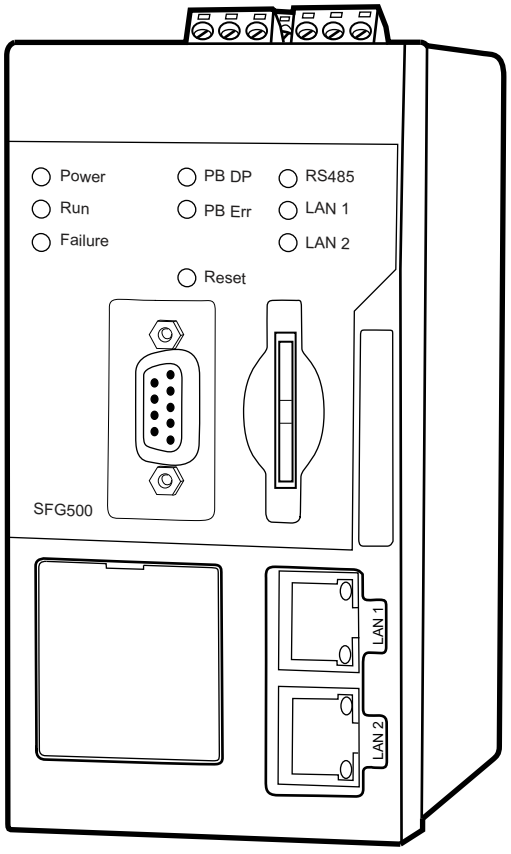
BA01579S/04/EN/03.16
71324511

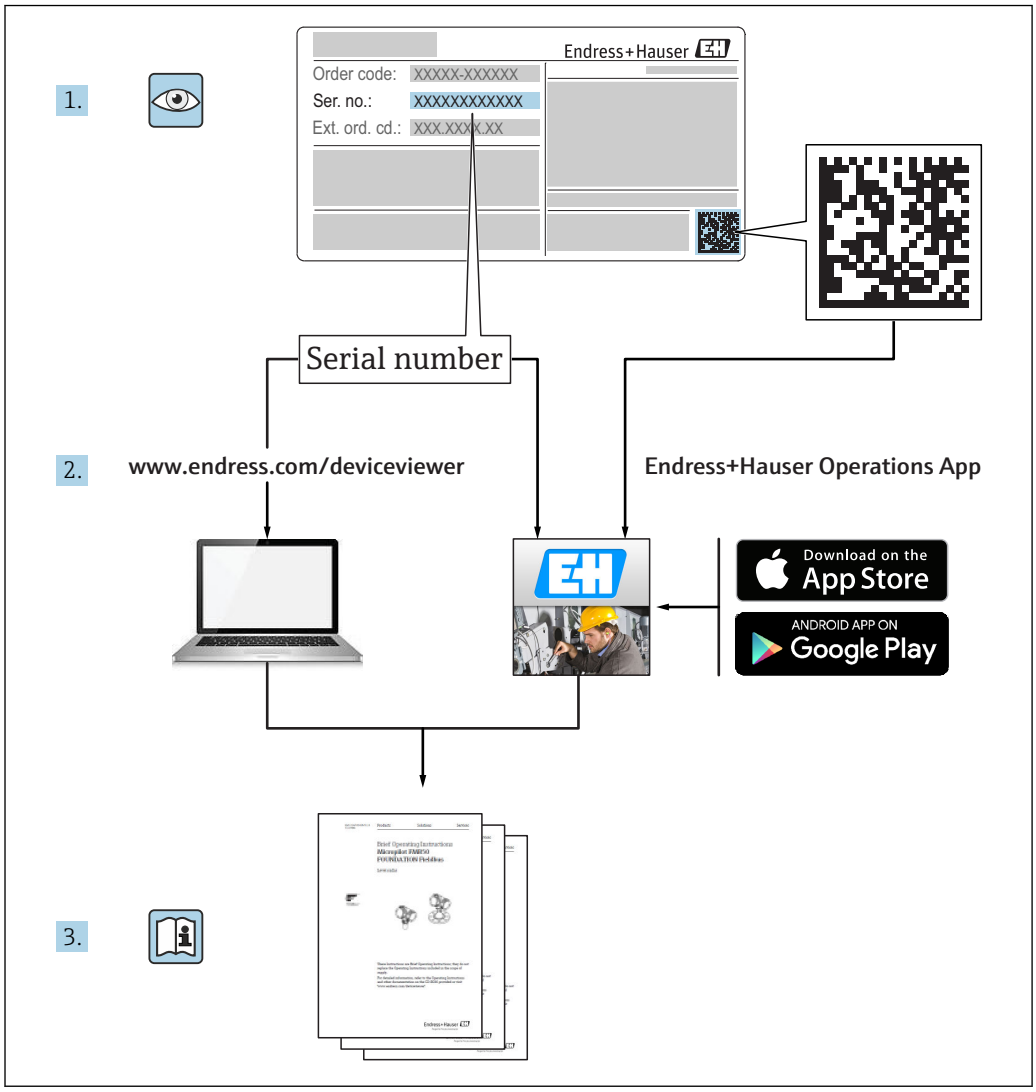
Valid as of version
1.09.xx

Operating Instructions
Fieldgate SFG500/SFM500

Access Point, Asset Monitor, Process Monitor



Endress+Hauser
People for Process Automation


1.
Endress+Hauser
Order code: XXXXX-XXXXXX
Ser. no.: XXXXXXXXXXX
Ext. ord. cd.: XXX.XXXX.XX
Serial number
2.
www.endress.com/deviceviewer
Endress+Hauser Operations App
Download on the App Store
ANDROID APP ON Google Play
3.

Revision history

Product version	Operating Instructions	changes	Comments
1.00.xx	BA00071S/04/EN/ 01.11	Original manual	-
1.00.xx	BA00071S/04/EN/ 02.12	Editorial Chapter 3 Chapter 5.1.1 Chapter 5.3.4 Chapter 5.3.5 General	IP LAN1: 10.126.84.100 New DTM function: PROFIBUS Scan Range New DTM function: Set Device Address Additional text regarding the Set Device Address function Renumbering, TOC, Index
1.01.xx	BA00071S/04/EN/ 03.13	Chapter 5 Chapter 5.2 Chapter 5.3 Update New CD	Screenshots and texts updated Embedded web server added Additional functions restructured
	BA00072S/04/EN/ 01.13	Original manual	-
1.02.xx	BA00071S/04/EN/ 04.14	Chapter 1 General	New, IT security Screenshots and texts updated
	BA00072S/04/EN/ 02.14	New function Chapter 1 General	Support of HART Remote IO New, IT security Screenshots and texts updated
1.03.xx	BA00071S/04/EN/ 05.14	No change	-
	BA00072S/04/EN/ 03.14	3.2.4 E-mail Settings 4.2 Assets	Options for e-mail messaging Grid view
1.04.xx	BA00071S/04/EN/ 06.14	No change	-
	BA00072S/04/EN/ 04.14	4.2 Assets	Additionally supported HART Remote IOs
1.05.xx	BA00071S/04/EN/ 07.14	No change	-
	BA00072S/04/EN/ 05.14	3.2.4 E-Mail setup 4.2 Assets 4.2.2 Asset library	Additionally supported HART Remote IOs Importing, exporting and updating assets Libraries and GSD files
1.06.xx	BA00071S/04/EN/ 08.15	No change	-
	BA00072S/04/EN/ 06.15	2 Assets 4.2.2 Asset library	Additionally supported HART Remote IOs Filter Asset Library, Print Asset Descriptions
1.07.xx	BA00071S/04/EN/ 09.15	Chapter 3.2.1 Chapter 5.2.5 Chapter 5.3.4	Screenshots and texts updated Screenshots and texts updated Screenshots deleted and texts updated
	BA00072S/04/EN/ 07.15	3.1 Preliminaries 3.2.1 Network Settings 3.2.2 Date and Time 3.2.3 Tag and Location 3.2.4 E-Mail Settings 3.2.5 Firmware Update 4.1.1 PROFIBUS live list 4.3.1 Event Logging	Screenshots and texts updated Screenshots and texts updated Screenshots and texts updated Screenshots and texts updated Screenshots and texts updated Screenshots and texts updated Screenshots and texts updated Screenshots and texts updated
1.08.xx	BA01579S/04/EN/ 01.15	New Operating Instructions 9 Process Monitor	Merging BA00072S and BA00071S

Product version	Operating Instructions	changes	Comments
1.09.xx	BA01579S/04/EN/ 02.16	Chapter 6 Chapter 12	Adjusted header on web server Error display via SG500 status in header
1.09.xx	BA01579S/04/EN/ 03.16	Screenshots and texts updated	-

Table of contents

1 Document information

1.1 Document function

These instructions provide all the information required for use of the software: from the product description, installation and use to system integration, operation, diagnostics and troubleshooting to software updates and disposal.

1.2 Symbols used

1.2.1 Safety symbols

Symbol	Meaning
DANGER	**DANGER!** This symbol alerts you to a dangerous situation. Failure to avoid this situation will result in serious or fatal injury.
WARNING	**WARNING!** This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in serious or fatal injury.
CAUTION	**CAUTION!** This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in minor or medium injury.
NOTICE	**NOTE!** This symbol contains information on procedures and other facts which do not result in personal injury.

1.2.2 Symbols for certain types of information

Symbol	Meaning
	**Permitted** Indicates procedures, processes or actions that are allowed.
	**Preferred** Indicates procedures, processes or actions that are preferred.
	**Forbidden** Indicates procedures, processes or actions that are forbidden.
	**Tip** Indicates additional information.
	**Reference to documentation** Refers to the corresponding device documentation.
	**Reference to page** Refers to the corresponding page number.
	**Reference to graphic** Refers to the corresponding graphic number and page number.
1., 2., 3...	**Series of steps**
✔	**Result of a sequence of actions**
	**Help in the event of a problem**

1.2.3 Electrical symbols

Symbol	Meaning	Symbol	Meaning
⎓	Direct current	~	Alternating current
⎓ ~	Direct current and alternating current	⏚	**Ground connection** A grounded terminal which, as far as the operator is concerned, is grounded via a grounding system.
⏚	**Protective ground connection** A terminal which must be connected to ground prior to establishing any other connections.	⏚	**Equipotential connection** A connection that has to be connected to the plant grounding system: This may be a potential equalization line or a star grounding system depending on national or company codes of practice.

1.2.4 Type of protection

Symbol	Meaning
 A0010932	**Explosion-proof equipment which has undergone type examination** If the device has this symbol embossed on its name plate it can be installed in an explosion hazardous area in accordance with the specifications in the certificate or in a safe area.
 A0026000	**Hazardous area** Symbol used in drawings to indicate explosion hazardous areas. Devices located in and wiring entering areas with the designation “explosion hazardous areas” must conform with the stated type of protection.
 A0026001	**Safe area (non-hazardous area)** Symbol used in drawings to indicate, if necessary, non-explosion hazardous areas. Devices located in safe areas still require a certificate if their outputs run into explosion hazardous areas.

1.3 Software icons

1.3.1 Fieldgate

Symbol	Meaning
	Update Asset Library: Uploads a library file to the Fieldgate SFG500
	Export Asset Library: Exports a library file from the Fieldgate SFG500
	Import GSD: Imports a GSD file with additional NAMUR NE107 information
	Filter Asset Library: Filters asset descriptions to vendor or device type
	Edit Asset Description: Allows an existing asset description to be edited
	Print Asset Descriptions: Prints individual asset descriptions
	Shows the connected devices in a list view
	Shows the connected devices in a table view

Symbol	Meaning
	Shows the connected devices as module
	Opens the subordinate live list

1.3.2 NAMUR NE 107

Symbol	Description
 A0028390	Status OK.
 A0028391	Failure – the device is inoperative or faulty.
 A0028392	Check Function – the device is being checked, e.g. in simulation mode.
 A0028393	Out of Specification – the value that has been sent via the current output is outside of the set limits.
 A0028394	Maintenance Required – the device requires maintenance, e.g. cleaning in the case of a build up of contamination on a limit switch.
 A0028395	Not OK, Unknown – the device has diagnostic information that cannot be classified in accordance with NAMUR NE 107 because the corresponding file does not exist in the asset library.

1.4 Text emphasis

Emphasis	Meaning	Example
Bold	Keys, buttons, program icons, tabs, menus, commands	**Start → Programs → Endress+Hauser** select **Print** option in the **File** menu.

1.5 Supplementary documentation

The following table lists the documents, both existing and planned, that contain information relevant to safety or instructions for the installation, commissioning and operation of the Fieldgate SFG500 and its web server. The manual PROFIBUS guidelines contains information on how to design and install a PROFIBUS network, in particular on how to ground the network in order to avoid electromagnetic interference on the bus. All of the documentation available when the product is released for distribution can be found on the Fieldgate SFG500 CD-ROM or at www.endress.com and is installed during setup under **Start → Programs → Endress+Hauser SFG500 → Manuals**.

SFG500 documentation

Description	Document type	Description
Fieldgate SFG500; Installation and Commissioning	Operating Instructions	BA00070S/04/EN
Fieldgate SFG500; Getting Started	Operating Instructions	BA00073S/04/A2
PROFIBUS Guidelines	Operating Instructions	BA00034S/04/EN
FieldCare Project Tutorial	Operating Instructions	BA00065S/04/EN

1.6 Acronyms used

Acronyms	Meaning
DCS	Distributed Control System
DHCP Server	Dynamic Host Configuration Protocol Server
CPU	Central Processing Unit
DP	Decentralized Peripheral
IP	Internet Protocol
LAN	Local Area Network
NS	Next Station
PA	Process Automation
PLC	Programmable Logic Controller
TS	This Station
UDP	User Datagram Protocol

1.7 Registered trademarks

PROFIBUS® is a registered trademark of the PROFIBUS User Organization, Karlsruhe/ Germany.

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Acrobat Reader® is a registered trade mark of Adobe Systems Incorporated.

All other brand and product names are trademarks or registered trademarks of the companies and organizations in question.

2 Basic safety instructions

2.1 Requirements for personnel

The system must be installed, connected, configured, operated and maintained in accordance with the instructions in this manual and the associated manuals. In addition, the operating personal must have the necessary authorizations and appropriate qualifications.

2.2 Designated use

Fieldgate SFG500 is a system component that provides an independent access route to a PROFIBUS network. It may be used in a variety of applications that are supported by specific operating modes. The operating modes are determined by an optional memory card (Fieldgate Module SFM500).

Without memory card, Fieldgate SFG500 has the basic operating mode Access Point. In this case, it acts as an Ethernet gateway with adaptive PROFIBUS Master Class 2 capabilities to support FDT-based plant asset management host applications, e.g. FieldCare. Applications that require a memory card are being developed and will be described in separate manuals, see **Section 1.5**. → 🖹 8

When it is equipped with a memory card, the Fieldgate SFG500 listens to the bus traffic and presents the results in its web server. The user is able to check the status of devices according to Namur NE 107. Events on the bus can also be recorded and e-mails can be sent when specific events occur. The Asset Monitor cannot be used to carry out any device configurations except for setting PROFIBUS device addresses. To do so, the Fieldgate SFG500 must be used together with FieldCare or DeviceCare, as described in **section 5**. → 🖹 18

2.3 Occupational safety

When using the Fieldgate SFG500 as an Access Point or an Asset Monitor, the instructions in the **BA0070S/04/EN Operating Instructions** must be followed.

2.4 Operational safety

Fieldgate SFG500 has been designed to operate safely in accordance with current technical safety and EU directives. Field devices, links, junction boxes, cables and other hardware used in conjunction with the Fieldgate SFG500 module must also be designed to operate safely in accordance with current technical safety and EU directives.

If devices are installed incorrectly or used for applications for which they are not intended, or if the Fieldgate SFG500 module is not configured correctly, it is possible that dangers may arise.

2.5 IT security

We only provide a warranty if the device is installed and used as described in the Operating Instructions. The device is equipped with security mechanisms to protect it against any inadvertent changes to the device settings.

IT security measures in line with operators' security standards and designed to provide additional protection for the device and device data transfer must be implemented by the operators themselves.

3 Function and System Design

3.1 Function

3.1.1 Access Point

Without memory card, Fieldgate SFG500 has the basic operating mode Access Point. In this mode, it functions as an Ethernet gateway with an adaptive PROFIBUS Class 2 master, and supports FDT-based plant asset management applications.

The SFGNetwork DTM is provided for use with FieldCare and offers the following functions:
- Scanning for all Fieldgate SFG500s in the same Ethernet IP address domain
- Scanning for all PROFIBUS DP/PA devices in the connected segment
- Access to the functions embedded in the web server, e.g. live list, settings etc.

The DTM is supplied as standard with FieldCare from version 2.09.xx or can be installed from the Set-up CD ROM provided with Fieldgate SFG500.

3.1.2 Asset Monitor/Process Monitor

This feature (device monitoring) is available once a Fieldgate module with the corresponding software is inserted into the memory card slot of the Fieldgate. In Asset Monitor mode, Fieldgate uses its parallel path to a PROFIBUS DP network to monitor traffic, build up a list of the bus participants and to monitor bus events.

It offers the following functions:
- Live list of the devices on the bus with status information in accordance with NAMUR NE 107
- Audit trail of device events with type of event and time stamp
- E-mail notification of bus events
- Providing cyclic and acyclic process values

When the Fieldgate SFG500 is operating in Asset Monitor/Process Monitor mode, it can still be used together with FieldCare. Additional functions are shown in the embedded web server of the SFG500 DTM.

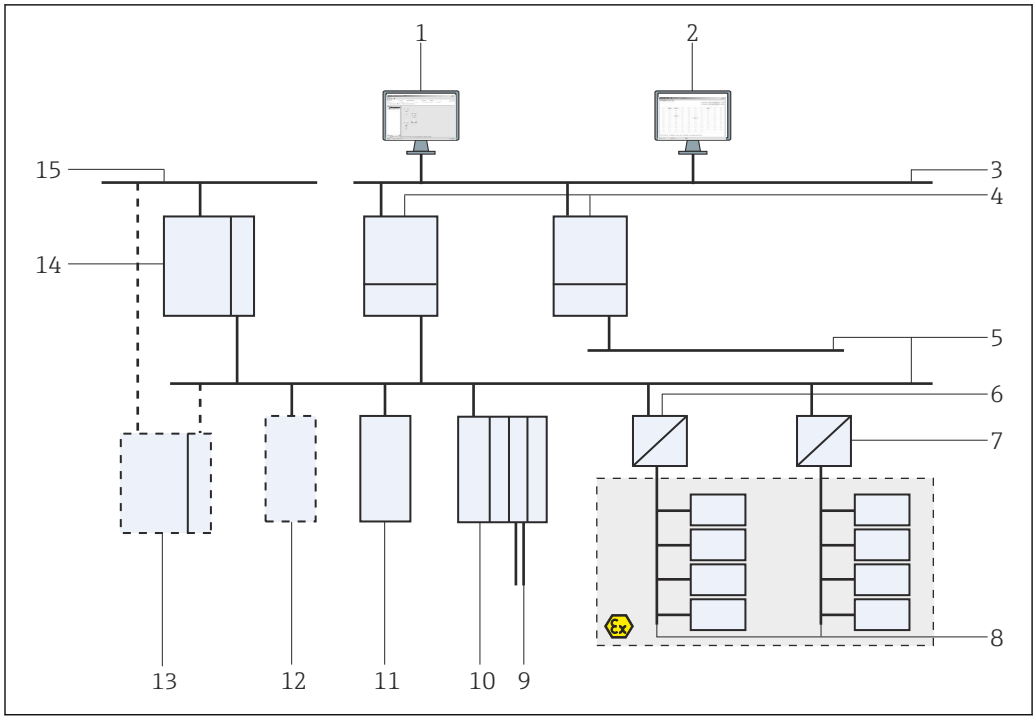
3.2 System design

A typical control network consists of a PLC or DCS system and one or more PROFIBUS DP segments. Depending on the actual circumstances, it is possible for additional Class 1 masters to be connected to the network. PROFIBUS DP slaves, remote I/Os and segment couplers or PA links are also connected to the PROFIBUS DP segment. Remote I/Os enable HART devices to be integrated into the PROFIBUS DP network, for example. Segment couplers or PA links establish a connection to PROFIBUS PA slaves and also supply them with power.

The Fieldgate SFG500 provides the Host applications with access to the data from the PROFIBUS DP segment independently of the control system via its Ethernet port. The Local Area Network (LAN) that these devices operate in can be a separate network or a part of the control network. Each Fieldgate SFG500 can establish a connection to a single PROFIBUS DP segment. If there is more than one segment in a PROFIBUS DP network, a separate SFG500 module is required for each segment.

The Fieldgate SFG500 can be configured from any computer in the LAN using a web browser (e.g. Internet Explorer). LAN2 is equipped with a DHCP server, which supplies an address to a connected computer.

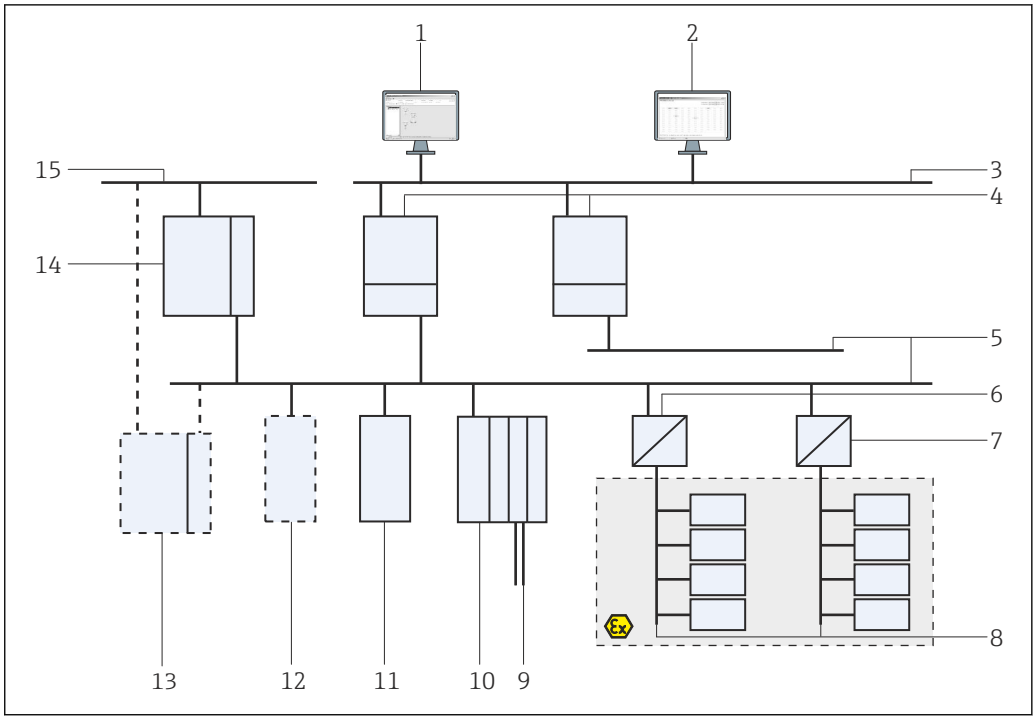
3.2.1 Access Point



1 *System architecture for Fieldgate SFG500 operating as an access point*

1 *FieldCare*
2 *Web browser*
3 *LAN1 (Ethernet)*
4 *SFG500 PB MS2*
5 *PROFIBUS DP*
6 *DP/PA coupler (transparent)*
7 *DP/PA coupler (not transparent)*
8 *PROFIBUS PA with PA slave*
9 *HART devices downstream from remote I/O*
10 *DP remote I/O (HART connection)*
11 *DP slave (PA profile)*
12 *PB Class 2 master (visitor)*
13 *PLC/DCS (additional PB Class 1 master optional)*
14 *PLC/DCS with PB Class 1 master*
15 *Control network*

3.2.2 Asset Monitor/Process Monitor



2 *System architecture for Fieldgate SFG500 operating as an asset monitor*

1 FieldCare
2 Web browser
3 LAN1 (Ethernet)
4 SFG500 PB MS2
5 PROFIBUS DP
6 DP/PA coupler (transparent)
7 DP/PA coupler (not transparent)
8 PROFIBUS PA with PA slave
9 HART devices downstream from remote I/O
10 DP remote I/O (HART connection)
11 DP slave (PA profile)
12 PB Class 2 master (visitor)
13 PLC/DCS (additional PB Class 1 master optional)
14 PLC/DCS with PB Class 1 master
15 Control network

4 Commissioning

- This section consists solely of information regarding physically commissioning and connecting the Fieldgate SFG500
- These Operating Instructions describe the configuration and operation of the Fieldgate SFG500 for specific applications, see **Section 5.1** → 18
- For the purposes of these Operating Instructions, it is assumed that the battery has been inserted into the Fieldgate and the network is in operation.

4.1 Preparatory steps

4.1.1 Computer IP properties

The LAN1 and LAN2 interfaces of Fieldgate SFG500 allow communication with a computer via the integral Web Server.

Ensure that the following conditions are met:
- The TCP/IP Internet protocol is installed on your computer and active
- The user has administrator rights for the computer and the network
- The user has a set of IP addresses that have been authorized by the IT department
- The proxy server for the Internet browser is disabled.

Fieldgate SFG500 is supplied with the following default:
- LAN1: 10.126.84.100
- LAN2: 192.168.253.1
  Ensure that there is no other DHCP server in the network.

Fieldgate SFG500 acts as a DHCP server on the LAN2 service interface and will automatically assign any computer connected an IP address, provided the latter has been configured to receive it. For later use in a PROFIBUS network, the Fieldgate SFG500 normally requires a fixed address on the LAN1 operating interface. This address must be set up in the web server.

Most computers which are used in a company network will already be set up to accept an IP address from a DHCP server. If the computer is used in a control system, however, it is possible that it has a fixed address. In this case, you must set an IP address, as described in **Appendix A**. → 51

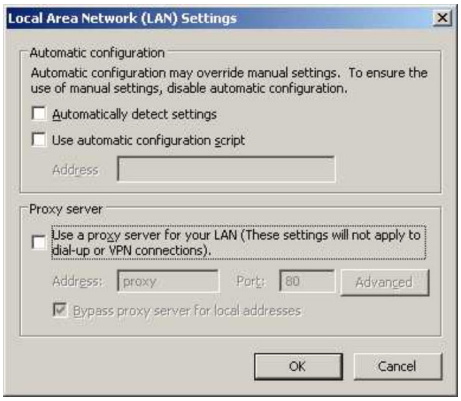
4.1.2 Web browser

The majority of the web browsers used in company networks operate via a proxy server. This setting must be deactivated for the computer to be able to communicate with the SFG500 web server. The procedure below applies to Windows XP and Internet Explorer 8.0.

Configuring a web server

1. Right-click on the icon for the **Internet browser** on the desktop and select **Properties**.
   ↳ This will open the **Internet Properties** dialog window.

2. Click on the **Connections** tab and then select **LAN Settings**.
   ↳ This will open the **LAN Settings** dialog window.



3. Uncheck the checkbox for the proxy server.
   ↳ The **x** in the checkbox will be removed and the fields for the proxy server will be grayed out.
4. Click **OK** twice.
   ↳ This will confirm the settings and close the Internet Properties dialog window.

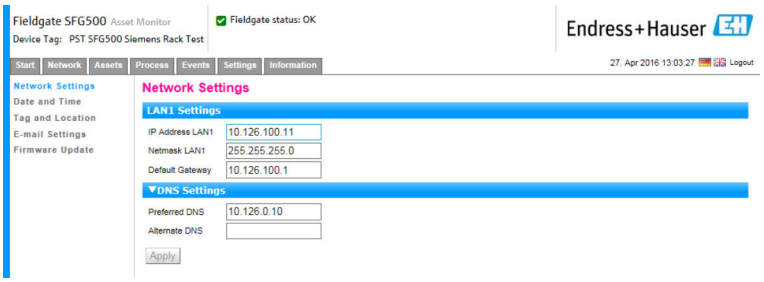
The connection to the SFG500 web server can now be established.

4.2 IP address of the LAN1 interface

4.2.1 Fieldgate SFG500 IP address

1. Check to ensure that the computer is connected to the LAN1 interface via a crossover cable.

2. 

   Enter and confirm the IP address 192.168.253.1. for the LAN2 interface in your Internet browser.
   ↳ This will open the introduction page for the web server.
3. Click **Login** on the menu bar.
   ↳ This will disable write protection.
4. Enter and confirm the **user name** (admin) and the **password** (admin).
5. 

   Click on the **Settings** tab.
6. Enter the required **Ethernet/IP Address**, **Network Mask** and **Default Gateway** and click **Apply**.
   ↳ The changes are saved in the Fieldgate SFG500.
7. Click **Log out**.
   ↳ This will reactivate write protection.

4.2.2 IP address of the FieldCare computer

Before FieldCare can use Fieldgate SFG500 to connect to the PROFIBUS network, the computer on which it is running must be given an address in the same domain.

1. Assign the computer an address in the same address domain as that of the Fieldgate SFG500, see **Appendix A**. → 🖹 51
2. Connect the computer to the LAN1 Ethernet interface via a crossover cable. A patch cable is required for a switch or a router.
3. Test the connection using the DOS command **ping xxx.xxx.xxx.xxx**, using the address of the Fieldgate SFG500 in place of 'x'.
   ↳ A FieldCare project can be started.

If there is no connection, proceed as described in the **BA00070S/04/DE Operating Instructions**.

4.3 Fieldgate SFGNetwork DTM

When Fieldgate SFG500 is used with FieldCare, it operates exclusively as a pure Access Point. For this purpose, a CD-ROM containing the DTMs and the documentation is included with the system. These DTMs must first be installed in FieldCare before FieldCare SFG500 can be used.

Installation of the SFGNetwork DTM is not necessary for FieldCare Version 2.09.xx or higher: For these versions, the SFGNetwork DTM is installed as part of the DTM library. An update is recommended, because it is possible for the Fieldgate SFG500 to be supplied with a more recent version of the SFG500 DTMs.

4.3.1 Installing the SFGNetwork DTM

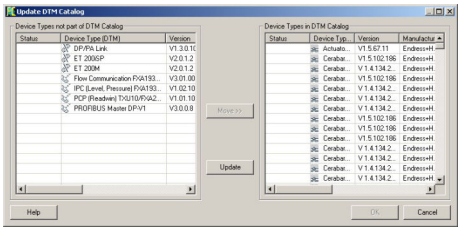
1. Insert the **CD-ROM** into the disk drive.
   ↳ The **Setup program** will start automatically.
2. Click on **CommDTM** and follow the subsequent instructions.

4.3.2 Updating the FieldCare DTM catalog

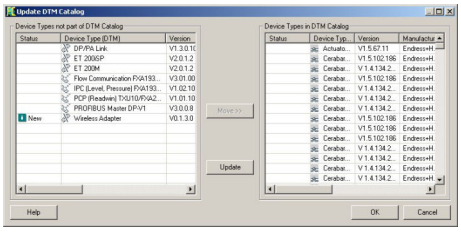
- The FieldCare DTM catalog must be updated if a new DTM is installed. You require administrator rights to update the FieldCare DTM catalog.
- If a SFGNetwork DTM was already in the catalog, it is automatically updated and does not appear as "New" in the left-hand panel.

Updating the DTM catalog

1. Start **FieldCare** and log in as the administrator.
2. In the startup screen click **Continue** and in the FieldCare dialog click **Open**.
3. Open **DTM Catalog** and click **Update**.
   ↳ The **Update DTM Catalog** dialog appears. The left-hand pane is initially empty.



4. Click **Update**.
   ↳ The search for DTMs is started. This can take a few minutes.
   When the search is finished, the new **DTM catalog** appears.



5. Select new **DTMs** and click **Move>>** and **OK**.
   ↳ The **Update DTM Catalog** dialog closes and the changes are accepted.

The DTM catalog is updated.

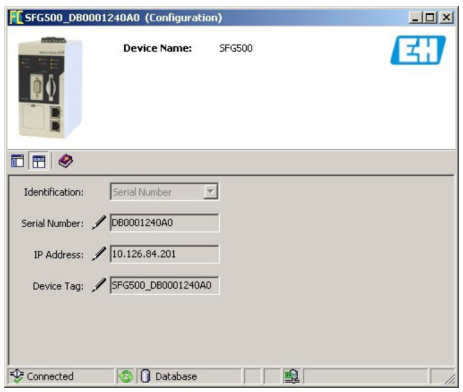
5 DTM for Fieldgate SFG500

This chapter contains a short description of the functions obtainable via the Fieldgate SFG500 Device DTM. All functions are called by right-clicking on a connected DTM and selecting the appropriate context menu. This procedure is not illustrated by screenshots.

5.1 Configuration

5.1.1 Fieldgate SFG500 CommDTM

▶ Right-click on the **Configuration** entry in the **Network** dialog window.
↳ The Fieldgate SFG500 Device DTM will open.



Meaning of the individual parameters:

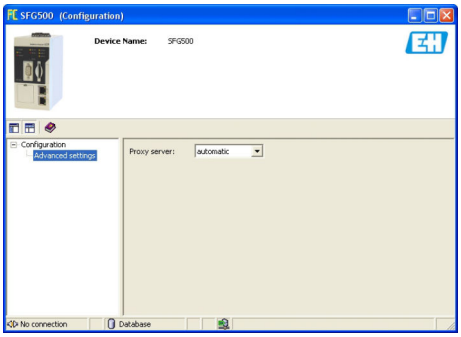
Parameters	Meaning
Identification	If the Fieldgate SFG500 Device DTM is manually added to a network, the menu provides three options for identifying the device that the DTM is to be connected to. ▪ The **Serial Number** entry field is enabled: – Enter the serial number of the device and press the Enter key. – The connection is made and the IP address and Device Tag are displayed ▪ The **IP Address** entry field is enabled: – Enter the IP address of the device and press the Enter key. – The connection will be established and the serial number and device tag will be displayed ▪ The **Device Tag** entry field is enabled: – Enter the device tag of the device and press the Enter key. – The connection is made and the serial number and IP address are displayed
Serial Number	Displays the serial number of the connected device. When offline, the box can also be used to reconnect to a different device, see above
IP Address	Displays the IP address of the connected device. When offline, the box can also be used to reconnect to a different device, see above
Device Tag	Displays the device tag of the connected device. ▪ When offline, the box can also be used to reconnect to a different device, see above ▪ If the DTM is online, the field can also be used to change the tag of the connected device.
Start Address	The lowest address scanned during searching for participants on the bus system
End Address	The highest address scanned during searching for participants on the bus system

5.1.2 Proxy Server Configuration

The SFG500 DTM must be offline before changes can be made to settings for the proxy server.

Some dialogs of the SFG500 CommDTM are Web pages provided by the connected Fieldgate SFG500. In order to connect to the Web server, it may be necessary to configure the proxy server.

- The proxy server is configured in **Advanced Settings** in the Configuration dialog. Click on the left-hand button on the toolbar in the tree view of the **Configuration** dialog window and select **Advanced Settings**.
  ↳ The proxy server can be configured.

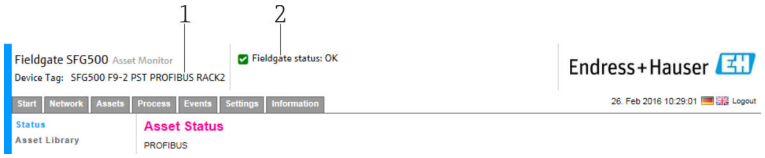


The following options are available in the drop-down menu:

Parameters	Meaning
automatic (default)	First the system settings are used. If it is not possible to establish a connection, the **no proxy server** option will be used
system settings	The settings defined in the web browser will be used
no proxy	The proxy server is disabled

6 Embedded web server

From version 1.09.xx, the Fieldgate SFG500 TAG and the Fieldgate SFG500 status are displayed in the header of the web server.



3 Header on web server

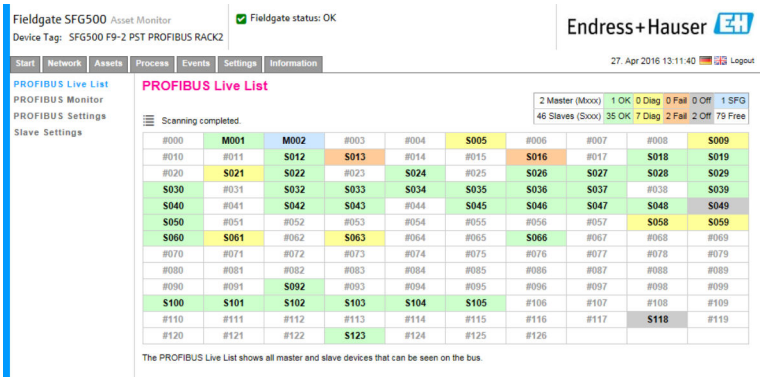
1 Fieldgate SFG500 TAG
2 Fieldgate SFG500 status

Symbol	Description
	Fieldgate status: OK
	Internal error, please restart SFG
	E-mail cannot be sent Test e-mail cannot be sent Time synchronization failed Baudrate not consistent No data transfer, check PROFIBUS settings A free PROFIBUS address could not be found

6.1 Embedded web server

The **Embedded Web Server** displays all of the functions of the Fieldgate web server in a DTM environment.

1. The SFG500 DTM must first be connected, as otherwise the entry will not appear in the menu.
   Right-click on the **SFG500** entry.
2. Right-click on the **Additional Functions → Embedded Web Server** entry.
3. Select the **Network** tab.
   ↳ The **PROFIBUS Live List** will open.

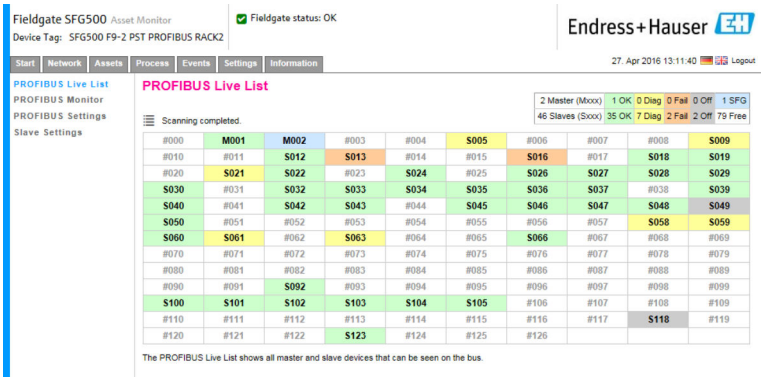


6.1.1 PROFIBUS live list

The PROFIBUS Live List displays all devices that can be seen through the selected Fieldgate SFG500.

Table view

1. Right-click on the **Additional Functions → Embedded Web Server** entry.
2. Select the **Network** tab.
   ↳ The **PROFIBUS Live List** will open.

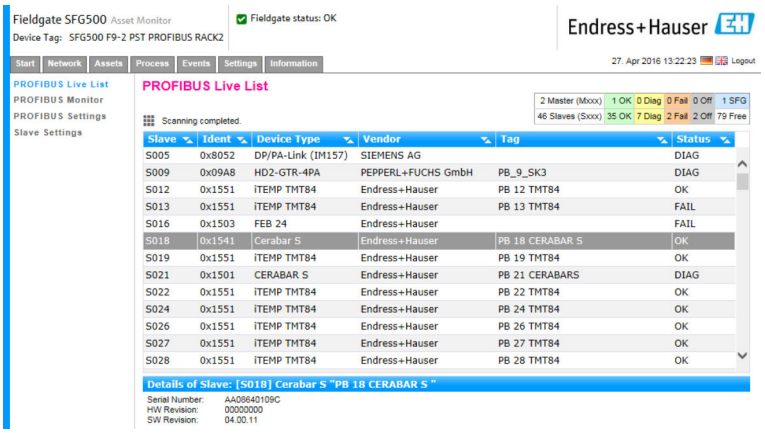


Meaning of the individual parameters:

Parameters	Meaning
Overview table	Indicates the number of devices on the bus, together with their type and status ▪ Green: Device in cyclic data exchange, status OK ▪ Yellow: Device in cyclic data exchange, has diagnostic message ▪ Orange: Device failed to enter into cyclic data exchange ▪ Grey: Device is present, but not in cyclic data exchange ▪ Blue: Fieldgate SFG500
	Shows the connected devices in a list view
	Shows the connected devices in a table view
Scanning state	Shows the number of devices the extended information (tag, diagnosis, etc.) has been read from. If the extended information has been read from all devices, **Scanning completed** will be displayed. In case of connecting new devices later on, only these additional devices will be displayed in the scanning state.
Live list matrix	Displays the type and PROFIBUS address of the device. ▪ Mxxx: master with PROFIBUS address xxx ▪ Syyy: slave with PROFIBUS address yyy ▪ Color code: as in overview

List View

1. Click on **Show List View**.
   ↳ The list of all connected devices will be displayed.



2. Click on a **device**.
   ↳ The device details will be displayed.
3. Click on **Show Grid View**.
   ↳ The **table view** will be displayed again.

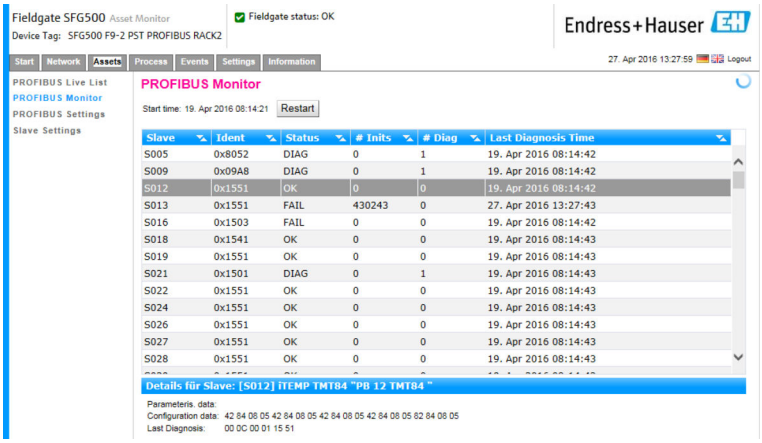
Meaning of the individual parameters:

Parameters	Meaning
Overview table	Indicates the number of devices on the bus, together with their type and status ▪ Green: Device in cyclic data exchange, status OK ▪ Yellow: Device in cyclic data exchange, has diagnostic message ▪ Orange: Device failed to enter into cyclic data exchange ▪ Grey: Device is present, but not in cyclic data exchange ▪ Blue: Fieldgate SFG500
	Shows the connected devices in a list view
	Shows the connected devices in a table view
Live list	
Slave	Slave ID in the PROFIBUS live list (Saaa, aaa = PROFIBUS address)
Ident	Slave device type
Device type	Manufacturer's device type identification
Serial No.	Manufacturer's serial number of the slave
Tag	Tag No. of the slave
Status	▪ OK: No events since last restart of live list ▪ DIAG: Device has issued a diagnostic message since last restart of live list ▪ FAIL: Device has failed since last restart of live list
Details of Slave	
Manufacturer	Manufacturer of the device
HW Revision	Revision of the installed hardware
SW Revision	Revision of the installed software

6.1.2 PROFIBUS Monitor

Table view

1. Right-click on the **Additional Functions → Embedded Web Server** entry.
2. Select the **Network** tab.
3. Select **PROFIBUS monitor**.
   ↳ The **PROFIBUS Live List** will open.



Meaning of the individual parameters:

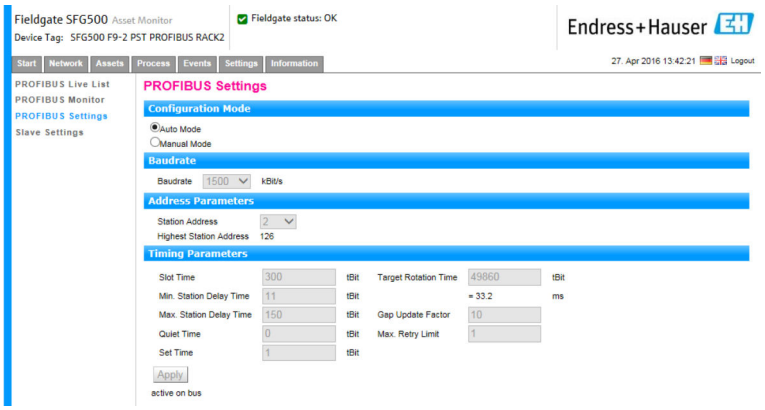
Parameters	Meaning
Resetting	Restarts the PROFIBUS Monitor
Diagnostic table	
Slave	Slave ID in the PROFIBUS live list (Saaa, aaa = PROFIBUS address)
Ident	Slave device type
Status	Indicates the number of devices on the bus, together with their type and status ▪ Green: Device in cyclic data exchange, status OK ▪ Yellow: Device in cyclic data exchange, has diagnostic message ▪ Orange: Device failed to enter into cyclic data exchange ▪ Grey: Device is present, but not in cyclic data exchange ▪ Blue: Fieldgate SFG500
Init	Indicates the number of device initializations since the last restart of monitor
Diag	Indicates the number of diagnostic messages since the last restart of monitor
Last Diagnosis Time	Displays the time of the last diagnostic message issued by the device: If there has been no message, the time of the last monitor restart is shown
Details of Slave	
Parameter data	Parameter string of selected slave (shown only after an initialization)
Configuration data	Configuration string of selected slave (shown only after an initialization)
Last diagnostics	Diagnosis string of selected slave (shown only after an diagnostic message)

6.1.3 PROFIBUS Settings

The commissioning of the Fieldgate SFG500 is described in the **BA00070S/04/EN Operating Instructions** , Fieldgate SFG500: Installation and Commissioning.

The list of PROFIBUS settings shows the baudrate detected, the PROFIBUS address of the selected Fieldgate as well as the bus parameters identified for master class 1. The dialog window can also be used to set the bus parameters, in which case all masters in the network must be synchronized.

1. Right-click on the **Additional Functions → Embedded Web Server** entry.
2. Select the **Network** tab and the **PROFIBUS Settings** entry.
   ↳ The **PROFIBUS Settings** will open.



Meaning of the individual parameters:

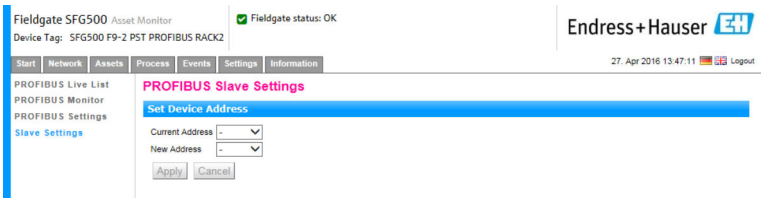
Parameters	Meaning
Configuration Mode	
Auto Mode	The Fieldgate SFG500 determines the PROFIBUS parameters and sets its own address: ▪ The PROFIBUS parameters are displayed. ▪ Overwriting is disabled The Fieldgate SFG500 sets the baudrate and its own address: ▪ The Target Rotation Time is calculated. ▪ All other parameters are recommendations, in accordance with the identified baudrate. ▪ If the parameters of the cyclical master are known, the relevant settings should be made in Manual mode.
Manual Mode	Writing is enabled and the user can set the PROFIBUS parameters: ▪ If the data transfer rate or the PROFIBUS parameters of the Fieldgate SFG500 are changed, the same settings must be configured in all masters in the PROFIBUS network. Otherwise, communication errors will occur. ▪ When returning to **Auto mode**, all parameter changes of the Fieldgate SFG500 are lost: Fieldgate SFG500 determines the PROFIBUS parameters and sets its own address. ▪ The baudrate can be changed only if there is no cyclical master on the bus.
Baud rate	
Baud rate	Indicates the baudrate detected by Fieldgate SFG500. To change the baudrate: ▪ Select **Manual Mode** ▪ Select a new baudrate from the pull-down menu and press Apply ▪ If the baud rate does not match the baud rate of the master, an error message will appear ▪ Returning to **Auto Mode** will cause all parameter changes to the Fieldgate SFG500 to be lost: Fieldgate SFG500 will determine the PROFIBUS parameters and configure its own address.
Address Parameters	
Station Address	This displays the PROFIBUS DP address for the Fieldgate SFG500 (Class 2 master) that the Fieldgate has selected for itself. To force a new address (0 – 126): ▪ Select **Manual Mode** ▪ Enter a new address and click Apply ▪ Returning to **Auto Mode** will cause all parameter changes to the Fieldgate SFG500 to be lost
Highest Station Address	The highest station address scanned during searching for participants on the bus system.
Timing Parameters	
Slot Time	Monitoring time – 'Wait for receipt' – of the senders (Requestor) of telegram for the acknowledgement of the recipient (Responder). After expiration, a retry occurs in accordance with the value of 'Max. telegram retries'.
Min. Station Delay Time	Minimum response time of a slave. This defines the minimum amount of time that elapses before a slave responds to a query from the master. The value in this field should be matched to the value in Quiet Time.
Max. Station Delay Time	Longest time period that must elapse before a Sender (Requestor) may send a further query telegram. Greatest time period between receipt of the last Bit of a telegram to the sending of the first Bit of a following telegram. The Sender (Requestor, Master) must wait at least for this time period after the sending of an unacknowledged telegram (e.g. Broadcast only) before a new telegram is sent.
Quiet Time	Fade time or switching time for self-controlled repeaters. Sending and receiving telegrams must be blocked during this time.
Set Time	Minimum period "reaction time" between the receipt of an acknowledgement to the sending of a new query telegram (Reaction) by the Sender (Requestor).
Token Rotation Time	Token rotation time. Defines the maximum amount of time that the DP master is permitted to hold a token before relaying it. How much time the Master still has available for sending data telegrams to the Slaves is dependent on the difference between the nominal and the actual token cycling time.

Parameters	Meaning
Gap Update Factor	Defines a number of token cycles after which active bus participants will check for newly added participants in their GAP range. The GAP range is the range of addresses from the address of a given bus participant (TS) to the station address of the next participant (NS). Each bus participant carries out a check of this range to determine whether new participants have been added to the PROFIBUS ring after the interval defined in the GAP Update Factor has elapsed.
Max Retry Limit	Limit for repeating the data exchange. This defines how many times a slave can fail to respond to a query by a master before an error is reported.
Button	
Confirm	Applies any changes to Fieldgate SFG500

6.1.4 Slave Settings

PROFIBUS slave settings enable the user to change the address of the selected PROFIBUS device, e.g. while the network is being commissioned, see **section 11.2**→ 🖹 47.

1. Right-click on the **Additional Functions → Embedded Web Server** entry.
2. Select the **Network** tab and the **PROFIBUS Slave Settings** entry.
   ↳ The **PROFIBUS Slave Settings** will open.



3. In the **Current Address** field, select the device that needs to have its address changed.
4. In the **New Address** field, select the new address for the device.
5. Click **Apply**.
   ↳ The changes will be saved for that device.

- If **Cancel** is selected, all changes will be discarded and the device will retain its old address.
- If it is not possible to change an address, it may be the case that the selected PROFIBUS slave device is locked.

After an address change the device concerned will no longer be connected to its DTM:
- For this reason, either change the DTM address to the address of the new device, or
- Delete all devices under the SFG500 and scan or verify the entire network again.
- Only addresses of devices that are not in cyclic data exchange can be changed.

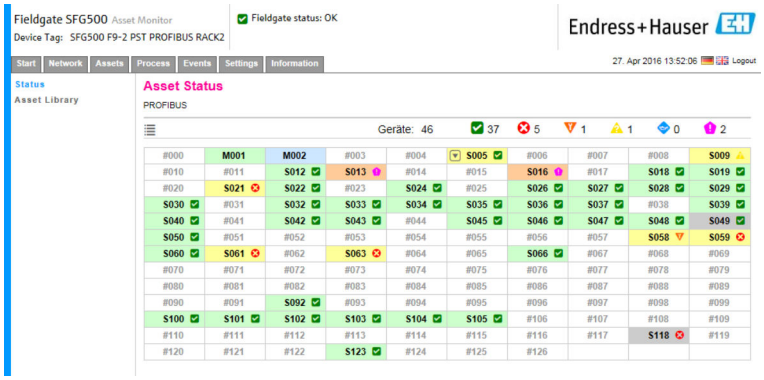
7 Asset Monitor

7.1 Status

Asset Status List displays the current status of the PROFIBUS devices on the bus segment connected to Fieldgate SFG500. The status is categorized according to NAMUR NE 107.

Table view

- Click on the **Assets** tab and then click on **Status**.
  - The **Asset Status** dialog window will be displayed.

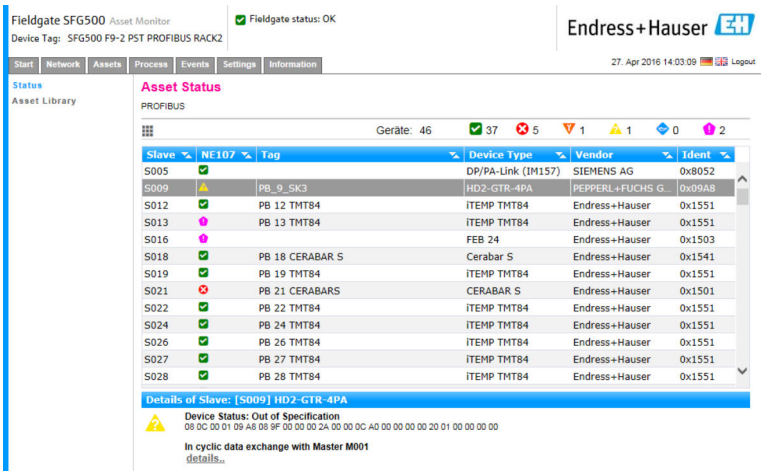


Meaning of the individual parameters:

Parameters	Meaning
Overview table	Indicates the number of devices in the various NAMUR NE 107 categories
	Shows the connected devices in a list view
	Shows the connected devices in a table view
Live list matrix	Displays the type and PROFIBUS address of the device. ▪ Mxxx: master with PROFIBUS address xxx ▪ Syyy: slave with PROFIBUS address yyy ▪ Color: as on the PROFIBUS live list
	If a supported HART remote I/O is connected at an address, the subordinate live list of devices behind the remote I/O can be opened using the **Subordinate Live List** button. The following remote I/Os are currently supported: ▪ Siemens ET200M ▪ Siemens ET200iSP ▪ Turck excom ▪ Siemens DP/PA Link ▪ ABB S900 ▪ Stahl IS1/IS1+

List View

1. Click on the **List View** button.
   ↳ A list of all connected devices will be displayed.



2. Click on a device.
   ↳ The details will be displayed.
3. Click on the **Table View** button.
   ↳ The devices will be displayed in the **table view** again.

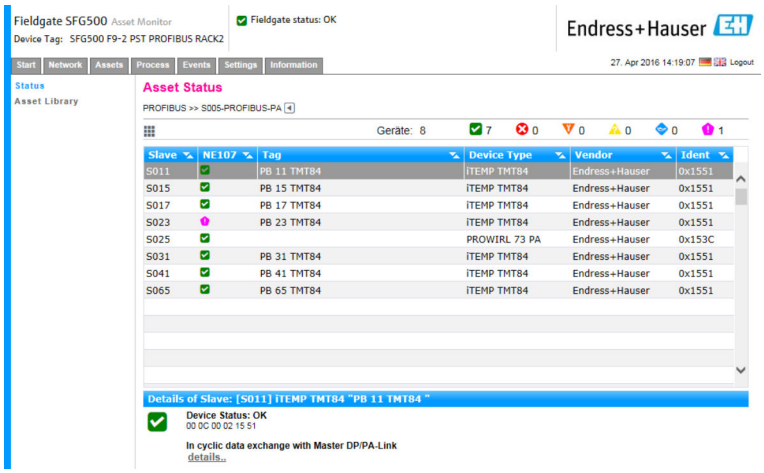
Meaning of the individual parameters:

Parameters	Meaning
Overview table	Indicates the number of devices in the various NAMUR NE 107 categories
	Shows the connected devices in a list view
	Shows the connected devices in a table view
Live list	
Slave	Device ID on the PROFIBUS live list (Saaa, aaa = PROFIBUS address)
NE 107	Device status in accordance with NAMUR NE 107
Tag	Tag number of device
Device type	Manufacturer's device type identification
Manufacturer	Manufacturer serial number of device
Ident	Device type of device
Device details	
Device status	Detailed diagnostic message of device according to NAMUR NE107

Subordinate Live List (list view)

▶ Click on the **Subordinate Live List** button.

↳ The Subordinate Live List will be displayed in a list view.

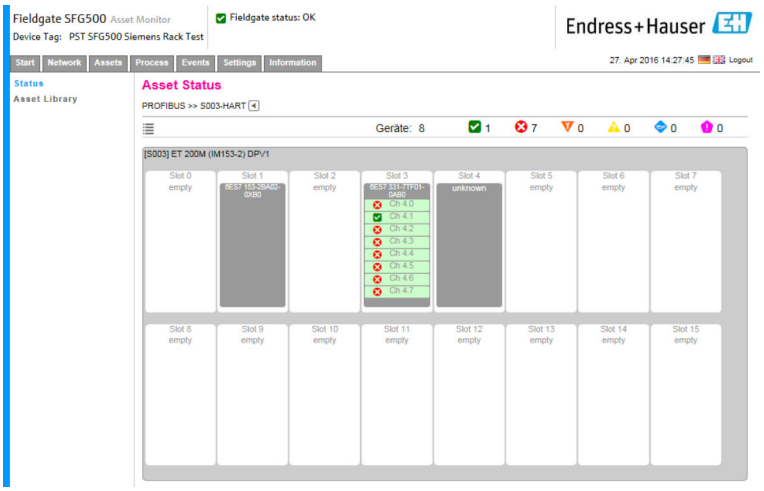


Meaning of the individual parameters:

Parameters	Meaning
Overview table	Indicates the number of devices in the various NAMUR NE 107 categories
	Back to overview: Returns to the superordinate list resp. table view
	Shows the connected devices in a list view
	Shows the connected devices in a table view
	Shows the connected devices as module
Live list	
Slave	The remote I/O address at which the relevant device is connected
NE 107	Device status in accordance with NAMUR NE 107
Tag	Tag number of device
Device type	Manufacturer's device type identification
Manufacturer	Manufacturer serial number of device
Ident	Type of device
Details of the channel	
Device status	Detailed diagnostic message of device according to NAMUR NE107

Subordinate Live List (module view)

- ▶ Click on the **Module View** button.
  - ↳ The Subordinate Live List will be displayed in a module view.



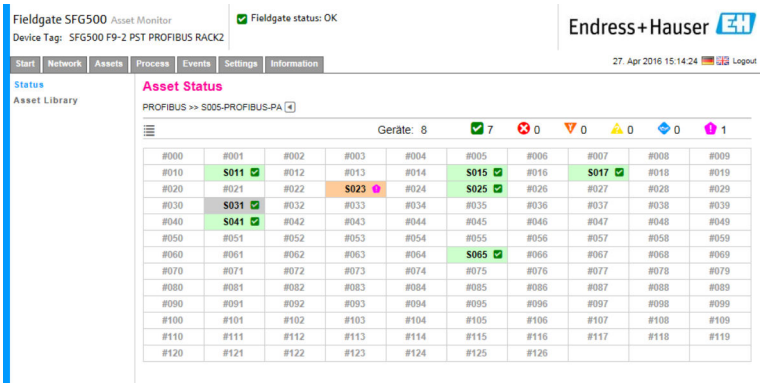
This view shows the usually modular composition of a Remote IO. The supported HART modules are depicted in the corresponding slots. If a HART device is connected to a module, the corresponding channel will be highlighted in color.

The following color states are possible:
- Green: Device in cyclic data exchange, status OK
- Yellow: Device in cyclic data exchange, has diagnostic message
- Orange: Device failed to enter into cyclic data exchange
- White: No HART device connected

In addition, the device status is shown for each channel using NAMUR NE 107 symbols, see **Section 1.3.2** → 🖹 8

Subordinate Live List (table view)

- ▶ Click on the **Table View** button.
  - ↳ The table view will be displayed.



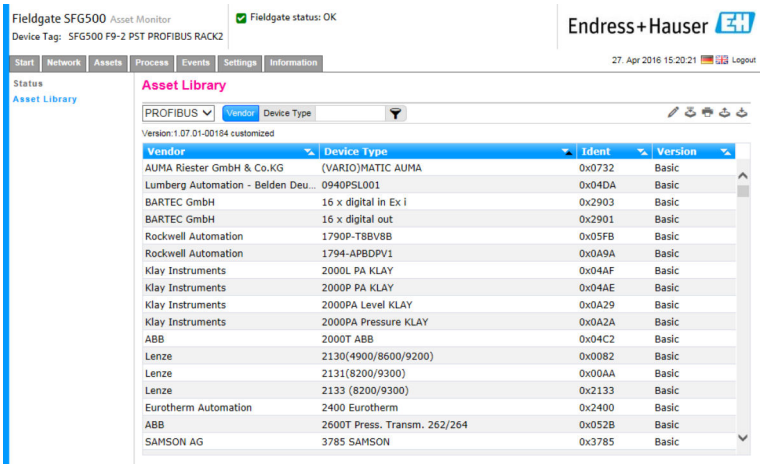
The table comprises all devices behind the Siemens DP/PA Link chosen. Depening on the link configuration it is possible it shows up itself. The details of the individual parameters are to be found in the table for the Asset Status Grid.

In addition, the device status is shown for each device using NAMUR NE 107 symbols, see **Section 1.3.2** → 🖹 8

7.2 Asset Library

Asset Library displays a list of the devices that are stored in the library and which have NAMUR NE 107 capabilities.

1. Click on the **Assets** tab and then click on **Asset Library**.
   ↳ The **Asset Library** will be displayed.



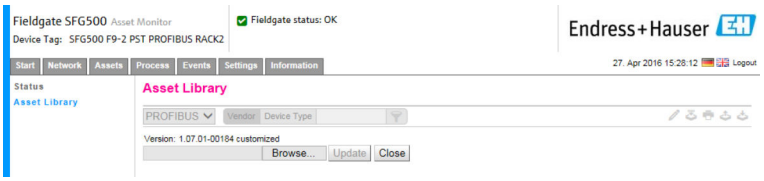
2. The drop-down menu can be used to switch between the PROFIBUS library view and the HART library view.

Parameters	Meaning
Manufacturer	Manufacturer serial number of device
Device type	Manufacturer's device type identification
Ident	Type of device
Version	Version of the asset description

7.2.1 Update Asset Library

The Asset Library consists of a list of devices that can display diagnostic information in accordance with NAMUR NE 107. Every new version of Fieldgate Asset Monitor automatically contains the latest library. For projects that require third-party devices, e.g. valves, Endress+Hauser will provide a library file that can be uploaded to the Fieldgate SFG500 via the web server as follows, or the user can upload a library file from another Fieldgate SFG500 that has been previously exported.

1. Click on the **Asset Library** button.
   ↳ The **Asset Library** will be displayed.
2. Click the **Update icon**.
   ↳ The **Asset Library** will be displayed.



3. Click **Browse** and navigate to the folder in which the Asset Library is located.
4. Click on the file and then click **Open**.
5. Click **Update**.

The selected file will be uploaded to the Fieldgate SFG500.

A red button appears above the table.

7.2.2 Export Asset Library

In order to copy edited library contents from one Fieldgate SFG500 to another, a library can be exported.

1. Click on the **Asset Library** button and then click on the **Export** icon.
2. Select a location to save the file and click **OK**.

The library will be saved.

7.2.3 Import GSD

In order to add new PROFIBUS devices to a library, the **Import GSD** function can be used to upload a GSD file. The information is transferred from the GSD file to the library.

1. Click on the **Asset Library** button and then click on the **Import GSD** icon.
2. Click **Browse** and navigate to the folder in which the GSD file is located.
3. Click on the file and then click **Open**.
4. Click on **Start Import**.

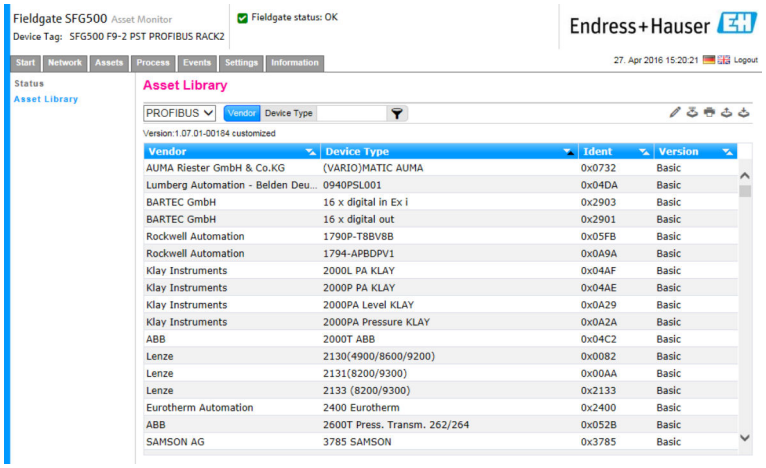
The selected GSD file will be uploaded to the Fieldgate SFG500.

A red button appears above the table.

7.2.4 Filter Asset Library

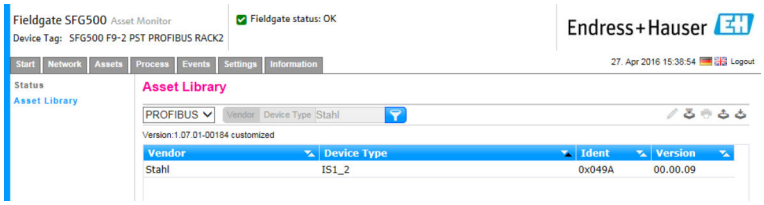
Asset descriptions can be filtered to vendor or device type.

1. Click on the **Asset Library** button.
   ↳ The **Asset Library** will be displayed.



2. Click on the **Manufacturer** or **Device Type** button.
3. Enter the manufacturer or device type that is to be filtered for in the text field and click on the **Filter the Asset Library** button.

The filtered list will appear.



A red button appears above the table.

7.2.5 Edit Asset Descriptions

Existing asset descriptions can be changed using the editor function.

1. Select the file that is to be changed from the list and click on the **Open Asset Description in Editor** button.
   ↳ The editor will open and display the contents of the selected asset description.
2. Make the necessary changes to the file and click **Apply**.

The changes are saved.

A red button appears above the table.

7.2.6 Print Asset Descriptions

Prints existing asset descriptions.

1. Select the file that is to be printed from the list and click on the **Print Selected Asset Description** button.
   ↳ A new browser window will open and display the contents of the selected asset description.
   The **Print** dialog window will open.
2. Select a printer and click **Print**.

The selected file will be printed.

8 Process Monitor

The Process Monitor enables the Fieldgate SFG500 to monitor the cyclic and acyclic process values. A configured cyclic PROFIBUS master is required for the cyclic process values. The acyclic process values do not require an additional master. The user must be logged in to make changes to the monitoring process.

- Up to four process values can be displayed in one tile
- The background color indicates the following statuses:
  - Green: Device in cyclic data exchange, status OK
  - Yellow: Device in cyclic data exchange, has diagnostic message
  - Orange: Device failed to enter into cyclic data exchange
  - Gray: Device is not in cyclic data exchange
- At the top right of the **tile**, the device status from the device is displayed in accordance with NAMUR NE 107.

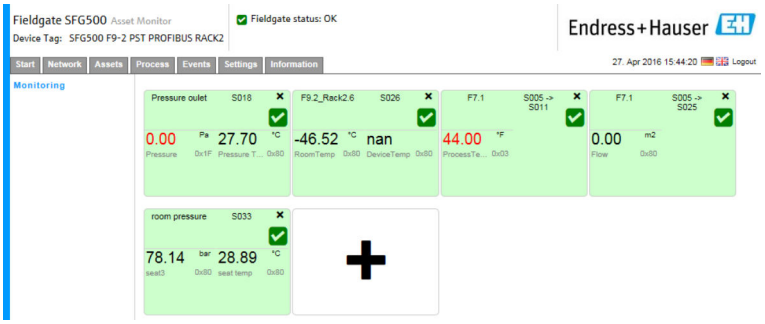
Meaning of the individual parameters:

Parameters	Meaning
Device address	This is applied from the selection made in the drop-down menu.
Device tag	Tag number of device.
Displayed device tag	Apply or re-enter device tag.
Unit	Measuring unit of the displayed value.
Data type	This is entered automatically. However, it can also be changed by the user. For analog values this is DS101, and for digital values DS102, see also the operating instructions for the connected device.
Name	Designation of the value to be monitored. This can be chosen individually by the user.
Slot	See slot/index lists from the relevant device manufacturer
Index	See slot/index lists from the relevant device manufacturer
Offset	This is automatically applied following device selection. However, it can also be changed by the user. Further information can be found in the operating instructions from the relevant device manufacturer.
Length	This is automatically applied following device selection. However, it can also be changed by the user. Further information can be found in the operating instructions from the relevant device manufacturer.

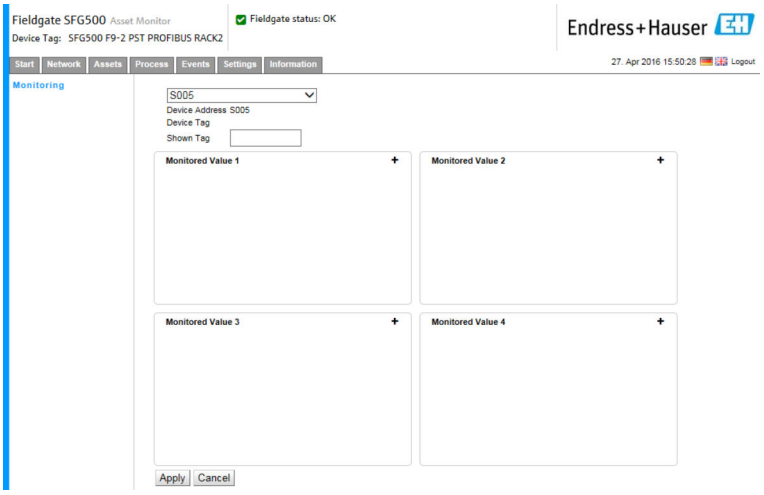
8.1 PROFIBUS DP/PA monitoring

Monitoring cyclical process values

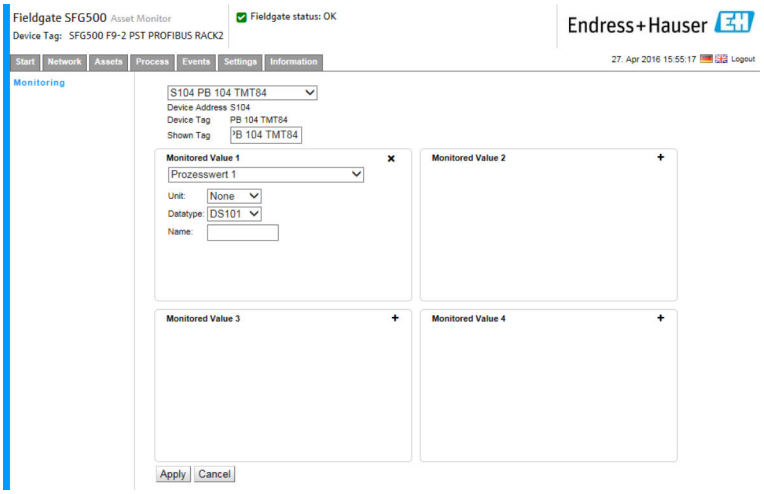
1. Click on the **Process** tab and then click on **Monitoring**.
   ↳ The **Monitoring** window will be displayed.



2. Click on the **+** in the tile.
   ↳ The configuration window for the tile will open.

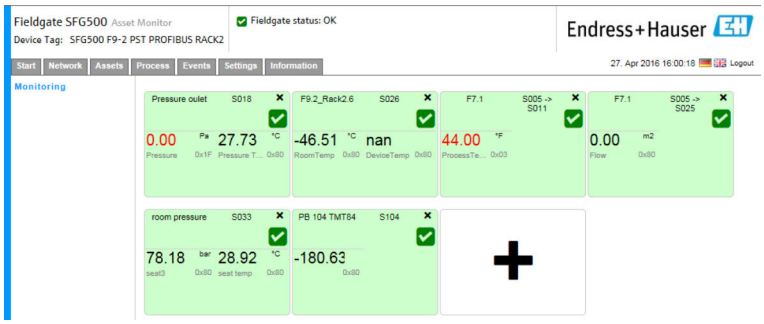


3. Select the device that is to be monitored from the drop-down menu and click on the **+** in the **Monitored Value** window.
   ↳ The input window for **Monitored Value** will be displayed.



4. Select the **Process Value, Unit and Data Type**, enter the **Name** and click **Apply**.

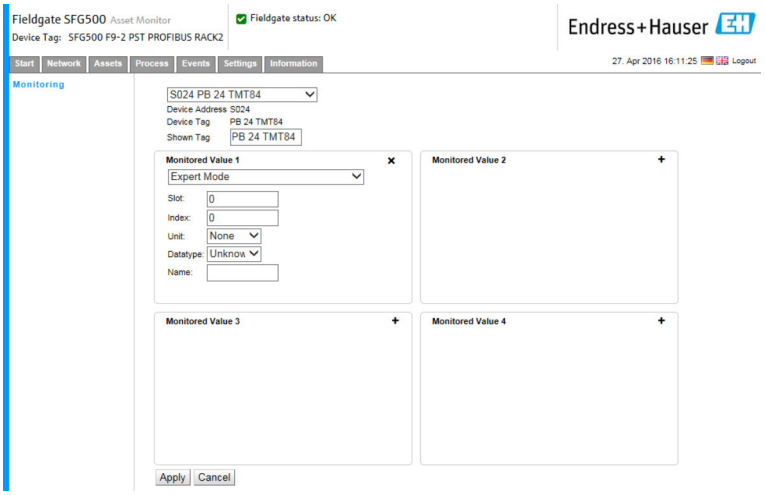
The values to be monitored will be displayed.



Monitoring acyclical process values via Expert Mode

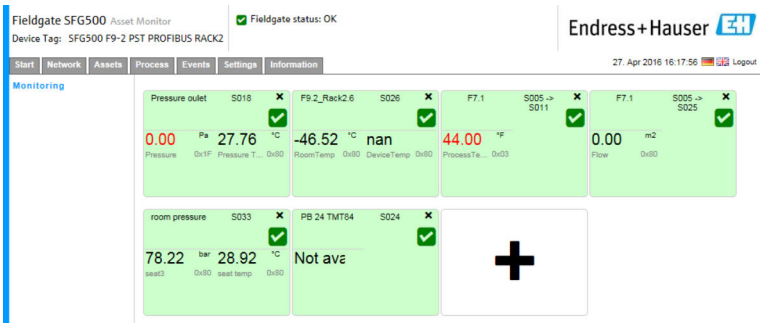
1. Repeat steps 1 and 2 as described above (under Monitoring cyclical process values)

2. Select the device that is to be monitored from the drop-down menu and click on the **+** in the **Monitored Value** window. Then select **Expert Mode**.
   ↳ The input window for **Monitored Value** will be displayed.



3. Select the **Slot, Index, Unit and Data Type**, enter the **Name** and click **Apply**.

The values to be monitored will be displayed.



8.2 Monitoring PROFIBUS devices behind Siemens link

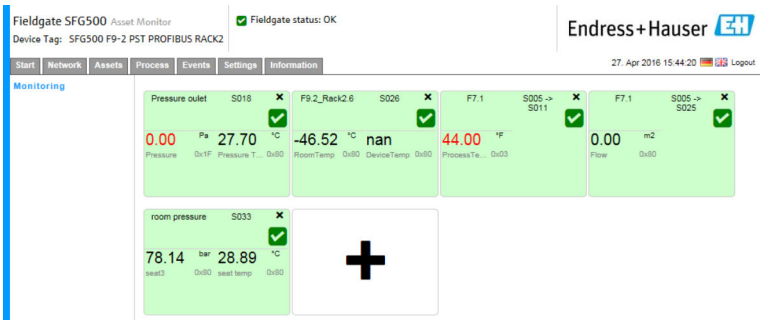
All process values from PROFIBUS PA devices that are configured behind the Siemens link can be monitored cyclically and acyclically.

The user must know the configuration of the cyclic master in order to be able to select the correct cyclically transferred process value in step 3. The user must also know how many process values are communicated cyclically by each device.

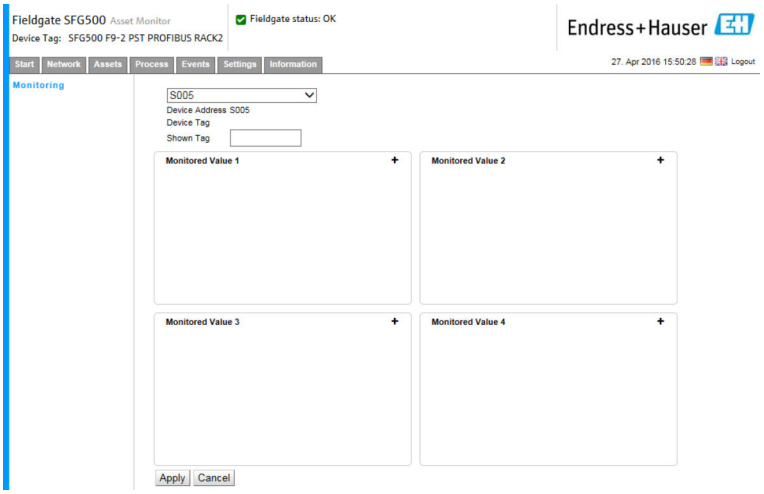
It is assumed that each device cyclically communicates one process value. This means that:
Addresses 1-4 exist, with a device with one process value connected to each of them.
If the process value from the device with address 5 is to be monitored, process value 5 must be selected.

Monitoring cyclical process values

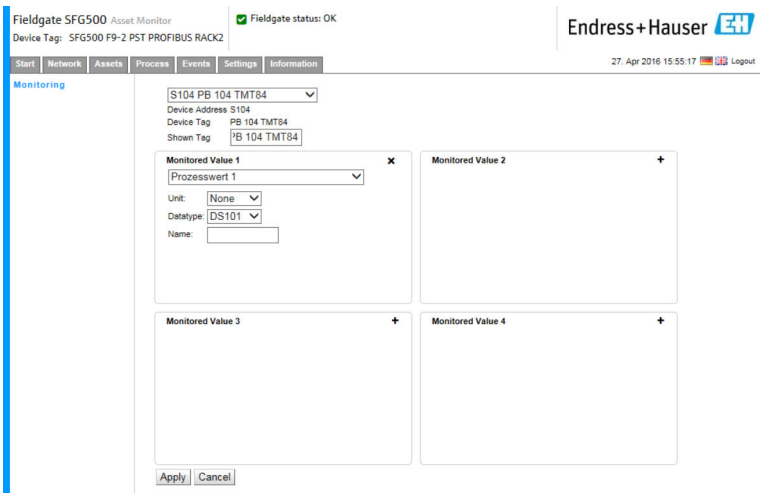
1. Click on the **Process** tab and then click on **Monitoring**.
   ↳ The **Monitoring** window will be displayed.



2. Click on the **+** in the tile.
   ↳ The configuration window for the tile will open.

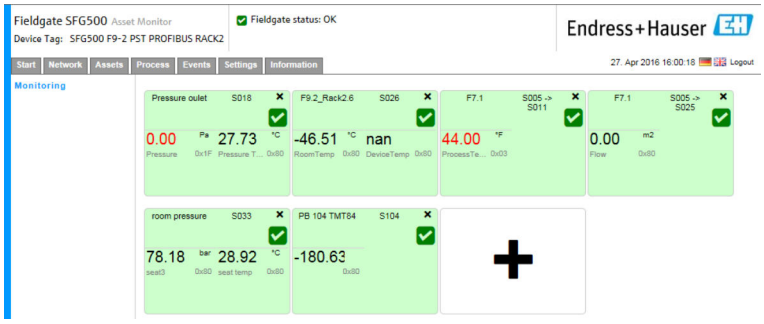


3. Select the device that is to be monitored from the drop-down menu and click on the **+** in the **Monitored Value** window.
   ↳ The input window for **Monitored Value** will be displayed.



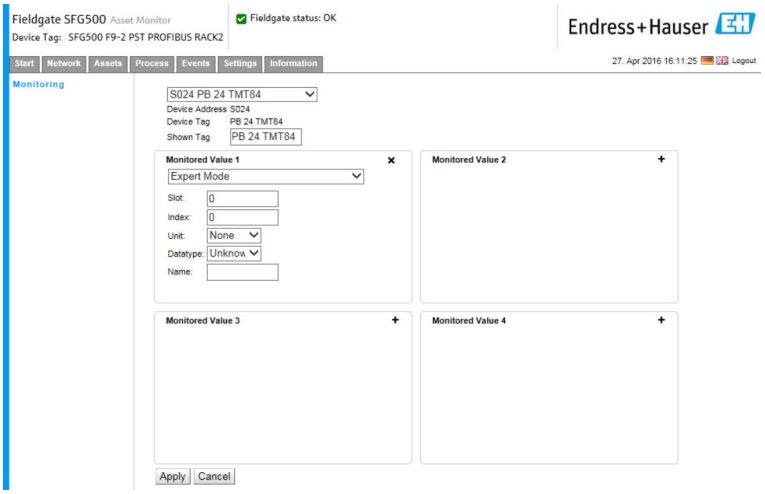
4. Select the **Process Value, Unit and Data Type**, enter the **Name** and click **Apply**.

The values to be monitored will be displayed.



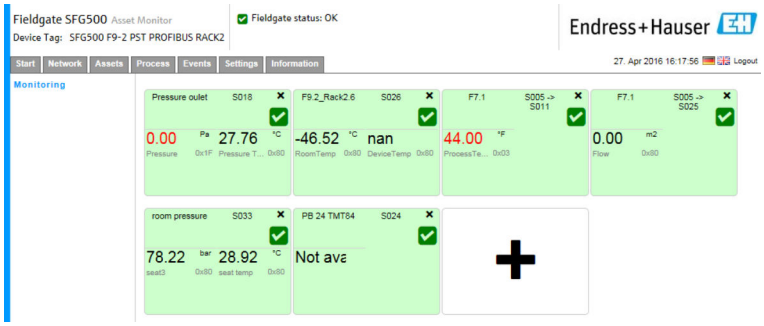
Monitoring acyclical process values via Expert Mode

1. Repeat steps 1 and 2 as described above (under Monitoring cyclical process values)
2. Select the device that is to be monitored from the drop-down menu and click on the **+** in the **Monitored Value** window. Then select **Expert Mode**.
   ↳ The input window for **Monitored Value** will be displayed.



3. Select the **Slot, Index, Unit and Data Type**, enter the **Name** and click **Apply**.

The values to be monitored will be displayed.

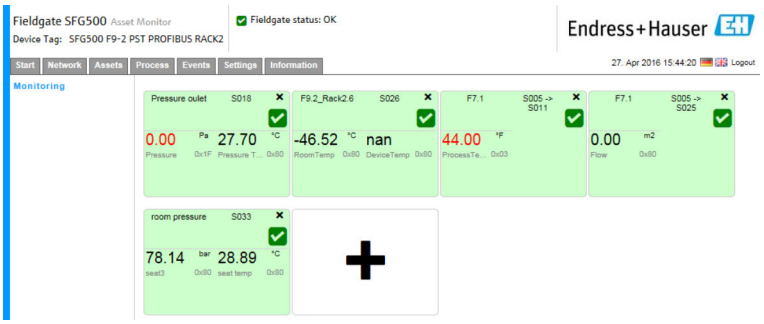


8.3 HART devices behind remote I/O

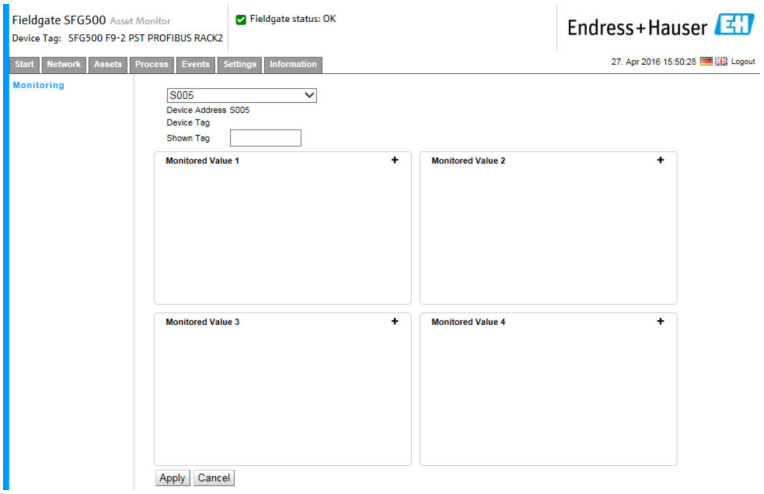
All analog process values from HART devices that are configured behind the remote I/O can be monitored cyclically.

Monitoring cyclical process values

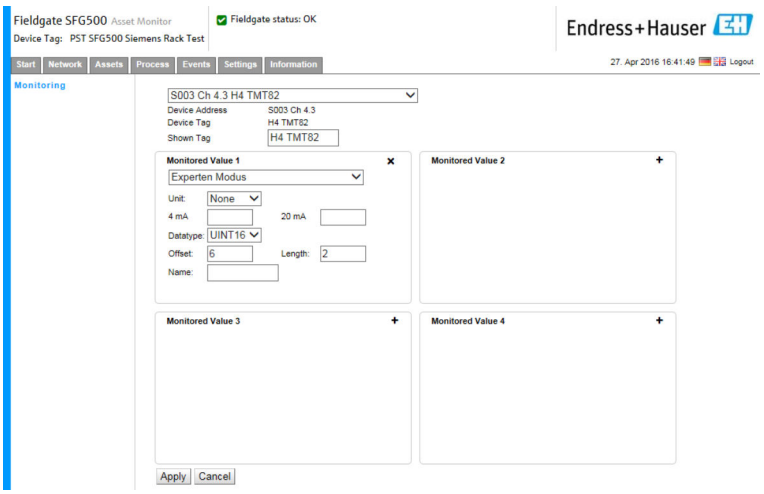
1. Click on the **Process** tab and then click on **Monitoring**.
   ↳ The **Monitoring** window will be displayed.



2. Click on the **+** in the tile.
   ↳ The configuration window for the tile will open.



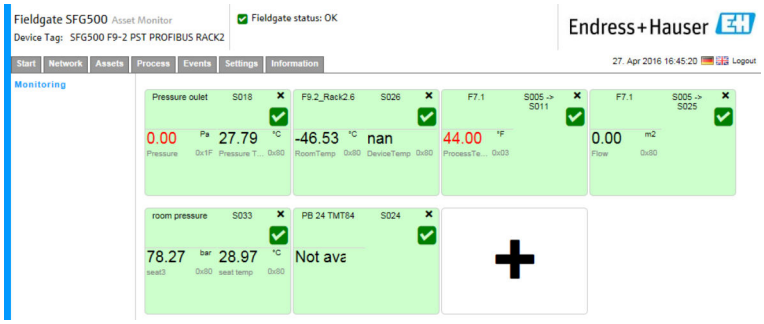
3. Select the device that is to be monitored from the drop-down menu and click on the **+** in the **Monitored Value** window.
   ↳ The input window for **Monitored Value** will be displayed.



The **Data Type, Offset** and **Length** are automatically entered following device selection. However, these can be changed.

4. Enter the **Unit, Measuring Range** and **Name** and click **Apply**.

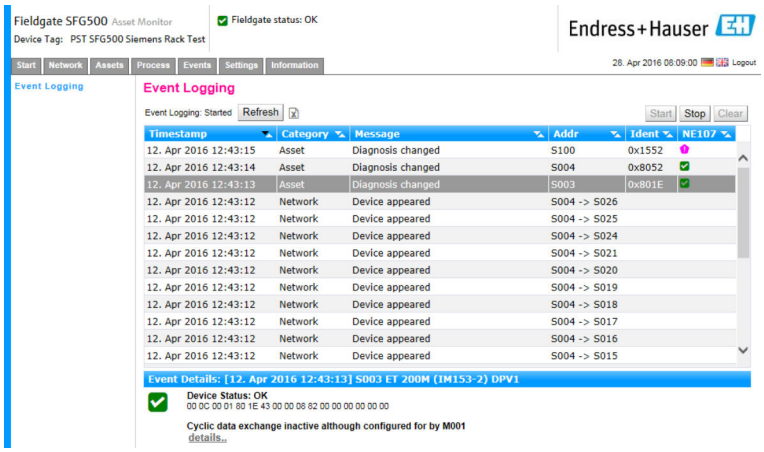
The values to be monitored will be displayed.


Fieldgate SFG500 Asset Monitor
Device Tag: SFG500 F9-2 PST PROFIBUS RACK2
Fieldgate status: OK
Endress+Hauser
Start
Network
Assets
Process
Events
Settings
Information
27. Apr 2016 16:45:20
Logout
Monitoring
Pressure oulet
S018
0.00
Pa
27.79
°C
F9.2_Rack2.6
S026
-46.53
°C
nan
F7.1
S005 -> S011
44.00
°F
F7.1
S005 -> S025
0.00
m2
room pressure
S033
78.27
bar
28.97
°C
PB 24 TMT84
S024
Not ava

9 Events

Event logging keeps a record of all system and device events generated on the bus.

- Click on the **Event** tab and then click on **Event Logging**.
  - The **Event Logging** window will be displayed.



Meaning of the individual parameters:

Parameters	Meaning
Start	Starts the event logging
Stop button	Stops the event logging
Delete	Deletes all logging events
Update	Updates the web page with the latest logged events
	The events logged can be exported into an Excel file. ▪ Depending on the number of events, the export process may take some time. ▪ The exported Excel file format is supported from Excel 2007 (Windows) and Excel 2008 (Macintosh) by default. A **compatibility pack** for older Excel versions (Microsoft Office 2003, Microsoft Office XP, Microsoft Office 2000) is available for download from Microsoft.

10 Settings and information

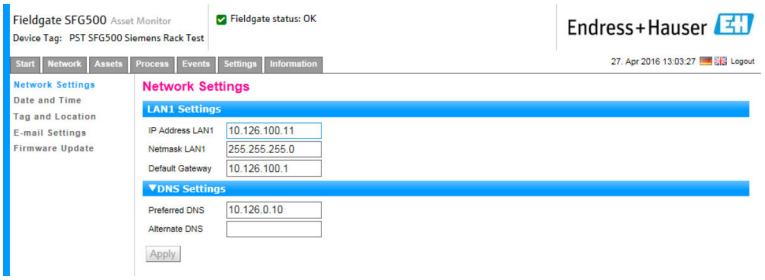
10.1 Settings

The time and date, e-mail settings as well as the IP address of the Fieldgate SFG500 can be changed in the Settings tab. These parameters are usually configured during the commissioning process. The firmware update is described in the same manual, see the **BA00070S/04/EN Operating Instructions** .

10.1.1 Network Settings

For all operating modes, the IP address of LAN1 must be set to one reachable by the other system components.

1. Select the **Settings** tab.
   ↳ The **Network Settings** will open.



2. Enter the **Ethernet IP Address**, **Network Mask** and **Default Gateway** and click **Apply**.

The changes are saved in the Fieldgate SFG500.

A restart is then necessary.

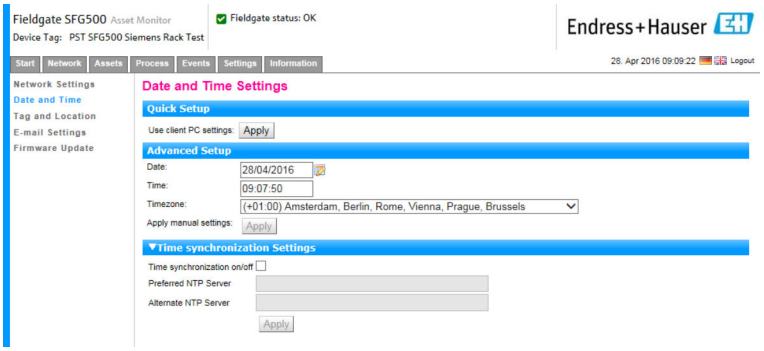
Meaning of the individual parameters:

Parameters	Meaning
IP Address LAN1	IP address to be used for the LAN1 port of the Fieldgate SFG500.
Network Mask	Network mask of sub-network in which the Fieldgate SFG500 is integrated.
Default Gateway	IP address of the default gateway of the sub-network in which the Fieldgate SFG500 is integrated.
Preferred DNS	IP address of the preferred name server.
Alternative DNS	IP address of the alternative name server.

10.1.2 Date and Time

The date and time stored in the Fieldgate can also be changed in the Settings tab.

1. Select the **Settings** tab, then select **Date and Time**.
   ↳ The **Date and Time** settings will open.



2. Under Advanced Setup, enter the date and time as well as a timezone and click **Apply**. Alternatively, click **Apply** under Quick Setup.

The changes are saved in the Fieldgate SFG500.

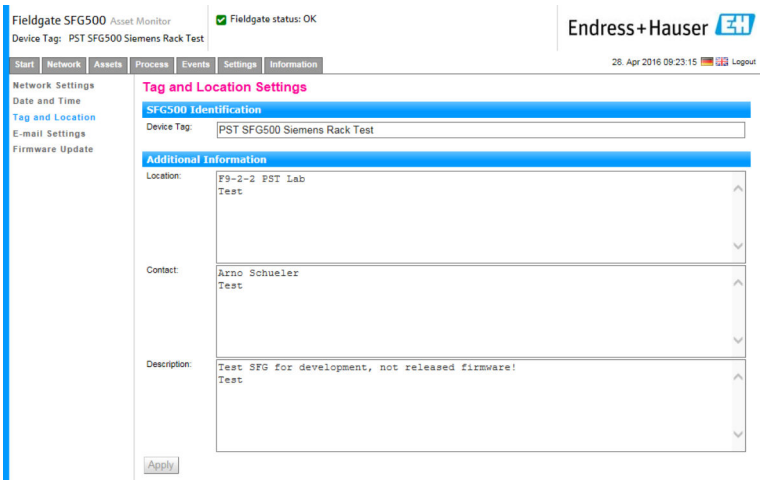
Meaning of the individual parameters:

Parameters	Meaning
Quick Setup	
Confirm	Click Apply to apply the settings of the connected computer to the Fieldgate SFG500.
Advanced Setup	
Date	Enter the current time.
Time	Enter the time where the Fieldgate SFG500 is located.
Timezone	Enter the time zone in which the Fieldgate is located.
Time Synchronization Settings	
Time synchronization	Activation/deactivation of the time synchronization function.
Preferred NTP	IP address of the preferred time server.
Alternative NTP	IP address of the alternative time server.

10.1.3 SFG Tag and Location

Tag and Location displays the Fieldgate Device Tag and allows user information on its location etc. to be stored in the Fieldgate.

1. Select the **Settings** tab, then select **SFG Tag and Location**.
   ↳ The **Tag and Location Settings** will open.



2. Enter the **Location, Contact and Description** and click **Apply**.

The changes are saved in the Fieldgate SFG500.

Meaning of the individual parameters:

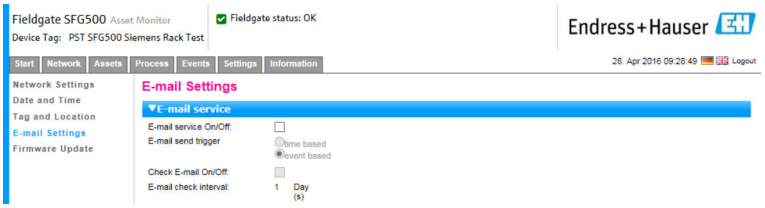
Parameters	Meaning
SG500 Identification	
Tag	Displays the device tag of the Fieldgate SFG500.
Additional information	
Location	User information on the location of the Fieldgate. The following characters are permitted for the Fieldgate identification (= name of Fieldgate): ▪ Letters from **a** to **z** and **A** to **Z** (regardless of capitalization) ▪ Numbers from **0** to **9** ▪ Special characters, e.g. **.** (= period) and **–** (= minus), but never as the first character All other characters are not permitted. This includes German umlauts and symbols such as **&**.
Contact	User data on the person responsible for Fieldgate SFG500, e.g. name, e-mail address
Description	User description of the Fieldgate SFG500, e.g. position in network

10.1.4 E-mail Settings

E-mail service

E-mail Settings allows setting the messaging services for device and bus incidences.

1. Select the **Settings** tab and then select **E-mail Settings → E-mail service**.
   ↳ The **E-mail service** will open.



2. The user must be logged in to apply changes.
   Make the necessary changes to the settings and click **Apply**.

The changes are saved in the Fieldgate SFG500.

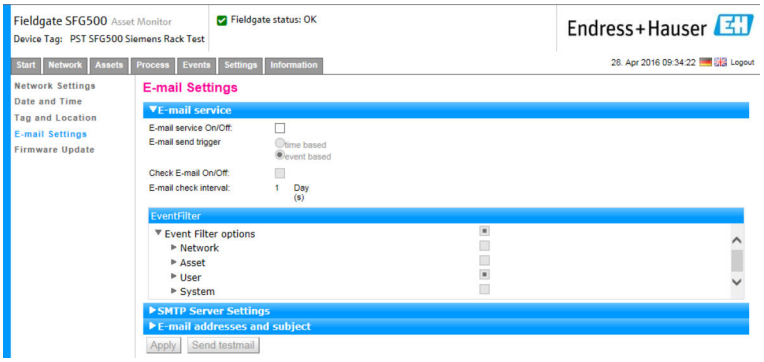
Meaning of the individual parameters:

Parameters	Meaning
E-mail service On/Off	Select whether e-mails are to be sent.
E-mail trigger	Specify when e-mails are to be sent: Time-based: E-mails are to be sent at defined times. Event-based: E-mails are sent following defined events.
E-Mail Interval	Specify an interval after which an e-mail is to be sent. The input is optionally in minutes, hours or days.
Check E-Mail On/Off	Select whether a test e-mail is to be sent if no events that would cause an e-mail to be sent occur over the course of an interval as specified above.
E-Mail Check interval	This displays the interval after which a check e-mail will be sent. This interval depends on the defined e-mail interval, but is never less than one day.

Event filter

E-mail Settings allows setting the messaging services for device and bus incidences.

1. Select the **Settings** tab and then select **E-mail Settings → Event Filter**.
   ↳ The **Event Filter** will open.



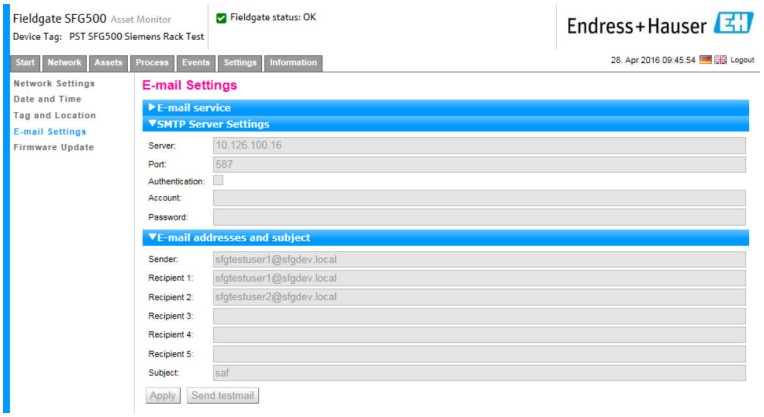
2. Make any necessary changes.

Meaning of the individual parameters:

Parameters	Meaning
EventFilter	Select the events that will trigger an e-mail to be sent when they occur.

SMTP Server Settings, E-mail addresses and subject

1. Select the **Settings** tab and then select **E-mail Settings → SMTP Server Settings/E-mail addresses and subject**.
   ↳ **SMTP Server Settings/E-mail addresses and subject** will open.



2. Make the necessary changes to the settings and click **Apply**. **Send testmail** can be used to test the settings.

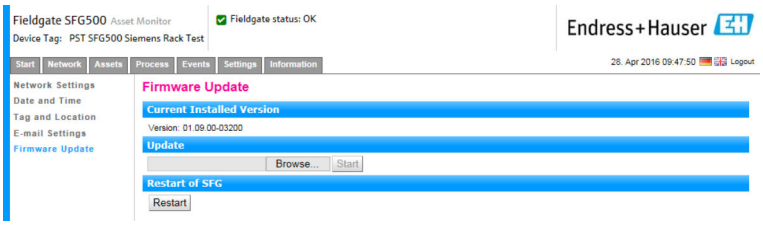
The changes are saved in the Fieldgate SFG500.

Meaning of the individual parameters:

Parameters	Meaning
STMP Server Settings	
Address	Specify the URL of the e-mail server or the IP address of the SMTP server (e-mail server). A DBS server must be set for the URL.
Port	Enter the number of the port that provides access to the e-mail server.

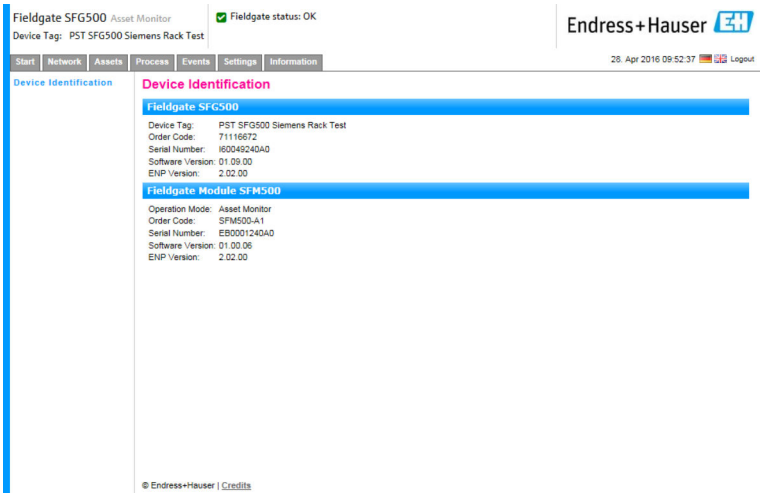
Parameters	Meaning
Authentication	Check this box if the SMTP gateway requires authentication.
User Name	If authentication is required for the specified SMTP gateway, enter the user name here. If authentication is not required, leave this field blank.
Password	If authentication is required for the specified SMTP gateway, enter the password here. If authentication is not required, leave this field blank.
E-mail addresses and subject	
Sender	Enter the sender address of the Fieldgate here, e.g. fieldgate@company.com. With some providers, the e-mail address of the account holder must be specified as the sender address. No mails will be accepted from other sender addresses. Where the sender address is freely selectable, choose a serious address to avoid trouble with spam filters.
Recipient 1 - Recipient 5	Enter the recipients of the e-mails here, e.g. name@company.com.
Subject	Enter the text for the subject line of the e-mails here.

10.1.5 Firmware update and restart



10.2 Information

The Information tab displays the information stored on the Electronic nameplate of Fieldgate SFG500 and where of Fieldgate Module SFM500.

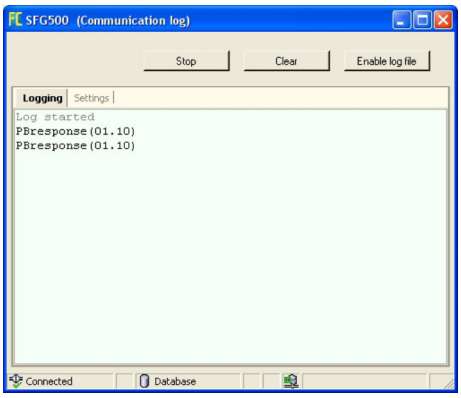


11 Additional functions

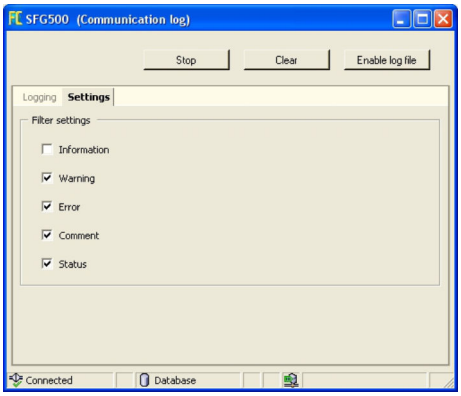
11.1 Communication dialog

The communication log provides a record of all transactions on the PROFIBUS network and can be used for diagnosing communication faults. It starts automatically on call up.

1. Right-click on the **Additional Functions → Communication Dialog** entry.
   ↳ The **Communication log** dialog window will open.



2. Click on the **Settings** tab.
   ↳ The **Settings** tab will open.



3. Changes to the settings can now be made.

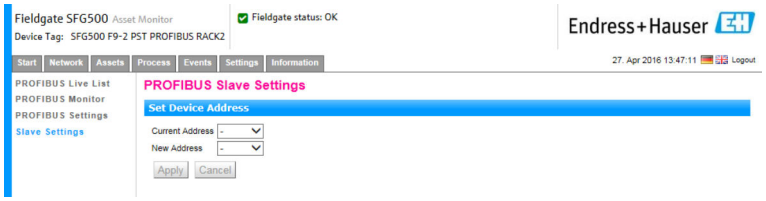
Meaning of the individual parameters:

Parameters	Meaning
Protocol	Shows the communication log ▪ Starts automatically on call up ▪ After a log has been cleared, press the Start button to restart logging
Settings	Sets the filters for the events to be logged ▪ Information: logs all information messages ▪ Warning: logs all warning messages ▪ Error: logs all error messages ▪ Comment: Logs all comments ▪ Status: logs all status messages
Start	Starts the log again after it has been cleared
Delete	Deletes the current log and stops logging
Save	Saves all new log events. ▪ The **Save as...** page will open: From there, navigate to the required directory ▪ Enter a **File name** and then click **Save**.

11.2 Set Device Address (PB Address)

The **Set Device Address** function enables the user to change the address of the selected PROFIBUS device, e.g. during commissioning of the network.

1. Right-click on the **Additional Functions → Set Device Address** entry.
   ↳ The **PROFIBUS Slave Settings** will open.

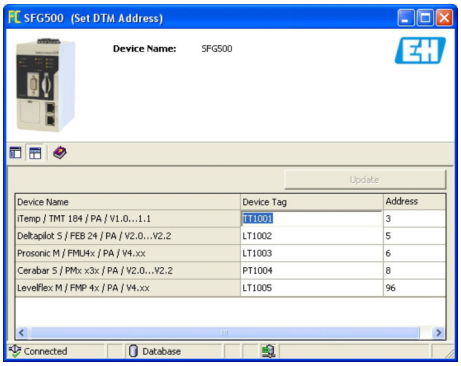


2. In the **Current Address** field, select the device that needs to have its address changed.
3. In the **New Address** field, select the new address for the device.
4. Click **Apply**.
   ↳ The changes will be saved for that device.

11.3 Set DTM Address

The **Set DTM Address** function enables the user to change the address in the DTM to match the physical device, e.g. the tag in PROFIBUS networks. The function is not relevant to FieldCare as this is done during a network scan but might be required for other FDT frames.

- Right-click on the **SFG500** entry, then select **Additional Functions → Set DTM Address**.
  ↳ The **Set DTM Address** dialog window will open.



Meaning of the individual parameters:

Parameters	Meaning
Device name	Shows the device and firmware version associated with the DTM
Device Tag	Shows the device tag of each device connected to the selected Fieldgate SFG500: To change the device tag, enter the new designation and then click **Update**.
Address	Shows the PROFIBUS address of each device connected to the selected Fieldgate SFG500: To change the device tag, enter the new designation and then click **Update**.
Update	Downloads the any changes in device tag or address to the DTM

11.4 Help

The Help function displays the Operating Instructions for the Fieldgate SFG500.

- Right-click on the **SFG500** and select **Additional Functions → Help**.
  - The **BA01579S/04/DE Operating Instructions** will be opened as a PDF.

11.5 About

The **About** function displays information about the Fieldgate SFG500 and the DTM.

- Right-click on the **SFG500** and select **Additional Functions → About**.
  - The **About** dialog window will open.

12 Troubleshooting

12.1 FieldCare

Problem	Cause/Remedy
SFGNetwork DTM not available in DTM library	The FieldCare version does not support Fieldgate SFG500: ▪ Install Fieldgate DTMs from CD-ROM supplied ▪ Updating the DTM catalog
SFGNetwork DTM cannot find Fieldgate SFG500	▪ No connection (general) – Check all Ethernet connections – Check to ensure that the Fieldgate SFG500 is switched on – Check to ensure that the IP address ranges of the computer and the Fieldgate SFG500 match (a simple test is to use the web browser or a ping) – Check to ensure that communication is not blocked by a firewall – Check to ensure that the Microsoft SQL server is running ▪ No connection after network scan (additional remedies) – Check to ensure that the PC and the Fieldgate SFG500 are in the same logical network (ping) – If not, check to ensure that the following router ports are activated (see also Appendix B) UDP 60020: From the SFG500 network to the computer TCP 60010: In both directions ▪ No connection after manual connect (additional remedies) – Check whether there are any pending error messages in FieldCare – Check to ensure that the CommDTM configuration is correct – is the entered parameter correct (IP address, tag, serial number)?
SFG500 DTM cannot find PROFIBUS device(s)	No connection – Is the device on the live list? – Check all PROFIBUS connections – Check to ensure that the device is switched on – Check to ensure that the device has a unique PROFIBUS address – Check to ensure that the bus has the correct terminations – Has the scanning process been completed?
Device(s) connected to link cannot be seen	No connection – Check to ensure that the link CommDTM is in place and property configured – Check all PROFIBUS connections – Check to ensure that the device is switched on – Check to ensure that the device has a unique PROFIBUS address – Check to ensure that the bus has the correct terminations
Device(s) connected to a Remote I/O cannot be seen	No connection – Check to ensure that the Remote I/O CommDTM is available, licensed and properly configured – Check all HART connections – Check to ensure that the device is switched on

12.2 Faults indicated by the LEDs on the SFG500

Problem	Cause/Remedy
The **Power** LED is not lit.	No power: ▪ Check to ensure that the power cable is correctly wired ▪ Check to ensure that the supply voltage corresponds to the voltage indicated on the nameplate ▪ Check to ensure that the power is switched on ▪ Application of a supply voltage that is too high for the device causes the internal fuse to blow Return the Fieldgate SFG500 to Endress+Hauser for repair
The **Failure** LED is lit or flashing.	There is a serious problem in the CPU or the device is unable to start up ▪ Switch off the power supply, wait 30 seconds, then switch it back on again ▪ If the **Failure** LED is still lit: Return the Fieldgate SFG500 to Endress+Hauser for repair

Problem	Cause/Remedy
The **PB Err** LED is lit.	PROFIBUS network has malfunctioned: ▪ Check to ensure that the bus has the correct terminations (on both ends) ▪ Verify that all master bus parameters are identical. ▪ Check to ensure that the bus is wired correctly
The LED **LAN1** or **LAN2** is not flashing even though the interface is wired.	Wiring or link error: ▪ Check the wiring ▪ Check to ensure that the communication partner is switched on ▪ Check to ensure that the IP address has been set properly: – LAN1: Fixed IP address in the network domain – LAN2: Address is assigned by DHCP

12.3 PROFIBUS communication faults

Problem	Cause/Remedy
The Fieldgate SFG500 cannot establish a connection to the PROFIBUS DP segment.	Wiring or link error: ▪ Check to ensure that the PROFIBUS DP segment has the correct terminations (at both ends). ▪ Check the wiring ▪ Check to ensure that there are not two instances of the same station address ▪ Check to ensure that all of the master bus parameters are identical If necessary, adjust the Token Rotation Time
A device does not appear in the live list.	Communication error: ▪ Another device has the same address ▪ The device was not started up ▪ The device does not support automatic detection of the baud rate Set the correct baud rate ▪ The device is connected to a link that is not transparent (normal behavior)

12.4 Faults displayed by the web server

Problem	Cause/Remedy
 A0028391	Internal error: Restart the Fieldgate SFG500, see **section 10.1.5** → 🖹 45
 A0028394	E-mail cannot be sent: ▪ Check e-mail settings, see **section 10.1.4** → 🖹 43 ▪ Check e-mail settings with the internal system administrator Test e-mail cannot be sent: ▪ Check e-mail settings, see **section 10.1.4** → 🖹 43 ▪ Check e-mail settings with the internal system administrator Time synchronization failed: ▪ Check date and time settings, see **section 10.1.2** → 🖹 41 ▪ Check e-mail settings with the internal system administrator Baudrate not consistent: ▪ Check baudrate setting, see **section 6.1.3** → 🖹 23 ▪ If no cyclical master is present, change the configuration type from Auto mode to Manual mode. ▪ In the case of a cyclical master, verify that all master bus parameters are identical. No data transfer, check PROFIBUS settings: ▪ Check PROFIBUS settings, see **section 6.1.3**. → 🖹 23 ▪ Check the wiring A free PROFIBUS address could not be found. Extend the Highest Station Address parameter in the cyclical master, see **section 6.1.3**. → 🖹 23

13 Appendix

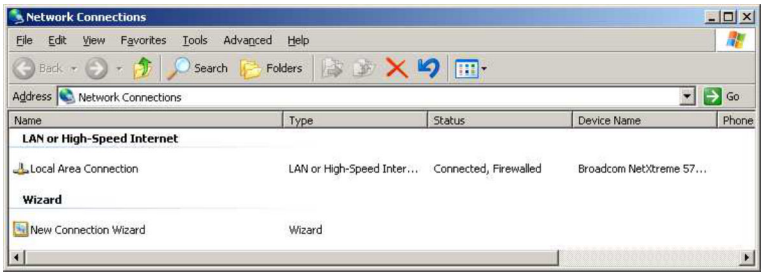
13.1 Appendix A - Computer IP settings

- Administrator rights might be needed to be able to change the IP settings of the computer. If this is the case, please contact your system administrator.
- The procedure described in this chapter refers to Windows XP. Please contact your system administrator for other Windows systems.

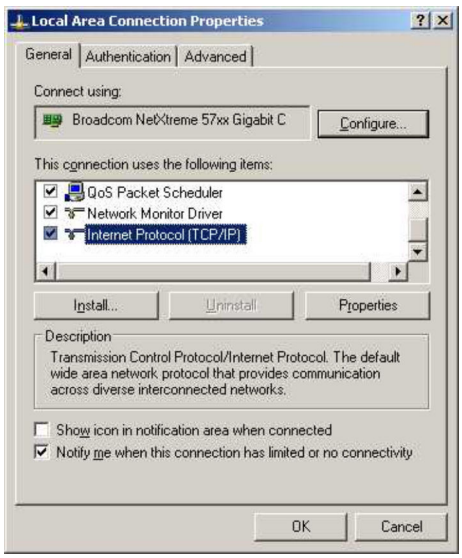
Most computers which are used in a company network will already be set up to accept an IP address from a DHCP server. If the computer is used in a control system, however, it is possible that it has a fixed address. If this is the case, please proceed as follows:

Procedure for Windows XP

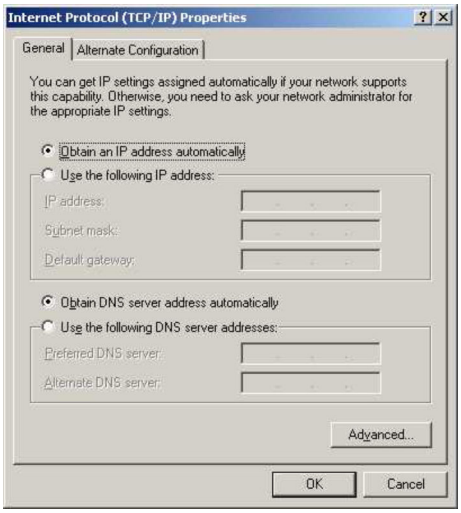
1. Click **Start → Settings → Control Panel → Network Connections**.
   ↳ The **Network Connections** dialog will open.



2. Right-click the **LAN Connection → Properties** tab.
   ↳ This will open the **Local Area Connection Properties** dialog.



3. Double-click **Internet Protocol (TCP/IP)**.
   ↳ This will open the **Internet Protocol Properties (TCP/IP)** dialog.



4. Note the addresses that have been assigned to the computer. You will need them later if the computer is reset after commissioning the SFG500.
5. Click **Obtain an IP Address Automatically**.
6. Click **OK**.
   ↳ Your selection is confirmed and the **Internet Protocol Properties (TCP/IP)** dialog is closed.
7. Click **OK**.
   ↳ This will close the **Local Area Connection Properties** dialog.

Once the Fieldgate SFG500 has been set up, the computer can be reset to its original IP address as described below:

Resetting the fixed IP address

1. Repeat steps 1-3 of the procedure above.
2. In the **Internet Protocol Properties (TCP/IP)** dialog, select the **Use the Following IP Address** option.
3. Enter the settings you noted down in step 4.
4. Click **OK**.
   ↳ Your selection is confirmed and the **Internet Protocol Properties (TCP/IP)** dialog is closed.
5. Click **OK**.
   ↳ This will close the **Local Area Connection Properties** dialog.

13.2 Appendix B - Windows firewall

If firewalls are used on the computers on which FieldCare is installed, they must be configured to allow mutual access. As firewall configuration is often a matter of company IT security policy, ask the system administrator before changing the settings. In addition, administrator rights are needed to be able to configure the firewall.

1. Click **Start → Settings → Control Panel → Windows Firewall**.
2. Select the **Exceptions** tab and specify the exceptions at two levels.
3. For **Add Program**, specify which applications are able to respond to voluntary requests.

4. For **Add Port**, specify that the firewall should allow TCP traffic at the ports used by the server.
5. Select the **General** tab and click **On** to activate the firewall.

Communication ports

Ports available for Fieldgate SFG500:

Port No.	ID	Meaning
TCP 60010	TCP_PCPS2_SFG500_PORT	-
UDP 60015	UDP_IDENTIFY_PORT	-
UDP 60020	UDP_ANNUNC_PORT	-

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