SIEMENS

SIMATIC

Industrie Software Engineering Tools

TS Adapter IE Basic

Manual

08/2014

A5E02615140-03

Legal information

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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.

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⚠WARNING

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

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

NOTICE

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

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Preface

Purpose of the manual

This documentation provides important information for configuring and commissioning TS Adapter IE Basic.

Basic knowledge required

The following knowledge is required in order to understand the documentation:

- General knowledge of automation technology
- Knowledge of the industrial automation system SIMATIC
- Knowledge about the use of Windows® computers
- Working knowledge of the TIA Portal
- Knowledge of STEP 7 programming
- Knowledge about Ethernet communication
- Knowledge of modems
- Knowledge of network technology

Supplementary documentation

You can find information on PROFINET and Ethernet in the following documentation:

Documentation	Content
PROFINET system description (http://support.automation.siemens.com/WW/view/de/19292127/0/en) System Manual	Basic knowledge of PROFINET: Network component, data exchange and communications, PROFINET IO, Component Based Automation, application example - PROFINET IO and Component Based Automation
PROFINET Industrial Ethernet (http://support.automation.siemens.com/WW/view/de/27069465/0/en) System Manual	Basic knowledge about the topics of Industrial Ethernet and PROFINET, topologies, technologies, network security, network components, network structures and gateways
Designing interference-free controllers (http://support.automation.siemens.com/WW/view/en/59193566) Function manual	Fundamentals of electromagnetic compatibility, interference-free cable routing, shielding, equipotential bonding, lightning and overvoltage protection

Validity of the manual

The manual is relevant to the following components:

Component	Article number	as of Version	
		Firmware	Hardware
TS Adapter IE Basic	6ES7972-0EB00-0XA0	V 1.1.0	01
TS Module Modem	6ES7972-0MM00-0XA0	-	01
TS Module ISDN	6ES7972-0MD00-0XA0	-	01
TS Module RS232	6ES7972-0MS00-0XA0	-	01
TS Module GSM	6GK7972-0MG00-0XA0	-	01

This manual contains a description of the components which were valid at the time the manual was published.

Recycling and disposal

The TS Adapter IE Basic can be recycled owing to its low pollutant content. For the environmentally friendly recycling and disposal of your old device, please contact a certificated disposal service for electronic scrap.

Additional assistance

You can find information on the Technical support (http://www.siemens.com/automation/support-request) in the appendix to this documentation.

The technical documentation for the various SIMATIC products and systems is available on the Internet (http://www.siemens.com/simatic-tech-doku-portal).

You can find the online catalog and online ordering system on the Internet (http://mall.automation.siemens.com).

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To stay informed about product updates as they occur, sign up for a product-specific newsletter. You can find more information on the Internet (http://support.automation.siemens.com).

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Special note for resellers: The information and the license conditions on the included data media must be submitted to the purchasing party to avoid license infringements by the reseller or purchasing party.

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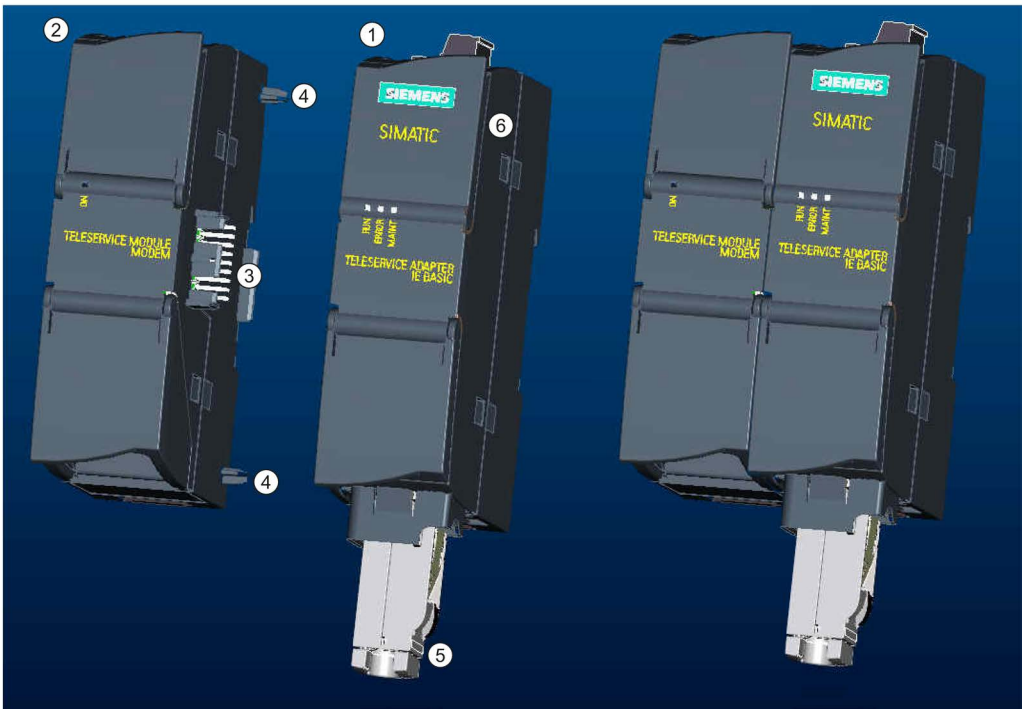
Properties of the TS Adapter IE Basic

1

1.1 Functions

Hardware Requirements

To use the functions of the TS Adapter IE Basic , you must operate it together with a TS module. The TS module is placed sideways on the TS Adapter IE Basic and forms the physical interface to the telephone or mobile network.



① TS Adapter IE Basic
② TS Module
③ Pin connector of the TS module
④ Elements
⑤ Ethernet port
⑥ Cannot be opened!

Figure 1-1 Connecting the TS Adapter IE Basic and TS module

Depending on the application involved, you may need a special TS module.

Basic unit	Plug-in TS modules	Article number
TS Adapter IE Basic	TS Module Modem	6ES7972-0MM00-0XA0
	TS Module ISDN	6ES7972-0MD00-0XA0
	TS Module RS232	6ES7972-0MS00-0XA0
	TS Module GSM	6GK7972-0MG00-0XA0

You can find additional information about the TS modules and the modular design in the *Modular TS Adapter* manual.

Functions of the TS Adapter IE Basic

The TS Adapter IE Basic has the following functions in connection with a TS module:

- Remote maintenance over the phone network

  Wit the TS Adapter IE Basic , you can use an application running on the PG/PC, such as STEP 7, to access Industrial Ethernet connected to S7 and C7 automation components over the phone network.

  The TS Adapter IE Basic requires the following:

  – a connection to the automation components via Industrial Ethernet,

  – a modem connection to the PG/PC

- Sending e-mail

  With the function block AS_MAIL, TM_MAIL or TMAIL_C (depending on the CPU type), you can send e-mails from a SIMATIC CPU via the TS Adapter IE Basic . To do this, the TS Adapter IE Basic establishes an outbound modem connection to a dial-up server, such as at an Internet Service Provider (ISP), and sends the e-mail via a mail server accessible there.

To establish a remote connection through the telephone network you will alternatively need:

- TIA Portal V11.0 or higher
- The application TeleService V6.1 + SP3 or higher
- Windows remote network

Note

It is not possible to operate remote maintenance and e-mail delivery simultaneously. With the TS Adapter IE Basic , you can either answer an incoming remote maintenance call or initiate an outgoing call for sending e-mail.

The following diagram illustrates the various functions of the TS Adapter IE Basic.

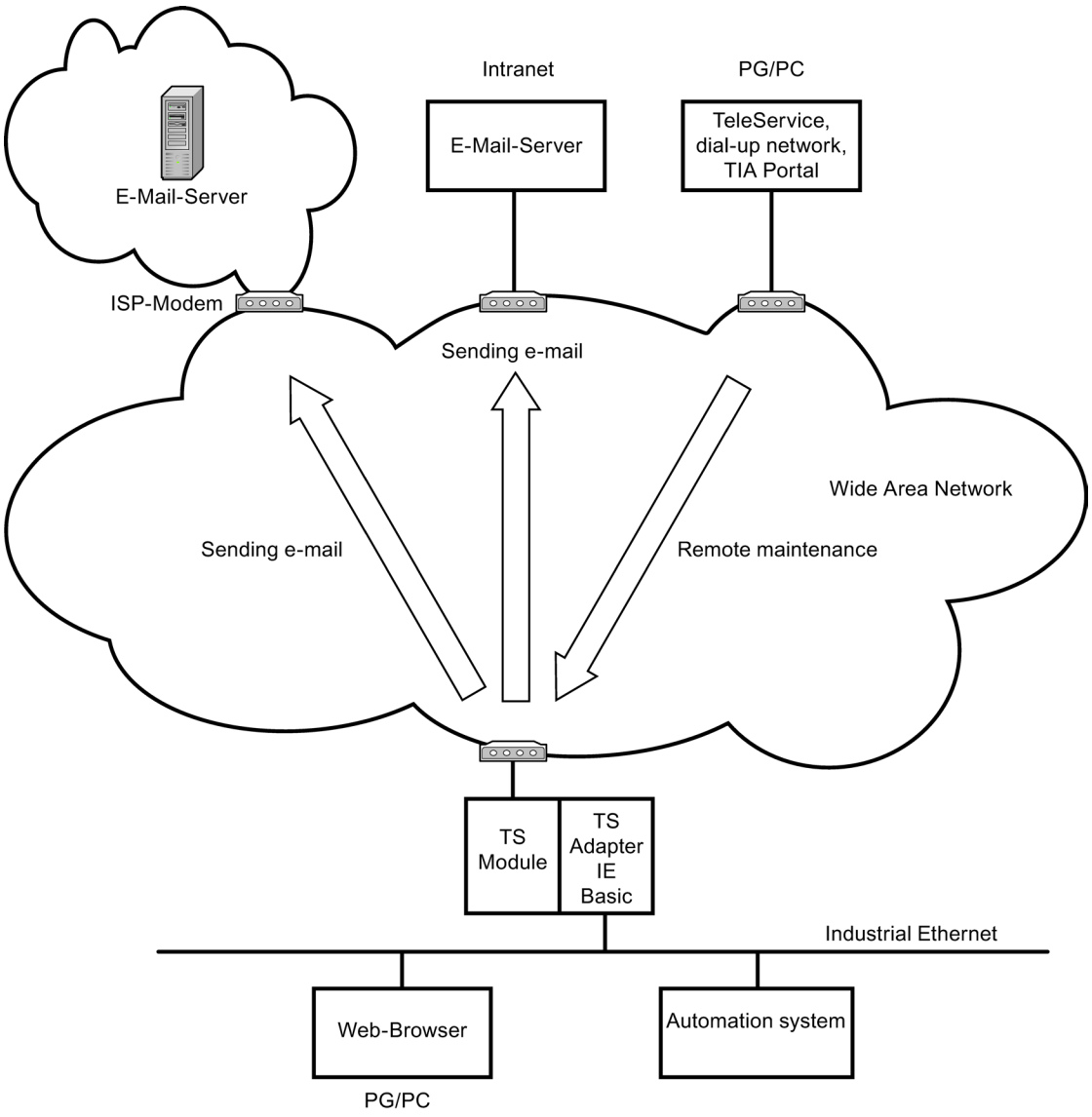


Figure 1-2 Functions of the TS Adapter IE Basic

1.2 Features

Characteristics of the TS Adapter IE Basic

- Connection to PG/PC and automation system via Industrial Ethernet
- Support for routing
- Support for the function blocks AS_MAIL, TM_MAIL and TMAIL_C, depending on the CPU type used
- Integrated DIN rail fastener

1.3 Connection Types

Connection types of the TS Adapter IE Basic

The following diagrams show the connection types possible with the TS Adapter IE Basic.

Direct connection

In the direct connection to the PG/PC, you can set the TS Adapter IE Basic through Ethernet.

Note

It is not permitted to operate the TS Adapter IE Basic without a TS module.

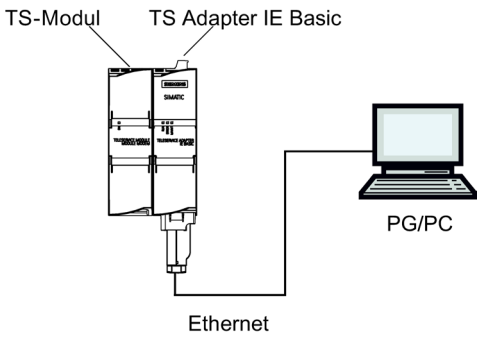


Figure 1-3 Direct connection

Connection to the telephone network

To have a direct connection to the telephone network, you must operate the TS Adapter IE Basic together with one of the following TS modules:

- TS Module Modem
- TS Module ISDN

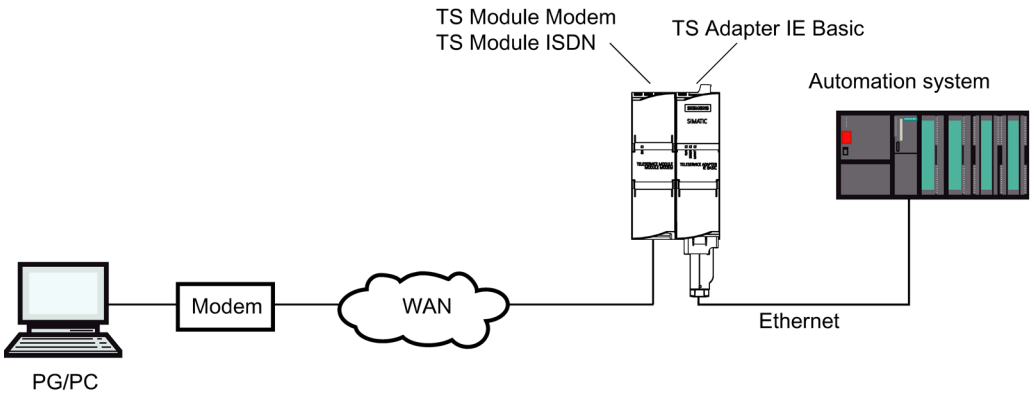


Figure 1-4 Direct connection to the telephone network

You can find additional information about the TS modules in the *Modular TS Adapter* manual.

Connection to the GSM network

For connection to the GSM network, you must operate the TS Adapter IE Basic together with the TS Module GSM betreiben:

- TS Module GSM

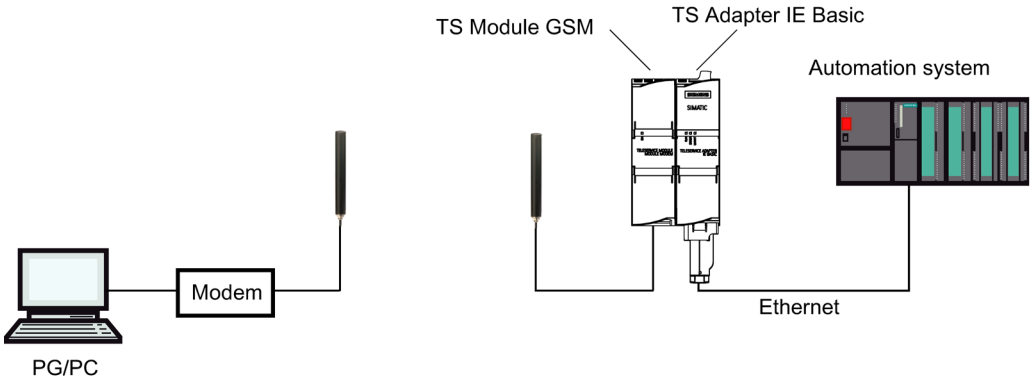


Figure 1-5 Connection to the GSM network

You can find additional information about the TS modules in the *Modular TS Adapter* manual.

Connection to the telephone network through an external modem

For the connection to an external modem, you must operate the TS Adapter IE Basic together with the TS Modul RS232:

- TS Module RS232

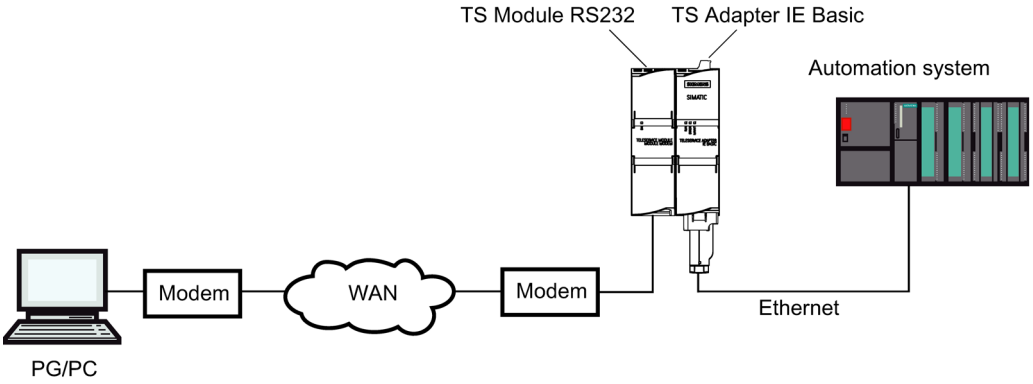


Figure 1-6 Connection to an external modem

You can find additional information about the TS modules in the *Modular TS Adapter* manual.

1.4 Mounting methods

There are 3 alternative methods for mounting the TS Adapter IE basic:

- On the mounting rail of the S7-300
  (with separately available mounting rail adapter; 6ES7-972-0SE00-7AA0 for 60 mm rail; 6ES7-972-0SE10-7AA0 for 75 mm rail)
- On a standard rail
- Wall mounting

More information about the assembly can be found in the *TS Adapter modular* manual.

1.5 Product Package and Spare Parts

Product package

- TS Adapter IE Basic

  Article number 6ES7972-0EB00-0XA0
- DVD "SIMATIC TeleService Edition" with software and documentation
- Support collar for Ethernet plug

Spare parts

Designation	Article number
Adapter for mounting on the S7 300 rail	60 mm rail: 6ES7972-0SE00-7AA0
Plug for power supply with DC 24 V	A5E02504537
Support collar for Ethernet plug	A5E02284492

Please order the spare parts from your local Siemens representative.

Requirements for operation

2

2.1 Software Requirements

Overview

To work with the TS Adapter IE Basic , you need a PG/PC with an MS Windows operating system and the software (device drivers) for the TS Adapter IE Basic.

The list of the supported operating systems is included in the latest Readme file on the TS Adapter IE Basic software.

For first-time configuration of IP addresses over a direct connection you will alternatively need:

- SIMATIC TIA Portal V11.0 or higher
- SIMATIC TeleService V6.1 + SP3 or higher
- SIMATIC Manager of STEP 7 as of V5.4 SP1

For further configuration you will alternatively need:

- SIMATIC TIA Portal V11.0 or higher
- SIMATIC TeleService V6.1 + SP3 or higher
- A browser

To establish a remote connection you will alternatively need:

- SIMATIC TIA Portal V11.0 or higher
- SIMATIC TeleService V6.1 + SP3 or higher
- Windows remote network

2.2 Hardware Requirements

Overview:

To work with the TS Adapter IE Basic you will need a programming device (PG) or a PC with a DVD-drive and Ethernet port.

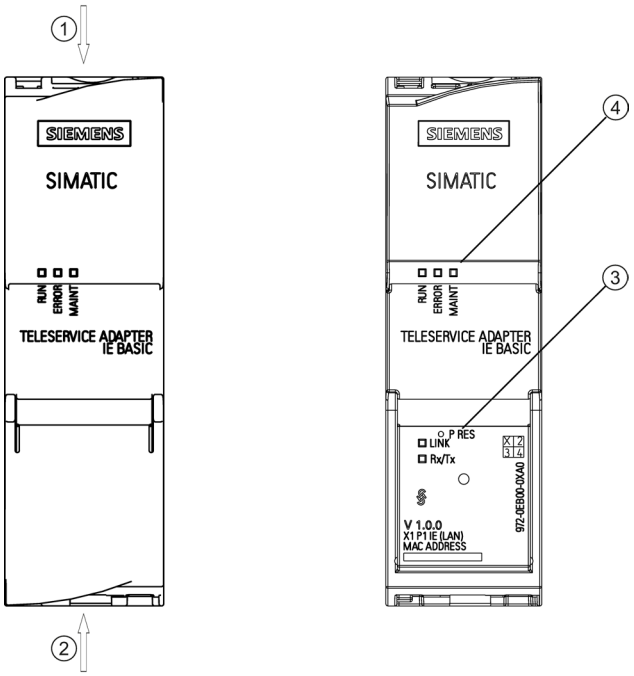
More information on TS modules is available in the *Modular TS Adapter* manual.

Connecting

3

3.1 Connections / display / button

The figure below shows the TS Adapter IE Basic with closed front panel (left) and with open front panel (right):



① Power socket
② RJ45 Ethernet port
③ P RES button to reset configuration
④ LEDs RUN, ERROR and MAINT

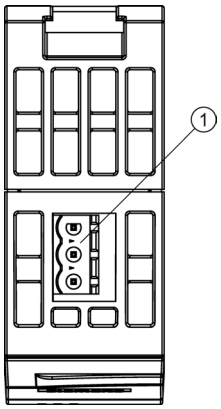
Figure 3-1 TS Adapter IE Basic

3.2 Power Supply

Power supply

The TS Adapter IE Basic is supplied and grounded with the help of the delivered power through the power socket to its top side with DC 24 V.

The following image shows the TS Adapter IE Basic in the view from above:



① Power socket for the 24 V DC Power Supply

DANGER

Only safely isolated 24 V DC low voltage may be used for the power supply. Safe isolation can be achieved according to one of the following standards:

- VDE 0100-410 / HD 384-4-41 S2 / IEC 60364-4-41
  (as functional extra-low voltage - FELV - with safe isolation)
- VDE 0805 / EN 60950 / IEC 60950
  (as safety extra-low voltage - SELV) or VDE 0106 part 101.

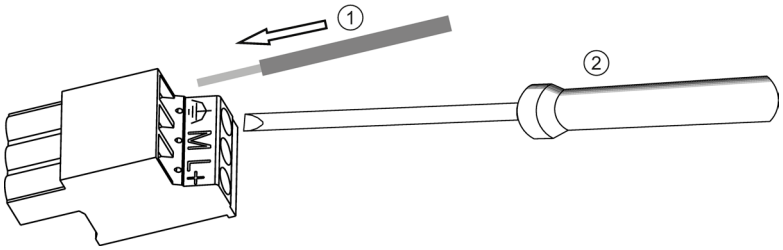
The wire cross-sections must meet the minimum requirements of the relevant installation standard.

Wiring the connectors

To change the voltage, proceed as follows:

1. If you want to use ferrules, isolate the wires to 10 mm. Cap the crimp ferrules with the lines.

   Strip about 8 to 10 mm off the wires.
2. Place the cores on (①).
3. Screw the ends of the cores with the voltage, tightening torque: 0.6 to 0.8 Nm (②).



L+ 24 V DC

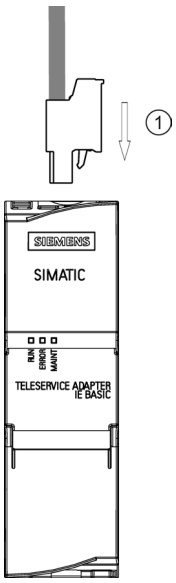
M Ground

⏚ Ground connection

Figure 3-2 Change the voltage

Plug on voltage

place the wired voltage ① until it locks into the power socket. Ensure the correct plug orientation.



① Voltage

Figure 3-3 Plug voltage on TS Adapter IE Basic.

3.3 Ethernet Port

The TS Adapter IE Basic has an Ethernet port with an 8-pin RJ45 socket. To that socket you connect an Industrial Ethernet cable. The cable is not included in the product package of the TS Adapter IE Basic.

You can use a standard Ethernet cable or a crossover cable with crossed wires. The TS Adapter IE Basic supports automatic switching between the two cable variants.

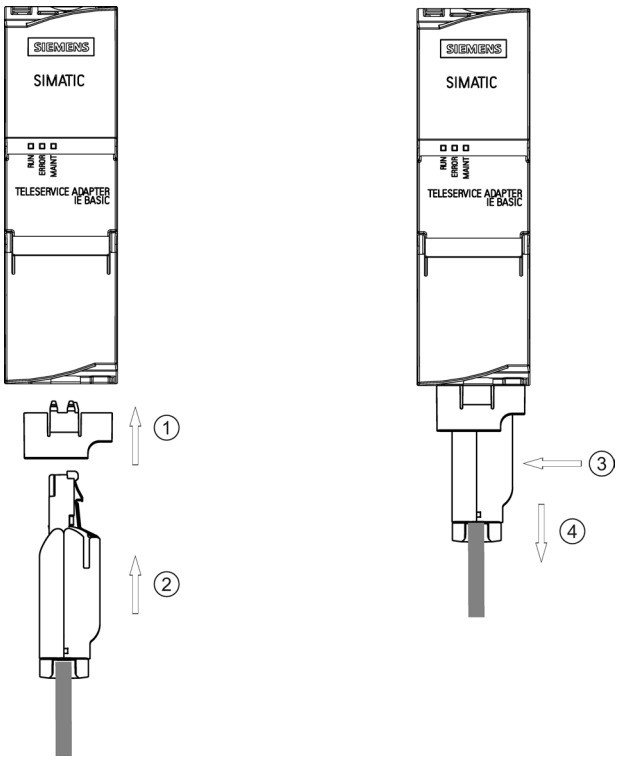
The cable must be fitted with 8-pin RJ45 connectors conforming to ISO/IEC 8877:1992. This connector type is recommended in accordance with IEEE 802.3 for 10BASE-T and 100BASE-TX.

You can find detailed information on the RJ45 connector on the Internet (http://www.siemens.com/automation/service&support).

Insert system plug

As an alternative to an Ethernet cable with an IEEE 802.3 plug, you can also use an/the Ethernet cable with the system plug (Industrial Ethernet 6GK1901-1BB10-2AA0 (180^0) or 6GK1901-1BB30-0AA0 (145^0)). This plug must be assembled with the supplied support collar (A5E02284492) as strain relief:

1. First attach the support collars ① to the Ethernet port of the TS Adapter IE Basic. The support collar locks in.
2. Insert the system plug ② until it locks in the support collar.



① Attach support collar
② Insert system plug
③ Release lock
④ Stripping the plug

Figure 3-4 Plug Ethernet connector on TS Adapter IE Basic.

Remove system plug

1. Press the position on the system plug marked with ③ in order to release the lock.
2. Pull out the system plug (④).

The support collar can remain on the TS Adapter IE Basic . With a support collar you can also use a cable with a RJ45 plug according to ISO/IEC 8877:1992.

Note

If you confuse the Ethernet connector with the ISDN connector for the TS Module ISDN, the TS Adapter IE Basic will malfunction.

Make sure the Ethernet cable is connected only to the Ethernet port of the TS Adapter IE Basic.

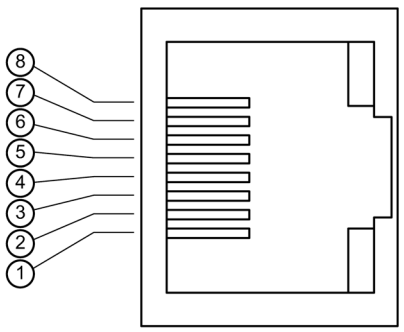
Note

The specifications relating to interference immunity and interference emission apply only when using lines and connectors conforming to industrial requirements in accordance with EN 61000-6-4:2007 and EN 61000-6-2:2005.

Note

Place a short strain relief device for the Ethernet cable underneath the TS Adapter IE Basic, securing it by a cable tie to an S7 300 shield mounting element for example.

Pin assignment and signal description of Ethernet port X1

Figure	Pin number	Signal name
	1	TX+
	2	TX–
	3	RX+
	4	–
	5	–
	6	RX–
	7	–
	8	–

TS Adapter IE Basic in the direct connection in a standalone system

For first-time configuration via an Ethernet connection, connect the TS Adapter IE Basic over Ethernet directly to your PG/PC:

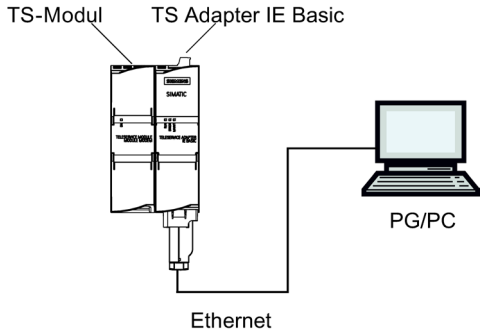


Figure 3-5 TSA IE Basic direct connection to PG/PC

For remote maintenance and sending e-mail, connect the TS Adapter IE Basic over Ethernet directly to an automation component:

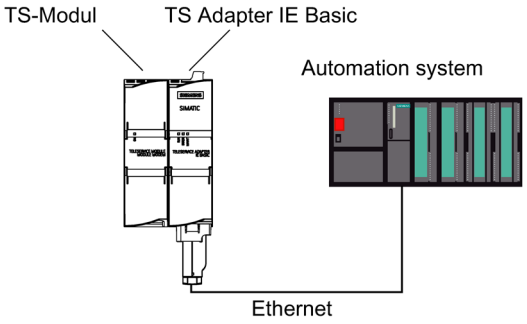


Figure 3-6 TSA IE Basic direct connection to the automation system S7

TS Adapter IE Basic in the direct connection in a networked system

In a networked system, connect the TS Adapter IE Basic over Ethernet to a switch to which a PG/PC and automation components are connected for example:

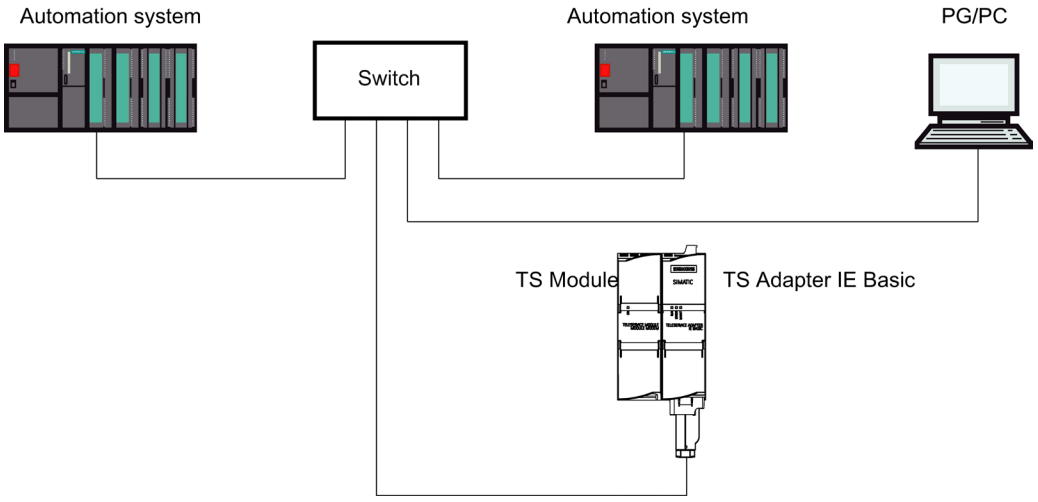


Figure 3-7 Direct connection in a networked system

3.4 Module interface

On the left side of the TS Adapter IE Basic you can find the module interface. Depending on the application, you can plug the respective TS module into this interface.

NOTICE
Modules can get damaged. Try not to place a module or a component from a different system onto a TS Adapter IE Basic. Through constructive measures and coded guide pins, you can ensure that only TS modules with the TS Adapter IE Basic can be connected. Do not change the mechanical construction with violence and do not remove or damage the guide pins. Only plug a TS module into the TS Adapter IE Basic. You should only connect the TS module to the TS Adapter IE Basic in a de-energized state.

More information about the modules and the modular design can be found in the *TS Adapter modular* manual.

Commissioning

4

4.1 Safety Instructions

Qualified personnel

The device may only be serviced by qualified personnel. Qualified personnel under the terms of the safety instructions contained in this manual is defined as persons who are authorized to commission, ground and label devices, systems and circuits in accordance with established safety practices and standards.

⚠ WARNING

Regulation use:

The device may only be used for the applications described in the catalog and the technical description, and only in connection with third-party devices and components approved or recommended by Siemens.

This product can only function correctly and safely if it is transported, stored, set up, and installed correctly, and operated and maintained with due care and attention.

Security updates and virus scanners

Note

Service PC

On all computers that establish a remote connection and/or configure the TS Adapter IE Basic, install the latest security updates (for example, via Windows Update®) and use current virus scanners.

User management and passwords

NOTICE

User management and passwords

Avoid creating users with administrator privileges (whenever possible).

Passwords should be of sufficient length (at least 8, preferably 16 characters) and consist of uppercase and lowercase letters, numbers and special characters.

To protect the TS Adapter IE Basic against unauthorized access, always replace the "admin" password of the default user "Administrator" with a new password.

4.2 Overview

Commissioning options

The TS Adapter IE Basic has a Web interface that can be used to set the parameters of the TS Adapter IE Basic.

In the delivery state and after a parameter reset, the IP parameters of the TS Adapter IE Basic are set so that remote maintenance and e-mail are not possible.

The following table shows an overview of the various options for commissioning the TS Adapter IE Basic into operation:

Step	Commissioning ...		
	... By direct connection via an Ethernet connection	**... Via remote connection with TeleService or with the TIA Portal**	**... Through a remote connection without SIMATIC software**
1	Set IP parameters by direct connection: • With the TIA Portal • With TeleService • With the SIMATIC Manager	Establish remote connection: • With the TIA Portal • With TeleService	Establish remote connection: • With a remote network
2	Open Web interface in direct connection: • With the TIA Portal • With TeleService • With a browser	Open Web interface using a remote connection: • With the TIA Portal • With TeleService	Open Web interface using a remote connection: • With a browser
3	Configuration for remote maintenance or e-mailing		
4	Carry out remote maintenance or send e-mail		

Details about the individual commissioning tasks can be found in the following subsections.

4.3 Setting the PG/PC Interface

Procedure

Note

This chapter is only relevant for classic applications. Users of the TIA Portal do not use the PG/PC interface.

During installation of the software you are prompted to set the PG/PC interface.

1. Open the "Set PG/PC interface" dialog box to verify it.
   - If "TS Adapter IE" interface is included in the selection list, go to step 5.
   - If "TS Adapter IE" interface is missing from the list, continue with step 2.
2. To add or remove interfaces, click "Select...".

   The "Install/Remove Interface" dialog box opens.
3. Select the "TS Adapter IE" module from the selection list and install the adapter.
4. Click "Close" to close the dialog box.
5. In the "Set PG/PC interface" dialog box select the TS Adapter IE.
6. Click "Properties...".

   The "Properties - TS Adapter IE" dialog box opens.
7. Open the "Local Modem" tab.
8. Under "Modem:" choose the modem with which you want to connect to the TS Adapter IE.
9. Depending on the module used, select the following settings:
   - With a connection to an ISDN module, select the B channel log X.75, e.g. AVM ISDN SoftCompression X.75-V.42bis.
   - With a connection to a GSM module, select the B channel log V.110 with a maximum transfer rate of 9600 bit/s, e.g. AVM ISDN Custom Config.
10. Under "Location > Name:" choose the location of your PG/PC. Click "Edit" if needed to open up the "Phone and Modem Options" dialog box to set up a new location. For more information on the location, refer to the help for the "Edit location" dialog box.
11. Click "OK" to exit the "Properties - TS Adapter IE" dialog box.

If you have changed an access path in these settings, a warning message then appears. To apply the changes, click "OK".

4.4 Connecting the TS Adapter IE Basic

Note

If you connect the Ethernet plug to the ISDN slot of the TS Module ISDN, this will lead to a malfunction of the TS Adapter IE Basic.

Only connect the Ethernet cable to the Ethernet port of the TS Adapter IE Basic.

Connecting to PG/PC

The direct connection of the TS Adapter IE Basic to PG/ PC is only required for configuration of the TS Adapter IE Basic.

1. Plug the Ethernet cable into the Ethernet port on the TS Adapter IE Basic.
2. Plug the other end of the Ethernet cable into the Ethernet port of your PG/PC or onto a switch that your PG/PC is also connected to.

Connecting to the automation system

1. Plug the Ethernet cable into the Ethernet port on the TS Adapter IE Basic.
2. Plug the other end of the Ethernet cable into the Ethernet port on your CPU or to a switch.

Connecting to 24 V DC

The TS Adapter IE Basic is intended for 24 V voltage only. The TS Adapter IE Basic is powered via the infeed plug. Wire the supplied 24 V plug as described in section " Power Supply (Page 20)" and plug it into the TS Adapter IE Basic. Ensure the correct plug orientation.

Note

Ensure that the 24 V supply cable is fused as appropriate for its cross-section.

4.5 Setting IP Parameters of TS Adapter IE Basic for the First Time

In the delivery state and after resetting the parameters, the TS Adapter IE Basic will not have an IP address (0.0.0.0). To be able to work with the TS Adapter IE Basic, you must first set its IP parameters. The IP parameters are set:

- By direct connection with the TIA Portal (Page 31)
- By direct connection with TeleService (Page 32)
- By direct connection with the SIMATIC Manager (Page 33)
- Via remote connection with TeleService (Page 43)
- Via remote connection (Page 44)

If you are unable to establish an Ethernet connection or a remote connection, refer to the "Error Diagnostics (Page 55)" section.

NOTICE
Password change To protect the TS Adapter IE Basic against unauthorized access, the first time you log on you should always replace the preset "admin" password of the default user "Administrator" with a new password (the default user "Administrator" cannot be changed).

4.5.1 Setting IP parameters by direct connection with the TIA Portal

Requirement

You have a LAN connection to your TS Adapter IE Basic.

You have installed TIA Portal V11 or higher.

The TS Adapter IE Basic is connected to the power supply.

Procedure

1. In project navigation for the TIA Portal, select the menu command "Online access> <Ethernet interface>".
2. Double-click on the "Update accessible participants" command.

   The list of accessible participants is updated.
3. Select TS Adapter IE Basic (participant [0.0.0.0]).
4. Double-click on the command "Online & diagnostics".
5. In the working window, select the menu command "Functions > Assign IP address".
6. Enter the IP address you want and the subnet mask and click on the "Assign IP address" button.

Result

If you now again select "Update accessible participants", TS Adapter IE Basic and its IP address is shown.

4.5.2 Setting IP Parameters by Direct Connection with TeleService

Requirement

- You have a free Ethernet port on your PG/PC.
- You have installed TeleService from the "SIMATIC TeleService Edition" DVD in accordance with the installation instructions in the TeleService manual.

Procedure

1. Connect the Ethernet port of your PG/PC to the Ethernet port of the TS Adapter IE Basic.
2. Connect the TS Adapter IE Basic to the power supply.
3. Start the TeleService.
4. Select the "Options > Settings..." menu command. Set the "Interface for TS Adapter IE connected directly" to your PG/PC's interface card to which you have connected the TS Adapter IE Basic.
5. Select the menu command "Options > Assign TS Adapter IE IP Parameters...".

   If more than one TS Adapter IE Basic is connected to the interface card of the PG/PC, the "Select TS Adapter IE" dialog box opens.
6. Select the TS Adapter IE based on its MAC address and confirm with OK.

   You can find the MAC address under the front panel of the TS Adapter IE Basic.

   For easier identification, you can have the LEDs of a selected adapter blink with the "Show Adapter" function.
7. In the "Assign TS Adapter IE IP Parameters" dialog box, enter an IP address from your network which is not used by any other device.
8. Enter the subnet mask of your network.
9. Enter the IP address of the TS Adapter IE Basic for the standard gateway if the TS Adapter IE Basic is not to use a standard gateway.
10. Enter a unique name for this TS Adapter IE Basic.
11. Confirm with OK.

Result

Now you can open the Web interface of the TS Adapter IE Basic with the TeleService through Ethernet. To do so, select the menu command "Options > Administrate TS Adapter IE...".

4.5.3 Setting IP Parameters by Direct Connection with the SIMATIC Manager

Requirement

You have a free Ethernet port on your PG/PC and the SIMATIC Manager is installed.

Procedure

1. Connect the Ethernet port of your PG/PC to the Ethernet port of the TS Adapter IE Basic.
2. Connect the TS Adapter IE Basic to the power supply.
3. In the SIMATIC Manager under "Options > Set PG/PC Interface", set the "S7ONLINE (STEP 7)" access point to your interface card (TCP/IP(Auto) or TCP/IP) of your PG/PC to which you have connected the TS Adapter IE Basic.
4. From the SIMATIC Manager menu choose "PLC > Edit Ethernet Node".
5. Click "Help" to find out more about what to do next.

Result

If the IP address assigned to the TS Adapter IE Basic is in the same subnet as the interface card of the PC, you can now use the Ethernet to open the Web interface of the TS Adapter IE Basic with a browser at this address **http://<IP address>**.

4.6 Establishing a Remote Connection to the TS Adapter IE Basic

There are 3 ways of establishing a remote connection to TS Adapter IE Basic:

- With the TIA Portal (Page 35)
- With TeleService (Page 36)
- Via remote connection (Page 37)

When shipped, once the parameters have been reset and after assigning parameters for the TS Adapter IE Basic's IP address, a free IP address is automatically assigned to the PC making the call. The IP address can also be manually assigned.

Details about the automatic IP address assignment are available in the online help of the TS Adapter IE Basic.

Note

- Before making a remote connection, make sure there are no address conflicts with devices accessible from your PC.
- The IP address must be in the same subnet as the IP address of the TS Adapter IE Basic.

If you are unable to establish a remote connection, refer to the section "Error diagnostics (Page 55)".

The following diagram shows an example of the assignment of IP addresses in a networked system:

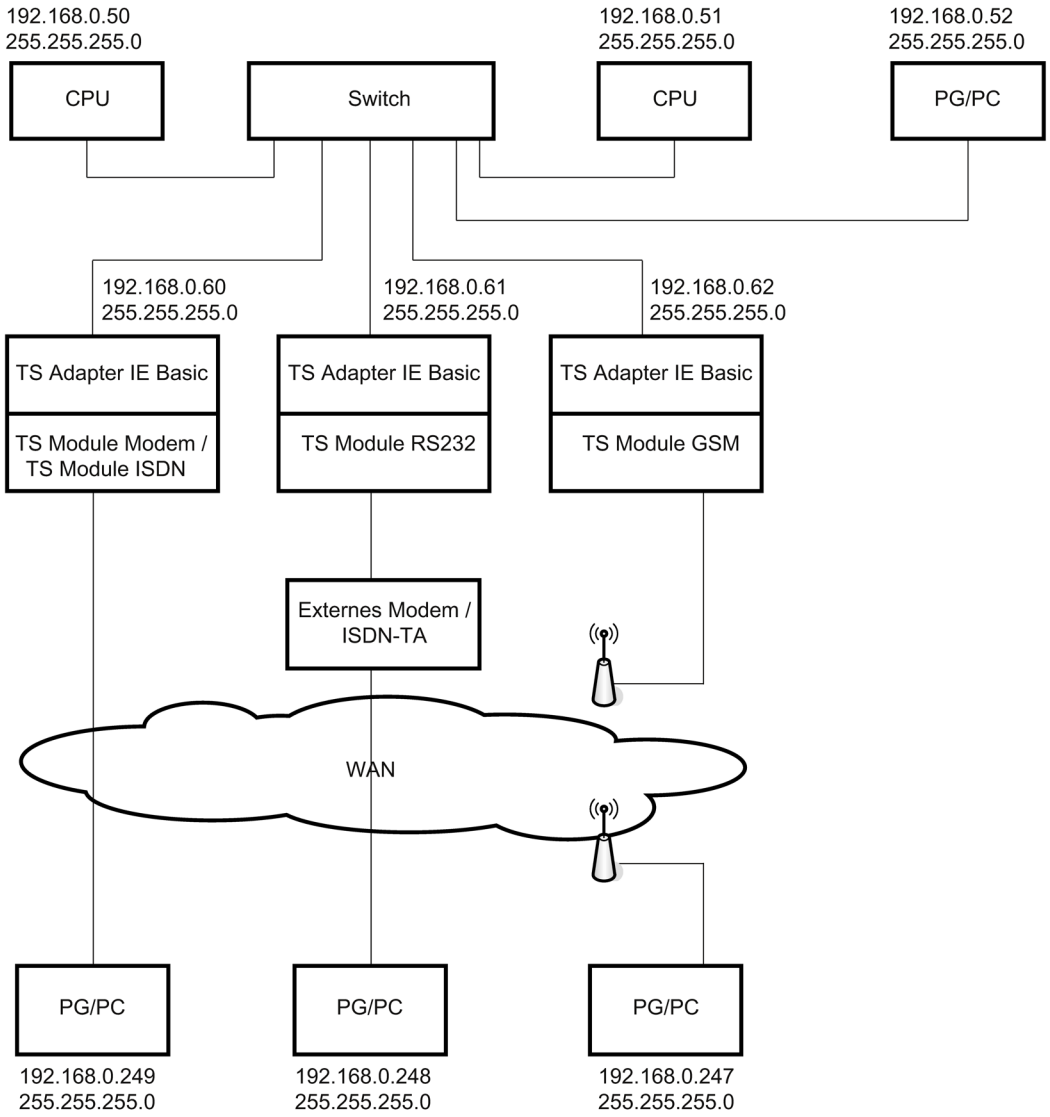


Figure 4-1 Example of a networked system

4.6.1 Establishing a remote connection to the TS Adapter IE Basic with the TIA Portal

Requirements

- You have connected and commissioned a modem or ISDN-TA on your PG/PC (with installed TIA Portal software).
- You have connected the TS Adapter IE Basic to your power supply.
- You have connected the TS Adapter IE Basic to the telephone network via a telephone cable.

Procedure

You can find details of the procedure in the information system of the TIA Portal by searching for the keyword "Establish remote connection with TeleService".

1. Start the TIA Portal on your PG/PC.
2. In project navigation for the TIA Portal, select the menu command "Online access > TeleService".
3. Double-click on the command "Establish / disconnect remote connection". The "Establish remote connection to remote system" dialog box is opened.
4. Make the settings you want and click on the "Dial" button.

When shipped, the TS Adapter IE Basic is configured such that in most cases the remote connection setup is successful. If you are unable to establish a remote connection, refer to the section "Error diagnostics (Page 55)". It may be the case that you have to first change the settings of the TS Adapter IE Basic in the direct connection in order to troubleshoot.

Result

The remote connection is established and displayed with the dial-in number selected in the project navigation.

The commands made here enable you to assign parameters for the TS Adapter IE Basic or undertake remote maintenance on the system.

4.6.2 Establishing a Remote Connection to the TS Adapter IE Basic via TeleService

Requirement

- You have connected and put into operation a modem or ISDN TA on your PG/PC.
- You have installed TeleService from the "SIMATIC TeleService Edition" DVD in accordance with the installation instructions in the TeleService manual.

Procedure

1. Connect the TS Adapter IE Basic via a phone cable to the phone network.
2. Connect the TS Adapter IE Basic to the power supply.
3. Establish a remote connection from your PG/PC to the TS Adapter IE Basic with TeleService.

   You can find details of the procedure in the online help or in the TeleService manual.
4. Enter the user name and password for logging onto the TS Adapter IE Basic.

When shipped, the TS Adapter IE Basic is configured such that in most cases the remote connection setup is successful. If you are unable to establish a remote connection, refer to the section "Error diagnostics (Page 55)". It may be the case that you have to first change the settings of the TS Adapter IE Basic in the direct connection in order to troubleshoot.

Result

Now you can open the Web interface of the TS Adapter IE Basic with the TeleService. To do so, select the menu command "Options > Administrate TS Adapter IE...".

You can also carry out remote maintenance using this remote connection.

4.6.3 Establishing a Remote Connection to the TS Adapter IE Basic via a Dial-up Connection

Requirement

You have connected and put into an operation a modem or ISDN TA on your PG/PC.

Procedure (Windows 7®)

1. Connect the TS Adapter IE Basic via a phone cable to the phone network.
2. Connect the TS Adapter IE Basic to the power supply.
3. Commission your local modem on the PC as set out in the modem manual. Also install the drivers for the modem.
4. Select "Start > Control Panel > Network and Internet > Network and Sharing Center > Set up a new connection or network > Set up a dial-up connection" and confirm with "Next".
5. Select "Connect to a workplace" and click "Next" to continue.
6. Select "Set up dial-up connection" and click "Next" to confirm.

   If only one device is available on your PG/PC, continue with step 8.
7. Select the device via which you want to connect and click "Next" to confirm.

   If you are using an ISDN TA, select a device with the B-channel protocol X.75. Disable all other devices.
8. Enter a name for the connection and click "Next" to confirm.
9. Enter the number of the TS Adapter IE Basic and confirm with "Next".
10. Select who is to use the connection and click "Next" to confirm.
11. Enter the user name and password to log on to the TS Adapter IE Basic and click "Next" to confirm.
12. Click "Finish" to save the connection.
13. Select the newly created connection under "Start > Settings > Control Panel > Network Connections".
14. Click "Select" to start connecting.
15. If you want the TS Adapter IE Basic to call you back, enter the number of your local modem in the "Callback" window. Always click "OK" to confirm the "Callback" dialog box anyway.

The existing connection is maintained.

When shipped, the TS Adapter IE Basic is configured such that in most cases the remote connection setup is successful. If you are unable to establish a remote connection, refer to the section "Error diagnostics (Page 55)". It may be the case that you have to first change the settings of the TS Adapter IE Basic in the direct connection in order to troubleshoot.

Checking status of remote connection

1. Click "Start" > "Control Panel" > "Network Connections".
2. Right-click on your connection to open its shortcut menu.
3. Select "Status" in the shortcut menu.

   In the "General" tab of the Status dialog box, you can see if the connection has been made.

Result

Now you can open the Web interface of the TS Adapter IE Basic with a browser.

You cannot carry out remote maintenance using this remote connection, however.

4.7 Parameter assignment of TS Adapter IE - Overview

Overview

You can use the Web interface of the TS Adapter IE Basic to:

- Parameterize the TS Adapter IE Basic.
- Restore the standard setting of the TS Adapter IE Basic.
- Export the parameter set of the TS Adapter IE Basic.
- Import the parameter set of the TS Adapter IE Basic.

Useful facts about configuration

You can configure the TS Adapter IE Basic parameters by direct connection or over a remote connection.

Note

- If you make changes in one tab of the Web interface and open another tab without saving your changes, the changes will be discarded without warning.
- If you enter inadmissible values in a tab, the input fields in question are colored red as soon as you click "Save Settings". The incorrect values are not saved in this case. Correct the incorrect inputs and click "Save Settings" again. As long as you have not yet saved your input in a tab by clicking "Save Setting", you can cancel them by clicking "Discard Changes".
- The configuration data are written to the nonvolatile memory of the TS Adapter IE Basic.
- If you change the current parameters while a remote connection is open, there is a risk that you may not be able to establish a modem connection again with the changed parameters. In this case, you can only set the TS Adapter IE Basic through a direct connection.
- That means that you must configure the TS Adapter IE Basic using a PG/PC on-site or you must take the TS Adapter IE Basic to the location of the local PG/PC to configure its parameters there.

Configuration dialogs

The Web interface of the TS Adapter IE Basic contains the following tabs:

- "Information > Adapter"
- "Information > TS Module"
- "Information > Status"
- "Parameter > TS Module"
- "Parameters > Outgoing Calls"
- "Parameters > IP Parameters"
- "Security > User Management"
- "Security > Incoming Calls > SIMATIC protocols"
- "Security > Incoming Calls > Internet protocols"
- "Security > Incoming Calls > Expert mode"
- "Security > Outgoing Calls > General"
- "Security > Outgoing Calls > SIMATIC protocols"
- "Security > Outgoing Calls > Internet protocols"
- "Security > Outgoing Calls > Expert mode"
- "Actions > Firmware Update"
- "Actions > Parameter Set > Export"
- "Actions > Parameter Set > Import"
- "Actions > Parameter Set > Reset"

4.8 Open Web interface

To open the Web interface you have the following options:

- Open Web interface in direct connection with the TIA Portal (Page 41)
- Open Web interface via a remote connection with the TIA Portal (Page 42)
- Open Web interface in direct connection with TeleService (Page 43)
- Open Web interface in direct connection with a browser (Page 44)
- Open Web interface using a remote connection with TeleService (Page 45)
- Open Web interface using a remote connection with a browser (Page 46)

4.8.1 Open Web interface in direct connection with the TIA Portal

Requirements

- You have a LAN connection from your PG/PC (with installed TIA Portal software) to the TS Adapter IE Basic and have connected the TS Adapter IE Basic to your power supply.
- The IP address of your PG/PC's interface card is in the same subnet as the IP address you assigned to the TS Adapter IE Basic.
- You have already set the IP parameters of the TS Adapter IE Basic.

Procedure

1. In the project navigation for the TIA Portal, select the folder "Online access> <Ethernet interface>".
2. Double-click on the "Update accessible participants" command.

   The list of accessible participants is updated.
3. Select TS Adapter IE Basic.
4. Double-click on the command "Assign parameters for TS Adapter IE".

   The logon menu of the Web interface of the TS Adapter IE Basic is displayed in the working window of the TIA Portal.
5. Enter your user name and password in the "Assign TS Adapter IE Parameters" window.
6. Click "Logon".

Result

The Web interface of the TS Adapter IE Basic is displayed in the working window of the TIA Portal.

4.8.2 Open Web interface via a remote connection with the TIA Portal

Note

Through a remote connection, you can also reach the Web interface of the TS Adapter IE Basic if you have not yet assigned an IP address to the TS Adapter IE Basic.

Requirements

- You have connected and commissioned a modem or ISDN-TA on your PG/PC (with installed TIA Portal software).
- You have connected the TS Adapter IE Basic to your power supply.
- You have connected the TS Adapter IE Basic to the telephone network via a telephone cable.
- You have already set the IP parameters of the TS Adapter IE Basic.
- You have established a modem connection with the TIA Portal from your PC to the TS Adapter IE Basic. You will find details of the procedure in the information system of the TIA Portal by searching for the keyword "Establish remote connection with TeleService".

Procedure

1. Start the TIA Portal on your PG/PC.
2. In the project navigation for the TIA Portal, select the menu command "Online access > TeleService > <Plant>".
3. Double-click on the command "Assign parameters for TS Adapter IE".

Result

The Web interface of the TS Adapter IE Basic is displayed in the working window of the TIA Portal.

4.8.3 Open Web interface in direct connection with TeleService

Requirements

- You have installed TeleService from the "SIMATIC TeleService Edition" DVD in accordance with the installation instructions in the TeleService manual.
- You have already set the IP parameters of the TS Adapter IE Basic.
- The IP address of your PG/PC's interface card is in the same subnet as the IP address you assigned to the TS Adapter IE Basic.

Procedure

1. Connect the TS Adapter IE Basic via an Ethernet cable to your PG/PC.
2. Connect the TS Adapter IE Basic to the power supply.
3. Start the TeleService.
4. To do so, select the menu command "Options > Administrate TS Adapter IE...".

   If more than one TS Adapter IE Basic is connected to the interface card of the PG/PC, the "Select TS Adapter IE" dialog box opens.
5. Select the TS Adapter IE Basic based on its MAC address, if necessary, and confirm with OK.
6. Enter your user name and password in the "Administrate TS Adapter IE" dialog box.
7. Click "Logon".

Result

You see the Web interface start screen.

4.8.4 Open Web interface in direct connection with a browser

Requirement

You have already set the IP parameters of the TS Adapter IE Basic.

Note

The IP address of the PC interface card and the IP address of the TS Adapter IE Basic must belong to the same subnet.

Procedure

1. Connect the TS Adapter IE Basic via an Ethernet cable to your PG/PC.
2. Connect the TS Adapter IE Basic to the power supply.
3. Launch a browser.
4. In the address field of the browser, enter the IP address you assigned the TS Adapter IE Basic, in the syntax **http://<IP address>**.
5. Enter the user name and password.
6. Click "Logon".

Result

You see the Web interface start screen.

4.8.5 Open Web interface using a remote connection with TeleService

Note

Through a remote connection, you can also reach the Web interface of the TS Adapter IE Basic if you have not yet assigned an IP address.

Procedure

1. Connect the TS Adapter IE Basic via a phone cable to the phone network.
2. Connect the TS Adapter IE Basic to the power supply.
3. Establish a modem connection from your PG/PC to the TS Adapter IE Basic with TeleService. You will find details of the procedure in the online help or in the TeleService manual.
4. Select the TeleService menu command "Options > Administrate TS Adapter IE ...".

Result

You see the Web interface start screen.

IP parameters

You can set the IP parameters in the "Parameters > IP Parameters" tab of the Web interface.

4.8.6 Open Web interface using a remote connection with a browser

Note

Through a remote connection, you can also reach the Web interface of the TS Adapter IE Basic if you have not yet assigned an IP address.

Procedure

1. Connect the TS Adapter IE Basic via a phone cable to the phone network.
2. Connect the TS Adapter IE Basic to the power supply.
3. Establish a remote connection from your PC to the TS Adapter IE Basic.
4. Start a browser and as the address state the IP address of the TS Adapter IE Basic you have already assigned (the IP address can be taken from the connection status of the remote connection).
5. Enter the user name and password.
6. Click "Logon".

Result

You see the Web interface start screen.

IP parameters

You can set the IP parameters in the "Parameters > IP Parameters" tab of the Web interface.

4.9 Setting Remote Maintenance Parameters

Requirements

- You have correctly set the IP parameters for the network and for the modem.
- The Web interface of the TS Adapter IE Basic is open.

Remote maintenance parameters

The TS Adapter IE Basic is configured such that it is possible to establish a remote connection in most cases. If you are unable to establish a remote connection, refer to the section "Error diagnostics (Page 55)".

When a remote connection has been made, you can carry out remote maintenance of the automation components connected to the TS Adapter IE Basic via Ethernet. For the TS Adapter IE Basic to support remote maintenance, you must make settings on the following tabs of the Web interface:

- "Parameter > TS Module"
- "Parameters > IP Parameters"
- "Security > User Management"

For more details, refer to the online help for the relevant tabs of the Web interface.

If remote maintenance is not possible, refer to the section "Error diagnostics (Page 55)".

Result

When you have set the parameters, you can establish a remote connection to the TS Adapter IE Basic under a newly configured user name.

4.10 Setting the E-mail Parameters

Requirement

- The Web interface of the TS Adapter IE Basic is open.

Sending e-mail

The TS Adapter IE Basic routes IP telegrams between its Ethernet port and the remote connection to a dial-up server, such as to an Internet Service Provider (ISP).

Parameters for sending e-mail

If you want the TS Adapter IE Basic to support e-mailing, you must make settings in the following tabs in the Web interface:

- "Parameter > TS Module"
- "Parameters > IP Parameters"
- "Parameters > Outgoing Calls"
- "Security > Outgoing Calls"

For more details, refer to the online help for the relevant tabs of the Web interface.

If e-mailing does not work with the TS Adapter IE Basic , go to section "Not possible to send e-mail (Page 63)".

Result

Once you have set the parameters, you can send an e-mail to an e-mail server from a SIMATIC CPU via the TS Adapter IE Basic.

4.11 Sending an E-mail from a SIMATIC CPU

Function block for sending e-mail

To send an e-mail from a SIMATIC CPU, you can use the AS_MAIL, TM_MAIL or TMAIL_C function blocks, depending on the CPU type.

You can find additional information about the AS_MAIL, TM_MAIL and TMAIL_C function blocks in the online help for the respective block.

An e-mail cannot be sent

If the you cannot successfully send an email, refer to section "Not possible to send e-mail (Page 63)".

4.12 Reset configuration with the Web interface

It may be necessary to reset the configuration if the adapter parameters on a remote system have been altered such that you are no longer able to access the TS Adapter IE Basic via the modem connection.

Requirements

- Your PG/PC is connected directly or by modem via an active remote connection to the TS Adapter IE Basic.
- You are logged on as an administrator.

Procedure

Note

If you reset the configuration of the TS Adapter IE Basic, all the parameter settings you made will be lost.

1. Open the "Actions > Parameter Set > Reset" tab in the Web interface.
2. Click "Reset Parameters".

Result

The TS Adapter IE Basic is reset to its default configuration in the factory state.

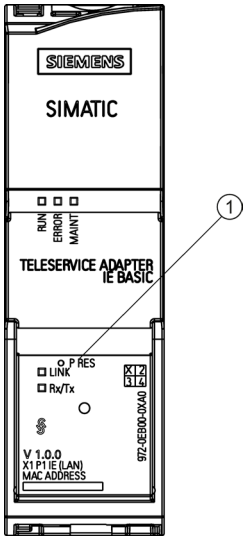
4.13 Resetting the Configuration with P RES button

It may be necessary to reset the configuration if the adapter parameters on a remote system have been altered such that you are no longer able to access the TS Adapter IE Basic via the modem connection.

P RES button

The TS Adapter IE Basic has a Reset button (P RES) with which you can reset the adapter to its default configuration.

The following diagram shows the front panel of the TS Adapter IE Basic with the opening concealing the P RES button. The P RES button is behind the front panel. The TS Adapter IE Basic is illustrated in the figure without a front panel.



① P RES button to reset configuration

Figure 4-2 Front view with P RES button

Procedure

NOTICE
Parameter settings will be lost If you reset the configuration of the TS Adapter IE Basic, all the parameter settings you made will be lost and the preset "admin" password is reactivated.

1. Use a sharp implement, such as a paper clip, to press the P RES button and hold it down for about 2 seconds.

   The TS Adapter IE Basic acknowledges the P RES reset by flashing the the yellow LED Run three times.

Result

The TS Adapter IE Basic is reset to its default configuration in the factory state.

Firmware update

5

Note

Updating the firmware

Check regularly if firmware updates are available.

Always install the latest firmware on the TS Adapter IE Basic to receive the latest security updates and feature enhancements.

Note that a firmware update can only be performed by a user with administrator privileges.

Procedure

To update the firmware:

1. You can find the latest firmware for the TS Adapter IE Basic on the Internet (http://support.automation.siemens.com/WW/view/de/48204213/dl).
2. ☐Download the file containing the available firmware to your PC.
3. Connect the TS Adapter IE Basic via an Ethernet cable to your programming device or PC.
4. Open the Web interface of the TS Adapter IE Basic (see Open Web interface (Page 40)).
5. Log on with your user name and password.
6. Open the page "Actions > Parameter Set Export " and perform a backup of the parameter set.
7. Open the page "Actions > Firmware Update".
8. Click the "Browse..." button.
9. Select the firmware file you want to download (tsaie_basic_Vx.x.x.FW) and click "Update firmware".

When the download is complete, the firmware is written to the nonvolatile memory (installation). The yellow RUN LED on the front of the TS Adapter IE Basic flashes during this process. After this, the TS Adapter IE Basic will execute a restart. This breaks the connection to your browser. To access the TS Adapter IE Basic again, you must reconnect to the Web interface of the TS Adapter IE Basic by pressing the F5 key, for example, or by clicking your browser "Refresh" button.

The configuration of the TS Adapter IE Basic is retained during the firmware update.

Note

If the connection to the TS Adapter IE Basic is disrupted during the download procedure or installation, or if you switch off the power supply to the TS Adapter IE Basic, the firmware update will fail.

The TS Adapter IE Basic then works again with the old firmware state.

Ensure that neither the download nor the subsequent installation procedure is interrupted.

Note

You can also perform the firmware update over a remote connection.

Error diagnostics

6

6.1 Error Diagnostics Based on LEDs

With the help of the LED displays, simple disruptions can be diagnosed and repaired independently.

Table 6- 1 LED display for operating state of the TS Adapter IE Basic

LED			Cause	Measures/remedy
RUN (green/yellow)	ERROR (red)	MAINT (yellow)		
Illuminated green	–	–	The TS Adapter IE Basic is ready for operation.	–
Off	Off	Off	No power supply	Establish the power supply.
–	Lit	–	No TS module inserted	Insert a TS module.
			TS module defective	Replace the TS module.
			Error during the modem initialization	Open the Web interface of the TS Adapter IE Basic and have the errors displayed in the "Information > Status" tab. Correct the modem initialization. Details about errors can be found in the LOG file.
–	–	Lit	Unknown or new TS module	Make a firmware upgrade.
Lights up yellow	Lit	–	The firmware is downloaded.	Wait until the TS Adapter IE Basic is ready for operation.
Blinks green/yellow	Flashes	Flashes	Hardware test and interface initialization	
Flashes yellow 3 times	–	–	You have restored the factory settings in the Web interface or with the reset button RES.	Check to see if the factory settings fit to your system configuration.
Flashes	–	–	Firmware update in progress.	Wait until the TS Adapter IE Basic is ready for operation.
Lights up yellow	Flashes	Off	Error during firmware update	Repeat the firmware update.
Flashes green/yellow for 3 s	Flashes for 3 s	Flashes for 3 s	Displays the selected TS Adapter IE Basic	

– any

Table 6- 2 LED displays for the Ethernet interface

LED		Cause	Remedy
Link (green)	RX/TX (yellow)		
Off	Off	No Ethernet cable inserted	Insert the Ethernet cable.
		No connection to the receiver	Check the receiver.
Lit	–	Ethernet cable inserted Functional connection	–
Lit	Flashes	Data is transmitted through the Ethernet interface.	–

The LEDs link and RX/TX are located behind the lower front panel of the TS Adapter IE Basic.

– any

6.2 Logon to the Web interface fails

Error message

"The user name or password is unknown to the TS Adapter IE Basic. Log on with a known user name."

Possible cause

It may be that the user name and password you entered are not registered in the user management system of the TS Adapter IE Basic.

Remedy

1. Reset the TS Adapter IE Basic to its default configuration using the P RES button.

   Note

   If you reset the configuration of the TS Adapter IE Basic, all parameter settings you have made will be lost.

2. Log on to the TS Adapter IE Basic with the user name "Administrator" and the password "admin".

6.3 Logon to the Web interface is denied

Error message

"The TS Adapter IE Basic is not allowing any further logon at present. Try again later."

Possible cause

A user is already signed on to the TS Adapter IE Basic. The TS Adapter IE Basic is occupied through this. No further logon is possible.

Remedy

1. Take one of the following actions:
   - Click "Logout" to close a running session.
   - If a direct connection session was ended without "Logout", wait at least 10 minutes. Then login again to the TS Adapter IE Basic.
2. If none of the actions work, switch theTS Adapter IE Basic OFF and back ON at the external power supply.

6.4 Malfunctions in remote maintenance

6.4.1 The partner is not answering

Error message on connecting

"Partner not answering"

Remedy

1. Check the phone cables and the power connection of the TS Adapter IE Basic.
2. Check the LED ERROR on the TS Adapter IE Basic. If the LED is lit, read the section "Error Diagnostics Based on LEDs (Page 55)".
3. Check the DCD LED on the TS module or external modem of the TS Adapter IE Basic (CONNECTED LED with TS Module GSM). If it is lit, an outbound connection is possibly active. To exclude this error, set the "Connection establishment" parameter to "never" in the "Parameters > Outgoing Calls" tab.
4. Also check the area code and country code of the phone number you use to call the TS Adapter IE Basic.
5. If you are using an ISDN connection, the following may have caused the error:

   The ISDN TA on the PC does not signal the B-channel protocol to the remote station when connecting. Automatic detection of the B-channel protocol by the ISDN TA on the TS Adapter IE Basic then fails.

   As a test, set the B-channel protocol of the ISDN TA on the TS Adapter IE Basic with TS Module RS232 to match your ISDN TA on the PC.
   Change this setting in the "Parameters > TS Module" tab for the parameter "Protocol for incoming calls" or add a corresponding AT command for the "Initialization 2" parameter. You can find the appropriate AT command in the manual for your ISDN TA.
6. If you are using an ISDN connection, there is another possible cause of the error:

   You have configured a multiple subscriber number on the TS Adapter IE Basic and the PABX to which the TS Adapter IE Basic is connected is working with number suppression, meaning it does not transmit the subscriber number when calling.

   You have two options to remedy this error:

   – Delete the TS Adapter IE Basic in the "Parameters > TS Module" tab for the parameter "Multiple subscriber number configured" or

     change/remove the AT-command in the "Initialization 2" parameter.

   – Disable number suppression on the PABX.

7. Check the response of the modems on the TS Adapter IE Basic to the initialization strings. You can also view the response of the modems in the "Information > Status" tab of the Web interface. If ERROR or TIMEOUT is displayed as the status, the modem does not understand the initialization string. Correct the initialization string.
8. If you use theTS Module GSM, there is another possible cause of the error:
   The SIM card inserted in the TS Module GSM does not have CSD data connections enabled for incoming calls.
   Remedy: Request enabling for CSD data connections for incoming calls from your network provider.

Note

As a rule, the network provider allocates a separate number (data number) for the CSD data connection.

6.4.2 Logon to the TS Adapter IE Basic fails

Error message on connecting

"The logon to TS Adapter was denied".

Remedy

1. Check that the user name and password specified for dial-up are configured in the TS Adapter IE Basic.

   Reset the TS Adapter IE Basic to its default configuration using the P RES button. Log on to the TS Adapter IE Basic with the user name "Administrator" and the password "admin".

   Note

   Password change

   To protect the TS Adapter IE Basic against unauthorized access, replace the "admin" password of the default user "Administrator" with a new password.

2. If you are using an ISDN connection and are operating other devices on the same S0 bus as the TS Adapter IE Basic, you must configure an MSN on the ISDN TA of the TS Adapter IE Basic.
   - TS Module ISDN
     Enter this MSN number in the "Parameters > TS Module" tab in the "Multiple subscriber number" parameter
   - ISDN-TA on the TS Adapter IE Basic with TS Module RS232
     Add a corresponding AT command for the "Initialization 2" parameter in the "Parameters > TS Module" tab. You can find the appropriate AT command in the manual for your ISDN TA.

6.4.3 The callback fails

Diagnostics

The call to the TS Adapter IE Basic is successful, but the callback fails.

Remedy

1. Check the callback procedure. If you have entered a callback number for the selected user in the "Security > User Management" tab, the TS Adapter IE Basic uses that number for the callback. If you have not entered anything for the callback number parameter, you can specify any callback number when making a connection on the PC.
2. The TS Adapter IE Basic prefixes the callback phone number with the dial code for accessing an outside line. Check the outside line code in the "Parameter > TS Module" tab.
3. Check the configured dialing procedure in the "Parameter > TS Module" tab.
4. Check the setting "Wait for dial tone" in the "Parameter > TS Module" tab. Activate this check box only if you are operating the modem on a main line.

6.4.4 Access to the automation component fails

Diagnostics

The connection establishment was successful, but access to the remote automation component fails.

Remedy

1. Check the status information of the Web interface under "Information > Status".
2. Check the LED LINK on the TS Adapter IE Basic. If it is not lit, there is no connection to another device over Ethernet. You can also view the status of the Ethernet connection in the "Information > Status" tab.
3. Check the IP address of the TS Adapter IE Basic and the IP address that was assigned to the calling PC during remote connection. The addresses must be in the same subnet as the addresses of the remote automation component, and must not be used either by another component in the network or by your PG/PC.

6.5 Malfunctions when establishing an outgoing call

6.5.1 Check connection establishment

Procedure for checking the connection establishment

1. In the "Parameters > Outgoing Calls" tab, set the "Connection establishment" parameter to "never" and click "Save Setting".

   Any active connection establishment is aborted.

2. In the "Parameters > Outgoing Calls" tab, set the "Connection establishment" parameter to "always" and click "Save Setting".

   A new connection establishment is initiated.

In the "Information > Status of Web interface" tab, you can view the status of the connection establishment for the outgoing call.

6.5.2 The modem connection is not made

Diagnostics

The modem connection is not made. The DCD LED on the TS module and/or modem remains dark (CONNECTED LED with TS Module GSM).

Remedy

1. Check the phone cables and the power connection of the TS Adapter IE Basic.
2. Check the phone number in the "Parameters > Outgoing Calls" tab.
3. Check the following parameters in the "Parameters > TS Module" tab:
   - To access an outside line, first dial
   - Dial procedure
   - Wait for dial tone

     Activate this check box only if you are operating the modem on a main line.

6.5.3 The connection establishment fails

Diagnostics

The modem connection is made, but the remote connection establishment fails. The DCD LED on the TS module or modem lights up and goes dark again (CONNECTED LED with TS Module GSM).

Remedy

1. Check the user name and password in the "Parameters > Outgoing Calls" tab.
2. If you are using an ISDN connection, make sure the B-channel settings of the two ISDN TAs match.
3. Now do the following, depending on the connection type:

	Connection via TS module	**Connection via an external ISDN-TA (connected using TS Module RS232)**
Connection to an ISP	In the "Parameters > TS Module" tab under the "Protocol for outgoing calls" parameter, set HDLC-PPP or HDLC-transparent.	In the "Parameters > TS Module" tab under "Initialization 2", specify an AT command which presets the B-channel protocol HDLC-PPP or HDLC-transparent on the ISDN TA. You can find the appropriate command in the manual for your ISDN TA.
Connection to a dedicated dial-up server	In the "Parameters > TS Module" tab under the parameter for outgoing call protocols, make the same setting you made on the ISDN TA of your dial-up server.	In the "Parameters > TS Module" tab under "Initialization 2", specify an AT command which presets the same B-channel protocol as you set on the ISDN TA on your dial-up server. You can find the appropriate command in the manual for your ISDN TA.

6.6 Not possible to send e-mail

Diagnostics

An outbound modem connection is active, but e-mail cannot be sent.

In the "Information > Status" tab of the Web interface, you can check if an outbound connection is active.

Remedy

1. Check the LED LINK on the TS Adapter IE Basic. If it is not lit, there is no connection to another device over Ethernet. You can see the status of the Ethernet connection in the "Information > Status" tab of the Web interface.
2. Check the IP address of the TS Adapter IE Basic.

   The address must be in the same subnet as the addresses of the remote automation component, and must not be used by any other component in the network.
3. Check whether the IP address of the TS Adapter IE Basic is specified as the router under the properties of the CPU's Ethernet interface.

Note

Firewall

The firewall of the TS Adapter IE Basic can be configured under "Security > Outgoing Calls".

It is open by default for SMTP & SMTPs (standard protocol for sending e-mails). If the sending of e-mails fails, verify that the ports for SMTP & SMTPs are open for outbound connections.

6.7 Error diagnostics - Ethernet

6.7.1 You do not know the IP address of the TS Adapter IE Basic.

Remedy

- By direct connection with TeleService

  Proceed as described in the "Setting IP Parameters by Direct Connection with TeleService (Page 32)" section.

  Follow the instructions in steps 1 through 7.

- Direct connection with TIA Portal

  Proceed as described in the "Setting IP parameters by direct connection with the TIA Portal (Page 31)" section.

  Follow the instructions in steps 1 through 3.

6.7.2 The TS Adapter IE Basic is not accessible via Ethernet

Remedy

1. If the Link LED is not lit, first check the Ethernet cabling.

   If the Link LED is lit, move on to step 2.
2. Proceed as described in the following sections:
   - "Setting IP parameters by direct connection with the TIA Portal (Page 31)"
   - "Setting IP Parameters by Direct Connection with TeleService (Page 32)"
   - "Setting IP Parameters by Direct Connection with the SIMATIC Manager (Page 33)"
3. If you are still unable to access the TS Adapter IE via Ethernet, reset the configuration of the TS Adapter IE Basic using the P RES button.

   Note

   If you reset the configuration of the TS Adapter IE Basic, all parameter settings you have made will be lost.

   Repeat step 2.

If the TS Adapter IE Basic is still not accessible via Ethernet, there is a hardware error. Inform Customer Support in this case.

Technical data

7

7.1 General Specifications

What are general specifications?

The general specifications include the following:

- The standards and test values the TS Adapter IE Basic includes and meets.
- Test criteria to which the TS Adapter IE Basic was tested.

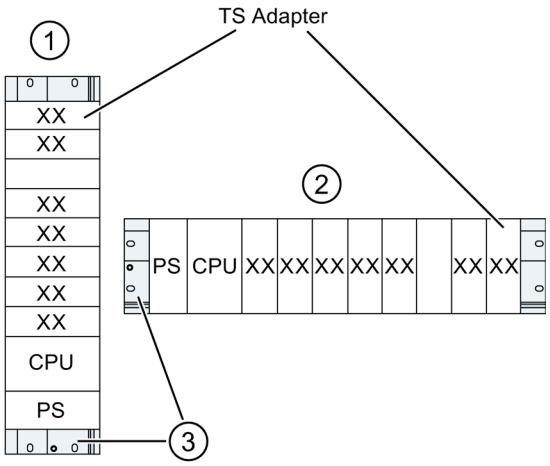
TS Adapter IE Basic	
Article number TS Adapter IE Basic	6ES7 972-0EB00-0XA0
Dimensions (H x W x D)	100 x 30 x 75 mm
Weight	ca. 100 g
Interfaces	
To SIMATIC S7 / C7 To the PG/PC	Ethernet Ethernet
Power supply	DC 24 V (SELV/LPS) (DC 19.2 V … 28.8 V)
Current consumption at 24 V • with TS Module Modem • with TS Module ISDN • with TS Module RS232 • with TS Module GSM	 • 50 mA • 50 mA • 40 mA • 100 mA
making current	Max. 5.8 A; < 1.5 ms
Weight • withTS Module Modem • withTS Module ISDN • withTS Module RS232 • withTS Module GSM	 • 198 g • 192 g • 200 g • 218 g

Horizontal and vertical installation

Comply with the general installation guidelines for SIMATIC. Cabinet installation is stipulated. You can install the TS Adapter IE Basic vertically or horizontally. Permitted ambient temperatures:

Horizontal mounting: From 0 °C to 60 °C

Vertical mounting: 0 to 40° C



① vertical mounting position
② Horizontal mounting
③ Mounting rail

7.2 Electromagnetic Compatibility

Definition of "EMC"

Electromagnetic Compatibility (EMC) defines the capability of electrical equipment to operation satisfactorily in its electromagnetic environment without influencing this environment.

⚠ WARNING

Injury to persons or damage to property may occur.

Installation of expansions that have not been approved for the TS Adapter IE Basic can result in violations of the requirements and regulations for safety and electromagnetic compatibility.

Always use expansions approved for the system.

Note

The specifications relating to interference immunity and interference emission apply only when using devices, lines and connectors conforming to industrial requirements in accordance with EN 61000-6-4:2007 and EN 61000-6-2:2005.

Pulsed interference

The following table shows the electromagnetic compatibility of the TS Adapter IE Basic with regard to pulse-shaped interference. This requires that the electrical installation to comply with relevant specifications and standards.

Table 7- 1 Pulsed interference

Pulsed interference	Test voltage	Equivalent to severity
Electrostatic discharge according to IEC 61000-4-2	Air discharge: ±8 kV Contact discharge: ±6 kV	3
Burst pulses to IEC 61000-4-4	2 kV (power supply line) 2 kV (signal line >30 m) 1 kV (signal line < 30 m)	3
Powerful single pulse (surge) according to IEC 61000-4-5		3
• Asymmetric coupling	2 kV (power supply line) DC with protective elements [1] 1 kV (signal/data line only >30 m), with protective elements as required	
• Symmetric coupling	1 kV (power supply line) DC with protective elements [1)]	

[1] e.g. surge arresters from Dehn
Type: BD VT AD24
Article no. 918402

Sinusoidal interference

The table below shows the EMC characteristics of the TS Adapter IE Basic with regard to sinusoidal disturbance variables.

Table 7- 2 Sinusoidal interference

Sinusoidal interference	Test values	Equivalent to severity
HF irradiation (electromagnetic fields) according to IEC 61000-4-3	10 V/m with 80% amplitude modulation of 1 kHz in the range from 80 MHz to 1000 MHz and 1.4 GHz to 2 GHz. 1 V/m with 80% amplitude modulation of 1 kHz in the range from 2 GHz to 2.7 GHz	3
RF current coupling on cables and cable shields to IEC 61000-4-6	Test voltage 10 V, with 80% amplitude modulation of 1 kHz in the 10 MHz to 80 MHz range	3

Radio interference emission

Interference emission of electromagnetic fields in accordance with EN 61000-6-4.

Additional measures

If you wish to operate the TS Adapter IE Basic in an office area, you must implement additional measures to meet the requirements of EN 61000-6-3.

Take suitable additional measures if you need to increase the interference immunity of the system due to high external interference levels.

7.3 Transportation and Storage Conditions

Transportation and storage of modules

With regard to transportation and storage conditions, the TS Adapter IE Basic surpasses the requirements specified in IEC 61131-2. The following conditions apply to TS Adapter IE Basic that are transported and stored in the original packaging.

Climatic conditions compliant with IEC 60721-3-3, class 3K7 for storage and IEC 60721-3-2, class 2K4 for transportation.

Mechanical conditions compliant with IEC 60721-3-2, class 2M2.

Table 7- 3 Transportation and storage conditions for modules

	Permitted range
Temperature	-40 to +70° C
Barometric pressure	1080 to 660 hPa (corresponding to an altitude of -1000 to 3500 m)
Relative humidity (at +25° C)	5 to 95%, without condensation
Sinusoidal vibration to IEC 60068-2-6	5 - 9 Hz: 3.5 mm 9 - 500 Hz: 9.8 m/s^2
Shock impact to IEC 60068-2-29	250 m/s^2, 6 ms, 1000 shocks

7.4 Mechanical and Climatic Ambient Conditions for Operation of the TS Adapter IE Basic

Operating conditions

The TS Adapter IE Basic is designed for stationary use in weather-proof locations. The TS Adapter IE Basic fulfills the operating conditions for DIN IEC 60721-3-3:

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

Operation with additional measures

The TS Adapter IE Basic may not be used without additional measures in the following environments:

- In locations with high levels of ionizing radiation
- In locations subject to difficult operating conditions, such as dust, aggressive fumes or gases, severe electrical or magnetic fields
- In installations requiring special monitoring, such as elevators and electrical systems in high risk areas

A suitable additional measure might be installation of the TS Adapter IE Basic in a cabinet or cubicle for example.

Mechanical ambient conditions

The mechanical environmental conditions for the TS Adapter IE Basic are specified in the following table in terms of sinusoidal vibrations.

Table 7- 4 Mechanical ambient conditions

Frequency range in Hz	Test values
5 ≤ f < 9	3.5 mm amplitude
9 ≤ f < 150	9.81 m/s^2 constant acceleration

Reduction of vibration

If the TS Adapter IE Basic is subjected to greater shocks or vibrations, you must take appropriate measures to reduce acceleration or amplitudes.

Testing of mechanical environmental conditions

The table below provides information on the type and scope of testing of mechanical ambient conditions.

Table 7- 5 Testing of mechanical environmental conditions

Test of ...	Test standard	Comments
Vibration	Vibration test to IEC 60068-2-6 (sine wave)	Vibration type: Frequency sweeps at a rate of change of 1 octave per minute. 5 Hz ≤ f < 9 Hz, constant amplitude 3.5 mm 9 Hz ≤ f < 150 Hz, constant acceleration 9.81 m/s^2 Vibration period: 10 frequency sweeps per axis on each of the 3 perpendicular axes
Shock	Shock impact test to IEC 60068-2-29	Type of shock: Half-sine shock pulse Shock intensity: 150 m/s^2 peak value, 11 ms period Direction of shock: 100 pulses on each of the 3 perpendicular axes

Climatic ambient conditions

The TS Adapter IE Basic can be operated under the following climatic ambient conditions:

Table 7- 6 Climatic ambient conditions

Ambient conditions	Permitted range	Comments
Temperature	0 to +60° C 0 to +40° C	Horizontal installation Vertical installation
Temperature change	Max. 3° C per min.	
Relative humidity	Max. 95% at +25° C	No condensation, corresponding to RH loading level 2 to IEC 61131-2.
Barometric pressure	1080 to 795 hPa (corresponding to an altitude of -1000 to 2000 m)	-
Pollutant concentration	SO_2: <0.5 ppm; RH <60%, no condensation H_2S: <0.1 ppm; RH <60%, no condensation	Test: 10 ppm; 4 days Test: 1 ppm; 4 days

7.5 Information on protection class and degree of protection

Protection class

The modular TS Adapter conforms to protection class III in accordance with EN 61140:2002 (VDE 0140-1).

Protection against foreign bodies and water

The TS Adapter IE Basic fulfills the protection type IP20 according to IEC 60529.

The TS Adapter IE Basic is protected against contact with standard probes.

The TS Adapter IE Basic is not protected against water incursion.

7.6 Standards, Approvals, Certificates, Guidelines, Labels and Declarations

Note

The currently valid approvals are to be found on the product rating plate.

Safety requirements

- The TS Adapter IE Basic complies with the requirements and criteria of the IEC 61131-2 standard.
- The Ethernet interface meets the requirements of the IEEE 802.3.

CE mark

CE

Our products conform to the requirements and safety objectives of the EC Directives listed below. They are compliant with the harmonized European Standards (EN) for programmable logic controllers as published in the official gazettes of the European Community:

- 2004/108/EC "Electromagnetic Compatibility" (EMC Directive)
- 94/9/EC "Equipment and protective systems intended for use in potentially explosive atmospheres" (Explosion Protection Directive)

The EC declaration of conformity is held on file available to competent authorities at:

Siemens Aktiengesellschaft
Industry Sector
I IA AS RD ST Typetest
P.O. Box 1963
D-92209 Amberg

EMC Directive

SIMATIC products are designed for industrial applications.

Fields of application	Requirement for	
	Interference emission	Interference immunity
Industry	EN 61000-6-4 : 2007	EN 61000-6-2 : 2005

Explosion Protection Directive

Conforming to EN 60079-15:2005 and EN 60079-0:2006 (Electrical apparatus for potentially explosive atmospheres; Type of protection "n")

II 3 G Ex nA II T4

RTTE Directive

EMC: see EMC Directive

Marking for Australia and New Zealand

Our products meet the requirements of the EN 61000-6-4:2007 standard.

Note

Which of the following approvals has been issued in respect of your product is indicated by the markings on the rating plate.

cULus approval

Underwriters Laboratories Inc. to

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

cULus approval, Hazardous Location

cULus Listed 7RA9 INT. CONT. EQ. FOR HAZ. LOC.

Underwriters Laboratories Inc. to

- UL 508 (Industrial Control Equipment)
- CSA C22.2 no. 142 (Process Control Equipment)
- ISA-12-12-01 (Hazardous Location)
- CSA-213 (Hazardous Location)

APPROVED for Use in

- Cl. 1, Div. 2, GP. A, B, C, D T4A
- Cl. 1, Zone 2, GP. IIC T4

Note

The system installation must be compliant with NEC (National Electric Code) requirements.

For use in Class I, Division 2 environments, the TS Adapter IE Basic must be installed in a cubicle with minimum IP54 protection to IEC 60529.

Information on use of the TS Adapter IE Basic in Zone 2 hazardous areas is contained in the "Product Information ATEX Zone 2.pdf" file.

It is located on the product DVD in the "_Product_Information" folder.

⚠ WARNING

Explosion Hazard

Do not disconnect while circuit is live unless area is known to be non-hazardous.

Explosion Hazard - Substitution of components may impair suitability for Class I, Division 2 or Class I, Zone 2.

FM approval

Factory Mutual Approval Standard Class Number 3611,

Class I, Division 2, Group A, B, C, D, T4A.

Class I, Zone 2, Group II C, T4.

⚠ WARNING

Injury to persons or damage to property may occur.

In hazardous areas, personal injury or property damage can result if you create or break an electrical circuit during operation of a TS Adapter IE Basic (for example, by means of plug-in connections, fuses, switches).

Do not disconnect live circuits, except where the risk of explosion can be safely excluded.

For use under FM conditions, the TS Adapter IE Basic must be installed in a cubicle with minimum IP54 protection to IEC 60529.

Safety requirements for mounting

The TS Adapter IE Basic is "open equipment" in accordance with the IEC 61131-2 standard, and an "open type" in accordance with UL / CSA certification.

The alternative installation methods described below are stipulated in order to ensure safe operation with respect to mechanical strength, flame resistance, stability and touch protection:

- ☐Installation in a suitable cabinet
- Installation in a suitable cubicle
- ☐Installation in an appropriately equipped closed switchroom

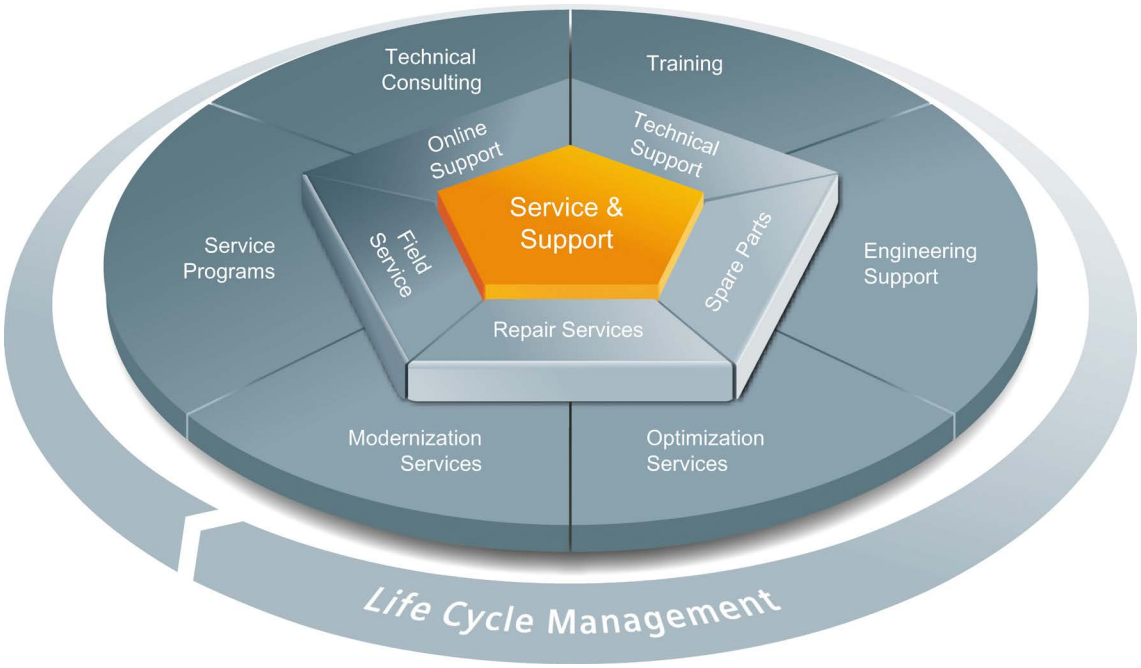
Compliance with installation guidelines

The installation guidelines and safety instructions set out in this manual must be observed during commissioning and operation.

Connecting peripherals

Interference immunity requirements are met when connected to an industrial standard PC/modem in accordance with EN61000-6-2:2005.

Service & Support



Unmatched complete service for the entire life cycle

For machine manufacturers, solution providers and plant operators: The service offering from Siemens Industry Automation and Drive Technologies includes comprehensive services for a wide range of different users in all sectors of the manufacturing and process industry.

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You can find Online Support at the following address on the Internet (http://www.siemens.com/automation/service&support).

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Support in planning and designing your project: From detailed actual-state analysis, definition of the goal and consultation on product and system questions right through to the creation of the automation solution.

Technical Support

Expert advice on technical questions with a wide range of demand-optimized services for all our products and systems.

You can find Technical Support at the following address on the Internet (http://www.siemens.com/automation/support-request).

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Extend your competitive edge – through practical know-how directly from the manufacturer.

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Engineering Support

Support during project engineering and development with services fine-tuned to your requirements, from configuration through to implementation of an automation project.

Field Service

Our Field Service offers you services for commissioning and maintenance – to ensure that your machines and plants are always available.

Spare parts

In every sector worldwide, plants and systems are required to operate with constantly increasing reliability. We will provide you with the support you need to prevent a standstill from occurring in the first place: with a worldwide network and optimum logistics chains.

Repairs

Downtimes cause problems in the plant as well as unnecessary costs. We can help you to reduce both to a minimum – with our worldwide repair facilities.

Optimization

During the service life of machines and plants, there is often a great potential for increasing productivity or reducing costs.

To help you achieve this potential, we are offering a complete range of optimization services.

Modernization

You can also rely on our support when it comes to modernization – with comprehensive services from the planning phase all the way to commissioning.

Service programs

Our service programs are select service packages for an automation and drives system or product group. The individual services are coordinated with each other to ensure smooth coverage of the entire life cycle and support optimum use of your products and systems.

The services of a service program can be flexibly adapted at any time and used separately.

Examples of service programs:

- Service contracts
- Plant IT Security Services
- Life Cycle Services for Drive Engineering
- SIMATIC PCS 7 Life Cycle Services
- SINUMERIK Manufacturing Excellence
- SIMATIC Remote Support Services

Benefits at a glance:

- Reduced downtimes for increased productivity
- Optimized maintenance costs due to a tailored scope of services
- Costs that can be calculated and therefore planned
- Service reliability due to guaranteed response times and spare part delivery times
- Customer service personnel will be supported and relieved of additional tasks
- Comprehensive service from a single source, fewer interfaces and greater expertise

Contact

At your service locally, around the globe: your partner for consultation, sales, training, service, support, spare parts... for the entire range of products from Industry Automation and Drive Technologies.

You can find your personal contact in our contacts database on the Internet (http://www.siemens.com/automation/partner).

Glossary

AES

Advanced Encryption Standard is a symmetrical cryptographic system that provides a very high level of security.

Automation system

An automation system is a programmable logic controller consisting of at least one CPU, various input and output modules, and operator control and monitoring devices.

CHAP

Challenge Handshake Authentication Protocol (RFC 1994)

Access is checked by encrypting and decrypting a random number.

Configuration

Configuration refers to the setting of a module's behavior.

Configuring

Configuring refers to the configuration of separate modules of an automation system in the configuration table.

CPU

Central Processing Unit = Central module of the automation system that consists of the control and computing units, memory, system program, and interfaces to the I/O modules.

DDNS

Dynamic Domain Name System (Dynamic DNS): System for updating domains in the Domain Name System.

When the IP address changes, the corresponding domain entry is automatically changed. In this way, a device is always accessible under the same domain name, even if the current IP address for the user is unknown.

Default setting

The default setting is an appropriate initial setting that will always be used if another value is not entered.

DHCP

Dynamic Host Configuration Protocol: enables assignment of the network configuration to clients by a server (RFC 2131).

Diagnostics functions

The diagnostics functions cover the entire system diagnostics and include the recognition, interpretation and reporting of errors within the automation system.

DNS

Domain Name System: service for responding to requests for name resolution.

FTP

File Transfer Protocol: a network protocol specified in RFC 959 (1985) for transmitting files over IP networks.

GA

Global Address: Unique, global and permanently assigned IPv6 address that is also valid outside the local network.

GPRS

General Packet Radio Service: packet-oriented service for data transmission in GSM networks.

Hardware

Hardware is the entire physical and technical equipment of a automation system.

HTML

Hyper Text Markup Language: text-based markup language for structuring contents such as texts, images, and hyperlinks in documents. HTML documents are the basis of the World Wide Web and are displayed by a Web browser.

HTTP

Hyper Text Transfer Protocol: Protocol for transferring data over a network. It is mainly used to download Web pages from the World Wide Web to a Web browser.

HTTPS

Hyper Text Transfer Protocol over Secure Socket Layer: Protocol for secure transmission of data over a network. Encrypted and authenticated transfer of data in the World Wide Web.

IP

Internet Protocol: network protocol that is used widely in computer networks and is the basis for the Internet.

LAN

Local Area Network: computer network whose area is limited to 500 m without additional measures and is generally used in small companies.

Lifetime

Service life / usability of an IPv6 address.

The following cases are distinguished:

- Preferred lifetime > 0: The address is available for new connections.
- Preferred lifetime = 0 and valid lifetime > 0: The address can only be used by existing connections.
- Preferred lifetime = 0 and valid lifetime = 0: The address is no longer usable.

MAC

The purpose of a Message Authentication Code is to provide certainty regarding the origin of data or messages and to check their integrity. MAC algorithms require two input parameters, i.e., the data to be protected and a secret key, from which a checksum, i.e., the Message Authentication Code, is calculated.

Module parameters

Module parameters are values with which the behavior of the module can be set.

PAP

Password Authentication Protocol (RFC 1334)

The password for the authentication is transferred unencrypted together with the user ID. It is therefore vulnerable to capture through passive monitoring.

Parameters

Parameters are values that can be allocated. There are two different types of parameters: block parameters and module parameters.

POP3

Post Office Protocol Version 3: Transfer protocol to receive e-mails from an e-mail server (RFC1939).

Service life

See Lifetime

SLAAC

Stateless Address Autoconfiguration: Stateless address autoconfiguration in IPv6 mode (RFC 4862).

SMTP

Simple Mail Transfer Protocol: protocol of the Internet protocol family for exchanging e-mails in computer networks.

SMTPS

Simple Mail Transfer Protocol Secure: Protocol for e-mail exchange in computer networks including SSL encryption.

Software

Software refers to the entirety of all programs that are used on a computing system. The operating system and user programs belong to this.

SSTP

Secure Socket Tunneling Protocol: tunnel protocol for encapsulating a packet inside another packet. Tunnels the PPP or L2TP traffic through an SSL channel.

ULA

Unique Local Addresses (ULA): Local IPv6 addresses that are only valid within a local network (RFC 4193).

User program

The user program contains all instructions and declarations for processing the signals used for controlling a system or a process. In SIMATIC S7 the user program is structured and divided into small units, the blocks.

VPN

Virtual private network: VPN is used to connect nodes of one private network to another private network without the networks having to be compatible.

WAN

Wide area network: Computer network that differs from a LAN in that it extends over a very large geographic area. There is no limit on the number of connected computers.

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