compatible with you

SSW7

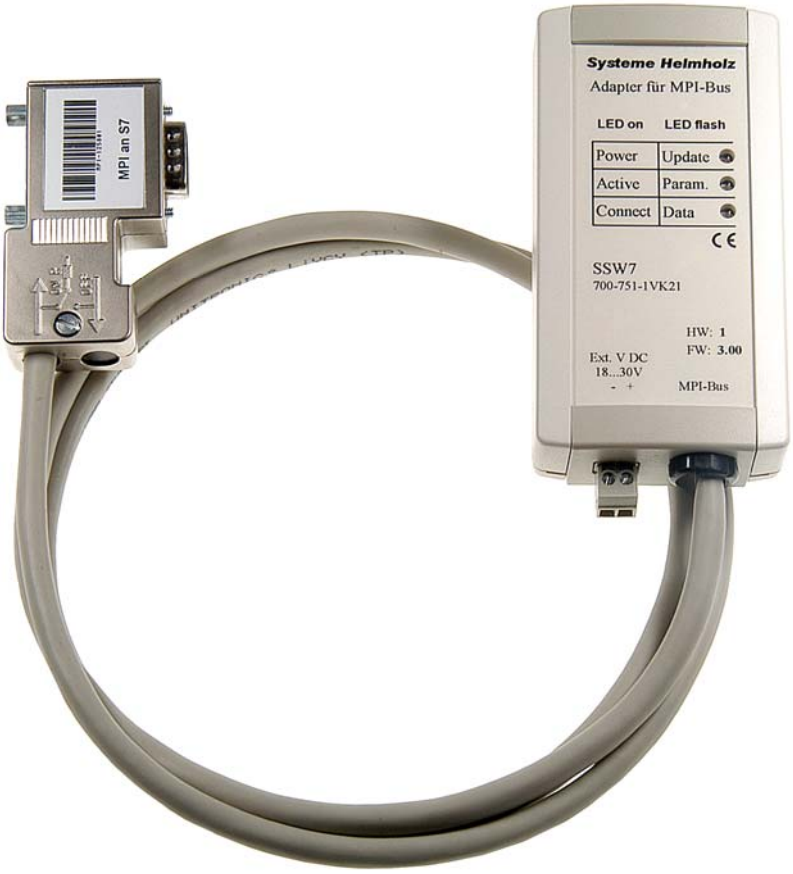
Adapter for MPI-Bus

700-751-1VK21

User Manual

Version:2 / 2009-03-20

HW: 1 / FW: 3.0 and higher



Order number of manual: 700-751-1VK21/en

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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 information in this manual is regularly updated. When using purchased products, please heed the latest version of the manual, which can be viewed in the Internet at www.helmholz.de, from where it can also be downloaded.

Our customers are important to us. We are always glad to receive suggestions for improvement and ideas.

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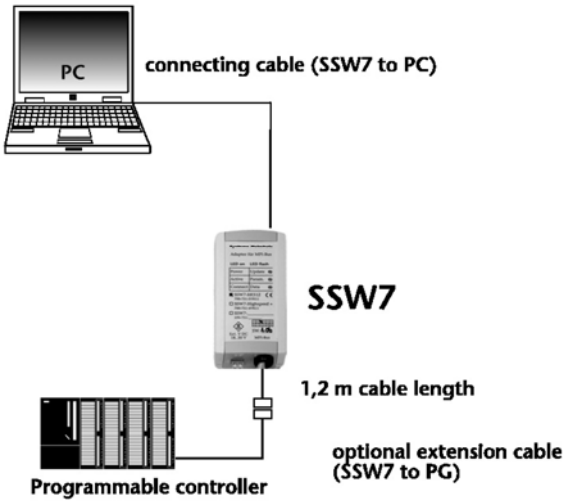
Design



The SSW7 allows you to implement a serial PC interface (RS232 level, 9.6Kbaud ... 115 Kbaud) on the MPI bus (RS485 level, 19.2 or 187.5Kbaud) for programming software, operator terminals, or visualization.

The SSW7 has a 1.2m long connecting cable, which can be directly plugged into the CPU socket of the programmable controller or at any other point in the MPI network.

A nine-way D-sub connector with a pin assignment suitable for a standard PC null modem cable is contained in the housing of the SSW7 (cable is part of the scope of supply of the SSW7).

The SSW7 receives its power supply from the CPU via the MPI cable. If 24V are not available at the point of connection or if several SSW7s are connected to a CPU at the same time, the 24V power supply can be fed from an external source.

The connection to the MPI bus can be extended with an additional cable. For that purpose, Systeme Helmholz GmbH offers the following products:

MPI bus extension cable, 5m	700-751-6VK11
MPI bus extension cable, 10m	700-751-6VK21
MPI bus extension cable, special length	700-751-6SO11

When extending the MPI bus, please follow the relevant configuring guidelines as defined in the documentation of your PLC.

The SSW7 and the extension cable do not contain *any* terminating resistors.

For the SSW7, a wall bracket, a DIN rail bracket (700-751-1HSH01), and an S7-300 sectional rail bracket (700-751-PSH00) are available.



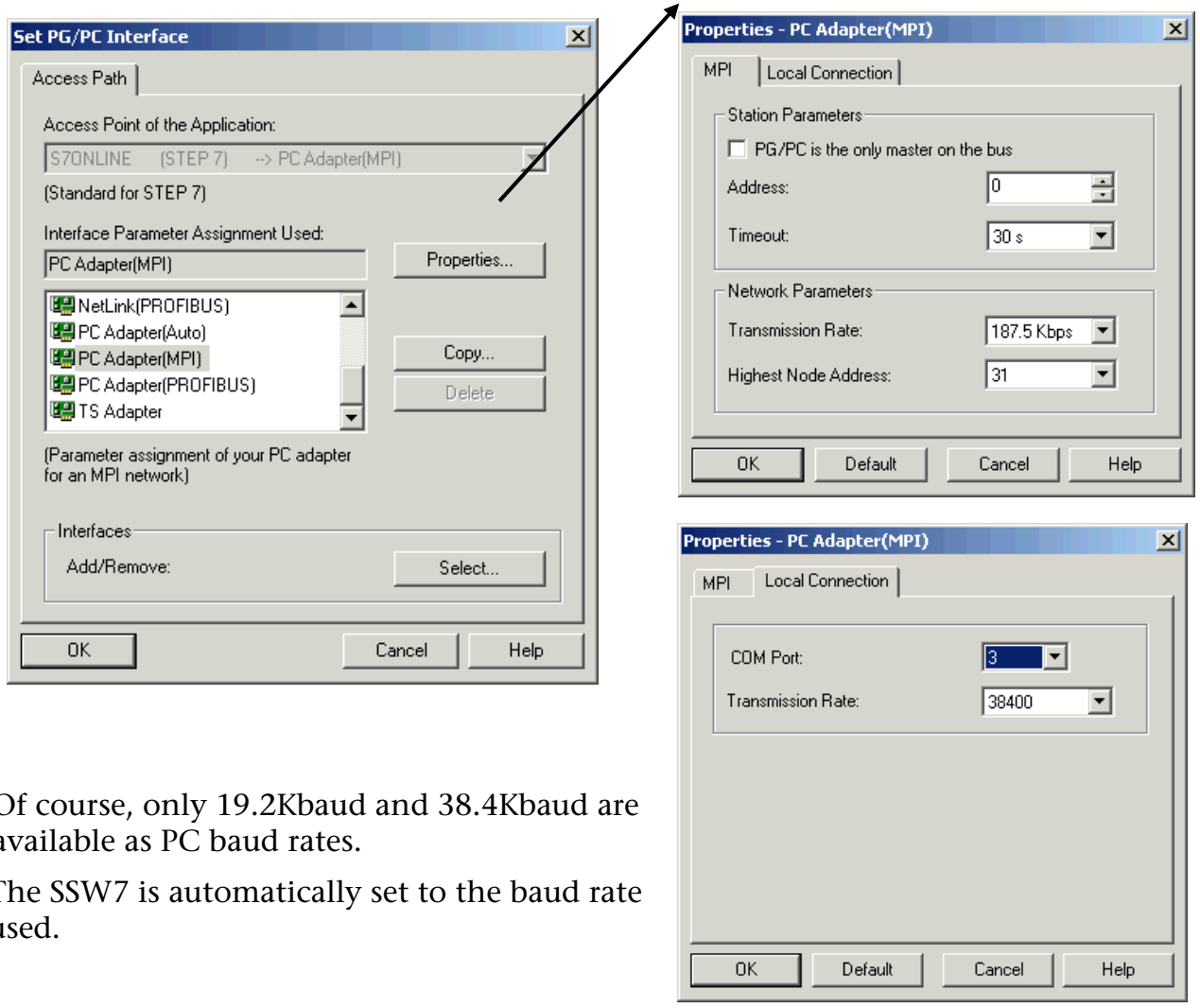
FM35x modules cannot currently be parameterized with the SSW7.

Parameterization

The SSW7 settings are defined in the software used for communication with the programmable controller. This might be programming software, or the parameterization software of an operator panel, or the parameterization of a display.

There is no special parameterization tool for the SSW7 because the parameterization of the adapter is automatically transmitted to the adapter every time the software is used. Parameterization is therefore *not* stored in the adapter.

If you use programming software, use the driver "PC adapter (MPI)":



Of course, only 19.2Kbaud and 38.4Kbaud are available as PC baud rates.

The SSW7 is automatically set to the baud rate used.

If the "PC adapter" driver is not shown in the menu above, you can have it installed subsequently with the function "Interfaces: Add/Remove".

Speed up driver for Win 2000® and XP®

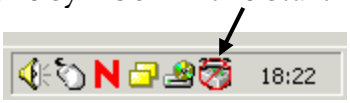
For using the SSW7 with 115Kbaud you have to install the Speed-up driver V3.0.

The actual version is available at www.helmholz.de.

Is there an older high speed driver running you MUST close AND uninstall this before continuing!

The Speed-up tool creates a new serial COM port. The driver brings the data transfer from the virtual to the physical COM port and vice versa.

After the installation start the driver via the symbol in the start menu. There is only an additional symbol in the systray.

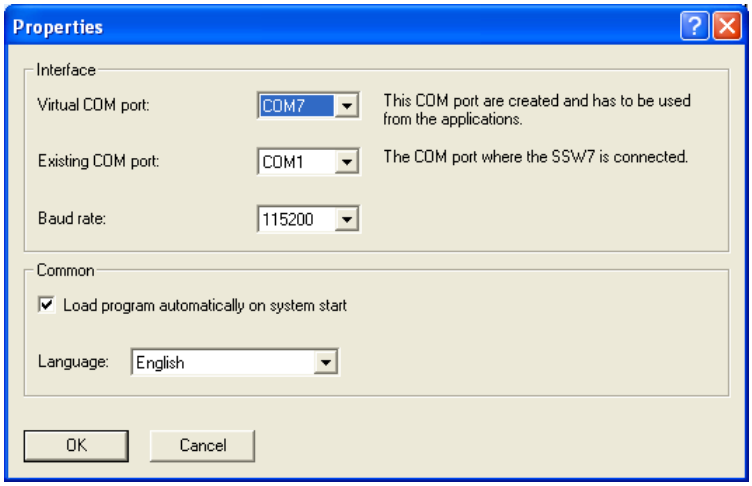


Right click to symbol opens the context menu for the properties.

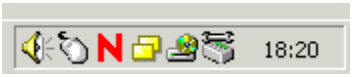
1.) Activate the new virtual COM port in the dialog box.

2.) Set the COM port where the SSW7 is plugged in.

3.) Set the baud rate you want to use.



Select the „OK“ button to activate the driver.

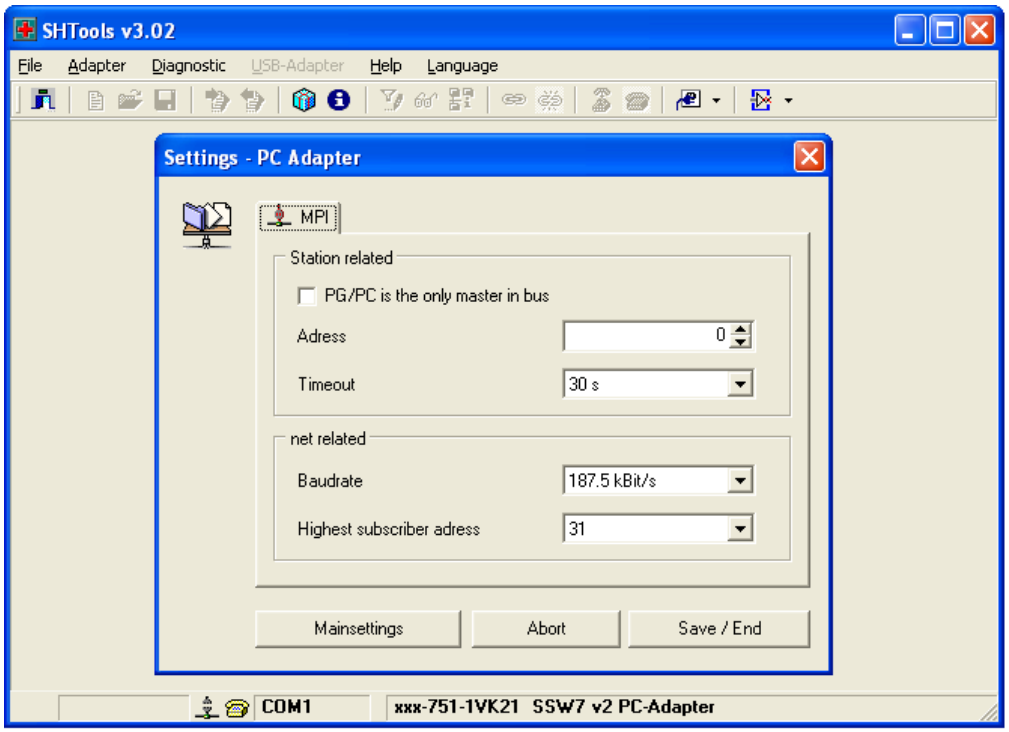


This new COM port has to be used from your applications now. For more details please see the documentation for SSW7 driver software.

Right click to symbol opens the menu - select „end“ for deactivating the Speed-up tool.

SSW7 parameterization software

With the "SSW7 Tool V3", it is possible to preparameterize or update an SSW7 with any computer, even if there is no Step 7 software installed on that computer.



The "SSW7 Tool V3" can be obtained from our download area on our Internet site www.helmholz.de.

LED displays

The three LEDs on the top of the device provide you with information about the operating status of the SSW7. You can use them to locate sources of error quickly.

The LEDs have three different states: Off, on, blinking. If the LED is off, none of the labeled states applies.

Upper LED off:	The adapter has no power or is faulty
Upper LED on:	The adapter is being powered with 24V and the processor is running
Upper LED blinking:	Has no meaning on the SSW7
Center LED on:	The SSW7 is registered in the MPI network
Center LED blinking:	The SSW7 is being parameterized
Lower LED on:	The SSW7 has established a connection
Lower LED blinking:	The SSW7 is transmitting data

Technical data

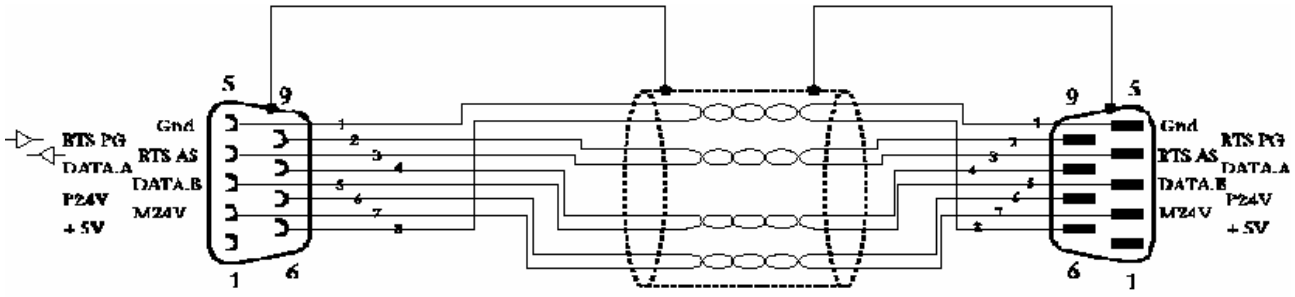
Order number	SSW7 700-751-1VK21
Dimensions	105 x 53 x 29 mm (LxWxH)
Weight	approx. 180g (incl. MPI cable & connector)
MPI interface	
Type:	RS485, isolated
Transmission rate:	19.2 kbps to 187.5 kbps
Cable:	1.2m, *no terminating resistors*
Connection:	Connector, SUB D 9-way
Communication interface	
Type:	RS232, serial asynchronous
Transmission rate:	19.2 kbps to 115 kbps *Automatic detection !*
Connection:	Connector, SUB D 9-way
Power supply	
Voltage:	+24V DC ±25%, from the programmable control or external power supply (polarized)
Power supply:	30mA (typ.) / 45mA (max.)
Degree of protection	IP 30
Electromagnetic compatibility (EMC)	
Interference emission	Class B to EN55022
Interference immunity on signal lines	±2kV acc. to EN61000-4-4
Noise immunity ESD	±6kV contact discharge EN61000-4-2 ±8kV air discharge EN61000-4-2
RF radiation fields	10V/m acc. to EN61000-4-3
Conducted RF interference	10V acc. to EN61000-4-6
Climatic conditions	
Temperature during operation	-20° C to +60°C
Temp. storage/transport	-20° C to +60°C
Relative humidity operation	5% to 85% at 30°C (no condensation)
Relative humidity storage	5% to 93% at 40°C (no condensation)
Special features	
Quality assurance	According to ISO 9001:2000
Maintenance	Maintenance-free (no battery)

Pin assignment

Pin	SUBD connector PC	SUBD connector MPI
1	DCD	n.c.
2	Rx	M24V
3	Tx	DATA.B
4	DTR	RTS AS
5	GND	0V (M5V)
6	DSR	n.c.
7	RTS	+24V
8	CTS	DATA.A
9	RI	RTS PG

Connecting cable

MPI extension cable (700-751-6VKx1):



PC to SSW7 (included):

