

S7-USB user manual



Art.Nr. 9352-S7-USB



documentation of version XXX

1 Description

The MPI-USB cable connects the computer via USB with a MPI interface (9 pin interface of the PLC).

2 System requirements

2.1 Operating system (s)

Windows 98 + SE Windows ME/NT/2000 Windows XP Windows Vista Windows 7

2.2 Software

PLC - programming software (eg PG2000, Step © 7, S7 for Windows, Microwin) Direct driver for Simatic-Manager for USB PLC - VCOM Software A video description of the installation of direct-driver and how to configure it can be found on the page support!

2.3 Hardware

USB 1.1 - Type A

2.4 Provided PLCs

S7-200 S7-300 (provides baudrates up to 12M (when the PLC is able to support this) S7-400 (provides baudrates up to 12M) FM-devices Sinamix (Step7-direct-driver up V1.20 or PLCVCom up V2.71) MicroMaster and other electrical drives and inverter-feds (Step7-direct-driver up V1.20 or PLCVCom up



3 Connecting options

S7-USB directly connected to the PC.S7-USB is connected to the PC via a USB hub.S7-USB Connection options with control terminal

4 Installation

4.1 Hardware

The S7/MPI-USB is plugged directly into the PLC. Via the USB cable of the module can be connected to the PLC as follows:

Normal installation (for programming)

The MPI cable will be connected to the S7 PLC via the 9 pin connector (short side of the cable). The USB connector on the long side of the cable will be connected with the computer.

S7/MPI-USB as HMI (Human Machine Interface) - adapter

The HMI – function provides the possibility to connect a operator panel (which has instead of a MPI interface a USB device and understands the HMI protocol) with a S7 PLC (300/400). Connect the cable between the terminal and the PLC. The HMI – protocol must be part of the operator panel.

There must be a serial communication with the operator panel if this op is new/used at the first time. Therefore connect your operator panel with the serial COM interface of your computer. After the communication has been running successfully the panel is ready to be connected to the PLC.

4.2 Software

To communicate with the PLC, please install following products for MPI-USB, S7-USB, MPI-II[only USB], MPI-LAN and S7-LAN:

Driver	
TIC \Rightarrow "TIC ETH/USB" for MPI, PPI or PROFIBUS configuration of driver with control-panel \Rightarrow setting PD/PC-interface	
TIC \Rightarrow "TIC ETH/USB" for MPI, PPI or PROFIBUS	
TIC \Rightarrow "TIC ETH/USB" for MPI or PROFIBUS	
TIC \Rightarrow "TIC ETH/USB" for PPI and S7-22x-PLC	
PLCVCom for S7-21x-PLC (no MultiMaster-protocol)	
PLCVCom or for S7-LAN/MPI-LAN direct in interface-settings	
TIC \Rightarrow "TIC ETH/USB" for MPI or PROFIBUS over PD/PC-interface	
PLCVCom	

To communicate with the PLC, please install following products for MPI/PPI and MPI-II[only serial]:

Product	Driver
TIA-Portal	no support because Siemens has taken out the serial support in the driver "PC-Adapter"

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Product	Driver
Simatic-Manager	included driver "PC-Adapter" for MPI and PROFIBUS
Starter-Software	included driver "PC-Adapter" for MPI and PROFIBUS
MicroWin	included driver "PC/PPI-cable"
PG-2000	Standard-function, configuration in the interface-settings
S7 for Windows	Standard-function, configuration in the interface-settings

4.3 USB-driver-installation for 32-bit-systems

The S7-Interface S7-USB, MPI-USB or MPI-II-Cabel over USB as well as the devices of TeleService-family will be connected to USB 1.1-compatible port of the PC.

This opens the Hardware-Installation-Wizard:

Found New Hardware Wiz	zard
	Welcome to the Found New Hardware Wizard Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). Read our privacy policy
	Can Windows connect to Windows Update to search for software? Yes, this time only Yes, now and every time I connect a device No, not this time
	Click Next to continue.
	< Back Next > Cancel

We don't need a connection to Windows update. Select now "Install from a list or specific location":

TRAEGER.DE Söllnerstr. 9 92637 Weiden info@traeger.de +49 (0)961 48 23 0 0	TRAEGER.DE
Found New Hardware Wizard	
Image: Sector	
< Back Next > Cancel	

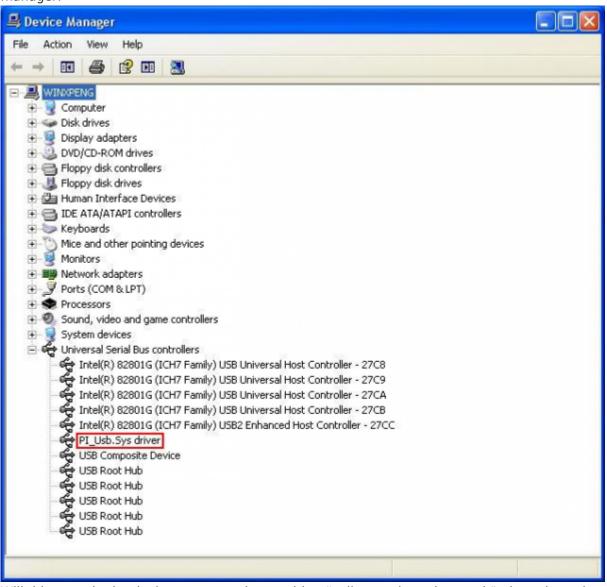
Enter as source the folder "..\USB-Treiber-x86". Either in the folder where the downloaded drivers were extracted or the directory on the product CD:

Found New Hardware Wizard
Please choose your search and installation options.
 Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM)
Include this location in the search:
upport\pi\usbtreiber\mpi-usbtreiber\USB-Treiber-x86 🔽 Browse
O Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back Next > Cancel
< Back Next > Cancel

	str. 9 _ 92637 Weiden _ info@traeger.de _ +49 (0)961 48 23 0 0	TRAEGER.DE
The message of wind	dows logo test skip with "Continue Anyway":	
Hardware Ins	stallation	
PI_I has with Cor or o eith rec cor	e software you are installing for this hardware: Usb.Sys driver not passed Windows Logo testing to verify its compatibility Windows XP. (<u>Tell me why this testing is important.</u>) ntinuing your installation of this software may impair destabilize the correct operation of your system her immediately or in the future. Microsoft strongly commends that you stop this installation now and htact the hardware vendor for software that has ssed Windows Logo testing.	
After conving the dat	Continue Anyway STOP Installation ta appears a little moment later the success message:	
Hardware Update		
	Completing the Hardware Update Uzdate Wizard The wizard has finished installing the software for: PI_Usb.Sys driver	
	Click Finish to close the wizard.	
	K Back Finish Cancel	



Upon a successful installation the "PI_Usb.Sys driver" will be displayed without any warnings in the device manager:



Will this entry in the device manager shown with a "yellow exclamation mark", then please install the driver again or look in the driver properties about the reason.

If the driver has to be updated, please use the function "Update ..." in the driver properties:



eneral	Driver	Details	
÷	MPI-II/	'USB Kab	rel
	Driver	Provider:	Unknown
	Driver	Date:	Not available
	Driver	Version:	Not available
	Digital	Signer:	Not digitally signed
	er Detail		To view details about the driver files. To update the driver for this device.
Roll	Back Dri	ver	If the device fails after updating the driver, roll back to the previously installed driver.
	Uninstall		To uninstall the driver (Advanced).

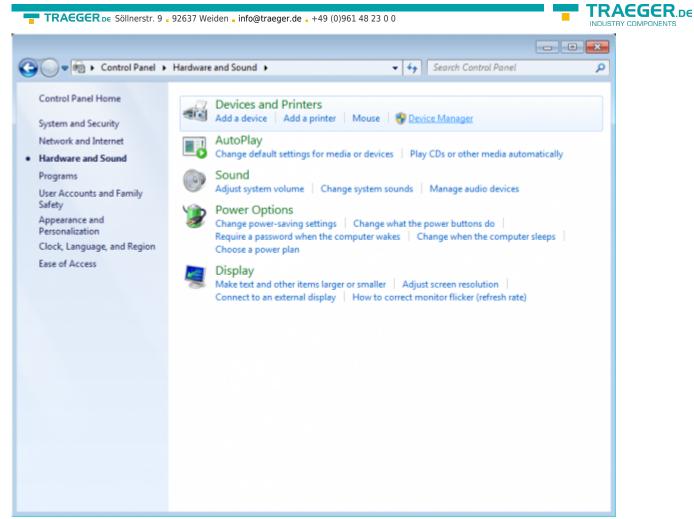
If the driver has to be deleted, please use the function "Uninstall" in the driver properties:

If you install older versions of PLCVCom, Step7-direct-driver or S7IFC, the actual usb-driver will be possible overwritten by previous versions because it was included until 01/11/2012 in their install-shields!

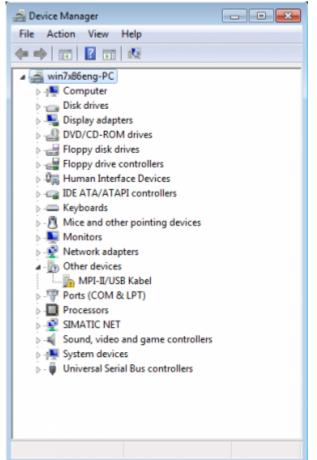
4.4 USB-driver-installation for Win7 64-bit

The S7-Interface S7-USB, MPI-USB or MPI-II-Cabel over USB as well as the devices of TeleService-family will be connected to USB 1.1-compatible port of the PC.

After the first plug of the device Win7 displays the message "Installing device driver software" and after some time "Device driver software was not installed". This messages could be closed. Please start the windows device manager in the control panel.



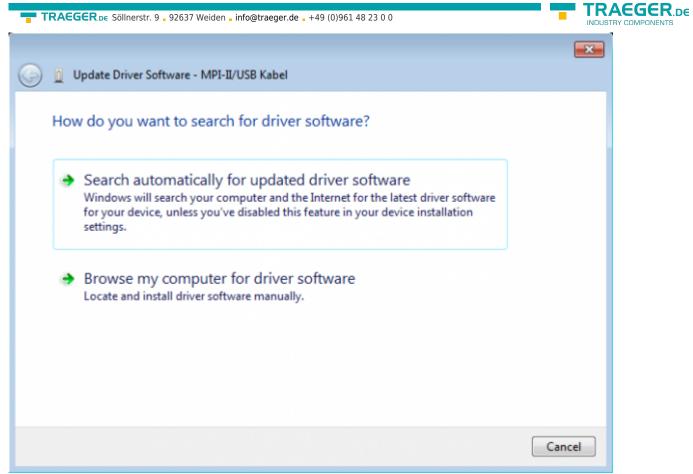
In the device manager would be the new device shown with a exclamation mark:



With a right mouse-button-click you will open the properties of the new device:

TRAEGER.DE Söllnerstr. 9 92637 Weiden	info@traeger.de _ +49 (0)961 48 23 0 0		R.de
MPI-II/USB Kabel Properties	;	×	
General Driver Details			
MPI-II/USB Kabe	1		
Device type:	Other devices		
Manufacturer:	Unknown		
Location:	Port_#0002.Hub_#0004		
Device status	o are not installed (Code 20)		
	e are not installed. (Code 28) ed for the device information set or		
To find a driver for this d	evice, click Update Driver.	-	
	Update Driv	/er	
	ОК	Cancel	

Now select "Update Driver...":



Please select "Browse my computer for driver software" and define as source the folder "..\USB-Treiberx64". Either in the folder where the downloaded drivers were extracted or the directory on the product CD:

	×
Update Driver Software - MPI-II/USB Kabel	
Browse for driver software on your computer	
Search for driver software in this location:	
ocuments\support\pi\usbtreiber\mpi-usbtreiber\USB-Treiber-x64 💌 🛛 Browse	
✓ Include subfolders	
Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all driv software in the same category as the device.	'er
Nex	t Cancel

After pressing "Next" the message appears of windows UAC

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😵 Windows Security	
Windows can't verify the publisher of this driver software	
Don't install this driver software You should check your manufacturer's website for updated driver softw for your device.	ware
Install this driver software anyway Only install driver software obtained from your manufacturer's website disc. Unsigned software from other sources may harm your computer information.	
See details	
Please press install and a little moment later appears the success message	
Geo I Update Driver Software - PI_Usb.Sys driver	×
Windows has successfully updated your driver software	
Windows has finished installing the driver software for this device:	
PI_Usb.Sys driver	
	Close

To verify the successful installation, you can look again in the device manager:



🚔 Device Mana	ager	
File Action	View Help	
(= =) 📰	🖼 🔽 📷 💐 😰 🍢 🞼	
⊿ .∰ win7x86	ieng-PC	
⊳ IN Com	nputer	
Disk	drives	
	olay adapters	
	//CD-ROM drives	
	py disk drives	
	py drive controllers	
	nan Interface Devices	
	ATA/ATAPI controllers	
⊳ — Keyt		
	e and other pointing devices	
Mon		
	work adapters	
	is (COM & LPT)	
Proc Proc		
	ATIC NET	
	nd, video and game controllers em devices	
	versal Serial Bus controllers	
	Intel(R) 82801G (ICH7 Family) USB Universal Host Controlle	r - 27CA
<u> </u>	Intel(R) 82801G (ICH7 Family) USB Universal Host Controlle	
	Intel(R) 82801G (ICH7 Family) USB Universal Host Controlle	
1 1	intel(R) 82801G (ICH7 Family) USB Universal Host Controlle	
1 I I	Intel(R) 82801G (ICH7 Family) USB2 Enhanced Host Control	
	PI_Usb.Sys driver	
	USB Composite Device	
	USB Root Hub	
ų l	USB Root Hub	
ų l	USB Root Hub	
🏺 L	USB Root Hub	
L.∳ ι	USB Root Hub	
lere may apr	pear no exclamation mark!	

If the driver has to be updated, please use the function "Update driver \dots " in the driver properties:

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PI_Usb.Sys driver Properties				
General Driver Details				
PI_Usb.Sys driver				
Driver Provider: PI				
Driver Date: 5/15/2012				
Driver Version: 5.0.1.1				
Digital Signer: Not digitally signed				
Driver Details To view details about the driver files.				
Update Driver To update the driver software for this device.				
Roll Back Driver If the device fails after updating the driver, roll back to the previously installed driver.				
Disable Disables the selected device.				
Uninstall To uninstall the driver (Advanced).				
OK Cancel				

If the driver has to be deleted, please use the function "Uninstall" and set the check-box in "Delete the driver software for this device":



If you install older versions of PLCVCom, Step7-direct-driver or S7IFC, the actual usb-driver will be possible overwritten by previous versions because it was included until 01/11/2012 in their install-shields!

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5 Control elements

5.1 Lateral LEDs



Green LED OFF	Power OFF (S7-USB is not supplied with voltage)		
Green LED is blinking	BUS Communication		
Green LED is on	Power ON (S7-USB is supplied with voltage)		
Yellow LED is OFF	no error in the communication		
Yellow LED is blinking	1x Module does not come into bus 2x Participants provided with the same MPI address 3x Wrong MPI baud rate is used 4x Detected parity error on the bus 5x Buffer overflow condition in module		

6 Implementing

Connect your module as described in the chapter "Hardware installation " to the PLC and to the programming device or to your computer.

If you want to respond to a PLC via the module you have to comply the requirements as described in the chapter "system requirements". In addition, please make sure that the module is properly connected

6.1 Using the PLC-VCOM

(The PLC-VCOM is only needed if your module is not connected via the 9 pin COM port to the computer. For products with USB, Ethernet connection, etc., the PLC-VCOM is required)

1. Start the PLC - VCOM application (If it has not already started yet).

2. Click in the main window of the PLC-VCOM, in the status area "configure". The configuration wizard will start.

3. It lists all the found modules / cables and the additional information's such as IP address and MAC address of the module.

4. Choose the desired MPI cable and click "OK" to go on.

5. If the connection is established the chosen cable is shown in the section state and on the left side you can see the status connected.

6. It also displays, the PLC-VCOM the IP address for the module and the IP address of the computer which is connected to the module.

If you have any problems with the use of PLC-VCOM software, go to the chapter PLC – VCOM and look there for operating instructions.



6.2 Programming software to use with direct access

After you have adjusted and connected the PLC-VCOM or the programming adapter to the COM-port on your computer, you will be able to connect with your programming software to the PLC and work with it.

How you have to adjust your programming software is described in the following points:

6.2.1 PG2000 für S7 (V5.10)

1. Start the PG 2000 software by using the desktop link or by using the application entry in the start menu.



2. Choose from "View" \Rightarrow "S7-300/400" In the menu "Options" click "Interfaces"...



Interface					
Interface					
PLC-Interface:	СОМ2 💌				
Timeout (>= 550):	2500	ms			
Retries:	3				
Timeout between Data	220	ms			
STL not executed:	2500	ms			
Save file-by-file					
Show Properties at Load-time 🔽					
	Bus grip				
Grip always only one block from PLC					
stat.PLC access					
Baudrate: own Address 0					
PC-MPI 187,5kBau					
Connect over following Network-Adapter:					
Intel 21143-basierter PCI-Fast Ethernetadapter (5 -					
Г ТСР/IР ю 0 . 0 . 0 . 0					
1 10/11/0 0 . 0	,				
OK <u>C</u> ance	si <u>H</u> e	lp			

3. A dialog appears, in which you are able to set the "AG-Interface" (COM-port) in the section "Interfaces".
4. Configure the baud rate in the section "Bus access" to "19,2k". Below change the value for PC - MPI to "187,5kBaud".

5. Save your configuration by pressing "OK".

<u>PLC</u>
File
<u> </u>
<u>T</u> eleService
S5 - Simulator
55 - Simulator
Programmer
Cancel

6. Now the software is ready to establish a connection to the PLC Click the symbol "Open" and afterwards press "PLC". Alternative you can click:

 $",File" \Rightarrow ",Open" \Rightarrow ",PLC"$

		DB SDB FB H	C OB SFB SFC V	ик v Σ»			
Mark	Baustein	Größe	Adresse	Bib-Nr	Bausteinname		
	OB 001	128 W				zyklischer Bau	l:
	SFC 000	90 VV			SET_CLK	Uhrzeit setzen	
	SFC 001	90 VV			READ_CLK	Uhrzeit lesen	
	SFC 006	126 W			RD_SINFO	Startinformatio	n,
1	SFC 020	92 W			BLKMOV	Variable kopie	ŕ
	SFC 021	92 W			FILL	Variablenspeid	5
	SFC 022	96 VV			CREAT_DB	Datenbaustein	
	SFC 023	90 VV			DEL_DB	Löschen eines	2
	SFC 024	94 VV			TEST_DB	Testen eines D	5
	SFC 036	96 VV			MSK_FLT	Synchronfehle	9
	SFC 037	96 VV			DMSK_FLT	Synchronfehle	9
	SFC 038	96 VV			READ_ERR	Ereignisstatus	ŕ.
	SFC 039	92 W			DIS_IRT	Bearbeitung no	e
	SFC 040	92 W			EN_IRT	Bearbeitung ne	a
	SFC 041	88 W			DIS_AIRT	Bearbeitung vo	
	SFC 042	88 W			EN_AIRT	Bearbeitung vo	- 12
	SFC 043	86 W			RETRIGR	Zykluszeitüber	- 12
	SFC 046	86 W			STP	CPU in Betrieb	- 12
	SFC 047	88 W			WAIT	Verarbeitung v	

The connection between PG 2000 and the PLC is now established. A new window appears. Now you can edit the blocks in the PLC.

6.2.2 PSet PG/PC interface

This step is required for the following software:

- ⇒ SIMATIC Step[©] 7 Manager (v5.2 + SP1)
- \Rightarrow Windows Control Center (WinCC) (v6.0)
- ⇒ Windows Control Center flexible 2004 (WinCC flexible) (v5.2.0.0)
- \Rightarrow ProTool/Pro (v6.0 + SP2)
- ⇒ Microwin 3.2



1. Open the system configuration by using the start menu. 2. Click on "Set PG/PC interface".

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Set PG/PC Interface	
Access Path LLDP	
Access Point of the Application:	
S70NLINE (STEP 7)	×
(Standard for STEP 7)	
Interface Parameter Assignment Used:	
<none></none>	Properties
Kone>	
🕮 ISO Ind. Ethernet -> Ethernetadaptı 📃	Carry
I S7-LAN/MPI-LAN/MPI-USB (MPI)	Сору
	Delete
Interfaces	
Add/Remove:	Select
ОК	Cancel Help

3. A Dialog with a list box named "Interface Parameter Assignment Used:" appears. This box should offer some "PC - Adapter" entries If this is the case, please continue with the step MPI settings or Profibus settings. If you can't find these entries go ahead with step PC-Adapter orTCP/IP installation.

6.2.2.1 PC-Adapter(Auto, MPI, PROFIBUS)

4. Click on "Choose" to add these entries to the PG/PC interface configuration

Install/Remove Interface	es	
Selection:	1	Installed:
Module		Module
CP5511 (Plug&Play) CP5512 (Plug&Play) CP5611 (Plug&Play) CP5711 CP5711 SO Ind. Ethernet CP5711 CPC Adapter	< Uninstall	ISO Ind. Ethernet -> Ethernetadapter der AM E TCP/IP -> Ethernetadapter der AM E TCP/IP -> NdisWanIp E
	-	Display modules ready for operation only
Adapter for MPI/PROFIBUS	net via serial or USB interface of the	PC
Close		Help

5. In this dialog you can deinstall every installed construction set Furthermore you can add various modules (see "Selection") Choose "PC - Adapter" from the "Selection" box on the left side and click on "Install".

6. The chosen construction set will be installed and a question appears which asks you to use the "MPI"





access for the PLC used. Click "Yes" if you want to use the "MPI" communication type. Otherwise click "No" (e.g. if you want to use the "PROFIBUS" communication type).

Warning	;				×
?	To be able to go ONLINE immedia interface parameter assignment Should 'S7ONLINE' access 'PC Ad	that was created.	terface, you mu:	st set the access pat	h of of the access point of your application to the
		Ja	Nein	Hilfe	

6.2.2.2 TCP/IP RFC1006 Communication

Set PG/PC Interface		×
Access Path		
Access Point of the Application:		
S70NLINE (STEP 7)> PC Adapter	(MPI)	I
(Standard for STEP 7)		I
Interface <u>P</u> arameter Assignment Used: PC Adapter(MPI)	Properties	
<pre>Image: Wone> Image: Wone></pre>	Copy Dejete	
(Parameter assignment of your PC adapter for an MPI network)		
_ Interfaces		I
Add/Remove:	Sele <u>c</u> t	
	Cancel Help	

7. Press "Select" to add the RFC1006 required elements to the PG / PC - interface configuration.

8. In the dialog "Select", choose" TCP / IP" and click on "Install".

9. After successful installation, click "Close".

10. Back to the "Set PG/PC interface" dialog you will now find the desired entries called "PC -

Adapter(Auto)" (not supported), "PC - Adapter(MPI)" and "PC - Adapter(PROFIBUS)". Now you are able to configure the bus. If you want to use the "MPI"communication type go ahead with step MPI setting . The settings for "PROFIBUS" is explained in Profibus setting .

6.2.2.3 MPI setting



et PG/PC Interface	X
Access Path	
Access Point of the Application:	-
S70NLINE (STEP 7)> PC Adapter	(MPI)
(Standard for STEP 7)	
Interface Parameter Assignment Used:	
PC Adapter(MPI)	Properties
🕮 ISO Ind. Ethernet -> Ethernetadapte 🔨	νς
PC Adapter(Auto)	
PC Adapter(MPI)	Сору
PC Adapter(PROFIBUS)	Delete
(Parameter assignment of your PC adapter for an MPI network)	
Add/Remove:	Select
ОК	Cancel Help

- 11. Select "PC Adapter (MPI)" and click "Properties".
- 12. Open the properties dialog Choose the register "Local Connection"

Properties - PC Adapter(MP	I) 🛛 🔀
MPI Local Connection	
Connection to:	COM1 -
Transmission Rate:	19200 👻
Apply settings for all modu	lles
OK Default	CancelHelp

- 13. Set here the COM port.
- 14. You also change the "transfer rate" to "19200".

)	
n the bus	
0	3
30 s	•
187.5 Kbps	•
31	-
Cancel	Help
	n the bus 0 30 s 187.5 Kbps

15. In the register card "MPI"choose the "Transmission Rate" to "187,5 kbit/s". Change the "Highest Station Address" (HSA) to "126".

16. Accept your settings with "OK" and exit the "PG / PC interface setting" dialog with "OK".

6.2.2.4 Profibus setting

Properties - PC Adapter(PR	OFIBUS)		
PROFIBUS Local Connection			
Connection to: Transmission Rate: Apply settings for all modu	COM3 19200	•	

17. Mark the entry "PC - Adapter(PROFIBUS)" and click on "Properties".



Set PG/PC Interface	
Access Path	
Access Point of the Application:	
S70NLINE (STEP 7)> PC Ada	opter(PROFIBUS)
(Standard for STEP 7)	
Interface Parameter Assignment Used:	
PC Adapter(PROFIBUS)	Properties
🕮 ISO Ind. Ethernet -> Ethernetadap	ε <u>Λ</u>
🖳 PC Adapter(Auto)	<u> </u>
PC Adapter(MPI)	Сору
PC Adapter(PROFIBUS)	Delete
 (Parameter assignment of your PC adaption for a PROFIBUS network) 	lter
Interfaces	
Add/Remove:	Select
ОК	Cancel Help

18. In the registry card "Locale connection" you have to set the COM Port. 19. Set the "Transmission Rate" to "19200"

Properties - PC Adapter(PROFIBUS)		×
PROFIBUS Local Connection Station Parameters		
Timeout:	30 s 💌	
Network Parameters		
Transmission Rate:	1.5 Mbps 💌	
Highest Station Address:	126 💌	
Profile:	DP Standard Universal (DP/FMS) User-Defined	
	Bus Parameters	
Network Configuration	es: 0	
OK Default	Cancel He	elp

20. Choose the registry card "PROFIBUS" and set the "Transmission Rate" to "187,5kbit/s".



21. Set the "Profile" to "DP" ("decentralized Peripherals ").

22. Save your settings by clicking the "OK" button and close the opened "Set PG/PC - interface" dialog

6.2.2.5 TCP/IP RFC1006 setting

23. For this kind of communication you only have to install the corresponding software.

6.2.2.6 ProTool/Pro RunTime (RT) Configuration

et PG/PC Interface	
Access Path	
Access Point of the Application:	
S70NLINE (STEP 7)> PC Adapter(PF	(OFIBUS)
(Standard for STEP 7)	
Interface Parameter Assignment Used:	
PC Adapter(PROFIBUS)	Properties
ISO Ind. Ethernet -> Ethernetadapte 🔨	η
PC Adapter(MPI)	Сору
PC Adapter(PROFIBUS)	Delete
(Parameter assignment of your PC adapter for a PROFIBUS network) Interfaces	
Add/Remove:	Select
ОК	ancel Help

24. If you want to use ProTool/Pro RunTime you can set the "PG/PC Interface" by selecting the entry "DPSONLINE". Therefore you have to select "Access Point of Application" and configure it as described above. The easiest way is to use the S7-LAN/MPI-LAN/MPI-USB- driver which supports USB and LAN products.

The interface configuration for these programs is finished.

Continue with the software which you want to use:

- \Rightarrow SIMATIC Step[©] 7 Manager (v5.2 + SP1)
- ⇒ Windows Control Center (WinCC) (v6.0)
- ⇒ Windows Control Center flexible 2004 (WinCC flexible) (v5.2.0.0)
- \Rightarrow ProTool/Pro (v6.0 + SP2)
- ⇒ Microwin 3.2

6.2.3 SIMATIC Step© 7 Manager (v5.2 + SP1)

Configure the interface as described in Set PD/PC-Interface.

To use one of the other options please go ahead and read in the manual of WinCC software.

5. Please wait until the project is created. The project content will be shown in the left part of the main

WIND OWAEGER.DE Söllnerstr. 9 92637 Weiden _ info@traeger.	de _ +49 (0)961 48 23 0 0
@ WinCCExplorer - H:\PROGRAMME\SIEMEN	
File Edit View Tools Help	
🗅 😂 = 🕨 X 🖻 🖻 🎭 🐎 🏥 📑	
Projekt Name	
⊡…∰ Tag Management ⊕…∰ Internal tags	
	tem" on "Display Accessible Nodes".
	evices, a communication over the cable has taken place.
PROL	
	so the conditions if it is an "active" or "passive" assembly.
Slot Find	y with his blocks.
TCP/ Paste	
ndu Properties	Center (WinCC) (v6.0)
	the PLC there must be defined how the software has to
configure the interface per described is out a	Welte-hightfeliek on "Tag Management" it opens the context
Instart Widse wewidave coskeepidiak.or.t	he program entry in the start menu.
âdd now drivor	("letter") symbol to start a new project.

Add new dri	ver		? ×
Suchen in:	🔄 bin		* 💷 •
SIMATIC	S5 Ethernet TF.CHN	SIMATIC TI Ser	rial.CHN
SIMATIC	55 Profibus FDL.chn	System Info.ch	n
SIMATIC	55 Programmers Port AS511.CHN	💌 windows dde.d	hn
SIMATIC	55 Serial 3964R. CHN		
SIMATIC	S7 Protocol Suite.chn		
SIMATIC	TI Ethernet Layer 4.CHN		
▪			•
Dateiname:	SIMATIC S7 Protocol Suite		<u> Ö</u> ffnen
Datei <u>t</u> yp:	WinCC Communication Driver (*	.chn) 💌	Abbrechen

SIMATIC S7 Protocol Suite <u>Öffnen</u>

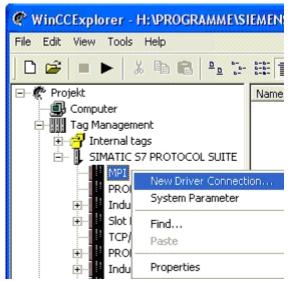
7. In the driver which fits to your PLC For a S7 PLC choose "SIMATIC S7 Protocol Suite.chn". If you want to use an other PLC please inform yourself first, which driver fits with your PLC.

It is very important that the selected driver fits with the PLC otherwise the connection cannot be aster interview of the branch and many project stop in the branch "SIMATIC S7 Create a new gennection is to: Right-click on the desired connection (MPI - > Picture: "MPI", TCP/IP - > Picture: "TCP/IP"). A context menu opens. Click on "New Driver Connection…". This manual describes the connection is for Menual TCP/IP

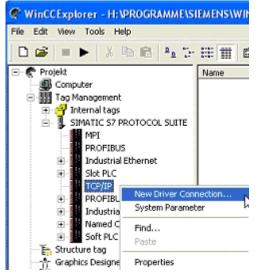
MProjekt	[.]	
New Subfolder:		Help
Projekt		
You can use this dialog box to create a new WinCC	Drive:	
project.		

4. "OK" leads you to a new dialog. Type in the "Project Name" and the "Subfolder" of the project path. The chosen configuration is confirmed with "Create".





TCP/IP



6.2.4.1 MPI Configuration

onnection Parameter - M	19	2
Connection		
S7 Network Address		
Station Address:	8	
Segment{D:	0	
Back Number:	0	
Slot Number:	0	
Send/receive rag da	ata block.	
Connection Resource:	02	
Enter the station address of Legal address tange: 0 to		
DK	Abbrechen	Hille

9. Now you are able to type in the name of the connection. With a click on "Configuration" a new dialog will appear. Now you are able to set the properties of the connection. Set up the station address of the PLC (in this example "2"). Confirm with "OK" until you are back to the main window. Read further "Communication and fault diagnosis ".



6.2.4.2 TCP/IP Configuration

nnection	
57 Network Address	
IP Address:	192.168.1.55
Back Number:	0
Slot Number:	2
Send/receive raw	data block.
Connection Resource:	02
Inter the IP address of 6 Example: 142.11.0.123	he automation system.

10. A dialog appears where you can configure the connection parameters. Set up the IP - Address of the module and configure the rack number as well as the slot number. Confirm this configuration by clicking "OK". Example configuration:

IP - address 192.168.1.55

Rack - Number: 0

Slot - Nr.: 2

11. With a right-click on the new connection you can start the properties dialog. In this dialog please click on properties.

Channel unit properties	
Connections General	1
Connections are set up for specific drivers. Existing Driver Connections	
57LAN	<u>N</u> ew
	Delete
	Pigpeties
OK. Abbred	hen Hilfe

12. In this "Channel unit properties" you are able to see all "available connections". Choose the latest created connection and click again on "Properties". Now you can see all the variables which has been created for this connection. In fact this connection is a new connection so there should not be any variable in the list. To add a new variable click on "New".

13. Now you are able to set up the name of the variable and different more properties. In our example, we assign the following values: Name: "S7LAN_MW0"

Data type : "unsigned 16 - Bit value"

Length: "2"

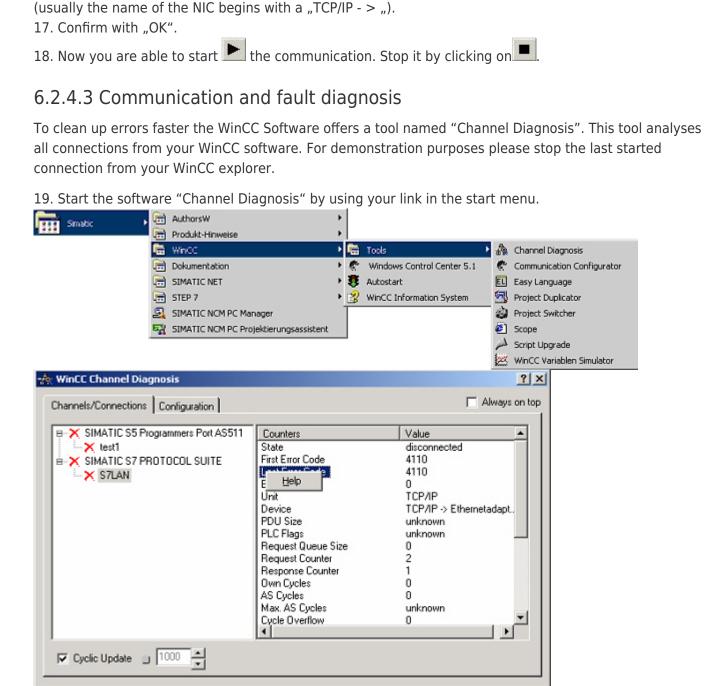
Address: "MW0"

Format adaptation: "WordToUnsignedWord" Click on "Choose" beside the Address to define the address from the variable.

Example configuration: The data area from the variable is set to "Mark" and the address is set to "Word". The edit box "MW" is set to "0".

14. Confirm all open dialogs with "OK" until you reach the main window.

15. The connection needs to know which network interface card it should be used to send data via the



Ethernet. Open the "System parameters" dialog from the context menu (right-click on TCP/IP).

16. Choose from the registry card "Unit" and set the "logical device name" to your network interface card

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20. The tool could not detect a running connection so it marked the connection/s with a red 'X' (registry card "Channels/Connections"). Click on the last created, not active connection (with the red 'X') and some informations from the connection will appear in the right part of the dialog. One of these counters is called "Last Error Code".

AEGER DE

WinCC Channel Diag	Inosis			? >
hannels/Connections	Configuration			Always on top
-X SIMATIC S5 Pro	grammers Port AS511	Counters	Value	
🗙 test1		State	disconnected	
🗄 🔀 SIMATIC S7 PR	OTOCOL SUITE	First Error Code	4110	
X S7LAN		Last Error Code	4110	
		Error Count		
	Error 4110 - L4_ Connection could connection initial	– I not be established. P	LC rejects	tadapt.
	Configured write	ong network address.		
	PLC turned of	ť.		
	PLC not conn	ected to bus or bus sy	stem error. 🔤 🗝	-1
		nber of permissible co	nnections in	
🔽 Cyclic Update 🍵	the PLC exce	eaea.		

21. If you take a right-click on the error value a window opens with "Help". Click on the "Help" window and a yellow window appears (tooltip) with detailed error descriptions.

∃× SIMATIC S5 Programmers Port AS511	Counters	Value
-X test1	State	ready
SIMATIC S7 PROTOCOL SUITE	First Error Code	none
S7LAN	Last Error Code	none
Sector College Statements	Error Count	0
	Unit	TCP/IP
	Device	TCP/IP -> Ethernetadapt
	PDU Size	480
	PLC Flags	0001
	Request Queue Size	0
	Request Counter	15
	Response Counter	55
	Own Cycles	0
	AS Cycles	1
	Max. AS Cycles	16
	Cycle Overflow	1 (250 ms) 💆 💆

22. Lets see what happens if the connection runs properly. Start the connection from your WinCC Explorer. The "Channel Diagnosis" dialog marks the connection with a green hook if everything worked out.

6.2.5 Windows Control Center flexible 2004 (WinCC flexible) (v5.2.0.0)

Please make sure that the interface configuration is correct as described in PD/PC-Set interface

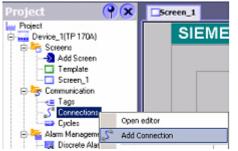
1. Start the WinCC flexible 2004 software by using the desktop link or the program entry in the start menu.

2. First you need to select "Create an empty project" on your first page.



Device type
Parel P

3. In the "Device selection" mark the used operator panel (example: "TP 170A") confirm with "OK".



4. After the project has been created right-click in the project window on "Connections" of the sub menu "Communication". In the context menu click on "Add Connection".

5. A new configuration window "Connections" opens in the right part of the main window. This offers you different setting options. Important for the connection is:

- \Rightarrow the communication driver (set up which PLC you are using (example: "SIMATIC S7 300/400"))
- \Rightarrow the Baud rate (Set this on "187 500")
- \Rightarrow the address of the terminal (HMI) (in this example "1")
- \Rightarrow the Profile ("MPI" for example)
- \Rightarrow the Highest Station Address (HSA) (e.g. "126")
- \Rightarrow the address of the PLC (e.g. "2")

Streen_1 Stonner	ctions				000
				CONNE	CUTIONE
Name	Communication driver	Online	Comment		
Connection_1	S0MA70C 57 300/400	On	•		
Parameters Area pa	Alen bradley DF1 Alen bradley DF1 Alen bradley DF485 GE Fonz SPP US 92:0F2-GH Mtsubshi FIZ Mtsubshi FIZ Mtsubshi FIZ Mtsubshi FIZ Mtsubshi FIZ Mtsubshi FIZ Mtsubshi FIZ Mtsubshi FIZ SPATIC SF 2000 SSMATIC SF 2000 SSMATIC SF 2000				
TP 1704	presidente (1918 💽			2400	Ì
	HHI devi	CR	Hetwork		PLC device
10.000	udrate		Profile MPE	Address	2
© #5232	187500		Highest station address (HSA)	Expension skit	6
	kdøress [t		126 💌	Red	-
@ R5405				nex	P
⊙ Smatic E	Conly master on the bus		Number of masters	Cyclic operation	
			-		32



Brok	ect Edit Yew Insert Format	Faceplates	Options	₩ndow	Help
٥	New Project with Project Wizard		à	20	₩ ¥.
5	Qpen glose	Cb/HO	1		
Ħ	Save Save <u>A</u> s	Ctrl45	IE	MEN	S
	Change Device Type				
2	Enint Project Documentation Print Sejection	Ctrl+P Orl+W			
	Cogpler		•		
	Iransfer			Transfer (jettings

6. Now you can start with your work. If you have finished work you can transfer this project to the panel by reading the next steps.

7. Choose "Transfer Settings" from the sub menu "Transfer".

8. In the new dialog change the "Mode" to "MPI/DP" and set the "Station address" of the operator panel (e.g. "1"). If desired you can switch the "Delta transfer" to "On" (in this example we set it "Off").

Select devices for transfer	Settings for Device	1 (TP 170A)	×
Device_1 (TP 170A)	Settings for Device,		Transfer to
	Mode	MPI/DP	Delta transfer C On C Off
	Station address	1	Enable backtransfer
			O verwrite password list O verwrite recipe data records
	<u></u>		Transfer Apply Cancel

9. Press the button "Transfer" to start communication with the terminal. Your project is about to be transferred. The WinCC flexible software is now able to communicate with your operator panel.

6.2.6 ProTool/Pro v6.0 SP2

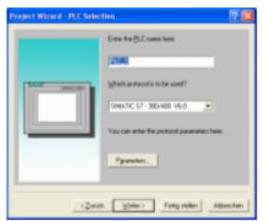
Please be sure that the interface configuration is correct as described in PD/PC-set interface

- 1. Start ProTool/Pro by using the desktop link or program entry in the start menu.
- 2. Choose from the menu "File" the sub menu "New" or click on the right symbol.

Graphics Displays Touch Panels Windows-based systems Panels TP1708 TP1708 M0N0 TP1708 M0N0 TP1708 COLDR TP270 6" TP270 10" OP1708 OP270 5" OP270 10" OP270	Select the gevice you wish to configure	
Windows-based systems Panels Panels TP1708 M0N0 TP1708 CDLDR TP270 6" TP270 10" OP1708 OP270 6"		^
TP1708 TP1708 TP1708 - TP1706 M0N0 - TP1706 M0N0 - TP1706 C0L0R - TP270 6" - TP270 6" - TP1708 - OP1708 - OP1708 - OP270 5"		
- TP1706 M0N0 - TP1706 COLOR - TP270 6" - TP270 10" - OP1708 - OP1708 - OP270 5"		
- TP270 6" - TP270 10" - OP1708 - OP270 6"		
- TP270 10" - OP1708 - OP270 6"	- TP1708 COLDR	
- OP1708 - OP270 5"		
	- OP1708	
0-27810		
	0127010	×
		 Touch Panels Windows-based systems ■ Panels ■ TP1708 ■ TP1706 MONO ■ TP1706 COLOR ■ TP270 5" ■ TP270 10" ● OP1708 ■ OP270 6"

3. The next dialog let you select which operator panel you are using. Mark the used panel (e.g. "TP 170A")





4. "Next" leads you to a new dialog. Type in the specific fields the name of the PLC device and choose the used PLC in the driver selection (e.g. "SIMATIC S7 – 300/400 V6.0").

SMATIC ST-	89211			8
gPU Type:	•	🗖 D8 édőre	e List Reed Quais	ally OK Carcal
Johnslage IF1 A	•		~ U	D 10.
-Тура Ф ПТҮ	Deta Dila C 7 Lit	C Norm	Stapbie C 1 lit	Band Rain
C R0232 C R0622	C Bik	C Des	C 21k	
C HE48E				

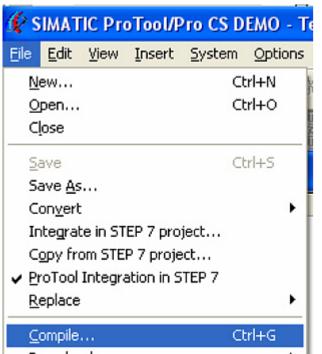
5. Via "Parameter..." you are calling an configuration dialog from the chosen PLC driver Set up the station address of the panel (example "1") and of the PLC (example "2"). Leave the point "Interface" in the standard configuration. In the sector "Net parameter" choose the interface which uses your module on the PLC (e.g. "MPI"). Configure the baud rate to "187.5".

SIMATIC S7 - Network P	arameters	×
<u>H</u> ighest Address (HSA): <u>N</u> umber of Masters:	126 💌	Cancel

6. The button "More …" leads you to a small dialog where the "Highest Station Address" should be configured to "126". Set up the "Number of masters" (e.g. "1")

7. confirm with "OK" until you got back to the "Control Selection".Go on with "Next". 8. In the main window start the Transfer Settings dialog by clicking on "File" "Transfer" "Settings…". Choose "MPI / PROFIBUS DP" from the listbox and type in the station address of the operator panel (e.g. "1"). Confirm with "OK". and start with your work If you have finished working on this project you can go on with the next steps.





9. If you want to transfer you project to the panel you have to generate the project first. This can be done with a click on "File" - "Compile".

🕼 SIMATIC ProTool/Pro CS	DEMO	- Te	est
<u>E</u> dit <u>Y</u> iew Insert <u>S</u> yste	m Opti	ons	Window 2
<u>N</u> ew	Ctrl+N	1	B 🖻 10 0 🕺 En
Open	Ctrl+O	_ L	
Close		100	de linete d'hete d'hete d'hete d'hete inve
Save	Ctrl+5		
Save As			
Convert		ъĮ	A Number Star
Integrate in STEP 7 project		- 1	
Copy from STEP 7 project			
ProTool Integration in STEP 7			
<u>R</u> eplace		۲I	
Compile	Ctrl+G		
Download		•	Start Project Download Ctrl+T
Upload		•	Backup
Test		•	Restore

10. To transfer the project just click on "File" "Download" "Start Project Download" or click on the right symbol

Please wait while the project is transferred. The communication between the operator panel is now established.

6.2.7 Microwin v3.2 (only for S7 200)

Please be sure that the interface configuration is correct as described in PD/PC-set interface

- 1. Start Microwin using the desktop link or program entry in the Start menu.
- 2. Click on "Type" in the menu "PLC

TRAEGER.DE Söllnerstr. 9 926	537 Weiden 🛓 info@traege	er.de 🗕 +49 (0)961 48 23	0 0		
RUN STOP					
Compile Compile All					
Clear Power-Up Reset					
Information Program Memory Cartridge Erase Memory Cartridge Create Data Block from RAM Time of Day Clock Compare					
Type Select a CPU type and version, or the software to range-check param	read the PLC type fro neters for the PLC's a	om the PLC if you wou llowable memory rang	ıld like es.		
PLC Type CPU 224	•	Read PLC			
CPU Version 01.22	•	Communications			
		OK Can	cel		
Configure the "PLC Type" (e.g. "CPU 224")	as well as the	CPU Version"	(e.g01.22)	") to the dialog.
Address	- 5 // /			(- J "-	,
Local:	0			PPI cable(PPI)	
Remote:	2 🔹			ess: 0 Double-Click	
PLC Type:				to Refresh	
Update PLC type in project					
Network Parameters			1		
Interface:	PC/PPI cable(COM	3)			
Protocol:	PPI				
Mode:	11-bit				
Highest Station (HSA):	31				
🔽 Supports multiple masters					
- Transmission Rate	10.000				
Baud Rate:	19.2 kbps				
Search all baud rates					
Set PG/PC Interface				ок	Cancel

3. Click on "Communications..." to start the next dialog. In the sector "Address" set up the "Remote" listbox with the station address of the PLC (e.g. "2").

If you skipped the point b ("PD/PC-set interface") you can configure the PG/PC interface with a click on "Set PG/PC interface".

4. In the right part of the dialog double click on the blue arrow ² symbol to test the communication with



the PLC.

5. The sector "Address" should be updated and displays the "PLC Type". Also the CPU of the PLC is displayed in the right part of the dialog.

Address		
Local:	0	PC/PPI cable(PPI)
Remote:	2 💌	CPU 224 REL 02.01
PLC Type:	CPU 224 REL 02.01	Address: 2, 19.2 kbps
		to Refresh
☑ Update PLC type in pr	oject	
Network Parameters		
Interface:	PC/PPI cable(COM 1)	
Protocol:	PPI	
Mode:	11-bit	
Highest Station (HSA):	31	
C Supports multiple mas	ters	
Transmission Rate		
Baud Rate:	19.2 kbps	
✓ Search all baud rates		
Set PG/PC Interface	1	OK Cancel

6. Confirm with "OK" until you get back to the main window. The communication with the PLC ist now established.

6.2.8 Microwin v4.0 in PPI-Multimaster-Mode

1. The PPI-Multimaster-Mode was developed that more devices can communicate parallel with one PLC. The following steps describe how to configure this mode in hardware and software.

2. The module or cable has to switched in the PPIMulti-Mode. This mode can be switched in the menu-tree under "Generally" and "Bootconfiguration"

3. There you have to select "PPIMMaster" and confirmed with "Saving".

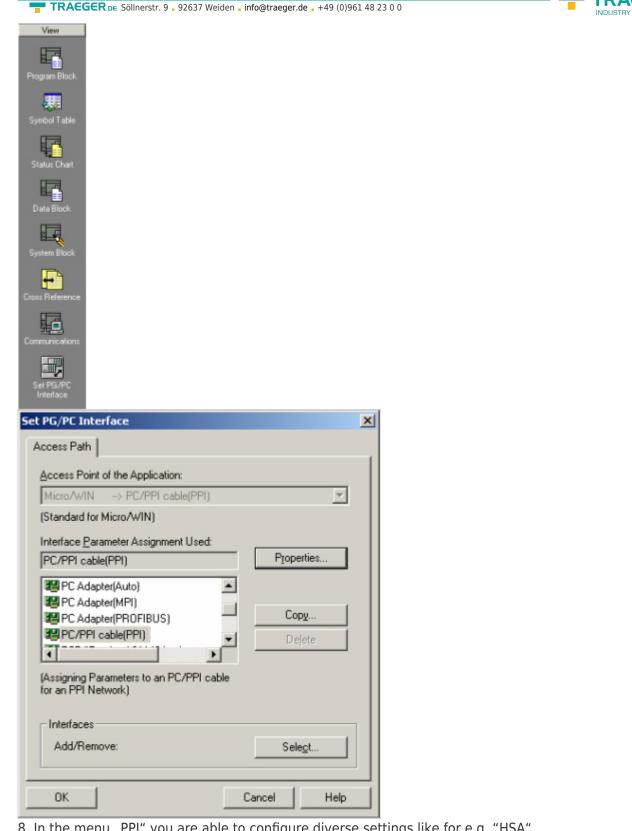
For LAN-devices you can do this in the integrated WebServer, also.

4. Now, you have to configure the PG/PC - Interface. This could you also do within the Microwin-Software.

5. Start your Microwin-Software.

6. Click on the button "Set PG/PC-Interface" under "View" in the left down part of the window.

7. Select the entry "PC/PPI cable(PPI)" and click on the button "Properties".



8. In the menu "PPI" you are able to configure diverse settings like for e.g. "HSA".

Station Parameters		
Address:	۵	-
Iimeout	10 s	•
Network Parameters		
Advanced PPI		
Multiple Master Network		
Transmission <u>R</u> ate:	9.6 kbps	<u> </u>
Highest Station Address:	126	•

9. In the menu "Local Connection" you select the com-port "Interface to" to the port which is served from the tool PLCVCom. 10. Click on the button "OK" and click in the left down area in your windows on "Communikations".

Propert	ties - PC/	'PPI cable(P	PI)	X
PPI	Local C	Connection		1
3655	nnection t	o: connection	COM3]
	IK	Default	Cancel	Help
Commun	ications			
Set Pl Inter				

11. Click double on "Double-Click to refresh". The PLCs would be searched.





Address			
Local:	0	Address: 0	
Remote:	2 💌		
PLC Type:		to Refresh	
Save settings with pro	ject		
Network Parameters			
Interface:	PC/PPI cable(COM 3)		
Protocol:	PPI		
Mode:	11-bit		
Highest Station (HSA):	126		
Supports multiple mast	ers		
Transmission Rate			
Baud Rate:	9.6 kbps		
Search all baud rates			
			el

12. When the PLC was found, the picture changes it like this:

nmunications		
Address	0	To PC/PPI cable(PPI)
Remote:	2 -	Address: 0
PLC Type:	CPU 224 REL 01.22	Address: 2 Double-Click to Refresh
🔽 Save settings with proj	ject	
Network Parameters		
Interface:	PC/PPI cable(COM 3)	
Protocol:	PPI	
Mode:	10-bit	
Highest Station (HSA):	126	
J	ers	
Transmission Rate		
Baud Rate:	9.6 kbps	
Search all baud rates		
Set PG/PC Interface	1	OK Cancel

13. Prove the dialog with "OK" until you would be in the main window. The communication to the PLC is now ready.

6.2.9 S7 for Windows v5.02

1. Start the "S7 for Windows" software by using the link on your desktop or use the link in your start menu (standard is "Programs\S7 for Windows\S7 for Windows")



2. Choose File - >Preferences... to configure the communication configuration between the computer and the PLC. A new dialog appears which provides to set up a lot of configuration data about the communication with your PLC.

S5 / S7 for Windows® - [PC] Eile Block Options Window Qpen F11 Save F12 Save F12 Save Shift+F12 Name Shift+F11 Statistics Import Export Program Eile S7 Configuration data Compare two Files Preferences	
Preferences Interface Editor Status Listings Presentation F Preferences from:	Fonts Miscellaneous BlockDiff Serial Port: □ Baud Rate: □ COM 1 □ 9600 □ COM 2 □ 19200 □ COM 3 □ 38400 □ COM 4 □ 56000 □ Exclusive □ 115200 MPI Converter: □ MPI Address: □ MPI Address PLC: 2
<u>OK</u> <u>A</u> bort <u>H</u> elp	Default Settings: <u>R</u> eload <u>S</u> ave

3. Choose the first registry card "Interface" (standard) and set up the configuration data as described below:

 \Rightarrow Area: "Preferences from:" \Rightarrow PC

 \Rightarrow Area: "PLC Type:" \Rightarrow S7

 \Rightarrow Area: "Protocol:" \Rightarrow MPI - Umsetzer

```
\Rightarrow Area: "Serial Port:"
```

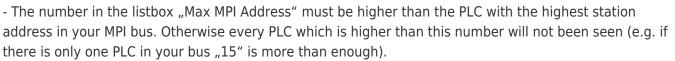
 \Rightarrow Choose the virtual COM port which has been created by PLC - VCom (e.g. "COM 4").

 \Rightarrow Area: "Baud Rate" \Rightarrow Choose the speed you want to use at the bus (e.g. "115200")

 \Rightarrow Area: "MPI Converter:" - Activate the checkbox "Only Master at the Bus" if you have only one PLC in the bus.

- Leave the fields , S7W MPI Address" and "MPI Address PLC" as it is.





4. After the software is configured , please click "Select PLC" in the area "MPI Converter". A new dialog appears where you can select the desired PLC

Select PLC	<u>? ×</u>
<u>A</u> vailable MPI-Addresses:	2
	t <u>H</u> elp

5. The dialog displays all the PLCs that can be found in your MPI bus. Select the desired one and confirm with "OK".

6. Close the preferences dialog by pressing the "OK" button.

55 / 57 for Windows® - [PC Block List]
📜 Ele Block Options Window Help
💶 💷 🚅 🖬 🔝 🔛 🕅

7. Back in the main window press the "PC Block List" button for testing the new established communication configuration.

8. Please wait a moment for the software to read the desired blocks from the PLC. The blocks will be displayed in the listbox below the menu bar (see picture to the right).



Baust	tein	Adress
OB	1	-
SFC	0	
SFC	1	-
SFC	2	
SFC	3	
SFC	4	-
SFC	20	-
SFC	21	
SFC	22	-
SFC	28	-
SFC	29	-
SFC	30	-
SFC	31	-
SFC	32	-
SFC	33	-
SFC	34	-
SFC	36	-
SFC	37	-
SFC	38	-
SFC	39	-
SFC	40	-
SFC	41	-
SFC	42	-
SFC	43	-
SFC	44	-
SFC	46	-
SFC	47	-
SFC	49	-
SFC	50	-
SFC	51	
4		

The communication between the software and your PLC is established.

6.2.10 Direct setting of a slave address to a passive Profibus-Slave

With the S7-LAN-module or MPI-LAN-cable and Step7-direct-driver V1.21 (or later) and the MPI-II-cable (only with USB) or S7-USB and Step7-direct-driver V1.22 (or later) is it possible to give a directly connected Profibus-Slave a bus-address.

Important here is that the subscriber is connected directly to the S7-interface and the external supply of 24V DC is also connected. In the Step7-direct-driver must then in the properties set that "PD/PC is only master". There is no another note in this case, you will use this function as if you are connected with your PD to the module.

7 S7-Interface Configurator Help

Language selection User interface Bus configuration Network settings Parameterize TELEService Index "Network" Index "Modem" Index "Serial Parameter" Index "Serial Parameter" Index "GSM/ISDN/SMS" Index "Internet/Mail"



Tuning Factory defaults PPI Boot off Emergency-Loader

7.1 Language selection:

Select the menu **Configuration** to change the language permanently:



7.2 User interface:

Select near **Search** which interfaces are searched permanently for devices. You could choose:

- Serial All existing COM-Ports are scanned for devices
- USB Search devices which are connected by USB
- LAN Search devices on all network-cards

The button **Search** starts a parallel search on all selected interfaces.

After selecting a updateable device the button **Update** gets available.

-	5 1			1 3		_
2 S7-Inte	rface Configurator					
Configuratio	n					7
Search	♥ Serial ♥ USB ♥ LAN	Update Parameterize		otstrap Factory defau ncp-Loader Tuning		Exit
	Туре	Name	Access	Serial No.	Version	Disc
~	S7-LAN	Halle3-01	IP:192.168.1.89	02345609	2.15	2.15
Ø	MPHI or MPI-USB		serial COM1 19200 Baud		2.41	2.52
1	Tele-Service Device		serial COM12 19200 Baud		1.53	1.54

Below the buttons is a list of the found devices. In each line an image, the type of the device, name (if existing), interface, serial number (if possible) and the OS-version of the device is displayed. On the rightmost position the actual OS-version on the harddisk is displayed.

The background of the lines could use the following colours:

• White The OS of the device is up-to-date

TRAEG	ER. pe Söllnerstr. 9 _ 92637 Weiden _ info@traeger.de _ +49 (0)961 48 23 0 0	
• Light blue	The OS of the device is not up-to-date, the device could be updated	
• Red	An error occured by accessing the device	
Yellow	Update is in progress for this device	
Dark blue	Selected device	
Double click	onto a device which could be updated shows the version-documenta	tion of the device (only
available in	German):	
6		

Versionstext	
17.) Kommunikationsabbrüche bei mehreren Verbindungen parallel behoben.	~
V 2.37 - 24.09.2010	100
 Option "NTP-Server" integriert. Modul holt sich von einem Zeitserver und schreibt diese im ASCII-Format in einen freidefinierbaren DB in der SPS. Kommunikationsabbrüche bei Parallel-Kommunikationen behoben. 	
V 2.38 - 11.11.2010	
 Unterstützung von "RFC1006 mit TSAP" Panneltransfer in Betriebsart "Manuell" optimiert Zyklisches Löschen ARP-Tabelle Option "NTP-Server": Uhrzeit von NTP-Server in S7 (wahlweise direkt oder DB) Gratuitous-ARP schaltbar Kommunikation bei höheren Bus-Baudraten optimiert 	
ОК	

The button **Update with FD** updates the OS of the device and sets the factory default.

The button **Bootstrap** sets the firmware/configuration to factory default.

The button **Factory defaults** sets the configuration to factory default.

The button **Parametrize** activates a dialog regarding to the device:

Overview:

Device	Dialog
TELEService MPI / PPI - Profibusmodem	Parametrize TELEService
MPI/PPI	Parametrize TELEService
MPI-II MPI-USB	<i>Choices:</i> Bus configuration Parametrize TELEService
S7-USB	Bus configuration
S7-LAN MPI-LAN	<i>Choices:</i> Bus configuration Network settings

The button **PPI Boot off** disables the PPI boot option of a serial connected device.

The button **Emergency-Loader** tries to repair LAN products which are in emergency-loader mode.

The button **Tuning** activates a dialog for special parameters.

The button **Exit** leaves the application.



7.3 Bus configuration

To Parametrize the connection to the device, select a device and click "**Parametrize**".

Regarding to the device you maybe have to click on the button **Bus configuration** (see Parametrize table).

What do you want to parameterize?
Bus configuration
Network settings
Close

Here you can Parametrize the following:

Bas configuration			X
	Use bus carvig hos PC		OK.
Boud wite	Automatic	M	Cancel
Highest station address	128	*	
	PD/PC is the only master	on the bus	
Piolile	MPI	¥	
Local client address	0		
Piotocialtype	Automatic	×	
Eoot settings	Automatic	*	

Use bus config for PC	Tooks the bus configuration from the PC	
Baud rate	chooses the Baudrate for the cable to bus communication	
Highest station address	The highest station-address in the bus (the less you use, the more performance on the MPI-bus, must be corresponding with the configuration in the CPU's)	
PD/PC is the only master on the bus	The TS-Adapter is the one and only master in the MPI-bus (adapter hast to speak to all passive clients)	
Profile	Bustype of the connection	
Local client address	Which local station-address is used for the TS-Adapter. Please consider that a programming device has normally the number 0, operator panel have 1, CPU's use 2, FM/CP's 3 etc. Please : Never use the same station-number for 2 different stations!	
Protocol type	Protocol type of the connection	
Boot settings	Boot setting of the connection	

7.4 Network settings

Here you can set the network configuration of the selected device:



Settings of the cho	osen device 🛛 🔀
Device name	S7-LAN Halle3-01 192.168.1.89
Factory defaults]
Configuration	DHCP-client active
IP address	192 . 168 . 1 . 89
Subnetmask	255 . 255 . 255 . 0
Gateway address	0.0.0.0
Device name	Halle3-01
(Apply Abort

 Factory default 	This button sets all over the network reachable devices to factory default.	
 DHCP-client active When set the device acts as DHCP-client. 		
• IP address	Here you could enter the IP Address over which the device is accessed in the network.	
 Subnetmask 	Here you could enter the Subnetmask of your network.	
Gateway address	Here you could enter the IP address of your Gateway. Usual a router address.	
Device name	Here you could change the device name.	
Factory default:		

• DHCP-client active	not set
IP Address	192.168.1.56
 Subnetmask 	255.255.255.0
 Gateway address 	0.0.0.0
 Device name 	empty

7.5 Parametrize TELEService

To Parametrize the device, first click on the device, after that on "Parametrize".



Configuration	n					
Search	✓ Serial ✓ USB ✓ LAN	Update Parameterize		ncy-Loader Tuning		Exit
	Туре	Name	Access	Serial No.	Version	Disc
0	MPHLAN	AW	IP:192.168.2.200	00000200	2.37	2.40
	S7-LAN	<i>blei</i>	IP:192.168.1.89	02345609	2.15	0.00
	Tele-Service Device		serial COM3 19200 Blaud		1.54	1.54

Regarding to the device, you maybe have to click on the **TELEService** button.

What do you want to parameterize?	
Bus configuration	
TELEService	
Close	
After clicking on " TELEService " a message wil	l show up
S7IFC	

STIFC	
♪	Do you want to use a MPI-Cable with the Tele-Service software V5.0 or later?
	Yes No

Depending on the version of your TELEService software choose **Yes** or **No**.

The regular parameters can be changed manually in the following categories:

7.5.1 Index "Network":

Here you can configure following:

etwork Modern Serial Param	eters Access Protection	GSM/ISDN/SMS	Internet/Mail	OK
Station parameters PD/PC is the only master of	in the bus	Address:	0	Cance
Network parameters				
Network type:	MPI 💌	Profile: MPI	×	
Transmission rate:	Automatic 💌	Tslot	415	
Current transfer rate:	6MBit 👻	min Tedr	20	
Highest station address:	126 🛩	max Tsdr	60	
		Tset	12	
		Tqui		
		GAP	20	
		Retry Limit		



Station related:

PD/PC is the only master on the bus	The TS-Adapter is the only master on the MPI-bus (adapter must speak to all passive clients)
Address	Which local station-address is used for the TS-Adapter. Please consider that a programming device has normally the number 0, operator panel have 1, CPU's use 2, FM/CP's 3 etc. Remind : Never use the same station-number for 2 different stations!

Network related:

Network type The network type MPI or PROFIBUS		
Transmission rate	Insmission rate The transmission speed on the MPI bus	
Current transfer rate Shows the current transfer rate of the device		
Highest station address	The highest station address in the bus (the less you use, the more performance on the MPI bus, must be corresponding with the configuration in the PLC's)	

7.5.2 Index "Modem":

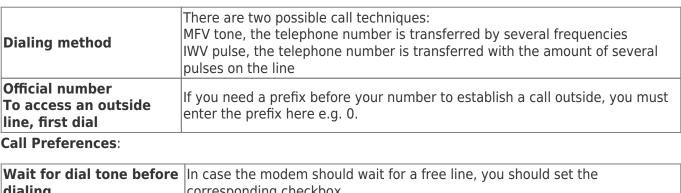
In this dialog you could configure the modem related setup.

Network Modern	Serial Parameters	Access Protection	GSM/ISDN/SMS	Internet/Mail	OK
Mada California					Canad
Modem Settings					Cancel
Initialization					
AT&FE0L1M1Q0	V1&C1S0=1				
Hang up:					
+++ATH					
Location					
The phone system	n uses:	MFV (tone dia	ling		
		IWV (pulse dia	sinal		
To access an out	side line, first dial:				
To access an out	side line, first dial:				
	side line, first dial:				
Call preferences					
Call preferences	ne before dialing	3			

Modem Settings:

Initialization	The initialization string consists of several commands to the modem: AT \Rightarrow start command &F \Rightarrow use factory settings E0 \Rightarrow echo off L1 \Rightarrow volume of speaker is low M1 \Rightarrow speaker is on at connection Q0 \Rightarrow output of the return values V1 \Rightarrow return values plain text &C1 \Rightarrow DCD shows status of the carrier sound S0=1 \Rightarrow automatic connection after 1 ring
Hang up	The deselection text is made up of 2 parts: +++ \Rightarrow Switch to command mode AT \Rightarrow start command H \Rightarrow Hang up connection

Location:



dialing	corresponding checkbox.
	At number of retries you could configure the number of retries for a connection before the call is stopped.
Rodial attor	Using a retry you could enter the seconds the application should wait between calls.

7.5.3 Index "Serial parameter":

In this dialog the transfer rate between modem and TS-Adapter is selected.

Parameterize adapter			E
Network Modern Serial	Parameters Access Prote	ction GSM/ISDN/SMS Internet/Mail	OK
Connection Preferences			Cancel
Transfer rate:	19,2kBaud	¥	
Data bits:	8		
Parity:	keine	v	
Stop bits:	1		

Connection Preferences:

Transfer rate	The transfer-rate could be selected between the following values: 2400, 4800, 9600, 19.2k, 38.4k, 57.6k and 115.2kBaud
Parity	The parity could be selected, but this is modem depended because some modems could not handle the parity bit: None: (There is no parity testing) Odd: (The amount of bits set to 1 is odd) Even: (The amount of bits set to 1 is even)

7.5.4 Index "Access Protection":

The access over a telephone line could be configured in this dialog.

Access Protection		ccess Protection GSM/ISDN/SMS Internet/Mail	Cancel
Administrator	Password	Calback number	Canter
ADMIN			
User	Password	Callback	

Access Protection:

The administrator can change the configuration over a telephone line. The two user accounts can not change the configuration.

RAEGER DE



The username is maximal 8 characters long. Every user and the administrator should use a password which is used to login in the TELEService over a telephone-line.

After three failed retries the connection is hanged up, so you must call again (not like the original TSadapter).

After changing the password for a user/administrator you must re-type it again correctly.

You can enter a callback number which is used for a callback from the TS-adapter. After you dialed the number of the TS-adapter, you are asked for username and password. In case the username and password is valid, the connection is hang up and the TS-adapter calls back the configured callback number.

7.5.5 Index "GSM/ISDN/SMS":

Information about the three different devices:

Analog Modem:

P	arameter	rize ada	pter					X
	Network.	Modern	Serial Parameters	Access Protection	GSM/IS	DR/SMS Internet/Mail		OK Cancel
					Analog			
					Туре	Germany(DE)	 ×	

Type You could choose the location of the modem.

ISDN Modem:

lebuok M	todem	Serial Parameters	Access Prote	tion GSM/ISDN/SMS	Internet/Mail		OK.
annual in	i o de la	Senari Ganera	Accession		I FAIL BUT PTAIL		_
							Cancel
ISDN							
ISON Type	1	Euro/SDN NET3	×				
	-	EurolSDN NET3 X.75	~				
Туре	-	×.75					

Type Choose the type of the ISDN network:

AT&T 5ESS Nothern Telecom DMS-100 EuroISDN NET3 (Standard) INS64 US NI-1 VN4 Protocol Choose the transfer protocol type:

Modem like V.120 X.75 (Standard) ML-PPP SoftBonding HDLC CLEAR MSN Multiple Subscriber Number is used for all ISDN channels. If empty no MSN is used.

GSM Modem:

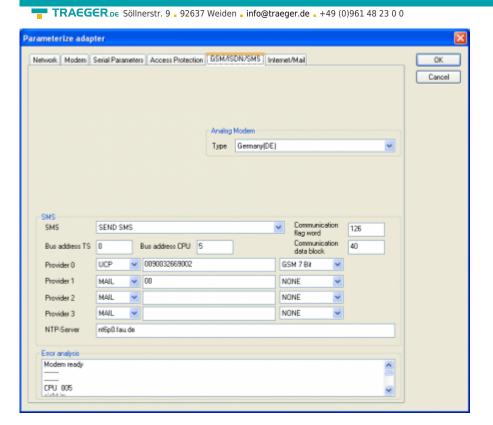




Parameterize adapter	X
Network Modern Serial Parameters Access Protection GSM/ISDN/SMS Internet/Mail GSM PIN Provider Automatic (Vodefone.de) Retresh not registered: bad (05 BER 00)	OK Cancel

PIN	PIN number of the SIM card, up to eight numeric characters (only for TELE-SERVICE GSM).
Provider	Manual: The Provider is selected manually from the GSM-Modem no network registered: No connection to the GSM-network, the receive-quality is too bad set format: The format of the provider is set Manual/automatic: The modem tries to select manually the provider, if this fails an automatic search is done
	unknown: Unknown response from GSM-Modem
Refresh	The button "Refresh" reads the signal strength from the modem, the quality is displayed. Display Description: Unknown: Unknown state of the GSM-network no registration: The modem is not registered in the GSM network, no provider found registration denied: Registration in the GSM-network is denied Search network: In Search for a GSM-Provider GSM: Attached to GSM GSM(ROAMING): Attached to GSM, but with a Roaming-Partner. This could lead to high costs! The radio quality is displayed, together with the bit-error-rate. Value Description: 99 No network, no receive 00 Very, very bad receive-quality 01 Very bad receive-quality 02 to 09 Bad receive-quality 10 to 17 Medium receive-quality 18 to 25 Normal receive-quality 26 to 30 Good receive-quality 31 Best receive-quality

Information about the rest of the Index GSM/ISDN/SMS:



SMS:

SMS	Switches: NO SEND SMS RECEIVE SMS SEND+RECEIVE SMS DMTF CONFIRMATION SEND SMS+DTMF CONFIRMATION RECEIVE SMS+DTMF CONFIRMATION SEND+RECEIVE+DTMF CONFIRMATION SEND MAIL SEND MAIL+SEND SMS SEND MAIL+RECEIVE SMS SEND MAIL+SEND+RECEIVE SMS SEND MAIL+DTMF CONFIRMATION SEND MAIL+SEND SMS+DTMF CONFIRMATION SEND MAIL+RECEIVE SMS+DTMF QUITTUNG SEND MAIL+SEND+RECEIVE+DTMF CONFIRMATION Attention : before setting ON check configuration, after activating the device will go on the MPI bus and tries to connect to the defined PLC. Receive of SMS only with TELEService-GSM Receive of DTMF only with TELEService GSM
Bus address TS	local station address (should not be used twice in the MPI/Profibus!)
Bus address CPU	from this station address the flag word and data block is accessed for communication
Communication flag word	communication-flagword (the first byte is the command, the second is the state). Use even operand-addresses.
Communication data block	Address of the CPU in the Bus
Provider 0/1/2/3	Configure the SMS-Provider to use, including type, phone-number and char- code. First Input: Choose a type of the transmission. Second Input: Telephone number or email address. Third Input: Choose a character encoding.
NTP-Server	Input for an Network Time Protocol - Server
Error analysis	•

Error analysis:

The possible error conditions for the modem, mpi bus problems or other problems are displayed in this text-field.

First the modem-related information is shown:

Message

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INDUSTRY COMPONENTS



- Modem ready
- Modem error
- No answer from modem
- Modem detects ring
- End of connection
- connected via modem line
- No dialtone detected
- Phone-line or telephone busy
- Phone-number is blacklisted in modem
- Phone-number delayed
- Access denied for 1 minute
- Fax-call detected
- Data-call detected
- unknown error
- The selected direct-access-number not configured
- The configured PIN-Number is wrong for the inserted SIM-Card
- The SIM-Card is not or wrong inserted or the SIM-Card is a 5V Type

Possible MPI-Bus error-messages

- MPI/Profibus-Configuration erroneous
- Timeout at MPI/Profibus detach from device
- The local station-address is used twice in the MPI/Profibus
- A20/M20/TC35 Modem operation
- The MPI/Profibus is not correctly configured
- The HSA is not configured optimal
- The MPI/Profibus-Baudrate is not detectable
- Overflow in the internal MPI-Readbuffer
- Overflow in the internal LAN-Readbuffer
- Overflow in the serial Buffer
- The selected MPI/Profibus-Baudrate is wrong
- Overflow in internal LAN-Writebuffer
- LAN-Receive-Error
- LAN-Send-Error
- The PD-Number is wrong
- The transferred SAP is wrong/unknown
- ErrCode 01: The Destination address (XXX) of a State protocol > 127 detected. In the MPI/Profibus-Bus there are no stations possible which station number is greater than 127. (FC=YYh)
- ErrCode 02: At state-protocol the Source-Address is detected as 127. This is the Broadcast-address which is not possible.
- ErrCode 03: The received State protocols destination address (XXX respectively YYY) does not exist in the MPI-Bus. (FC=ZZh)
- ErrCode 04: The function-code (YYh) of the received State protocol from XXX is incorrect. The 7th Bit is High, but according to the specification the Bit has to be low.
- ErrCode 05: A State protocol has been received. But the function-code (YYh) means that the participant is not ready to enter the bus.
- ErrCode 06: The function-code in the State-protocol received from XXX is unknown (FC=YYh)
- ErrCode 11: The sender (XXX) of the received data-protocol is unknown. To send data the participant must get the Token. (SSAP=YYh, FC=ZZh, length=UUU)
- ErrCode 12: Data-protocol with Source-address 255 (Broadcast) is useless. (CPU=XXX, SSAP=YYh,



FC=ZZh, length=UUU)

- ErrCode 13: The sender (XXX) of the received data-protocol is unknown. To send data the participant must get the Token. (SSAP=YYh, FC=ZZh, length=UUU)
- ErrCode 14: The 7th Bit of the function-code is High, but according to the specification the Bit has to be low. (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
- ErrCode 15: The upper 4 Bit of the Function-code are wrong/unknown) (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
- ErrCode 16: Unknown function-code has been transmitted to the cable. (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
- ErrCode 17: Destination-SAP are defined till 3Fh in data-protocols. (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
- ErrCode 18: Source-SAP are defined till 3Fh in data-protocols. (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
- ErrCode 19: Received a data-protocol with destination-SAP=0, Connection request from another busparticipant with our cable. (CPU=XXX,SSAP=YYh,FC=ZZh,DSAP=UUh)
- ErrCode 1A: Participants are sending data to our cable with source-SAP = 0, which means that the participant has not made a connection establishment or has lost the negotiated SAP. (CPU=XXX,SSAP=YYh,FC=ZZh,DSAP=UUh)
- ErrCode 1B: Data-protocol with unknown data-function-code received. (CPU=XXX,SSAP=YYh,FC=ZZh,DFC=UUh)
- ErrCode 1C: Data-protocol with unknown data-function-code received. (CPU=XXX,SSAP=YYh,FC=ZZh,DFC=UUh)
- ErrCode 1D: Received a state-protocol with error-code. (CPU=XXX,FPGA=YYh,RAM=ZZh)
- ErrCode 1E: FPGA has caused an interrupt although no data present. (SD1=XXh,SD1=YYh,CPU=ZZZ,FC=UUh)
- ErrCode 20: Unknown protocol at PPIMultimaster-Mode. (FC=XXh,Length=YYY)
- ErrCode 21: Unknown baud-rate at PPIMultimaster-Mode. (Baudrate=XXh)

After that additional hints are displayed.

7.5.6 Index "Internet/Mail":

Parameterize adapter	
Network Modern Serial Parameters Access Protection GSM/ISDN/SMS Internet/Mail Internet access over PPP Username	OK Cancel

The internet connection is configured by PPP, often a username and password is needed. Define them in "Internet access over PPP".

Attention: This is NOT the username and password of your E-Mail-account!

In the next section "Mail" the E-Mail-account is defined:

Internet access over PPP:

Username Username for the Internet access
Password Userpassword for the Internet access



Mail:

Server	
Mail from	Source-E-Mail-Address (should be from the same Free-mailer, instead a delivery is often not possible)
	Name of the User-account (often the E-Mail-address or Customer-number)
Password	Password for the E-Mail-Account

7.6 Tuning

This menu is only used in some special cases.

Select the device and click the button **"Tuning"** and after that the following dialog is displayed:

Tuning	X
Delay before send 0 HMI-Cable version A20-Terminal Show ErrCode messages in dis	OK Cancel
 Boot settings Detect automatically MPI PPI (direct) PPIMultimaster (Modem) 	Modem bereit kein MPI 2 als TS CPU 005 nicht im MPI-BUS
 German English S5 on MPI mode off send reset to cable 	 Paritäts fehler Baudrate 6MBaud falsch

The following configuration is possible, it will be transferred to the Cable by pressing the button "OK". The configuration is saved permanently in the Flash-ROM:

Delay before send	At ProTool RT the communication could break down, because the MPI-Cable is transferring the answer-protocol to fast. In this case you could insert a time in 0.1ms ticks. Insert at first 300, to great values are preventing the communication.
-------------------	--



	Some Touch-panels has the problem, that when they get a wrong version- information they never retry to connect (and then the correct version is transferred). In this case the HMI-version-information could be transferred immediately.
A20-Terminal	
Show ErrCode messages in display	Shows error messages on the display of the connected device

Boot settings:

Normally the MPI-Cable automatically selects the correct bus type, no changes are needed. In specialcases the MPI-Bus could be selected as PPI.

For example: This application and the PLC are powered on at the same time. The application is communicating immediately with the cable, the PLC is booting, in this case the MPI-Bus is not running. The MPI-Bus is erroneous, so no communication is starting. If this occurs you could choose, that the cable is working as MPI-Adapter only.

Language:

You could select the language which is used on the cable (German or English).

S5 on MPI mode off:

Deactivates temporary the "S5 on MPI" function, the cable doesn't poll the bus anymore.

send reset to cable:

Send reset to cable.

Console:

Shows some information about the status of the connection.

7.7 Factory defaults

This button sets the configuration of the selected device to factory defaults.

7.8 PPI Boot off

In PPI boot mode S7IFC cannot communicate with the cable. To disable the PPI boot mode, click on the button PPI Boot off. In the following dialog you must select the serial port where the cable is connected:



Choose serial port	X
Choose serial port	OK Cancel
COM14 COM15 COM16 COM17 COM18 COM19 COM20 COM20 COM21 COM22 COM22 COM23 COM23 COM24 COM25 COM25 COM25 COM26 COM27 COM28 COM29 COM30	

7.9 Emergency-Loader

LAN products running in emergency-loader are automatically found by S7IFC:

2 S7-Int	erface Confi	gurator					
Configuratio	on						i
Search	✓ Serial ✓ USB ✓ LAN	Search	Update Parameterize		ootstrap Factory defau ency-Loader Tuning		Exit
	Ту	ре	Name	Access	Serial No.	Version	Disc
S.	unknowi	n device		unknown		0.00	0.00

After a click on **Emergency**-

Loader the following dialog appears:



loader tries to run the main program of the firmware.

On a click on **No** the emergency-loader tries to rewrite the complete firmware.

8 MPI cable manager

8.1 Description

The MPI cable manager allows you to install an update in your cables and modules and configure them.

The MPI cable manager can be used for the following products:

- MPI-LAN cable- Art. ID. 9352-LAN
- S7-LAN module- Art. ID. 9352-LANCon
- MPI-USB cable- Art. ID. 9352-USB
- S7-USB module- Art. ID. 9352-S7-USB
- MPI-II cable (USB operation) Art. ID. 9352 + 9352.1
- MPI/PPI cable- Art. ID. 9350
- Tele-Service Art. ID. 9377-(ANALOG/ISDN/GSM)-OP
- MPI/PPI-profibusmodem Art. ID. 9379-(G)-OP

8.2 Installation

1. Download the MPI-Kabelmanager from the product-page of your MPI-product and start the installation.



Zielpfad wählen	
	Setup wird MPI-Kabel Manager in folgendem Ordner installieren. Klicken Sie auf Weiter zur Installation in diesem Ordner, auf Durchsuchen zur Auswahl eines anderen Ordners. Wählen Sie Abbrechen, um Setup zu beenden, wenn MPI-Kabel Manager nicht installiert werden soll.
	Zielordner C:\Programme\PI\MPI-Kabel Manager Durchsuchen
	<zurück weiter=""> Abbrechen</zurück>

2.Following the Language selection the installation starts and a welcome-screen is displayed. Next click onto the button "Next". To change the installation path, click on "Browse". Then click "Continue".

Programmordner ausv	vählen 🛛 🔀
	Setup fügt den unten aufgeführten Programmordnern neue Symbole hinzu. Sie können einen neuen Ordnernamen eingeben oder einen vorhandenen Ordner aus der Liste auswählen. Wählen Sie Weiter, um den Vorgang fortzusetzen. Programmordner: MPI-Kabel Manager Vorhandene Ordner: Autostart AVG 8.5 Catalyst Control Center Dreamweaver 2 EAGLE Layout Editor Macromedia Microsoft Nachschlagewerke Microsoft Office Tools
	< Zurück Weiter > Abbrechen

3. Select in this dialog the program folder for the MPI cable manager startup items. Then click "Continue".



4. Wait for the installation of the files. 5. End the installation after a successful copy of data with "Finish".

8.3 Overview

8.3.1 Language

hnitstelle Update Teleservice Sprache Tuning	Beenden
Bitte wählen Sie die Sprache aus Please select the desired language	Direkt
Sprache/Language	Direkt
🗮 🕫 Deutsch / German	?
C Englisch / Englisch	
Das MPI-II-Kabel (Art.Nr: 9352) muß zum Update	
am PC am SERIELLEN COM-Port angeschloßen werden.	
Ab V1.26 kann das MPI-II Kabel auch über den virtuellen COM-Port (USB) upgedatet werden.	
Es kann an einer S7-200, S7-300 und S7-400 oder	
mit externer Einspeisung von 24V DC betrieben werden.	
Das MPI/PPI - Kabel (Art.Nr: 9350) wird ebenfalls Seriell am PC angeschloßen.	
Ab Version V1.70 kann dieses Kabel zusätzlich zu S7-300/400	
an einer S7-200 oder mittels Netzadapter (Art.Nr: 9350-4) upgedatet werden.	
Das MPI-MODEM (Art.Nr: 9379) muß zum Update	
am PC am SERIELLEN COM-Port angeschloßen werden.	
Das MPI-USB Kabel (Art.Nr: 9352-USB) ist über den virtuellen COM-Port (USB) updatebar.	
Das S7/MPI-LAN Kabel (Art.Nr: 9352-LAN) ist über den virtuellen COM-Port (LAN) updatebar.	
Unter Schnittstellen die CDM-Schnittstelle und Baudrate einstellen.	
Unter Update dann Button Versions-Check drücken Danach Button Update drücken	

starting the application the tab Language is displayed at first:



In this Dialog you could choose the used language in the application.

You could choose between German and English and confirm by clicking on the desired language.

8.3.2 Interface

IPI Kabel Manager			 	
2				
vierface	eleservice Langua	oe)		Egit
		Search		2
selected Interface:				
Baudrate	19.2kBaud	•		
сом1				
СОМ2				
COM3				
COM4				
COM5 COM6				
COM6 COM7				
COM8				
COM9				
COM10				
СОМ11				
COM12 COM13				
COM13				
COM14 COM14 COM14 COM15				
COM16				
				and an external
				100 mar 1077
		S. Harrison and State		

In "set interface" you can choose the COM-port you device is connected at. Only the COM-port which was aktive at starting the MPI-Kabel-Manager are shown.

",Search" update the COM-port listed in "set interface" and put the Kabelmanager to the respective COMport.

Zugriff		
direktar üb	den MPI/PPI/HMI/TS n eine COM-Schnittstell er ein TELE-NETWOR am PC angeschloßen?	e oder
	MODEM	
DIREKT	TELE-NETWORK	Abbruch

For access query choose "Direct" if your product connects via USB-cable or Nullmodem-cable. "Modem" if your product connects via telephone line or "TELE-Network" if your product connects with a TELE-Network device via telephone line. The bars below shows at which COM-port something was found or not.

8.3.3 Update

face Londer V1.53 V1.53 V1.53 V1.53 V1.53 V1.53 V1.53 Londer Inster loader Inster loader Inster main application Iting main application		
Update VII.53 check version check version set of the mpi-cable check version refer special-loader check version sting special-loader check version refer loader check version refer main application check version	face Update Ieleservice Language	E <u>x</u> it
nsfer special-loader Iting special-loader Insfer loader Iting loader Insfer main application	V1.57 Update V1.59	2
iting special-loader nsfer loader iting loader nsfer main application	set of the mpi-cable	
nsfer loader Iting loader Insfer main application	nsfer special-loader	
iting loader nofer main application	Ring special-loader	
nsfer main application	nsfer loader	
	ting loader	
tting main application	nofer main application	
	tting main application	

The diskette show the current operating system installed on your PC for corresponding product.

The cabel-symbol on the right show the operating system which is installed on your product at the moment.

With the button "default settings" you can set your products on default settings. Should the device be out of order after configurated. This button is selectable after the version check.

With "Update" you can install the current operating system. This button also is selectable after version check.

With "version check" your cable which is connected to the COM-Port reviewed.

The symbol next to version check shows the running update.

While update do not plug out the cable from the PLC or turn off the power supply (The cable will lost all data)!

If the update is breaking before finished, it could be that the MPI-Cable displays in the first line of the LCD "Load 1.50" and in the second line "CheckUpd". Close the MPI-Cable-Manger and restart it. After "check version" (which could time about 30 seconds) and following "Update" the broken update is restarted and finished.

8.3.4 Teleservice

In this dialog the spezific configuration of the Tele-Service is taken. There are 3 Tabs, where the last one is activated:

ER.DE

Edit 2	
face Update Ieleservice Language	Eyit
elephone Book Connection Extra	2
Name	
Street	
ZIP-Code / City	
Telephone	

8.3.4.1 Telephone book

At the moment not implemented!

In this dialog you could define new elements or edit/erase existing elements in your telephone-book.

You could edit the following data:

 \Rightarrow Name for the connection (these are displayed at connection)

⇒ street

 \Rightarrow ZIP-code and country

 \Rightarrow Telephone number you can reach the TS-adapter

8.3.4.2 Connect

At the moment not implemented!

In this dialog the connection to another modem with a MPI-cable connected is started. Choose on the right side the named connection, then press "connect" to establish it.

With "Hang-Up" you could stop an existing connection.

With the button "State" the state of the connection is displayed at the lower side of the dialog.

8.3.4.3 Extra

ERDE

Kabel Manager di - <u>2</u>	
ace Update Ieleservice L <u>a</u> nguage	Eyit
elephone Book Connection Extra	2
Diel Verbindung 1	
Eenalde	
State	

In this dialog, all configuration to the TS-adapter is done.

The actual state of the MPI-cable is displayed right of the button "TS-function", where the follwing 4 possible Messages could apear:

"TS-Adapterfunction is NOT activ. To activate press TS-function"

The MPI-cable acts like an PC-Adapter. There will no answer for TS-spezific protocols, the attached modem will not initialized and the baud-rate to the PG/Modem is not fixed. The baud-rate is detected automatically.

"TS-Adapterfunktion is ACTIVE. To disable press TS-function"

The MPI-cable acts like an TS-Adapter. There will an answer to TS-spezific protocols, the adapter could now configured. An attached Modem will be initiliazed and the baud-rate to the modem is fixed.

"SNDERR" or "RCVERR"

There is a communication error at sending or recieving data from the mpi-cable. Disconnect the MPI-cable from the power supply (PLC). Change to the tab Connect and after that back to Extra. If the problem remains, check the connection to the MPI-cable, especially the COM-port in the dialog interface.

With the buttons you could define which modem is used, activate or disable the TS-function or configure the TS-adapter:

8.3.4.3.1 "Setup"

In the follwing dialog you could choose the used modem.

afigurations			×
Modem			OK)
Modems:		2	Cancel
	<u>Properties</u>		
Position:		x	
	Dial-Up Parameters		
ime-Out			
QVZ / Chars		Y	

8.3.4.3.2 "TS-function"

With this button you select the function of the MPI-cable as TS- or PC-adapter. Right of this button the actual state of the MPI-cable is displayed.

8.3.4.3.3 "configure adapter"

In the following dialog you could, after activating the MPI-cable as TS-adapter, configure the TS-spezific setup.

Network

z Modem Serielle Parameter Zugr	ilfsschutz GSI	M/ISDN/	SMS Internet/Ma	al	OK
Stationsbezogen					Abbreck
F PG/PC ist einziger Master					
Adresse:	0				
	-				
Netzbezogen	Law .				
Netztyp:	MPI	-	Profit MPT	<u> </u>	
Übertragungsgeschwindigkeit:	Automatik	•	Tslot	415	
aktuelle Übertragungsgeschwindigkeit:	Automatik.	¥	min Tødr	20	
112.1.2.7.3.1	126	-	max Tsdr	60	
Höchste Teilnehmeradresse:	1.40		Tset	12	
			Tqui	0	
			GAP	20	
			Retry Limit	5	

station related:

Here you can configure following:

The TS-Adapter is the one and only master in the MPI-bus

Which local station-address is used for the TS-Adapter. Please consider that a programming device has normally the number 0, operator panel have 1, PLC's use 2, FM/CP's 3 etc.

Please: Never use the same station-number for 2 different stations!

network related:

Here you can configure following:

The Nettype MPI or PROFIBUS

The transfer-speed on the MPI-bus

The highest station-address in the bus (the less you use, the more performance on the MPI-bus, must be corresponding with the configuration in the PLC's)

Modem

z Modem Serielle Pa	rameter Zugriffsschutz GSM/ISDN/SMS Internet/Mail	OK
		Abbreche
Modemeinstellungen Initialisierung:		
AT&FEOL1M1Q0V1&C1S	0=1	-
Abwahl		
+++ATH		-
Standort		
Wählverfahren:	MFV (Tonwahl)	
	C IWV (Pulswahl)	
Amtskennzahl		
Rufeinstellungen		
Vor dem Wählen auf	Freizeichen warten	
Anzahl Wahlwiederholun	Non 10	
Wahlwiederholung nach	60 Sek.	

In this dialog you could configure the modem-related setup.

The Init-String is composed out of several commands to the modem:

- AT \Rightarrow start command
- &F \Rightarrow use factory settings
- $E0 \Rightarrow Echo off$
- $L1 \Rightarrow$ loudness of speaker is low
- $\text{M1}\Rightarrow\text{speaker}$ is on at connection
- $Q0 \Rightarrow$ output of the return values
- $V1 \Rightarrow$ return values plain text
- &C1 \Rightarrow DCD shows status of the carriersound
- $S0=1 \Rightarrow$ automatic connection after 1 ring

The Hang-Up-String is composed of 2 elements:

 $+++ \Rightarrow$ Change to command-mode

 $AT \Rightarrow start command$

 $H \Rightarrow$ Hand-Up connection

There are 2 possible calling technics:

MFV tone, the telphone-number is transfer by several frequencies

IWV pulse, the telephone-number is transferred with the count of several pulses on the line

When you must a pre-call to establish a call outside your company, you could define it at Official number.

When the modem should wait for a free line, so you should set the corresponding checkbox.

At number of retries you could configure the number of retries for a connection before the call is stopped.

When using a retry you could choose the seconds which the application should wait between calls.

Serial parameter

AEGER DE

	Zugriffsschutz GSM/ISDN/SMS Internet/Mail	ОК
Verbindungseinstellungen		Abbreche
Übertragungsgeschwindigkeit	115.2kBaud	
Datenbits: Parität:	8	
r anat:	keine 💌	
Stopbits:	1	

In this dialog the transfer-rate between modem and TS-Adapter is selected. The transfer-rate could choosen between the follwing values: 2400, 4800, 9600, 19.2k, 38.4k, 57.6k and 115.2kBaud

The Parity could be chosen, but this is modem-dependant because some modems could not transfer the parity-bit:

None: (There is no parity testing) Odd: (The number of one-bits are odd) Even: (The number of one-bits are even)

Password

dapter parametrieren			×
Netz Modem] Serielle Parameter	Zugriffsschutz	GSM/ISDN/SMS Internet/Mail	ОК
Administrator ADMIN	Kennwort	Buénummer	Abbrechen
Benutzer	Kennwort	Rufnummer	_
, 			-



The Access over a telephone-line on the PLC could be configured in this dialog.

The Administrator could change the configuration over a telephone line, where an 2 User could not change the configuration.

The User-Name is maximal 8 Chars long. Every user and the administrator could use a password which is used to log into the PLC over a telephone-line. These have to enter for each new call.

After 3 wrong retries the connection is hanged up, so you must call again (Not so with an original TSadapter).

After changing the password for one user/administrator you must re-type it again correctly before it is used.

In call-back-number you could define a telephone-number which is used for call-back from the TS-adapter. After you connect with the TS-adapter, you are asked for your user-name and password. When the correct password and user-name is transfered, the connection is hanged-up and the TS-adapter is calling back this configured call-back-number.

GSM/ISDN/SMS

Analog modem:

etz Modem Serie	lle Parameter Zug	niffsschutz GSM/IS	SDN/SMS Inter	net/Mail		OK Abbreche
			Analog Mode Typ Deu	m tschland(DE)	2	3
Fehlerauswertung Modem bereit						•
SMS		▼ TS 0	CPU 255	MW 254	DB 65535	
		2120	0 0 230	1.1.1	10 million 100 million	
SMS	MAIL 💌	100	KEII	Sources and a second second	J '	
SMS SMS NEIN	MAIL 💌		and the second second	4		
SMS SMS NEIN Dienstanbieter 1		- olo	KEII	4	J '	
SMS SMS NEIN Dienstanbieter 1 Dienstanbieter 2	MAIL		KEII	4 . 4 .		

You could choose the Location of the Modem.

ISDN modem:

pter parametrier	en					
etz Madem Serie	lle Parameter Zug	nilfsschutz GSM/ISDN	/SMS Internet/Mail			OK Abbrech
ISDN						
Тур	EuroISDN NET3					
Protokoli	×.75	•				
DN/MSN	-					
Fehlerausweitung Modem bereit Des bitter SMS					< .	
SMS NEIN		• TS 0	CPU 255 MW 25	4 DB 6	5535	
Dienstanbieter 1	MAIL 💌		KEIN	•		
Dienstanbieter 2	MAIL 💌		KEIN	•		
Dienstanbieter 3	MAIL -		KEIN	•		
Dienstanbieter 4	MAIL +		KEIN	•		
				the family of the		

Type: Choose the type of the ISDN-network switch:

AT&T 5ESS Nothern Telecom DMS-100 EuroISDN NET3 (Standard) INS64 US NI-1 VN4

Protocol: Choose the transfer-protocol-type:

Modem like V.120 X.75 (Standard) ML-PPP SoftBonding HDLC CLEAR

DN/MSN: Directory Number resp. Multiple Subscriber Number Is used for both ISDN-channels. When using the number 255 no DN/MSN is used.

GSM modem:

	en					×
tz Modem Serie	lle Parameter Zug	griffsschutz GSM/I	SDN/SMS Inte	emet/Mail		OK
GSM PIN			Refresh	ht registriert: KE	IN EMPFANG	Abbrechen
			GPRS APN Server APN Userna eplus			
Fehlerauswertung – Modern bereit					, ,	
Darbiba		• TS 0	CPU 255	MW 254	DB 65535	
SMS NEIN				IN .	-	
SMS	MAIL		1.00			
SMS SMS NEIN	MAIL V		KE		•	
SMS SMS NEIN Dienstanbieter 1				IN	•	
SMS SMS NEIN Dienstanbieter 1 Dienstanbieter 2	MAIL		KE	IN IN		

PIN: PIN-Number of the SIM-Card, up to 8 numeric chars, (only for TELE-SERVICE GSM).

Provider: With the button "Provider" the provider could be choosen. Reading of the list of providers could be elapse more than a minute. At end the possible provider are listed for selection. With "Automatic" the GSM-Modem tries to connect automatically to a provider. On the right side of the button, the actual used selection is displayed.

Display Description:

Automatic: The provider is automatically searched and selected from the GSM-modem.

Manual: The Provider is selected manually from the GSM-Modem

no network registered: No connection to the GSM-network, the receive-quality is too bad

set format: The format of the provider is set

Manual/automatic: The modem tries to select manually the provider, if this fails an automatic search is done

unknown: Unknown response from GSM-Modem

Refresh:

The button "Refresh" reads from the Modem the receive quality, the quality is displayed.

Display Description: Unknown: Unknown state of the GSM-network no registration: The modem is not registered in the GSM network, no provider found registration denied: Registration in the GSM-network is denied Search network: In Search for a GSM-Provider GSM: Attached to GSM GSM(ROAMING): Attached to GSM, but with a Roaming-Partner. This could lead to high costs!

The Receive Quality is displayed, also as value together with the bit-error-rate.

Value Description:

99 No network, no receive

FRAEGER.DE



00 Very, very bad receive-quality

01 Very bad receive-quality

02 to 09 Bad receive-quality

10 to 17 Medium receive-quality

18 to 25 Normal receive-quality

26 to 30 Good receive-quality

31 Best receive-quality

Messages:

The possible error conditions for the modem, mpi-bus-problems or other problems are displayed in this text-field. Firstly, the modem-related information is shown:

Message

- Modem ready
- Modem error
- No answer from modem
- Modem detects ring
- End of connection
- connected via modem line
- No dialtone detected
- Phone-line or telephone busy
- Phone-number is blacklisted in modem
- Phone-number delayed. Access denied for 1 minute.
- Fax-call detected
- Data-call detected
- unknown error
- The selected direct-access-number not configured
- The configured PIN-Number is wrong for the inserted SIM-Card
- The SIM-Card is not or wrong inserted or the SIM-Card is a 5V Type

Following the possible MPI-Bus error-messages

Message

- MPI/Profibus-Configuration erroneous
- Timeout at MPI/Profibus detach from device.
- The local station-address is used twice in the MPI/Profibus.
- A20/M20/TC35 Modem operation
- The MPI/Profibus is not correctly configured
- The HSA is not configured optimal
- The MPI/Profibus-Baudrate is not detectable
- Overflow in the internal MPI-Readbuffer
- Overflow in the internal LAN-Readbuffer
- Overflow in the serial Buffer
- The selected MPI/Profibus-Baudrate is wrong
- Overflow in internal LAN-Writebuffer
- LAN-Receive-Error
- LAN-Send-Error
- The PD-Number is wrong
- The transferred SAP is wrong/unknown
- ErrCode 01: The Destination address (XXX) of a State protocol > 127 detected. In the MPI/Profibus-

Bus there are no stations possible which station number is greater than 127. (FC=YYh)

- ErrCode 02: At state-protocol the Source-Address is detected as 127. This is the Broadcast-address which is not possible.
- ErrCode 03: The received State protocols destination address (XXX respectively YYY) does not exist in the MPI-Bus. (FC=ZZh)
- ErrCode 04: The function-code (YYh) of the received State protocol from XXX is incorrect. The 7th Bit is High, but according to the specification the Bit has to be low.
- ErrCode 05: A State protocol has been received. But the function-code (YYh) means that the participant is not ready to enter the bus.
- ErrCode 06: The function-code in the State-protocol received from XXX is unknown (FC=YYh)
- ErrCode 11: The sender (XXX) of the received data-protocol is unknown. To send data the participant must get the Token. (SSAP=YYh, FC=ZZh, length=UUU)
- ErrCode 12: Data-protocol with Source-address 255 (Broadcast) is useless. (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
- ErrCode 13: The sender (XXX) of the received data-protocol is unknown. To send data the participant must get the Token. (SSAP=YYh, FC=ZZh, length=UUU)
- ErrCode 14: The 7th Bit of the function-code is High, but according to the specification the Bit has to be low. (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
- ErrCode 15: The upper 4 Bit of the Function-code are wrong/unknown) (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
- ErrCode 16: Unknown function-code has been transmitted to the cable. (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
- ErrCode 17: Destination-SAP are defined till 3Fh in data-protocols. (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
- ErrCode 18: Source-SAP are defined till 3Fh in data-protocols. (CPU=XXX, SSAP=YYh, FC=ZZh, length=UUU)
- ErrCode 19: Received a data-protocol with destination-SAP=0, Connection request from another busparticipant with our cable. (CPU=XXX,SSAP=YYh,FC=ZZh,DSAP=UUh)
- ErrCode 1A: Participants are sending data to our cable with source-SAP = 0, which means that the participant has not made a connection establishment or has lost the negotiated SAP. (CPU=XXX,SSAP=YYh,FC=ZZh,DSAP=UUh)
- ErrCode 1B: Data-protocol with unknown data-function-code received. (CPU=XXX,SSAP=YYh,FC=ZZh,DFC=UUh)
- ErrCode 1C Data-protocol with unknown data-function-code received. (CPU=XXX,SSAP=YYh,FC=ZZh,DFC=UUh)
- ErrCode 1D: Received a state-protocol with error-code. (CPU=XXX,FPGA=YYh,RAM=ZZh)
- ErrCode 1E: FPGA has caused an interrupt although no data present. (SD1=XXh,SD1=YYh,CPU=ZZZ,FC=UUh)
- ErrCode 20: Unknown protocol at PPIMultimaster-Mode. (FC=XXh,Länge=YYY)
- ErrCode 21: Unknown baud-rate at PPIMultimaster-Mode. (Baudrate=XXh) After that additional hints are displayed.

SMS:

SMS: Switches Processing OFF / Only Receive / Only Send / Receive and Send.

Attention: before setting ON check configuration, after activating the device will go into the MPI-BUS and tries to connect to the defined PLC. Receive of SMS only with TELESERVICE-GSM Receive of DTMF only with with TELESERVICE GSM

TS: local station-address (should not be used twice in the MPI/Profibus!)



PLC: from this station-address the Flagword and Data-block is accessed for communication

MW: communication-flagword (the first byte is the command, the second is the state). Use even operandaddresses.

DB: communication-data-block.

Provider 1/2/3/4: Configure the SMS-Provider to use, including type, phone-number and char-code.

Internet/Mail

etz Modem Seriel	le Parameter Zugriffsschutz	GSM/ISDN/SMS Internet/Mail	OK
Internetzugang per P	PP		Abbrech
Benutzername			
Passwort			
Mail			
Server			
Mail von			
Benutzername			
Passwort			

8.3.4.3.4 "Import parameter"

With this button you could import the parameter from an ASCII-file. This file is compatible to the original file-format.

8.3.4.3.5 "Export parameter"

With this button you could export the parameter to an ASCII-file which has the same file-format as the original.

8.3.5 Tuning

TRAEGER.p∈ Söllnerstr. 9 . 92637 Weiden . info@traeger.de . +49 (0)961 48 23 0 0	
YPI Kabol Manager V3.29 Schnittstelle Update Teleservice Sprache Tuning SSanMPI Mode AUS ende Reset an Kabel PPI-800T aus S7-200 PPI 9K6 S7-200 PPI 9K2 S7-200 PPI Multimaster S7 300/400 MPI Sonder	Beenden Direkt ?

This tab is only used in some special cases. If you press the button "Check Adapter" the cable is connected und after that the following dialog is displayed:

ichnittstelle Update Teleservice Sprache Tuning			Beender
Wartezeit bis Senden 0 F HMI-Kabel Version A20-Terminal	Booteinstellung Automatisch Erkennen MPI PPI (drekt)	Übeitragen	Direkt
S5anMPI Mode AUS HWConfig sende Reset an Kabel PPI-800T aus	PPIMultimaster (Modern)		
	ErrCode-Meldungen im Display anzeigen Sprachauswahl @ Deutsch @ English	kein Fehler angezeigt kein MPI 2 als TS	
		J	

There are the following configuration possible, they will be transferred to the MPI-Cable by pressing the button "Transfer". The configuration is saved permanently in the Flash-ROM:



Time to send:

At ProTool RT the communication could break down, because the MPI-Cable is transferring the answerprotocol to fast. In this property you could insert a time in 0.1ms ticks. Insert at first 300, to great values are preventing the communication.

HMI-Cable-Version:

Some Touch-panels have the problem, that when they get a wrong version-information they never retry to connect (and then the correct version is transferred). In this case the HMI-version-information could be transferred immediately.

A20-Terminal:

When using the A20 or M20-Terminal, the control-lines on the serial port are not used. In that case the tele-service-function is not working. With this property the control-lines are no longer used and therefore the A20/M20 can communicate over tele-service.

Bootconfiguration:

Normally the MPI-Cable automatically selects the correct bus-type, no changes are needed. In specialcases the MPI-Bus could be selected as PPI.

For example: This application and the PLC are powered on at the same time. The application is communicating immediately with the cable, the PLC is booting, in this case the MPI-Bus is not driven. The MPI-Bus is erroneous, so no communication is starting.

If this occurs you could choose, that the cable is working as MPI-Adapter only..

Language:

You could select the language which is used from the cable (German or English).

9 PLC-VCOM

9.1 Description

It creates a new, virtual com-port in your system, with which the programming software of your PC (such a. PG 2000, Step 5/7, S5/S7 for Windows, WinCC, Microwin) can communicate with the device

The PLC-VCom application is needed for use with the following devices:

- MPI-LAN Cable- Art. No.. 9352-LAN
- S7-LAN Modul Art. No.. 9352-LANCon
- MPI-USB Cable- Art. No.. 9352-USB
- S7-USB Modul Art. No.. 9352-S7-USB
- MPI-II Cable (USB mode) Art. No.. 9352 + 9352.1
- S5-LAN Modul Art. No.. 9359-LAN
- Tele-Service (as programming adapter) Art. No.. 9377-(ANALOG/ISDN/GSM)-OP

By installing the PLC-VCOM adiconalmente were installed the **S5-LAN** and the **MPI-LAN**. Both offer the possibility to manage the network configuration of your products



9.2 Installation

1. Download the PLCVCom from the product-page of your MPI-product and start the installation.



2. After choosing language the welcome dialog appears in the chosen language. Click "Next" to define the installation path (see right picture). This can be done with a click "Browse..." If you are ready press "Next" to go on.



3. In the next dialog you can choose the program folder for your start menu. Go on with "Next".

9.2.1 USB driver installation using Windows NT/2000/XP

This part of the description is for the operating systems Windows NT/2000/XP.If you are using Windows 98SE or ME please read the description "Final configuration of the PLC-VCOM".

4. This driver is only required for USB devices such as MPI-USB/MPI-II/S7-USB.

Connect this your MPI-USB cable to your computer.

Frage - Q	uestion		×
?	Do you want to install the USB driver? The MPI-USB cable has to be plugged in.		
	<u>]a</u>	Nein	

5. "Yes" to start the driver installation. "No" to skip the driver installation and go directly to the" Final configuration of the PLC-VCOM".





6. On Windows XP this dialog appears while installation (see left picture). It is the "Windows Driver Qualifying Question". Press "continue installation" to go on.



7. After the driver has been installed, please disconnect your MPI-USB Cable and than connect it again. This loads the new installed driver. "OK" to go on.

9.2.2 Final configuration of the PLC-VCOM



8. Choosing the COM – Port Already occupied COM port can be viewed in Windows Device Manager if you are not sure which COM ports are still available.

If you are not sure which port is unused, press "OK". Later you can start this dialog again by clicking in the application folder of your start menu on "SelectCOM".



9. The installation ends with a click on "OK".

9.2.3 USB driver installation using Windows 98SE/ME)

After you have finished the installation of the PLC – VCom software (Step 9 and 10) you now have to install an USB driver. Therefore the software PLC – VCom must be installed. Otherwise the needed driver file is not available.

This driver is only required for USB devices such as MPI-USB/MPI-II/S7-USB.





10. Plug the cable into the USB port of your computer and wait until the automatical hardware recognition starts . Alternative: "Control panel - Hardware".



11. The "hardware assistent" wants you to install the "USB < - > Serial" driver. Click on "Next" to configure the driver search. 12. Choose in the next dialog "Search for the best device driver (recommended)" and click on "Next"..

Hardware-Assistent	
	In der Windows-Treiberdatenbank und in den gewählten Verzeichnissen wird nach neuen Treibern gesucht. Klicken Sie auf "Weiter", um die Suche zu starten. Distgettenlaufwerke CD-ROM-Laufwerk Microsoft Windows Update Geben Sie eine Position arx CMPtogrammeNPLC V.com
	< Zurück Weiter > Abbrechen

13. Activate the checkbox "Set the driver position:" and deactivate all the others. Click on "Choose..." and choose the path where the PLC – VCom software is installed. Confirm your configuration with "OK" and click on "Next".





Assistent für Gerätetreibe	er-Updates
	Die Treiberdatei für folgendes Gerät wird gesucht PIUsb98.Sys Der beste Treiber kann jetzt installiert werden. Klicken Sie auf "Zurück", um einen anderen Treiber zu wählen, oder auf "Weiter", um den Vorgang fortzusetzen. Position des Treibers: C:VPROGRA~1\PLCVCD~1\PIUSB98.INF
	< Zurück Weiter > Abbrechen

14. Now the "Hardware - Assistent" should show a dialog which is equal to the picture below. Click on "Next" to start the installation.

15. After the installation finished successful click on "Ready" to end this installation.

16. The installation is finished successfully after you have restarted you system.

The virtual COM-Port is only view-, select- and accessible when the PLCVCOM is in the "connected" state, that means a cable is present and usable.

9.3 Overview

Beside your watch, in your Windows – Taskbar, appears a new Symbol. This one is for the PLC – VCom software.

It shows the actual connection status with your cable/module MPI-II, MPI-USB, MPI-LAN, S7-USB, S7-LAN or S5-LAN.

9.3.1 Status description:

110	PLC – VCom is connected with your cable/module and operational.
×	PLC – VCom is not connected.
×	The red symbol indicates that sending/receiving data has been failed. Send status: (left field): Data is send to the cable/module if this one is green.
×	Receive status: (right field): Data is received from the cable/module if this one is green.

9.3.2 Main Window

TRAEGER.DE Söllnerstr. 9 92637 Weiden	info@traeger.de	+49 (0)961 48 23 0 0
---------------------------------------	-----------------	----------------------



III PLC-VCom	
Konfiguration	Info
Status S7/MPI-LAN verbunden IP 192.168.1.151 Konfiguri	eren
Name Test KM Rechnerverbindung IP 192.168.001.066 PLCVCOM	
virtueller Port COM3 geöffnet von PG-2000 Programm Beenden Sprache Hilfe Minimier	ren

- **1. Configuration:** Select and open the configuration program for your products.
- \Rightarrow PLC-VCOM: Management, connection and communication with the cables
- \Rightarrow S5-LAN: configuration of your S5-LAN modules
- \Rightarrow MPI/S7-LAN: Configuration of your MPI-LAN or S7LAN
- **2. Info:** information about the PLC-VCOM and your computer.
- **3. Status:** Display the connection parameters of the cable connected.
- \Rightarrow Top left: shows the name of the currently connected product
- \Rightarrow semi-left: shows the connection status
- \Rightarrow half right: shows the IP address of the connecting cable
- \Rightarrow Top right: Click here to search or select a device
- \Rightarrow right middle: name of the connected cable
- \Rightarrow bottom right: displays information about current computer connections
- 4. Virtual Port: Display of selected virtual COM ports and

the program that the last has accessed on this COM port.

5. Program: Buttons to adjust the PLC-VCOM

 \Rightarrow Exit. This button closes the program and the COM – Port

 \Rightarrow Lenguage: Switch the Language to english/german.

 \Rightarrow Help: opens the Help menu of the PLC-VCOM, when they should have problems or questions

 \Rightarrow "Minimize" the dialog. This button does not close the program. It just minimizes the program. You will find the PLC – VCom symbol in the Windows – taskbar beside the watch.

9.3.3 Configuration window

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LAN - IP - VCOM - Zuordnung

Name	LAN - Typ	IP-Adresse	MAC-Adresse	Version	Serien-Nr	Port	Net
Test KM	S7/MPI-LAN	192.168.1.151	00-0B-F4-72-ED-E9	2.09	7532009		0
<			- HII				>
^o Adresse:	192 . 168 . 1 .	151 00:08:F4:	72:ED:E9]		Suc	hen
ber Netz- verkkarte	0:Realtek RTL8168C(P)/8111C(P) PCI-E Gigal	bit Ethernet NIC - Paketj 😒			Пі	lfe
AN-Type:	S7/MPI-LAN	manue 🗌	elle Eingabe	serielle Paus	enzeiten		10
		📃 kein N				0	К
		📃 İnstalla	ation im Gerätemanager			Abbre	

1. List of available cable / modules:

⇒ Linewise display of the products found with your properties

2. IP-Adress:

 \Rightarrow IP address and MAC address of the selected cable / module

3. Via network card:

 \Rightarrow Selection of the used network interface card

4. LAN-Type:

 \Rightarrow Selection of the be connected cable / Module Types

5. Several check boxes:

- \Rightarrow Manual entry: allows you to enter the parameters manually
- \Rightarrow no network: for products which are not in any network

⇒ Installing in the device Manager: Installs the PLC-VCOM COM port in Device Manager

- (required only for S7 for Windows and S7 Doctor software)
- \Rightarrow RFC1006: activation of RFC1006 communication method
- \Rightarrow no network card selection: Passes the routing of packets to the operating system
- \Rightarrow serial interval times: slow down the serial transmission eg panel transfers

6. Search

 \Rightarrow With a click on Search you are sending an broadcast to every cable/module that is connected with your network or your system. Every responding cable/module will be inserted to the list.

7. Help:

 \Rightarrow opens the Help menu of the configuration, if they have problems or questions

8. OK:

 \Rightarrow Ends the PLC-VCOM configuration and accepts the entered / selected settings

9. Cancel:

 \Rightarrow Ends the PLC-VCOM configuration and discards the entered / selected settings



9.4 Configuration

1. Start the PLC – VCom application, if this is not already running.

2. Open the PLC-VCOM by clicking on the icon \blacksquare PLC-VCOM in the system tray.

3. After the PLC-VCOM is open, click in the status area on the "Configure" and the wizard to configure is launched.

9.4.1 S7-USB

LAN - IP - VC	:OM - Zuordnung						
Name	LAN - Typ	IP-Adresse	MAC-Adresse	Version	Serien-Nr	Port	Neta
<							
IP Adresse:	0.0.0	. 0 00:00:00:0	0.00:00			Such	nen
über Netz- werkkarte LAN-Type:	0:Realtek RTL8168C(I		oit Ethernet NIC - Paketj Ile Eingabe	Serielle Paus	enzeiten	Hill	ie
		🗌 kein N	etzwerk ation im Gerätemanager C Keine Netzwer	rkkartenauswa	hl	Oł Abbre	

9.4.1.1 Automatically

1. With a click on "Search" you send a broadcast to all cables and modules that are located on your network or directly connected to the computer. Each reacting cable / module to this broadcast is entered in the list of participants.

Select the desired cable / module so that it is highlighted in blue.
 Here, all parameters are automatically included in the configuration wizard.

9.4.1.2 Manually

The manual entry relates to the network users that are behind routers in other networks because the broadcast for the automatic detection is not passed from routers and these network devices thus can not be found. This point is not to be observed for USB devices, because these are all connected directly to the computer.

9.4.1.3 Final settings

3. Select the options that you may need, eg RFC1006, no network card selection, installation in the device manager or serial breaks.



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Information about the options which can be selected and deselected with the help of checkboxes, can be found in section "Overview" of the PLC VCOMs.

4. Confirm your entry / selection with "OK".

III PLC-VCom	
Konfiguration	Info
Status S7-USB verbunden	Konfigurieren

5. After a successful connection, in the main window of the PLC VCOMs appears the cable type with which the computer connects and the connection status is "connected".

6. Finally click "Minimize" to decrease the PLC-VCOM in the notification area, so that this can continue to manage the virtual COM port.

10 Technical data

Supply voltage:	5V/DC	
Power consumption: 2 watt		
Display:	2 status-LEDs	
Handling/Configuration:	Kabelmanager-Software Interfaces: to the PLC: PPI/MPI/Profibus	
interface: 9,6 KBd - 12 MBd to the PD/PC: PD/diagnosis jack Mini-USB-B-Buchse Galvanic separation: 1000V PPI/MPI/Profibus to the PC		
Operating temperature: 5 - 55°C		
Case:	ABS-plastic case	
Dimensions:	65 x 43 x 17 mm	

10.1 Pinning Mini-USB-jack

Pin No.	Short name	Notation	Direction
1	Vcc	Power supply (DC)	Input
2	D -	Dataline –	Bi-directional
3	D +	Dateline +	Bi-directional
4	ID	Not connected	Not connected
5	GND	Signalground	Input

Attention:

Do not lengthen this side. This side leads also 5V/DC power supply and this will decrease the quality of the signals (maximum allowed cable length is 5 m).

A longer cable would decrease the signal quality of the bus and cause several errors in the transmission!

10.2 Pin assignment

Pin No.	Notation	Designation	Direction (of cable)
1	NC	Not Connected	
2	M24V	Ground of the 24V	In

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Pin No.	Notation	Designation	Direction (of cable)
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).







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