SIEMENS

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What is the difference between the PC Adapter and the TS Adapter in communication between the PC and the S7?

Configuration Notes:
The PC Adapter and TS Adapter differ with regard to their firmware, function and in the way they are parameterized:

The MPI/DP/PPI interface for the PC Adapter is parameterized directly in the STEP 7 software using the Set PG/PC interface... function.

The MPI/DP/PPI interface of the TS Adapter is parameterized from the TeleService software via the function Extras > Parameterize adapter. Unlike with the PC Adapter, the parameters are stored directly in the TS Adapter.

There are two types of application:

Modem connection
Direct connection (serial or USB)

Only direct connection is possible via the PC Adapter (6ES7 972-0CA2X-0XA0) and PC Adapter USB (6ES7 972-0CB20-0XA0). The table below explains which PC Adapters can be used for transfer and communication between the PC and the S7.

No. PC/TS Adapter

1 SIMATIC PC Adapter (serial RS232)
You can use the following PC Adapter for communication between a PC (COM interface) and a SIMATIC S7 (MPI/DP interface):
PC Adapter (serial conforming to MPI) - order number 6ES7 972-0CA23-0XA0
Conversion from RS232 to RS485 takes place in the PC Adapter. The PC adapter must be supplied with current via the MPI connector. More information on the power supply and connection required is available in our Entry ID: ⟩ 20279422 .
Note:
This PC Adapter is not approved for transferring the ProTool configuration to the operator panel.

2 SIMATIC PC Adapter USB
The SIMATIC PC Adapter USB connects a PC (also for notebooks) via a USB interface with the MPI/DP interface of an S7/C7 systems and can also be used with PRODAVE MPI as from version V5.6.
PC Adapter USB - order number 6ES7 972-0CB20-0XA0
Note:
Please note that PRODAVE MPI V5.6 does not work with the S7-200 USB/PPI Multi-Master Cable (6ES7 901-3DB30-0XA0).

3 TS Adapter II
You can parameterize the TS Adapter II for both modem and direct connection.
Modem connection: The TS Adapter II permits a component running on a PC (e.g. STEP 7) to access automation components (S7 and C7) on an MPI/DP/PPI bus via the telephone network. You need the TeleService application to set up a remote connection.
Direct connection: With a direct connection, the TS Adapter II permits data exchange between the PG/PC and an S7/C7 via the Universal Serial Bus (USB). In the case of a direct connection, the TS Adapter II functions like a PC Adapter USB.
You need at least TeleService V6.0 to parameterize the TS Adapter II. You can also use previous versions to set up a remote connection and, if necessary, log on on the TS Adapter II.

4 TS Adapter IE
The TS Adapter IE adapter has the following functions:
Teleservicing via the telephone network: Applications running on a PG/PC, e.g. STEP 7, can access the automation components S7 and C7 that are connected to the Industrial Ethernet.
For this, the TS Adapter IE requires
A connection to the automation components via the Industrial Ethernet,
A modem connection to the PG/PC.
Sending e-mails from a SIMATIC CPU via the TS Adapter IE. For this the TS Adapter IE sets up an outgoing modem connection to a dial-up server, for example an Internet Service Provider, and sends the e-mails via a mail server that is available there.

Standard routing: You can set up a modem connection to an Internet Service Provider and then access Internet data using a browser.
You need the application TeleService V6.1 or higher, or the Windows dial-up network to set up a remote connection via the telephone network.

Note:
Helmholtz PC adapters cannot be used for online operation in conjunction with the FM353 and the FM354.

TS Adapter (6ES7 972-0CA3X-0XA0) and TS Adapter II (6ES7 972-0Cx35-0XA0) support both types of application (direct and modem connection). Information on the two types of connection follows.

Operating the TS Adapter with direct connection

Direct connection:
The direct connection is primarily for parameterizing the TS Adapter. In the same configuration you can also go online in STEP 7 and in this way you can check the MPI/PROFIBUS/PPI parameters for bus compatibility. In this way it is possible to access S7/C7 systems via the MPI/DP interface (as with a PC Adapter).
With the direct connection there is no access protection active for the TS Adapter. Thus it is possible to change the TS Adapter's parameters without any problem, e.g. by importing adapter parameters.

Setting up the direct connection:
With the direct connection a connection is set up directly via the TS Adapter between the PG/PC on which TeleService is installed and the automation system. You do not need a modem.
With the direct connection you can work with transmission rates of 19200 bit/s or 38400 bit/s at the TS Adapter's serial interface. To switch between transmission rates you must change the switch on the TS Adapter and also change the parameters in the software using the "Set PG-PC interface..." function. In the case of direct connection, TS Adapter II works via the USB. Here there is no transmission rate to set.

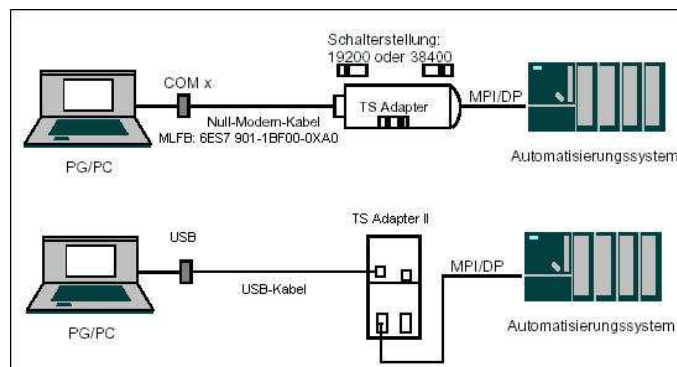The following figure shows the TS Adapter in the direct connection configuration.

Fig. 01

Operating the TS Adapter with modem connection

Setting up a modem connection:
The connection between the PG/PC on which TeleService is installed and the automation system at whose MPI/DP/PPI

interface the TS Adapter is slotted is set up via a modem route.

Thus the configuration connects the PG/PC via the telephone network and the TS Adapter at the MPI/DP/PPI interface of the automation system.

The following figure shows the TS Adapter in the modem connection configuration.
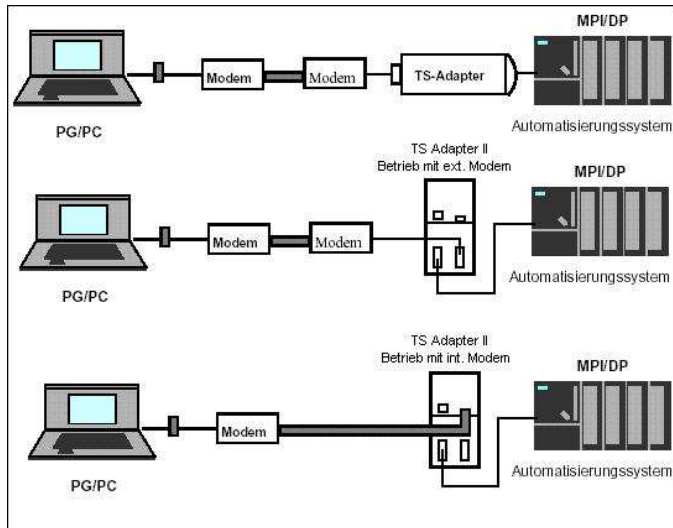

Fig. 02

There are two options for the TS Adapter IE:

1. TS Adapter IE Modem;
   with internal modem and connection for an external modem or ISDN TA.
2. TS Adapter IE ISDN;
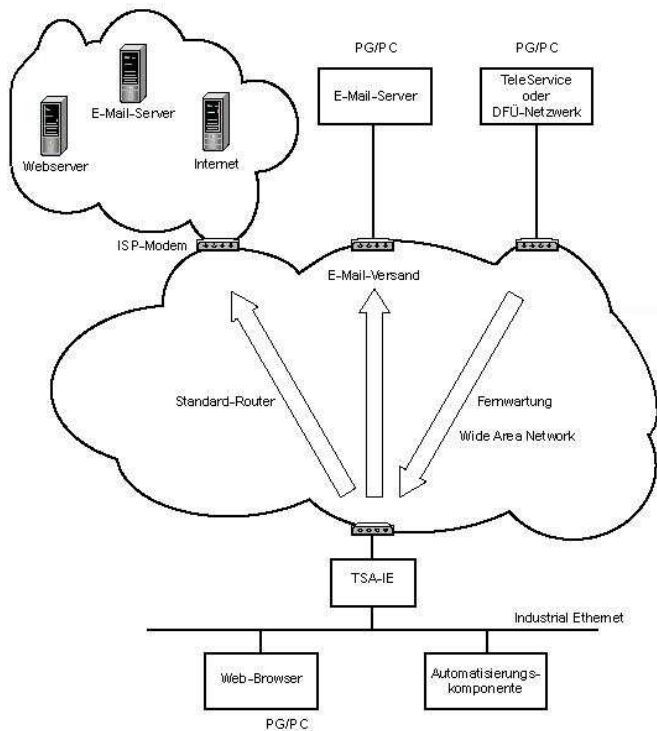   with internal ISDN TA and connection for an external modem or ISDN TA.

Fig. 03

Purpose:
This configuration permits you to dial into a remote system. For this you use TeleService to set up a teleconnection via the telephone network to a remote system. Once the modem connection is set up you can then process the dialed-up system as usual with STEP 7.

Note:
The drivers for the TS Adapter are supplied with the TeleService software. Installation of TeleService is thus obligatory for setting the TS Adapter in the PG/PC interface. It is not possible to use the TS Adapter without TeleService, not even for a direct connection (as with the PC Adapter). In a direct connection configuration via the USB interface TS Adapter II can be used for communication with the automation system even without TeleService. The requirement is that the relevant driver is installed and prior correct setting of the adapter's parameters. PC Adapter USB and TS Adapter II are supplied with a driver CD.

Keywords:
Adapter, Teleservicing

› Entry belongs to product tree folder(s):

› This entry is associated to 39 product(s).

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