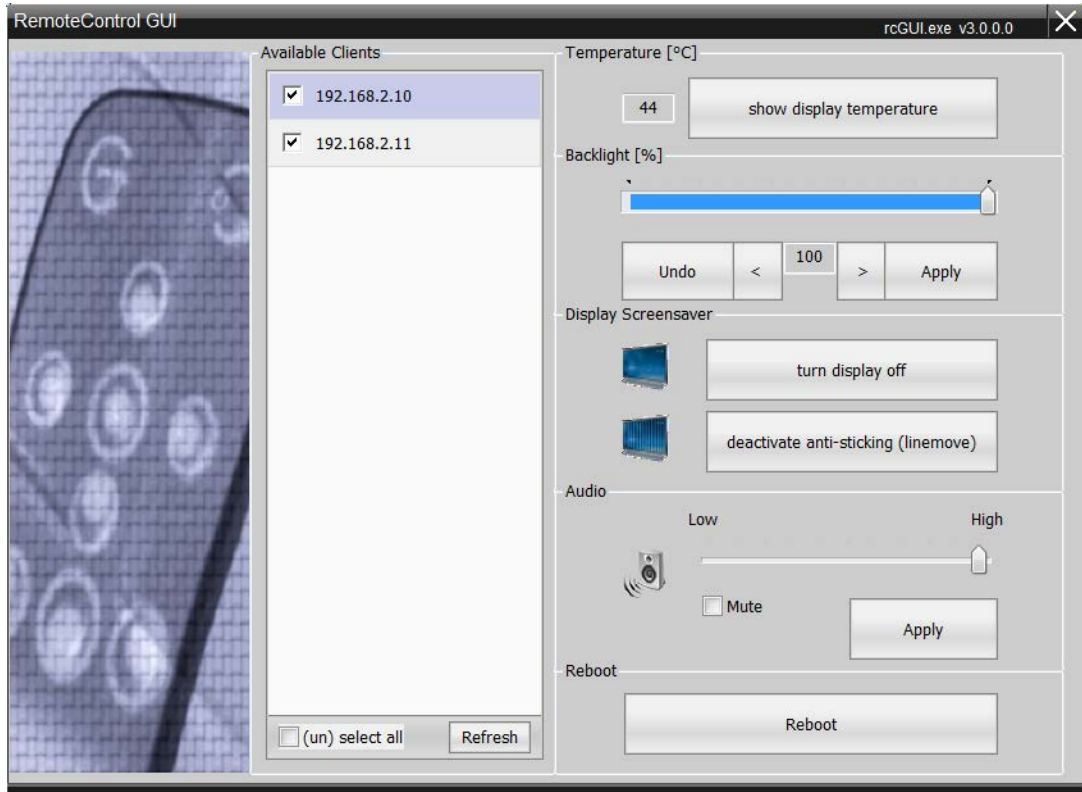
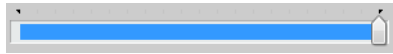The functions of "RemoteControl GUI" are described below.
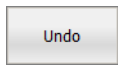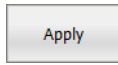
Available clients

Operator control element	Function
	In this list box, the logged-on clients are listed. Settings can be made for individual or multiple clients. The client for which data is shown is highlighted in color.
	Note: If the IP address of a client was changed, the RemoteControl Service" must be restarted in order for the client to be visible in the "Available Clients" list.
	Selects or deselects all logged-on clients
	Via the "Refresh" button you can update the settings of clients. As soon as a new client has logged on, the settings are updated automatically.
	Close the application

Temperature

Operator control element	Function
44 show display temperature	Displays the temperature value measured at the display center.
	Select the corresponding client from the list of the available clients.

Backlighting

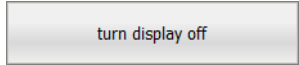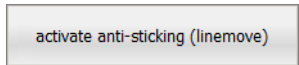| Operator control element	Function
(slider with blue bar)	You can use the controller to set the backlighting from 0 to 100%. The blue area shows the actual value. The actual value is controlled by the display as a function of the inner temperature.
	Select the corresponding client from the list of the available clients.
<	Decrements the value of the backlighting by 5 %.
>	Increments the value of the backlighting by 5 %.
100	Indicates the current controller value.
Undo	Sets the controller to the saved set value.
Apply	Sets the brightness value currently set on the controller on the display as the setpoint value.
RemoteControl - High Temperature The display temperature exceeds the maximum specification. Please power off the PC immediately! OK	
This message will be displayed cyclically once the display temperature reaches 60°C.	
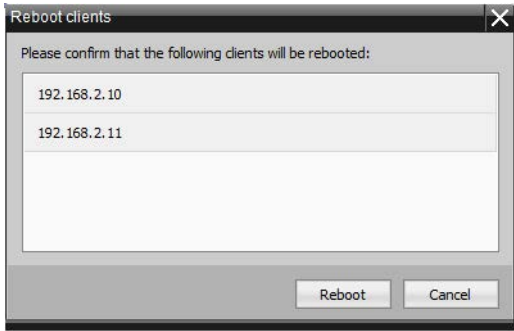
Displaying the screen saver

Operator control element	Function
turn display off	This button switches the display off.
activate anti-sticking (linemove)	The button activates a display mode in order to reduce screen burn-in effects. You can identify the "Anti-sticking (linemove)" mode by the vertical progress bar. This mode is activated by default.
	Note: The function "Anti-sticking (linemove)" function should always be active.
deactivate anti-sticking (linemove)	The button is displayed when "Anti-sticking (linemove)" function is enabled. With this button, you can exit the function "Anti-sticking (linemove)".

Audio

Operator control element	Function
Low _____ High	The controller is used for setting the volume manually. The settings will not be loaded until the "Apply" button has been clicked. A change in the value for the current setting is indicated by an asterisk * in the group box title.
☐ Mute	Switches the loudspeaker muted or cancels the mute again.
Apply	Accepts the values set for volume and muting.

Reboot

Operator control element	Function
Reboot	Restarts the selected clients. After this button is pressed, the following "Reboot clients" dialog is displayed.
Reboot clients ✕ Please confirm that the following clients will be rebooted: 192.168.2.10 192.168.2.11 Reboot Cancel	
Restarting the client must be confirmed again using the "Reboot" button in the "Reboot clients" dialog.	

5.3.4 Communication problems

If no connection can be established, this is indicated by the following symbol:

This applies for the following connections:

- RemoteControl Service and display control
- RemoteControl Service and RemoteControl GUI

The respective controls are deactivated.

Service and maintenance

6

6.1 Maintenance and Care

Scope of maintenance

The device is designed for maintenance-free operation.

Open the device regularly. Proper handling and regular cleaning will extend the service life of the device.

Device resistance

Housing and display have different resistance levels to chemical and mechanical influences.

Note

Damage of the device due to aggressive detergents

You can damage the device if you clean the device with aggressive, solvent-containing, lubricating or abrasive detergents, acids or caustic solutions, rough cleaning rags or equipment. The same applies if you clean the device with chlorine or chlorides or with laser, ultrasound or dry ice.

Do not use a high-pressure cleaner and vapor for thermal cleaning. Use a suitable detergent and a suitable cleaning cloth to clean the equipment.

Requirement

- Suitable detergent such as a rinsing liquid or a screen cleaning agent
- A soft wiping cloth

Procedure

1. Switch off the device.
2. Apply the detergent to a soft wiping cloth.
3. Wipe off the device with the cloth.

See also

Conditions during operation (Page 42)

General technical data (Page 39)

6.2 Spare parts and repairs

Repair

In case of repair, the device must be shipped to the Return Center in Fürth.

Siemens AG
Digital Factory
Returns Center
Siemensstr. 2
90766 Fürth
Germany

The conditions of a so-called "identity repair" apply for the device, meaning that you receive the repaired device back. A new device will not be supplied in exchange.

Depending on the work necessary to repair the device, the Center may decide to give you a credit note. In this case, it is your responsibility to order a new device.

Spare parts

Spare parts can be ordered for the device according to the SIMATIC HMI spare parts catalog with time-limited stocking.

Customer-specific components are not kept as spare parts. The storage of customer-specific spare parts (such as front mechanical equipment) is the responsibility of the customer after the manufacturing order has expired.

The plant standstill stock remains the responsibility of the client.

You can find additional information in the Internet at Spare parts and repairs (http://support.automation.siemens.com/WW/view/en/16611927).

The devices described in these operating instructions can be recycled due to their low levels of pollutants. Contact a certified disposal service company for environmentally sound recycling and disposal of your old devices.
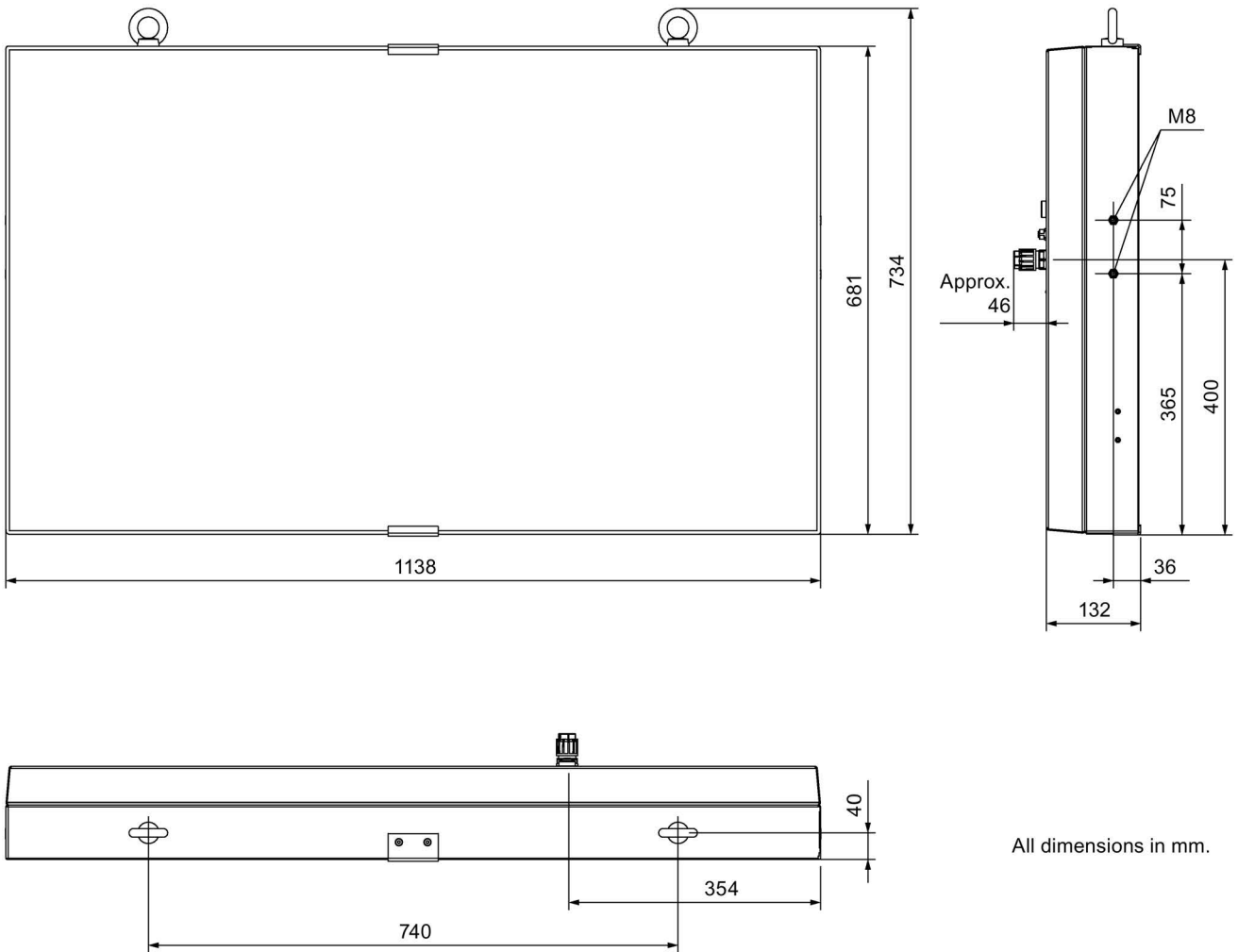
See also

Safety instructions (Page 13)
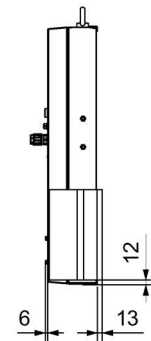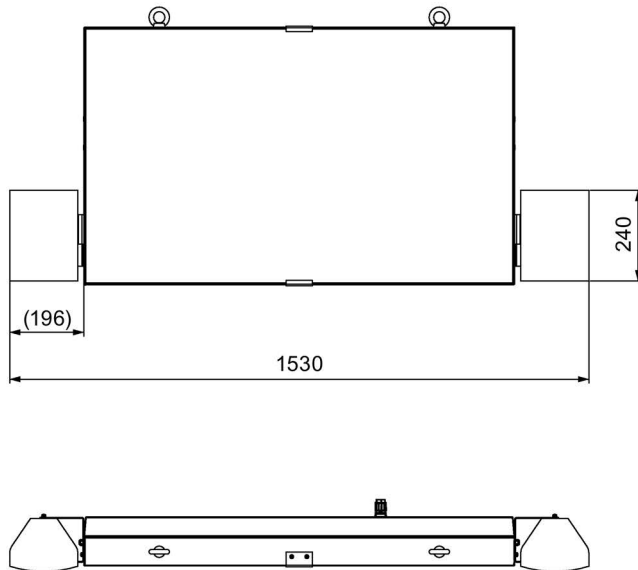
Technical specifications

7

7.1 Dimensional drawings

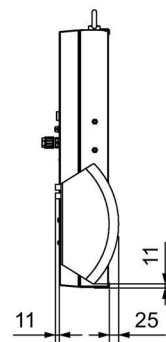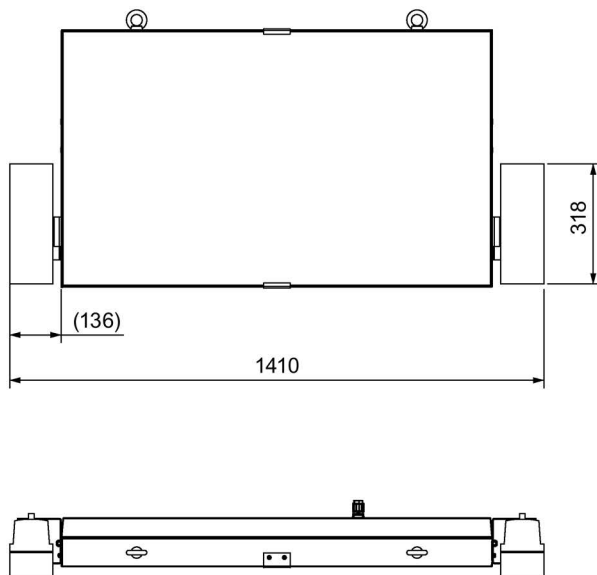### 7.1.1 Dimension drawing Net Panel 46" without speakers

All dimensions in mm.

7.1.2   Dimension drawing Net Panel 46" with VISATON speakers

All dimensions in mm.

7.1.3   Dimension drawing Net Panel 46" with BOSE speakers

All dimensions in mm.

7.2 Technical specifications

7.2.1 General technical data

External dimensions and weight

	Dimensions	Weight
Without speakers	1138 × 681 × 130 mm	Approx. 60 kg
With BOSE speakers	1410 × 681 × 130 mm	Approx. 65 kg
With VISATON speakers	1565 × 681 × 130 mm	Approx. 65 kg

Display

Size	46" (116 cm)
Type	LCD TFT
Resolution	1920 × 1080, full HD, 16 : 9
Colors, displayable	16.7 million
Viewing angle	± 178°
Backlighting	LED
Half brightness live time, typical	50000 h
Brightness, typical	500 cd/m^2

Enclosure

Material	Steel, suitable for industrial use
Color	Black
Surface	Powder-coated
Degree of protection	IP65 overall with closed USB protective cover IP54 with open USB protective cover
Protection class	Protection class I according to IEC 61140

Face plate

Type	Laminated glass, shatterproof, non-reflecting
Thickness	6 mm

Mechanical and climatic ambient conditions during operation

Vibration load, Net Panel	0.5 g
Impact load, Net Panel	5 g
Ambient temperature	5 ... 45 °C

Interfaces

USB 2.0	1 × high current, with protective cover IP65
Industrial Ethernet	1 × M12 for 10/100 Mbps, 4-pin with protective cover
Quick-on socket	1 × for power supply, D-coded

Power supply

Input voltage (tolerance)	100-240 VAC (-15% / +10%) 50-60 Hz (47-63 Hz)
Current consumption, max.	1.2 A

Sound reproduction (optional)

Audio module	2 × 15 W
Speakers	1 pair, mounted left and right at the device, type VISATON WB13 or BOSE 151SE
Maximum cable length	30 m

Hardware

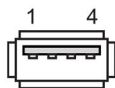|	Net Panel
Processor	Celeron 1.4 GHz or Core i3 1.6 GHz, see order documents
Main memory	4 GB
Mass storage	80 GB SSD
Operating system	Windows 7 Ultimate SP1, 64-bit

Software

RemoteControl	Installed

7.3 Interface description

7.3.1 USB interface X1

Contact	Assignment
1	+5 VDC, out, max. 500 mA
2	USB-DN
3	USB-DP
4	GND

7.3.2 Ethernet interface X2

The following figure shows the contact side of the Net Panel:
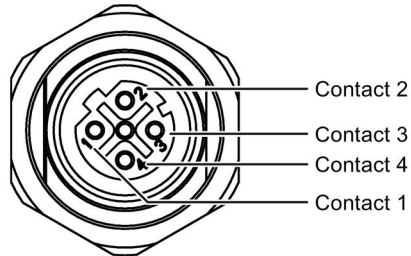
The socket M12 is D-coded.

Contact	Designation	Meaning
1	BI_DA+	Bidirectional data A+, input/output
2	BI_DA-	Bidirectional data A–, input/output
3	BI_DB+	Bidirectional data B+, input/output
4	BI_DB-	Bidirectional data B–, input/output

7.3.3 Connector for the power supply

The following figure shows the contacts at Net Panel, conforming to the mounting position.
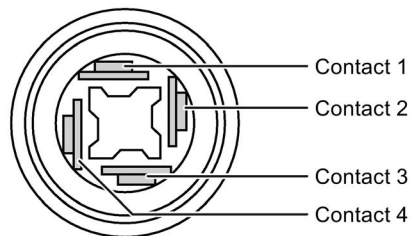
Contact	Assignment
1	L
2	N
3	n. c.
4	PE

The scope of delivery includes a connector of the type 1582637 QPD P 3PE2,5 6-10 BK from PHOENIX CONTACT GmbH & Co. KG. A three-core flexible cable with a conductor cross-section of 0.75 mm² is required as the power supply cable.

7.4 Ambient conditions

7.4.1 Transport and Storage Conditions

The following specifications apply to a device that was transported and stored in its original packaging.

The climatic conditions correspond to the standard IEC 60721-3-2, class 2K4 for transportation.

The mechanical conditions correspond to IEC 60721-3-2, Class 2M2.

Type of condition	Permitted range	
Temperature	–20 to +60 °C	
Temperature gradient	≤ 20 °C/h	
Atmospheric pressure	1140 to 660 hPa, corresponds to an elevation of -1000 to 3500 m	
Relative humidity	10 to 90%, without condensation	
Sinusoidal vibration according to IEC 60068-2-6	5 to 8.4 Hz: 8.4 to 150 Hz:	3.5 mm 9.8 m/s^2
Shock according to IEC 60068-2-29	250 m/s^2, 6 ms, 1000 shocks	

7.4.2 Conditions during operation

Mechanical ambient conditions

The following table provides information on the type and scope of tests for mechanical ambient conditions.

Test	Test Standard	Release values
Vibrations	IEC 60068, Part 2–6 (sinusoidal)	10 Hz ≤ f ≤ 58 Hz, constant amplitude: 0.035 mm
		58 Hz ≤ f ≤ 500 Hz, constant acceleration: 0.5 g

• Type of vibration
  Frequency cycles with a transitional rate of 1 octave/minute.
• Duration of vibration
  10 frequency cycles in each of the three vertically aligned axes.		

Shock	IEC 60068, Part 2–29	Peak value 5 g, duration 5 ms
• Shock type: Half-sine • Shock direction In each of the three mutually vertical axes always with three shocks in ± direction		

Climatic ambient conditions

The following table shows the climatic conditions for operation of the device.

Ambient conditions	Permitted range	Remarks
Temperature	5 ... 45 °C	–
Temperature gradient	≤ 10 °C	–
Humidity, relative	10 … 90 %	Without condensation, corresponds to a relative humidity, exposure level 2 according to IEC 61131, part 2
Atmospheric pressure	1080 to 795 hPa	Corresponds to an altitude of -1000 m to 2000 m
Pollutant concentration	SO_2 < 0.5 ppm Relative humidity < 60 % No condensation	Test 10 cm^3/m^3; 10 days
	H_2S < 0.1 ppm Relative humidity < 60 % No condensation	Test 1 cm^3/m^3; 10 days

7.4.3 Electro-Magnetic Compatibility

Introduction

The device fulfills, among other things, the requirements of the EMC laws applicable to the European domestic market.

Installing the device EMC-compliant

An EMC-compliant installation of the device and the use of interference-proof cables provide the bases for trouble-free operation.

Pulse-shaped Interference

The table below shows the electromagnetic compatibility of the device in relation to pulse-shaped interference. This requires the device to meet the specifications and directives for electrical installation.

Pulse-shaped interference	Tested with
Electrostatic discharge according to IEC 61000-4-2	Air discharge: 8 kV Contact discharge: 6 kV
Burst pulses (high-speed transient interference) according to IEC 61000-4-4	2 kV power supply line 2 kV signal line, > 30 m 1 kV signal line, < 30 m
Surge pulses (high-energy single pulse) according to IEC 61000-4-5	2 kV asymmetrical supply line, 1 kV symmetrical supply line 2 kV signal/data line, > 30 m, asymmetrical, 1 kV signal/data line, > 30 m, symmetrical

Sinusoidal disturbance

The table below shows the electromagnetic compatibility of the device in relation to sinusoidal interference. This requires the device to meet the specifications and directives for electrical installation.

Sinusoidal interference	Test values
HF radiation (electromagnetic fields) according to IEC 61000-4-3	80% amplitude modulation at 1 kHz • To 10 V/m in the range 80 MHz to 2 GHz • To 3 V/m in the range 2 GHz to 2.7 GHz
HF power applied to lines and line shields according IEC 61000-4-6	Test voltage 10 V, with 80% amplitude modulation of 1 kHz in the 10 kHz to 80 MHz range

Emission of radio interference

Interference emission of electromagnetic fields according to EN 61000-6-4:2007, measured at a distance of 10 m:

30 to 230 MHz	< 40 dB (µV/m) quasi-peak
230 to 1 000 MHz	< 47 dB (µV/m) quasi-peak

7.5 Certificates and approvals

Note

The following overview shows the approvals that may be available.

Only the approvals specified on the rear of the corresponding device apply for the devices specified in this document.

A copy of the certificates can be requested from the following address:

Siemens AG
Digital Factory
Factory Automation
 DF FA SE R&D
Breslauer Str. 5
DE-90766 Fürth

CE conformity

EMC directive

This product meets the requirements of EC directive 2004/108/EEC "Electromagnetic Compatibility", and is designed for operation in the following fields of application according to this CE marking:

Field of application	Requirement for emissions	Requirement for interference immunity
Industrial area	EN 61000-6-4:2007 + A1:2011	EN 61000-6-2:2005

The product complies with the standards EN 61000-3-2:2006 +A1:2009 +A2:2009 (harmonic currents) and EN 61000-3-3:2013 (voltage fluctuations and flicker).

Low voltage directive

The device fulfills the requirements of EC Directive 2006/95/EC "Low Voltage Directive". Compliance with this directive has been verified according to EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011.

7.6 Directives and declarations

7.6.1 ESD guideline

What does ESD mean?

All electronic modules are equipped with large-scale integrated ICs or components. Due to their design, these electronic components are highly sensitive to overvoltage and thus to the discharge of static electricity. Such electronic components are labeled as Electrostatic Sensitive Device.

Short description

The following abbreviations are commonly used for electrostatic sensitive devices:

- ESD
- ESD

Electrostatic charge

NOTICE
Electrostatic charge
ESDs may be destroyed by voltages far below the level perceived by human beings. Voltages of this kind develop when a component or an assembly is touched by a person who is not grounded against static electricity. Usually, it is unlikely that damage to an ESD as a result of overvoltage is detected immediately but may become apparent only after a longer period of operation. Avoid electrostatic charge to your body before you touch the ESD.

Anyone who is not connected to the electrical potential of their surroundings is subject to electrostatic charge.

The following figure indicates the maximum electrostatic charge anyone is subjected to when coming into contact with the materials shown. These values are in conformity with the specifications of EN 61000-4-2.
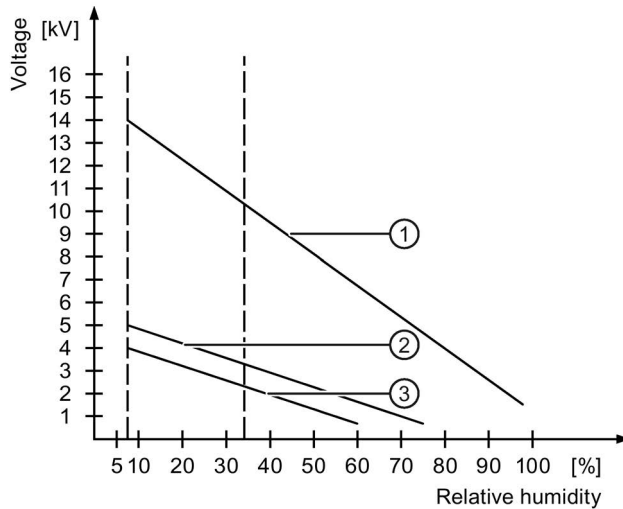
① Synthetic materials
② Wool
③ Antistatic materials such as wood or concrete

Protective measures against discharge of static electricity

NOTICE
Grounding measures
No equipotential bonding is possible without ground. Electrostatic charges will not be discharged and may damage the ESD.
When working with electrostatic sensitive devices, make sure that the person, the workplace and the packaging are properly grounded.

As a rule, only touch the ESD if this is unavoidable. This may be the case for maintenance. When you touch ESD modules, avoid touching the pins or the PCB tracks. This measure prevents discharged energy from reaching and damaging components sensitive to voltage.

Discharge electrostatic electricity from your body if you are performing measurements on an ESD. Do so by touching grounded metallic parts.

Always use grounded measuring instruments.

Technical Support

A

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

- Technical support (http://www.siemens.de/automation/csi_en_WW)
- Support request form (http://www.siemens.com/automation/support-request)
- After Sales Information System SIMATIC IPC/PG (http://www.siemens.com/asis)
- SIMATIC Documentation Collection (http://www.siemens.com/simatic-tech-doku-portal)
- Your local representative (http://www.automation.siemens.com/mcms/aspa-db/en/Pages/default.aspx)
- Training center (http://sitrain.automation.siemens.com/sitrainworld/?AppLang=en)
- Industry Mall (https://mall.industry.siemens.com)

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

- MLFB of the device
- BIOS version for industrial PC or image version of the device
- Other installed hardware
- Other installed software

Tools & downloads

Please check regularly if updates and hotfixes are available for download to your device. The download area is available on the Internet at the following link:

After Sales Information System SIMATIC IPC/PG (http://www.siemens.com/asis)

List of abbreviations B

DC	Direct Current
DIN	German Institute for Standardization
EC	European Union
ESD	Components and modules endangered by electrostatic discharge
EMC	Electromagnetic Compatibility
EN	European standard
ESD	Components and modules endangered by electrostatic discharge
GUI	Graphical user interface
HMI	Human Machine Interface
IEC	International Electrotechnical Commission
IP	Ingress Protection
n. c.	Not connected
PC	Personal Computer
PELV	Protective Extra Low Voltage
SELV	Safety Extra Low Voltage

Glossary

Degree of protection

The degree of protection specifies the suitability of electronic equipment for a variety of environmental conditions and the protection of persons against potential danger when using this equipment.

The degree of protection with the designation IP (ingress protection) also classifies the protection of equipment against dirt and moisture.

Electromagnetic compatibility

Electromagnetic compatibility (EMC) refers to a usually desirable state, in which technical equipment does not disturb one another with unwanted electrical or electromagnetic effects. Electromagnetic compatibility deals with technical and regulatory questions of undesired, mutual influence in electrical engineering.

PLC

A PLC influences the workflow of a plant or a process according to a specified plan. The output variables are set depending on the input variables and the status variables. An HMI device usually monitors these variables and communicates with the PLC.

Protection class

The protection class is used in electrical engineering to classify and identify electrical equipment in relation to existing safety measures designed to prevent electric shock.

There are four protection classes for electrical equipment.

Screen burn-in effect, "image sticking"

The screen burn-in effect, ("sticking") is a continuously visible pattern on a screen, that can result when a static image is displayed for a long time. This effect cannot be completely avoided, but can be reduced by using screen saving functions such as the function "Anti-sticking (linemove)" for example.

Index

A

Ambient conditions
  Climatic, 43
  Mechanical, 42
Atmospheric pressure, 43
Audio, 34

B

Backlighting, 33
BOSE speaker, 21

C

CE conformity, 44
Charge
  Electrostatic, 45
Cleaning guidelines, 35
Clearance, 19
Client
  Available, 32
Climatic
  Storage conditions, 42
  Transport conditions, 42
Connecting
  Connection sequence, 25
  Device, 25
  USB I/O device, 27
Connection sequence, 25
Conventions, 4

D

Delivery state, 28
Device
  Connecting, 25
  Installing EMC-compliant, 43
Display, 39
Disposal, 36

E

Electrostatic charge, 45
EMC directive, 44
Emission, 16
ESD
  Short description, 45
Eyebolt, 9, 10

F

Front view
  Net Panel, 9

H

Humidity, 43

I

Installing
  EMC-compliant, 43
interference
  Pulse-shaped, 43
  sinusoidal, 44

K

Knowledge
  Required, 3

L

Low voltage directive, 45

M

Main dimensions
  Net Panel with BOSE speakers, 38
  Net Panel with VISATON speakers, 38
  Net Panel without speakers, 37
Manual
  Purpose, 3
  Scope, 3
Mechanical
  Storage conditions, 42
  Transport conditions, 42
Mounting location, 18
Mounting type, 18