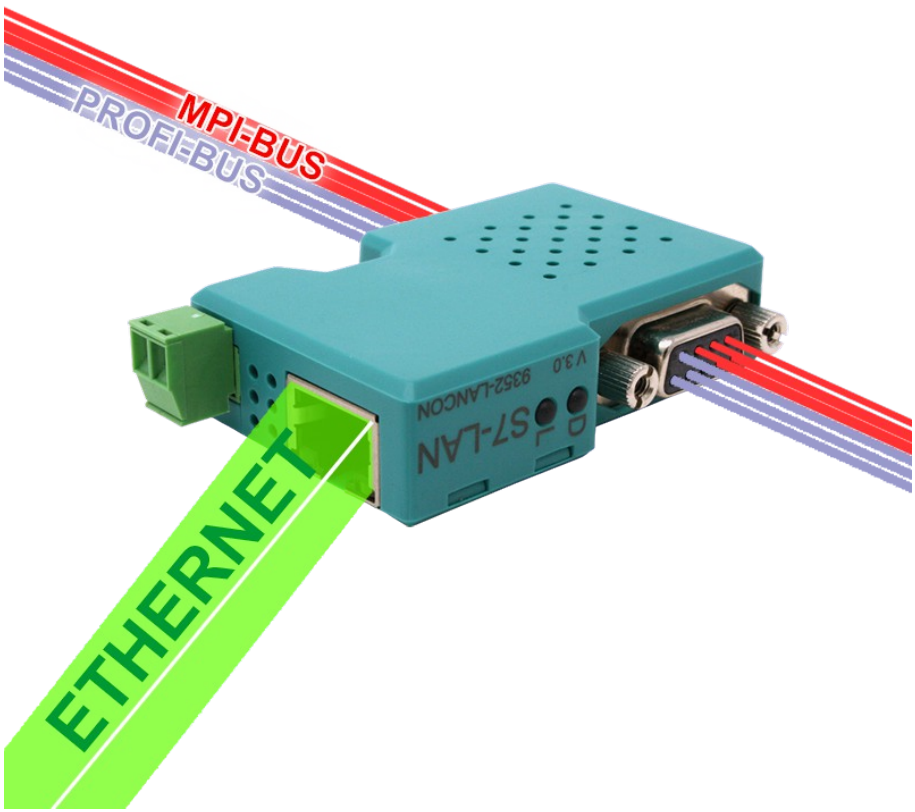
MPI/DP-SCAN / MPI/DP-SCAN++

user manual
V1.05

English



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Content

1 General....4
1.1 About the manual....4
2 System requirements....5
2.1 Hardware....5
2.2 Software....6
2.2.1 Network ports....6
3 Commissioning....8
3.1 Hardware....8
3.2 Software....9
3.2.1 IP address configuration....9
3.2.2 Configure the device....12
3.2.3 Executing a recording....13
4 Control elements....14
4.1 Status LED's....14
4.2 Web server....15
4.2.1 Home....16
4.2.2 Connections....17
4.2.3 Recording....19
4.2.4 Configuration....22
4.2.5 Password....25
4.2.6 Restart....27
5 TIC....28
5.1 Installation....28
5.2 Searching for devices....30
5.3 Configure devices....31
5.3.1 Network settings....31
5.3.2 Settings....33
5.3.3 Web page parameterization....36
5.3.4 Firmware update....36

5.3.5 Backup/Restore....37
5.4 Special functions....38
5.4.1 Factory defaults....38
5.4.2 Device state....39
5.4.3 Connection test....40
5.4.4 Emergency loader....41
5.4.5 view config file....42
5.5 Settings....42
6 Technical data....44
6.1 Pin assignment MPI....44
6.2 Pin assignment Ethernet....45

1 General

1.1 About the manual

This manual describes the devices MPI/DP-SCAN and MPI/DP-SCAN++, which are sometime also just called device or module within the manual.

In addition to the description of the device itself, you will also find the documentation for the program TIC here. This program is needed for the configuration and updating from the firmware of the devices.

This document as well as the program TIC including the current firmware for the device can be downloaded from the product page from our website within the “downloads” section.

The manual is aimed to the following user groups:

- planners
- operators
- commissioning staff
- service and maintenance staff

If not specified otherwise the manual refers to the following firmware and program versions:

- **MPI/DP-SCAN:** V1.07 or newer
- **MPI/DP-SCAN++:** V3.00 or newer
- **TIC:** V2.59 or newer

The device MPI/DP-SCAN++ supports all functions that the MPI/DP-SCAN also provides. However the MPI/DP-SCAN++ is only mentioned explicitly within the manual if there are differences to the MPI/DP-SCAN.

Before you use the device, you should read the manual.

If you have questions and / or problems you can contact the technical support from your dealer.

2 System requirements

2.1 Hardware

For the correct connection of the module with your PC / network the following requirements have to be met:

- network connection 10/100MBit *(PC or Switch/Hub)*
- 24V/DC power supply *(via the bus interface or externally via the Phoenix jack)*

Hint:
If the backward compatibility is given, you can also connect your device with a 1000MBit LAN interface.

Important:
The device has an integrated reverse polarity diode on the external 24V/DC power supply. Therefore the device itself is protected against reverse polarity. Only if the module with reverse polarity is connected to a PLC or other module this can be get damaged!

The 9 pin MPI/Profibus interface is used for connecting the device with a controller. The following controllers are supported:

- S7-300 *(baud rates up to 12M, if the controller supports it)*
- S7-400 *(baud rates up to 12M)*
- FM modules
- Sinamix *(TIC from V1.20 or PLC-VCOM from V2.71)*
- MicroMaster and other drives and converters *(TIC from V1.20 or PLC-VCOM from V2.71)*
- SEW-EURODRIVE converters
- Sinumerik *(PLC part only)*

In general the device can also connected to many other controller types and modules as long as they follow the MPI/DP specification.

2.2 Software

For the configuration and firmware updating of devices with the PC the program TIC is needed. This program is supported on the following operating systems:

- Windows XP
- Windows Vista
- Windows 7
- Windows 8 / 8.1
- Windows 10
- Windows 11

For using the recording and analysis function from the MPI/DP-SCAN the integrated web server of the module have to be accessed. The web server can also be used for configuration as well as for checking the device state. For this access you only need a web browser (e. g. Microsoft Internet Explorer, Mozilla Firefox or Google Chrome) on your PC. The access is independent of the used operating system and browser of your computer.

Hint:
Please make sure that JavaScript isn't disabled in your browser. Otherwise the web pages may not work correctly.

2.2.1 Network ports

The device communicates on the network with the help of different TCP/IP protocols. Therefore the following ports are used:

port	type	description
291	UDP	search and configuration (emergency loader)
292	UDP	search and configuration
40501	UDP	search and configuration
64738	UDP	communication
80	TCP	access to web server

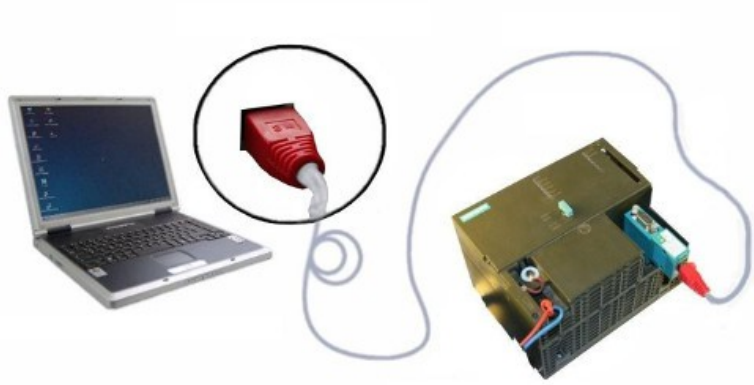
64738	TCP	communication

If you have problems by accessing your device, please make sure that the ports from the table above aren't blocked from your firewall. This is especially a typical problem for VPN connections.

3 Commissioning

If you have met all mentioned requirements you can start do use your device. In this chapter the commissioning of the hardware, this means the correct way to connect your device to your PC or network, and the in some cases needed configuration of your device is described, so you can start the recording of bus protocols via the web server afterwards.

3.1 Hardware



Before you can use the device you have to connect it properly. In the first step you should put your device on the MPI/Profibus interface of your PLC. If a bus cable is already connected to the interface of your PLC you can simply connect your device on top of the cable if a diagnostic jack is available. Alternatively you can also put your device on a slave module (e. g. a panel).

Most controllers outputs a voltage of 24V/DC on the 9 pin bus connector. This voltage can then be used from the MPI/DP-SCAN as a power supply. If your controller doesn't outputs this 24V/DC or if you are connected to a slave module you have to supply power to the device externally via the Phoenix jack on the device.

After that you have to connect your device with your PC or network through a network cable. When you only want to use the device for temporarily analysis purposes it is usually sufficient to connect the device with the network jack of your PC or laptop directly. Therefore you should use a crossover LAN cable (a LAN cable with crossed occupancy). If your computer supports the automatically swapping of the two data pairs (also known as auto negotiation) you can also use a “normal” LAN cable (with 1:1 occupancy). If your device should be reachable from different

PCs or installed within a plant, it is generally better to connect the device with a switch or hub of your network. There you have to use a normal network cable then. If you want to use a crossover cable you have to connect it with the up-link port of your switch/hub. If your switch supports the automatically swapping of the data pairs the cable type doesn't matter.

3.2 Software

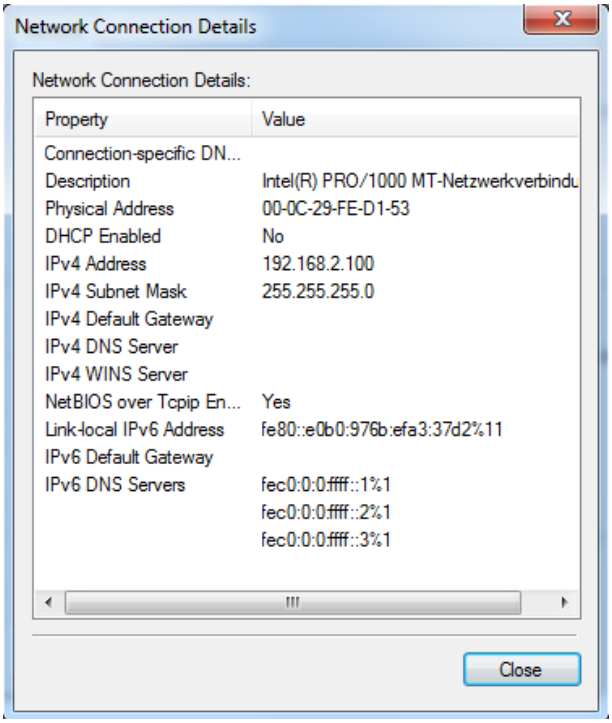
After you have connected your device correctly you can start with the in some cases needed configuration of your device and then access the web server afterwards.

3.2.1 IP address configuration

If you are using your device for the first time, you may have to check and maybe change the IP settings of your device or PC, so they can communicate with each other. The default IP address of all devices is 192.168.1.56.

If you don't know about the correct IP settings, you may want to ask your network administrator for the correct parameters.

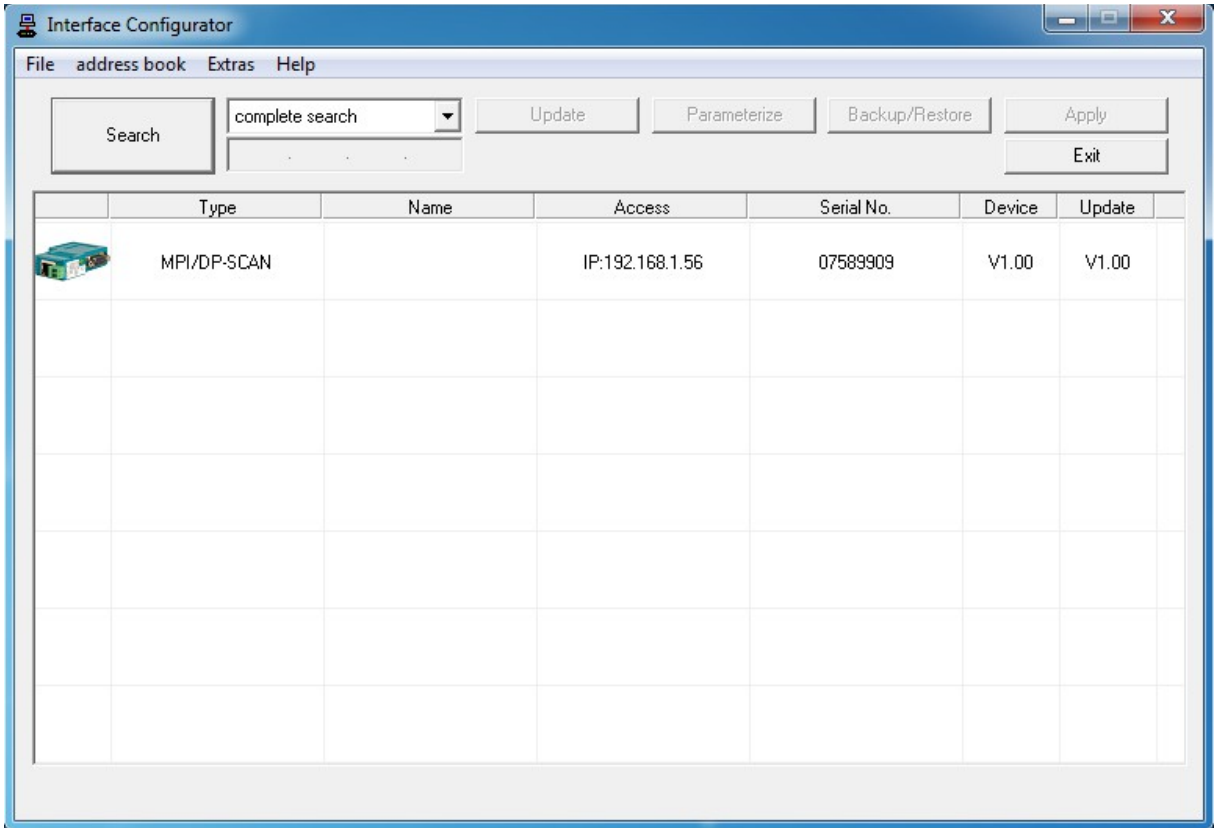
In the first step you should check the IP address of your PC. Therefore you should open the status dialog of your network card and navigate to the tab “Support” (for Windows XP) or click on the button “Details” (for Windows Vista or newer).



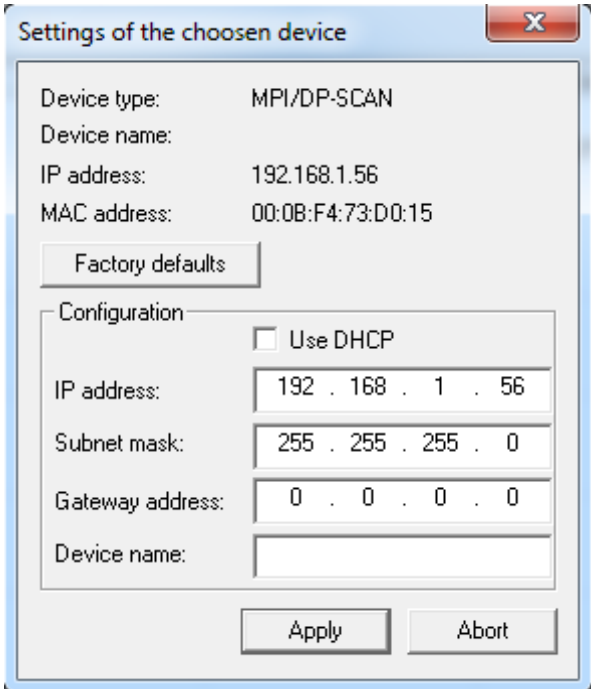
If your PC is already within the same address space as the device, you don't have to change anything.

When your PC is configured to DHCP but it didn't get an IP address (e. g. because it is connected to the device directly) you have to set an IP address for the PC manually. Therefore you have to click on the button “Properties” within the tab “General”. Then you have to change the IP settings within the entry “Internet Protocol (TCP/IP)” or “Internet Protocol Version 4 (TCP/IPv4)”.

If you want to or have to change the IP address of your MPI/DP-SCAN device you should open the program TIC. By default the automatically search begins and searches for all available devices. If the search process has completed all found devices should be shown:



When your device was found you can execute a double click on the cell with the IP address of the corresponding device entry. Now a dialog with the network settings of the device should appear:



On this dialog you can configure another fixed IP address for the device or enable the DHCP option (this needs a DHCP server on your network) as well as setting a name for the device. The name of the device is used for easier identification only.

3.2.2 Configure the device

The devices are configured by the factory defaults so they can simply be used for the bus analysis on most bus systems without doing any configuration (except the IP settings). This is possible because the device detects the bus type as well as the baud rate automatically.

If the device is connected to a bus where no cyclic bus parameters are available, you have to set up the “bus configuration” manually. Therefore you have to set the “configuration” to the type “fixed” first. After that the operation mode as well as the bus parameters (baudrate and HSA) have to be set manually.

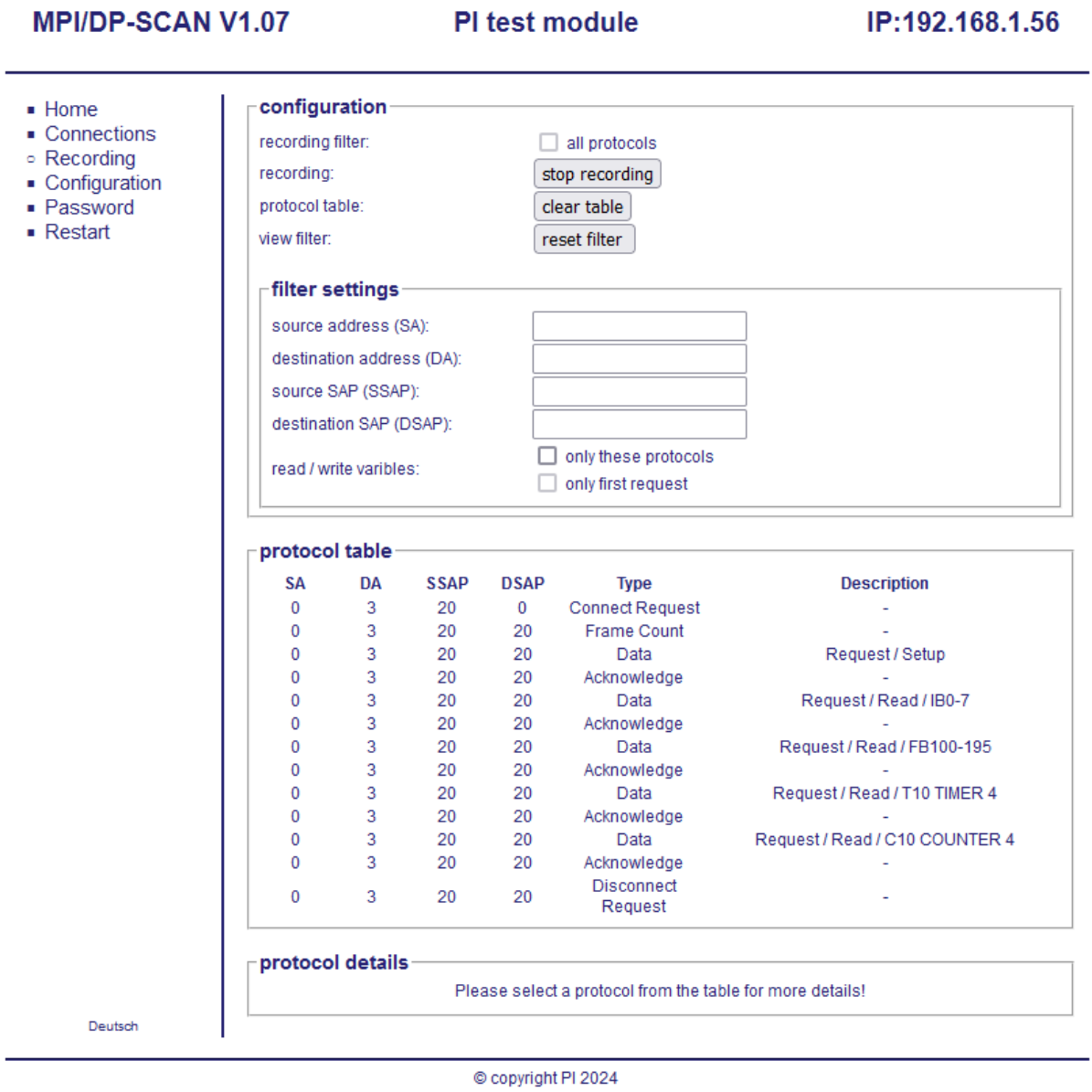
Another bus parameter which have to be changed depending on the use case is the “surveillance destination address”. With this setting you can specify the address of the bus participant from which protocols should be recorded and used for the analysis. Protocols who are addressed to the configured address are always getting recorded. When starting a recording you can also specify to record all protocols. By default the address 0 is configured for this setting, which is mainly used by PGs.

When you want to change the bus settings, you have to open the TIC, search for your device and open the settings. Alternatively you can also do this configuration via the integrated web server.

3.2.3 Executing a recording

If you have met all needed configuration you can now begin to execute a recording of the bus.

Therefore you have to open a web browser and enter the IP address of your MPI/DP-SCAN device into the address line. Now you should see the page “Home” of the device. With the menu on the left side you now have to swap to the page “Recording”. There you can then click on the button “start recording” to begin the recording and analysis of bus protocols.



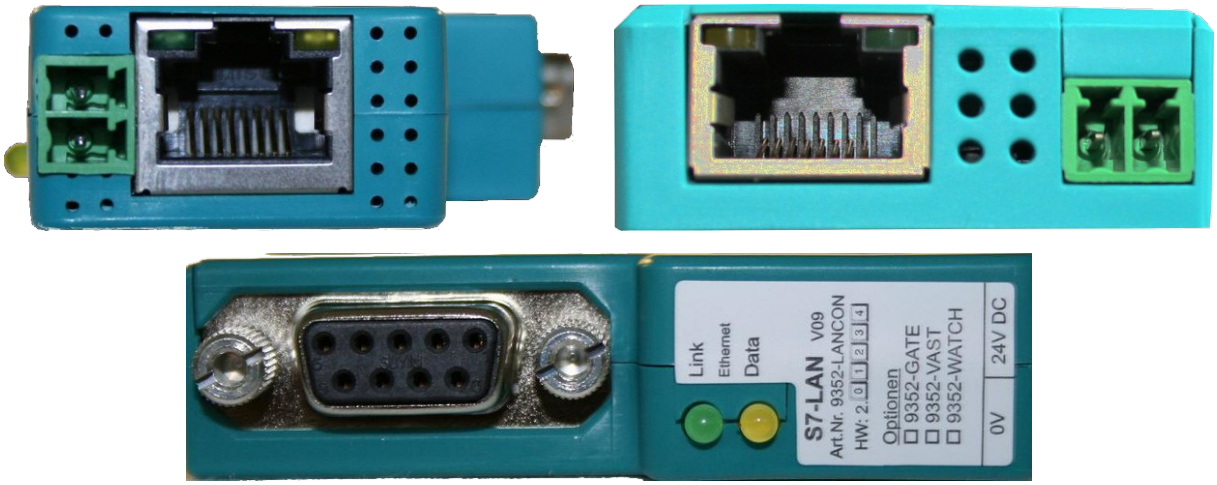
An detailed explanation of the web server as well as of the page “Recording” can be found in section “Web server” on the next chapter.

4 Control elements

The devices are having different control elements. This control elements can then be used for diagnostic or configuration purpose.

Please note, that the diagnostic and configuration function from the program TIC isn't explained here. This is described within the chapter “TIC”.

4.1 Status LED's



The MPI/DP-SCAN has two LED's which can be used for a quick diagnostic of your device without the need for a PC. The LED's on the Ethernet jack and on the front side are having the same function and have the following meanings:

LED	**mode**	**description**
green	off	no link state / no connection to the network
	on	link state available / connection to the network available
yellow	off	no communication running
	flashes	communication with network running
	on	device is booting

4.2 Web server

The device has an integrated web server. This allows you to access your device easily to get status information or configure your device as well as executing a recording and analysis of bus protocols with just a web browser and no need of any further software.

If you want to access the web server of your device, you have to open your web browser (e. g. Microsoft Internet Explorer, Mozilla Firefox or Google Chrome) firstly. After that you can enter the IP address of your device (default is 192.168.1.56) within the address line of your web browser.

When you have confirmed your input the page “Home” of the device should get loaded.

If you don't know the IP address of your device, you can consider to use the TIC interface configuration tool to search for available devices within your network.

All pages are having a header, a menu tree, a content area and a footer. The content area is the only part which differs from page to page. All other parts are equal on all pages.

Within the header (from left to right) the device type, the firmware version, the name and the current IP address of the device is shown.

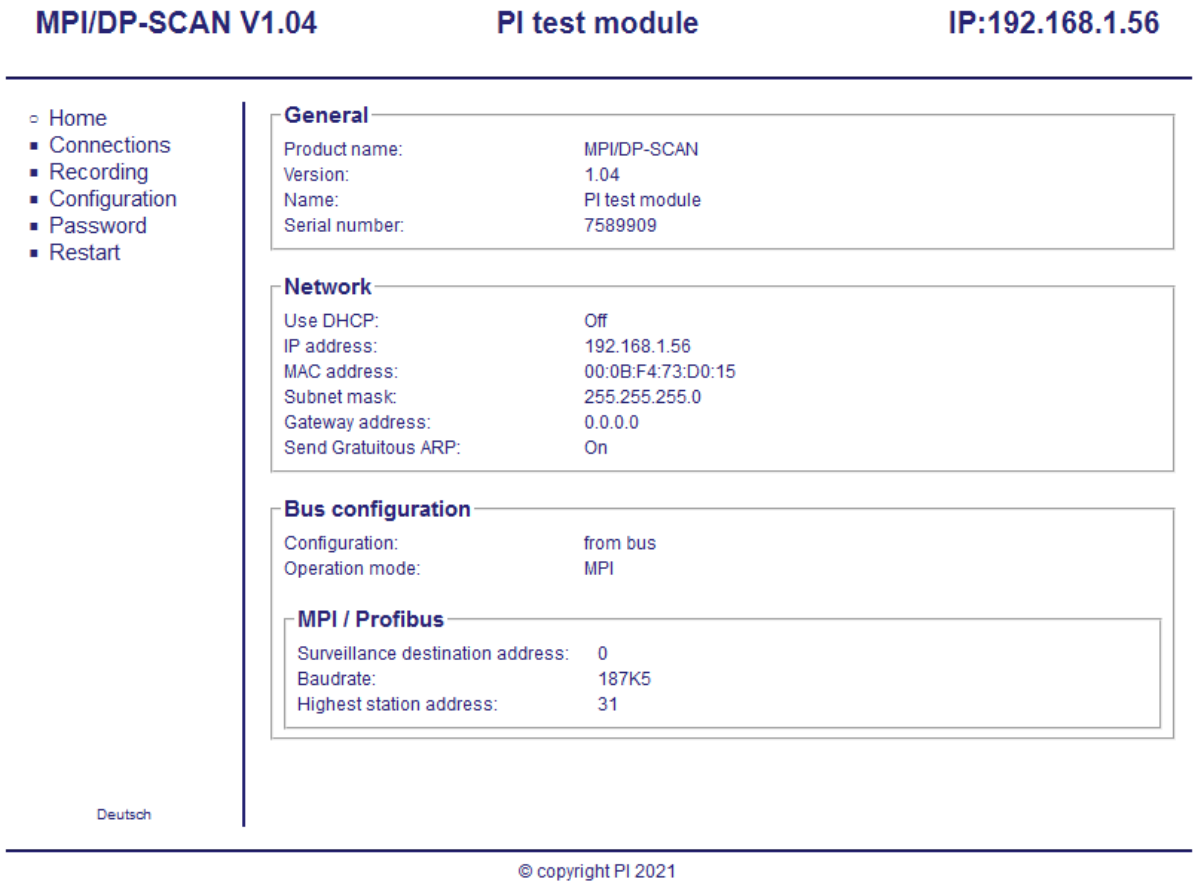
The menu tree, which is located on the left side, allows you to navigate through the different pages of the web side. Furthermore you can find a small link with the labeling “English” or “Deutsch” on the bottom of the menu. This link can be used to switch the language from German to English or English to German.

The footer is the last consistent area of all web pages. Within the footer you can find a copyright note which shows the current year of the version release.

The content area of the page “Home” and of all other pages are explained in more detail within the next pages.

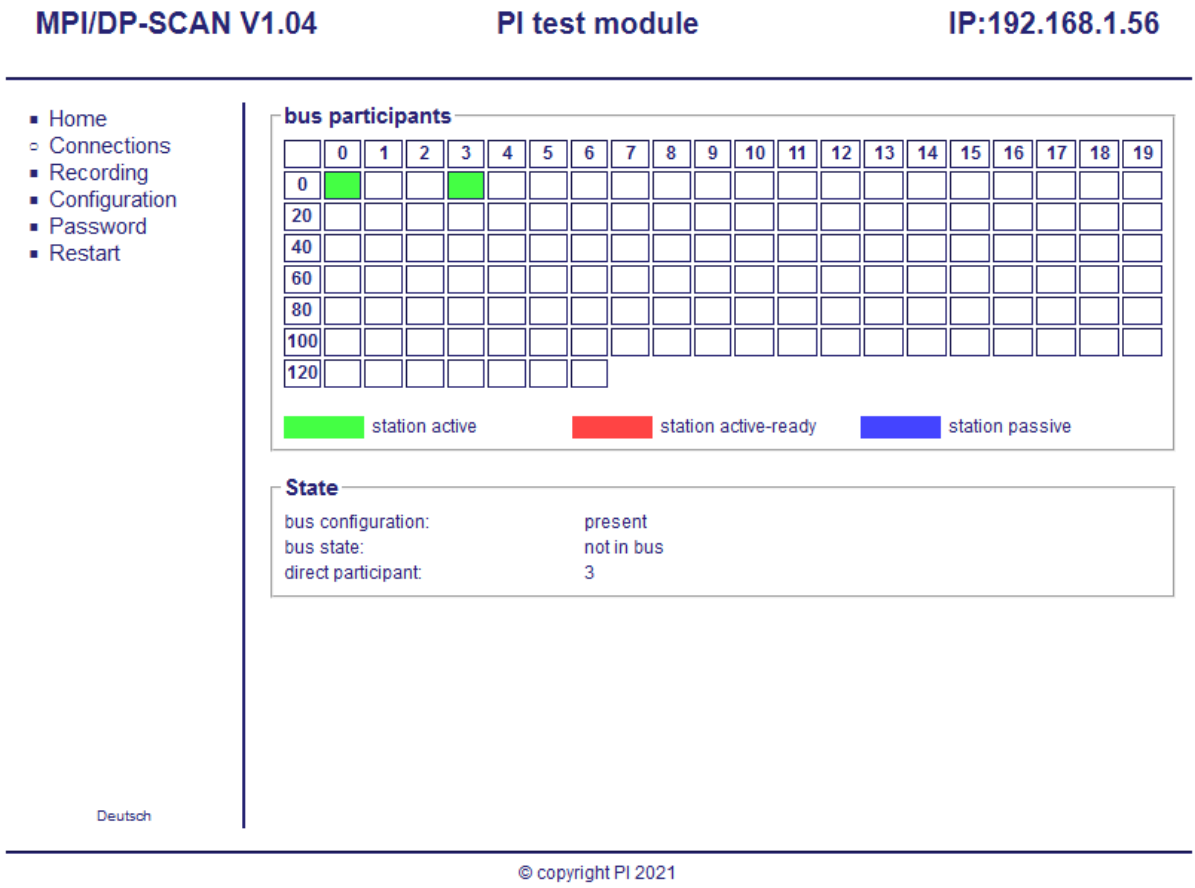
4.2.1 Home

The page “Home” shows some general, network and bus information about your device. The fields thereby are similar to them on the configuration page. But a configuration of these settings can't be done on this page.



4.2.2 Connections

The page “Connections” shows an overview of the bus participants as well as a status view.



In the overview of the bus participants you can see which addresses on the bus are in use. The view differs between multiple participant types, which are viewed in different colors on the web page:

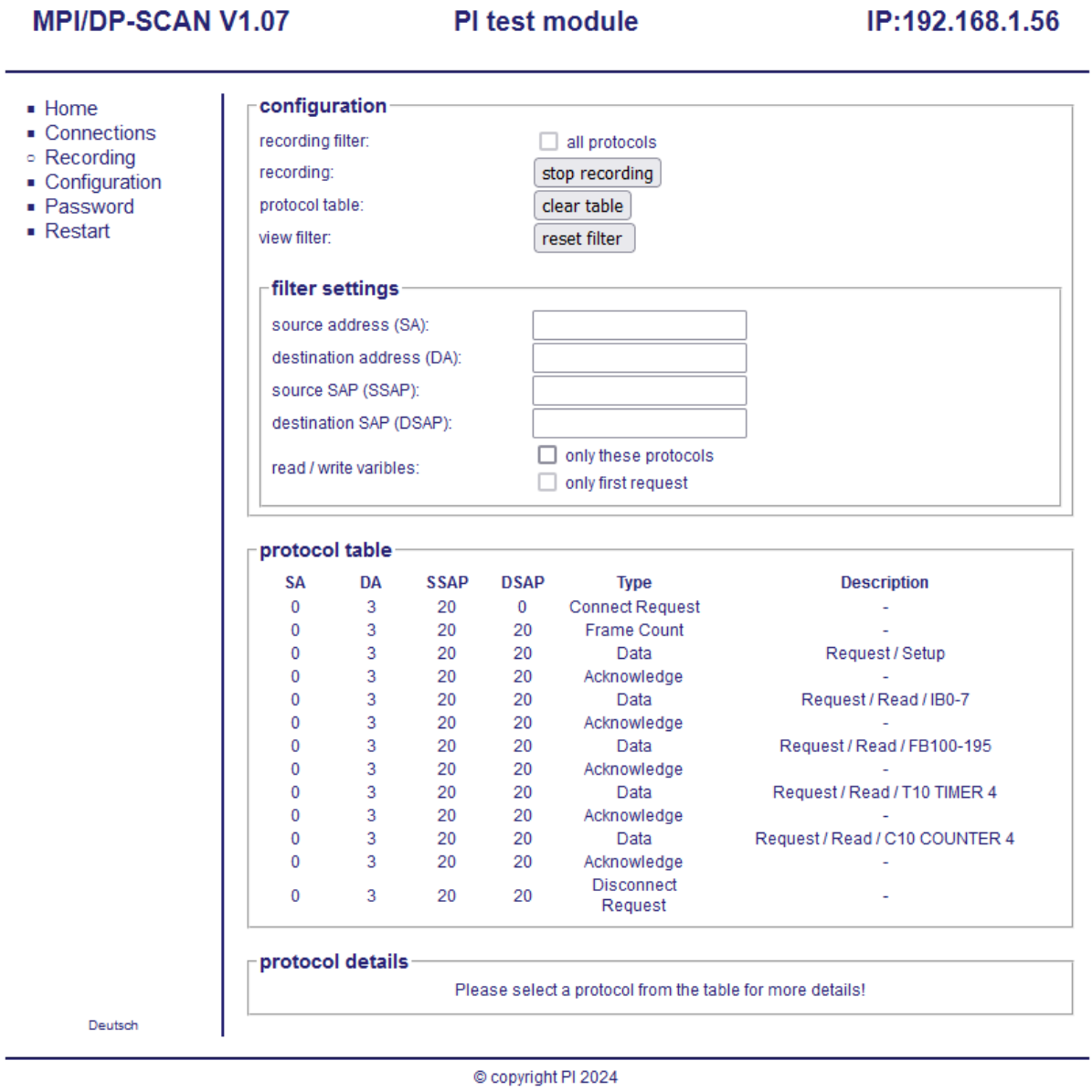
- **station active:** A participant (e. g. a S7-300/400 controller) which acts as a master. This participants can communicate with other active or passive participants.
- **station active-ready:** An active participant which is currently not included in the token ring, but who would would like to.
- **station passive:** A participant (e. g. a S7-200 controller, drive or IO system) which acts as a slave only. This participants have to be addressed by an active participant for communication.

Within the view “state” you can find the following state information:

- **bus configuration:** Shows if the device is aware of the parameters of the bus or which information is missing.
- **bus state:** Determines if the device is currently in the bus.
- **direct participant:** The address of the bus participant, where the device is connected to *(if known)*.

4.2.3 Recording

The page “Recording” is the main page of the MPI/DP-SCAN. There you can execute a recording of bus protocols and analyze them further.



Please note that as long as the option “all protocols” is not set only protocols who are addressed to the with the parameter “Surveillance destination address” configured address are recorded.

On the upper area of the page you have a check box and different buttons to control the recording and analysis of protocols:

- **recording filter:** Determines if all protocols on the bus should be recorded. Otherwise only protocols addressed to the configured “surveillance destination address” are recorded. This setting can only be change when no recording is running.
- **start recording:** Starts a new recording. If a recording was done previously the protocols from this recording are getting discarded. The button is only shown if no recording is running currently.
- **stop recording:** Stops a running recording. The button is only shown if a recording was started previously.
- **clear table:** Discards the until now recorded protocols.
- **reset filter:** Sets all filter values back to there defaults, so all protocols are shown in the table.

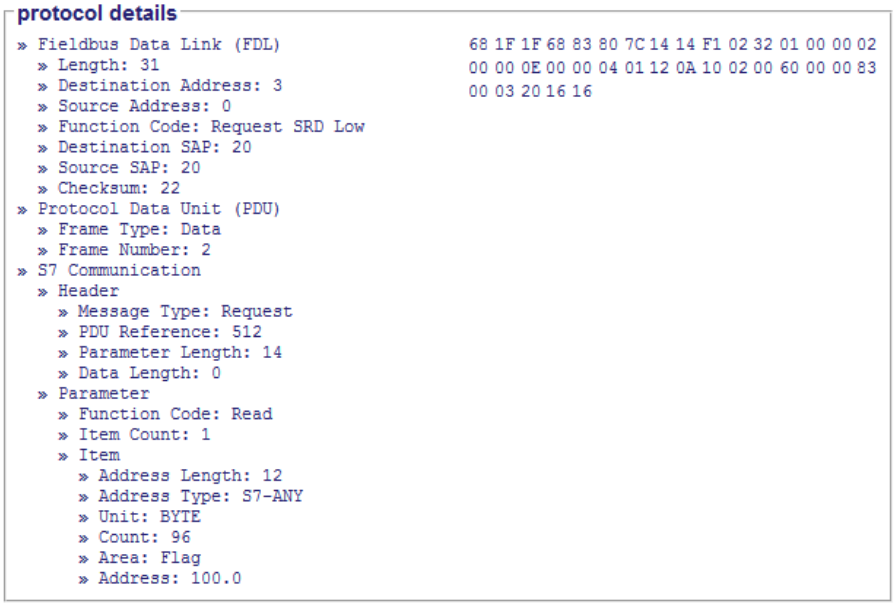
Below the buttons you will find a few configurations fields which are used to specify a filter. This can be helpful if you only want to see the protocols who were sent from a specific address. The filter gets applied directly to the protocol view and can be changed before, while and after the recording as often as desired. The following filter parameter can be specified:

- **source address (SA):** The address of the participant from which the protocol was sent. If the field is empty, the SA doesn't gets filtered.
- **destination address (DA):** The address of the participant to whom the protocol was sent. If the field is empty, the DA doesn't gets filtered.
- **source SAP (SSAP):** The source SAP (Service Access Point) within the protocol. If the field is empty, the SSAP doesn't gets filtered.
- **destination SAP (DSAP):** The destination SAP (Service Access Point) within the protocol. If the filed is empty, the DSAP doesn't gets filtered.
- **read / write variables**
  - **only these protocols:** If enabled only protocols to read or write variables are shown.

- **only first request:** If enabled only the first request protocol for variables with the same data type and address for each connection are shown.

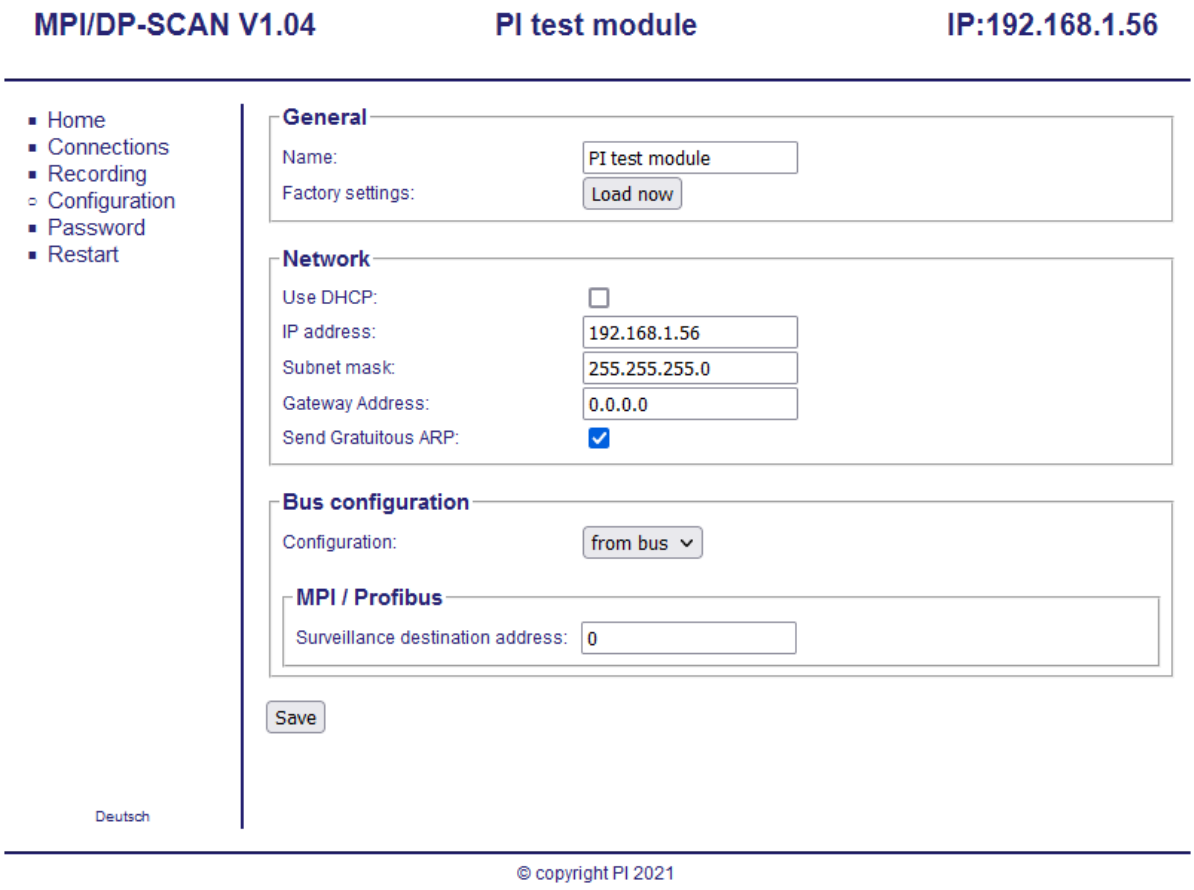
Within the protocol table all protocols who apply to the configured filter are shown. The tables shows the address information (SA, DA, SSAP, DSAP), the type (e. g. Data, Acknowledge) as well as a short description for each protocol.

For a specific and detailed analysis of a protocol, you have to click on the corresponding entry the table. Afterwards the protocol is shown in the section protocol details in a hierarchical view (as far as possible) and in a plain data view (in hexadecimal notation). The protocol detail view of a protocol can look as follows:



4.2.4 Configuration

On the page “Configuration“ you can change the most important parameters of your device. All parameters are thereby grouped together in multiple sections. Some parameters are automatically shown or hidden depending on your configuration. Thus you will only see the configuration settings which have to be configured and are used from the device.



Within the section “General” you can specify a name (max. 16 chars) for your device. This name can be used for an easier identification.

Furthermore you can set your device back to the factory defaults, by clicking on the button “Load now” within the line “Factory settings”. After you have clicked on the button, a security query will be shown which have to be acknowledged.

When you restore to factory settings your device will have the default IP address 192.168.1.56 afterwards.

In the group “Network“ you can change the IP settings from your device:

fields	**description**
Use DHCP	Indicates if the device should obtain an IP address from a DHCP server. Otherwise the device will use the fixed configured IP address.
IP address	The IP address of the device, which should be used, so the device can communicate with your PC and maybe also other network participants.
Subnet mask	The subnet mask for the IP address. Both parameters determine the network area in which the device is located.
Gateway Address	The IP address of the gateway / router. This parameter is needed if the device have to communicate over a router junction.
Send Gratuitous ARP	Indicates if the device should sent it's IP address to all network participants via ARP cyclical.

Hint:
If you have enabled the DHCP option the device remains reachable via it's old (previously configured) IP address. The DHCP option will not take affect until a restart.
If the device boots up and DHCP is enabled the device queries for an IP address on all DCHP servers within your network. If the device can't obtain an IP address the device can be accessed with it's last configured fixed IP address.

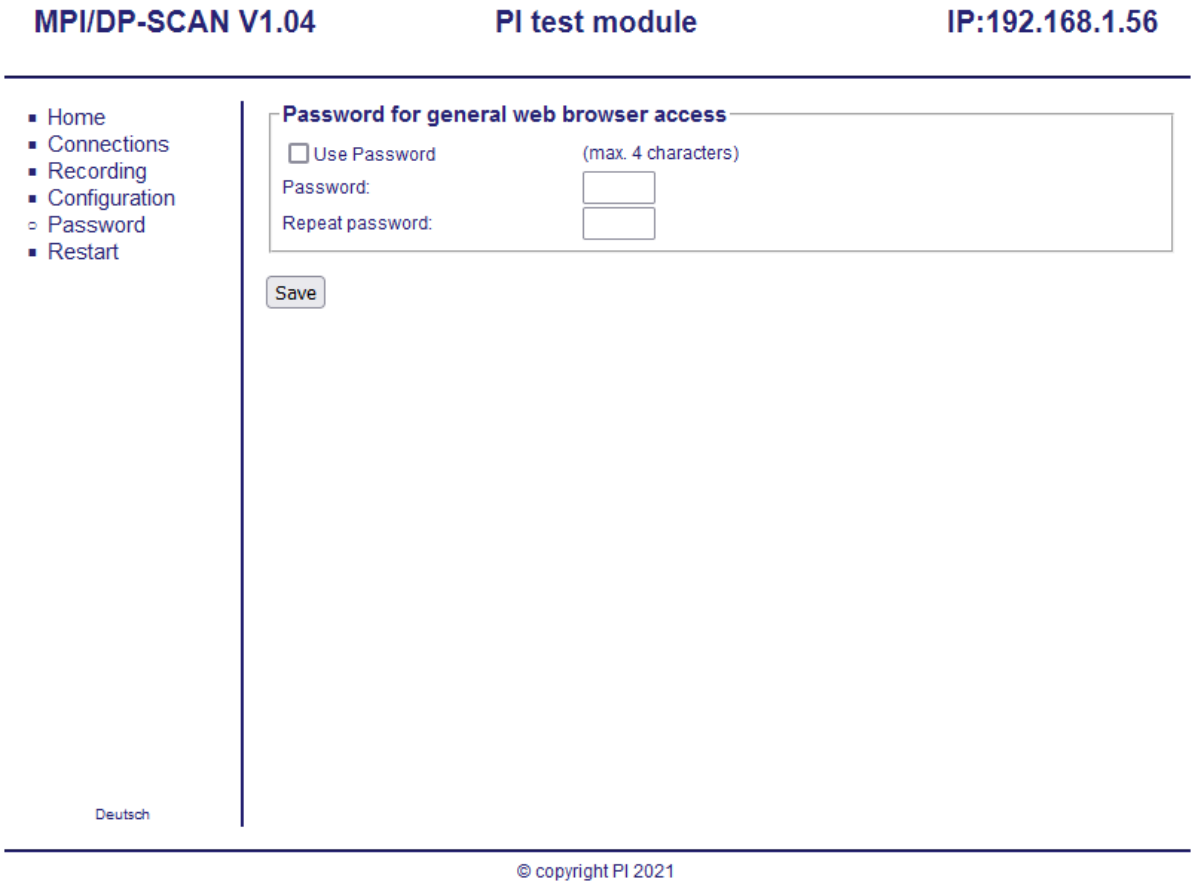
If you aren't responsible for the administration of your network, you should ask your network administrator for the correct IP parameters.

The group “Bus configuration“ contains multiple parameters which are needed for the communication on the MPI/Profibus. Some parameters are grouped within sections again.

field	**description**
Configuration	Determines which bus configuration should be used from the device: • **from bus:** configuration gets detected automatically from the bus • **fixed:** configuration from the device is used
Operation mode	Determines the operation mode of the device: • **MPI:** communication on the MPI bus • **Profibus DP:** communication on the Profibus with the profile DP • **Profibus Standard:** communication on the Profibus with the profile Standard • **Profibus Universal:** communication on the Profibus with the profile Universal
MPI / Profibus	
Surveillance destination address	The address represents the an available bus participant and have to be smaller then the configured HSA. Protocols who are addressed to this address are getting always recorded.
Baudrate	The baud rate which should be used for the communication on the bus.
Highest station address	Determines the highest station address (HSA) which is used on the bus.

4.2.5 Password

On this page you can configure a password which is then needed for the access to the web server. The password can consists of a maximum of four characters. If a password protected page gets opened you will get requested to enter the password.



If you want to specify the password you have to enable the “Use Password” field and enter the password in the two text fields. The input is concealed and shown as dots. If you have finished your configuration you have to click on the button “Save”.

If you want to remove the password again you have to disable the field “Use Password” and then click on the “Save” button.

If you have enabled the password usage but haven't entered any password, no password gets configured because of security reasons.

Hint:
The password fields are always empty if you open the page again. This is completely normal and the password is kept nevertheless.

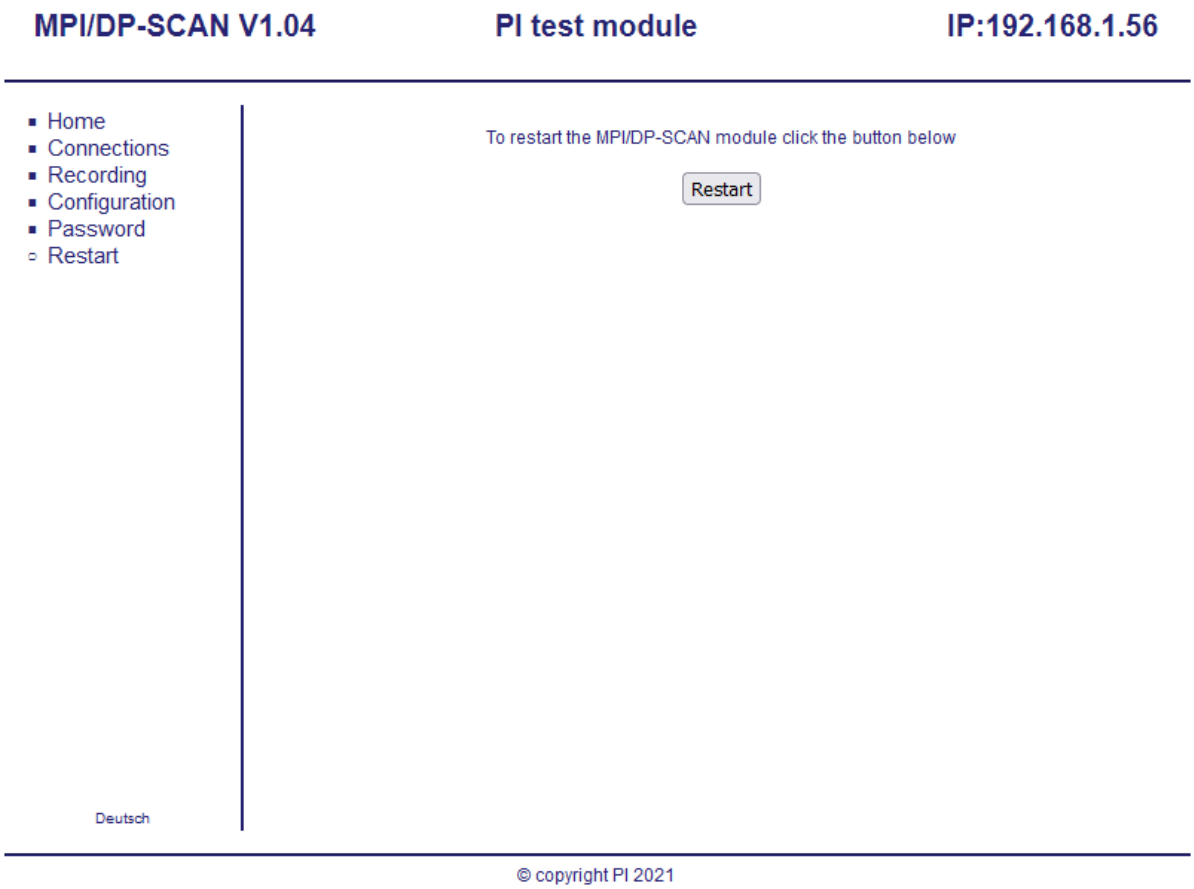
The following list shows, which web pages queries for the password (if configured):

- Recording
- Configuration
- Password

Important:
If you have logged in to your device with a password, the entry “Logout” is shown in the menu. This entry should be used to log off of the device again to protect your device against unauthorized configuration changes.

4.2.6 Restart

On the page “Restart” you can execute a restart of your device. The pages therefore shows a short hint as well as a button:



The restart doesn't get executed until you have clicked on the button. After you have clicked on the button the page will reload and then the device executes the restart.

5 TIC

The program TIC combines an interface configuration tool (formerly S7-IFC), which is used for searching, configuring and managing your devices, and the Direct Driver TIC (shortcut for Totally Integrated Communication), which is used for the communication with your devices.

The program thereby is in addition to the MPI/DP-SCAN also used for the programming devices S7-LAN, S7-GATE, MPI-LAN, S7-USB, MPI-USB and MPI-II as well as other devices. For the MPI/DP-SCAN device the TIC is only used for the configuration and the updating of the firmware.

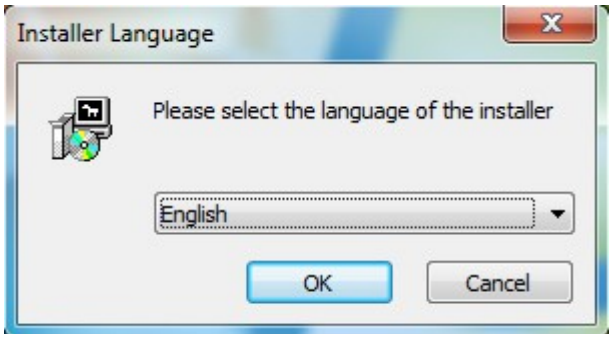
5.1 Installation

Before you can use the program TIC for configuring your device, you have to install it.

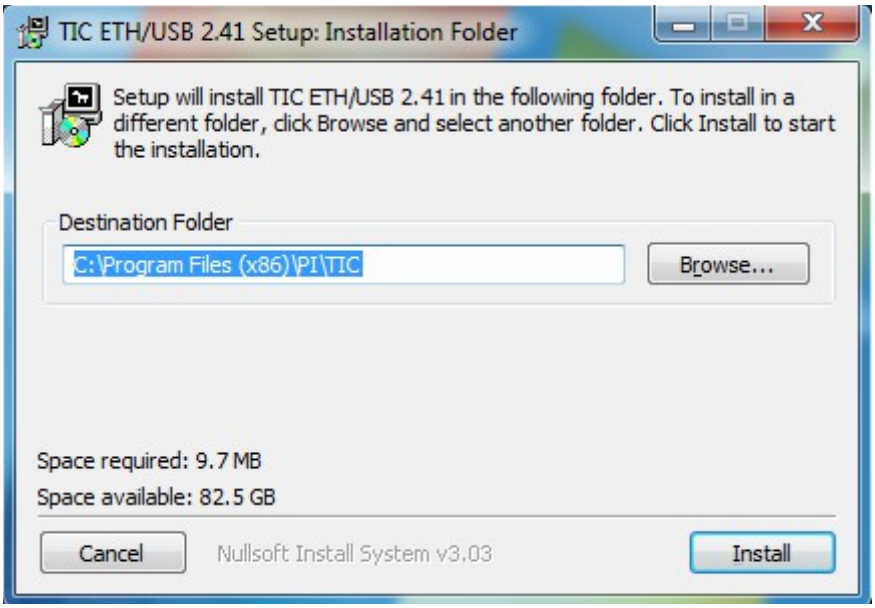
Hint:
If you already have installed an older version of the TIC, you can simply install the new version over the old one.

To start the installation you have to download the ZIP archive with the installation data from the product page. Now you can extract this archive and execute the file setup.exe.

In the first step you may get asked to choose the setup language:

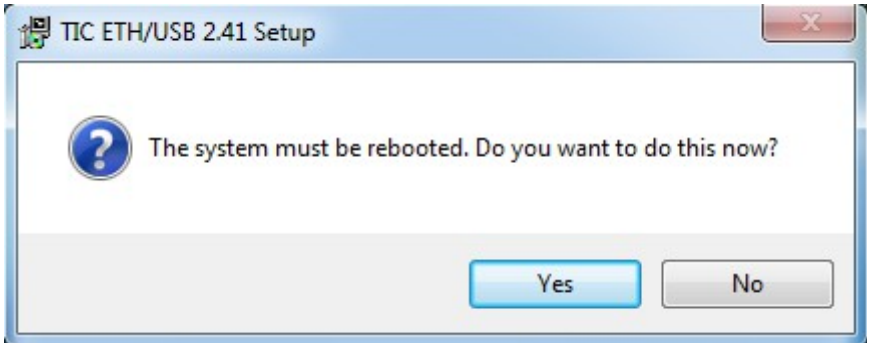


Next you can select in which folder the TIC should be installed. Normally the default suggestion can be used. But if you would like to install it to another folder, you can select it by clicking on the “Browse ...” button too.



When you have clicked on the “Install” button, the installation process gets started. Before and while the installation is running, some tests are getting executed (e. g. for an older version). The installation assistant will guide you through the whole process and shows you the current state.

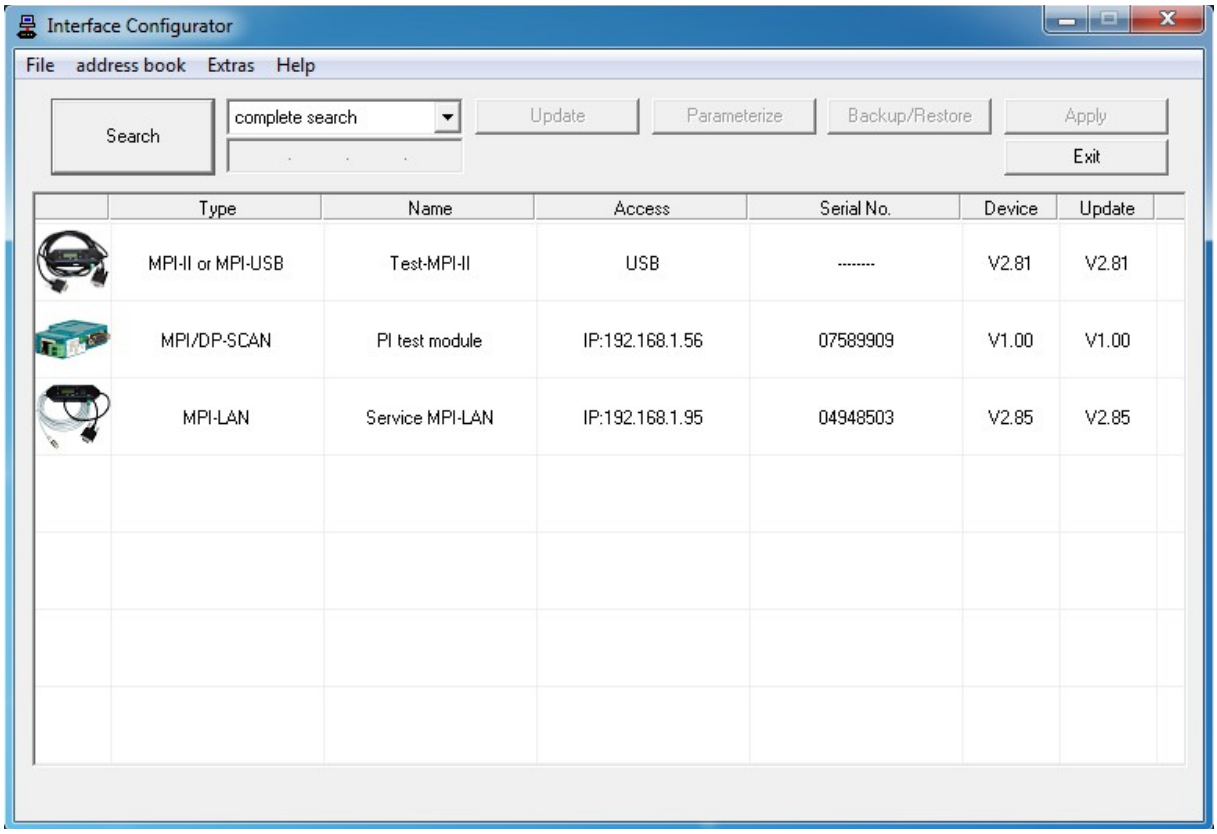
In the last step you get asked, if a restart of your PC may be executed. Here you should select “Yes” if possible. Otherwise you can do the restart later manually.



Important:
Before you can use the program TIC the computer must be restarted.

5.2 Searching for devices

The main window of the TIC shows you a list with all found devices as well as a menu and some more control elements like buttons.



By default the TIC searches for all devices, which are connected to your PC or network, when starting the program. By clicking on the button “Search” a new search can be executed at any time. If you want to search only for a specific device type or via a specific interface, you can select it via the selection list next to the search button. If you have selected “search via network” the IP field get's enabled and you can enter an IP address manually. The device with this IP address then gets directly addressed on the next search.

LAN devices which are behind a router, can unfortunately not be found by the normal search. If you want to access such a device, you have to select “search via network”, enter its IP address manually and search for devices again. Now the device should be shown in the list.

The columns within the list view have the following meanings:

column	description
Type	The type of the device. On the first column the image, which belongs to this device type, is shown additionally.
Name	The name of the device. This can be configured within the settings at will.
Access	A brief info about the way the device was found and gets accessed.
Serial No.	The serial number of the device. This info is available on LAN devices only.
Device	The firmware version which is running on the device.
Update	The current firmware version which is delivered with the program TIC. If an update is possible the complete row gets colored in light blue.

If you want to start with the configuration of a device, you have to select it from the list by clicking on it. After that a few buttons above the list as well as some menu items are getting enabled.

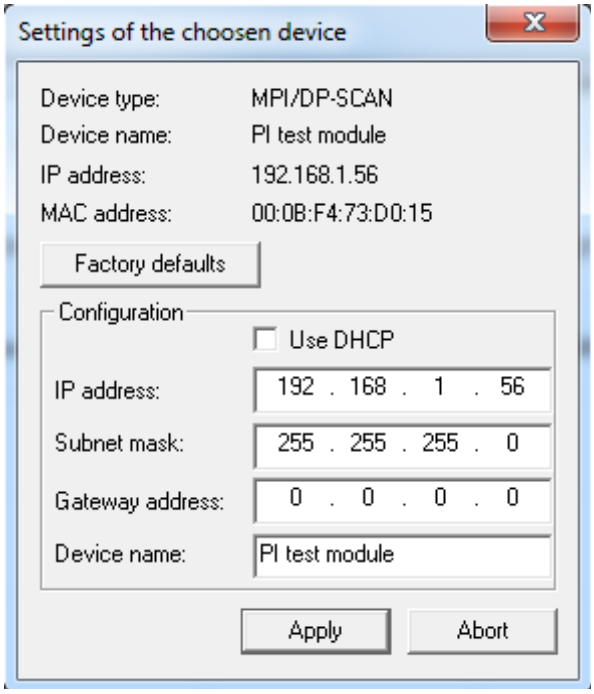
5.3 Configure devices

When you have selected a device from the device list, you can now begin to configure this device. Therefore you can use the buttons which are shown above the list. Furthermore you can also open some dialogues by executing double click on specific cells.

5.3.1 Network settings

The program TIC allows you to change the network settings of your LAN devices easily. For parameterization you have to execute a double click on the cell “Access”. Now a dialog should appear, where you can specify the IP address, the subnet mask, the IP address of the gateway as well as the device name. Furthermore some information respectively the

current configuration about the selected device are shown on the top of the window.



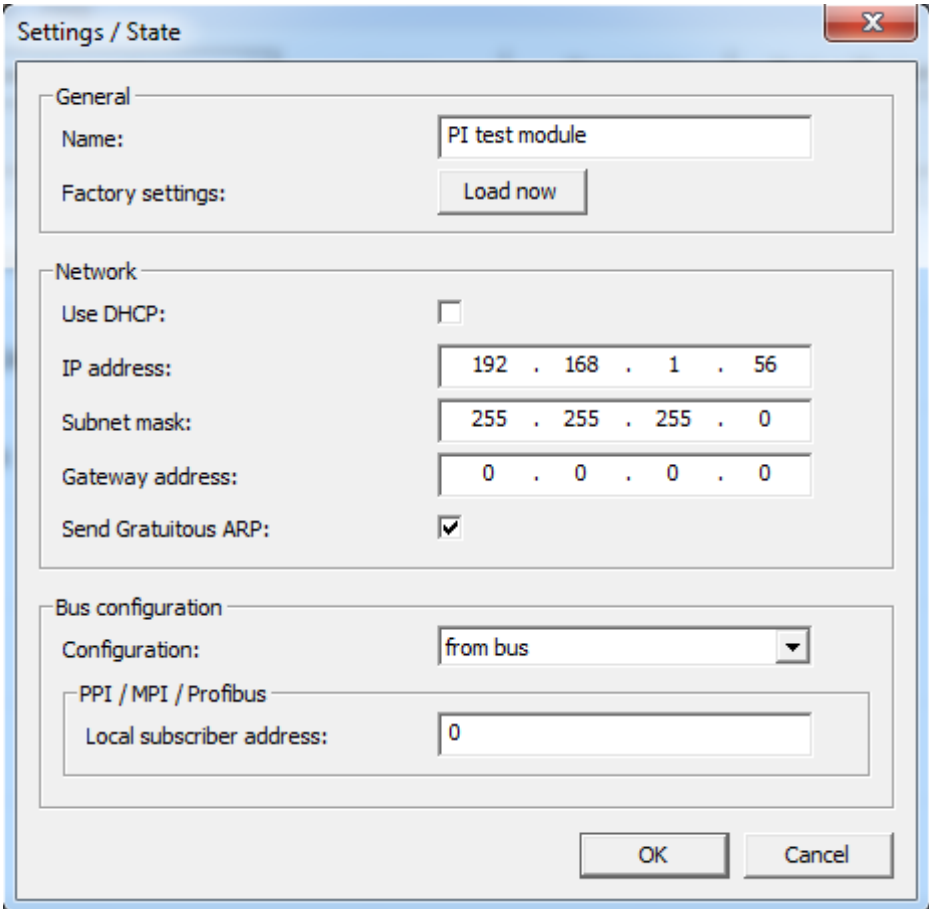
If you want to set your device back to the factory defaults you can click on the button “Factory defaults”. More information about this function can be found in the section “Special functions”.

The TIC can also change the network settings of devices, who aren't within the same subnet as your PC. So you don't need to change the IP address of your PC, if you want to change the network settings of your LAN device.

Hint:
The configuration of the network settings can also be done on the general settings dialog. But this dialog only works if the PC and the device is on the same subnet. The network dialog doesn't have this limit.

5.3.2 Settings

If you want to change the device settings, you have to click on the button “Parameterize”. Now a window with multiple settings grouped into some sections gets opened where you can now configure your device. Within the dialog only the settings relevant to your device type as well as to the configuration are shown. This allows an easier configuration.



Hint:

As an alternative to the click on the button “Parameterize” you can also execute a double click on the cell “Name” of the corresponding device.

Important:

The settings described in this section are related to the MPI/DP-SCAN device. Other devices who are supported from the TIC may have further or other settings. But these aren't described here.

Within the section “General” you can specify a name (max. 16 chars) for your device. This name can be used for an easier identification.

Furthermore you can set your device back to the factory defaults, by clicking on the button “Load now” within the line “Factory settings”. More information about this function can be found in the section “Special functions”.

In the group “Network“ you can change the IP settings from your device:

fields	**description**
Use DHCP	Indicates if the device should obtain an IP address from a DHCP server. Otherwise the device will use the fixed configured IP address.
IP address	The IP address of the device, which should be used, so the device can communicate with your PC and maybe also other network participants.
Subnet mask	The subnet mask for the IP address. Both parameters determine the network area in which the device is located.
Gateway Address	The IP address of the gateway / router. This parameter is needed if the device have to communicate over a router junction.
Send Gratuitous ARP	Indicates if the device should sent it's IP address to all network participants via ARP cyclical.

Hint:
If you have enabled the DHCP option the device remains reachable via it's old (previously configured) IP address. The DHCP option will not take affect until a restart.
If the device boots up and DHCP is enabled the device queries for an IP address on all DCHP servers within your network. If the device can't obtain an IP address the device can be accessed with it's last configured fixed IP address.

If you aren't responsible for the administration of your network, you should ask your network administrator for the correct IP parameters.

The group “Bus configuration“ contains multiple parameters which are needed for the communication on the MPI/Profibus. Some parameters are grouped within sections again.

field	**description**
Configuration	Determines which bus configuration should be used from the device: • **from bus:** configuration gets detected automatically from the bus • **fixed:** configuration from the device is used
Operation mode	Determines the operation mode of the device: • **MPI:** communication on the MPI bus • **Profibus DP:** communication on the Profibus with the profile DP • **Profibus Standard:** communication on the Profibus with the profile Standard • **Profibus Universal:** communication on the Profibus with the profile Universal
PPI / MPI / Profibus	
Local subscriber address	The address represents the an available bus participant and have to be smaller then the configured HSA. Protocols who are addressed to this address are getting always recorded.
Baudrate	The baud rate which should be used for the communication on the bus.
Highest station address	Determines the highest station address (HSA) which is used on the bus.

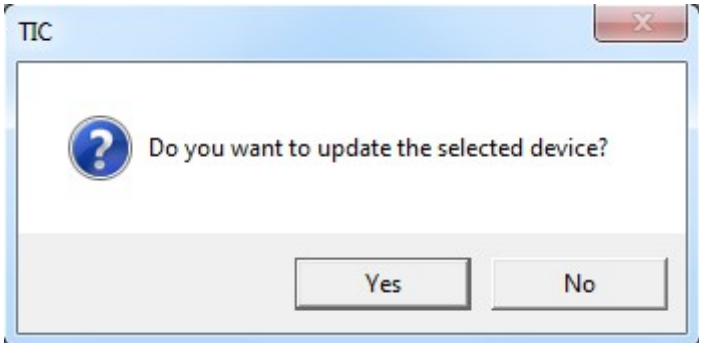
5.3.3 Web page parameterization

If you want to configure your device via the web page, you can simply execute a double click on the cell with the device image or type. After that the web page of your device should be opened within your default web browser. Navigate to the item “Configuration” via the hyperlinks on the menu on the left side. Now you should see the device settings and have the possibility to change them. A detailed explanation about the parameters can be found in the chapter “Control elements” within the section “Web server”.

Hint:
The parameterization via web page is only possible on LAN devices, because the other devices don't have an integrated web server.

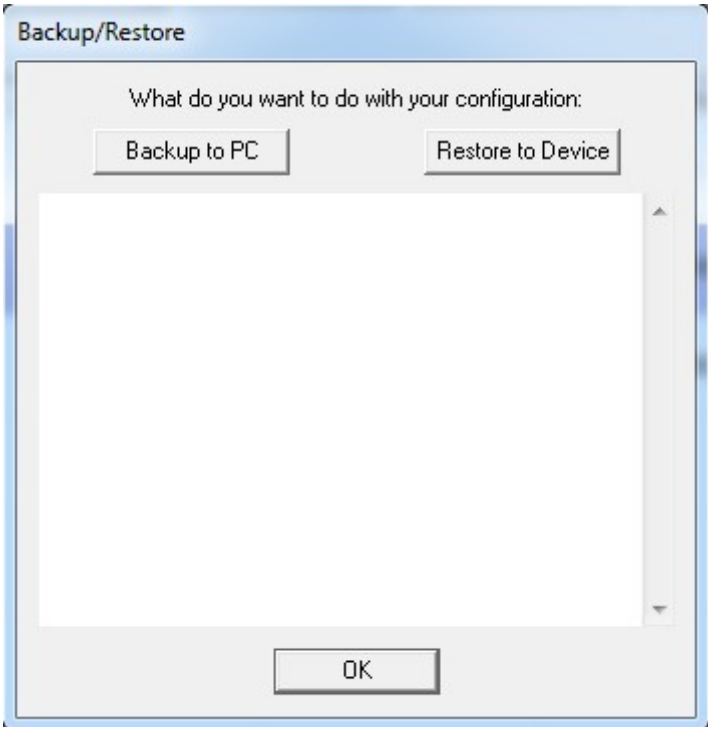
5.3.4 Firmware update

The TIC also allows you do update the firmware of your device. The program always contains the latest firmware files for all device types. If you want to execute an update you can simply click on the button “Update”. Now you have to confirm the questions and messages to start the process. If the firmware already is the latest one or even newer then the firmware which is delivered by the TIC, the button is grayed out.



5.3.5 Backup/Restore

If your device configuration changes regularly it may be helpful to create a backup of these configurations by using the function “Backup/Restore” so you can restore them when needed. If you have selected a device and clicked on the button “Backup/Restore” within the main window the following dialog will appear:



When you want to create a backup of the configuration you have to click on the button “Backup to PC”. Now the configuration from the device gets retrieved. After that you have to select a folder and enter a file name where the configuration should be stored.

If you already have a backup and want to load it back to the device you can click on the button “Restore to Device” and select the created backup. The configuration then gets loaded back to the device.

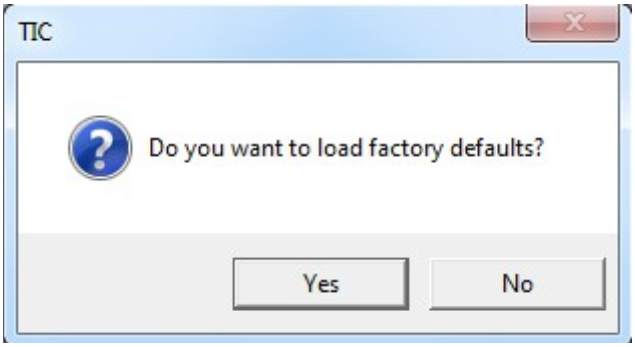
Hint:
A configuration backup which was created for e. g. a MPI/DP-SCAN module can merely be loaded back to a MPI/DP-SCAN module.

5.4 Special functions

In this section some further functions are described which doesn't belong to the basic configuration of a device.

5.4.1 Factory defaults

If you want to set your device back to the factory default settings, you can to this by clicking on the item “Factory defaults” within the menu “Extras”. As soon as you have clicked on the item a message will appear which have to be confirmed by clicking on “Yes”.



Hint:

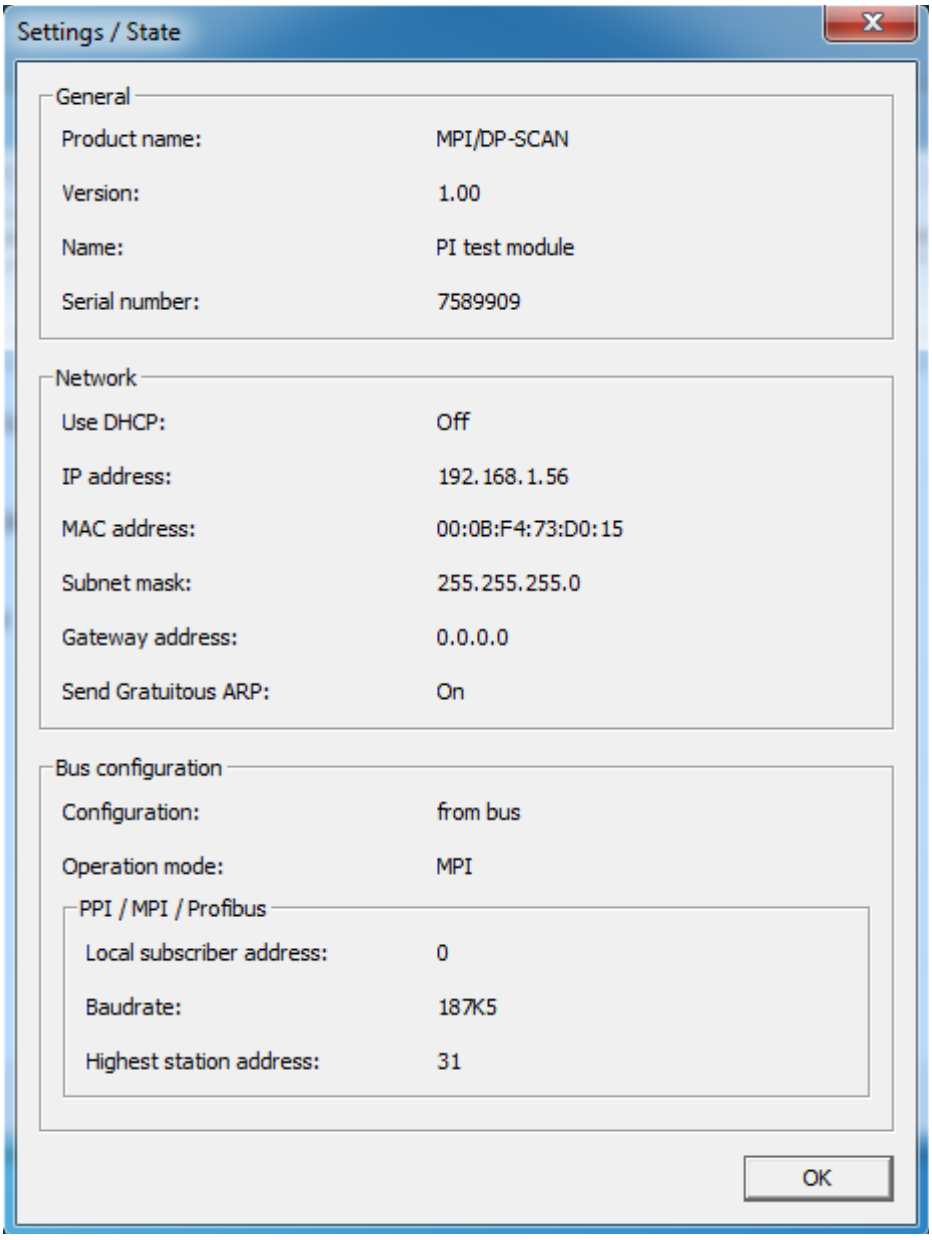
The button “Factory defaults” within the dialog for network settings as well as the entry on the settings dialog does exactly the same thing as the here described menu item.

Please note, that if you set back a LAN device to it's factory defaults, it is reachable with the IP 192.168.1.56 subsequently!

5.4.2 Device state

Within the settings dialog you will always see the configuration of the device. But in some situations it may be useful to see the current parameters who are used by the device (e. g. if a bus configuration is expected from the bus).

The TIC allows you to show this current device parameters. Therefore you have to click within the menu “Extras” to the item “Device state”. Now a dialog which looks similar to the settings dialog will be shown. In this dialog only the relevant parameters are shown too.

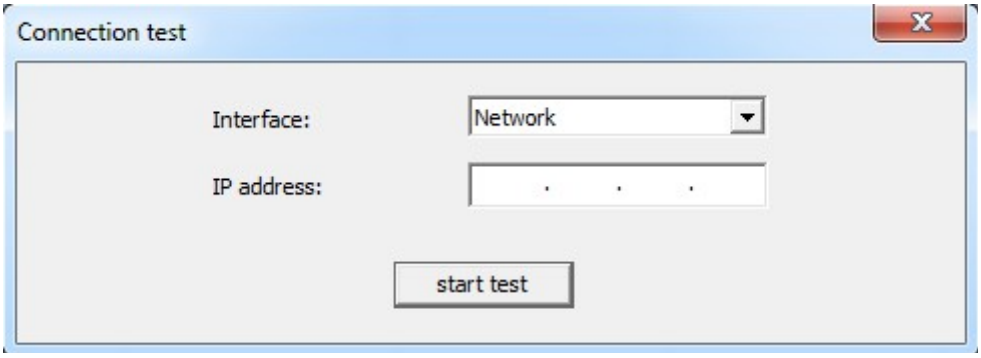


5.4.3 Connection test

If you have problems with the connection to your LAN or USB device, you can use the connection test to check why there are problems by the connection to the device.

The test for LAN connection checks the basic communication path as well as all from the device supported protocols. For USB connections the basic USB connection, the driver as well as the availability gets checked. With the help of the test result you should be able to detect and solve problems by your own in short time.

The connection test can be opened by clicking on the entry “Connection test” within the menu “Extras”. When you have selected the entry a window will appear where you can choose the interface (Network or USB) and enter the IP address for the test. If a device was set in the main window its information will be preassigned for the test.

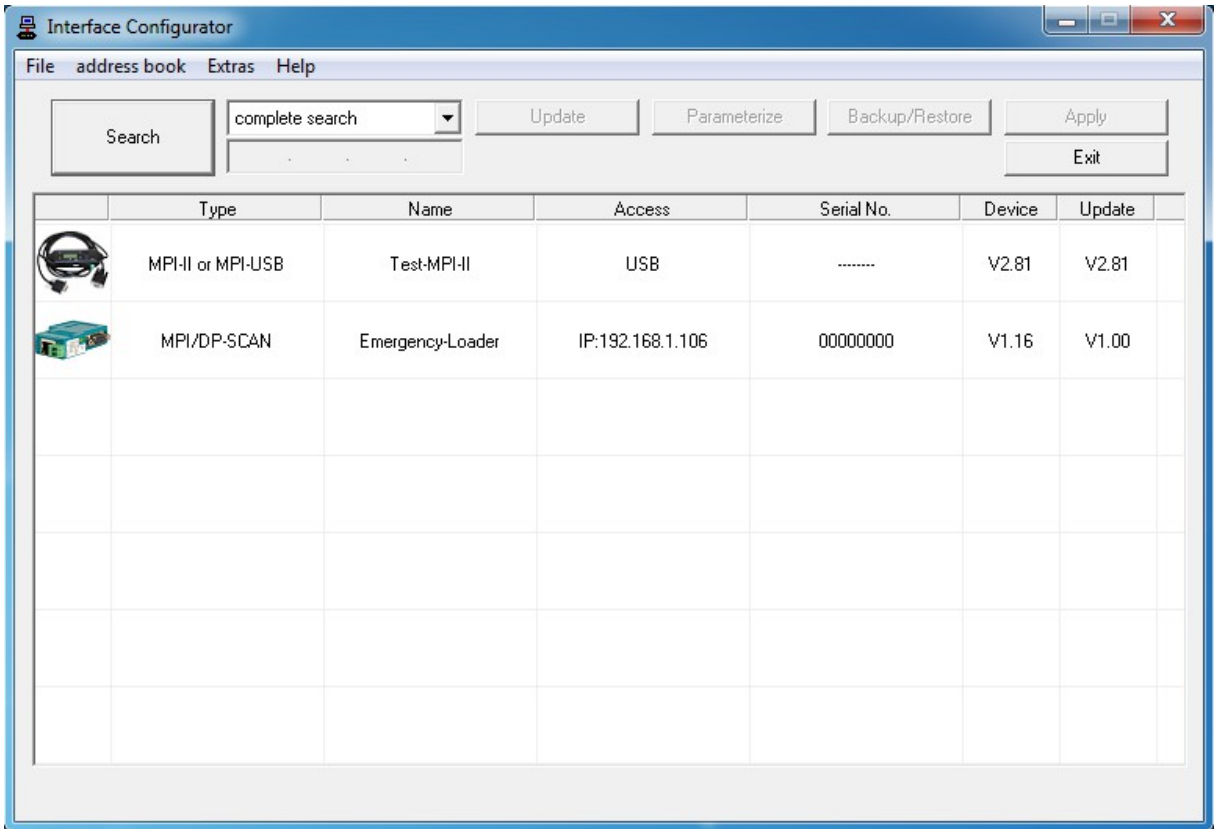


After you have selected the interface and entered the IP address you can click on the button “start test”. Depending on the connection the test may be finished in a few seconds. The process as well as the result will be shown within the window.

The TCP port 102 for the S7 communication, which is also tested on the connection test via network isn't available for MPI/DP-SCAN devices. This port is only used for the devices S7-LAN, S7-GATE and MPI-LAN.

5.4.4 Emergency loader

The emergency loader is a small program within the device, which allows you to import the firmware to your module / cable again, if a previously started firmware update failed.



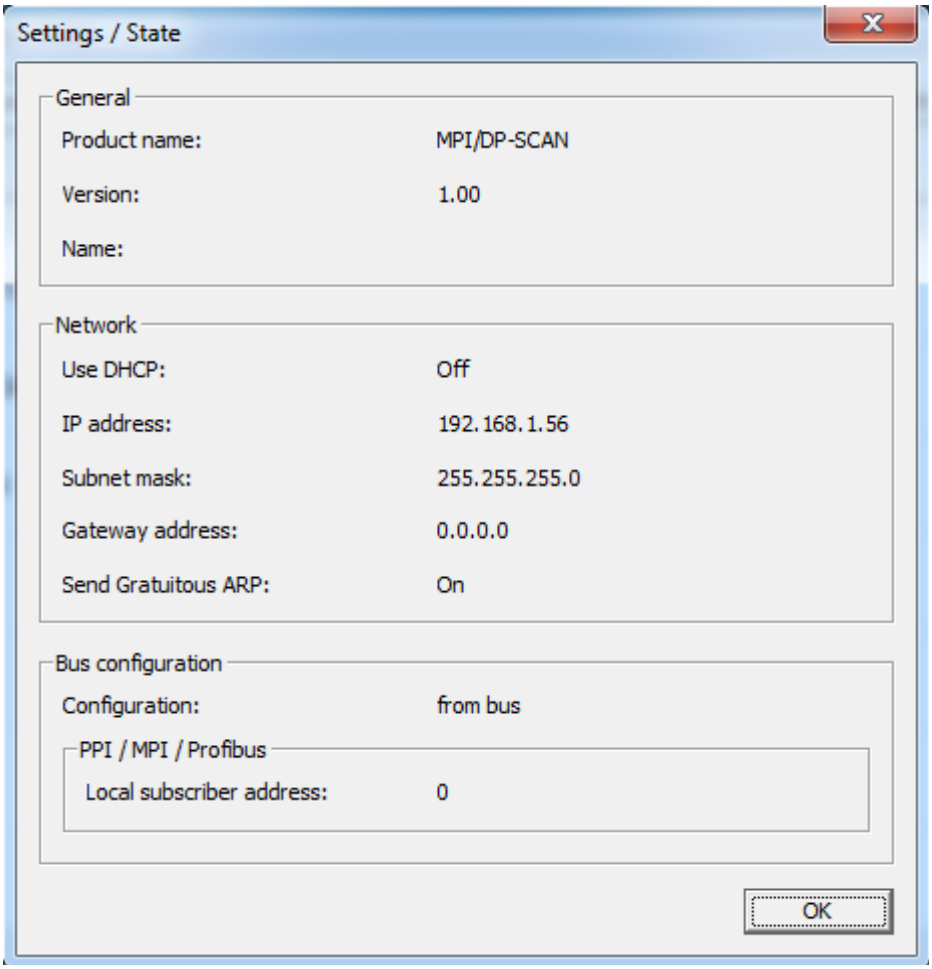
Devices who are in the emergency loader assign them the next free IP address from the PC to itself automatically (only for LAN devices). The update can be executed normally by first choosing the device and then clicking on the button “Update”.

Important:
A device which is located in the emergency loader can't be used for bus recording or normal configuration. The only possible function is the execution of the update process.

The access to a LAN device which is located in the emergency loader is only possible, if it's within the same physical network as your PC.

5.4.5 view config file

If you have created a backup from your device via the Backup/Restore dialog you can view the configuration from this file without the need to load the configuration back to the device. When you want to use this function you have to click on the entry “view config file” within the menu “extras” and select the created configuration file afterwards. Now you should see a dialog with the configuration:



5.5 Settings

Via the menu “Help” you can toggle the two small settings “Automatically search”, for the activation of the automatically device search when starting the application, and “show version hint”, for enabling the checking of the device version and showing a prompt, when a firmware update for the device should be executed.

Another item within the “Help” menu is “Language selection”. If you have clicked on that item a small window will be shown. There you can then configure the language for the TIC windows. If you have changed the language you have to click on “OK” to submit your selection. The setting isn't saved among program restarts.

Hint:
In general the language of the TIC don't have to be changed, because the TIC automatically detects the language by reading the registry keys of e. g. the language from Siemens software and of the windows operating system.

6 Technical data

Supply voltage:	24V/DC +/- 20%
Power consumption:	2 watt
Display:	web browser status LED's
Handling/Configuration:	web browser TIC configuration tool
Interfaces:	**to the PLC:** MPI/Profibus interface 9,6 kBd – 12 MBd **to the PG/PC:** 9-pin PG/Diagnostic jack 10/100 BaseTX RJ45-Ethernet jack
Galvanic isolation:	1500V MPI/Profibus to the PC
Protocols:	DHCP, HTTP
Operating temperature:	-30 - +55°C
Case:	ABS plastic case
Dimensions:	65 x 43 x 17 mm

6.1 Pin assignment MPI

no.	notation	description	direction
1	NC	not connected	-
2	M24V	ground 24V/DC	input
3	LTG_B	data line B	bidirectional
4	RTS-AS	request to send from PLC	input
5	M5V	ground 5V/DC	input
6	P5V	5V/DC power output	output
7	P24V	24V/DC power input	input
8	LTG_A	data line A	bidirectional
9	RTS-PG	request to send to PLC	output

For the detection of directly connected participants the lines RTS-AS and M5V have to be wired on the interface.

P5V is an output on this cable and is used for bus-termination only. This 5V/DC isn't loadable and therefore secured with an 100 ohms resistor.

Hint:
The shield on the SUB-D plugs are connected.

Important:
This cable side shouldn't be extended with all lines, because it also carries 24V/DC and 5V/DC for power supply.

If you want to extend this cable side, please connect your device with an external power supply and extend only the two lines LTG_A and LTG_B 1:1. The shield should be connected on both SUB-D plugs. Also you may have to include a resistor on the line end for bus termination.

6.2 Pin assignment Ethernet

no.	notation	description	direction
1	TX+	send line +	output
2	TX-	send line -	output
3	RX+	receive line +	input
4	NC	not connected	-
5	NC	not connected	-
6	RX-	receive line -	input
7	NC	not connected	-
8	NC	not connected	-