

SSW7-USB

USB Adapter for MPI Bus

700-755-1VK21

User Manual

Version: 2 / 2005-02-03



Order number of manual: 900-755-1VK21/en

All rights are reserved, including those of translation, reprinting, and reproduction of this manual, or parts thereof. No part of this manual may be reproduced, processed, copied, or transmitted in any way whatsoever (photocopy, microfilm, or other method) without the express written permission of Systeme Helmholtz GmbH, not even for use as training material, or using electronic systems. All rights reserved in the case of a patent grant or registration of a utility model or design.

Copyright © 2009 by

Systeme Helmholtz GmbH

Hannberger Weg 2, 91091 Grossenseebach, Germany

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.

Design

The SSW7-USB permits conversion from a USB interface to the MPI bus (RS485 level, 19.2 or 187.5Kbaud) for programming software or visualization.

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

The housing of the SSW7-USB contains a type "B" USB socket. The SSW7-USB can be connected to the PC via the standard USB cable. The SSW7-USB is powered from the USB bus. The SSW7-USB can therefore be used at any point in the MPI bus.

The connection to the MPI bus can be extended with an additional cable. For that purpose, Systeme Helmholtz 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-USB and the extension cables do not contain *any* terminating resistors.



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



FM35x modules cannot currently be parameterized with the SSW7-USB.

Installation in Windows 2000/XP

To install the SSW7-USB driver, connect the device to your PC via a USB cable. The SSW7-USB is automatically detected by the operating system.

Answer the question, if you want to connect to the windows update website with the option "... do not connect to the internet".

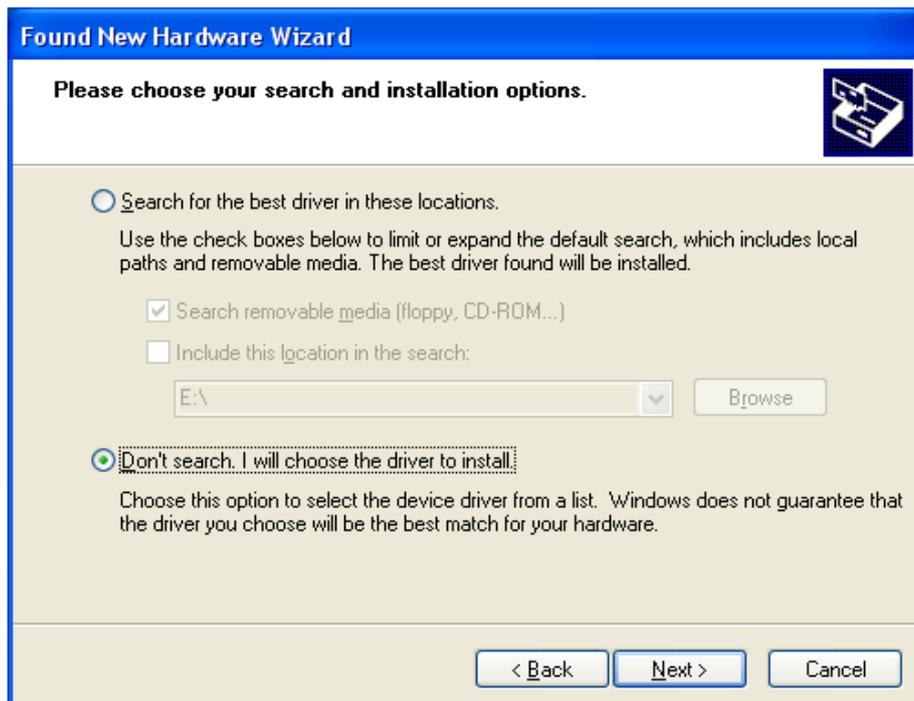


Under Windows XP you can select the "Install software automatically" option in the first dialog box. Windows XP will then automatically find the driver on the CD.

The operating system now asks for the appropriate hardware driver:



The driver is to be found on the CD supplied.



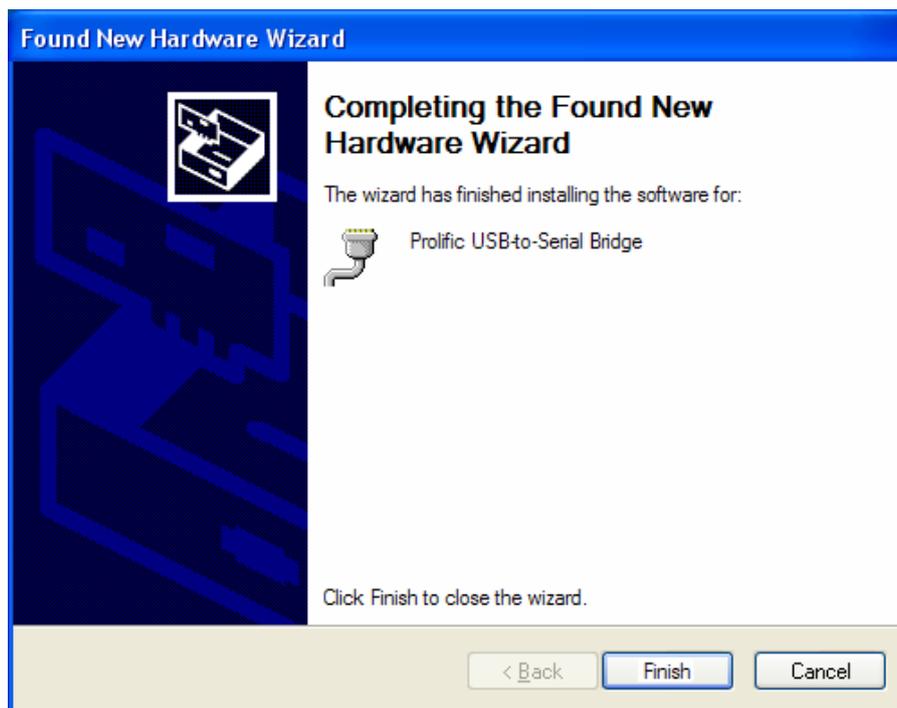
If the operating system does not request the driver automatically select the path on the CD manually:

... \driver\Windows 2000XP\SSW7-USB\serwpl.inf

Please confirm the Microsoft warning with “Continue Anyway”:



Then confirm in the following dialog box:

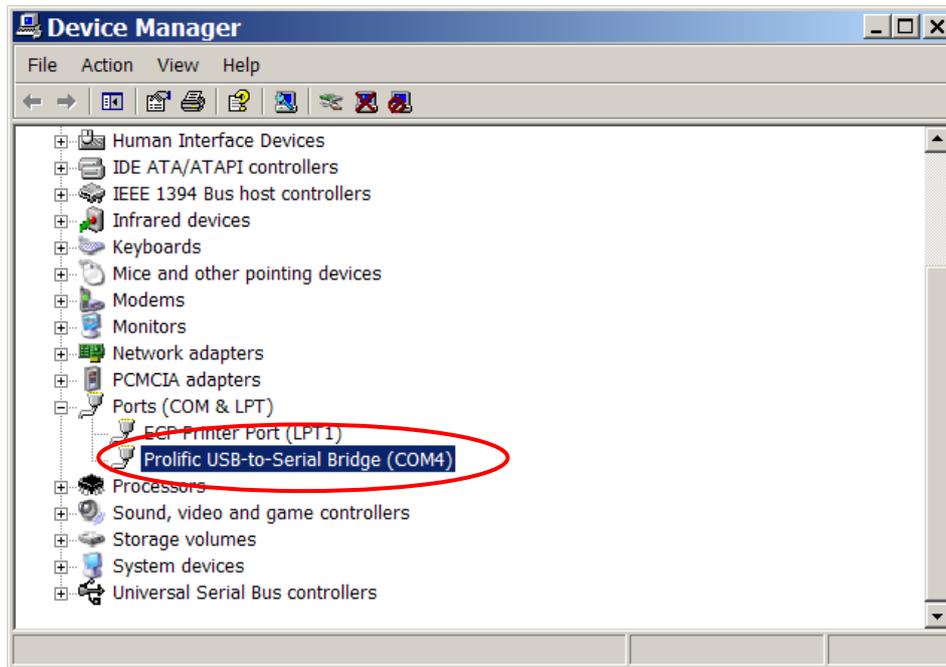


The driver is now installed and the SSW7-USB can be used. This operation is only necessary the first time you use the SSW7-USB on a PC. The driver will be activated automatically when you subsequently use the SSW7-USB.



No further parameterization of the SSW7-USB driver is required.

After successful installation of the driver, you will find a new COM interface under "Control Panel / System / Device Manager", which you can now use in your PLC programming software.



If you plug the SSW7-USB into another USB interface, the SSW7-USB may appear on another COM interface.

If the operating system does not request a driver the first time you plug in the SSW7-USB, you may already have an older or similar driver installed on your system. In that case, unplug the SSW7-USB from the PC and run the program "DRemover98_2K.EXE" on the diskette. After that, the SSW7-USB should install normally.



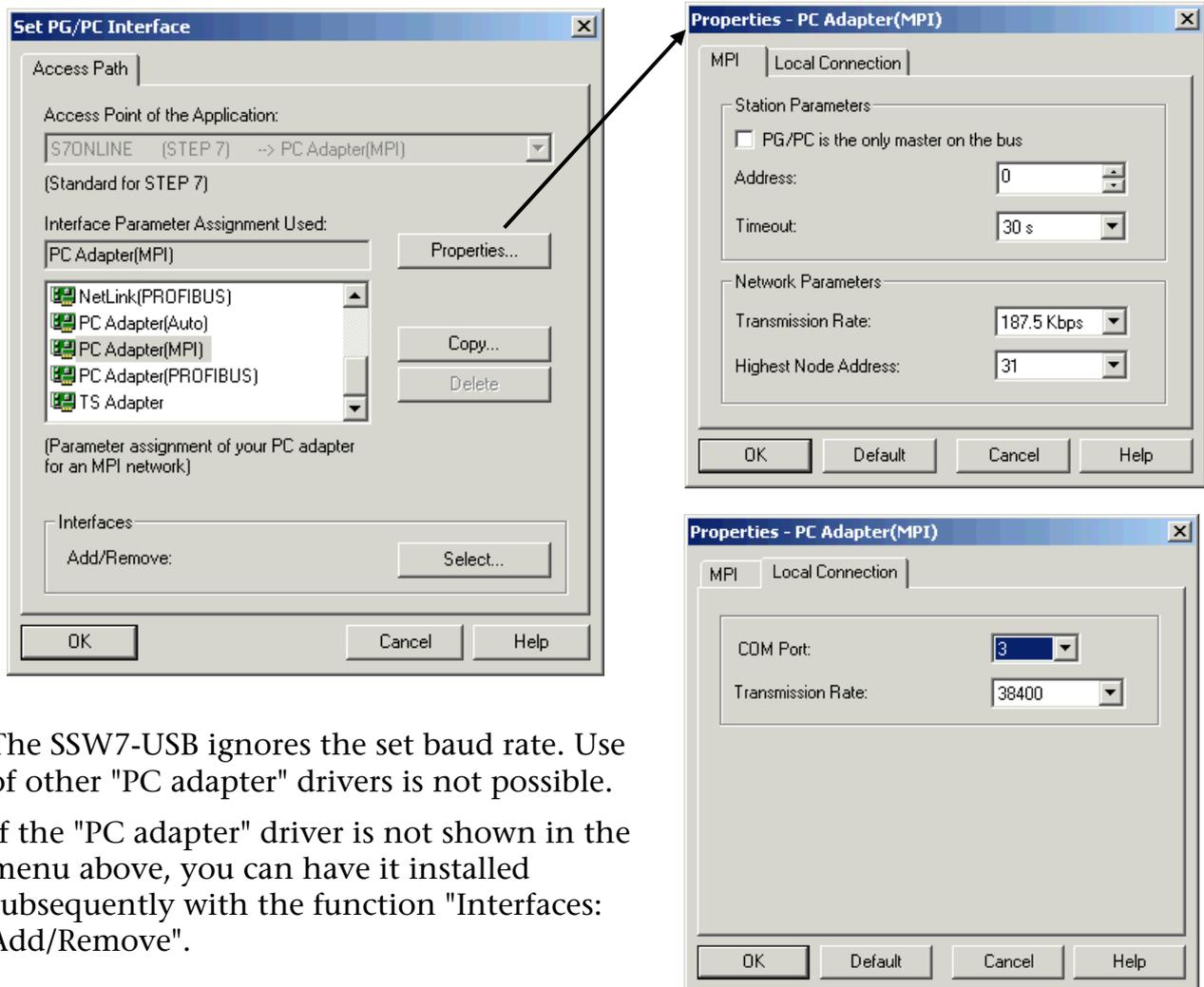
Installing the SSW7-USB driver can impair correct functioning of an existing RS232-USB converter cable. If you no longer require the SSW7-USB driver, you can remove it with the "DRemover98_2K.EXE" program.

Parameterization

The SSW7-USB 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.

No special parameterization tool for the SSW7-USB is required 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)":



The SSW7-USB ignores the set baud rate. Use of other "PC adapter" drivers is not possible.

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

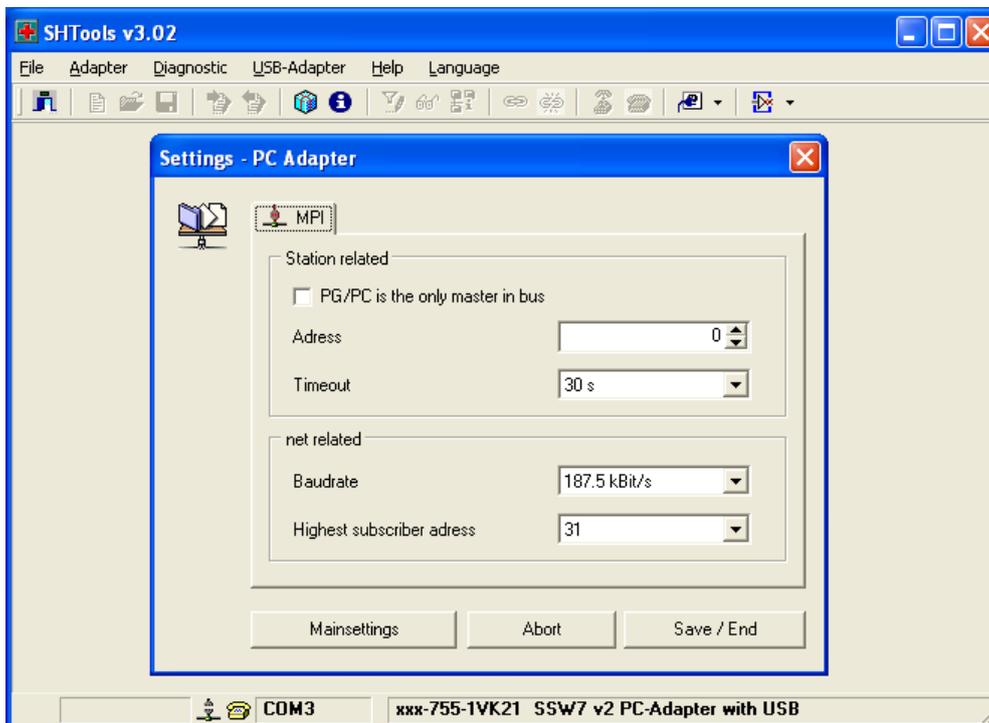


If the SSW7-USB is disconnected from the USB interface, the virtual COM interface will be removed from the system. If communication is in progress, this can cause the programming software to block. In that case, it will be necessary to reboot the computer!

Only ever remove the SSW7-USB from the computer when no software is running!

SSW7 parameterization software

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



The "SSW7 Tool V3" can be downloaded from our download area at 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-USB. 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 apply.

Upper LED off: The adapter has no power or is faulty

Upper LED on: The adapter is being powered and the processor is running

Upper LED blinking: SSW7-USB is in update mode

Center LED on: The SSW7-USB is registered in the MPI network

Center LED blinking: The SSW7-USB is being parameterized

Lower LED on: The SSW7-USB has established a connection

Lower LED blinking: The SSW7-USB is transmitting data

Technical data

Order number	SSW7-USB	700-755-1VK21
Dimensions	105 x 53 x 29 mm (LxWxH)	
Weight connector)	approx. 180g (incl. MPI cable &	
MPI interface		
Type:	RS485	
Transmission rate:	19.2 kbps or 187.5 kbps	
Cable:	1.2m	
Connection:	Connector, SUB D 9-way	
Communication interface		
Type:	USB 1.1	
Connector:	Type B socket	
Power supply		
Voltage:	DC +5V, from the USB bus	
Current consumption:	150mA (max.)	
Degree of protection	IP 30	
Electromagnetic compatibility (EMC)		
Interference emission	Class B to EN55022	
Interf. 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 operation	0° 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 MPI
1	n.c.
2	M24V
3	DATA.B
4	RTS AS
5	0V (M5V)
6	n.c.
7	+24V
8	DATA.A
9	RTS PG

Cable

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

