



ACCON-MPI-Adapter User Manual

The Best Solutions for PLC

1 PREFACE

This manual is for project developers, users and assemblers who utilize the ACCON-MPI-Adapter. It shows the user the handling of the ACCON-MPI-Adapter and explains signaling functions. All necessary data for assembling should be provided to the assembler. © 1995 - 2009

DELTALOGIC

Automatisierungstechnik GmbH
Stuttgarter Strasse 3
73525 Schwaebisch Gmuend
Germany

Phone sale :+49-(0)7171-916-120
Phone support: +49-(0)7171-916-112

Fax sale: +49-(0)7171-916-220
Fax support: +49-(0)7171-916-212

E-Mail sale: vertrieb@deltalogic.de
E-Mail support: support@deltalogic.de

www.deltalogic.de

All rights reserved. No part of this work is allowed to be copied, reproduced, conferred, processed and stored into electronic media or translated into any other language without a written permission of the author. S7-200®, S7-300®, S7-400®, HMI®, STEP® and SIMATIC® are registered trademarks of Siemens AG, ACCON® and DELTALOGIC® are registered trademarks of DELTALOGIC Automatisierungstechnik GmbH.

Note:

We have checked the content of this manual for conformity with the hardware and software described. Nevertheless, because deviations cannot be ruled out, we cannot accept any liability for complete conformity. The data in this manual have been checked regularly and any necessary corrections will be included in subsequent editions. We always welcome suggestions for improvement.

Last update 2009-03-09. All technical changes reserved.

TABLE OF CONTENTS

1 PREFACE..... 1

2 TECHNICAL DESCRIPTION..... 3

3 SCOPE OF DELIVERY 5

4 DEVICE DESCRIPTION..... 6

5 REQUIREMENTS FOR OPERATING 8

6 COMMISSIONING 10

7 TECHNICAL DATA 14

2 TECHNICAL DESCRIPTION

The ACCON-MPI-Adapter enables the connection to the MPI interface of a S7 controller via the PC's serial interface. The ACCON-MPI-Adapter uses the same communication protocol as the PC Adapter. Thus the ACCON-MPI-Adapter can be used with any software which supports this PC Adapter.

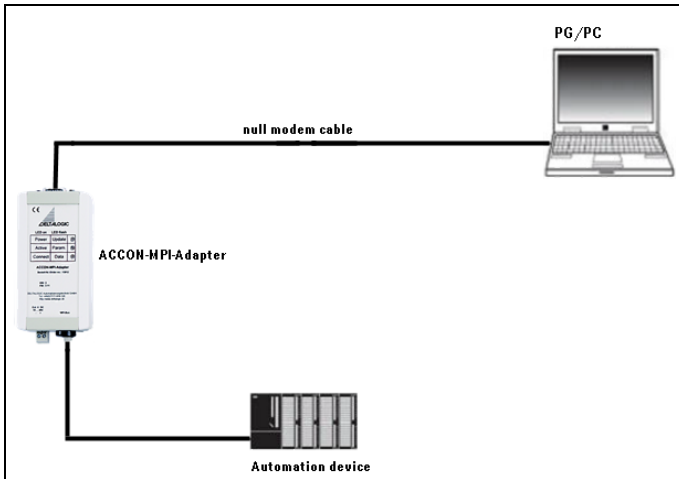


Figure 1: Build-up



The functions »PG_DIAL« und »AS_DIAL« are not implemented.



The ACCON-MPI-Adapter does not work with a S7-200 controller!



FM35x modules cannot be parametrized with the ACCON-MPI-Adapter!

Features

- Low-priced solution for programming and visualizing
- Serial transmission rate up to 115,2 KBit/s
- MPI speed up to 187,5 KBit/s
- Voltage supply from the CPU
- External 24-V voltage supply possible

3 SCOPE OF DELIVERY

- ACCON-MPI-Adapter
- Null modem cable (ca. 2 m)
- DELTALOGIC Automatisierungstechnik-CD
- User manual

Suitable accessories can be found on www.deltalogic.de.

4 DEVICE DESCRIPTION

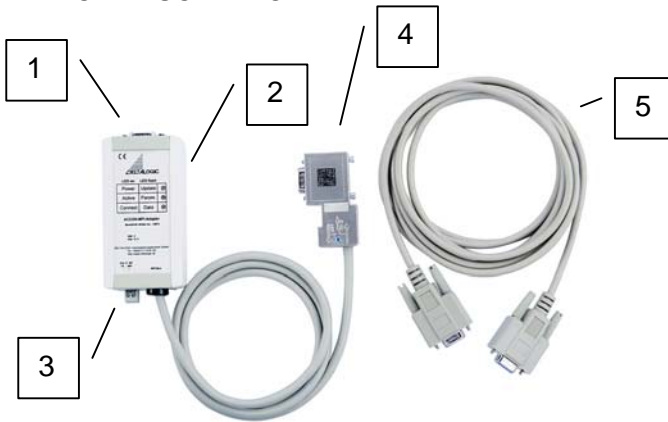


Figure 2: ACCON-MPI-Adapter

- 1) RS232 interface for the communication with the PC
- 2) Status LEDs
- 3) Voltage supply bushing to supply with 24 VDC. Please keep the polarity in mind.
- 4) Bus plug with a 1,2m connection line
- 5) PC connection cable

LED display

The three LEDs on the front side of the device inform about the operating state of the ACCON-MPI-Adapter USB. So sources of error can be detected very quickly.

The LEDs can change to one of three possible states: ON, OFF, BLINKING

Status LED	Power/Update LED	Active/Param. LED	Connect/Data LED
Adapter has no voltage feed.	OFF		
Adapter has a 24 VDC voltage feed and is working	ON		
Firmware update being executed	BLINKING	ON	
Adapter is logged in on the MPI bus	ON	ON	
Adapter is receiving parametrization	ON	BLINKING	
Adapter is connected to the PLC	ON	ON	ON
Adapter is transmitting data	ON	ON	BLINKING

Table 1: Status LEDs

5 REQUIREMENTS FOR OPERATING

Hardware requirements

Siemens S7-300- and S7-400 automation devices or compatible to S7 controllers.

Software requirements

Any software which supports the SIMATIC S7-PC Adapter can be used.

Mounting position

The ACCON-MPI-Adapter can be installed in any position.

Minimum clearance

The following minimum clearance has to be kept that

- you can assemble and disassemble the ACCON-MPI-Adapter without disassembling other parts of the facility.
- there is sufficient space to connect all interfaces and connections to standard accessories.
- there is enough room for cable routings.

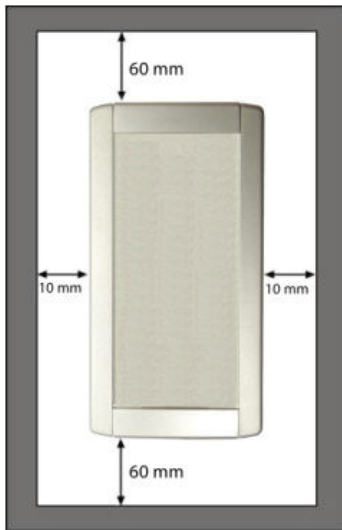


Figure 3: Minimum clearance

Module assembly

To assemble the device a top hat rail holder is necessary. Available as accessory.

6 COMMISSIONING

Connection to the PC

Plug the RS232 connection cable on the RS232 connection of your PC/Laptop.

Connection to the automation system

Connect the 9-pin SUB-D to the MPI interface of your S7 controller.

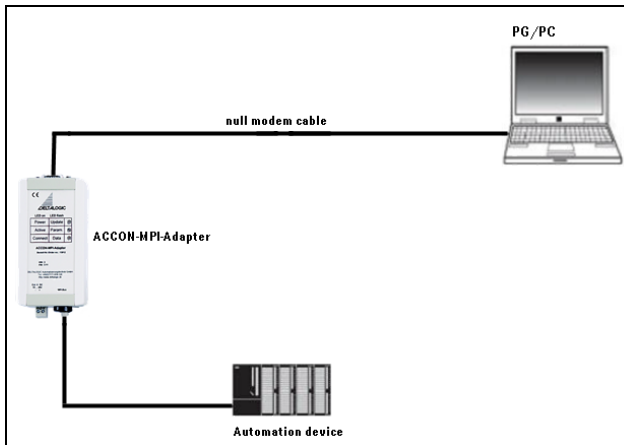


Figure 4: Build-up

Parametrization

The settings of the ACCON-MPI-Adapter are set in the software with which the communication to the automation device is executed, e. g. a programming software, parametrization software of an operation terminal or a visualization.

In SIMATIC STEP7 the parametrization is effected via the SIMATIC PG/PC Interface:

Open the SIMATIC PG/PC Interface after a successful installation.

The following point has to be in the dialog **Set PG/PC Interface**:

- PC Adapter(MPI)

*The following interfaces **cannot** be used with the ACCON-MPI-Adapter:*

- PC Adapter(Auto)

- PC Adapter(PROFIBUS)

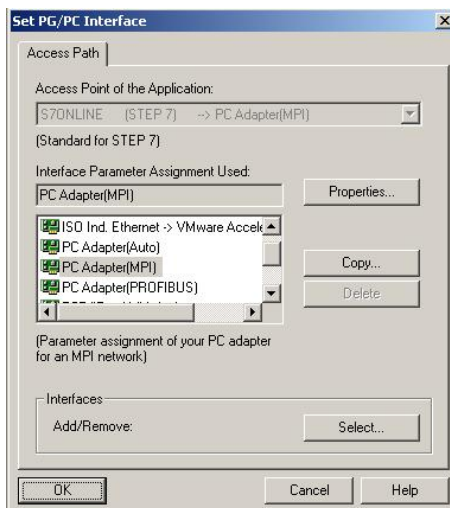


Figure 5: Set PG/PC Interface

If not

- click on »Select...« to add/remove interfaces. Then the dialog **Install/Remove Interfaces** appears.

- select the module »PC Adapter« und click on »Install«.

Only the baud rates 19,2 KBit/s and 38,4 KBit/s are available. The ACCON-MPI-Adapter adapts itself to the used baudrate, automatically.

MPI-HighSpeed driver 3.0 for Windows 2000 und XP

Install the MPI-HighSpeed driver via the file SetupDLMPIAd.exe from the DELTALOGIC Automatisierungstechnik-CD (<CD-Drive>\S7-Adapter\ACCON-MPI-Adapter\S7HighSpeed\). This driver is only necessary if you want to achieve a higher transmission rate (e. g. 115 KBit/s) than 38,4 KBit/s with a limited software.



It is absolutely necessary to quit and uninstall a former version of the Highspeed Driver 3.0. The communication must work without the Highspeed driver! The Highspeed driver only increases the performance.

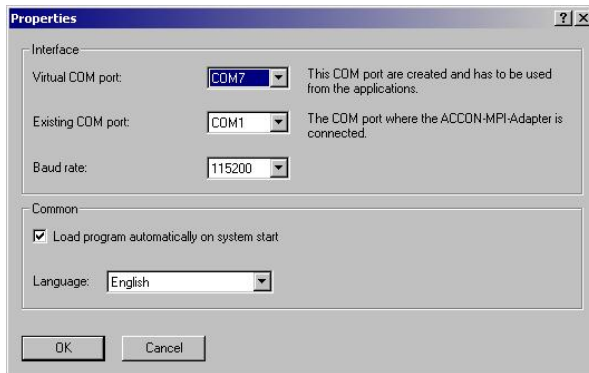
The »MPI Highspeed Driver 3.0« sets up a virtual Com-Port. Then this port will be logically connected with an already existent serial interface.

After installing and calling the driver from the start menu the following symbol will appear in the Windows taskbar.



With a right mouse click you open the context menu for the properties. Then click on »Properties« and the following window will open:

Here you have a lot of possibilities to configure the driver.



Virtual COM-Port:

Here you can adjust the COM-Port which you indicate in the programming software.

Existing COM-Port:

Here you can adjust the COM-Port to which your ACCON-MPI-Adapter is connected to.

Baud rate:

Here you can adjust the desired baud rate. The setting made in the programming software will be ignored.

Load program automatically on system start:

If activated the MPI Highspeed Driver 3.0 will be automatically loaded on the system start.

Language:

Here you can adjust the language of the MPI Highspeed Driver 3.0. This setting has no effect on the function.



Simatic Step 7 only supports Com1 to Com8!

After confirming with »OK« the driver is activated.



Use the new set up COM-Port (COM 7 here) as access path in your application. You will find more information in the help function of the MPI Highspeed Driver 3.0 or in the ReadMe.txt located in the installation directory. To deactivate the MPI Highspeed Driver 3.0 just open the context menu with a right mouse click and choose »End«.

7 TECHNICAL DATA

Connection to the PC	RS232 with a 9-pin SUB-D plug via the supplied null modem cable (ca. 2 m), max. 115,2 KBit/s
Connection to the PLC	9-pin SUB-D plug, cable mounted stationary (ca. 1,2 m), max. 187,5 KBit/s
Supported PLCs	S7-300, S7-400
Weight in kg	Ca. 0,18
Dimensions (W x H x D) in mm	54 x 105 x 30
Protection type	IP 20
Voltage supply	24 VDC \pm 25 %
External voltage supply possible	Yes
Power consumption	Max. 45 mA
Operating temperature	0 °C to 60 °C
Temperature storage/transport	-20 °C to 60 °C
Relative humidity	Operating 5 % to 85 % at 30 °C, Storage 5 % to 93 % at 40 °C
Electromagnetic compatibility (EMC) Transient emissions interference resistance on signaling lines interference resistance ESD HF-radiance fields Grid-pound HF interferences	Class B according to EN55022 \pm 2kV according to EN61000-4-4 \pm 6kV contact discharge method EN61000-4-2 \pm 8kV air discharge method EN61000-4-2 10V/m according to EN61000-4-3 10V according to EN61000-4-6
Climatic conditions Operating temperature	0° C to +60°C

Temp. storage/transport	-20° C to +60°C
Relative humidity operating	5% to 85% at 30°C (no bedewing)
Relative humidity storing	5% to 93% at 40°C (no bedewing)
Specialties	
Produced:	According to ISO 9002
Maintenance:	Maintenance-free (no battery)

Table 2: Technical data

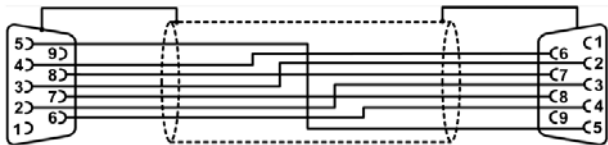
Pin assignment

Pin	SUB-D plug PC	SUB-D plug MPI
1	DCD	n. c.
2	RXD	M24 VDC
3	TXD	LTG_B
4	DTR	RTS AS
5	GND	M5 VDC
6	DSR	P5 VDC
7	RTS	P24 VDC
8	CTS	LTG_A
9	RI	RTS PG

Table 3: Pin assignment

Connection cable

PC to ACCON-MPI-Adapter (supplied)



Accessories for S7-Adapter

- | | |
|-------------|---|
| 13012-HS | Top hat rail holder short
To assemble the ACCON-MPI-Adapter on a DIN top hat rail. |
| 13012-24VDC | External voltage supply 24 VDC for S7-Adapter
For the voltage supply of the ACCON-MPI-Adapter, if there are no 24 VDC available. |