T-Connector to PPI/MPI-Bus user manual

(english)

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1 Description

Supply of 2 PC-MPI adapters, TS adapters, HMI adapters or devices which remove voltages from the S7.

1.1 principle of operation

If you would like to connect two participants to a PLC and both want to be supplied from the mechanical, there is no other way you can use the T-connector. The T-connector has two outputs, which are placed 1:1 such as the PLC. The fed in 24V be passed on both SUD-D via a fuse and the 5V voltage is generated fresh and also passed secured. So you can connect two electrical consumers to a PLC.

1.2 Constraints

An S7 prevents the access of two users of protocols on a PLC if both want to perform the same actions (look at the same time for example an OB over two PGs). This arises because every action in the PLC goes over a SAP (Service Access Point). This SAP can only be occupied once, so the second PG shows in this SAP access an error message. All other actions are still possible.

2 System requirements

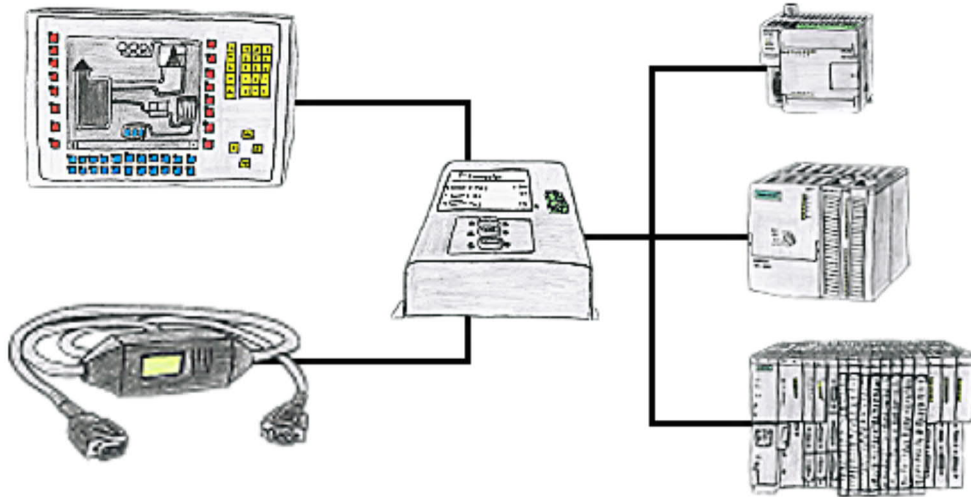## 2.1 Operating system(s)

- no

2.2 Software

- no

2.3 Hardware

- 24V/DC with at least 350mA power supply
- S7 PLC connection with a 9 pole MPI-/Profi-BUS

3 Connecting options

Doubling the PPI / MPI / Profibus interface without bus-plug

4 Installation

4.1 Hardware

So that the T-connector has its full functionality, you should connect it with a 9-pin. 1:1 cable to the PLC, thus also the control lines are carried out wit of the PLC.

The T-connector then must be supplied with 24V, so that it can generate the voltages. It lends itself to this, the 24V directly to take from the power supply of the S7 controller, because these are 24V close tolerances. It should be ensured that the 24V move in the tollerance + / - 10%.

For a safe transfer, the T-connector should be connected to its earthing lug to earth potential.

5 Technical data

Supply voltage:	24V DC +/- 20%
Power consumption:	14 watt
Display:	LED for function and watchdog supervision
Interfaces:	**to the PLC:** 9 pol. plug for AG-connection **to the PD/PC:** 2 x 9 pol. jack for PD-connection
Operating temperature:	0 - 55°C
Case:	metal case with mounting flange
Dimensions:	95 x 35 x 135 mm
Scope of delivery:	
	T-Connector Cable 9pin 1to1 Power connector 2pins big

5.1 Pin assignment

Pin No.	Notation	Signalname	Direction (of cable)
1	NC	Not Connected	
2	M24V	Ground of the 24V	In
3	Ltg_B	Data line B	BiDir.
4	RTS-AS	Request to Send from the PLC	In
5	M5V	Ground of the 5V	IN
6	P5V	5V output	Out
7	P24V	24V Supply input	IN
8	Ltg_A	Data line A	BiDi
9	RTS-PG	Request to Send to the PLC	Out

Note

The shield is attached with the MPI/PPI connector via the shield of the adapter casing. To find directly attended PLC´s , RTS-AS and M5V must be connected in the cable. P5V means a output of the cable and works only as an output for a bus-termination with resistors. This 5V output doesn't drive any load and have a 100R resistor inside his direction.

observe:

Don't lengthen the connection by a 1:1 cable to the PLC, because there are 24V and 5V inside of the cable. The quality of the bus-signal will be risen down!

To lengthen the connection, please use a MPI-NETZ-Adapter and connect only the signals Ltg_A and Ltg_B 1:1 and the shield at both sides of the metal-casing at the SUB-D connector

For an extension of the cable please supply the cable with external power and only prolong the signals Ltg_A and Ltg_B 1:1. Connect the shield on the SUB-D connector, possibly include a termination resistors (on the bus-END).