

SIEMENS

SIMATIC HMI

HMI device Thin Client, Thin Client PRO

Operating Instructions

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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
with a safety alert symbol, indicates that minor personal injury can result if proper precautions are not taken.
CAUTION
without a safety alert symbol, indicates that property damage can result if proper precautions are not taken.
NOTICE
indicates that an unintended result or situation can occur if the corresponding information is not taken into account.

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

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation for the specific task, 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 adhered to. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of the 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.

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Preface

Purpose of the operating instructions

These operating instructions provide information based on the requirements defined by DIN EN 62079 for mechanical engineering documentation. This information relates to the place of use, transport, storage, mounting, use and maintenance.

These operating instructions are intended for the following user groups:

- Operators
The following chapters are of relevance:
 - Overview (Page 11)
 - Operating the Thin Client (Page 95)
- Administrator
The following chapters are of relevance:
 - Overview (Page 11)
 - Configuring the Thin Client (Page 53)
 - Configuring the server (Page 87)
- Commissioning engineers
The following chapters are of relevance:
 - Overview (Page 11)
 - Mounting and connecting (Page 37)
 - Configuring the server (Page 87)
- Maintenance personnel
The following chapters are of relevance:
 - Overview (Page 11)
 - Maintenance and care (Page 111)

Chapter Safety instructions and general notes (Page 23) must be particularly observed by all user groups.

Basic knowledge required

General knowledge of automation technology and process communication is needed to understand the operating instructions.

It is also assumed that those using the manual have experience in using personal computers and knowledge of Microsoft operating systems.

Scope of the operating instructions

These operating instructions apply to the following HMI devices:

- Thin Client 10" Touch
- Thin Client 15" Touch
- Thin Client PRO 15"

The term "Thin Client" includes all three listed Thin Client HMI devices.

NOTICE
The manual is part of the HMI device and will be required for future commissioning. This means the following for the entire service life of the HMI device: Keep the supplied and supplementary documentation stored together. You must pass on all these documents to future owners of the HMI device.

Registered trademarks

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

- HMI®
- SIMATIC®
- WinCC®

Conventions

The following text notation will facilitate reading this manual:

Notation	Scope
"Add screen"	<ul style="list-style-type: none">• 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"	Operating sequences, for example, menu commands, shortcut menu commands
<F1>, <Alt+P>	Keyboard operation

Please observe notes labeled as follows:

Note

Notes contain important information concerning the product, its use or a specific section of the documentation to which you should pay particular attention.

Illustrations in this manual

This documentation includes illustrations associated with the product. These illustrations may differ from the factory state of the product.

Technical Support

Technical support for the products covered in the manual is available in the Internet at:

- Technical Support
(<http://support.automation.siemens.com/>)
- Support Request
(<http://support.automation.siemens.com/WW/view/en/16605654>)
- Service
(<http://support.automation.siemens.com/WW/view/en/16604318>)
- Contacts and office locations
(<http://www.automation.siemens.com/mcms/aspa-db/en/Pages/default.aspx>)
- Training center
(<http://sitrain.automation.siemens.com/sitrain/default.aspx?AppLang=en>)

Additional information on SIMATIC products is available in the Internet at:

- Industry Portal
(http://www.automation.siemens.com/_en/portal/index.htm)
- Overall SIMATIC documentation
(http://www.automation.siemens.com/simatic/portal/html_76/techdoku.htm)

Recycling and disposal

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

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Overview

1.1 Product overview

Thin Clients – cost-effective HMI devices on site

In large or extensive systems, as cost-effective terminals, Thin Clients offer on-site operating functionality. The Thin Client helps to obtain a better overview, usability and productivity of the system. The Thin Client also considerably reduces the total costs of ownership (TCOs) due to the simplest commissioning, reduced software costs and minimized service outlay.

The Thin Client always communicates through the following client applications with a host, such as an HMI device, Panel PC or Server:

- Sm@rtAccess
- Standard RDP (Remote Desktop Protocol) from Microsoft
- VNC (Virtual Network Computing) from Olivetti and Oracle
- On-demand application service of Citrix
- SINUMERIK connection

The Thin Client itself does not require any installation, no licenses and no additional software. You can also bridge greater distances via Ethernet.

Using Sm@rtAccess you can operate WinCC flexible projects on other HMI devices or Panel PCs from the Thin Client. Use RDP to operate HMI applications, such as WinCC, and Office applications, such as MS Excel or SAP, directly on the Thin Client on the machine. With VNC you operate a PC using the Thin Client remote, similarly to RDP. With Citrix you centrally offer each user an individual desktop with applications. In case of the SINUMERIK connection, the Thin Client becomes a SINUMERIK Thin Client Unit (TCU).

Hardware equipment

The Thin Client is supplied with a 10" or 15" TFT display with 64 K colors. You operate the Thin Client via the touch screen or a keyboard or mouse that is connected to the USB port.

The Thin Client plug-in devices are compatible in terms of mounting cutout and design with the HMI devices MP 277 and MP 377 of the respective dimensions.

IP65 all-round

The Thin Client PRO with an IP65 housing has an all-round dust- and hose water degree of protection. The ready-to-use HMI device can be fixed either from the top or the bottom to a supporting arm system or to a stand.

A basic adapter and adapter sets that can be ordered separately support fixing systems from various manufacturers (including VESA standard for flat screens). The rear wall can be removed quite easily. The interfaces of the HMI device can therefore be reached without any problems. You do not require any special cables or connectors.

The Thin Client PRO is impressive not only on account of its ease of servicing but also due to its sophisticated design and slimline device depth.

Simple starting up

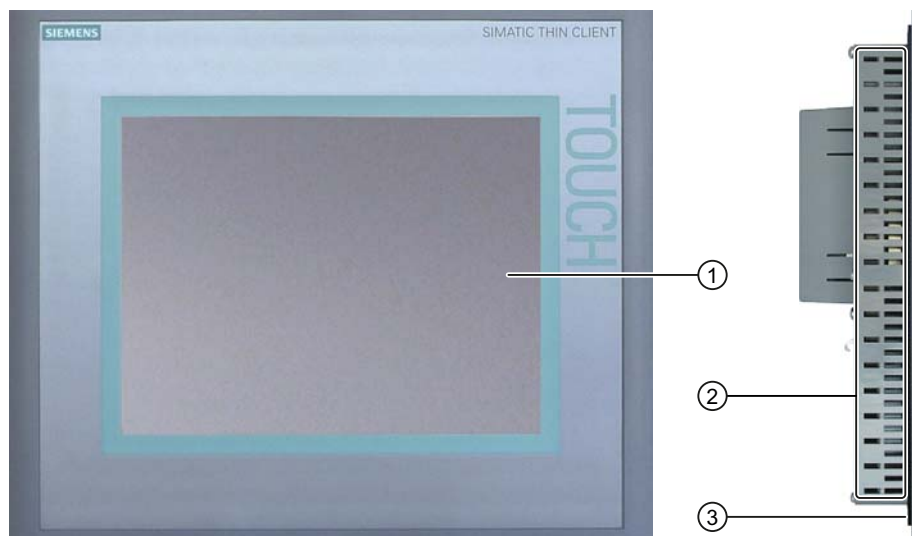
The Thin Client merely requires an IP address. Local software installations or configurations are not necessary on the Thin Client. The display and user interface are made available by the host.

Considerable robustness

As a detached operating element without any rotating media (hard drive and fans), you can operate the HMI device on machines that have a particularly high demand on mechanical robustness.

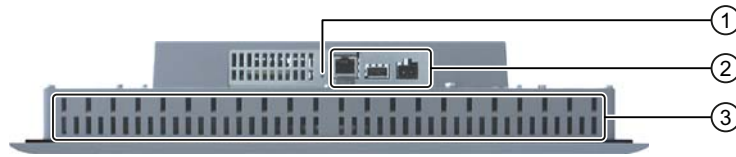
1.2 Design of the Thin Client Touch

Front view and side view 10" Touch



- ① Touch screen
- ② Recesses for mounting clamps
- ③ Mounting seal

Bottom view 10" Touch



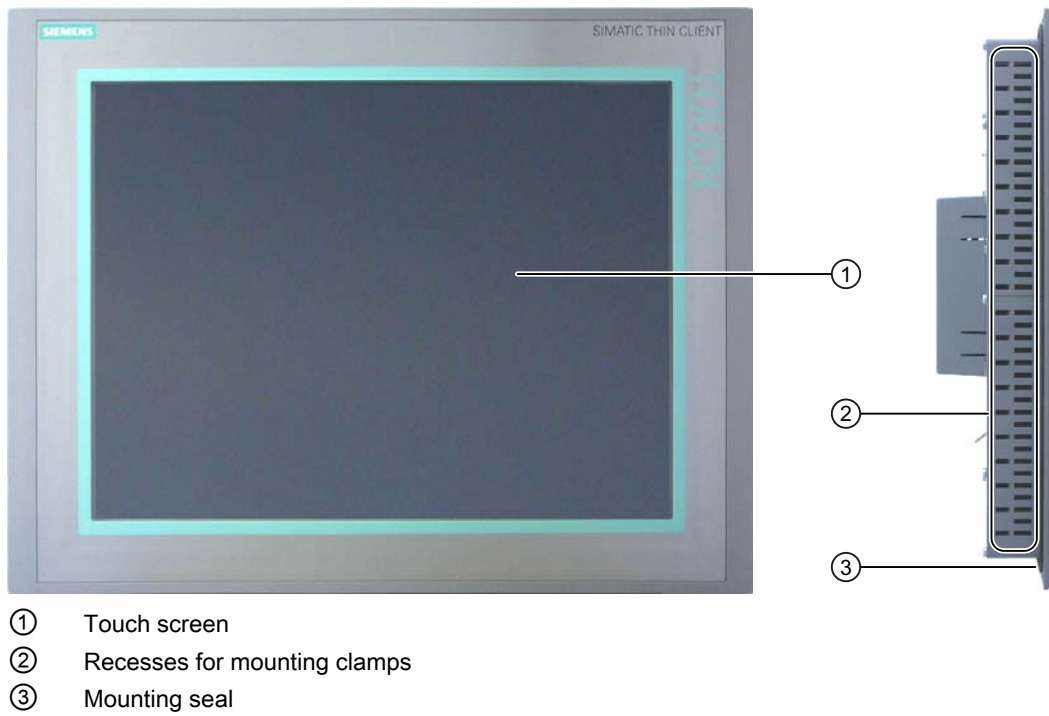
- ① "Factory settings" key
- ② Interfaces
- ③ Recesses for mounting clamps

Rear view 10" Touch

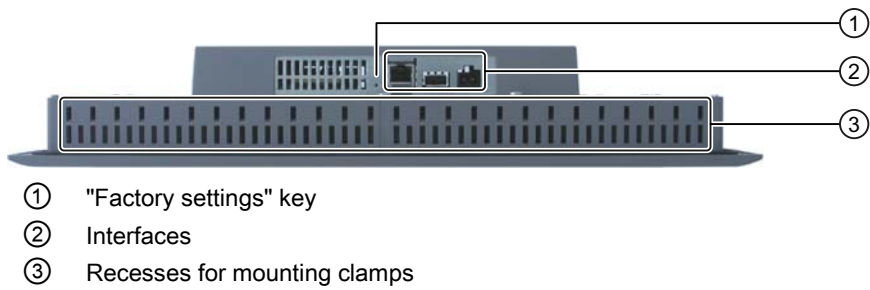


- ① Rating plate
- ② Interface name
- ③ Ground connection
- ④ Fixing elements for strain relief

Front view and side view 15" Touch



Bottom view 15" Touch



Rear view 15" Touch

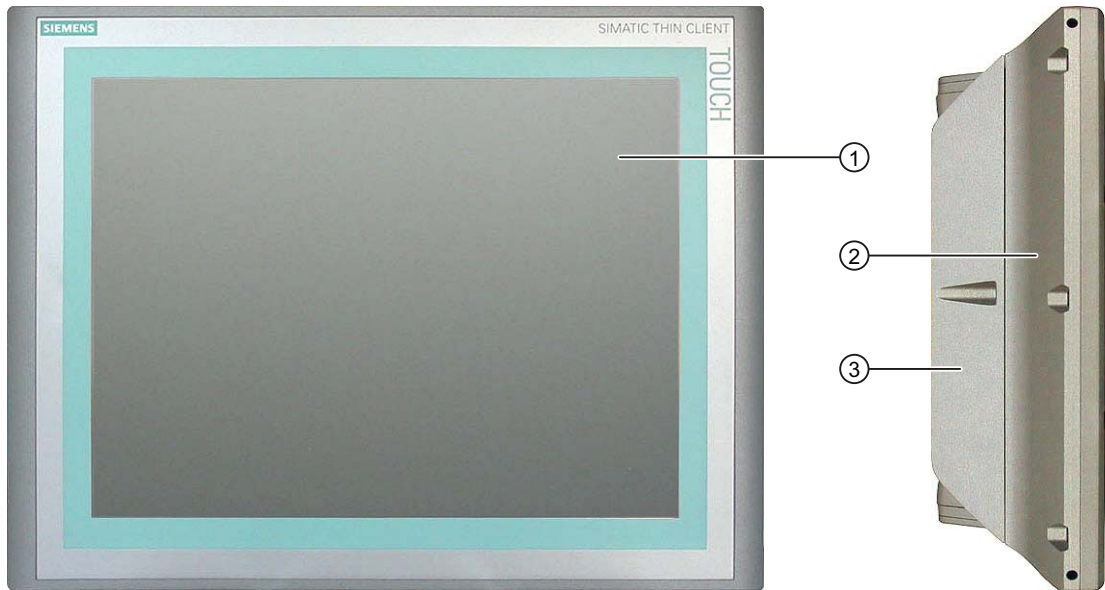


- ① Rating plate
- ② Interface name
- ③ Ground connection
- ④ Fixing elements for strain relief

1.3 Thin Client PRO 15"

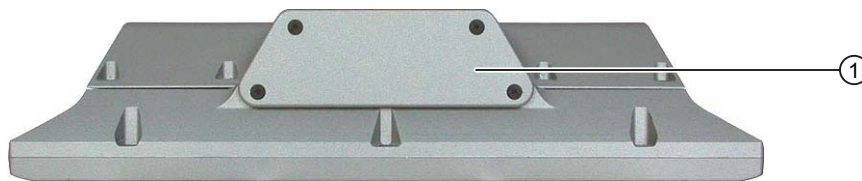
1.3.1 Structure of the Thin Client PRO 15"

Front view and side view



- ① Display with touch screen
- ② Housing
- ③ Housing rear wall

Bottom view



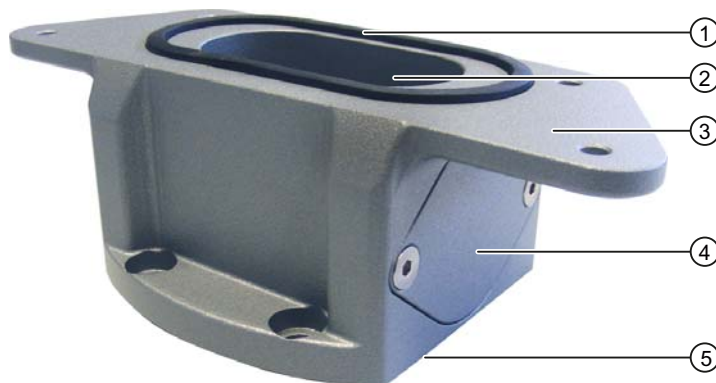
- ① Cover, bottom

Rear view



- ① Cover, can be installed with screws on top
- ② Housing rear wall
- ③ Cover, installed with screws on bottom

1.3.2 Structure of the basic adapter



- ① Seal
- ② Cable channel
- ③ Mechanical interface to the Thin Client PRO
- ④ Mechanical interface to Extension Unit
- ⑤ Mechanical interface for the adapter from the adapter set

The basic adapter is included in the delivery scope of the Thin Client PRO 15". An adapter set belongs to the basic adapter, which can be ordered as an accessory. The basic adapter and adapter set are required to mount the Thin Client PRO to a supporting arm or on a stand. The order information for the adapter set is available in the section Accessories (Page 19).

1.4 Accessory kit

Accessory kit for the Thin Client 10" Touch and the Thin Client 15" Touch

The accessory kit contains the following:

- Mains terminal for the power supply
- Spring clamps for mounting the HMI device

Additional documents may be enclosed with the accessory kit.

Accessory kit for the Thin Client PRO 15"


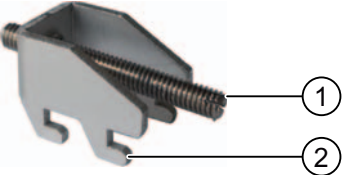
The accessory kit contains the following:

- Mains terminal for the power supply
- Basic adapter as a basic element for fixing to a supporting arm
- Four screws for fixing the basic adapter to an adapter from an adapter set

Additional documents may be enclosed with the accessory kit.

Mounting clamps

Spring clamps or metal mounting clamps are provided for mounting the device. The mounting clamps hook into oblong holes on the HMI device. The overall dimensions of the HMI device are not exceeded by this type of installation.

Spring clamp	Metal mounting clamp
 <p data-bbox="347 1444 446 1512"> ① Slot ② Hook </p>	 <p data-bbox="903 1444 1085 1512"> ① Threaded pin ② Hook </p>

The HMI device is shipped with a product information with instructions on how to fasten the HMI device with the spring clamps.

The metal mounting clamps are part of the service pack with order number 6AV6671-8XC00-0AC0. The service pack is shipped with a product information with instructions on how to fasten the HMI device with the metal mounting clamps.

You can download the product information in the Internet at the following link:

- Product Information "Metal mounting clamp"
<http://support.automation.siemens.com/WW/view/en/34915725>
- Product Information "Spring clamp"
<http://support.automation.siemens.com/WW/view/en/34916893>

1.5 Accessories

In addition to the scope of delivery, you can order the following accessories online in the Industry Mall (<http://mall.automation.siemens.com>).

Protective foil

You can obtain protective foil for the Thin Client's touch screen. The protective foil is not part of the scope of delivery of the HMI device.

The following order numbers apply to the protective foils:

HMI device	Order no.
Thin Client 10" Touch	6AV6671-3DC00-0AX0
Thin Client 15" Touch, Thin Client PRO 15"	6AV6574-1AD00-4EX0

Clamping frame

A clamping frame is available for the Thin Client 10" Touch and the Thin Client 15" Touch. If the material thickness around the mounting cutout is very low, you will reach IP54 degree of protection with additional mounting clamps from one of the service packs for IP65 degree of protection. For additional information, see Section Preparing for installation (Page 32).

The following order numbers apply to the clamping frames:

HMI device	Order no.
Thin Client 10" Touch	6AV6671-8XS00-0AX0
Thin Client 15" Touch	6AV6671-8XS01-0AX0

Service packs for the Thin Client 10" Touch and the Thin Client 15" Touch

For a certain material thickness at the mounting cutout and to ensure protection class IP65 you need to install additional mounting clamps that are included in the service packs. For additional information, see Section Preparing for installation (Page 32).

The service packs are available with the following order numbers:

Mounting clamps	Order no.
Spring clamps	6AV6671-6AP00-0AX0
Metal mounting clamps	6AV6671-8XC00-0AC0

Basic adapter

The basic adapter is included in the delivery scope of the Thin Client PRO 15". The basic adapter can be ordered as an accessory with the order number 6AV7674-0KA00-0AA0 .

USB port



A dust and splash-water proof USB port is included in the scope of delivery of the Thin Client PRO 15".

Adapter sets for supporting arm systems

The following adapter sets are available for the Thin Client PRO 15":

Adapter set	Suitable for supporting arm systems	Order no.
Adapter set VESA75	VESA75-compatible systems	6AV7674-0KE00-0AA0
Adapter set VESA100	VESA100-compatible systems, Rose GTN II supporting arm systems	6AV7674-0KD00-0AA0

Extension Unit 15"

Use Extension Unit 15" to install additional operator controls and displays on the Thin Client PRO 15". The Extension Unit 15" is available with order number 6AV7674-0KG00-0AA0.

1.6 Typical application scenarios for the Thin Client

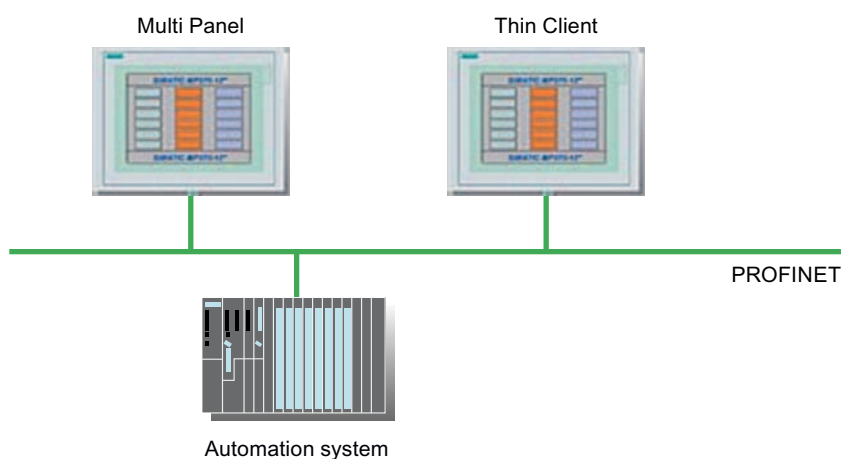
Thin Clients can be used in different scenarios as operating terminals. With the Thin Client, for example, you can access HMI devices and hence control a work process. You can also use the Thin Client to operate office applications on a server, for example, on a PC.

The following illustrates two typical application scenarios.

Sm@rtAccess - Client

The Thin Client acts as a Sm@rtAccess client to access an HMI device or a Panel PC. You can use the Thin Client to monitor or operate a WinCC flexible project.

The following figure shows a possible configuration.



Access to a server via "RDP".

The Thin Client uses RDP (Remote Desktop Protocol) to access a server, such as a Panel PC or a PC. The following application scenarios are also possible.

- WinCC/Web Navigator

The Thin Client uses an Internet browser to access the server as a web navigator client on the WinCC/Web Navigator. In this case, the operating system Windows Server 2003 or 2008 must be installed on the server. For more information, refer to the documentation for the WinCC/Web Navigator option.

- Windows XP SP3 and Windows 7 operating systems

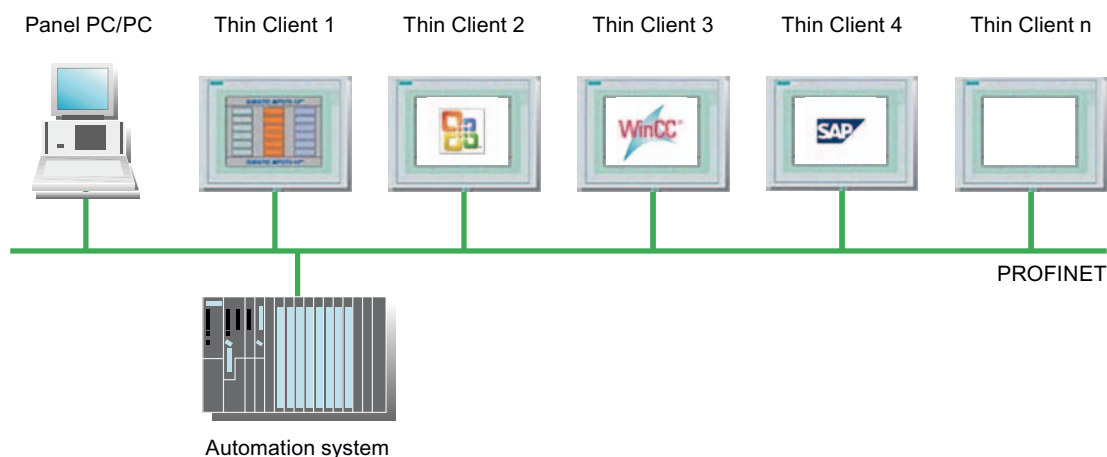
The Thin Client accesses an office application, such as MS Excel or an SAP application, on the server. In contrast to the Windows Server operating systems, you can only operate one screen with Windows XP and Windows 7. The other monitor is always blocked.

- Windows Server 2003 SP2 operating system

The Thin Client accesses an office application running under Windows Server 2003, such as MS Excel or an SAP application, on the server.

- Windows Server 2008 operating system

The following figure shows a possible configuration using the Windows Server operating system on a Panel PC/PC.



Access to SINUMERIK

The Thin Client accesses the system network of the SINUMERIK through the SINUMERIK connection. The system network configures the Thin Client to a SINUMERIK Thin Client Unit (TCU). Using the TCU you control and monitor a SINUMERIK PCU 50.3 with PCU Basesoftware XP V8.6 SP1 or higher or SINUMERIK NCU 7x0.2 with CNC software V2.6 SP1 or higher.

1.7 Product brief - connecting and starting the HMI device

Procedure

Step	See also
<p>Thin Client 10" Touch, Thin Client 15" Touch Position the HMI device in the mounting cutout and use clamping frames to fix the HMI device.</p> <p>Thin Client PRO 15" Use the basic adapter and an adapter set to fix the HMI device to a supporting arm or on a stand.</p>	<p>Installing the Thin Client 10" Touch and Thin Client 15" Touch (Page 38)</p> <p>Installing the Thin Client PRO 15" (Page 41)</p>
Connect the equipotential bonding.	Connection of equipotential bonding (Page 45)
Connect the power supply.	Connecting the power supply (Page 47)
Connect PROFINET.	Connecting the Thin Client to PROFINET (Page 49)
Optional: Connect an external USB device.	Connecting a USB device (Page 49)
Switching on the power supply.	Switching on and testing the HMI device (Page 50)
Call the configuration settings.	Structure and functions of the taskbar (Page 99)
Switch on the network connection of the Thin Client.	Network settings (Page 58)
Enter the IP addresses and further access parameters of the required server.	Editing client-server connections (Page 65)
Establish a new administrator password for the configuration settings.	Administrator password (Page 56)
Close the configuration settings.	
Start the requested client application.	Structure and functions of the taskbar (Page 99)

Safety instructions and general notes

2.1 Safety instructions

The following information applies to all Thin Clients.

High frequency radiation

NOTICE

Unwanted operating states

High frequency radiation, for example from a cell phone, causes unintentional operating situations.

Installation according to the instructions

WARNING

Installation only in machinery that conforms to the machinery directive

Commissioning of the HMI device is forbidden until it has been absolutely ensured that the machine in which the HMI device is to be installed complies with Directive 98/37/EC or Directive 2006/42/EC as of 29 December 2009.

Safety instructions for the Thin Client 10" Touch, Thin Client 15" Touch

The following information applies to HMI devices Thin Client 10" Touch, Thin Client 15" Touch.

Working on the control cabinet

WARNING

Open equipment

The HMI device is open equipment. This means that the HMI device may only be mounted in housings or cabinets, whereby the device can be operated from the front panel.

The cubicle or cabinet in which the HMI device is installed may only be accessed with a key or tool and only by trained, authorized personnel.

Dangerous voltage

When you open the control cabinet, you may have access to parts that carry dangerously high voltages.

Always disconnect the cabinet from the mains before opening it.

2.2 Standards, certificates and approvals

Approvals

 **CAUTION**

The following overview shows possible approvals. The HMI device itself is certified as shown in the approvals on its rear panel.

CE approval



The HMI device meets the general and safety-related requirements of the following EC directives and conforms to the harmonized European standards (EN) for programmable logic controllers published in the official gazettes of the European Union:

- 2004/108/EC Electromagnetic Compatibility Directive (EMC Directive)

UL approval



Underwriters Laboratories Inc., to

- UL 508 (Industrial Control Equipment)
- CSA C22.2 No. 142 (Process Control Equipment)

Marking for Australia



The HMI device fulfills the requirements of standard AS/NZS 2064 (Class A).

EU declaration of conformity, approvals and certificates

You request copies of the certificates and associated reports from the following address:

Siemens AG
Industry Sector
I IA AS RD ST
PO Box 1963
92209 Amberg
Germany

Certificates are available on the Internet at "Technical Support (<http://support.automation.siemens.com>)". Select "Product Support".

2.3 Notes about usage

Use in industry

The HMI device is designed for industrial use, limit class A. For this reason, the following standards are met:

- Requirements for emitted interference, EN 61000-6-4:2007
- Requirements for immunity to interference, DIN EN 61000-6-2:2005

Residential use

NOTICE
Interference with radio / TV reception
The HMI device is not suitable for use in residential areas: When you operate the HMI device in a residential area, you must ensure Limit Class B conforming to EN 55016 regarding emission of radio interference.

A suitable measure for achieving the required RF interference level for Limit Class B includes for example:

- Installation of the HMI device in grounded control cabinets
- Use of filters in electrical supply lines

Individual acceptance is required.

2.4 Electromagnetic compatibility

Introduction

The HMI device fulfills requirements of the EMC directive of the domestic European market and other requirements.

EMC-compliant installation of the HMI device

The EMC-compliant installation of the HMI device and the application of interference-proof cable is the basis for interference-free operation. The description, "Guidelines for Interference-Free Construction of PLCs" is also valid for mounting the HMI device.

Pulse-shaped interference

The following table shows the electromagnetic compatibility of modules with regard to pulse-shaped interference. This requires the HMI device to meet the specifications and directives for electrical installation.

Pulse-shaped interference	Test voltage	Degree of severity
Electrostatic discharge in accordance with IEC 61000-4-2	Air discharge: 8 kV Contact discharge: 6 kV	3
Bursts (high-speed transient interference) in accordance with IEC 61000-4-4	2 kV power supply cable 2 kV signal cable, > 30 m 1 kV signal cable, < 30 m	3
High-power surge pulses in accordance with IEC 61000-4-5, external protective circuit required (refer to S7-300 PLC, Installation, chapter "Lightning and overvoltage protection").		
Asymmetrical coupling	2 kV power cable DC voltage with protective elements 2 kV signal/data cable, > 30 m, with protective elements as required	3
Symmetrical coupling	1 kV power cable DC voltage with protective elements 1 kV signal cable, > 30 m, with protective elements as required	3

Sinusoidal interference

The following table shows the EMC behavior of the modules with respect to sinusoidal interference. This requires the HMI device to meet the specifications and directives for electrical installation.

Sinusoidal interference	Test values	Degree of severity
HF radiation (electromagnetic fields) according to IEC 61000-4-3	<ul style="list-style-type: none"> • 80% amplitude modulation at 1 kHz with 10 V/m in the range of 80 MHz to 1 GHz with 3 V/m in the range 1.4 GHz to 2 GHz with 1 V/m the range 2 GHz to 2.7 GHz • 10 V/m with 50% pulse modulation at 900 MHz 10 V/m with 50% pulse modulation at 1.89 GHz 	3
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 9 MHz to 80 MHz range	3

Emission of radio interference

The following table shows the unwanted emissions from electromagnetic fields in accordance with EN 55016, Limit Value Class A, Group 1, measured at a distance of 10 m.

From 30 to 230 MHz	< 40 dB (µV/m) quasi-peak
From 230 to 1000 MHz	< 47 dB (µV/m) quasi-peak

Additional measures

Before you connect an HMI device to the public network, ensure that it is compliant with Limit Value Class B in accordance with EN 55022.

2.5 Transport and storage conditions

Mechanical and climatic conditions for transportation and storage

The transport and storage conditions of this HMI device exceed requirements in accordance with IEC 61131-2. The following specifications apply to the transport and storage of an HMI device in its original packaging.

The climatic conditions conform to the following standards:

- IEC 60721-3-3, Class 3K7 for storage
- IEC 60721-3-2, Class 2K4 for transportation

Mechanical requirements conform to EC 60721-3-2, Class 2M2.

Type of condition	Permitted range
Drop test (in transport package)	≤ 1 m
Temperature	From -20 to +60 °C
Atmospheric pressure	From 1,140 hPa to 660 hPa, corresponds to an elevation of -1,000 m to 3,500 m
Relative humidity	From 10 to 90 %, without condensation
Sinusoidal vibration in accordance with IEC 60068-2-6	5 to 9 Hz: 3.5 mm 9 Hz to 500 Hz: 9.8 m/s ²
Shock in accordance with IEC 60068-2-29	250 m/s ² , 6 ms, 1,000 shocks

NOTICE
<p>Danger of condensation and malfunctioning</p> <p>If the HMI device is exposed to low temperatures or extreme fluctuations in temperature during transportation, moisture may occur on or inside the HMI device.</p> <p>The HMI device must have acquired room temperature before it is put into operation. Do not expose the HMI device to direct radiation from a heater in order to warm it up. If condensation has developed, wait approximately 4 hours until the HMI device has dried completely before switching it on.</p>

Proper transport and storage, installation and assembly as well as careful operation and maintenance are required to ensure trouble-free and safe operation of the HMI device.

The warranty for the HMI device will be deemed void if these stipulations are not heeded.

Planning application

3.1 Notes about usage

Mechanical and climatic conditions of use

The HMI device is designed for use in a location protected from the effects of the weather. The conditions of use are compliant with requirements to DIN IEC 60721-3-3:

- Class 3M3 (mechanical requirements)
- Class 3K3 (climatic requirements)

Use with additional measures

The HMI device should not be used at the following locations unless additional measures are taken:

- In locations with a high degree of ionizing radiation
- In locations with difficult operating conditions, for example due to:
 - Corrosive vapors, gases, oils or chemicals
 - Electrical or magnetic fields of high intensity
- In systems that require special monitoring, for example:
 - Elevators
 - Systems in especially hazardous rooms

Mechanical operating conditions

The following table contains the characteristics for permitted vibration values.

Frequency band	Constant	Occasional
10 Hz ≤ f ≤ 58 Hz	Amplitude 0.0375 mm	Amplitude 0.075 mm
58 Hz ≤ f ≤ 150 Hz	Constant acceleration 0.5 g	Constant acceleration 1 g

Attenuating shocks and vibrations

If the HMI device is subject to severe shocks or vibrations, you must take appropriate measures to reduce amplitudes or acceleration. In such cases use vibration-attenuating or vibration-extinguishing systems for HMI device and accessories.

Testing mechanical operating conditions

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

Test	Remark
Vibrations Test according to IEC 60068, Part 2-6 (sinusoidal)	Type of vibration: Transitional rate of the frequency: 1 octave/minute. 5 Hz ≤ f ≤ 9 Hz, Constant amplitude 3.5 mm 9 Hz ≤ f ≤ 150 Hz, Constant acceleration 1 g, with support arm 0.5 g on the basic adapter Vibration duration: 10 frequency cycles per axis in each of the three mutually vertical axes.
Shock Test according to IEC 60068, Part 2-27	Type of shock: Half-sine Shock intensity: Peak value 15 g, duration 11 ms Direction of impact: 3 shocks in ± directions in each of the three mutually vertical axes

Climatic operating conditions

The following table shows the permitted climatic operating conditions for the device.

Ambient conditions	Permitted range	Comments
Temperature <ul style="list-style-type: none"> • Vertical installation Thin Client 10" Touch, Thin Client 15" Touch Thin Client PRO 15" • Tilted installation Thin Client 10" Touch, Thin Client 15" Touch Thin Client PRO 15" 	From 0 to 50° C From 0 to 50° C From 0 to 45 C From 0 to 40° C From 0 to 40° C From 0 to 45 C	Refer to the "Mounting positions and type of fixation" chapter
Relative humidity	10% to 80%, without condensation	Corresponds to relative humidity, load degree 2 according to IEC 61131, Part 2
Atmospheric pressure	1,140 to 795 hPa	Corresponds to an elevation of – 1 000 to 2 000 m
Pollutant concentration	SO ₂ : < 0.5 vpm; Relative humidity < 60%, no condensation	Test: 10 cm ³ /m ³ ; 10 days
	H ₂ S: < 0.1 vpm; Relative humidity < 60%, no condensation	Test: 1 cm ³ /m ³ ; 10 days

3.2 Thin Client 10" Touch and Thin Client 15" Touch

3.2.1 Mounting positions

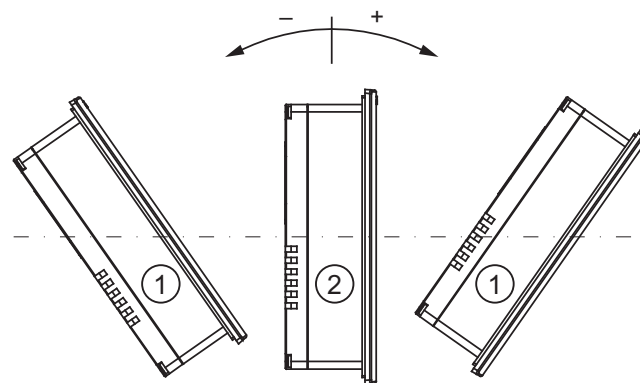
Mounting position

The HMI device is suitable for installation in:

- Mounting cabinets
- Control cabinets
- Switchboards
- Consoles

In the following, all of these mounting options are referred to by the general term "cabinet".

The HMI device is self-ventilated and approved for vertical and inclined mounting in stationary cabinets.



	Mounting position	Deviation from the vertical
①	Inclined	≤ 35°
②	Vertical	0°

CAUTION

Damage due to overheating

Convection through the HMI device is reduced with installation at an angle. This fact also reduces the maximum permitted operating temperature for operation. Operate the HMI device at an inclined mounting position up to the permitted ambient temperature for vertical installation with sufficient forced ventilation. Otherwise the HMI device loses its approvals and the warranty may become obsolete.

3.2.2 Preparing for installation

Select the mounting location of the HMI device

Points to observe when selecting the mounting location:

- Position the HMI device so that it is not subjected to direct sunlight.
- Position the HMI device such that it is ergonomically accessible for the user. Choose a suitable mounting height.
- Ensure that the air vents of the HMI device are not covered as a result of the mounting.
- Observe the permissible mounting positions for the HMI device.

NOTICE
Stability of the mounting cut-out The material in the area of the mounting cut-out must provide sufficient strength to guarantee the enduring and safe mounting of the HMI device. The force of the clamps or operation of the device may not lead to deformation of the material in order to achieve the degrees of protection described below. The material thickness at the mounting cut-out must be at least 1.0 mm.

Degrees of protection

The following degrees of protection are possible:

- Degree of protection IP54 or degree of protection Enclosure Type 12 (indoor use only)
- Degree of protection IP65 or degree of protection Enclosure Type 4X/Type 12 (indoor use only)

To ensure degree of protection IP65, additional mounting clamps are required. The additional mounting clamps are available in the service pack.

Service packs for Thin Client 10" Touch and 15" Touch are available with the following order numbers:

- With spring clamps: Order number 6AV6671-6AP00-0AX0
- With metal mounting clamps: order number 6AV6671-8XC00-0AC0

To ensure degree of protection IP54 or IP65, you will have to meet the following requirements:

- Permitted deviation from plane at the mounting cut-out: ≤ 0.5 mm
This condition must be fulfilled for the mounted HMI device.
- Permissible surface roughness in the area of the seal: ≤ 120 μm (R_z 120)
- The material thickness at the mounting cut-out must be at least 6 mm.

Spring clamps or metal mounting clamps, each with or without clamping frames, are used depending on the material thickness at the mounting cut-out.

The relationships are shown in the table below:

Material thickness	Spring clamp	Metal mounting clamp	Clamping frame required
1.0 to 1.5 mm	x	x	Yes
1.5 to 2 mm	x	-	No
	-	x	Yes
2 to 4 mm	x	-	No
4 to 6 mm	-	x	No

The clamping frame is available as an accessory, see section Accessories (Page 19).

Dimensions of the mounting cut-out

The following table shows the dimensions of the required mounting cut-out:

Mounting cut-out	Thin Client 10" Touch	Thin Client 15" Touch
Width	310 ⁺¹ mm	367 ⁺¹ mm
Height	248 ⁺¹ mm	289 ⁺¹ mm
Depth of the clearance	61 mm	61 mm

Note

You can insert a Thin Client 10" Touch into the mounting cutout of the following HMI devices:

- MP 277 10" Touch
- MP 377 12" Touch

You can insert a Thin Client 15" Touch in the mounting cutout of the following HMI device:

- MP 377 15" Touch

Please observe the following:

Insert the HMI device centered in the mounting cutout. Otherwise you cannot fix the upper mounting clamps in position.

Maintaining clearances

The HMI device must be installed with the following clearances:

- Always allow 50 mm above and below the mounting cutout respectively for ventilation
- Right and left of the mounting cut-out respectively for attaching the mounting clamps:
 - When using spring clamps: 25 mm each
 - When using metal mounting clamps: 15 mm each
 - When using a clamping frame, independent of the type of mounting clamp used: 25 mm each
- At least 10 mm clearance in addition to the mounting cutout of the HMI device is required at the rear

NOTICE
Ensure that the maximum ambient temperature is not exceeded when mounting the device in a cabinet and especially in a closed enclosure.

3.2.3 Information on insulation tests, protection class and degree of protection

Test voltages

Insulation strength is demonstrated in the type test with the following test voltages in accordance with IEC 61131-2:

Circuits with a nominal voltage of U_n to other circuits or ground	Test voltage
< 50 V	500 VDC

Protection class

Protection Class I in accordance with IEC 60536, i.e. PE/ground terminal to profile rail required!

Protection against foreign objects and water

The following degree of protection applies to the HMI device:

Degree of protection in accordance with IEC 60529	Explanation
Front	When mounted: <ul style="list-style-type: none"> • IP54, optional IP65 • Enclosure type 12 (indoor use only), optional enclosure type 4X/type 12 (indoor use only)
Rear panel	IP20 Touch protection test with standard test probes. There is no protection against the penetration of water.

3.3.2 Preparing for installation

Select the mounting location of the HMI device

Points to observe when selecting the mounting location:

- Position the HMI device so that it is not subjected to direct sunlight.
- Position the HMI device such that it is ergonomically accessible for the user. Choose a suitable mounting height.
- Observe the permissible mounting positions for the HMI device.

3.3.3 Information on insulation tests, protection class and degree of protection

Test voltages

Insulation strength is demonstrated in the type test with the following test voltages in accordance with IEC 61131-2:

Circuits with a nominal voltage of U_n to other circuits or ground	Test voltage
< 50 V	500 VDC

Protection class

Protection Class I in accordance with IEC 60536, i.e. PE/ground terminal to profile rail required!

Protection against foreign objects and water

The following degree of protection applies to the HMI device:

Device side	Degree of protection in accordance with IEC 60529
all sides	<ul style="list-style-type: none"> • IP65 • Enclosure Type 12 (indoor use only) • Enclosure Type 4X/Type 12 (indoor use only)

3.3.4 Rated voltages

The table below shows the rated voltage and the corresponding tolerance range.

Rated voltage	Tolerance range
+24 VDC	19.2 to 28.8 V (+/-20%)

Mounting and connecting

4.1 Checking the package contents

Check the package content for visible signs of transport damage and for completeness.

NOTICE
If a part is damaged
A damaged part will cause the HMI device to malfunction.
Do not install parts damaged during shipment. In the case of damaged parts, contact your Siemens representative.

Thin Client 10" Touch and Thin Client 15" Touch is available in the delivery scope as follows:

- HMI device
- Accessory kit with mounting clamps and mains terminal
- CD with source codes for the open source software

The following is supplied along with the Thin Client PRO 15":

- HMI device
- Mains terminal
- Basic adapter for fixing to a supporting arm
- Four screws for fitting the basic adapter
- CD with source codes for the open source software

Additional documents may be included in the delivery.

The documentation belongs to the HMI device and is required for subsequent commissioning. Retain all enclosed documentation for the entire service life of the HMI device. You must pass on the enclosed documentation to any subsequent owner or user of the HMI device. Make sure that every supplement to the documentation that you receive is stored together with the operating instructions.

4.2 Installing or dismantling the HMI device

4.2.1 Installing the Thin Client 10" Touch and Thin Client 15" Touch

Requirement

All packaging components and protective foils should be removed from the HMI device.

To install the HMI device, you need the mounting clamps from the accessories. The mounting seal must be fitted on the HMI device. If the mounting seal is damaged, order a replacement seal. The mounting seal is part of the service packs.

The service packs can be ordered separately with the following order numbers:

- With spring clamps: Order number 6AV6671-6AP00-0AX0
- With metal mounting clamps: order number 6AV6671-8XC00-0AC0

To ensure the necessary degree of protection on the HMI device, the mounting clamps must observe the positions listed below.

Procedure

NOTICE

Always mount the HMI device according to the instructions in these operating instructions.
--

Proceed as follows:

1. Check that the mounting seal is fitted on the HMI device.
Do not install the mounting seal turned inside out. A mounting seal that is turned inside out will cause leaks at the mounting cutout.
2. Insert the HMI device into the mounting cut-out from the front.
3. Insert a mounting clamp into a recess on the HMI device.
4. Fasten the mounting clamp as described in the corresponding product information. You can download the product information for metal mounting clamps or spring clamps in the Internet at the following links:
 - Product Information "Metal mounting clamp"
(<http://support.automation.siemens.com/WW/view/en/34915725>)
 - Product Information "Spring clamp"
(<http://support.automation.siemens.com/WW/view/en/34916893>)
5. Repeat steps 3 and 4 for all mounting clamps required for installation of the HMI device.

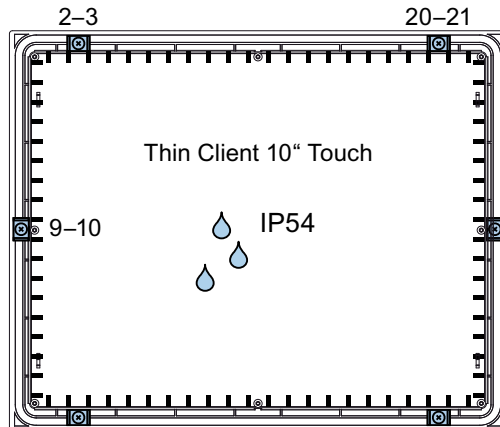
NOTICE

Check the fit of the mounting seal on the front. The mounting seal must not protrude from the HMI device.

Otherwise, repeat steps 1 to 5.

Positioning the mounting clamps on the Thin Client 10" Touch

In total, you will need 6 mounting clamps for the installation with IP54 degree of protection. The following figure shows the correct positions of the mounting clamps.

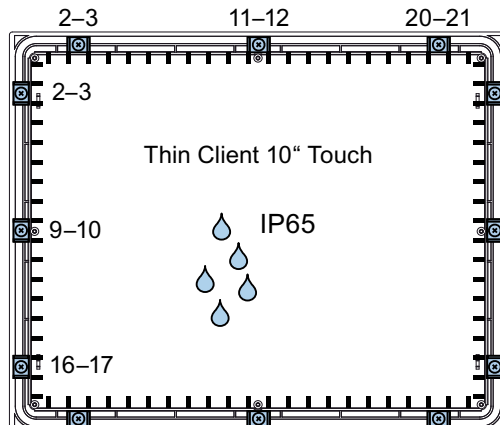


IP65 degree of protection

For the Thin Client to achieve IP65 degree of protection, you will require six additional mounting clamps from the service pack for the installation. Service packs are available with the following order numbers:

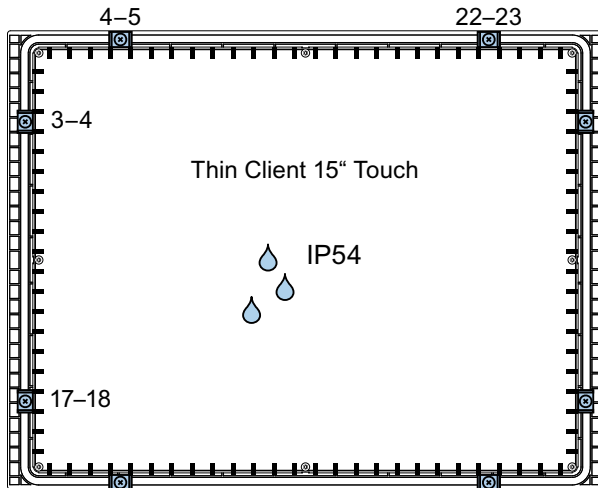
- Service pack with spring clamps, order number 6AV6671-6AP00-0AX0
- Service pack with metal spring clamps, order number 6AV6671-8XC00-0AC0

In total, you will need 12 mounting clamps for the installation with IP65 degree of protection. The following figure shows the correct positions of the mounting clamps.



Positioning the mounting clamps on the Thin Client 15" Touch

In total, you will need 8 mounting clamps for the installation with IP54 degree of protection. The following figure shows the correct positions of the mounting clamps.

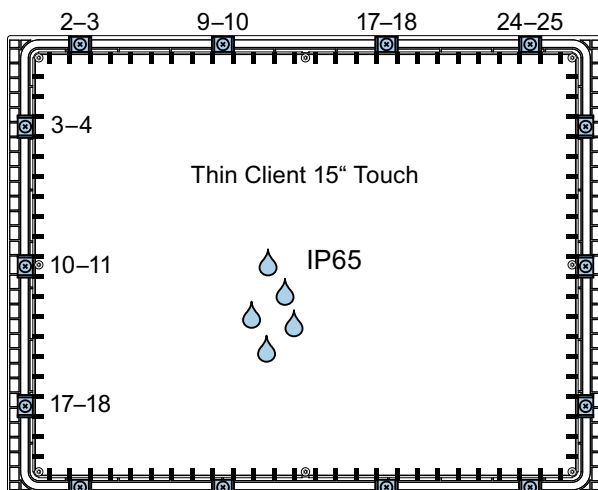


IP65 degree of protection

For the Thin Client to achieve IP65 degree of protection, you will require six additional mounting clamps from the service pack for the installation. Service packs are available with the following order numbers:

- Service pack with spring clamps, order number 6AV6671-6AP00-0AX0
- Service pack with metal spring clamps, order number 6AV6671-8XC00-0AC0

In total, you will need 14 mounting clamps for the installation with IP65 degree of protection. The following figure shows the correct positions of the mounting clamps.



See also

Spare parts and repairs (Page 112)

4.2.2 Installing the Thin Client PRO 15"

Requirement

All packaging components and protective foils should be removed from the HMI device.

To install the HMI device, you need the basic adapter and an adapter set from the accessories.

The following cables are fed through the stand or the supporting arm to which the HMI device will be fixed:

- Equipotential bonding cable
- Power supply cable
- PROFINET cable

NOTICE
Warranty endangered If you install the HMI device not in accordance with the specifications given in these operating instructions, the warranty for the HMI device will become void. Always install the HMI device according to these operating instructions. IP65 degree of protection at risk If there are no seals on the adapters or these are damaged, then IP65 degree of protection is at risk. Check the condition and seating of the seals. If the seal on the rear wall of the housing is damaged, then this can be repaired. For a repair scenario, proceed as directed in chapter "Spare parts and repairs (Page 112).

Note

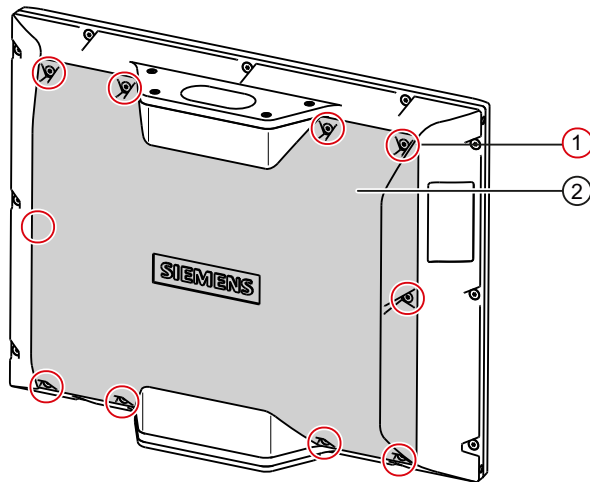
The warranty for the IP65 degree of protection assumes that the supporting arm or the stand also complies with IP65.

Procedure

This section describes how to mount the HMI device on a support arm system. Mounting of a stand at the bottom of the HMI device is carried out in the same manner.

Proceed as follows:

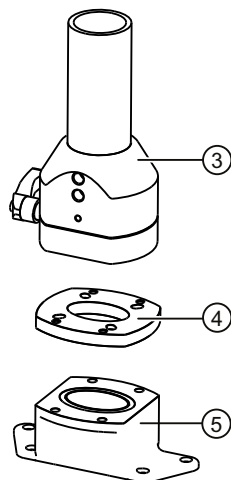
1. Remove the 10 screws ① from the rear wall of the housing.



2. Remove the rear wall of the housing ② and store it in a secure location.

<p>⚠ CAUTION</p> <p>Destruction of the housing</p> <p>If you overtighten the screws, the thread in the support arm head and in the intermediate plate will be damaged.</p> <p>Tighten the screws in the support arm head and in the intermediate plate with a maximum torque of 5.7 Nm.</p> <p>Pinching and bending of connection cables</p> <p>Before you install the intermediate plate, basic adapter and mechanical interface, you should route the connection cables through these components. Make sure that the connection cables are not pinched or bent when you tighten the screws.</p>
--

3. Screw on the intermediate plate ④ from below to the support arm head ③: To do so insert the four screws M6 x 12 from the accessories kit of the adapter set through the outer holes of the intermediate plate. Check that the seal is properly seated.



4. Screw on the basic adapter ⑤ from below to the intermediate plate ④: To do so insert the four screws M6 x 12 from the accessories kit of the adapter set through the upper holes of the basic adapter and fasten the screws into the inner threaded holes of the intermediate plate. Check that the seal is properly seated.

 **CAUTION**

Destruction of the housing

If you overtighten the screws, the thread in the HMI device will be damaged.

Tighten the screws at the mechanical interface and at the housing rear panel with a maximum torque of 0.8 Nm.

5. Hold the HMI device under the support arm head. Screw on the basic adapter ⑤ to the top of the mechanical interface of the HMI device. Check that the seal is properly seated.
6. If you want to connect the cables at a much later point in time, fasten the housing rear panel ② back on (see the section "Closing the housing rear wall for the Thin Client PRO 15" (Page 51)").
7. Fasten the supplied cover with 4 screws at the bottom of the mechanical interface.

Result

The HMI device is fitted and can be connected electrically.

4.3 Connecting the HMI device

4.3.1 Overview

Requirement


- The HMI device must be mounted according to the specifications of these operating instructions.
- Always use shielded standard cables.

For order information please refer to Industry Mall (<http://mall.automation.siemens.com>).

Connection sequence

Connect the HMI device in the following sequence:

1. Equipotential bonding
2. Power supply
3. PROFINET
4. I/Os as necessary

 CAUTION
Damage in case of incorrect connection sequence
Ensure you connect the HMI device in the sequence stipulated above.

Disconnect the HMI device by completing the above steps in reverse order.

Connecting the cables

When connecting the cables, ensure that the contact pins are not bent. Secure the cable connectors by screwing the connector onto the housing of the HMI device.

Provide adequate strain relief for all cables. For this purpose, the Thin Client PRO 15" has a strain relief rail fitted beneath the interfaces.

The pin assignment of the ports is described in the technical specifications.

See also

Safety instructions (Page 23)

Power Supply (Page 119)

USB (Page 120)

LAN (PROFINET) (Page 120)

4.3.2 Ports

The following figure shows the interfaces available on the Thin Client.



- ① LAN interface (PROFINET)
- ② USB port
- ③ Power supply connector

4.3.3 Connection of equipotential bonding

Differences in electrical potential

Differences in electrical potential can develop between spatially separated plant components. Such electrical potential differences can lead to high equalizing currents over the data cables and therefore to the destruction of their interfaces. Equalizing currents can develop if the cable shielding is terminated at both ends and grounded to different plant parts.

Differences in potential may develop when a system is connected to different mains supplies.

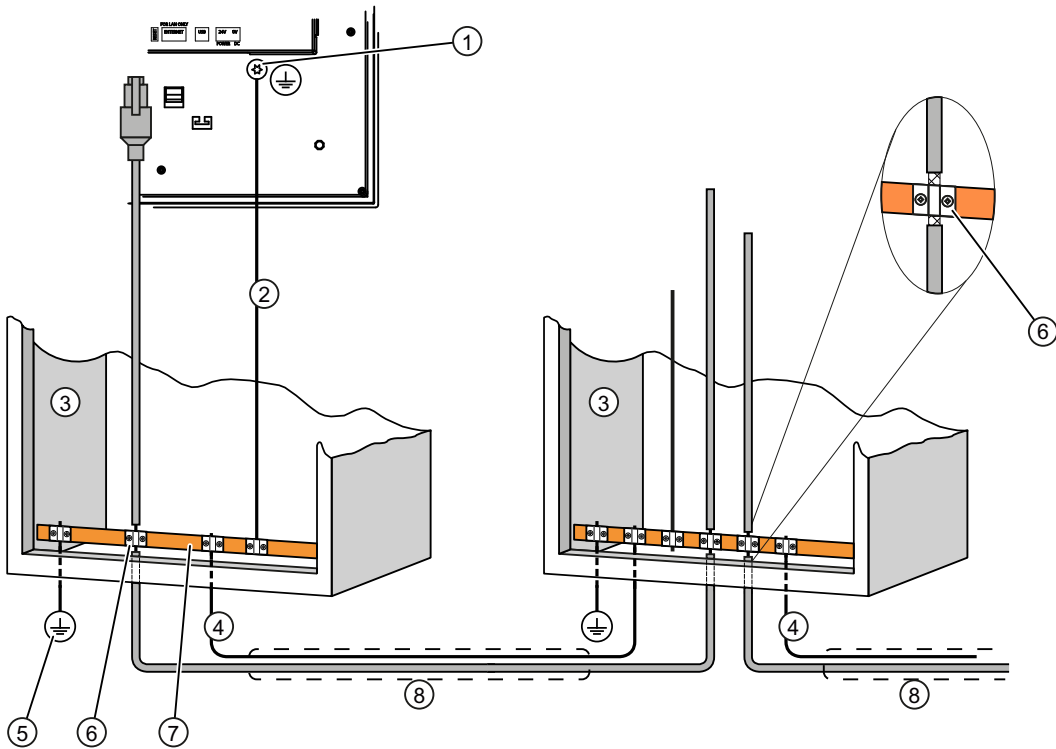
General requirements for equipotential bonding

Differences in potential must be reduced by means of equipotential bonding in order to ensure trouble-free operation of the relevant components of the electronic system. The following must therefore be observed when installing the equipotential bonding circuit:

- The effectiveness of equipotential bonding increases as the impedance of the equipotential bonding conductor decreases or as its cross-section increases.
- If two plant parts are interconnected by means of shielded data cables and their shielding is bonded at both ends to the grounding/protective conductor, the impedance of the additionally installed equipotential bonding cable must not exceed 10% of the shielding impedance.
- The cross-section of an equipotential bonding conductor must be capable of handling the maximum equalizing current. Experience has shown that equipotential bonding conductors with a minimum cross-section of 16 mm² should be fitted between the control cabinets or the ground point of the supporting arm or the stand for PRO HMI devices.
- Use equipotential bonding conductors made of copper or galvanized steel. Establish a large surface contact between the equipotential bonding conductors and the grounding/protective conductor and protect these from corrosion.

- Use a suitable cable clip to clamp the shield of the data cable flush to the equipotential bonding rail. Keep the length of cable between the HMI device and the equipotential bonding rail as short as possible.
- Route the equipotential bonding conductor and data cables in parallel and with minimum clearance between these.

Wiring diagram



- ① Ground connection on the HMI device, example
- ② Equipotential bonding conductor cross-section: 4 mm²
- ③ Control cabinet
- ④ Equipotential bonding conductor cross-section: min. 16 mm²
- ⑤ Ground connection
- ⑥ Cable clip
- ⑦ Equipotential bonding rail
- ⑧ Parallel routing of the equipotential bonding conductor and data cable

CAUTION

Damage to the interface modules possible

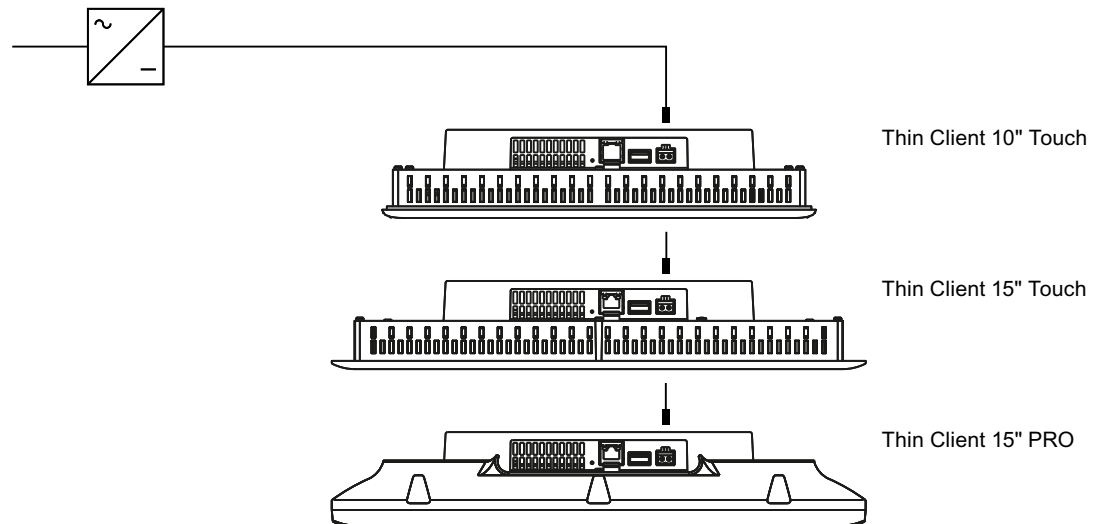
Cable shielding is not suitable for equipotential bonding.

Use only the prescribed equipotential bonding conductors. The equipotential bonding conductor ④ must not be less than 16 mm². The interface modules may otherwise be damaged or destroyed.

4.3.4 Connecting the power supply

Configuration graphic

The following figure shows the connection of the HMI device and the power supply.



Note when connecting

The mains terminal for connecting the power supply is contained in the accessory kit. The mains terminal is designed for cables with a maximum cross-section of 1.5 mm².

Connecting the mains terminal

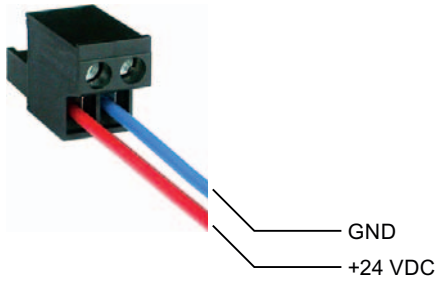
CAUTION

Damage to the socket possible

If you tighten up the screws on the mains terminal while the mains terminal is connected to the HMI device, then the pressure of the screwdriver on the socket could cause damage to the HMI device.

Only connect the wires when the mains terminal is withdrawn.

Connect the mains terminal to the cables of the power supply as shown in the following figure.



Ensure that the lines are connected properly to the correct terminals. Refer to the label for the contact pins on the rear of the HMI device.

Reverse polarity protection

The HMI device is equipped with a reverse polarity protection circuit.

Safe power supply

CAUTION
Malfunction of the HMI device
If the supply voltage does not lie within the specified range, there may be operating faults at the HMI device.
Use only 24 VDC power supply units with safe electrical isolation in accordance with IEC 60364-4-41 or HD 60364-4-41, for example, to SELV / PELV standard.
Applies to non-isolated plant configurations: Connect the "GND" terminal of the 24 VDC power supply to the equipotential bonding. You should always select a central point of termination.

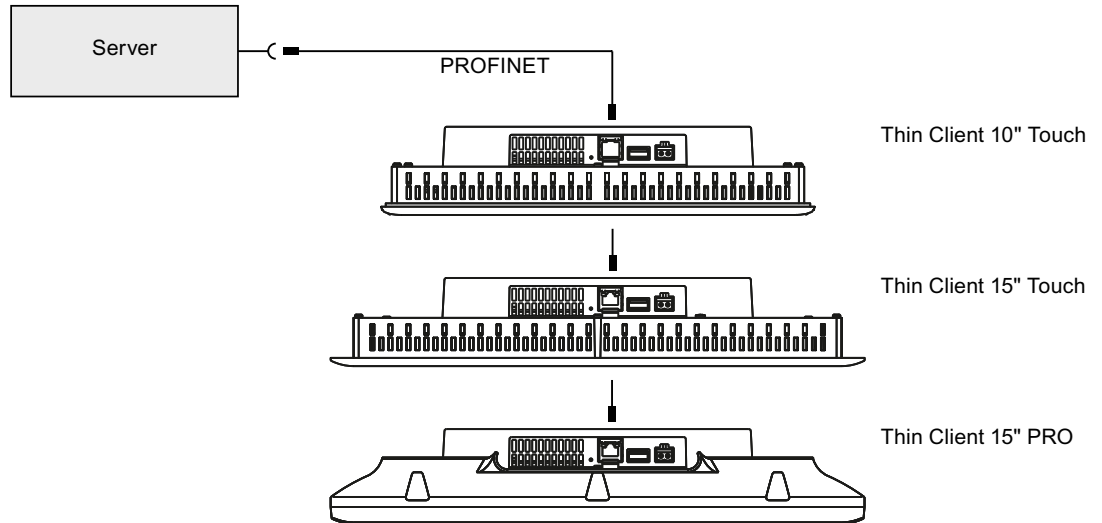
See also

Ports (Page 45)

4.3.5 Connecting the Thin Client to PROFINET

Configuration graphic

The following figure shows the connection between the HMI device and PROFINET.



See also

Ports (Page 45)

4.3.6 Connecting a USB device

You can connect the USB port to the HMI device of the following devices:

- Mouse
- Keyboard
- Industrial USB Hub 4
- USB memory devices

The Thin Client supports only USB memory devices that were formatted with the FAT16 or FAT32 file system.

NOTICE

Malfunction caused by external device

A malfunction may arise if you connect an external device with its own power supply and without equipotential bonding or excessive current load to the USB port.

Ensure a non-insulated installation. Observe the values for maximum load of the USB port (see the Section Specifications (Page 118)).

See also

Ports (Page 45)

USB (Page 120)

SINUMERIK (Page 94)

Operating a USB memory device (Page 109)

4.4 Switching on and testing the HMI device

Procedure - Switching on the HMI device

Proceed as follows:

1. Switching on the power supply.

The screen lights up after power is switched on. Information regarding the included free software is displayed during startup.

If the HMI device fails to start, you have probably crossed the wires on the mains terminal. Check the connected wires and change their connection.

Additional information is available in the configuration settings, Section Connection settings (Page 63). Make sure that you observe the warning at the end of the section.

Function test

Perform a function test following commissioning. The HMI device is fully functional when one of the following states is indicated:

- The start bar is displayed.
- The set autostart connection is established.

Procedure - Switching off the HMI device

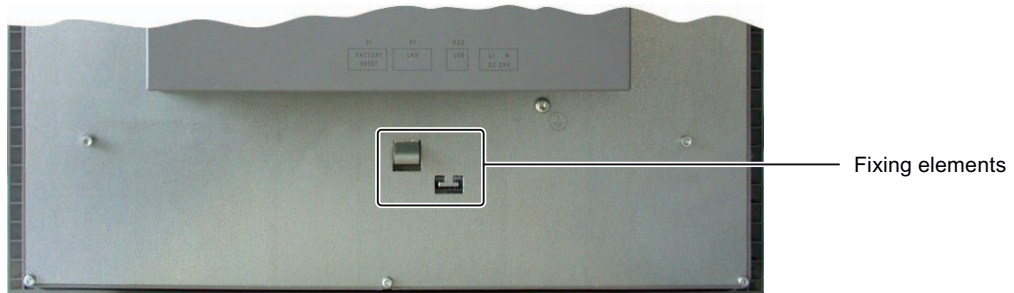
Proceed as follows:

1. If an autostart connection has been established: Select the menu command "Close" in the start bar of the corresponding client application.
2. Switch off the power supply.

4.5 Securing the cables

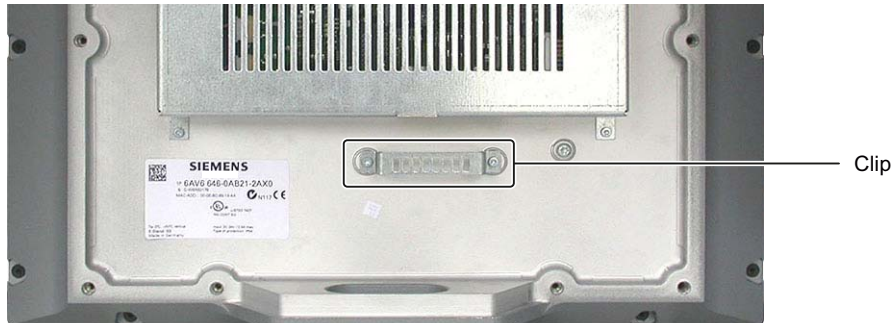
4.5.1 Securing the cables on the Thin Client 10" Touch and Thin Client 15" Touch

After the switch-on test, to ensure strain relief, use cable ties to secure the connected cables to the marked fixing elements.



4.5.2 Securing the cables on the Thin Client PRO 15"

After the switch-on test, to ensure strain relief, use cable ties to secure the connected cables to the marked clasps.



4.6 Closing the housing rear wall for the Thin Client PRO 15"

Requirement

- All cables are connected.

Procedure

Proceed as follows:

1. Check that the seal is properly seated on the housing.

NOTICE
IP65 degree of protection at risk
If the seal on the rear wall of the housing is damaged, the IP65 degree of protection is at risk. This is a repair case. Proceed in accordance with chapter Spare parts and repairs (Page 112).

2. Position the housing rear wall on the housing.
Ensure the housing rear wall cannot fall down.

⚠ CAUTION
Destruction of the housing
If you overtighten the screws ① in the housing rear panel, the thread in the HMI device will be damaged. Tighten the screws of the housing rear panel using a maximum torque of 0.8 Nm.



Configuring the Thin Client

5.1 Potential fields of application for the Thin Client

Applications

The Thin Client can fulfill the following functions as an operator terminal:

- Access to an HMI device as a client via the WinCC Sm@rtAccess option.
- Access as a client via the "RDP" protocols (Windows programs) and "VNC".
- Access as a client to desktops and applications using the Citrix Presentation Server, called "Citrix XenApp" as of V5.0.
- Access as SINUMERIK TCU to a SINUMERIK PCU or NCU.

When accessing a server as a client, for example, an HMI device or a PC, the display of the server is depicted on the screen of the Thin Client. The user uses the Thin Client to access programs or projects on the server.

Note

In the documentation the term "Client application" is used for the various connection types, for example "RDP" or Sm@rtAccess. The term "Citrix Presentation Server" is still used as a synonym for "Citrix XenApp".

5.2 Configuration settings

Configuration

You establish the configuration of the Thin Client in the configuration settings. These include the following settings:


- Network settings
- Connection settings for remote access
- Web browser settings
- Device settings
- Administrator password

Note

Network and connection settings are not required for the SINUMERIK connection.

The configuration settings are saved in a configuration file on the Thin Client. Additional information on the structure of the configuration file is available in the product information "SIMATIC HMI Configuration file Thin Client (<http://support.automation.siemens.com/WW/view/en/35105485>)".

Calling up the configuration settings, locally or centrally

You open the configuration settings with the  icon in the start bar and select the configuration settings in the selection menu. If there is a SINUMERIK connection, you access the SINUMERIK TCU service menu in the SINUMERIK selection menu.

The configuration settings are displayed and modified in the web browser. You exit the configuration settings in the selection menu by using the "Close" menu command.

You can then also enter the address "http://localhost" on the Thin Client in the address bar of the Web browser.

You can also access the Thin Client from an external Web browser by using its valid IP address that can be accessed in the network.

Several persons can be logged on at the same time and change the configuration settings. The last settings that were stored successfully are always the currently valid ones ("Enter" button).

NOTICE
Organize access to the configuration settings in such a way that only one person can edit the configuration settings at one time.

Access with logon

For write access to the configuration settings you must log on with a valid administrator password.

"admin" is the default setting for the administrator password. If the default administrator password "admin" is still valid, it will be displayed on the start page of the configuration settings.

NOTICE
Unauthorized access
The default administrator password is visible without logon. This means unauthorized personnel may have access to the configuration settings and client-to-server connections. After initial commissioning or restoring of the factory settings you should log on with "admin" and assign a new administrator password.
The default setting activates certain services, such as the SSH configuration service. SSH offers, for example, an automatic update function which represents a potential security risk. If you do not need SSH, then deactivate it. For additional information, please refer to "Settings in expert mode (Page 83)".

Access without logon

If you are not logged in, you only have read access to the currently valid network settings and the device data such as the IP address and the MLFB of the device.

Restoring factory settings

Restoring factory settings has the following effects:

- The default configuration file overwrites the configuration file. All connection data for the network, remote access and web browser is reset.

Note

You can, however, back up the configuration file beforehand and restore it again afterwards (see Section "Settings in expert mode (Page 83)").

- The administrator password for logon to the configuration settings is reset to the default administrator password "admin."
- The SSH identifier is reset to the default password.

NOTICE

Resetting to the default password affects the SSH configuration service. Additional information is available in the section "Settings in expert mode (Page 83)".
--

- The calibration information will be deleted.

NOTICE

Faulty touch operation

The touch screen has to be recalibrated.
--

To restore factory settings, hold down the "Factory settings" button on the back of the HMI device when you switch on the Thin Client until the message "Resetting to factory defaults" is displayed on the touch screen.

Special characters

Only alphanumeric characters and certain special characters are permitted in some input fields of the configuration settings. The system will alert you if you enter special characters in these fields that are not permitted. This message will list the permitted special characters.

Adjusting the display in the web browser

The web browser of the Thin Client uses the following freely scalable fonts:

Name of the font	Type
Siemens Sans (True Type)	Sans-serif
Siemens Sans Black (True Type)	Sans-serif
Siemens Sans Black Italic (True Type)	Sans-serif
Siemens Sans Bold (True Type)	Sans-serif
Siemens Sans Bold Italic (True Type)	Sans-serif
Siemens Sans Italic (True Type)	Sans-serif

You can enlarge or reduce the display in the web browser:

- Use the key combination <CTRL><+> to enlarge the display.
- Use the key combination <CTRL><-> to reduce the display.

Note

Depending on the keyboard you are using, it may be necessary that you press the Shift key to access the "+" and the "-" key. In this case, use <Control><Shift><+> to enlarge the display and <Control><Shift><-> to reduce it.

See also

Administrator password (Page 56)

Read access to configuration settings (Page 84)

Design of the Thin Client Touch (Page 12)

5.2.1 Administrator password

Changing the Administrator password

Change the Administrator password under "Security > Admin password". The Administrator password according to the factory settings is "admin". If this default Administrator password is still valid, it will be displayed on the start page of the configuration settings. The standard Administrator password is visible without logon.

The length of the Administrator password is restricted to a maximum of 30 characters. It is not possible to enter an empty Administrator password.

Forgetting the Administrator password

If you have forgotten the Administrator password, you must use the standard Administrator password. To do this, you must restore the factory settings.

NOTICE
Losing the current configuration settings When restoring to factory settings, the current configuration file is overwritten. After restoring to factory settings, the Administrator password "admin" is then valid again. For security reasons it is best to enter a new password.

After restoring to factory settings, a saved configuration file can be transferred back to the HMI device.

After restoring the configuration file, the password contained in this is then valid after the HMI device is restarted. If you wish, you can change the password and make a note of it.

See also

Configuration settings (Page 53)

Device settings (Page 79)

Settings in expert mode (Page 83)

5.2.2 Network settings

Introduction

Under "Network" you can perform the following actions:

- "Settings" tab: Establishing the network settings
- "Status" tab: Displaying valid settings
- "Ping" tab: Checking the connection to other network stations
- "Connection Type" tab: Establishing the speed and mode of the connection
- "PROFINET Base Functions" tab: Enter the name of the Thin Client.

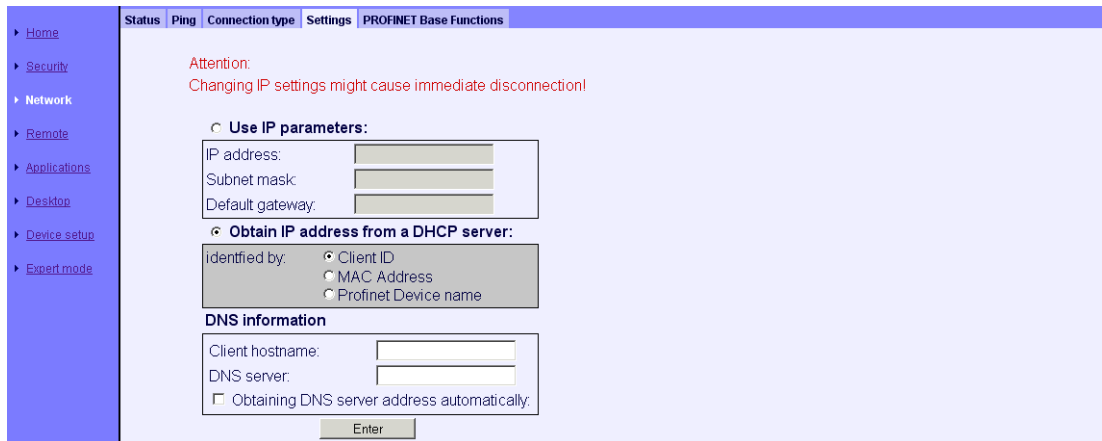
Note

If the position touched on the touch screen during operation is no longer identical with the position evaluated by the touch screen, recalibrate the touch screen (see Section "Device settings (Page 79)").

These network settings are not relevant for the SINUMERIK connection. The SINUMERIK connection automatically obtains its network settings from the system network.

Network settings

The following figure shows the "Settings" tab in the "Network" menu.



Enter the network data of the Thin Client manually using the "Use IP parameters" option. You can also use the "Obtain IP address from a DHCP server" option to specify that this data be automatically assigned by the DHCP server.

Identified by

The HMI device has three features that identify it uniquely. They define under which identification feature the HMI device is recognized by the DHCP server:

- If you select "Client ID", the DHCP server identifies the HMI device on the basis of the host name specified in the "Client hostname" field. If configured correspondingly, the DHCP server searches in its configuration file for the host name and transfers the network settings stored there to the Thin Client.
- If you select the most common identification parameter "MAC address", the DHCP server identifies the HMI device on the basis of its MAC address.

NOTICE
The MAC address changes when a device is replaced. The new HMI device therefore only obtains its previous network settings if the new MAC address is entered in the configuration files of the DHCP server. Otherwise communication between the server and the replaced HMI device is not possible.

- If you select "Profinet Device name", the DHCP server identifies the HMI device on the basis of its PROFINET station name (see "Settings for PROFINET basic services" below).

Client hostname

You can assign a host name as the desired name for the HMI device, for example, "reservoir_left". This has the following advantage when an HMI device is replaced: If you restore the configuration file of the predecessor HMI device, the host name and thus the IP address remains unchanged: If you enter a DNS server of which the host name is known in the "DNS server" field, the host name is converted into an IP address.

You can also activate the option "Obtain IP address from a DHCP server" with "Client ID".

NOTICE
A maximum of 63 characters is permitted. In case of connections via RDP, the host name will automatically be reduced to the first 15 characters at logon.

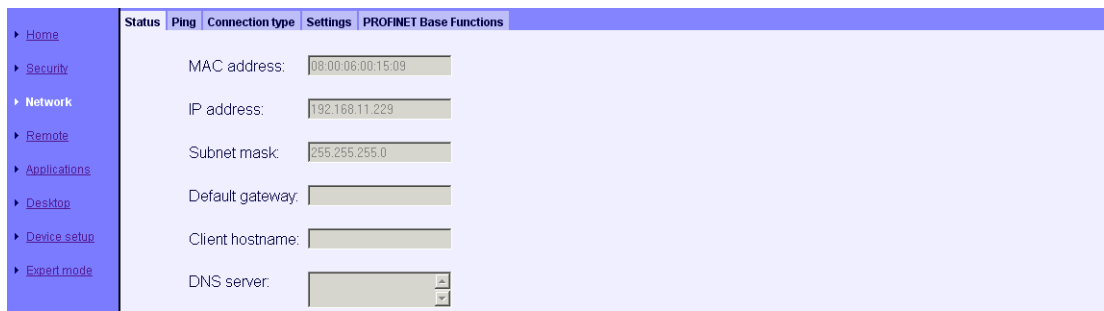
DNS server

You can manually enter the IP address of the DNS server. If you activate the option "Obtaining DNS server address automatically", the manual IP address is overwritten by an IP address assigned by the DHCP server. In order for this to happen, the "Obtain IP address from a DHCP server" option must also be enabled.

NOTICE
No connection between client and server
If you edit the configuration settings from an external PC, take the following into account: The connection can be interrupted as soon as you enter a different IP address or activate the "Obtain IP address from a DHCP server" option under "IP address".
If you edit the configuration settings locally on the Thin Client, the connection with the configuration settings will be maintained even if you change the IP address in the configuration settings.
If the "Obtain IP address from a DHCP server" option is enabled and no DHCP server is available, no IP address will be assigned to the Thin Client. Communication between the server and the Thin Client is not possible. Call the configuration settings locally on the Thin Client and assign an IP address that is not already used in the network to the Thin Client.

Valid settings

The "Status" tab in the "Network" menu always shows the network settings that are currently valid, regardless of whether they were assigned statically or dynamically. Use this approach to check whether the change in the network settings was accepted or not.



Checking the connection to the server

Under "Network > Ping" enter an IP address and check to see if this IP address is available.

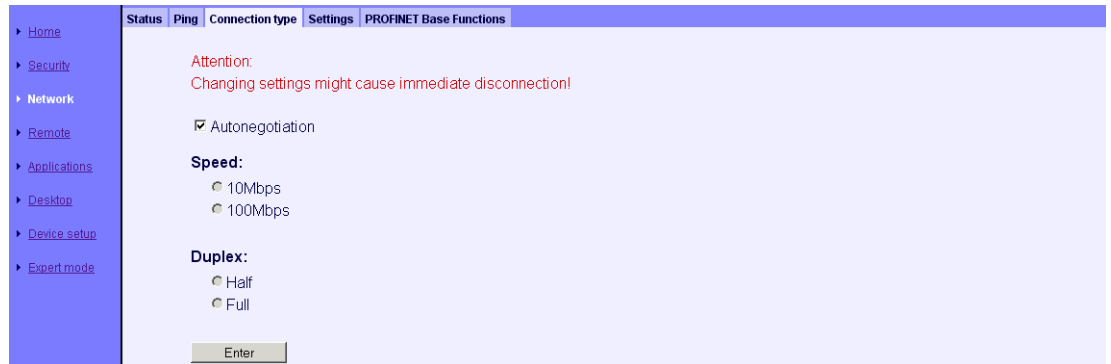
Note

Check under "Network > Ping" whether an IP address is already used on the network before you assign a network address statically.

Establishing the speed and mode of the connection

The Thin Client detects the data rate and the connection mode of its physical connection partner and matches it. A switch can also be a connection partner. You can, however, set the data rate and the connection mode manually.

The following figure shows the "Connection type" tab in the "Network" menu.



The automatic detection ("Autonegotiation") is enabled by default. The other parts of the dialog are disabled.

NOTICE

Disable the automatic detection only if the connection partner requires you to do so.

If the automatic detection is not enabled, the following standard settings apply:

- "Speed": 100 Mbps
- "Duplex": Full

The basic rule for establishing the speed and mode

The connection works best if you establish one of the following combinations:

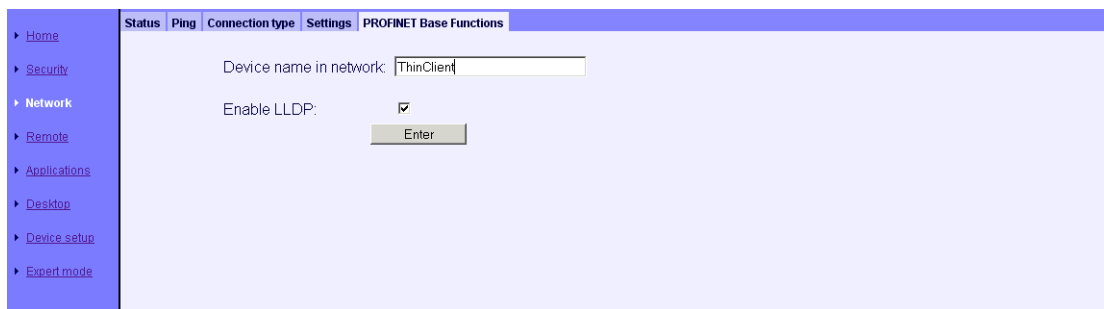
- Automatic detection for both connection partners
- Same speed and same mode for both connection partners

The following table shows the possible combinations between two connection partners.

Connection partner 1	Connection partner 2	Result
Autonegotiation (activated by default)	Autonegotiation	Connection partners 1 and 2 set themselves to 100 Mbps, full duplex The connection works reliably.
100 Mbps, half duplex	100 Mbps, half duplex	Half duplex, late collisions
100 Mbps, half duplex	100 Mbps, full duplex	Duplex mismatch, lots of errors, no performance
100 Mbps, half duplex	Autonegotiation	Connection partner 2 sets itself to 100 Mbps, half duplex. The connection works reliably.
10 Mbps, full duplex	10 Mbps, full duplex	The connection works reliably.
100 Mbps, full duplex	100 Mbps, full duplex	The connection works very reliably.
100 Mbps, full duplex	Autonegotiation	Connection partner 2 sets itself to 100 Mbps, half duplex. Duplex mismatch, lots of errors, no performance
100 Mbps, half duplex or full duplex	10 Mbps, half duplex or full duplex	Speed mismatch, no connection

Settings for PROFINET basic services

The following figure shows the "PROFINET Base Functions" tab in the "Network" menu.



Under "Device name in network", establish a name for the Thin Client using which the Thin Client can be identified by the Administrator. This name is displayed in the title bar of the configuration settings and in the SIMATIC Manager as the PROFINET station name.

Activate a PROFINET service under "Enable LLDP" (Link Layer Discovery Protocol) that identifies the Thin Client in the network as such. If other network components also make their identity known, the management station, such as a STEP7, can then recognize the network topology automatically.

See also

Configuration settings (Page 53)

PROFINET basic services (Page 84)

5.2.3 Connection settings

Introduction

Users can connect from the Thin Client to different servers. Example:

- Server 1: Access to WinCC messages at the plant
- Server 2: Access to a SINUMERIK plant screen
- Server 3: Access to office planning documents

During remote access a client-server connection that is defined in core by the following parameters is always established:

- Connection type, called client application below, for example "Sm@rtAccess" or "RDP"
- IP address of the server
- Port of the server

The Thin Client then shows the server screen depending on the server configuration.

This section shows you how to configure the client-server connections on the Thin Client:

- The connection settings are located in the configuration settings under "Remote".
- The Client applications are structured in separate tabs.
- The maximum amount of client-server connections is 30 per client application (with the exception of Citrix).
- The maximum amount of client-server connections is 5 for Citrix.

SINUMERIK

Note

The SINUMERIK connection is configured automatically through the SINUMERIK system network and therefore does not have any connection settings or a connection password.

Screen display

During a SINUMERIK connection the server screen always fills the complete screen on the Thin Client as a full screen. In the process the server adapts its screen resolution to the screen resolution of the Thin Client that has the operating rights.

All other connected Thin Clients will also display the server screen:

- If these Thin Clients without operating rights have a lower screen resolution than the server, the Thin Clients scale down the server screen that is too large and display it as a full screen.
- If the Thin Clients without operating rights have the same or higher screen resolution, the Thin Clients display the server screen reduced, centered in the original resolution.

Enabling and disabling client-server connections

You enable and disable the client-server connection with the "Enabled" option. The operator will only see enabled client-server connections in the start bar of the selection menu. It makes sense to disable client-server connections in the following cases:

- A server that is regularly used by a Thin Client is being maintained and is therefore not connected.
- A second, redundant server is being set up, for the case that the first server fails.

Factory default settings

- Administrator password "admin"
- IP address "192.168.1.1".
- Some client-server connections are set up as examples with sample servers.

NOTICE
Misuse The administrator password "admin" is visible without logon. This means unauthorized persons may have free access to the configuration settings. After initial commissioning or restoring of the factory settings you should log on with "admin" and assign a new administrator password.

NOTICE
Avoiding malfunctions Several Thin Clients have the same default IP address. Assign an individual IP address to each Thin Client. Some client-server connections have already been created as examples. However, these IP addresses are only examples. Set up client-server connections with valid IP addresses.

5.2.3.1 Editing client-server connections

Structure of the tab

The following figure shows the "VNC/Sm@rtAccess" tab in the "Remote" menu.

Index	Enabled	Alias	Host name/IP	Port	Password	Fullscreen	Persistent reconnect	Autoscaling	Sm@rtAccess
1	<input checked="" type="checkbox"/>	SampleServer	192.168.11.4	5900	*****	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="checkbox"/>					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="checkbox"/>					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	<input type="checkbox"/>					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	<input type="checkbox"/>					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	<input type="checkbox"/>					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	<input type="checkbox"/>					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Table below: Overview of client-server connections
The table rows for the connections 1 to N are always displayed.
- Form above: Connection data of the selected client-server connection
The consecutive number of the client-server connection is displayed in the "Index" field.

Buttons

The buttons have the following functions:

- "Copy": The connection data in the form will be copied to the cache memory.
- "Paste": The connection data in the form will be overwritten by the connection data from the cache memory.
- "Delete": All fields of the form will be deleted.
- "Enter": The client-server connection in the form is stored under the index in the configuration file and, if enabled, adopted in the selection menu of the client application of the start bar. Subsequently the table is updated.

Operation

Proceed as follows to display the connection data in the form:

- Enter the number of the desired client-server connection under "Index" and change into a different field.
- You can also click the desired client-server connection in the table.

Proceed as follows to edit an existing client-server connection:

1. Enter the index.
2. Change the connection data.
3. Touch the "Enter" button.

Proceed as follows to create a client-server connection:

1. Enter a free index for which no client-server connection has been entered yet (see table below).
2. Enter the connection data.
3. Touch the "Enter" button.

Proceed as follows to copy an existing online connection:

1. Enter the index of the client-server connection (source).
2. Touch the "Copy" button.
3. Enter the index of a different client-server connection or an index that is still free (target).
4. Touch the "Paste" button.
5. Assign a new server alias name.
6. If necessary, change additional connection data.
7. Touch the "Enter" button.

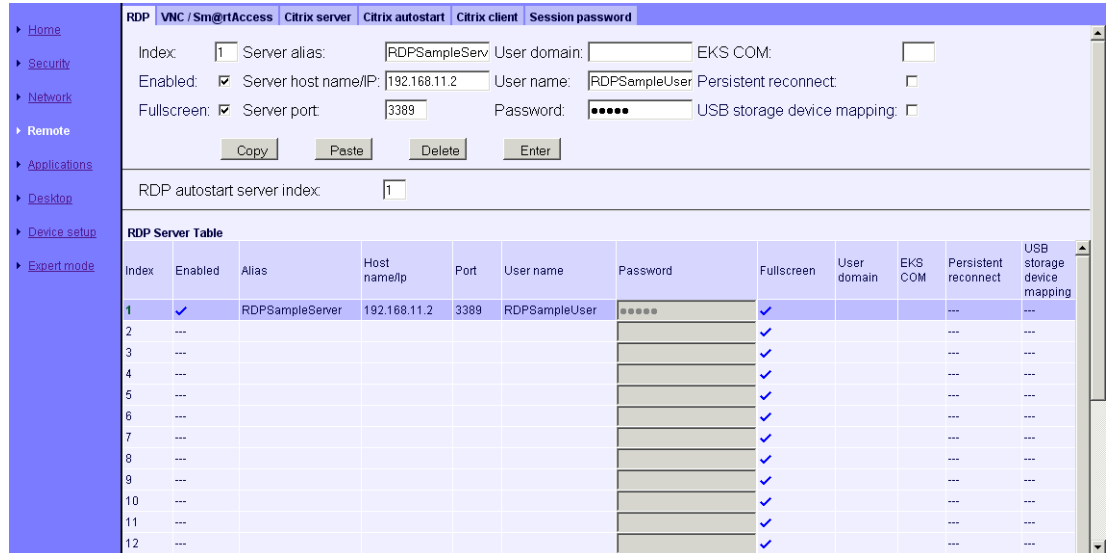
The connection data of the target connection will be overwritten by the connection data of the source connection.

See also

Configuration settings (Page 53)

5.2.3.2 RDP

The following figure shows the "Remote" menu, "RDP" tab.



- "Fullscreen" enabled: The server screen is displayed without a window and cannot be moved. "Fullscreen" disabled: The server screen is displayed in a window.
- Enter a user-specific server name at "Server alias". The alias name is then displayed in the selection menu of "RDP" in the start bar. When the operator selects the alias name, the client-server connection configured under this alias name is started.
- You can enter a computer name or an IP address under "Server host name/IP".
- The RDP default port "3389" is set under "Server port".
- Enter the user domain, the user name and the password required for Thin Client logon to the server under "User domain", "User name" and "Password".
- Use "EKS COM" to specify the virtual COM port that will be created on the server. EKS enables automatic access control via electronic keys to the server.

For additional information see "Euchner GmbH (<http://www.euchner.com>)" in the "Products" section.

- Use "Persistent reconnect" to specify the Thin Client behavior in the case of a message that the existing connection is interrupted. If you activate this option, the Thin Client will try reconnecting to the server. For example you shut down the server for maintenance purposes. A corresponding message is sent to ten Thin Clients, for example, that interrupt the connection. If "Persistent reconnect" is enabled on all Thin Clients, the client-server connection is established automatically as soon as the server is ready for operation again.

If "Persistent reconnect" is disabled on all Thin Clients, the client-server connection has to be re-established manually on all Thin Clients.

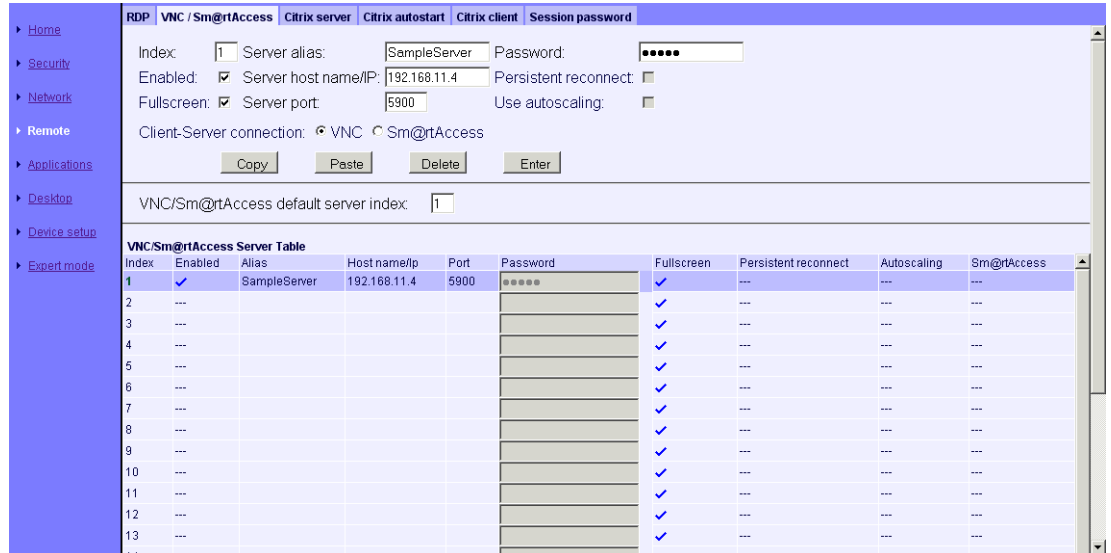
NOTICE
Servers with non-server operating systems, such as Windows XP
If a second client has established the same connection to the server, the client-server connection of the first client will be interrupted. Even if "Persistent reconnect" is enabled, the Thin Client will not try to re-establish the connection to avoid a ping-pong effect between the clients.

- If you enable "USB storage device mapping", you can access a connected USB storage device on the Thin Client in the RDP connection (Windows Desktop). Data will be transferred to the server for this purpose and there displayed in the Windows Explorer for the Thin Clients. For additional information, refer to the section "Operating a USB memory device (Page 109)".

NOTICE
Security threat to the system
The USB may infect the server with viruses, Trojans, spam, etc.
Use a suitable virus scanner to check the data on the USB storage medium or disable the " USB storage device mapping" option.

5.2.3.3 VNC/Sm@rtAccess

The following figure shows the "VNC/Sm@rtAccess" tab in the "Remote" menu.



- Use "Client-Server connection" to enable either "VNC" or "Sm@rtAccess" as the protocol for the client-server connection. If you upgrade the firmware starting from an older version without "VNC", the client-server connections are adopted and "Sm@rtAccess" enabled during the migration.

When a new client-server connection is created, "VNC" is enabled by default.

NOTICE

Mixed client-server connections are instable

VNC connections to Sm@rtAccess servers and vice versa can be disconnected and are therefore not supported.

Please note the following: If "VNC" is enabled, a computer name / IP address of a VNC server also has to be stored under "Server host name/IP". The same applies for "Sm@rtAccess".

- With the "Fullscreen" option, toggle between the full screen display and the display in one window.
 - "Fullscreen" option disabled: If the screen resolution of the Thin Client is lower than that of the server, the server screen is displayed with scroll bars in a window that fills the entire screen. If the Thin Client has a higher screen resolution, the server screen is displayed in the original resolution in a window that fills a part of the screen.
 - "Fullscreen" option enabled: The display of the server screen fills the entire screen. If the screen resolution of the Thin Client is lower than that of the server, only a section of the server screen is displayed that fills the entire screen. This section can be moved by one screen width per move by moving the cursor against the respective screen section (bump scrolling). If the Thin Client has a larger screen resolution, the server screen is displayed centered in the original resolution. The remaining display is black.
- Enter a user-specific server name at "Server alias". The alias name is then displayed in the selection menu of "Sm@rtAccess/VNC" in the start bar. When the operator selects the alias name, the client-server connection configured under this alias name is started.

- You can enter a computer name or an IP address under "Server host name/IP".
- Port "5900" is set by default at "Server port".
- Enter the password for remote access to the server at "Password". The password is specified when setting up VNC or Sm@rtAccess on the server.
- Use "Persistent reconnect" (only for "Sm@rtAccess") to specify the Thin Client behavior in case of a message that the existing connection is interrupted. If you activate this option, the Thin Client will try reconnecting to the server. For example you shut down the server for maintenance purposes. A corresponding message is sent to ten Thin Clients, for example, that interrupt the connection. If "Persistent reconnect" is disabled on all Thin Clients, the client-server connection has to be re-established afterwards on all Thin Clients manually. If "Persistent reconnect" is enabled on all Thin Clients, the client-server connection is established automatically as soon as the server is ready for operation again.
- If ""Use autoscaling" is enabled (not with VNC), the Thin Client attempts to request a server screen from the SmartAccess server that can be displayed as a full screen on the Thin Client.

Requirements:

- Thin Client V1.4 or higher
- "Sm@rtAccess" option WinCC flexible 2008 SP2 or higher
- "Fullscreen" option enabled

If the server does not support this function, an error message will be displayed. Depending on the height-to-width ratio the server screen is displayed within a black bar.

If you disable "Fullscreen", "Use autoscaling" is not available and will be disabled to avoid unintentional scaling of the window.

5.2.3.4 Citrix

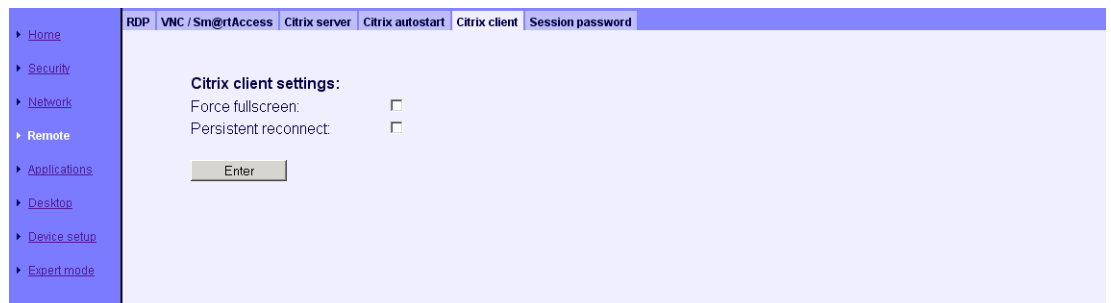
The following figure shows the "Citrix server" tab in the "Remote" menu.



- Enter a name for the Citrix Presentation Server under "Server alias". The alias name is then displayed in the selection menu of "Citrix" in the start bar. When the operator selects the alias name, the client-server connection configured under this alias name is started.
- Under "Server host name/IP" you can enter a computer name or IP address on which the Citrix Web Interface is located. The interface will then be addressed via the following address: `http://<Server host name/IP>/Citrix/PNAgent/config.xml`.

The Thin Client obtains the enabled Citrix applications from the Citrix Web Interface that has to be installed together with a Web server on the server (see the chapter "Configuring a server", section "Citrix overview (Page 91)").

The following figure shows the "Citrix client" tab in the "Remote" menu.



- With "Force fullscreen" you can force full screen display for all client server connections regardless of the settings on the Citrix Presentation Server.

The administrator specifies on the server which applications are displayed in what form on the desktop. The full screen display results from a combination of parameters on the Thin Client and on the Citrix Presentation Server.

- If "Persistent reconnect" is enabled, the connection attempts will be unlimited:
 - If a Citrix application is selected using the Start bar, the Thin Client attempts to start the application continuously and without time limit. It is irrelevant if, for example, the network cable has been removed or the application was configured incorrectly.
 - In the case of an autostart connection, the Thin Client attempts continuously and without time limit to log the stored user on the Citrix Presentation Server and to start the application (see 1.). It is irrelevant if, for example, the network has a fault or the password is incorrect.
 - When an existing connection is interrupted, the Thin Client automatically tries to re-establish the client-server connection.

NOTICE
When the Citrix Presentation Server is shut down, the Citrix connection will also be terminated on the Thin Client without additional attempts to connect.

If "Persistent reconnect" is disabled, the connection attempts are limited:

- If a Citrix application is selected using the Start bar, the attempt will be aborted after a failed attempt to connect.
- In the same way the attempt is aborted after a failed attempt to connect in case of an autostart connection.
- When an existing connection is interrupted, the Thin Client tries to re-establish the client-server connection three times for 30 seconds. Afterwards you will have to restart the Citrix application manually on all Thin Clients.

If the connection attempts were aborted, the background picture will be displayed.

5.2.3.5 Autostart connection

Introduction

For each client application you can identify a client-server connection as an autostart connection. This means that the autostart connection is established automatically after the Thin Client has been switched on when you have selected the client application for the autostart (see section "Autostart settings (Page 75)").

Procedure

Proceed as follows to identify a client-server connection as an autostart connection:

- RDP, VNC/Sm@rtAccess: Enter a number under "default server index". The client-server connection with this index then becomes the autostart connection and the index in the table is marked green.
- Citrix: Enter the name or IP address of the Citrix Presentation Server under "Server host name/IP" in the "Citrix autostart" tab. Enter the user domain, the user name and the password required to log on to the Citrix Presentation Server under "User domain", "User name" and "Password". Click "Enter" to apply the settings.

Click the "Get applications" button. Select an application that is available on the Citrix Presentation Server. The application is then displayed as "Published application" on the Thin Client after the start.

- Internet: Only one client-server connection with Web page ("Home page") is stored in the browser settings.
- SINUMERIK: The system network automatically configures a SINUMERIK connection.

5.2.3.6 Browser

Introduction

Enter the settings for the web browser in the "Web-Browser" tab of the "Applications" menu.

- Enter the address of a central connection node under "HTTP proxy" if your network accesses the Internet through this connection node, for example, to filter web contents or make them available in the cache. In case of doubt contact your system administrator.
- Enter the internal port under which the Internet service is accessed on the proxy server under "Port": The default is 8080. In case of doubt contact your system administrator.
- Enter an Internet address that should be called automatically when the web browser launches under "Home page" (autostart connection).
- The proxy server will not be requested for entries that are entered under "No proxy for" and instead establish a direct connection. Separate several addresses by a comma (see "No proxy").
- With "Fallback charset" you specify the character set that is used by the web browser if a web page does not provide any information about the character set to be used. The character set "UTF-8" is set by default. If characters are represented incorrectly, you can also change to "ISO-8859-1".

No proxy

You can make the following entries in the "No proxy for" field:

Object for which no proxy is to be used	Content of the input field "No proxy for"	Example	Comments
Domain	Suffix of the domain	".siemens.com, siemens.com"	Both suffix variants must be entered in order to exclude an entire domain.
Host name (without domain)	host name only	"MyWinPC"	Excludes "MyWinPC."
Host name (with domain)	Host name and domain	"MyWinPC.siemens.com"	Excludes "MyWinPC."
IP address	IP address	"192.168.1.0"	Excludes the device with the IP address "192.168.1.0".
Network	IP address range	"192.168.1.0/24"	Excludes all devices with an IP address in the range from "192.168.1.0" to "192.168.1.24"

Placeholder characters are not permitted, e.g. "*" or "192.168.*.*".

No entries are set as default.

The "localhost" and "127.0.0.1" objects are always excluded. No proxy is used for these objects.

See also

Configuration settings (Page 53)

5.2.3.7 Connection password

Password protection

You can specify a password for terminating a client-server connection under "Remote > Session password". If the operator wants to terminate the connection to a server, he or she will have to enter the connection password (not for a SINUMERIK connection). If the operator enters an incorrect password, the connection will not be terminated.

The length of the connection password is restricted to a maximum of 30 characters. If you do not specify a connection password, the operator can end any client-server connection without password protection.

If a connection password has been specified, you can alternatively terminate a client-server connection by using the administrator password.

Changing the password during running operation

You can change the connection password, for example from an external PC, while the operator is working on the Thin Client. The change of the connection password becomes effective immediately. The operator can then only terminate the current client-server connection with the new connection password.

5.2.4 Autostart settings

Specifying the client application

You specify the client application that is selected for autostart under "Applications > Autostart client-application".



After the Thin Client has been activated, the stored autostart connection of this client application will be started automatically. If an autostart connection is not stored for this client application, an error message will be displayed. The taskbar and the background picture are displayed.

The SINUMERIK connection will always be started automatically. No client-server connections are stored for SINUMERIK.

Click the "Enter" button to apply the changes. The changes only take effect after the HMI device has been restarted. A link will, therefore, take you to the restart page in Expert mode.

No autostart

If you have activated the "no autostart client-application" option, only the operating system with background picture will be displayed after the Thin Client has been switched on.

See also

Configuration settings (Page 53)

5.2.5 Desktop settings

Introduction

The following settings can be established in the "Desktop" menu:

- Configure the start bar.
- Upload a background picture to the Thin Client.
- Setting the keyboard language of the screen keyboard.

Click the "Enter" button to apply the changes. The changes become active immediately.

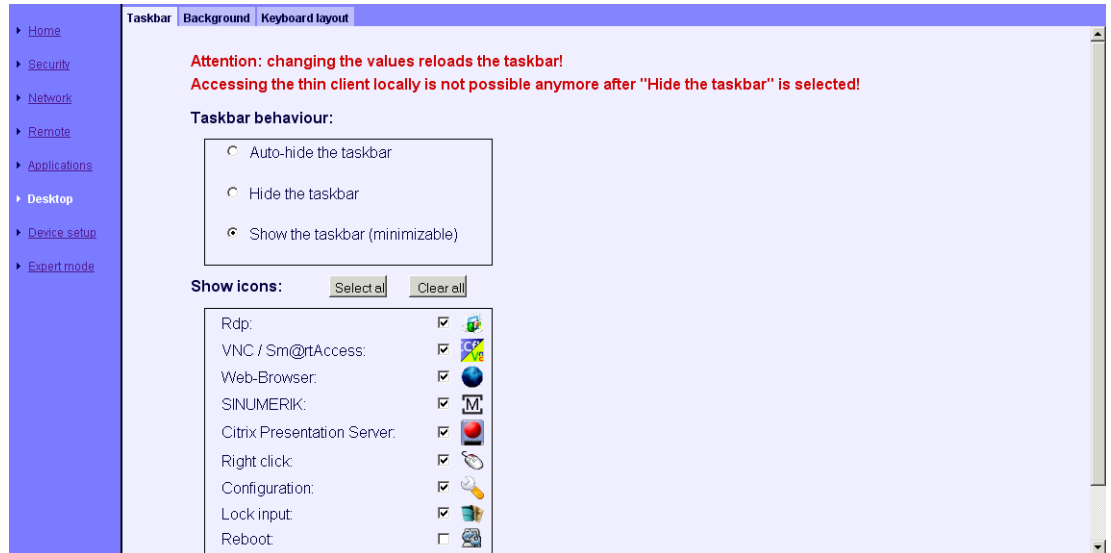
Note

Citrix symbols

With the "Enter" button you update those symbols in the Citrix selection menu that have changed in the meantime on the Citrix Presentation Server.

Configuring the display of the start bar

The following figure shows the "Taskbar" tab in the "Desktop" menu.



NOTICE

Faulty touch calibration

If the touch screen has not been calibrated or has been calibrated improperly, you may only be able to open a hidden start bar by means of a connected external mouse.

Make sure that the touch screen of your HMI device has been calibrated correctly.

- "Auto-hide the taskbar"

The start bar is hidden. To show the start bar, the operator touches the screen at the top or bottom margin, depending on where the start bar is latched in. The buttons to minimize or maximize the start bar are not displayed in the start bar.

- "Hide the taskbar"

The start bar is hidden. The operator cannot show the start bar. Because you cannot open the configuration settings on the Thin Client without the start bar, the setting "Hide the taskbar" can only be activated by means of an external access.

- "Show the taskbar (minimizable)"

The start bar is displayed when the Thin Client is switched on. The operator can minimize or maximize the start bar.

NOTICE

Auto-hide for RDP session in window mode

If you open an RDP connection without "Auto-hide the taskbar" in window mode and then enable the "Auto-hide the taskbar" option, a gray bar will be shown on the screen. Restart the RDP connection in window mode. The desktop is shown in full on the screen.

Specify in the "Show icons" section which client applications with their connections and which functions are displayed in the start bar.

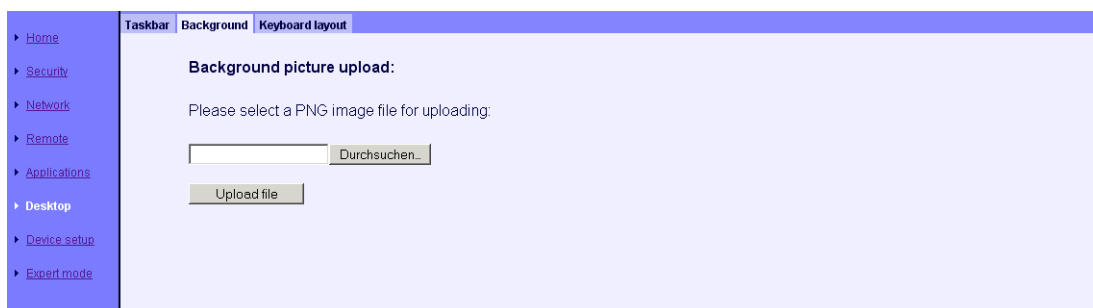
Position of the start bar

If the start bar was moved to the top margin of the screen, it will be displayed at the bottom margin after the following actions:

- Storing changes in the configuration settings.
- Saving the configuration file and restoring it.
- Restarting the device.

Setting up a background picture

The following figure shows the "Background" tab in the "Desktop" menu.



In the input field "Background picture upload" you can specify a file in PNG format that should be displayed as the background picture. Use the "Durchsuchen..." button to select a file.

<p>NOTICE</p> <p>Required properties of background pictures</p> <ul style="list-style-type: none">• Format: PNG• File size: max. 1.5 MByte• Resolution: Corresponding to the resolution of the device, maximum 1024 x 768• Color depth: Corresponding to the color depth of the device, maximum 64 k. <p>Display of the background pictures</p> <p>The background picture is shown centered in its original size.</p> <p>Background pictures that are too large will be positioned in the top left corner of the screen.</p> <p>Restoring the factory settings</p> <p>The background picture will not be restored. You can, however, download the SIMATIC background image from the Service&Support pages.</p>

Use the "Upload file" button to download the selected file to the server.

Setting the keyboard language

The following figure shows the "Keyboard layout" tab in the "Desktop" menu.



You specify the keyboard language of the on-screen keyboard and an externally connected USB keyboard. If you change the keyboard language during a running client-server connection, the change will not become active until after a restart of the client-server connection.

See also

Structure and functions of the taskbar (Page 99)

Starting a connection (Page 101)

5.2.6 Device settings

Introduction

Under "Device setup" you can establish or check the following device settings:

- Displaying device data
- Test hardware
- Calibrating the touch screen
- Update firmware
- Save current configuration file
- Run saved configuration file

You can perform the following actions only from a PC that is connected to the Thin Client:

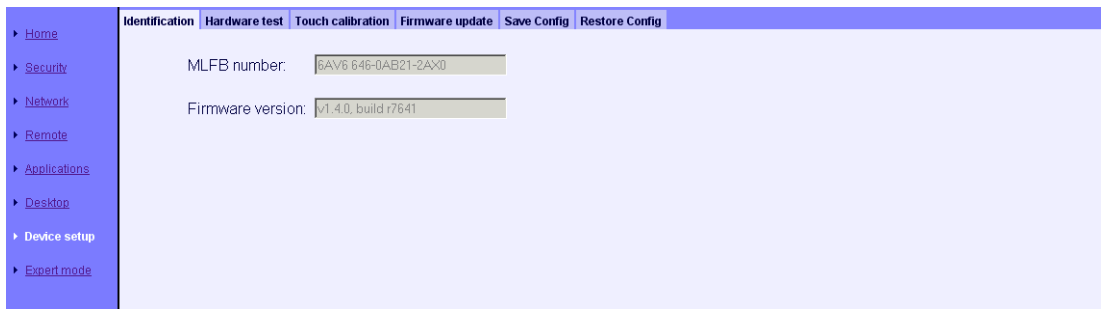
- Update firmware
- Save current configuration file
- Run saved configuration file

You must connect the Thin Client to a PC on which the update file or the saved configuration file is located. You have the following possibilities of connecting the Thin Client to the PC:

- With a cross cable directly via the LAN (PROFINET) interface
- With a patch cable 1:1 directly via the LAN (PROFINET) interface
- Via the server that is connected via PROFINET

Displaying device data

The following figure shows the "Identification" tab in the "Device Setup" menu.



The device data is displayed in this tab.

Test hardware

Under "Hardware test" you can check the following components:

- "Display test"

Testing the touch screen for pixel faults. In order to change to the next test screen, tap the touch screen on the Thin Client.

- "Ethernet test"

Testing the connection. To do this, at least one Ethernet station, such as a switch, must be connected to the Thin Client to establish a physical connection.

- "USB test"

Checking the USB port. To do this, a mouse, keyboard or a USB storage device must be connected to the Thin Client via the USB port.

Calibrating the touch screen

If the position touched on the touch screen during operation no longer complies with the position evaluated by the touch screen, the touch screen must be recalibrated. After you have started the calibration with the "Start" button in the "Touch calibration" tab, touch the displayed crosses on the touch screen.

If the touch screen cannot be operated on account of an error in the calibration, you have the following possibilities of restarting the calibration:

- using an external browser to call the calibration in the configuration settings of the Thin Client
- using an external mouse to call the calibration on the Thin Client
- Restoring factory settings

Update firmware

You update the firmware of the Thin Client only from a PC that is connected with the Thin Client via the network.

CAUTION
Damage to the device If the power supply or the connection to the PC is interrupted during the update process, the Thin Client will probably no longer work. <ul style="list-style-type: none">• During the entire updating process, ensure that the power supply of the Thin Client and the connection to the PC is ensured.• Make sure that all applications running on the Thin Client are closed.• Before you update the firmware restart the HMI device to prevent memory problems.
More information on updating the firmware Note the detailed instructions on updating to a specific firmware version on the Internet under "", section "Downloads".

In the "Firmware update" tab use the "Browse" button to select an update file on the PC. The selected file is transferred from the PC to the Thin Client. To establish whether the selected file is suitable for the Thin Client, the system checks, for example, the following conditions:

- The selected file is an update file.
- The selected update file is more current than the version installed on the Thin Client.
- The selected update file is suitable to run with this Thin Client HMI device.

If all the conditions are fulfilled, the selected update file is executed on the Thin Client. The Thin Client is restarted automatically.

Note

The progress of the update is displayed on the screen.

If the execution of the update file is interrupted by the system on account of a fault, a log file is generated. You can save this log file and, if required, send it on to the Siemens technical support desk.

Saving the configuration file and then running it

The configuration file contains all device-specific configuration settings with the exception of the background picture and the touch calibration. You can save the configuration file and then run it again later only from a PC that is connected to the Thin Client.

- In the "Save Config" tab save the configuration file from the Thin Client to the connected PC.
- In the "Restore Config" tab you can restore the saved configuration file from the connected PC, for example, if the current configuration file was overwritten inadvertently.

Use the "Browse" button to select the configuration file on the PC. Use the "Upload" button to check the syntax within the configuration file. If the syntax is free of errors, the configuration file will be transferred to the Thin Client and the old configuration file will be overwritten; otherwise a message will be output.

NOTICE
Firmware version of the configuration file
You can only upload a configuration file that was saved in the same firmware version as the one on the Thin Client.
If you load a configuration file from an older firmware version, some functions may fail on the Thin Client.
Therefore, after each firmware update, save the current configuration file to a connected PC.

Editing the configuration file

You can manually edit the configuration file. You can, for example, use your edited configuration file as a template for the configuration files for other Thin Client devices. To do this, edit the configuration file as required and run the edited configuration file on different Thin Client devices. In the case of manually assigned IP addresses, ensure that the configuration files with the same IP addresses are not run on different Thin Clients. Additional information on the structure of the configuration file is available in the product information "SIMATIC HMI Configuration file Thin Client (<http://support.automation.siemens.com/WW/view/en/35105485>)".

See also

Configuration settings (Page 53)

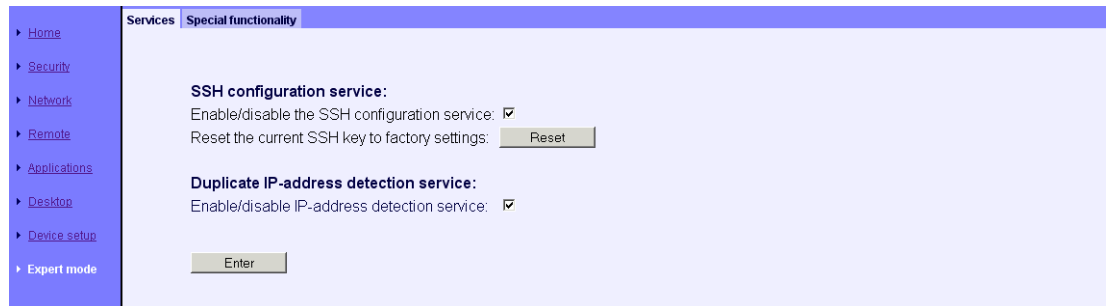
SIMATIC Thin Client (<http://support.automation.siemens.com/WW/view/en/23910492>)

Network settings (Page 58)

5.2.7 Settings in expert mode

SSH configuration service

The Thin Client is set at initial start so that you can remote configure it with the SSH configuration service. If you do not want to use the SSH configuration service, disable the option "Enable/disable the SSH configuration service" under "Expert mode > Services".



NOTICE

Reduced security

Data security may not be guaranteed in case of inappropriate handling of the SSH configuration service.

The SSH configuration service may only be used by qualified personnel. The persons considered as qualified personnel are listed in the paragraph "Qualified Personnel" on page 2.

Additional information on the SSH configuration service is available on the Internet in the product information "Remote configuration and remote update (<http://support.automation.siemens.com/WW/view/en/35105474>)".

Resetting the key

You can reset the key on the Thin Client to the default key without restoring the factory settings.

NOTICE

Private key

After resetting to the default key you still need a new private key at the remote end. Additional information is available on the Internet in the product information "Remote configuration and remote update".

Confirm by pressing the "Reset" button in the "SSH configuration service" section. The current key will be overwritten by the default key.

Duplicate IP address

If you forget to change the default IP address, it may be possible that several HMI devices in the system network have the same IP address. "Duplicate IP-address detection service" checks if a device with the same IP address and subnet mask exists in the system network and to output a corresponding error message.

Restarting the HMI device

You initiate rebooting of the HMI device by using the "Reboot" button in the "Special functionality" tab.

See also

Configuration settings (Page 53)

5.3 Read access to configuration settings

Access without logon

You can select the following tabs in the configuration settings without having logged on:

- "Network > Status": Valid network settings of the Thin Client
- "Device Setup > Identification": Valid device settings

You only have read access and cannot edit the data.

See also

Network settings (Page 58)

Device settings (Page 79)

5.4 PROFINET basic services

Introduction

The PROFINET basic services helps to diagnose the device using standard mechanisms. The required diagnostics functions are available, for example, in STEP 7.

Functions

As of SIMATIC Manager V5.4, SP2, the PROFINET basic services offer the following functions:

- As soon as the Thin Client is connected to PROFINET, the Thin Client is shown in the Lifest of the SIMATIC Manager as an available station. You can view the properties of the Thin Client, for example the IP address.
Additional information from the "Target system" shortcut menu is not supported by the Thin Client.
- You can assign a name and an IP address to the Thin Client under "Target system > Edit Ethernet stations" in the SIMATIC Manager.
- As of SIMATIC Manager V5.4, SP4
In the STEP7 Topology Editor of the PROFINET IO topology you can integrate and display the Thin Client from the catalog of passive components in topology view.

Topology view

Use the following functions in the topology view as of SIMATIC Manager V5.4, SP4:

- Tabular view
Use "Target object > Web-based management" to access the configuration settings of the Thin Client.
- Graphic view
You can insert the Thin Client in the topology. Enter the following data in the "Object properties:"
 - The IP address
 - The name of the Thin Client that you have specified in the configuration settings under "Network > PROFINET Base Functions > Device name in network".
- Offline/Online
The Thin Client can be located in an offline/online comparison and then displayed in the configured or determined topology.

Note

Version V5.4, SP4 of the SIMATIC Manager

You will first have to run the setup file for the Thin Client for it to be displayed as a passive component in the topology view of version V5.4, SP4 of the SIMATIC Manager. The setup file `PassiveComponentsInstaller.zip` (<http://support.automation.siemens.com/WW/view/en/30840898>) is available on the Internet. Unzip the file on the PC on which STEP 7 is running with the option "Extract to" and then execute the .exe file.

As of version V5.4, SP5 of the SIMATIC Manager, the Thin Client will automatically be displayed as a passive component in the topology view.

Configuring the server

6.1 RDP

6.1.1 RDP overview

Introduction

RDP, "Remote Desktop Protocol", is a protocol that the Thin Client uses to access a server with a Windows operating system, for example, Windows Server or Windows XP. The Thin Client can access all programs running on the server, if the programs have been enabled for remote access. The following statements for Windows XP also apply to Windows 7.

Windows Server 2003 licensing

You do not require any licenses on the Thin Client to access the server. You require the following server licenses:

- One Windows Server license per server
- One Windows Server Client Access License (CAL) per Thin Client
- Also one Terminal Server Client Access License "TS Device CAL" per Thin Client, either
 - a TS Device CAL for access by any user or
 - a TS Device CAL for access by any device.

Detailed information on licenses and applicable conditions of use are available on the Internet under "Windows Server 2003 Terminal Server Licensing (<http://www.microsoft.com/windowsserver2003/techinfo/overview/termservlic.mspx>)"

Windows XP Professional licensing

You do not require any licenses on the Thin Client to access the server. You do not require any additional licenses on the server for Remote Desktop. Only one screen can be operated for Remote Desktop with the Windows XP Professional operating systems. You can either operate the server monitor or the touch screen on the Thin Client. The other monitor is always blocked.

6.1.2 Administration on the server

Administration Windows Server 2003

The administration on the server depends on the individual IT infrastructure. Establish the settings for the server configuration under the following menu commands under "Start > Programs > Administrative Tools:"

- Terminal services configuration
- Terminal services administration
- Terminal services licensing

You will find more information on the Internet in the "MSDN Knowledge Base" of the "Microsoft support (<http://support.microsoft.com>)".

Specify on the server that certain users of the Thin Client can only access specified programs on the server.

When configuring the Thin Client, enter a password for the connection to the server. Once the Thin Client has established a connection to the server, a password is usually requested regardless of this process. Under "Start > Programs > Administrative Tools > Terminal Service Configuration" you can specify that the password is not requested again.

Administration Windows XP Professional

The following statements for Windows XP also apply to Windows 7.

To enable Thin Client access to the server, you must enable remote access on the server. You can enable remote access under "Start > Settings > Control Panel > System > Remote" with the option "Allow users to establish a remote desktop connection." Use the "Select remote users" button to open a dialog in which you select the users that are authorized to access the server.

In addition, you enable the server ports that have been set for remote access in the firewall.

Keyboard language with Windows XP Professional

The Thin Client is available with a German and an English screen keyboard. Set the keyboard language on the Thin Client so that it matches the keyboard language on the server. If the keyboard language on the Thin Client and the server do not agree, the keys pressed on the Thin Client keyboard will not be interpreted correctly by the server.

Configuring double-click

If it is too difficult to double-click the touch screen with your finger or the touch stylus, then make the setting in Windows Explorer on the server that files and folders should open with a single click under "Tools > Folder options > General > Selecting elements".

You have the option to establish a greater range in which two clicks can be detected as a double-click under [HKEY_CURRENT_USER\Control Panel\Mouse] in the Windows registry of the server. Under "DoubleClickHeight" and "DoubleClickWidth" enter 10 pixels, for example.

6.2 VNC

Introduction

Use VNC for remote control of another computer via a network. VNC is the abbreviation for "Virtual Network Computing" and shows the desktop of another computer. In contrast to RDP all clients will display the same server screen.

Requirement

The operating system you use does not play a role because the software is available for all current platforms. The connection via the network uses the TCP/IP protocol and should be configured with a password for security reasons.

Structure

VNC works according to the client-server model. The program consists of the server module VNC server and the client component VNC Viewer. The server program runs on the computer whose screen outputs you want to monitor, whereas the clients receive the screen outputs and in turn send keyboard and mouse inputs to the server.

6.3 Sm@rtAccess

Introduction

With the Sm@rtAccess option the HMI devices are able to communicate with each other via PROFINET. Sm@rtAccess hence enables client / server configurations for distributed operator stations in a system.

If the Sm@rtAccess option is installed on an HMI device, for example on an MP 377, the Thin Client can access the running project via Ethernet. In this case, the HMI device is the server. The Thin Client is a client.

A description of the Sm@rtAccess configuration can be found in the online help of WinCC flexible or in the "WinCC flexible Getting Started Options" manual.

Sm@rtAccess-capable HMI devices

The Sm@rtAccess option can be used for all HMI devices as of device class 177B PN. You can refer to the documentation of your HMI device regarding the number of clients that are possible with an HMI device that is used as a server.

Licensing

You do not require any licenses on the Thin Client in order to access an HMI device. The licenses are included in the Sm@rtAccess option. The Sm@rtAccess license must be installed on the HMI device on which you are accessing the Thin Client.

6.4 Citrix

6.4.1 Citrix overview

Introduction

Citrix provides central access to all company applications as an on-demand service for all types of end devices at all company locations. This may take place in form of hosted applications that are executed on a server in the company data processing center. Rollouts of new applications, updates and patches are thus available immediately to all users.

Requirement

- Citrix Presentation Server: You set up desktops and Citrix applications on the server that you authorize for specific users.
- Citrix Web Interface: The Thin Client obtains the authorized Citrix applications from the Citrix Web Interface
- The Citrix Web Interface requires a web server, such as the Internet Information Server (IIS) from Microsoft.

Citrix Presentation Server

The product line Citrix XenApp V5.0 and higher is called "Citrix Presentation Server" in the documentation up to V4.5. It currently encompasses four powerful editions that are tailored to different company requirements.

Additional information is available in the documentation for Citrix XenApp on the Internet under [www.citrix.com](http://www.citrix.com/lang/English/home.asp) (<http://www.citrix.com/lang/English/home.asp>).

See also

Citrix (Page 71)

6.4.2 Configuring the Citrix Web Interface

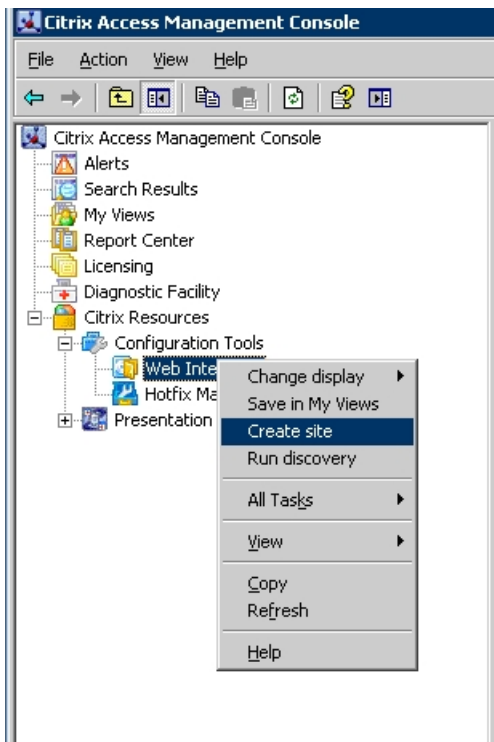
Introduction

In the following section you set up a web site from which the Thin Client obtains the authorized Citrix applications via the Citrix Web Interface.

Procedure

Proceed as follows to set up the web site:

1. Start the "Citrix Access Management Console".
2. Select the entry "Create site" in the shortcut menu "Citrix Resources > Configuration Tools > Web Interface". A wizard is started.



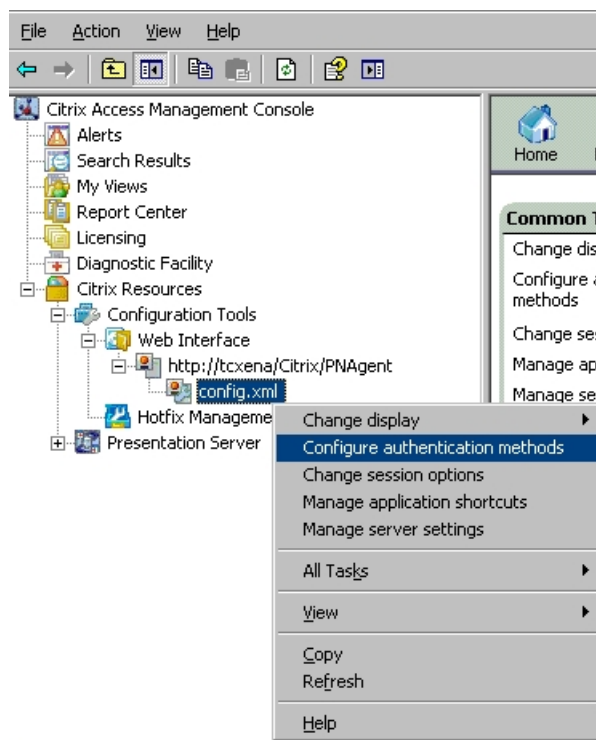
3. Select the "Program Neighbourhood Agent Services site" option in the "Create Site Type" dialog box.
4. Follow the instructions on the screen and configure the PNA service according to your operating environment.
5. Enter "http://<Server host name/IP>/Citrix/PNAgent/config.xml" as the address of the PNA service. The Thin Clients access the Citrix Server through this URL (see the chapter "Connection settings", section "Citrix (Page 71)").

NOTICE
Proxy server Do not use a proxy server for access to the Citrix Web Interface through the PNA Service address.

Proceed as follows to set the authentication method:

6. Select the "Remote" option in the "Select Application Type" dialog box.
7. Use the "Finish" button to terminate the wizard.

8. Select the "Configure authentication methods" entry in the shortcut menu of "config.xml".



9. Several options are displayed as authentication methods. Select at least the authentication method "Prompt".

6.5 SINUMERIK

Introduction

The DHCP server is enabled on each SINUMERIK server by default. The SINUMERIK system network therefore configures itself dynamically via the DHCP protocol. Additional information is available in the "SINUMERIK manual "Operator components and networking" (6FC5397-1AP10-5AA0) (<http://www.automation.siemens.com/doconweb/>)".

USB stick for commissioning

In the HMI user interface of the SINUMERIK TCU you use a button to access the USB port on the back of the Thin Client. You may, for example, read in the series commissioning files from the SINUMERIK USB stick. A maximum of one USB storage device is accessed which is recognized first.

NOTICE
Security threat to the system
The USB may infect the server with viruses, Trojans, spam, etc.
Use a suitable virus scanner to check the data on the USB storage medium or disable the HMI button for access via USB.

The USB port is only available if you make the following settings for the corresponding button in the SINUMERIK menu "Commission > HMI > Logical drive":

- "Type" = "USB local"
- "Connection" = "X204"

Operating the Thin Client

7.1 Overview

Introduction


The monitor screen of the server is output to the screen of the logged on Thin Client. You operate the server screen from the Thin Client.

Operator input options

The following operator control options are available, depending on the peripherals that are connected to your Thin Client:

- Touch screen
You activate operating elements by touching them with your finger.
To double-click them, touch an operating element twice in succession. The server can be configured for opening folders and files with a single click.
- External keyboard, connected via USB
- External mouse, connected via USB

Unintentional actions

 WARNING
Unintentional actions Always touch only one operating element on the screen. Otherwise, you may trigger unintentional actions.

On-screen display for remote access to a server

The server screen is displayed either in full screen or in window mode, depending on the Thin Client configuration. The display mode also depends on whether the server screen has the same resolution as the Thin Client screen. Additional information is available in the configuration settings, Section "Connection settings (Page 63)".

Monitoring mode

If you access an HMI device on which monitoring mode has been configured for Sm@rtAccess, you can only monitor the HMI device; you cannot intervene for control purposes.

Operating right

When you access an HMI device, it is possible that this HMI device is being used. In this case, the Thin Client does not have operating rights.

When you touch the screen, a message is displayed stating that operation is not possible. How you request or force operating rights depends on the configuration on the HMI device you are accessing with the Thin Client.

At the SINUMERIK connection you request operating rights by tapping the touch screen.

7.2 Interrupting and restoring a connection

Introduction

The connection to the server can be interrupted by different methods:

- The server is offline or has not completed its startup sequence.
- The password is incorrect.
- A firewall is blocking server access.
- SINUMERIK: Firmware on the server is older than 2.6 SP1.
- The server will be shut down, for example, for maintenance purposes.
- The PROFINET network cable was disconnected.
- A connection problems occurred in the network.

Standard Reconnect

The HMI device tries to re-establish the interrupted connection automatically. There are two basic default options:

- Initial start of a connection

The connection cannot be established because the server is not ready, for example. The Thin Client attempts continuously to reconnect to the server.

- Existing connection

An existing connection to the server is interrupted because the network cable has been removed or the network is faulty, for example.

The Thin Client attempts continuously to reconnect to the server.

Exception: When the Thin Client receives a message via the network, for example when the server is shut down, the Thin Client terminates the current client-server connection. Afterwards the Thin Client only tries to re-establish the interrupted connection to the server, if the "Persistent reconnect" option is enabled in the configuration settings.

Proceed as follows to stop the connection attempts:

1. Terminate the current connection.

To do so, press the icon of the connection in the start bar.

2. Select the menu command "Close".

The connection is terminated.

Special features

Citrix

Exact information about the connection behavior is available in the connection settings in the section "Citrix (Page 71)" under the "Persistent reconnect" option.

SINUMERIK

Initial start of a connection: Maximum of 40 connection attempts. Afterwards the background picture is displayed.

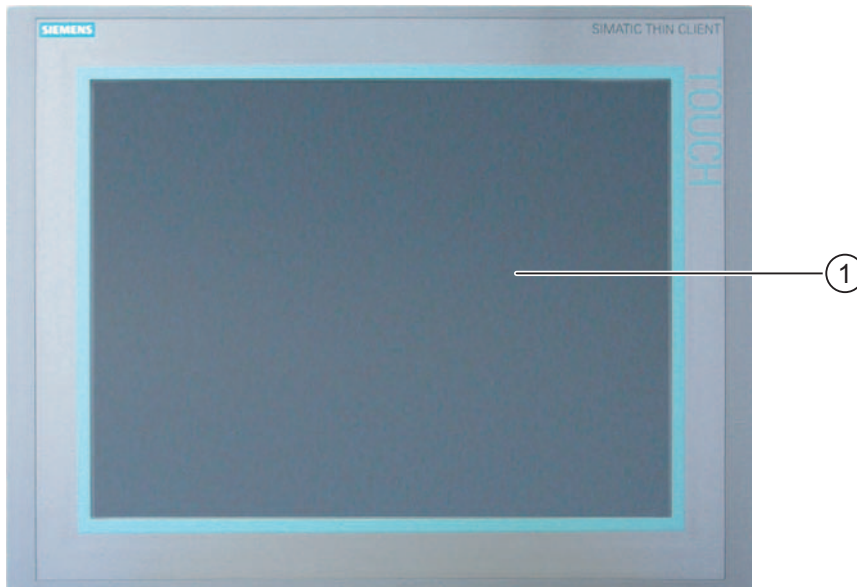
Existing connection: No Standard Reconnect. After the connection has been aborted, the message "Waiting for HMI" is displayed.

Note

The "Menu" button is then used to access the SINUMERIK service menu. If a keyboard is connected, the button will be hidden. Then press the key combination <F9>+<F10>.

7.3 Front operator controls

Thin Client Touch



① Display with touch screen

The Thin Client is operated with the touch screen. All operator controls required for operation are displayed on the touch screen once the HMI device has started.

Note when operating

CAUTION
Damage to the touch screen
The following operation reduces the service life of the touch screen considerably up to a total failure:
<ul style="list-style-type: none">• Touching it with a pointed or sharp object• Abrupt impact with solid objects
Always operate the HMI touch screen with your fingers or with a touch pen.

See also

Design of the Thin Client Touch (Page 12)

Design of the Thin Client Touch (Page 12)

7.4 Operating the taskbar

7.4.1 Structure and functions of the taskbar

Display with "Show the taskbar"

If the option "Show the taskbar" is enabled in the configuration settings of the Thin Client, the start bar will be displayed after switching on the HMI device.



The following figure shows the start bar.



Various icons for the individual client applications are displayed on the left-hand side of the start bar. An icon, for example "RDP", is only displayed if at least one client-server connection has been defined and enabled.

When you click an icon, a selection menu is displayed with all the enabled client-server connections of the client application. The start bar remains visible when you call up a client-server connection.

You can modify the view and position of the start bar.

- You minimize the start bar with the  symbol.
- You maximize the start bar with the  symbol.
- You can move the start bar to the top or bottom margin of the screen.

The start bar can be moved only when it is maximized.

Drag the start bar to the edge of the screen with your finger or, if connected, with the external mouse.

Display with "Auto-hide the taskbar"

If the option "Auto-hide the taskbar" is enabled in the configuration settings of the Thin Client, the start bar is not displayed until you touch the screen in the upper or lower margin. The buttons to minimize or maximize the start bar are not displayed.

Display with "Hide the taskbar"

If the option "Hide the taskbar" is enabled in the configuration settings of the Thin Client, then the start bar will be hidden completely and cannot be shown.

Note

If the administrator saves changes in the configuration settings, the position of the start bar may be changed. If the start bar was moved to the top margin of the screen, it will be displayed at the bottom margin.

Calling functions

The following functions can be called from the start bar.



Configuration settings

Configure the Thin Client in the configurations settings.



Screen keyboard

Use the screen keyboard to enter alphanumeric values, special characters and function key commands. The screen keyboard is automatically opened in a minimized state when the Thin Client is switched on.



Right mouse button

If you press the "right mouse button" button, then the next touch on the touch screen will be interpreted as a right click.



Blocking the touch screen

Use the function "Blocking the touch screen" to block the touch screen for 15 seconds, for example to clean the screen.



Restart

Use the "Restart" function to restart the HMI device, for example, to test the autostart settings. The "Restart" icon is hidden by default. Show the icon in the Desktop settings (Page 76) or use the restart page in the Settings in expert mode (Page 83).

See also

Disabling the touch screen (Page 112)

7.4.2 Starting a connection

Overview

You establish a connection from a Thin Client to a server with the following client applications:



RDP: A selection menu with the activated client-server connections is displayed.



Sm@rtAccess/VNC: A selection menu with the activated client-server connections is displayed.



Citrix: The logon dialog for the Citrix Presentation Server will be displayed.



SINUMERIK: A selection menu with the "Open" command will be displayed.



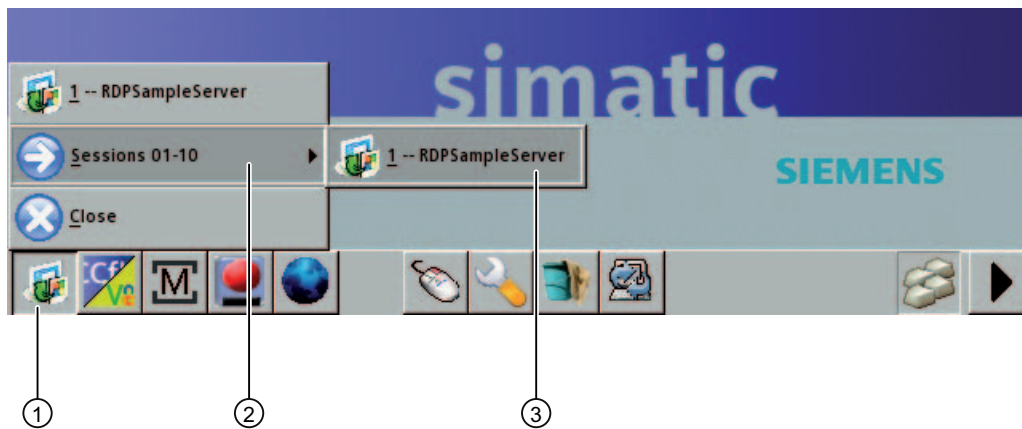
Web browser: The web browser opens with the connection settings that you have defined in the configuration settings.

NOTICE

Only one connection is possible at any given time

If you start a different client-server connection using the start bar, the current connection will be terminated and a new connection to the selected server will be established.

Procedure for RDP, VNC/Sm@rtAccess



- ① Client application
- ② Selection menu with the groups Sessions 01-10
- ③ Enabled client-server connections, sorted by number

Proceed as follows:

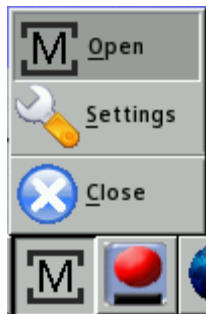
1. Touch the corresponding icon "RDP" or "Sm@rtAccess/VNC" ①.
The selection menu will open.
2. Select the group ② that contains the required client-server connection.
An additional menu is opened.
3. Select the required client-server connection ③.
The connection to the server will be started.

VNC/Sm@rtAccess

"VNC/m@rtAccess" contains the information for every client-server connection whether it is a Sm@rtAccess or a VNC connection (see connection settings, Section "VNC/Sm@rtAccess (Page 69)").



Procedure for SINUMERIK



Proceed as follows:

1. Touch the "SINUMERIK" icon.
The selection menu will open.
2. Select the menu command "Open".
The Thin Client connects to the SINUMERIK system network.

The automatic assignment of the IP address is activated temporarily in the network settings. The SINUMERIK Bootloader briefly displays the IP address of the server currently connected.

The SINUMERIK server downloads the SINUMERIK Viewer with configuration file to the Thin Client. Afterwards the SINUMERIK user interface is displayed on the Thin Client. For additional information on operation and authorizations refer to the documentation "SINUMERIK manual "Operator components and networking" (MLFB: 6FC5397-1AP10-4AA0) (<http://www.automation.siemens.com/doconweb/>)".

Note

TCU service menu

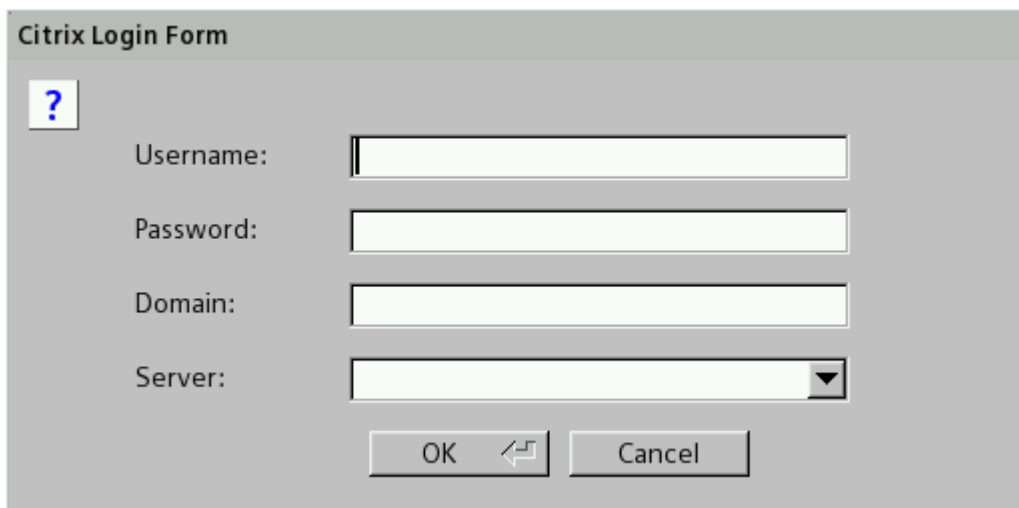
During an existing connection you can access the TCU service menu by using the menu command "Settings" or, if "Waiting for HMI" is displayed on the screen, by using the "Menu" button. In both cases you can also use the key combination <F9>+<F10> to access the TCU service menu if a keyboard is connected.

Procedure for Citrix



Proceed as follows:

1. Touch the "Citrix" icon.
The selection menu will open.
2. Select the menu command "Logon".
The "Citrix Login Form" dialog box opens.



3. Select an enabled client-server connection under "Server".
4. Log in under a domain with your user name and password.
5. Close the dialog box with the "OK" button. The user-specific login data are stored for the next login, but without the password.

Wait until the message "Login successful!" is displayed. When you then touch the "Citrix" icon in the start bar, the Citrix selection menu with the authorized applications and submenus will be displayed.

6. Select the required application.

The application will start and the message "Please wait while launching application" is displayed briefly. It may then still take some time until the application is displayed.

If the connection cannot be established, a separate dialog box is displayed for each error message. Close all open dialog boxes in reverse order.

In an open application, for example "Desktop", you can open additional applications, such as "Explorer".

Note

Updating the selection menu

Use the "Reload applications" menu command to update the selection menu after new applications have been authorized on the Citrix Presentation Server. The modified applications will be available when the message "Please wait while reloading applications..." disappears. Modified icons, however, have to be updated separately, see Section "Desktop settings (Page 76)".

Supported functions

All icons and applications of the Citrix Presentation Server, for example "Citrix Streams", are displayed in the selection menu. "Shared applications" and "shared content" will be supported.

To open and display "shared content", the Administrator has to authorize a corresponding application as a "shared application". Additional information is available in the Citrix documentation on the Internet under www.citrix.de (<http://www.citrix.com/lang/English/home.asp>).

7.4.3 Terminating a connection

Introduction

Proceed as follows to terminate a client-server connection:

- By using the "Close" menu command (see below).
- When you start a different client-server connection (see Section "Starting a connection (Page 101)"), the current connection will be terminated as with the "Close" menu command.
- For more options refer to "Special features".

Procedure

Proceed as follows to terminate the current client-server connection:

1. Touch the corresponding icon of the client application.
The selection menu will open.
2. Select the menu command "Close".
3. If required, enter the connection password (see Section "Connection password (Page 75)").

NOTICE
Misuse RDP can be set on the server so that the user stored in the connection settings remains logged in even after an RDP connection has been terminated. After a Citrix connection has been terminated, the user who logged in the login dialog box remains logged in. Make sure that only authorized persons have access to the device or log off (see Special features).

Special features

RDP

Note

Terminate the RDP connection alternatively by using "Start" > "Disconnect". The "RDP session has been terminated by peer!" dialog box will be displayed on the Thin Client; acknowledge it with "OK". The connection password is not requested.

You log off from the RDP server with "Start" > "Logoff".

Citrix

After a Citrix connection has been terminated with the "Close" menu command, the application started on the Thin Client remains saved on the server. When the user logs in again and the application starts, work can be continued in the application at the same point. The administrator of the Citrix Presentation Server can change this behavior.

You can also close the application directly on the server: In the title bar click the "Cross" icon or select the corresponding menu command for closing in the menu bar.

NOTICE

Connection password without effect

If you close all open applications by using their title or menu bars, Citrix will be terminated without a password prompt.
--

Proceed as follows to log off Citrix:

1. Touch the "Citrix" icon.

The selection menu will open.

2. Select the menu command "Logoff".

Logging off from Citrix has the following effects:

- The open application and, if required, additional applications opened by it will continue running.
- The active application disappears from the selection menu.
- The user is logged off from the Citrix Presentation Server.

SINUMERIK

The connection to the SINUMERIK system network is terminated. The network settings are reset to the values they had before the SINUMERIK connection was started.

7.5 Operating the screen keyboard

Screen keyboard

If you have not connected an external keyboard to the Thin Client, use the screen keyboard for entries, e.g. in the configuration settings. The screen keyboard is automatically opened in a minimized state when the Thin Client is switched on.

If you activate an IO field when accessing a WinCC flexible or WinCC project on a server, the screen keyboard is displayed automatically.

Note

Setting the focus on the application

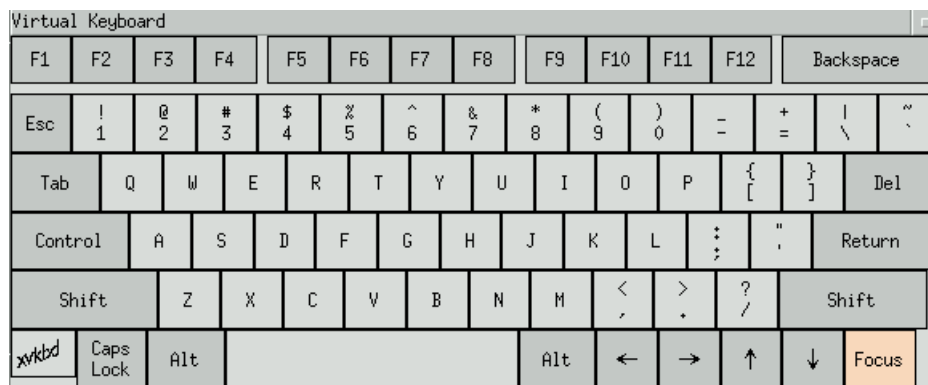
Note that after moving the screen keyboard, the focus must again be set to the application program, if entries are to be carried out on it.

Screen keyboard

The Thin Client is available with a German and an English screen keyboard. If you access a server with the Windows XP or Windows 7 operating system using the "RDP" protocol, set the keyboard language on the Thin Client so that it is identical to the keyboard language on the server. If the keyboard language on the Thin Client and the server do not agree, the keys pressed on the Thin Client keyboard will not be interpreted correctly by the server.

Operating the screen keyboard

The following figure shows the screen start bar.



You operate the screen keyboard by directly touching the keys of the keyboard on the touch screen. The functions of the keys on the screen keyboard are the same as those on an external keyboard. You can move the screen keyboard with your fingers.

"Shift" key

The "Shift" key is always enabled only for the next key press on the screen keyboard. If you, for example, wish to enter several uppercase letters one after the other, you must press the "Shift" key before each character.

Alternatively, you can lock the "Shift" key by pressing the "Caps Lock" key.

Input focus

Several windows can be open in an application. You can establish for which window the following input via the screen keyboard is valid as follows:

- you touch the desired window on the touch screen.
- You use an external mouse to click in the desired window.

If the focus is to be established on the desired window not as described above, press the "Focus" key on the screen keyboard and then select the desired window on the touch screen.

Number pad

The screen keyboard does not have a separate number pad. If you have connected an external keyboard, you cannot make any entries via the number pad of the external keyboard.

"xvkbd" key

Use the "xvkbd" key to call the information about the author and the licensing of the "xvkbd" screen keyboard.

7.6 Operating a USB memory device

Introduction

Use the USB port on the back of the device to access connected USB storage devices.

RDP

In the case of an RDP connection you have read and write access to one or several USB storage devices.

With active RDP connection the USB storage devices are exported to the RDP server. A folder with the name "media on <Client hostname>" is created in Windows Explorer, in which a separate subfolder is displayed for each USB storage device. When you change the host name in the configuration settings of the Thin Client, the name of the folder is adapted automatically on the RDP server.

Requirement

- The option "Map USB storage device" is activated in the configuration settings under "Remote > RDP".

SINUMERIK

In case of a SINUMERIK connection you have read and write access to the folder structure of a single (the first) USB storage device through an HMI button. Further information is available on the Internet at SINUMERIK manual "Operator components and networking" (MLFB: 6FC5397-1AP10-4AA0) (<http://www.automation.siemens.com/doconweb/>).

Requirement

- The USB port is enabled in the HMI, see Chapter "Configuring a server", Section "SINUMERIK (Page 94)".

Removing a USB memory device

Proceed as follows:

1. Make sure the device is no longer being accessed. To do so, select a different drive, close the Windows Explorer or exit the application accessing the device.
2. Wait for 5 to 10 seconds.
3. Remove the USB memory device from the USB port of the Thin Client.

See also

Connecting a USB device (Page 49)

RDP (Page 67)

7.7 Performance data

Performance values

The performance depends on the network capacity in your system. With Sm@rtAccess the performance moves within the scope of the values that have been specified in the WinCC flexible documentation.

Example values for the performance are available on the Internet under "FAQ 25576569 (<http://support.automation.siemens.com/WW/view/en/25576569>)".

Maintenance and care

8

8.1 Maintaining and caring for the touch screen.


Introduction

The HMI device is designed for maintenance-free operation. You should clean the touch screen at regular intervals, however.

Requirement

- Damp cleaning cloth
- Washing up liquid or foaming screen cleaning agent

Procedure

 WARNING
Unintentional response If you clean the touch screen while it is switched on, you could cause malfunctions. Switch off the HMI device or - if running - clean the touch screen only in a blocked state. Note that the touch screen block automatically ends after 15 seconds.
Damage caused by unauthorized cleaning products You damage the HMI device when you use compressed air, steam cleaners, aggressive solvents or scouring powder. Do not clean the HMI device with compressed air or steam jet blowers. Do not use aggressive solvents or scouring powder.

Proceed as follows:

1. Switch off the HMI device or block the touch screen.
2. Spray the cleaning solution onto a cleaning cloth.
Do not spray directly onto the HMI device.
3. Clean the HMI device.
When cleaning the display wipe from the screen edge inwards.

8.2 Disabling the touch screen

Cleaning

The HMI touch screen can be cleaned when it is switched on and a project is running. To do this you must block the touch screen.

 **WARNING**

Unintentional response


If you clean the touch screen while it is switched on, you could cause malfunctions.

Switch off the HMI device or - if running - clean the touch screen only in a blocked state.

Note that the touch screen block automatically ends after 15 seconds.


Procedure

Proceed as follows:

1. Block the touch screen using the  symbol in the start bar.

2. Cleaning the touch screen.

After 15 seconds the block is automatically lifted.

3. If you wish to continue cleaning, you must again press the  symbol in the start bar.

8.3 Spare parts and repairs

Repairs

If the unit needs to be repaired, you will have to ship the HMI device to the Return Center in Fürth. The address is:

Siemens AG
Industry Sector
Returns Center
Siemensstr. 2-4
90766 Fürth
Germany

For additional information, refer to the Internet at "Spare parts and repairs (<http://support.automation.siemens.com/WW/view/en/16611927>)".

Spare parts

Spare parts and accessories for the HMI devices can be found in chapter Accessories (Page 19).

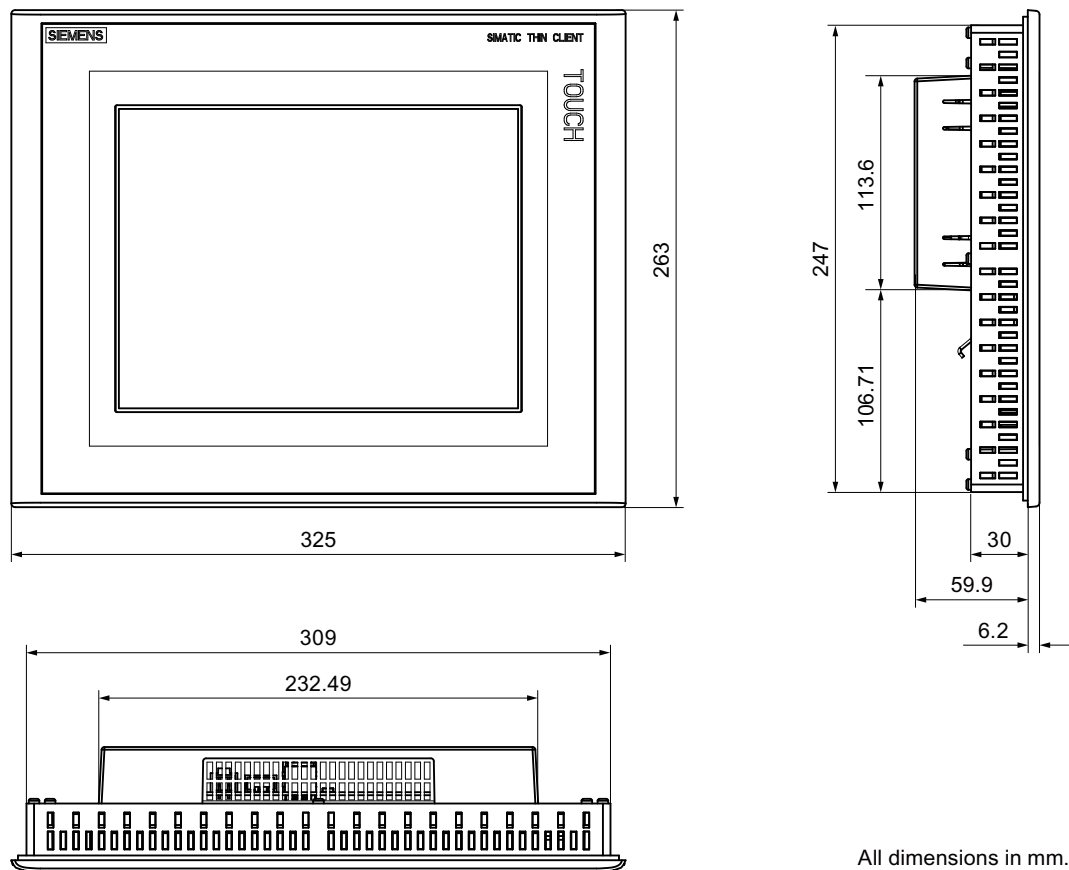
Technical specifications

9.1 Dimension drawings

The HMI device Thin Client 10" Touch is available in two enclosure models with different product versions. The product version is indicated on the back of the HMI device.

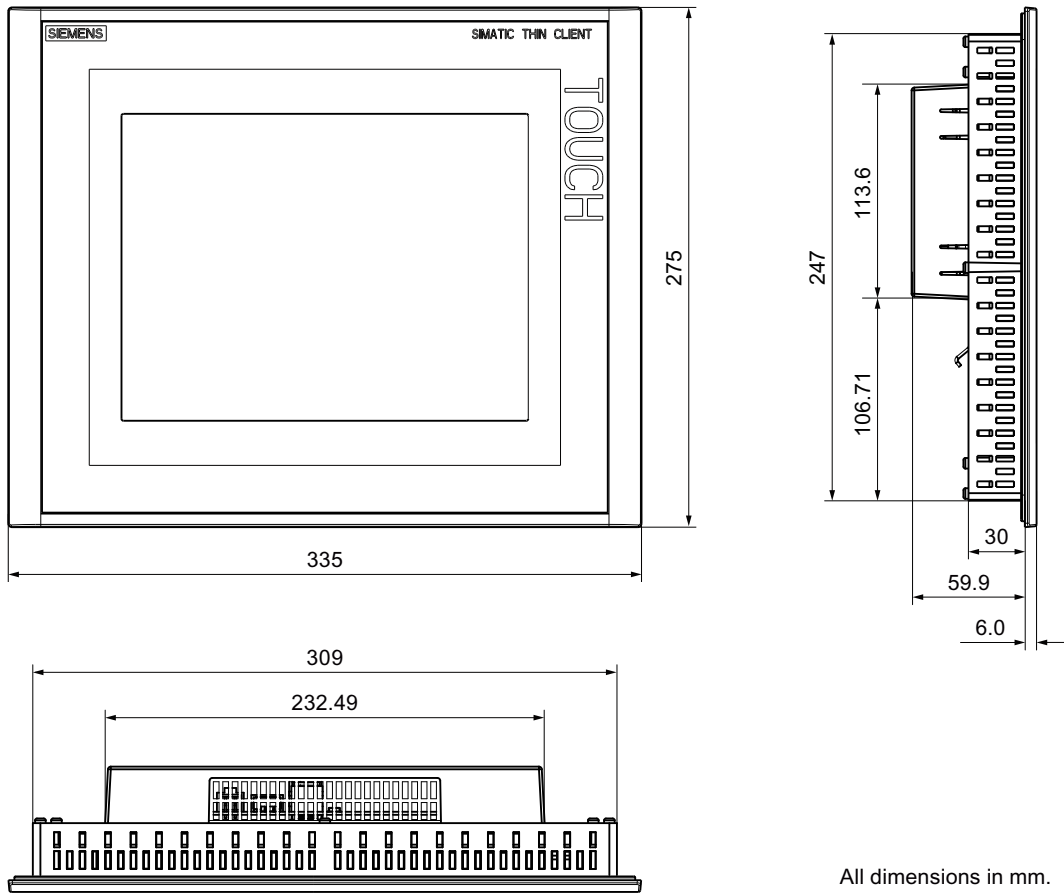
Dimension drawings of the Thin Client 10" Touch

Dimension drawing of the Thin Client 10" Touch up to and including product version 06:



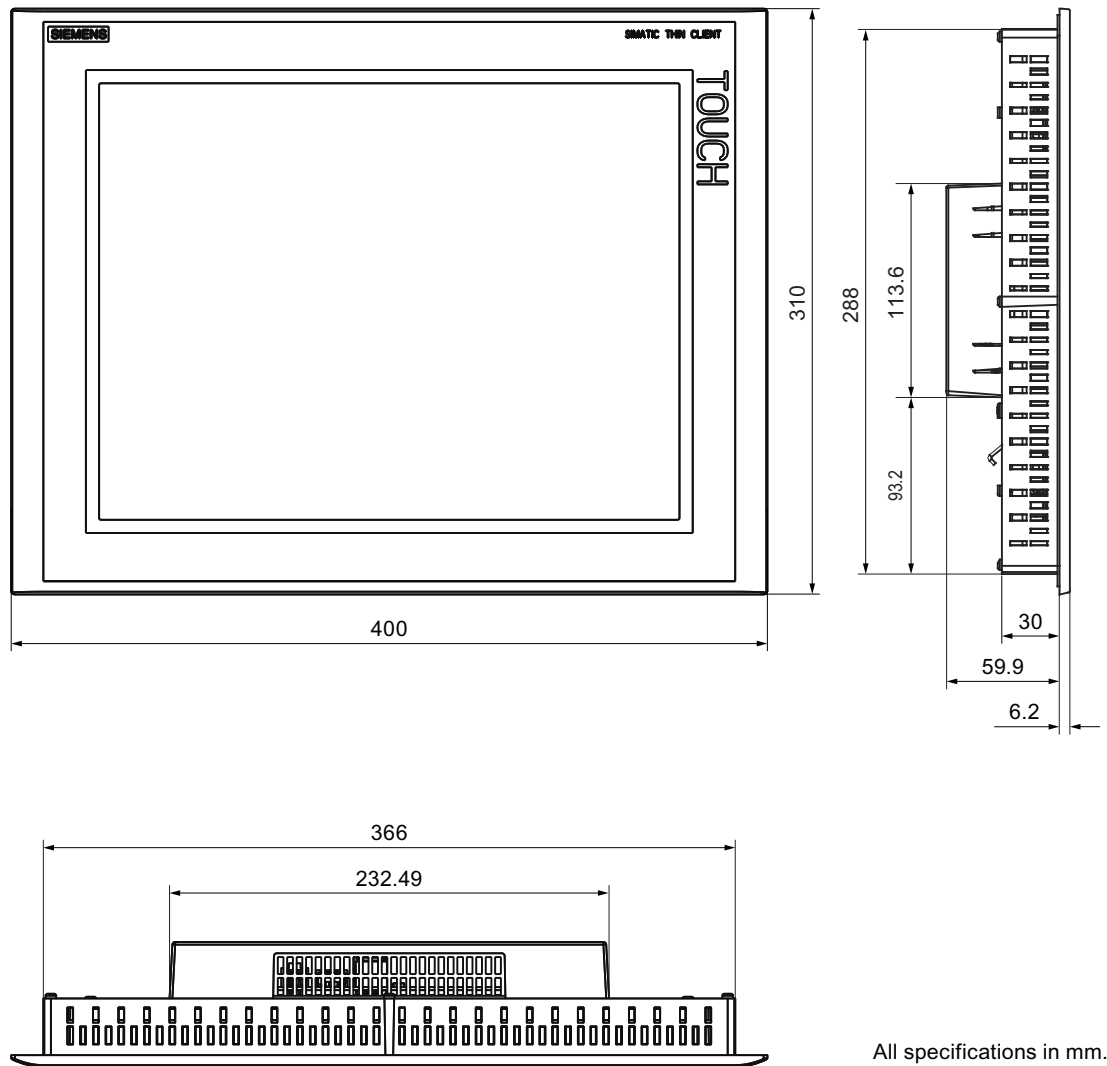
All dimensions in mm.

Dimension drawing of the Thin Client 10" Touch as of product version 15:



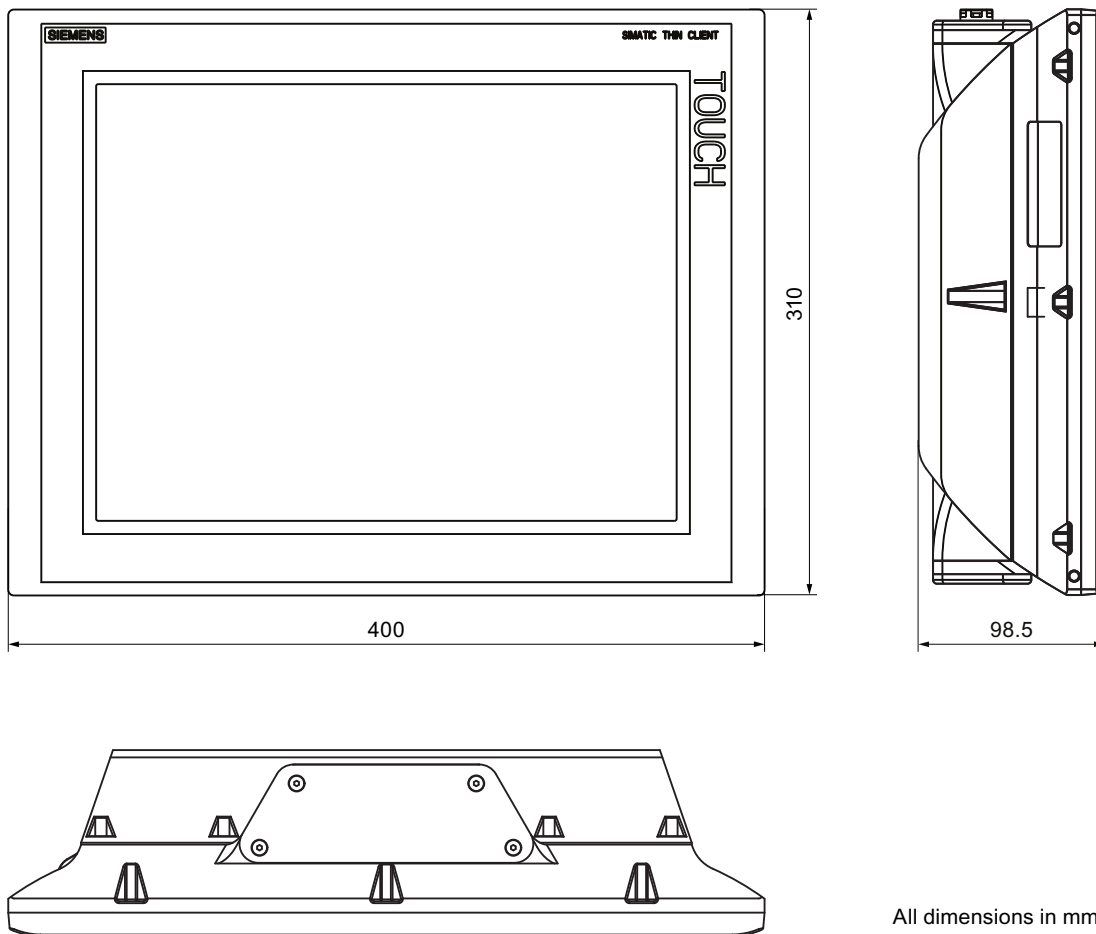
All dimensions in mm.

Dimension drawings of the Thin Client 15" Touch



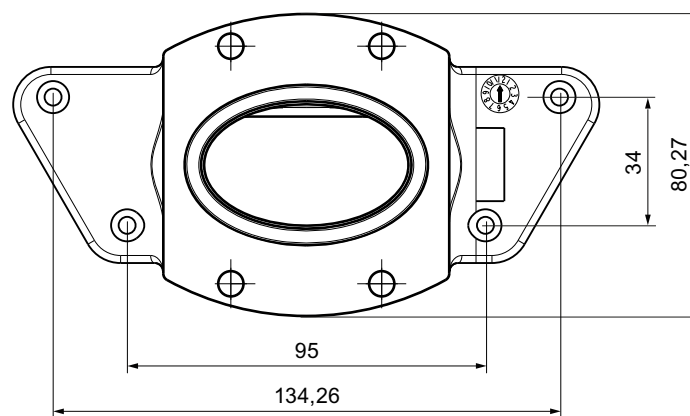
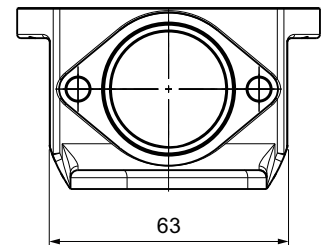
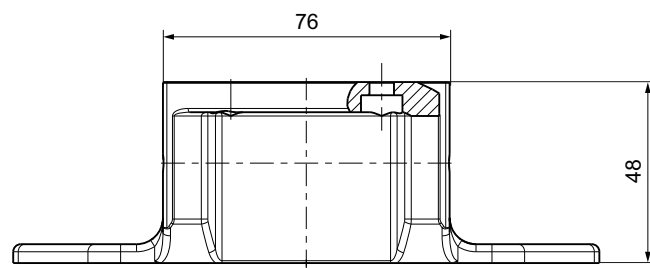
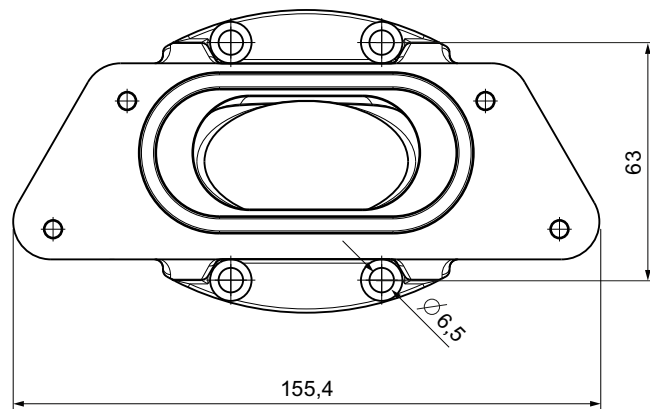
All specifications in mm.

Dimension drawings of the Thin Client PRO 15"



All dimensions in mm.

Dimension drawings of the basic adapter



All dimensions in mm.

9.2 Specifications

HMI device

	Thin Client 10" Touch	Thin Client 15" Touch	Thin Client PRO 15"
Weight without packaging	c. 2 200 g	c. 3 560 g	c. 6 500 g, with basic adapter c. 6 900 g

Display

	Thin Client 10" Touch	Thin Client 15" Touch, Thin Client PRO 15"
Type	LCD TFT	
Display area, active	211.2 mm x 158.4 mm (10.4")	304.1 mm x 228.1 mm (15")
Resolution	640 x 480 pixels	1024 x 768 pixels
Colors, displayable	64 k	
Brightness control	No	
Backlighting	CCFL	
Half brightness life time, typical	50 000 h	
Meantime Between Failure (MTBF)	50 000 h	

Input device

	Thin Client 10" Touch	Thin Client 15" Touch Thin Client PRO 15"
Type	Touch screen, analog, resistive	

Interfaces

	Thin Client 10" Touch	Thin Client 15" Touch Thin Client PRO 15"
1 x USB 1.1	<ul style="list-style-type: none"> • USB host; conforms to USB standard 1.1 (supporting low-speed USB devices) • Maximum load 100 mA 	
1 x LAN: Ethernet/PROFINET (X1)	RJ45 10/100 Mbps	

Supply voltage

	Thin Client 10" Touch	Thin Client 15" Touch Thin Client PRO 15"
Rated voltage	+24 VDC	+24 VDC
Range, permissible	19.2 V to 28.8 V ($\pm 20\%$)	19.2 V to 28.8 V ($\pm 20\%$)
Transients, maximum permissible	35 V (500 ms)	35 V (500 ms)
Time between two transients, minimum	50 s	50 s
Current consumption <ul style="list-style-type: none"> • Typical • Constant current, maximum • Power on current surge I^2t 	<ul style="list-style-type: none"> • c. 500 mA • c. 1 100 mA • approx. 1 A²s 	<ul style="list-style-type: none"> • c. 700 mA • c. 1 100 mA • approx. 1 A²s
Fuse, internal	Electronic	Electronic

9.3 Description of the ports

9.3.1 Power Supply

Plug connector, 2-pin

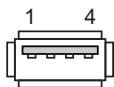


The following table shows the pin assignment of the power supply.

Pin	Assignment
1	+24 VDC
2	GND 24 V

9.3.2 USB

USB socket

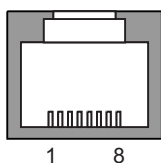


The following table shows the pin assignment of the USB port.

Pin	Assignment
1	+5 VDC, out (max. 100 mA)
2	USB-DN
3	USB-DP
4	GND

9.3.3 LAN (PROFINET)

RJ45 plug connector, X1



The following table shows the pin assignment of the RJ45 connector.

Pin	Assignment
1	TX+
2	TX-
3	RX+
4	n.c.
5	n.c.
6	RX-
7	n.c.
8	n.c.

Appendix

A

A.1 ESD guideline

What does ESD mean?



An electronic module is equipped with highly integrated electronic components. Due to their design, electronic components are highly sensitive to overvoltage and thus to the discharge of static electricity. Such electronic components are labeled as electrostatic sensitive devices (ESD).

The following abbreviations are commonly used for electrostatic sensitive devices:

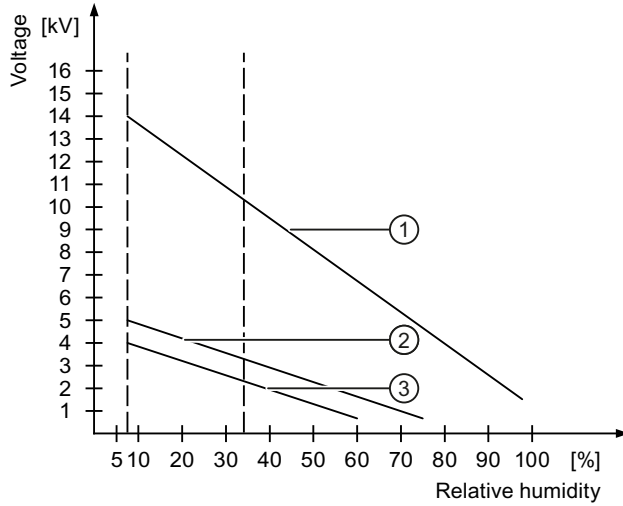
- ESD – Electrostatic Sensitive Device
- ESD – Electrostatic Sensitive Device (internationally recognized term)

Electrostatic charge

CAUTION
Electrostatic charge ESDs may be destroyed by voltages far below the level perceived by human beings. If you are not discharged electrostatically, the voltage that you transfer when touching a component or the contact points of a module can already cause damage. The damage to an ESD caused by overvoltage is usually not recognized immediately. The damage only becomes apparent after a long period of operation. Discharge any electrostatic charge of your body before you touch the ESD.

Anyone who is not connected conductively to their surroundings is subject to electrostatic charge.

The following diagram shows the maximum voltage values to which a person can be charged electrostatically. The values depend on the material and humidity. The shown 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

CAUTION
<p>Grounding measures</p> <p>There is no equipotential bonding without grounding. An electrostatic charge is not discharged and may damage the ESD.</p> <p>When working with electrostatic sensitive devices, make sure that the person and the workplace are properly grounded.</p>

Note the following:

- Only touch the ESD if it is absolutely necessary.
- When you touch ESD modules, avoid touching the pins or the PCB tracks.
This precaution reduces the risk of damaging an ESD.
- Discharge electrostatic electricity from your body if you are performing measurements on an ESD.
To do so, touch a grounded metal object before you carry out the measurement.
- Always use grounded measuring instruments.

Abbreviations

CAL	Client Access License (Windows Server)
DC	Direct Current
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name System
DP	Distributed I/O
ESD	Components and modules endangered by electrostatic discharge
EMC	Electromagnetic Compatibility
EN	European standard
ESD	Components and modules endangered by electrostatic discharge
GND	Ground
HF	High Frequency
HMI	Human Machine Interface
HTTP	Hypertext Transfer Protocol
IEC	International Electronic Commission
IP	Internet Protocol
MAC	Media Access Control
MPI	Multipoint Interface (SIMATIC S7)
MS	Microsoft
MSDN	Microsoft Developer Network
OP	Operator Panel
PC	Personal Computer
PPI	Point-to-Point Interface (SIMATIC S7)
PELV	Protective Extra Low Voltage
PN	PROFINET
RDP	Remote Desktop Protocol
RJ45	Registered Jack Type 45
TFT	Thin Film Transistor
TP	Touch Panel
TS-CAL	Terminal Server Client Access License (Windows Server)
UL	Underwriter's Laboratory
USB	Universal Serial Bus
VNC	Virtual Network Computing

Glossary

Browser

A browser is a computer program that is used to start Web sites in the Internet.

Client-server system

A client/server system is a network structure in which the resources are offered by a central server that the workstations (clients) can access.

Degree of protection

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

The degree of protection specified by IP differs from the protection class. But both involve protection against touching dangerous electric voltage. The degree of protection also classifies the protection of equipment against dirt and moisture.

Domain Name System (DNS)

The DNS is a service in the Internet that converts domain names into IP addresses.

Dynamic Host Configuration Protocol (DHCP)

DHCP enables dynamic assignment of an IP address and additional configuration parameters to computers in a network, via an appropriate server.

Electromagnetic Compatibility (EMC)

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.

EMC

Electromagnetic compatibility is the ability of electrical equipment to function properly in its electromagnetic environment without influencing this environment.

Ethernet

Ethernet is a fixed-cable data network technology for local area networks (LANs). Ethernet enables data transfer in the form of data frames between all devices that are connected in a local area network, for example, computers, printers.

HMI device

An HMI device is a device used for the operation and monitoring of machines and plants. The statuses of the machine or plant are indicated by means of graphic elements or by indicator lamps on the HMI device. The operator controls of the HMI device allow the operator to interact with the processes of the machine or plant.

Plant

General term referring to machines, processing centers, systems, plants and processes which are operated and monitored on an HMI device.

PLC

A PLC is a general term for devices and systems with which the HMI device communicates, for example, SIMATIC S7.

Process visualization

Visualization of technical processes by means of text and graphic elements. Configured plant screens allow operator intervention in active plant processes by means of the input and output data.

PROFINET

PROFINET is a standard for an industrial Ethernet in automation systems.

Project

Result of a configuration using a configuration software. The project normally contains several screens with embedded system-specific objects, basic settings and alarms. The project is transferred to an HMI device and monitored and operated with the HMI device.

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.

Remote Desktop Protocol (RDP)

RDP enables network access to applications that are executed on a Windows Terminal Server. In this process the RDP regulates transmission of screen content and keyboard and mouse inputs over the network.

Screen

Form of the visualization of all logically related process data for a plant. The visualization of the process data can be supported by graphic objects.

Sm@rtAccess

The Sm@rtAccess option enables communication between HMI systems based on Ethernet networks or via the Intranet/Internet. This enables an HMI device to be monitored and remotely controlled by another HMI device.

Virtual Network Computing (VNC)

VNC enables network access to applications that are executed on a remote computer regardless of the platform. In this process the VNC controls transmission of screen content and keyboard and mouse inputs over the network.

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