

Operating Instructions

Fieldgate SFG500

Installation and Commissioning

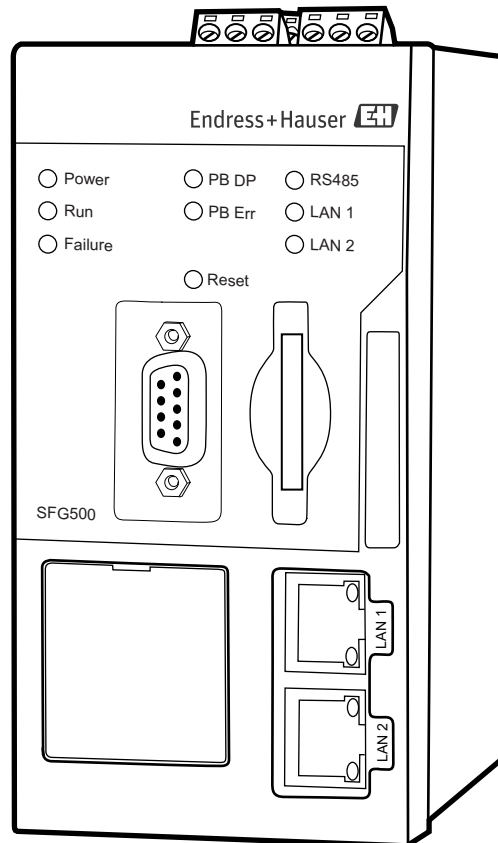


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Revision History

Product version	Manual	Changes	Remarks
1.00.xx	BA00070S/04/en/01.11	Original manual	
1.00.xx	BA00070S/04/en/02.12	Editorial Chapter 5	Default LAN 1 address = 10.126.84.100
		Editorial Chapter 6 + 9	Failure LED also flashes
1.01.xx	BA00070S/04/en/03.13	Editorial Chapter 7.2.2	Figure added for module insertion
		General	Update with "Asset Monitor"; new CD
1.02.xx	BA00070S/04/EN/04.14	Chapter 1	New, IT security
		General	Screenshots and texts updated
1.03.xx	BA00070S/04/EN/05.14	No change	
1.04.xx	BA00070S/04/EN/06.14	No change	
1.05.xx	BA00070S/04/EN/07.14	No change	

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MODBUS[®]

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1 Safety

1.1 Designated use

Fieldgate SFG500 is a system component that provides an independent access route to a PROFIBUS network. It must be powered by a SELV power supply. Fieldgate SFG500 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. The various operating modes are described in their respective manuals, see Chapter 1.5.

1.2 Installation, commissioning and operation

The 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. For this reason, the system must be installed, connected, configured, operated and maintained according to the instructions in this and the associated manuals: personnel must be authorised and suitably qualified.

1.3 Operational safety

1.3.1 General requirements

Location

The Fieldgate SFG500 must be mounted in a permanent and weather-protected location in a safe area. Recommended is a metal cabinet or an installation frame with a well grounded mounting plane.

Hazardous areas

The Fieldgate SFG500 is not approved for use in hazardous areas. If it is connected to networks operating in explosion hazardous areas, barriers or other safety components must be used. In general, when installing components in explosion hazardous areas:

- Ensure that all installation and maintenance personnel are suitably qualified
- Check that all equipment has the appropriate safety certificates
- Observe the specifications in the device certificates as well as national and local regulations.

This topic is discussed in BA034S/04/en (PROFIBUS Guidelines).

Compliance

The Fieldgate SFG500 has TÜV NRTL compliance for General Purpose Usage in North America, CAN/CSA C22.2-No 61010-1, UL61010-1 as well as a CE mark. In attaching the CE Mark, Endress+Hauser confirms that the Fieldgate SFG500 module conforms to all relevant EU directives. The associated standards are:

- IEC 61010-1: Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory User; Part 1: General requirements
- IEC 61131-2: Programmable Controllers; Part 2: Equipment requirements and tests

Technical improvement

Endress+Hauser reserves the right to make technical improvements to its software and equipment at any time and without prior notification. Where such improvements have no effect on the operation of the equipment, they are not documented. If the improvements effect operation, a new version of the operating instructions is normally issued.

1.3.2 Specific requirements

1. Before switching on the device, check that the voltage supplied by the SELV power pack lies within the permissible supply voltage range for the Fieldgate SFG500. If this is not the case, do not switch on the device. The technical data of the Fieldgate SFG500 can be found on the nameplate, see Chapter 2.2 or the Technical Data, see Chapter 10.3
2. If the relay output is in use, check that the load lies within the permissible limits, see Technical Data, Chapter 10.1
3. Only peripheral devices conforming to the requirements for safety extra low voltage (SELV) devices in EN/IEC 60950-1 (Information Technology Equipment - Safety, Part 1 General Requirements) or IEC 61010-1 may be connected to the RS485, PROFIBUS DP, Ethernet interfaces, the relay output and the DC circuits of the Fieldgate SFG500
4. Only spare parts and accessories delivered with the device or approved by Endress+Hauser for use with the device may be employed. The use of accessories or spare parts which have not been approved may present a risk to personal safety or impair device function. Accessories delivered with the device are described in Chapter 2.1.2, Scope of Supply, spare parts in Chapter 8, Maintenance and Repair
5. Safe operation of the Fieldgate SFG500 is no longer possible when:
 - the housing has been damaged, e.g. by being subject to excessive mechanical stress
 - water has entered the housing
 - objects have found their way to the inside of the device through the vents
 - smoke is coming from the inside of the device
 - the power supply line is damaged
 - any other circumstance prevents proper operationIf any of the above conditions occurs, immediately isolate the SELV power pack from the line, so that all DC circuits are voltage free (device supply and relay) and contact Customer Service, see Chapter 8, Maintenance and Repair
6. The Fieldgate SFG500 is designed to be installed on a standard DIN installation rail (top hat rail). It must be ensured that when mounted in its final position, the requirements for electrical safety in accordance with IEC 61010-1 are fulfilled
7. Endress+Hauser expressly advises the user, that it will reject any product liability or warranty claims that may arise if the Fieldgate SFG500 is not operated in accordance with these operating instructions, the instructions on the device itself or if it is not used as intended.

1.4 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.

1.5 Supplementary documentation

Table 1-1 indicates the documents, planned and realized, containing safety relevant information, installation, commissioning and operating instructions for Fieldgate SFG500. This manual describes the installation and commissioning (connection to Web server) of the "hardware" Fieldgate SFG500. The configuration of Fieldgate SFG500 for each of its various operating modes is described in a separate manual.

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 documentation available at the time of release is included on the Fieldgate SFG500 CD-ROM and can be installed in **Start=>Programs=>Endress+Hauser=Fieldgate SFG500=>Manuals** from it.





Description	Document type	Designation	Order No.
Fieldgate SFG500; Installation and Commissioning	Operating manual	BA00070S/04/EN	71273946
Fieldgate SFG500; Operation as Access Point	Operating manual	BA00071S/04/EN	71273948
Fieldgate SFG500; Operation as Asset Monitor	Operating manual	BA00072S/04/EN	71273950
Fieldgate SFG500; Operation as Process Monitor	Operating manual	BA00074S/04/EN	-
Fieldgate SFG500; Getting Started	Operating manual	BA00073S/04/A2	71273951
PROFIBUS Guidelines	Operating manual	BA00034S/04/EN	56004242

Tab. 1-1: Fieldgate SFG500 Documentation




1.6 Conventions and icons

In order to highlight safety relevant or alternative operating procedures in the manual, the following conventions have been used, each indicated by a corresponding icon in the margin.








Safety conventions

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

Explosion protection

Icon	Meaning
	Device certified for use in explosion hazardous area 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
	Explosion 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
	Safe area (non-explosion 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.

Electrical symbols

Icon	Meaning
	Direct voltage A terminal to which or from which a direct current or voltage may be applied or supplied
	Alternating voltage A terminal to which or from which an alternating (sine-wave) current or voltage may be applied or supplied
	Grounded terminal (FE) A grounded terminal, which as far as the operator is concerned, is already grounded by means of an earth grounding system
	Protective grounding (earth) terminal A terminal which must be connected to earth ground prior to making any other connection to the equipment
	Signal ground (GND) A terminal on to which the shield of a signal cable can be connected
	Equipotential connection (earth bonding) A connection made to the plant grounding system which may be of type e.g. neutral star or equipotential line according to national or company practice
	Electrostatic discharge A terminal or location at which an electrostatic discharge might cause damage to the module circuitry

2 Identification

2.1 Unpacking

2.1.1 Visual inspection

During unpacking:

- Check the packing materials for signs of transportation damage
- Remove the packaging material with care, so as not to damage the Fieldgate SFG500 module
- Store the original packing material, in case the Fieldgate SFG500 must be shipped again
- Keep the documentation supplied with the Fieldgate SFG500 in a safe place

In the event of damage to the Fieldgate SFG500, contact your Endress+Hauser Sales Center. Where possible, return the Fieldgate SFG500 to us in its original packing.

2.1.2 Scope of delivery

Fieldgate SFG500

Please check that the delivery is complete and free of defects before starting installation. The scope of delivery comprises the following parts:

- Fieldgate SFG500
- Getting Started booklet
- CD-ROM with DTMs and documentation

Fieldgate Module SFM500

The Fieldgate Module SFM500 may be delivered separately if required.

2.1.3 Storage and transport

Always store and transport the device in the original packaging.

Always store the device in a clean, dry environment. Note the permitted storage temperature, see Chapter 10.4.

2.2 Device designation

2.2.1 Fieldgate SFG500

Fieldgate SFG500 can be identified from the designation on the front panel and the nameplate attached to its side, see Fig. 2.1. For clarity the label has been shown with white background. The actual label has white printing on a black background.

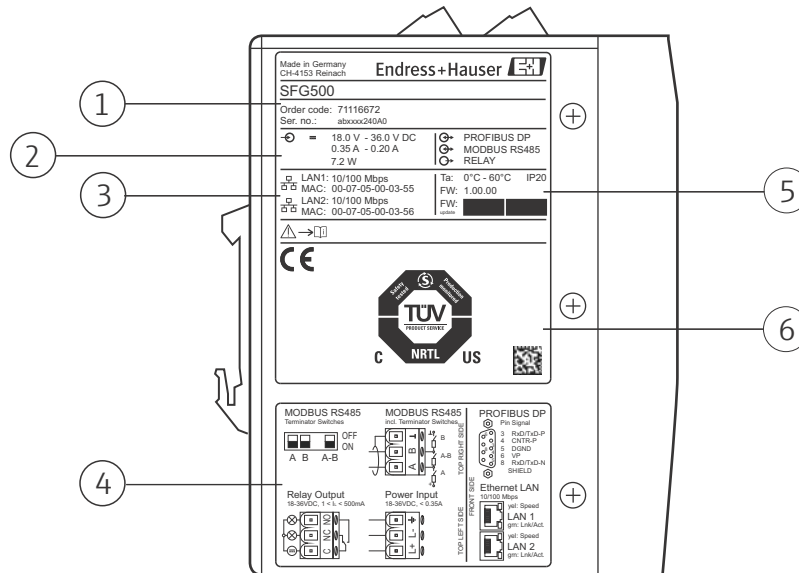


Fig. 2-1: Identification of Fieldgate SFG500

- | | | | |
|---|--|---|---|
| 1 | Identification, order code and serial number | 4 | Wiring and connector diagrams |
| 2 | Voltage, current consumption and power | 5 | Ambient temperature, IP rating, firmware, |
| 3 | MAC address for LAN1 and LAN2 | 6 | TÜV NRTL General Purpose Mark
Endress+Hauser 2D-code serial number |

2.2.2 Fieldgate Module SFM500

Fieldgate Module SFM500 can be identified from the designation on the nameplate:

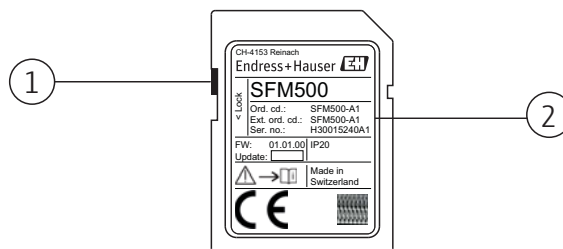


Fig. 2-2: Identification of Fieldgate Module SFM500

- | | | | |
|---|--|---|--|
| 1 | Switch for write protection lock
- Off: unlocked (as shown)
- On: locked | 2 | Identification, order code and serial number |
|---|--|---|--|

The functions supported can be derived from the order code as follows:

SFM500 Fieldgate Module for Fieldgate SFG500	
	Operating mode
A1	Asset Monitor
B1	Process Monitor
SFM500	Product structure

3 Function and System Design

3.1 Function

Operation Mode Access Point

Fieldgate SFG500 is designed as a Class 2 Master for use in a PROFIBUS system operated by a PLC or a number of PLCs in a virtual token ring. The PLC may operate both as a Class 1 and Class 2 Master and other Class 2 Masters may temporarily visit the system. In this role, the Fieldgate SFG500 offers parallel access to PROFIBUS DP segments for Ethernet-based applications.

On start up, the Fieldgate SFG500 connects to PROFIBUS and automatically starts listening to the traffic, if any, on the bus: it has no effect on the traffic itself. In doing so, it automatically detects and applies the most appropriate settings for its own Master Class 2 operations. The selected settings are displayed and saved in the embedded web server.

The host application, e.g. FieldCare, can now be programmed to use the connection to communicate with the devices on the bus. This procedure is described in Operating Instructions BA00071S/04/en, Fieldgate SFG500: Operation as Access Point.

Web Server

On start up, Fieldgate SFG500 starts an automatic scan of the bus and the results are compiled into a live list which can be viewed in the embedded web server. The resulting PROFIBUS live list includes all devices connected to the PROFIBUS DP segment and any transparently coupled Profibus PA devices.

When operating as an Access Point, the web server also allows:

- Configuration of the Fieldgate IP Address
- Viewing and if necessary the configuration of the PROFIBUS parameters
- Viewing of the Fieldgate SFG500 device information
- Update of the Fieldgate SFG500 firmware

Other operating modes

A description of other operating modes of Fieldgate SFG500 is to be found in the corresponding operating instructions.

3.2 System design

Fig. 3.1 shows the integration of Fieldgate SFG500 operating as an Access Point in a PROFIBUS network.

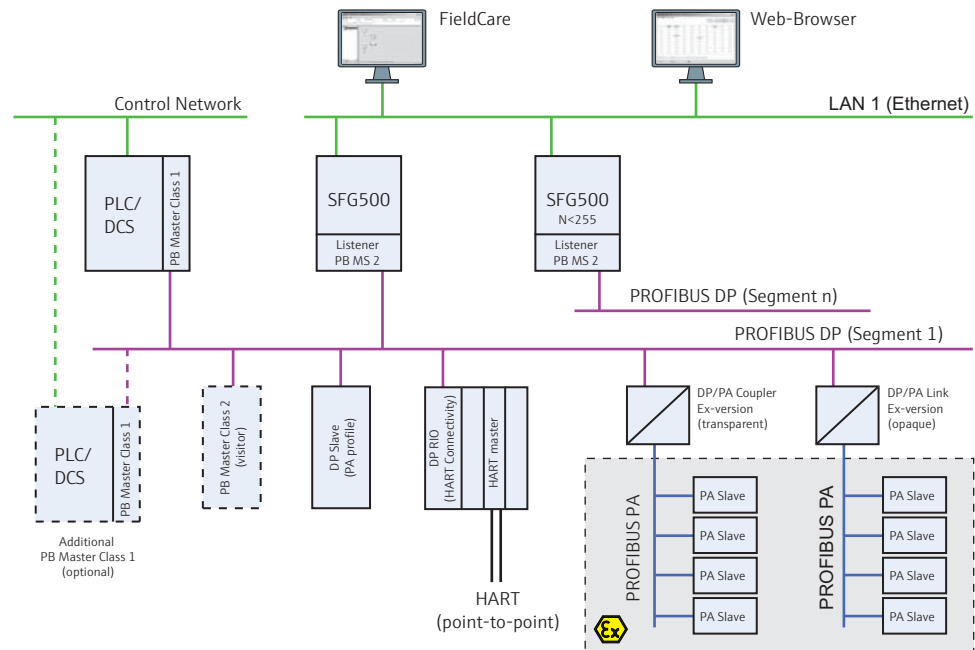


Fig. 3-1: System architecture for Fieldgate SFG500 operating as an plant access point or asset monitor

The control network comprises, for example, a PLC or DCS system and one or more PROFIBUS DP segments. Depending upon the actual circumstances it is possible that additional Class 1 masters are connected to the network. Also connected to the PROFIBUS DP segment are PROFIBUS DP slaves, Remote I/Os and segment couplers or links. Remote I/Os allow e.g. HART devices to be integrated into the PROFIBUS DP network. Segment couplers or links provide a connection to PROFIBUS PA slaves and also supply them with power.

Through its Ethernet port (LAN1), Fieldgate SFG500 allows a variety of host applications to access data from the PROFIBUS DP segment. The local area network in which they operate may be separate from the control network or be an integral part of it. Fieldgate SFG500 connects to a single PROFIBUS DP segment only. If there is more than one segment in the PROFIBUS DP network, a separate Fieldgate SFG500 is required for each.

Fieldgate SFG500 can be configured by a web browser, e.g. Internet Explorer, from any computer in the local area network or locally via its second Ethernet port (LAN2). In the latter case, Fieldgate SFG500's DHCP server will supply an IP address to the connected computer.

4 Installation

Warning!



WARNING

- To avoid malfunction of Fieldgate SFG500, mount and configure it as described in this chapter

Caution!



CAUTION

- All electrical installation work must be done by qualified and trained personnel!
- When mounting and wiring the components in a cabinet, make sure that the layout conforms to your company or national regulations regarding the separation of Ex and non-Ex components and circuits as well as the separation of signal and power lines

4.1 General requirements

Fieldgate SFG500 must be mounted in a permanent and weather-protected location in a safe area. Recommended is a metal cabinet or an installation frame with a well grounded mounting plane.

Fieldgate SFG500 may be used up to an altitude of 2000 m (6500 ft) above sea level.

4.2 DIN rail clip

Fieldgate SFG500 has a clip at the rear of the housing which is used for fixing the module to a standard DIN rail. The position of the clip is adjustable, as shown in Fig. 4-1.

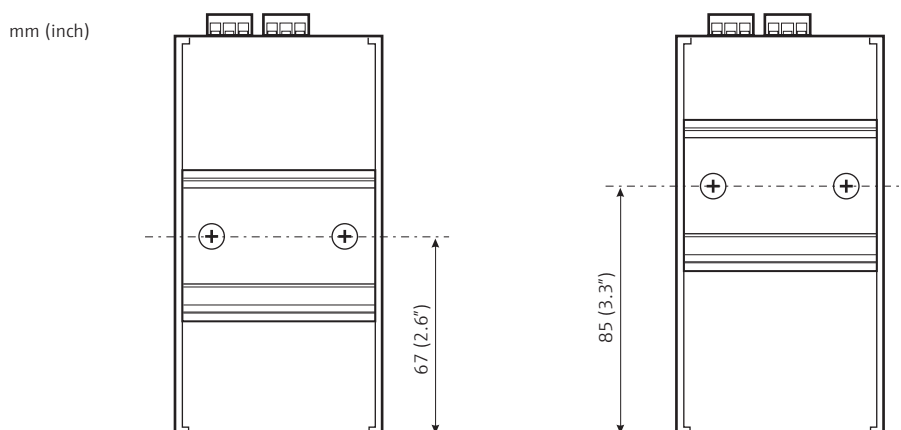


Fig. 4-1: Centre lines of DIN rail clip referenced to the bottom of the model

The clip is moved by simply unscrewing the two Phillips screws, moving it to the new location and screwing it into position again. Changing the position lowers the position of the top of the module by 18 mm (0.7").

4.3 Rack mounting

Caution!



- To ensure adequate ventilation when mounting in a cabinet, allow 50 mm (2") clearance between modules and the cabinet ducting or wall

Location

Fieldgate SFG500 is intended for use in a permanent and weather-protected location. The environment shall be a metal cabinet or an installation frame with a well grounded mounting plane. The environment shall be protected.

Fig. 4-2 shows principle dimensions of the Fieldgate SFG500 module when mounted on a DIN rail, with the clip mounted in the central position (delivery state).

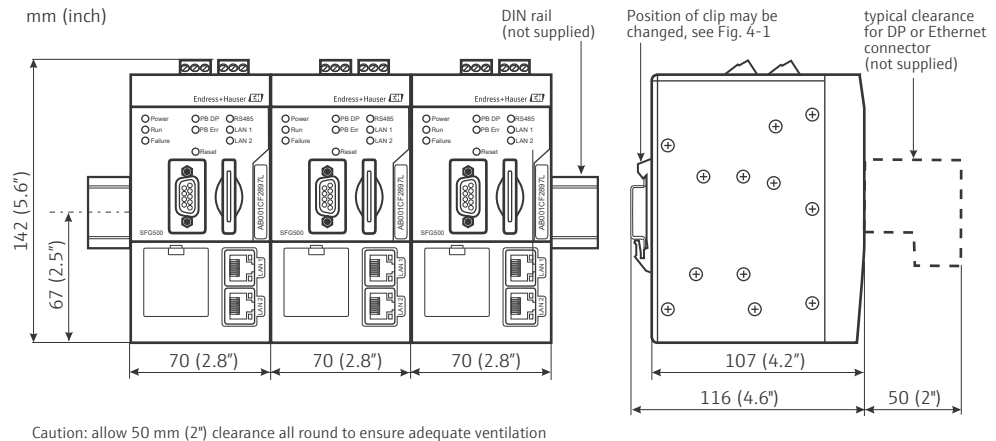


Fig. 4-2: Principle dimensions of SFG500 when rack mounted (clip in central position)

Mounting

Fieldgate SFG500 is designed to be mounted vertically on a DIN rail. Follow the guidelines below to ensure proper operation:

- Fieldgate SFG500 requires no lateral clearance between modules and can be mounted directly against any other non-Ex module
- To ensure adequate ventilation and prevent overheating, the lateral clearance between modules and the cabinet ducting or wall must be at least 50 mm (2")
- To ensure adequate ventilation and prevent overheating, the vertical clearance between modules and the cabinet ducting or wall must be at least 50 mm (2")

4.4 Installing Fieldgate SFG500

4.4.1 Hardware configuration

For some operating modes (not Access Point) Fieldgate SFG500 must be configured before it is mounted on the DIN rail. A DIP switch located on the top of the module can be accessed with a small screwdriver blade, see Fig.4-3 and controls the termination resistance of the RS485 interface.

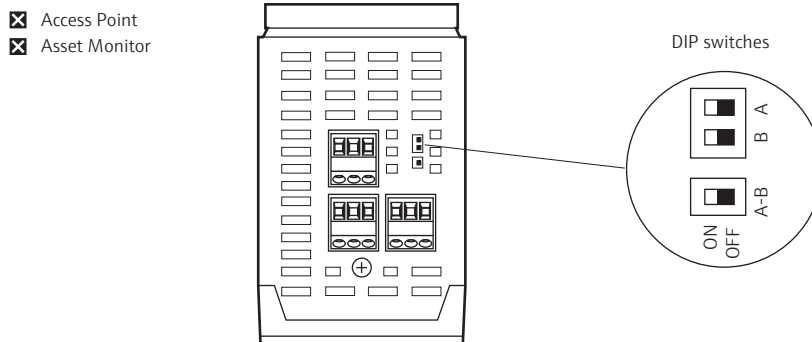


Fig. 4-3: Location of DIP switches at top of module

The DIP switches should be set according to the following rules:

DIP-Switch	Use when ON
Switch A	single end terminated to Vcc 5V via 620Ω
Switch B	single end termination to GND via 620Ω
Switch A-B	termination between A-B 150Ω

- If Fieldgate SFG500 is not the first or last device on a RS485 bus, all DIP switches must be set to OFF
- If Fieldgate SFG500 is the first or last device on a RS485 bus, DIP Switches A, B and A-B must be all be set to ON

4.4.2 Installing the modules

After the DIP switches have been set, the module can be mounted on the DIN rail.

Mounting procedure

1. Holding the module at about 15° to the rack, slot the module into the bottom of the DIN rail.
2. Push the module up ①, then gently push the top ② until it engages in the top of the DIN rail
 - The module can be dismounted by pushing it up ③, tilting it 15° away from the rail ④ and pulling it downwards ⑤.

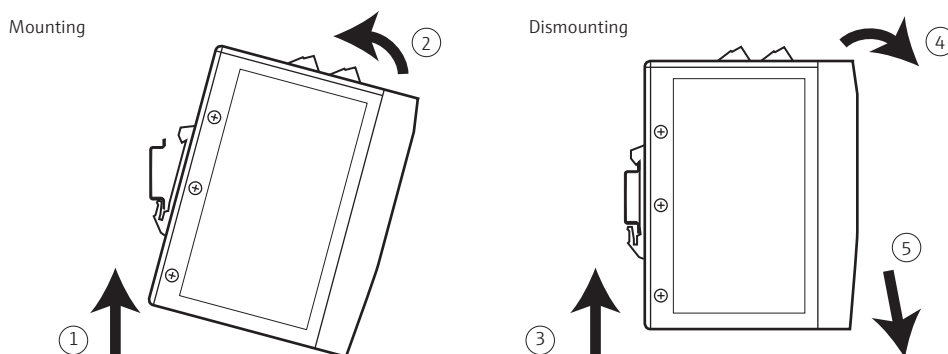


Fig. 4-4: Mounting and dismounting the Fieldgate SFG500

5 Wiring

5.1 Basic Information

5.1.1 Interfaces and connectors

Fig. 5-1 shows the location of the various communication interfaces and connectors of Fieldgate SFG500.

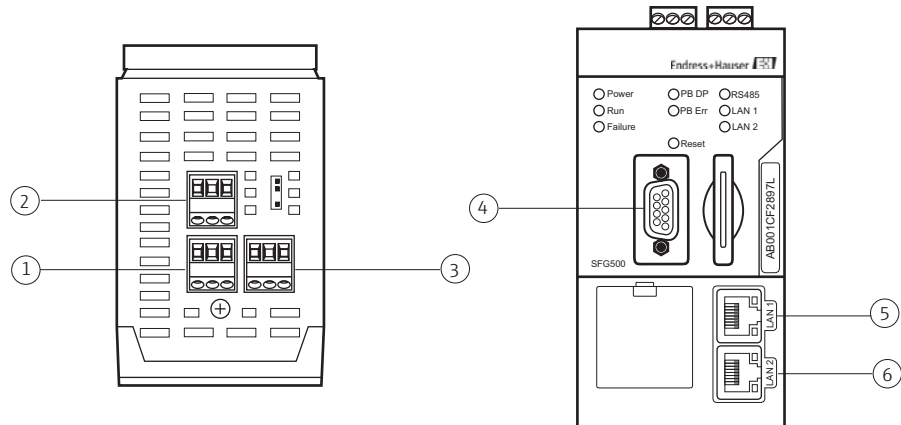


Fig. 5-1: Communication interfaces and connectors of the Fieldgate SFG500

- | | | | |
|---|---------------------|---|---------------------------|
| 1 | Power input (green) | 4 | PROFIBUS DP |
| 2 | Relay output | 5 | Ethernet LAN1 (operation) |
| 3 | Modbus RS485 | 6 | Ethernet LAN2 (service) |

5.1.2 Cable types

The connector and cable types to be used for the various connectors are summarized in the table below:

Interface/Connector	Connector type	Cable type	Remarks
Power input	Screw terminals	Standard installation	Cross-section max. 2.5 mm ²
Relay output	Screw terminals	Standard installation	Cross-section max. 2.5 mm ²
Modbus RS485	Screw terminals	Shielded twisted pairs	Cross-section max. 2.5 mm ²
PROFIBUS DP	9-pin DIN Min Sub D	PROFIBUS DP cable	Commercial PROFIBUS DP connectors recommended
Ethernet LAN1	RJ-45 socket	CAT5e, shielded	Standard cable set, patch or crossover, recommended
Ethernet LAN2	RJ-45 socket	CAT5e, shielded	

The screw terminal blocks can be removed from the module for easy wiring.

Standard PROFIBUS cable is available from a number of cable manufacturers. Commercial PROFIBUS DP connectors, e.g. IDCs (insulation displacement connectors), often support daisy-chaining, can be mounted piggy-back and have a switchable terminal resistor.

The Ethernet ports of Fieldgate SFG500 may be used with a crossover or patch cable, dependent upon whether a connection is made point-to-point or via a switch.

5.2 Wiring diagrams

Caution!



- Always switch off the power when wiring up the various interfaces - this prevents any short-circuits and possible damage to the device.

5.2.1 Power input

Caution!



- The power input must be wired up by qualified and trained personnel!

Notice!



- Take care not to mix-up the polarity when wiring up. Fieldgate SFG500 has polarity protection, so that the instrument is not damaged.

Fieldgate SFG500 requires a voltage of 24 VDC (18 VDC to 36 VDC) and draws a current of max. 350 mA. The power must be provided by a SELV power pack (EN/IEC 60950-1) and the power circuit should include an isolating switch. Fig. 5-2 shows the wiring diagram for the power input.

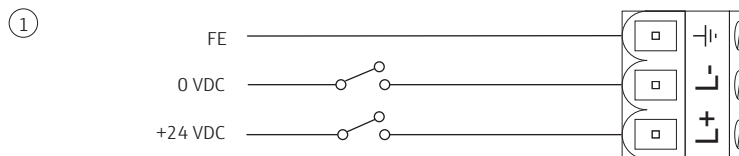


Fig. 5-2: Wiring diagram for power input

The terminal assignment is shown in the table below

Terminal Designation	Function
≡	Functional Earth
L-	0 VDC
L+	+24 VDC

5.2.2 Relay output

Caution!



- The relay output must be wired up by qualified and trained personnel!

Notice!



- The relay is not used in Access Point or Asset Monitor operating mode

The relay with changeover contact can switch a voltage of 24 VDC (18 VDC to 36 VDC) with a current between 1 mA and 500 mA: the circuit must be SELV compliant (EN/IEC 60950-1). The NC contact is normally closed when Fieldgate SFG500 is not connected to the power supply or there has been a power failure, and opens when under power. The NO contact behaves in the opposite manner. Relay function can be selected via the web server. Fig. 5-3 shows the wiring diagram for the relay output.

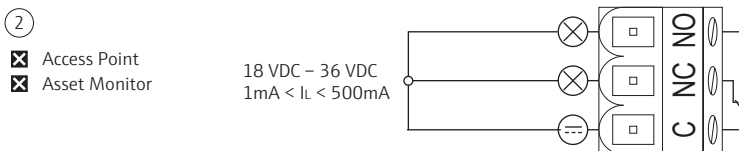


Fig. 5-3: Wiring diagram for relay output

The terminal assignment is shown in the table below

Terminal Designation	Function
NO	Normally open contact
NC	Normally closed contact
C	Common

5.2.3 Modbus RS485

Notice!

NOTICE

- Modbus RS485 is not used in Access Point or Asset Monitor operating mode

Fig. 5-4 shows the wiring diagram for the Modbus RS485 interface. The configuration of the interface is done in the Web server.

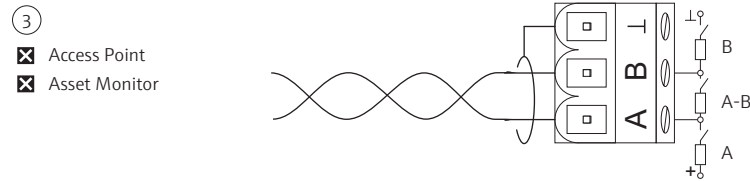


Fig. 5-4: Wiring diagram for Modbus RS485 interface

The terminal assignment is shown in the table below

Terminal Designation	Function
⊥	RS485 shield
B	RS485 B signal
A	RS485 A signal

The bus termination is enabled by the three DIP switches at the top of the module, see Chapter 4.4.1

5.2.4 PROFIBUS DP

Notice!

NOTICE

- General information on the length, design, shielding and grounding of PROFIBUS DP segments can be taken from the PROFIBUS Installation Guidelines, BA034S/04/en.

Fig. 5-5 shows the PROFIBUS DP female DIN 9-pin Min Sub D connector at the front of the module. It is recommended that commercial PROFIBUS DP plugs are used, e.g. IDC plugs, since this allows simple assembly and termination. If the Fieldgate SFG500 is the first or last device on the bus, the terminator must be enabled.

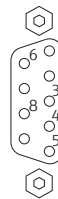


Fig. 5-5: PROFIBUS DP 9-pin female connector

The pin assignment is shown in the table below

Pin	Signal	Function	Pin	Signal	Function
1	NC	Not Connected	6	DP_VCC	VCC (5V) max. 40mA
2	NC	Not Connected	7	NC	Not Connected
3	RxD/TxD-P	Non-inverting Bus Line	8	RxD/TxD-N	Inverting Bus Line
4	DP_CNTR	Drive enable	9	NC	Not Connected
5	DP_GND	Isolated Ground	M1, M2	SHIELD	DGND/FE

5.2.5 Ethernet LAN1 and LAN2

Fig. 5-6 shows the Ethernet RS-45 female connector at the front of the module. There are two connectors labelled LAN1 and LAN2. These are for operation and service respectively. It is recommended that connections be made with CAT5e Ethernet patch or crossover cable sets – the type depends on whether connection is via switch or direct.

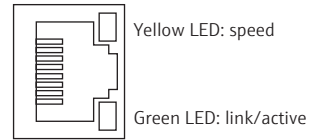


Fig. 5-6: Ethernet RJ-45 female connector

The pin assignment is shown in the table below:

Pin	Signal	Function	Pin	Signal	Function
1	ETH*_TX+	Transmit +	5	Termplane	Connected to Pin 4
2	ETH*_TX-	Transmit -	6	ETH*_RX-	Receive -
3	ETH*_RX+	Receive +	7	Termplane	=> 75R, AC coupling to FE
4	Termplane	=> 75R, AC coupling to FE	8	Termplane	Connected to Pin 7
*LAN1 = 1; LAN2 = 2					

Fig. 5-7: Pin assignment of Ethernet RJ-45 female connector

6 Operability

6.1 Operating and display elements

Fig. 6-1 shows the operating and display elements of Fieldgate SFG500. All are located on the front panel.

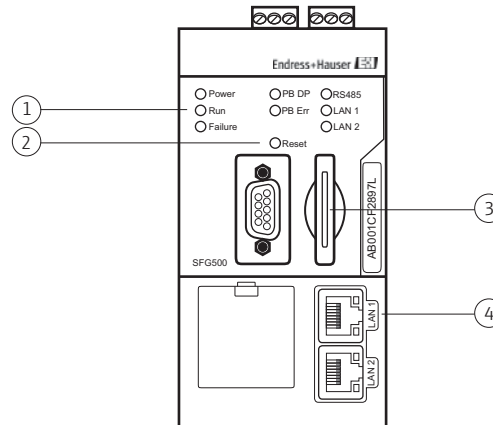


Fig. 6-1: Communication interfaces and connectors of the Fieldgate SFG500

- | | | | |
|---|-----------------------|---|------------------------------|
| 1 | Fieldgate SFG500 LEDs | 3 | Fieldgate Module SFM500 slot |
| 2 | Reset button | 4 | LAN socket LEDs |

The function of the operating and display elements are described in the following sections.

6.1.1 Reset button

The reset button is located in a 3 mm (1/8") hole in the front panel. It is recessed by approx. 6 mm (2/10") and can be operated by a 2.5 mm (#0) screwdriver or similar object.

Duration	Function	Description
>4.5s	Hardware reset	Restarts the system (duration approx. 1 minute) <ul style="list-style-type: none"> - The Failure LED lights and all other LEDs go out - The Power LED lights - All LEDs light briefly and return to their normal function, see Chapter 6.1.3

6.1.2 Fieldgate Module SFM500 slot

The slot for the Fieldgate Module SFM500 is located on the front panel. If Fieldgate SFG500 is used as an Access Point, no card is required. For all other applications, e.g. Asset Monitor, a card is must be ordered in addition. It should be inserted by hand during commissioning. For more information see Chapter 7.2.2 and Chapter 8.1.

6.1.3 LEDs

Notice!

NOTICE

- Modbus RS485 is not supported in Access Point or Asset Monitor operating mode

After a system start (power cycle or reset) all LEDs light for approx. one second before assuming their normal function as described in the table below: the power LED assumes its function immediately. The function of the LEDs may differ according to operating mode. Any change in function is described in the corresponding manual.

LED	Colour	Mode	Significance
Power	Green	On	Device is connected to power and ready for operation
		Off	No Power
Run	Yellow	On	Normal operation according to operating mode
		Blinks	After start up: Fieldgate is booting
		Off	Failure
Failure	Red	On	CPU has severe problems or device cannot boot/kernel not started
		Blinks	CPU has severe problems or device cannot boot/kernel not started
		Off	CPU and kernel OK
PB DP	Yellow	On	Fieldgate SFG500 is passive, listening to bus traffic
		Blinks	Fieldgate SFG500 is active: accessing bus as Master Class 1 or 2
		Off	No bus connected
PB Err	Red	On	Permanent fault on bus: – Bus not connected, – No communication
		Off	No PROFIBUS fault
RS485	Yellow	On	There is a connection to a serial Modbus master
		Blinks	Fieldgate SFG500 is being accessed by a serial Modbus master
		Off	No link
LAN1	Yellow	On	LAN cable connected, no Ethernet traffic
		Blinks	Application is receiving and transmitting messages via LAN1
		Off	There is no network cable connected to LAN1
LAN2	Yellow	On	LAN cable connected, no Ethernet traffic
		Blinks	Application is receiving and transmitting messages via LAN2
		Off	<ul style="list-style-type: none"> There is no network cable connected to LAN2 Connected PC has not accepted an address from the DHCP Server

6.1.4 LAN socket LEDs

The LAN sockets have two LEDs which indicate the communication status.

LED	Mode	Function
Yellow	Off	No connected or speed 10 Mbit/s
	On	Connected with speed 100 Mbit/s
Green	Off	No link
	On/Blinks	Link/Activity

7 Commissioning

Notice!

NOTICE

- This section describes the steps to physically commission and connect to the Fieldgate SFG500 Web Server only.
- The configuration and operation of Fieldgate SFG500 for particular applications is described in a series of separate manuals, see Chapter 1.5

7.1 Preliminaries

7.1.1 Computer IP properties

The LAN1 and LAN2 interfaces of Fieldgate SFG500 allow communication with a computer via the integral Web Server. Before starting, check the following:

- Internet Protocol TCP/IP is installed on your computer and is active
- You have administration rights for your computer and network
- You have a set of IP addresses that have been authorized by your IT department
- Any proxy server for your Internet Browser is disabled

Fieldgate SFG500 is supplied with the following default IP addresses:

- LAN1: 10.126.84.100
- LAN2: 192.168.253.1

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, Fieldgate SFG500 will normally require a fixed address on the LAN1 operations interface which must be set in the Web Server.

Notice!

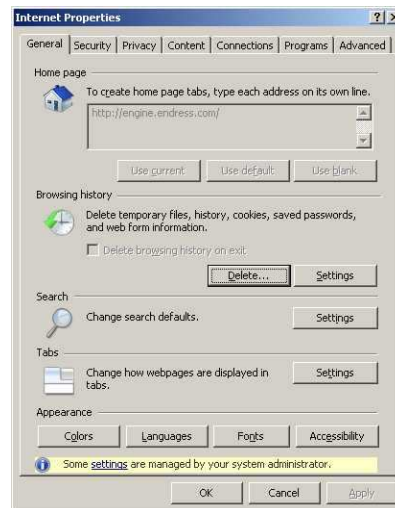
NOTICE

- Most computers which are used in a company network will already be set up to accept an IP address from a DHCP server. If your computer is used in a control system, however, it is possible that it has a fixed address. In this case, change the computer's IP properties as described in Appendix A.

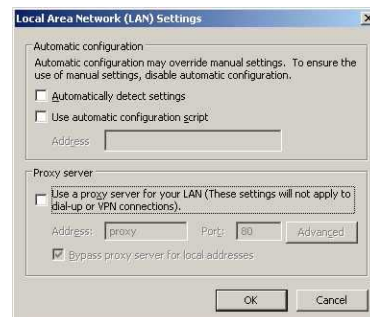
7.1.2 Web browser

Most Web browsers used in company networks operate via a proxy server. This must be disabled if the computer is to communicate with the Fieldgate SFG500 Web Server. The procedure describes applies to Internet Explorer 8.0.

1. Right click on the Internet Browser icon on your desktop and select **Properties**
 - The **Properties** dialog opens



2. Now click on the tab **Connections** followed by the button **LAN Settings**
 - The **Local Area Network (LAN) Settings** dialog appears



3. Disable the proxy server by clicking on the check box
 - The "x" disappears and the proxy fields go grey
4. Press **OK** to confirm you settings
Press **OK** to close the **Properties** dialog
5. You are now ready to connect with the Fieldgate SFG500 Web Server

7.2 Commissioning the Fieldgate SFG500

Notice!

NOTICE

- Fieldgate SFG500 is designed to be commissioned via the LAN2 service port using a direct connection to e.g. a laptop computer via a crossover cable. This may be done on the workbench or with the Fieldgate SFG500 already mounted in a cabinet or field enclosure.

7.2.1 Commission the lithium battery

Caution!

CAUTION

- If the battery is inserted with the plus pole to the rear, this might lead to a device failure

Notice!

NOTICE

- If the battery is isolated or exhausted, the device will lose data when switched off, when in an unpowered status or during reset.
- Information on changing batteries and battery specifications is to be found in Chapter 8.3

Fieldgate SFG500 is delivered with the lithium battery in place, but isolated by a plastic strip. This must be removed by trained personnel before Fieldgate SFG500 can be used.

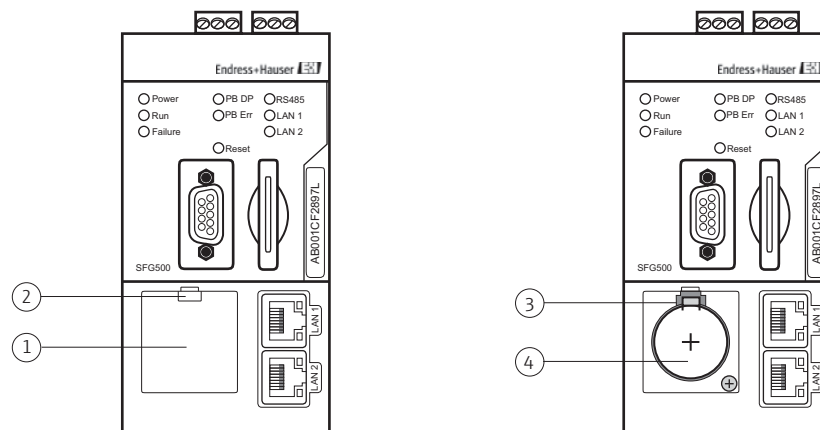


Fig. 7-1: Battery compartment with and without cover

- | | | | |
|---|-------------------------|---|-----------------|
| 1 | Battery compartment lid | 3 | Retaining catch |
| 2 | Latch | 4 | Lithium battery |

Procedure

- Open the battery compartment by pressing down the latch with a finger or a suitable tool e.g. a screwdriver with a blade of maximum width 3.5 mm.
- Using the screwdriver, release the battery by pressing the retaining catch gently upwards whilst at the same time exerting a little forward pressure on the battery itself
- Carefully remove the battery from its compartment
- Remove the isolating strips
- Place the battery on the lower edge of the compartment, plus pole to the front, and gently press it back into place, so that the catch engages again
- Insert the cover in the front panel recess and close the battery compartment

7.2.2 Insert the Fieldgate Module SFM500

Caution!



Once a Fieldgate Module SFM500 had been inserted and Fieldgate SFG500 has been powered up it can only be removed by following the procedure in Chapter 8.2. A failure to do this may cause corruption of the licence and application data, in which case the Fieldgate SFG500 will not operate.

1. If a Fieldgate Module SFM500 was ordered with Fieldgate SFG500, insert it into the slot in the front panel.
 - Fieldgate Module SFM500 must be unlocked
 - Make sure that the module not inserted at an angle

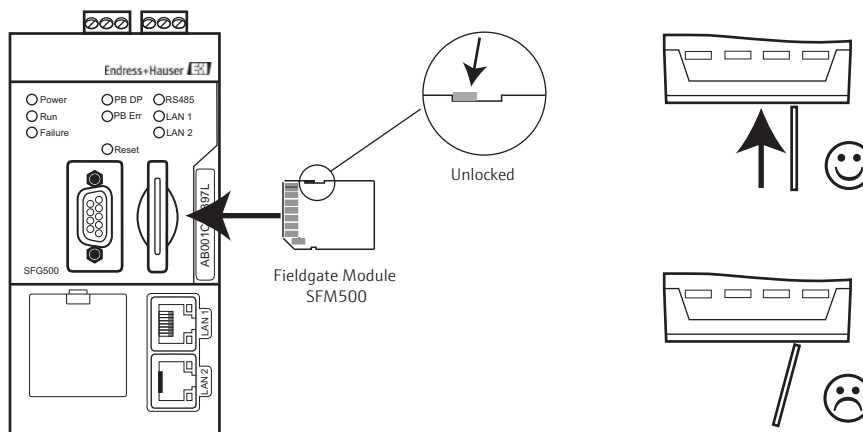


Fig. 7-2: Inserting the Fieldgate Module SFM500

7.2.3 Connect the computer

Ethernet connection

1. Power up the Fieldgate SFG500
 - Wait approx. 3 seconds until the Fieldgate SFG500 is ready for operation (the yellow **Run LED** lights continuously)
2. Connect the laptop to the LAN2 port of Fieldgate SFG500 as shown in Fig. 7-3.

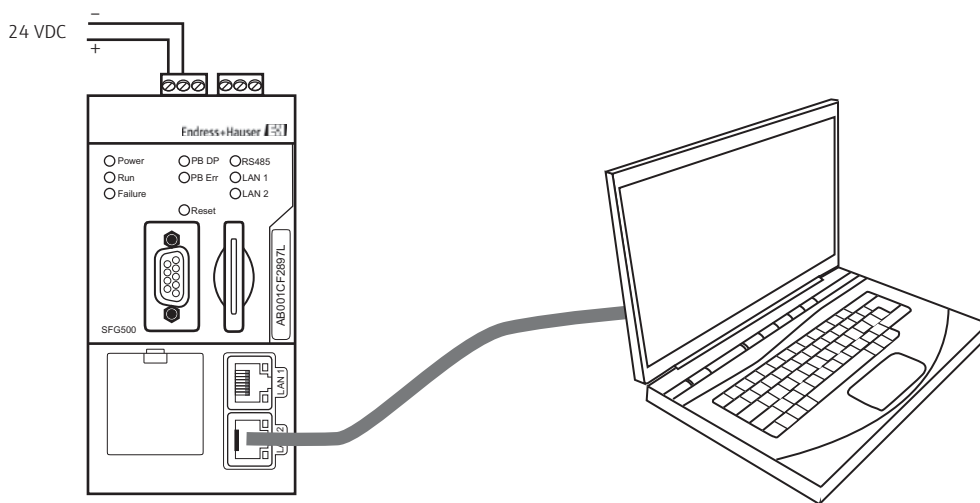


Fig. 7-3 Connecting the computer to the Fieldgate SFG500

3. You are now ready to connect to the Web Server.

7.2.4 Connect to the Web Server

Notice!

NOTICE

- Full details of the functions provided by the Fieldgate SFG500 Web Server and their configuration can be found in operating manuals for its use as an Access Point, Asset Monitor or Process Monitor (BA00071S/04/en, BA00072S/04/en or BA00074S/04/en respectively)
- The pages available in the Fieldgate SFG500 Web Server depend upon on its operating mode

- In your Internet browser enter the address of Fieldgate SFG500 LAN2 port: 192.168.253.1 and press **Enter**:



- If a message appears asking whether this application should be allowed to cross the firewall, answer **Yes/OK**
 - Accept the site certificate in the dialog which now appears
- The Web Server cover page opens

#000	M001	M002	M003	#004	S005	S006	#007	S008	#009
#010	#011	#012	#013	#014	#015	#016	#017	#018	#019
#020	S021	S022	#023	#024	#025	#026	#027	#028	#029
S030	#031	#032	#033	#034	S035	#036	S037	#038	#039
#040	#041	#042	#043	#044	#045	#046	#047	#048	#049
#050	#051	#052	#053	#054	#055	#056	S057	#058	#059
#060	#061	#062	#063	S064	S065	S066	#067	S068	S069
#070	#071	#072	#073	#074	S075	#076	#077	#078	#079
#080	#081	#082	#083	#084	#085	#086	#087	#088	#089
#090	#091	#092	#093	#094	#095	#096	#097	#098	#099
#100	#101	#102	#103	#104	#105	#106	#107	#108	#109

- A live list showing the connected PROFIBUS devices appears
 - The language of the web page can be changed by pressing the appropriate flag
- If you are not able to connect to the Fieldgate SFG500:
 - Ping the Fieldgate SFG500 using the Command prompt
 - Check that any proxy server is switched off or not used for this address range
 - Check that the Ethernet cable has been correctly connected, Chapter 5.2.5
 - Check that you are using a crossover cable for a direct connection
 - Check your IP address setting again

7.2.5 Login

Before any settings can be changed, the write protection must be disabled by logging in.

- Press **Login** on the toolbar, to disable the write protection
- Enter a **User Name** (admin) and **Password** (admin)
- Write protection remains disabled until **Logout** is pressed or the Web browser is closed

7.2.6 Configure the basic settings

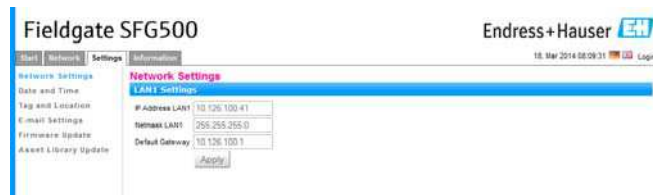
The basic settings comprise:

- The IP address of LAN1
- The time and date shown by Fieldgate SFG500

Ethernet IP address of LAN1

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

1. Open the **Settings** menu by clicking on the **Settings** tab of the Web Server
 - Select **Network Settings**



2. Enter the desired **IP Address**, **Network Mask** and **Default Gateway**
 - Press **Apply** to apply the changes to Fieldgate SFG500

Time and date

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

1. Open the Settings menu by clicking on the **Settings** tab of the Web Server
 - Select **Date and Time**



2. Either in **Quick Setup**, press **Apply** to apply the settings of the connected computer to Fieldgate SFG500 or in **Advanced Setup**, enter a **Time**, **Date** and **Timezone** and press **Apply** to apply the changes to Fieldgate SFG500

7.2.7 Configure the PROFIBUS network settings

PROFIBUS configuration

The PROFIBUS settings comprise:

- PROFIBUS DP address of Fieldgate SFG500 (self-assigned)
- Network baudrate (automatically detected)
- PROFIBUS network parameters (automatically selected and adjusted)

Fieldgate SFG500 configures itself during start up and adapts itself to the baudrate and bus parameters used by the control system. Only if the PB Err LED lights, does the user have to intervene. In this case the PROFIBUS network parameters must be adjusted to accommodate the Fieldgate SFG500.

1. Open the **Network** pages by clicking on the **Network** tab of the Web Server



2. Select **PROFIBUS Settings**, the PROFIBUS settings page appears



3. To change the PROFIBUS address of Fieldgate SFG500
 - In **Configuration Mode**, click the radio button **Manual**
 - In **Address Parameters**, enter a new **Station Address**
 - Press **Apply** to apply it to Fieldgate SFG500
4. To change the baudrate and any of the other PROFIBUS parameters of Fieldgate SFG500, enter the new values and press **Apply** to apply them to Fieldgate SFG500

Notice!

NOTICE

- If the Fieldgate SFG500 baudrate and PROFIBUS parameters are changed, the same changes must be made to all masters on the PROFIBUS network, otherwise communication will fail
5. The auto configuration can be reinstated by clicking **Auto** in **Configuration Mode**
 - Any manual PROFIBUS settings will be lost

8 Maintenance and Repair

8.1 General

The national requirements apply to maintenance, servicing, and inspection of associated apparatus.

No maintenance is necessary other than that described in this chapter if the devices are operated properly, observing the mounting instructions and ambient conditions.

The devices may not be repaired, changed or manipulated. If there is a defect, the product must always be replaced with an original part.

8.1.1 Return to Endress+Hauser.

Fieldgate SFG500 must be returned if repairs are required or if the wrong device has been ordered or delivered. According to legal regulations, Endress+Hauser, as an ISO-certified company, is required to follow certain procedures when handling returned products, especially those that have been in contact with medium.

To ensure swift, safe and professional device returns, please read the return procedures and conditions on the Endress+Hauser website at www.services.endress.com/return-material

8.1.2 Disposal

The device, the battery and Fieldgate Module SFM500 are made of high-quality materials that can be reprocessed and reused. For this reason, they may not be disposed of as ordinary household waste, but rather in accordance with national regulations governing the disposal of electronic waste and batteries.

If the user is unable to dispose of the device, Fieldgate Module SFM500 or battery in a proper manner, they can be sent back to the Service department at the nearest Endress+Hauser Sales Center, see Chapter 8.1.1.

8.1.3 Contact addresses

Contact addresses can be found on our home page at www.endress.com/worldwide.

For enquiries, service etc. please contact your local Endress+Hauser Sales Center or Representative.

8.2 Fieldgate Module SFM500

8.2.1 Inserting and removing the Fieldgate Module SFM500

The Fieldgate Module SFM500 is required when Fieldgate SFG500 is used in Asset Monitoring mode or for a special application. It contains the licencing information as well as a back-up of the software and data for special applications. Normally it is inserted during commissioning before Fieldgate SFG500 is powered up.

If the Fieldgate Module SFM500 is inserted or removed when Fieldgate SFG500 is running, it is possible that the data will be corrupted or the device will fail. To remove or insert during operation, proceed as follows

1. Switch off Fieldgate SFG500 by disconnecting the power
2. Remove, exchange or insert the Fieldgate Module SFM500 as appropriate
3. Switch on the Fieldgate SFG500 by connecting the power
4. Fieldgate SFG500 is fully operational when the Run LED lights continuously

8.2.2 Firmware update from file

For operating mode Access Point, no Fieldgate Module is used. In this case, the latest firmware version can be supplied as a file must be downloaded through the Web browser as follows.

1. Open the **Settings** menu by clicking on the **Settings** tab of the Web Server
 - Select **Firmware Update**.



2. Press **Browse** and navigate to the folder where the firmware file has been saved
 - Select the file then press **Open** to place it in the entry field.
3. Press **Start** to download the firmware to Fieldgate SFG500.
4. After download Fieldgate SFG500 will automatically shut down and reboot with the new firmware.

8.3 Battery

8.3.1 Replacement battery

The replacement battery must be a lithium manganese dioxide battery of type CR2450 with the following specification:

- Operating temperature range: -20°C – +85°C (-4°F – +178°F)
- Nominal voltage: 3 V, Nominal capacity: 610mAh, Maximum current: 15mA
- UL Recognition

The old battery must be disposed of in accordance with national regulations governing the disposal of batteries.

8.3.2 Exchanging the battery

The battery must be exchanged by trained personnel after an interval of maximum 5 years.

Caution!



- If the battery is inserted with the plus pole to the rear, this might lead to a device failure

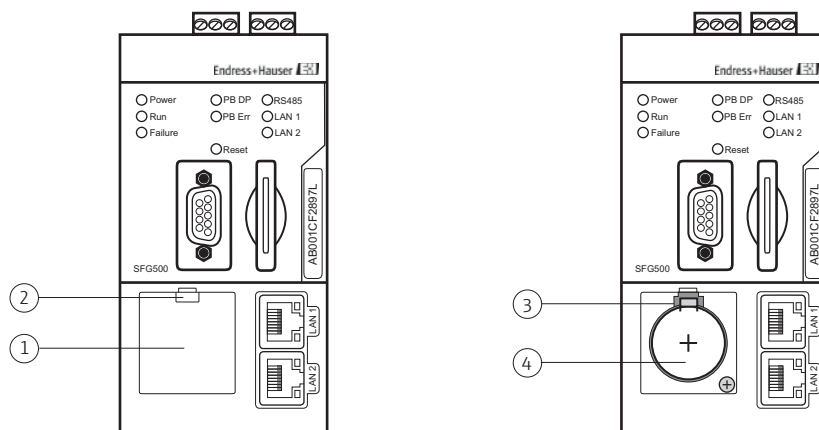


Fig. 8-1: Battery compartment with and without cover

- | | | | |
|---|-------------------------|---|-----------------------------------|
| 1 | Battery compartment lid | 3 | Retaining catch |
| 2 | Latch | 4 | Lithium manganese dioxide battery |

Procedure

1. Open the battery compartment by pressing down the latch with a finger or a suitable tool e.g. a screwdriver with a blade of maximum width 3.5 mm.
2. Using a screwdriver with a blade of maximum width 3.5 mm, release the battery by pressing the retaining catch gently upwards whilst at the same time exerting a little forward pressure on the battery itself
3. Carefully remove the battery from its compartment
4. Place the new battery on the lower edge of the compartment, plus pole to the front, and gently press it back into place, so that the catch engages again
5. Insert the cover in the front panel recess and close the battery compartment

9 Trouble-Shooting

9.1 Faults indicated by Fieldgate SFG500 LEDs

	LED indication	Cause/Remedy
1	Power LED does not light	No power <ul style="list-style-type: none"> ▪ Check that power line is correctly wired ▪ Check that the supply voltage corresponds to that on the nameplate ▪ Check that the power is switched on ▪ If the supply voltage was too high, the internal fuse has blown <ul style="list-style-type: none"> - Return the Fieldgate SFG500 to Endress+Hauser for repair
2	Failure LED lights or flashes	CPU has severe problem or device cannot boot <ul style="list-style-type: none"> ▪ Switch power off, wait 30 s, then switch on again ▪ If the failure LED lights again <ul style="list-style-type: none"> - Return the Fieldgate SFG500 to Endress+Hauser for repair
3	PB Err LED lights	PROFIBUS network has malfunctioned <ul style="list-style-type: none"> ▪ Check that the bus is terminated at both ends only ▪ Check that all master bus parameters are identical ▪ Check that the bus has been correctly wired
4	RS485 LED is off, although the interface is wired up	Wiring or link error <ul style="list-style-type: none"> ▪ Check wiring ▪ Check that the Modbus master is switched on
5	LAN1 or LAN2 LED is off, although the interface is wired up	Wiring or link error <ul style="list-style-type: none"> ▪ Check wiring ▪ Check that the communication partner is switched on ▪ Check that the IP address has been set properly: <ul style="list-style-type: none"> - LAN 1: Set as fixed address in network domain - LAN 2: Set to receive DHCP address

9.2 PROFIBUS communication faults

	Problem	Cause/Remedy
1	Fieldgate SFG500 cannot connect to PROFIBUS DP segment	Wiring or link error <ul style="list-style-type: none"> ▪ Check that PROFIBUS DP segment is corrected terminated (at both ends) ▪ Check wiring ▪ Check that the Station Address is not being used by another participant ▪ Check that all masters are operating with the same bus parameters <ul style="list-style-type: none"> - If necessary, adjust the token rotation time
2	A device does not appear in the live list	Communication error <ul style="list-style-type: none"> ▪ Another device has the same address ▪ The device is not powered up ▪ Device does not support autosense of baudrate <ul style="list-style-type: none"> - Set correct baudrate ▪ The device is connected to a link that is not transparent <ul style="list-style-type: none"> - This is normal behaviour

9.3 RS485 communication faults

	Problem	Cause/Remedy
1	No communication via Modbus RS485	<ul style="list-style-type: none"> ■ Has the bus been started? ■ Check that Fieldgate SFG500 has been correctly configured as master or slave ■ Check that Fieldgate SFG500 and Modbus device(s) are using the same communication settings: RTU/ASCII, Data bytes, Stop bits, Parity, Baudrate ■ Check that you are using the correct Modbus addresses ■ Check that the connector, all cables and any interfaces are correctly wired

9.4 Fieldgate SFG500 information

Should it be necessary to seek support from our help desk to solve a particular problem with Fieldgate SFG500 you may be asked for the information on its electronic nameplate. This can be obtained from calling the appropriate page in the web browser.

1. In your Internet browser enter the address of Fieldgate SFG500 LAN2 port: 192.168.253.1 and press **Enter**:



- The Web Server introduction page opens
2. Open the Information menu by clicking on the **Information** tab of the Web Server



- The information on the electronic name plate is displayed

10 Technical Data

10.1 Output

Output type	Relay (not supported for Access Point and Asset Monitor)
Arrangement	Single changeover contact
Operating voltage range	18 VDC to 36 VDC: the relay circuit must be powered by a SELV power supply
Load current	$1 \text{ mA} < I_L < 0.5 \text{ A}$
Max. switching capacity	18 W
Dielectric strength coil to contact	Min. 1500 VAC for 1 minute
Type of protection	None
Galvanic isolation	Fully isolated from all other circuits
Connection facilities	<ul style="list-style-type: none"> ▪ 3-port terminal block ▪ Screw terminals: 0.2 mm^2 to 4 mm^2 for solid wire, 0.2 mm^2 to 2.5 mm^2 for stranded wires

10.2 Digital Communication Interface

10.2.1 PROFIBUS DP

Interface	PROFIBUS DP
Physical layer	RS485
Transmission rate	Automatic detection and matching of system baudrate
Type of protection	None
Galvanic isolation	Fully isolated from all other circuits
Maximum bus length	1200 m (1230 yds), depending upon cable and transmission rate
Input variables	<ul style="list-style-type: none"> ▪ All variables of connected PROFIBUS DP devices ▪ All variables of PROFIBUS PA devices connected via DP/PA coupler or link ▪ All variables of HART devices connected to selected Remote I/Os
Additional functions	Mapping of process values to Modbus registers for acquisition by Modbus OPC client (not supported for Access Point and Asset Monitor)
Connection facilities	9-pin MIN Sub D female connector

10.2.2 Ethernet (10 BASE-T/100 BASE TX)

Ports	LAN1 for operation, LAN2 for service
Protocol	LAN1 configurable for Ethernet TCP/IP
Transmission rate	Selectable 10/100 Mbit/s (max. cable length 100 m at 25 °C ambient temperature)
Type of protection	None
Galvanic isolation	Fully isolated from all other circuits
Maximum bus length	100 m (110 yds) depending upon cable
Connection facilities	RJ-45 socket

10.2.3 RS485 serial interface

Protocol	MODBUS RTU (not supported for Access Point and Asset Monitor)
Transmission rate	Configurable between 1200 Bit/s to 115200 Bit/s
Type of protection	None
Galvanic isolation	Fully isolated from all other circuits
Maximum bus length	1200 m (1230 yds), depending upon cable and transmission rate
Terminal resistor	Integrated, configurable by hardware (DIP-switch)
Connection facilities	<ul style="list-style-type: none"> ▪ 3-port terminal block ▪ Screw terminals: 0.2 mm² to 4 mm² for solid wire, 0.2 mm² to 2.5 mm² for stranded wires

10.3 Power Supply

Supply voltage	18 VDC - 36 VDC: the supply voltage must be carried out by an SELV power supply
Current	0.35 A - 0.20 A
Power	7.2 W
Connection facilities	<ul style="list-style-type: none"> ▪ 3-port terminal block ▪ Screw terminals: 0.2 mm² to 4 mm² for solid wire, 0.2 mm² to 2.5 mm² for stranded wires
Battery (for memory)	<p>3V lithium manganese dioxide battery type CR2450:</p> <ul style="list-style-type: none"> ▪ Operating temperature range: -20°C – +85°C (-4°F – +178°F) ▪ Nominal voltage: 3 V ▪ Nominal capacity: 610mAh ▪ Maximum current: 15mA ▪ UL Recognition: e.g. MH12568

10.4 Environment

Ambient temperature range	+0°C to +60°C, +32°F to +140°F
Storage temperature	<ul style="list-style-type: none">■ With lithium battery installed: -20°C to +60°C, -4°F to +140°F■ Without lithium battery: -25°C to +70°C, -13°F to +158°F
Relative humidity	10% to 90%, non-condensing; both for use and storage
Altitude	Max. 2000 m (6500 ft) above sea level
Vibration resistance	EN/IEC 61131-2:2007: 5Hz - 8.4 Hz: 3.5 mm; 8.4Hz - 150Hz: 10 ms ⁻²
Shock resistance	EN/IEC 61131-2:2007: 15 g, 11 ms
Electromagnetic compatibility	<p>Complies with the requirements of the EC Directive 2004/108/EG "Electromagnetic Compatibility".</p> <ul style="list-style-type: none">■ Electromagnetic compatibility to EN/IEC 61131-2: 2007 (Programmable Controllers)<ul style="list-style-type: none">- Immunity: EN 61000-6-2:2006, industrial environment- Emission: EN 61000-6-4:2007
MTBF	<ul style="list-style-type: none">■ 15 years at an ambient temperature of 25°C (77°F)<ul style="list-style-type: none">- Battery must be changed every five years■ Relay contact dependent upon the number of switching events■ All connectors designed for 100 connections/disconnections

10.5 Mechanical Construction

Overall dimensions

W x H x D: 142 mm x 70 mm x 114 mm (5.6" x 2.8" x 4.5")

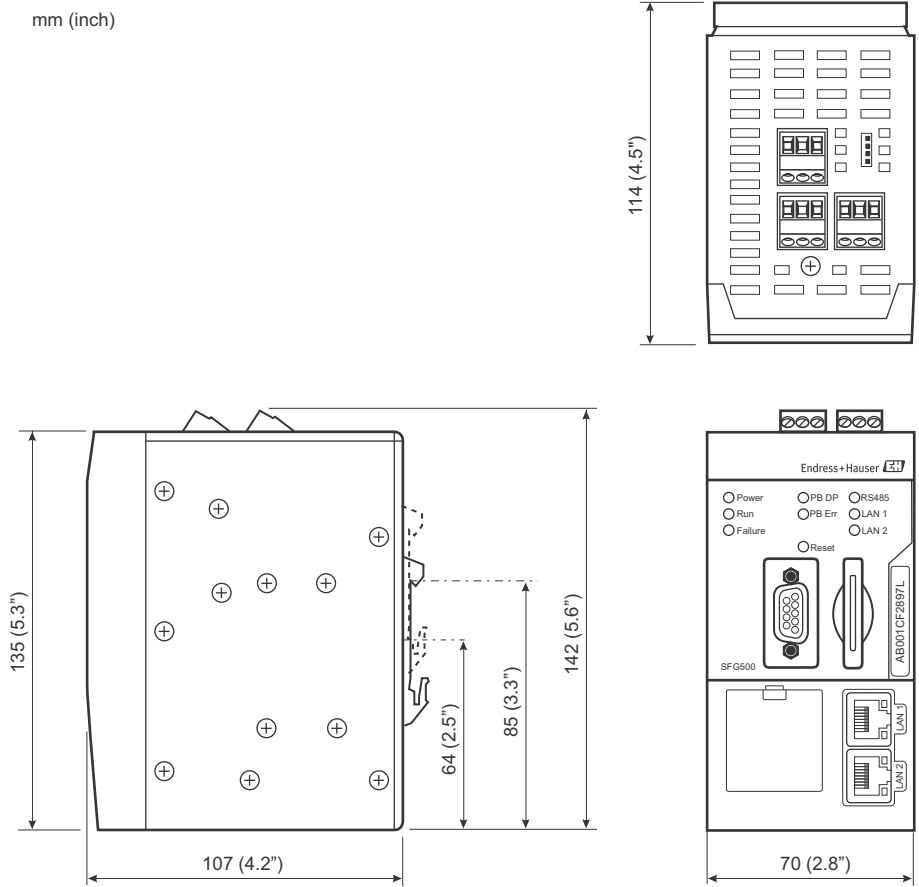


Fig. 10-1: Dimensions of Fieldgate SFG500

Weight	Approx. 0.7 kg
Housing material	<ul style="list-style-type: none"> ▪ Body: Aluminium alloy (EN AW 5754) with transparent passivated surface finish (conducting) ▪ Front panel: ABS
Degree of protection	IP 20; NEMA Type 1 (General Purpose)
Type of protection	None
Operational safety	IEC 61010-1: Protection Class III

10.6 Operability

Operating modes	Access point, Asset Monitor, Process Monitor – Operation modes Asset Monitor and Process Monitor require the use of a Fieldgate Module SFM500
Configuration	<ul style="list-style-type: none">▪ Web browser via Ethernet or FDT/DTM
Operating elements	<ul style="list-style-type: none">▪ 1x Reset push button for interrupting operation or hardware reset▪ 8x LEDs for indicating current operating modes and fault status▪ 4x LEDs in Ethernet ports indicating communication status
IP address	<ul style="list-style-type: none">▪ LAN1: Configurable via Web browser, default 10.126.84.100▪ LAN2: Fixed, 192.168.253.1▪ LAN2 has a DHCP server for automatic assignment of IP address to connected computers

10.7 Certificates and Approvals

CE Mark	CE to EN/IEC 61131-2:2007
Safety approval	TÜV NRTL to EN/IEC/UL/CAN/CSA C22.2-No 61010-1

A Appendix: Computer IP properties

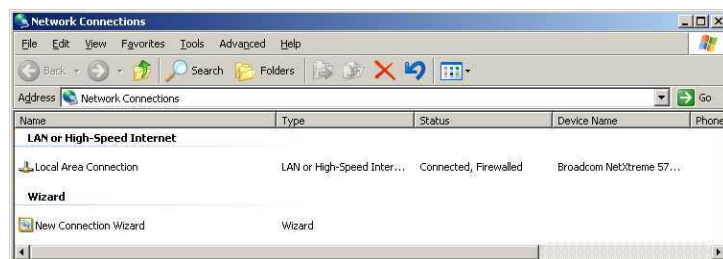
Notice!

NOTICE

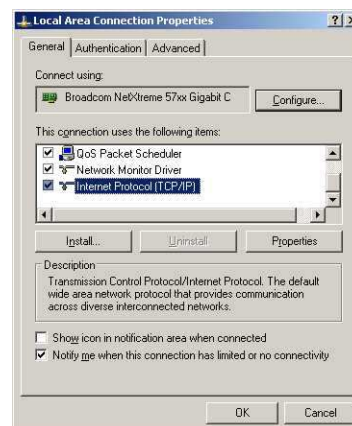
- You may need administration rights to change the IP settings of your computer. If this is the case, contact your system administrator
- The procedures described in this chapter are for Windows XP. For other Windows systems consult your system administrator.

Most computers which are used in a company network will already be set up to accept an IP address from a DHCP server. If your computer is used in a control system, however, it is possible that it has a fixed address. In this case, in order to connect to Fieldgate SFG500's LAN2 port, proceed as follows:

Procedure for Windows XP 1. Right-click **Start =>Settings =>Control Panel =>Network Connections**

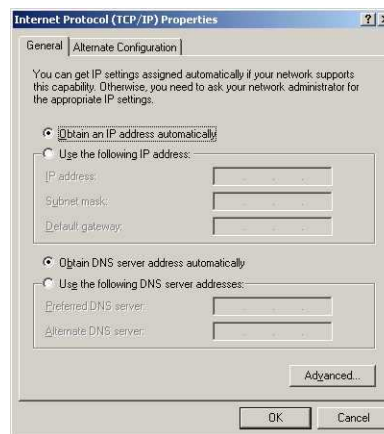


2. Right-click **Local Area Connection => Properties**



3. Using the left mouse button, double-click **Internet Protocol (TCP/IP)** or click once, then click **Properties**.
4. Note the addresses that have been assigned to your computer - you will need them later when you reset your computer after commissioning the Fieldgate SFG500, see below

5. Select the option **Obtain and IP address automatically**



6. Now click **OK** to confirm your selection and close the dialog
 - Press **OK** to close the Local Area Connection window

Resetting the fixed IP address

After the Fieldgate SFG500 has been set up, you can reset your computer to its old address as follows

7. Repeat Steps 1 to 3 of the above procedure
8. In the **Internet Protocol (TCP/IP) Properties** dialog select the option **Use the following IP address**
 - Re-enter the settings that you noted at Step 4
9. Now click **OK** to confirm your selection and close the dialog
 - Press **OK** to close the Local Area Connection window

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