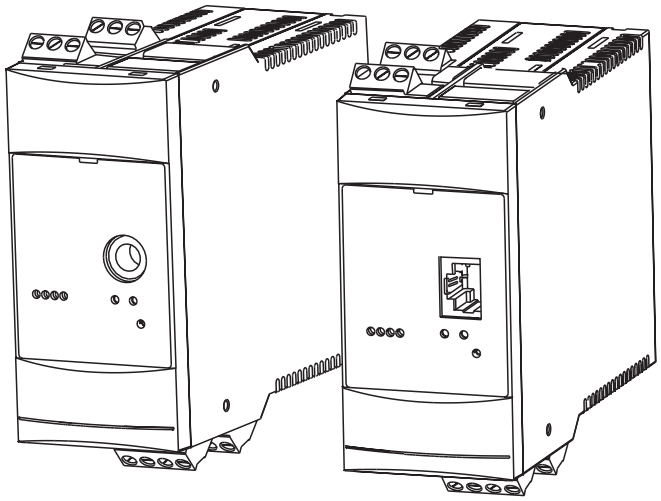
Level Pressure Flow Temperature Liquid Analysis Registration Systems Components Services Solutions

Operating Instructions

Fieldgate FXA520

Gateways/Interfaces

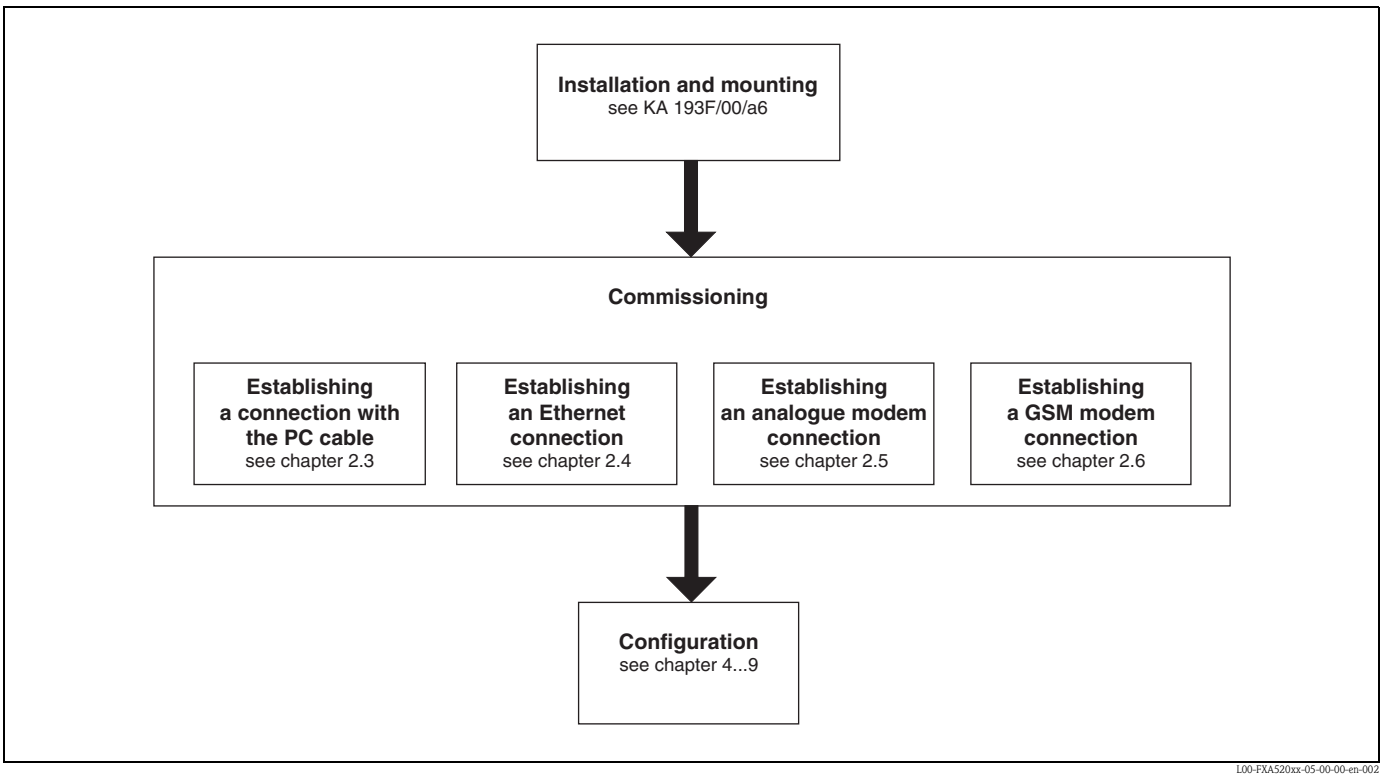


BA258F/00/en/06.04
Valid as of software version
V 01.02.00

Endress+Hauser

People for Process Automation

Brief operating instructions



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1 Introduction

1.1 Licensing agreement

The software required for read out and commissioning is freely available or is subject to the licensing conditions of its manufacturer (→ Chap. 1.4.1).

1.2 Registered trademarks

HART®
Registered trademark of the HART Communication Foundation, Austin, USA.

Microsoft® , Windows® , Windows NT® and the Microsoft logo
are registered trademarks of the Microsoft Corporation.

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

1.3 Conventions used in the manual

The following writing conventions and symbols have been used to provide the user with a better overview of the contents of this manual and to highlight important information:

Text emphasis

The following section provides you with a brief overview of the methods used to emphasise text in this manual.

Text emphasis	Function	Example
"**Bold in inverted commas** "	Keys, buttons, program icons, tabs, menus, commands	"**Start ➜ Programs ➜ ToF** " or "**Enter** "
		Select "**Print** " in the "**File** " menu.
	With the CTRL key (CONTROL key) held down, press the SHIFT key.	Keep the "**CTRL key** " pressed and press the "**SHIFT key**".
	With the CTRL key (CONTROL key) held down, click the left mouse button.	Keep the "**CTRL key** " pressed and left-click the mouse.
CAPS	Details on paths and file names in the text	DOKUFMR2XX.PDF or WIN.HLP
Angle brackets	Variables	<CD-ROM drive>

Signal	Meaning
Caution!	This word signals important information and points to note. These should always be followed in order to avoid any malfunctions.
Note!	This word indicates helpful tips and additional information.

1.4 System requirements

1.4.1 Software

Software for remote monitoring via web browser

Operating system	Service Pack / extensions
Windows 95	Y2K bug fixes
Windows 98	Y2K bug fixes
Windows NT 4.xx	SP 6a or higher
Windows 2000	SP 1 or higher
Windows XP	Home/Professional

Web browser	Service Pack / extensions
MS Internet Explorer	> 5.0 with current security updates
Netscape Navigator	> 4.7 with current security updates
Opera	> 6.0 with current security updates
Mozilla	≥ 1.0 with current security updates

Software for remote configuration with HART Client

Operating system	Service Pack / extensions
Windows 98	Y2K bug fixes
Windows NT 4.xx	SP 6a or higher
Windows 2000	SP 1 or higher
Windows XP	Home/Professional

Add-on	Version	Function
HART Client	≥ 1.5	This add-on is required for remote configuration, e.g. with ToF Tool, ReadWin or FieldTool, Commuwin II or OPC Server
ToF Tool	≥ 3.10	Service and operating program for level transmitters with Time-of-Flight measuring
FieldTool	≥ 1.03.06	A common software for commissioning and configuring all flowmeters of the new PROline generation.
ReadWin	≥ 1.9.2.0	PC software under MS-Windows for unit setting up, display and archiving measured values/sequences.
Commuwin II	≥ 2.08-1	Commuwin II is the general tool for device configuration for all smart Endress+Hauser field devices.
OPC Server	≥ 1.4.0.0	PC - OPC Interface

1.4.2 Printer

The configuration of the Fieldgate can be printed out on printers connected to your personal computer.

1.5 Scope of delivery

The scope of delivery comprises:
- Device
- Installation and mounting instructions
- Accessories (depending on order)
- PC cable (service connector/RS232)

2 Commissioning

2.1 Installation and mounting

A number of requirements must be fulfilled before being able to install the device. For further information please refer to the Installation and Mounting Instructions (KA193F/00/a6) supplied with the device.

2.1.1 Input

Analogue 4...20 mA inputs

2 channels: joint ground of both channels, no galvanic isolation.

Channel 1&2 - passive	
Max. input voltage per channel	35 V
Max. input current per channel	45 mA
Input impedance	approx. 100 Ω
Accuracy	≤ 1 %
Voltage drop (incl. diode against reverse polarity)	≤ 3 V
Connection cable	Instrument cable, unscreened
Cable resistance	max. 25 Ω per core

RS-485 interface

Galvanic isolation	500 V RMS
Termination resistor A-B	120 Ω fully integrated

HART channel 1&2

The HART signal is capacitive coupled and decoupled via a communication resistor

Communication resistor in the 4...20 mA signal line	Integrated 270 Ω communication resistor, for optional use, max. 45 mA!
Short-circuit duration (without interrior communication resistor)	Unlimited

Galvanic isolation between HART channel 1 and channel 2
Ex-isolation between field devices and internal circuits.

Output voltage U0 in the event of a fault (Ex)	Max. 6.5 V
Max. current for EEx ia (Ex)	5.97 mA
Max. power output (Ex)	39 mW
Maximum input voltage (Ex)	30 V
Maximum input voltage (non-Ex)	45 V

2.1.2 Output

Output signal

- A relay for alarm in the event of a fault
- Switching-off the sensor's power supply (in the event of a fault, power-save mode)
- Switching capacity of relay contacts:
  U~ maximum 253 V
  I~ maximum 2 A
  P~ maximum 500 VA at cos φ 0.7
  U- maximum 40 V
  I- maximum 2 A
  P- maximum 80 W

2.1.3 Power supply

Supply voltage

Alternating current version (AC):

Voltage range: 85...253 V, 50/60 Hz.
Safe galvanic isolation between mains power supply and internal circuits.

Direct current version (DC):

Voltage range: 20...60 V_{DC} or 20...30 V_{AC}.
Reverse polarity protection guaranteed by bridge rectifier.
Safe galvanic isolation between mains power supply and internal circuits.

Power consumption

FXA520		**AC (at 253 V_{AC})**	**DC (at 20 V_{DC})**
Analogue		6 VA	2 W
Ethernet		4.9 VA	1.5 W
GSM	Send mode	8 VA	4 W
	Standby	4.5 VA	1 W

2.1.4 Terminals

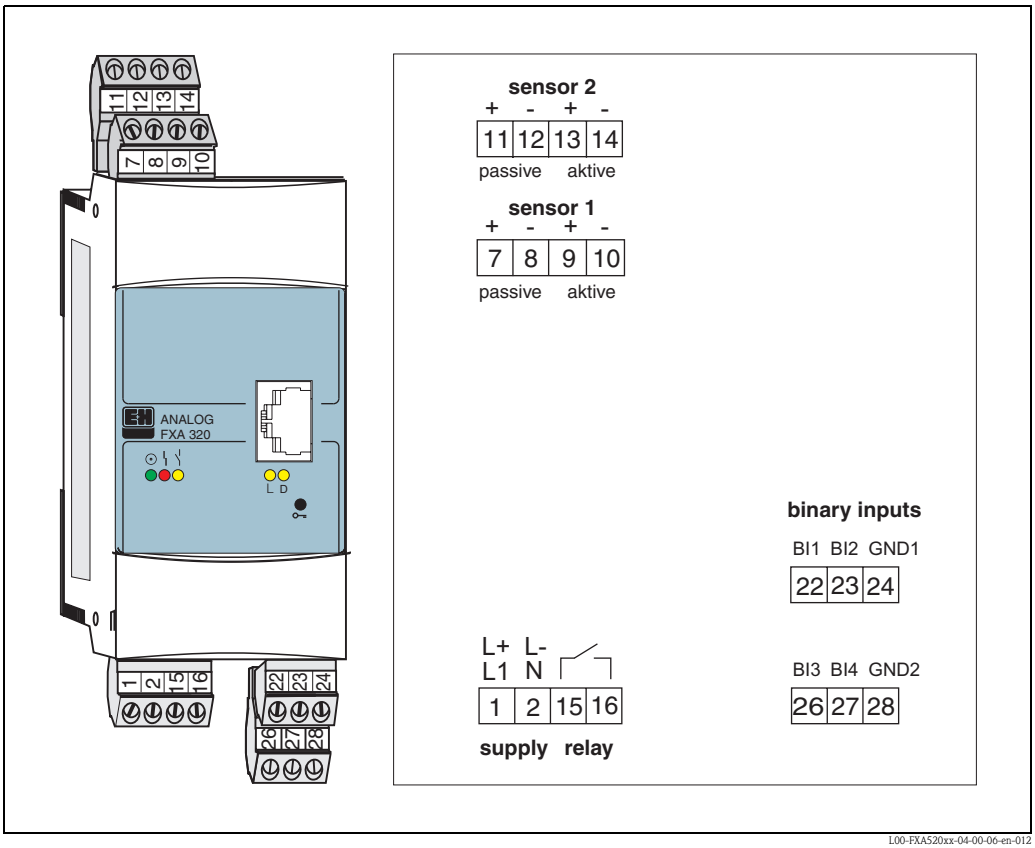


Abb. 1: Terminal assignment Fieldgate FXA520

Power supply and all-or-nothing relay

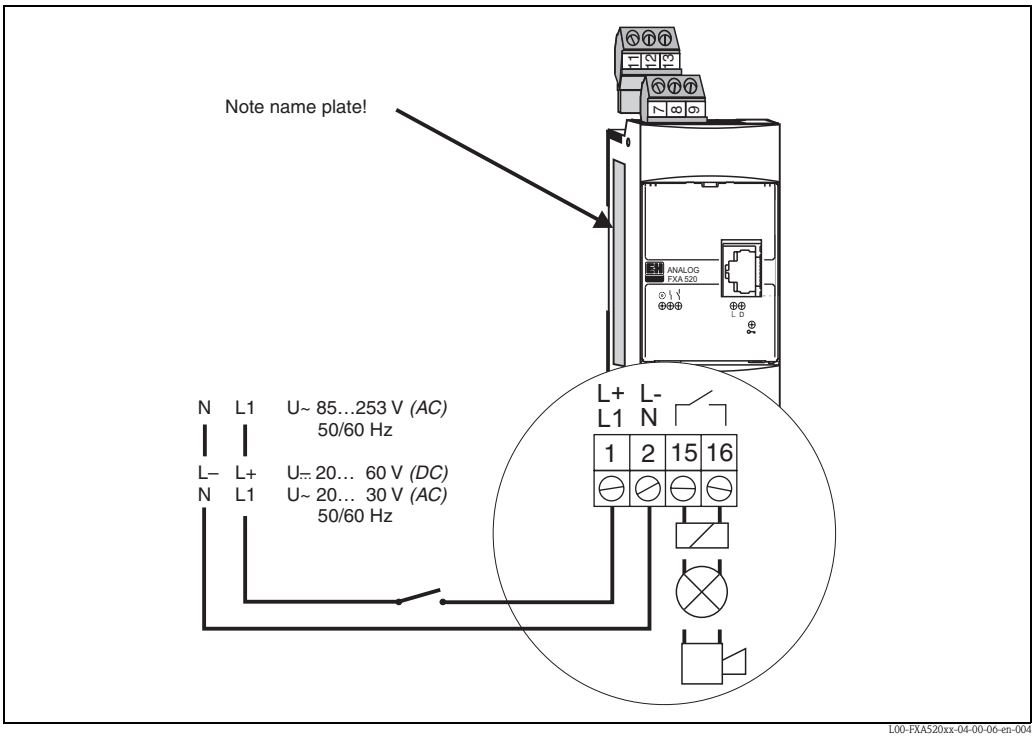


Fig. 2: Terminal assignment for power supply and all-or-nothing relay

Connection of HART sensors

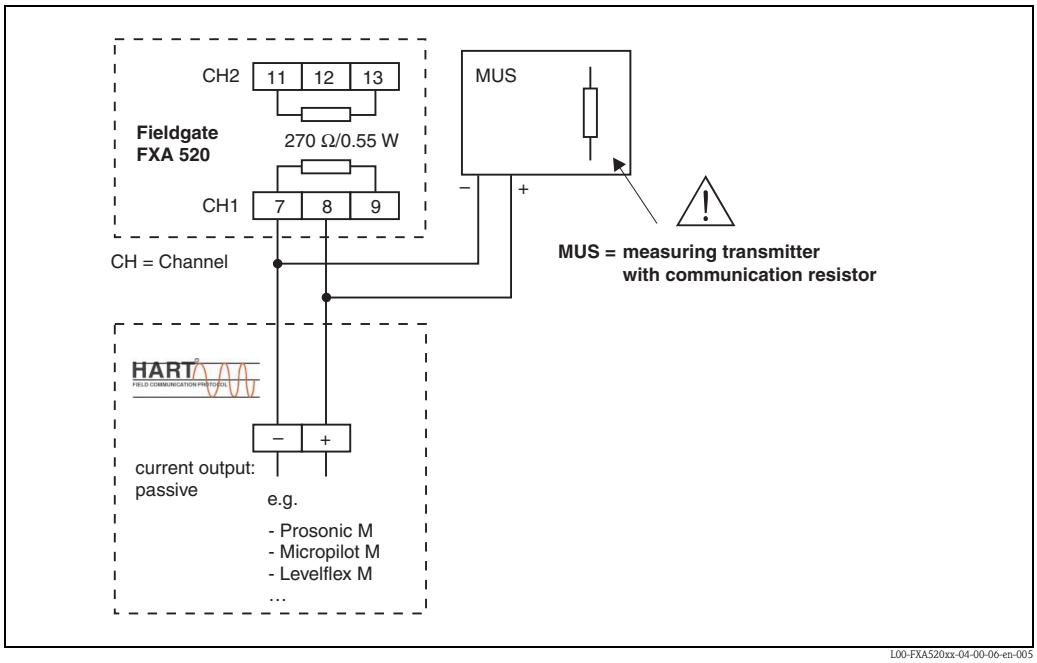


*Fig. 3: Terminal assignment for connection with transmitter power supply unit **with** communication resistor*

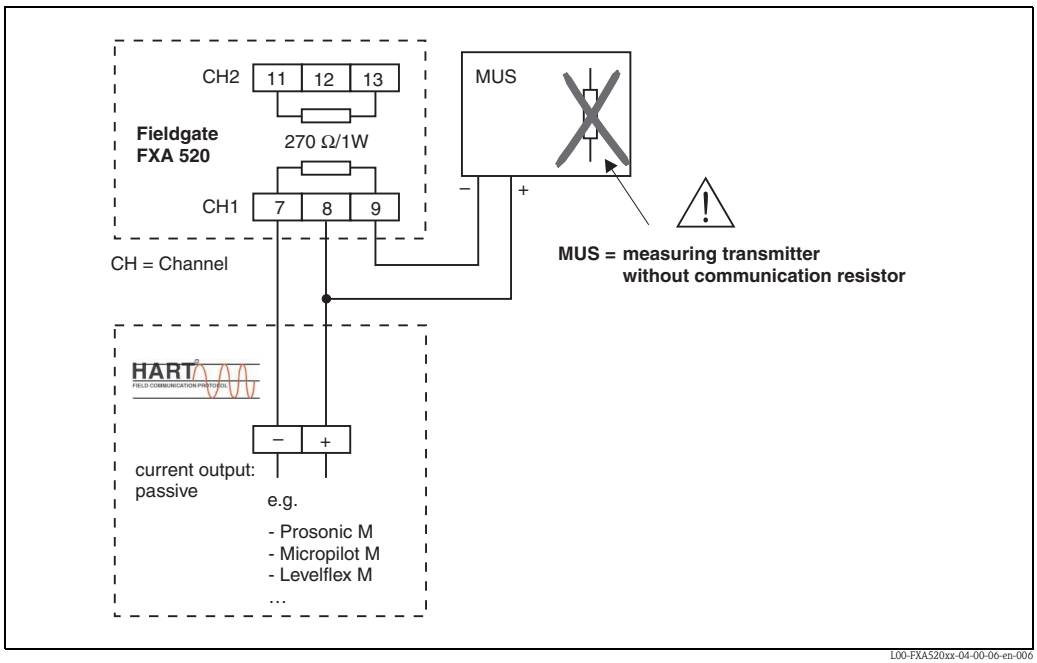


*Fig. 4: Terminal assignment for connection with transmitter power supply unit **without** communication resistor*

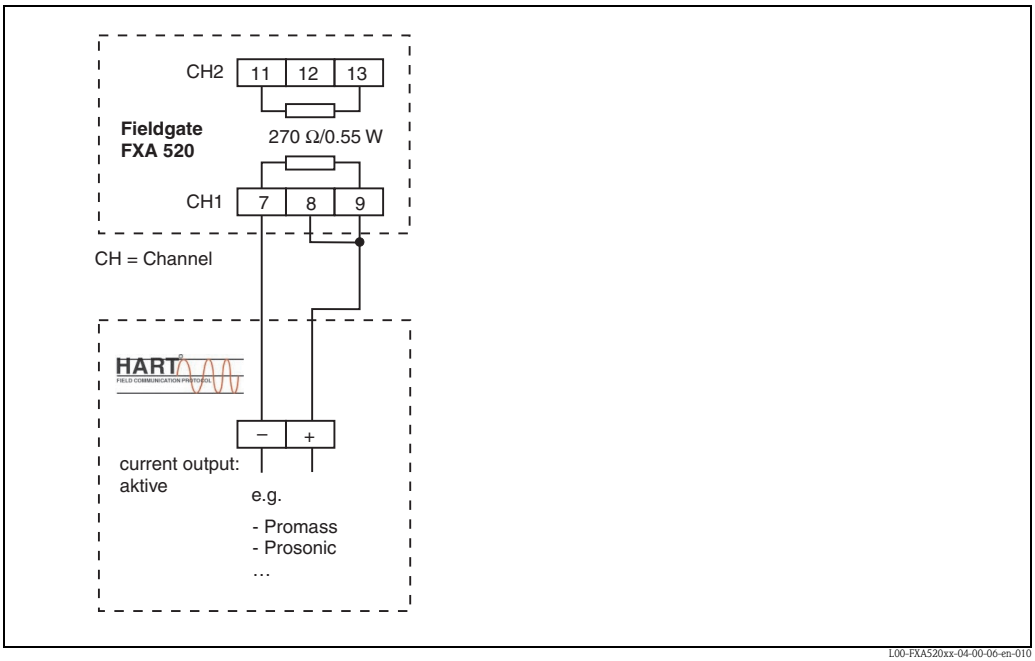


Fig. 5: Terminal assignment for connection with active current output

Connection of HART multidrop sensors

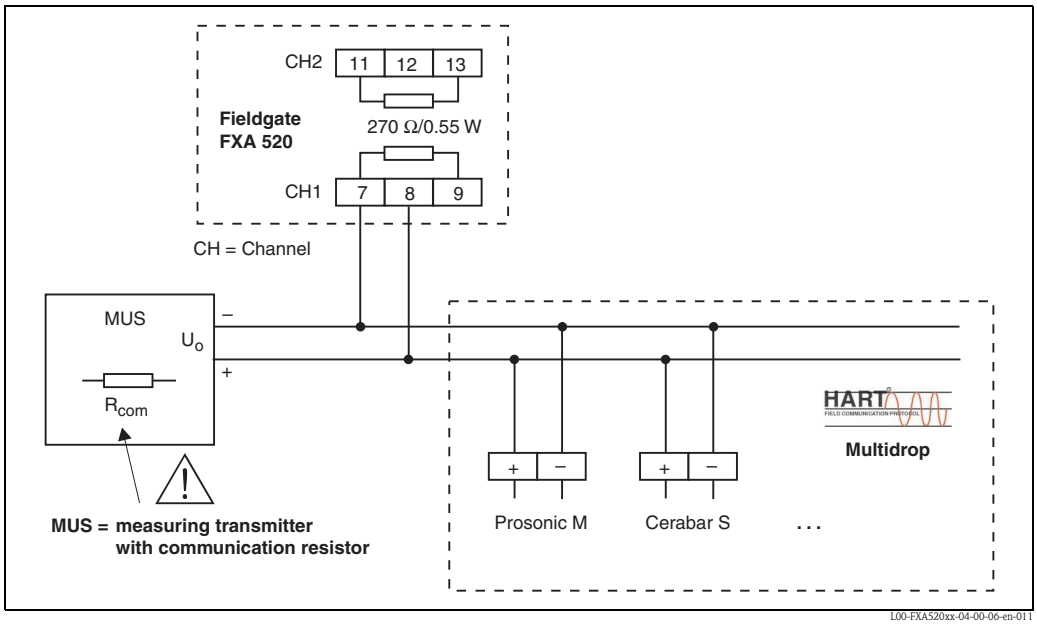


*Fig. 6: Terminal assignment for connection with transmitter power supply unit **without** communication resistor*

Note!
Please note the following points in multidrop mode:
- U_o of transmitter power supply unit ≤ U_{max} of individual devices
- Pay attention to voltage drop at communication resistor (R_{com})
- Max. power loss at R_{com}
- The terminal voltage must still at least correspond to the minimum operating voltage of the individual devices
- A different HART address (1...15) must be assigned to each individual device

Connection of 4...20 mA sensors

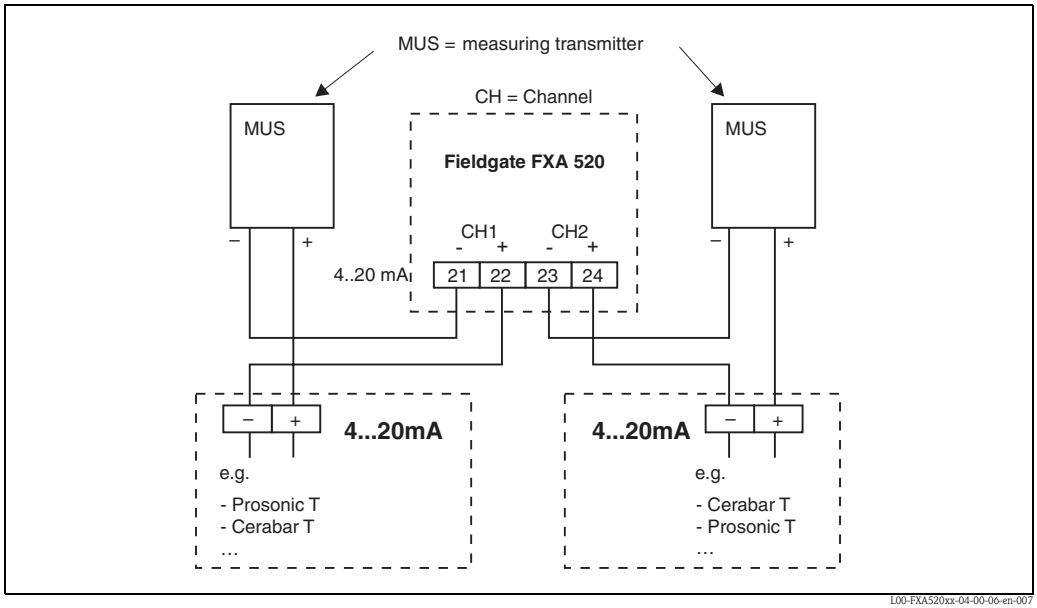


Fig. 7: Terminal assignment for connection with transmitter power supply unit

Connection of RS-485 outputs

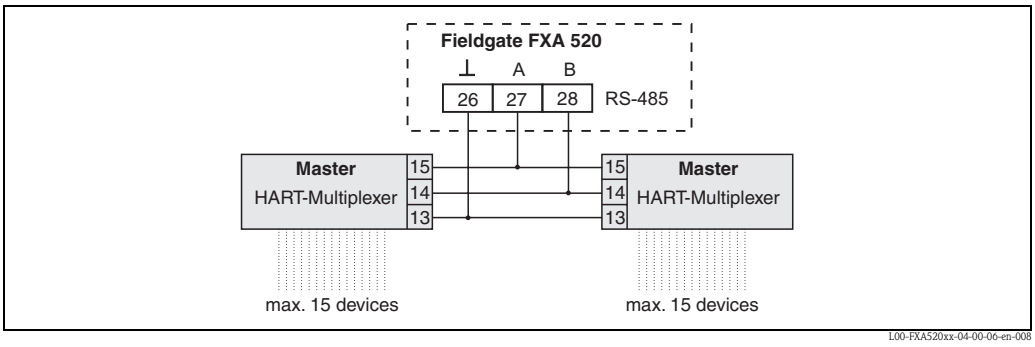


Fig. 8: Terminal assignment for connection with HART multiplexer (master/master)

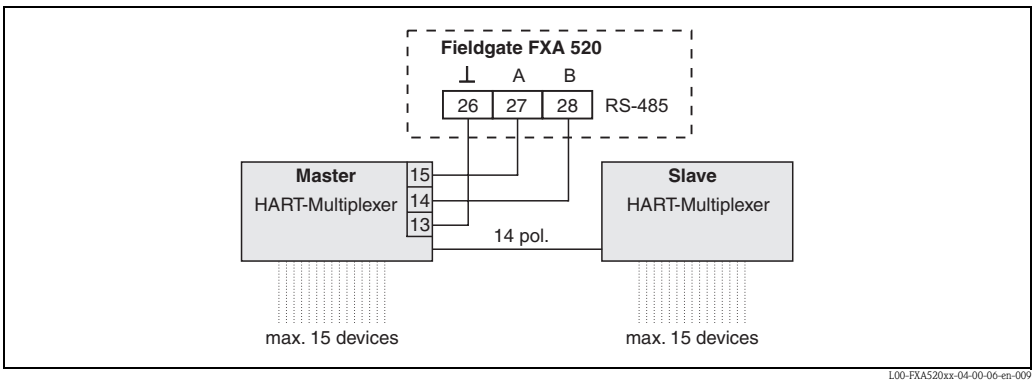


Fig. 9: Terminal assignment for connection with HART multiplexer (master/slave)

Information about and accessories for the HART-Multiplexer can be found in → Chap. 18.7

Note!
The Fieldgate is designed for the HART multiplexer master and HART slave units from Pepperl+Fuchs:
- HART multiplexer master, type KFD2-HMM-16
- HART slave unit, type KFD0-HMS-16

2.2 Display and operating elements

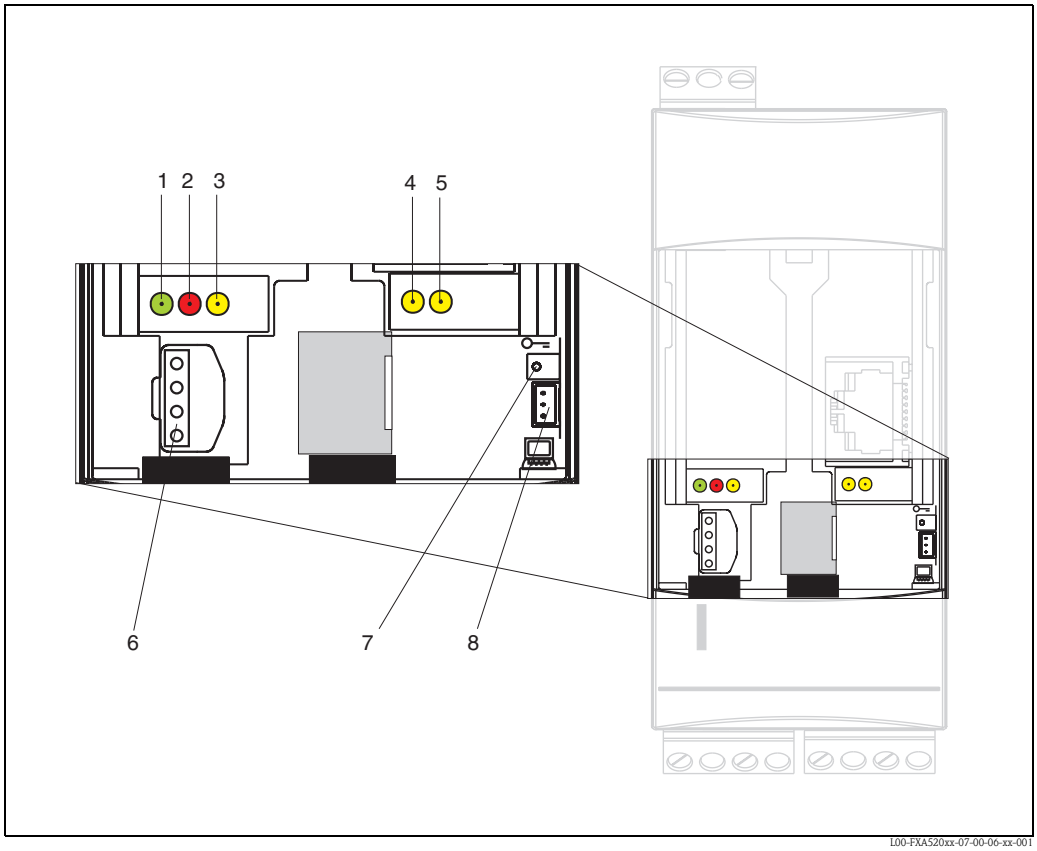


Fig. 10: Arrangement of display and operating elements on Fieldgate FXA 520

Display elements

Arrangement of elements see Fig. 10.

Item	Light emitting diode (LED)	Meaning
1	Green LED constant	Indicates the power supply is correct
2	Red LED constant	Indicates a fault
	Red LED flashes	Indicates a warning / on-site communication via PC / hardware is unlocked / system start
3	Yellow LED	Switching status of the built-in relay LED off = relay de-energised LED on = relay energised
4	Yellow LED	Indicates: connection active
5	Yellow LED	Indicates: communication / GSM version: field strength display if no connection

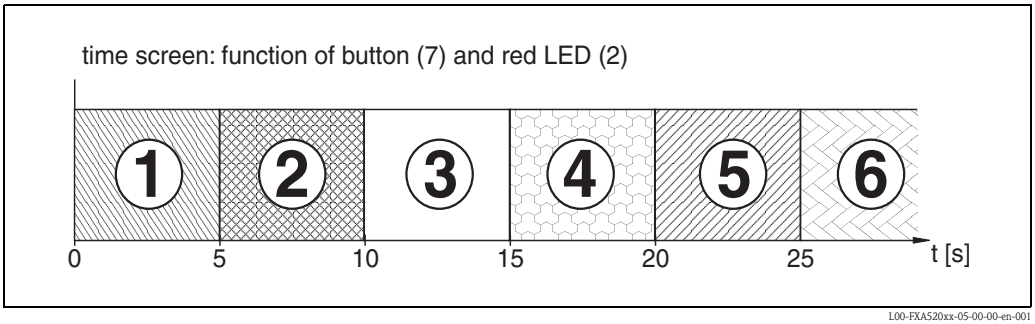
Operating elements

Arrangement of elements see Fig. 10.

Item	Element	Meaning
6	Socket	Connection socket for DAT module
7	Button	Button for hardware locking and configuration reset
8	Socket	Connection socket for PC cable / service connector

Function of button (7) and red LED (2)

If the key is pressed and held during system start-up, the following functions are available in the time screens when the button is released:



Time interval [s]		Red LED	Function - release button
1	0 ... 5	Flashes at approx. 5 Hz	The data of the internal EEPROM is first checked, the configuration data is copied from the internal EEPROM to the DAT module
2	5 ... 10	Off	No function when released
3	10 ... 15	Flashes at approx. 2.5 Hz	Configuration is reset to the factory settings
4	15 ... 20	Off	No function when released
5	20 ... 25	Flashes at approx. 1.25 Hz	Firmware and configuration is reset to the factory settings
6	25	Off	No function when released

The red LED flashes at approx. 10 Hz during initialisation once the button has been released or a restart has taken place without pressing the button. This takes approx. 10 s. It takes approx. 30 s if a firmware update was carried out on the Fieldgate.

2.2.1 Relay concept

Use as alarm relay

The relay is energised after power-up and initialisation (good status).
If using as an alarm relay, the checkbox "Power Down between Scan Cycles" in the administrator mode must be **deactivated**. A "**no**" appears in the user mode.

Power safe function application

For self-sufficient installations, the power-save mode can be activated.
This function can be used to switch the power supply for connected devices (HART, 4...20 mA, multiplexer) on and off. For this, the checkbox "Power Down between Scan Cycles" in the administrator mode must be **activated** . A "**yes**" appears in the user mode (→ Chap. 10.4.2).

2.3 Establishing a connection with PC cable

Note!
All Fieldgate versions can be configured with the service connector.

Caution!
Changes to the Fieldgate configuration are not adopted when a connection is made via the PC connecting cable until:
- a system restart via the configuration page in the "**Information & Configuration / Special**" function has been triggered (→ Chap. 10.5),
- the connection via the PC connecting cable has been disconnected for more than 2 minutes.

2.3.1 Installation

Connect your personal computer and the Fieldgate with the PC cable supplied. The service connector (see Fig. 10, item 8) is used to connect the Fieldgate. An unassigned COM port is used to connect the PC.

2.3.2 Setting up the personal computer

Note!
All Fieldgate communication versions can be commissioned via the service connector with a web browser (Internet Explorer, Netscape Navigator, etc.). The IP address to be contacted via the service connector is fixed permanently and cannot be changed (**IP = 192.168.253.1**).

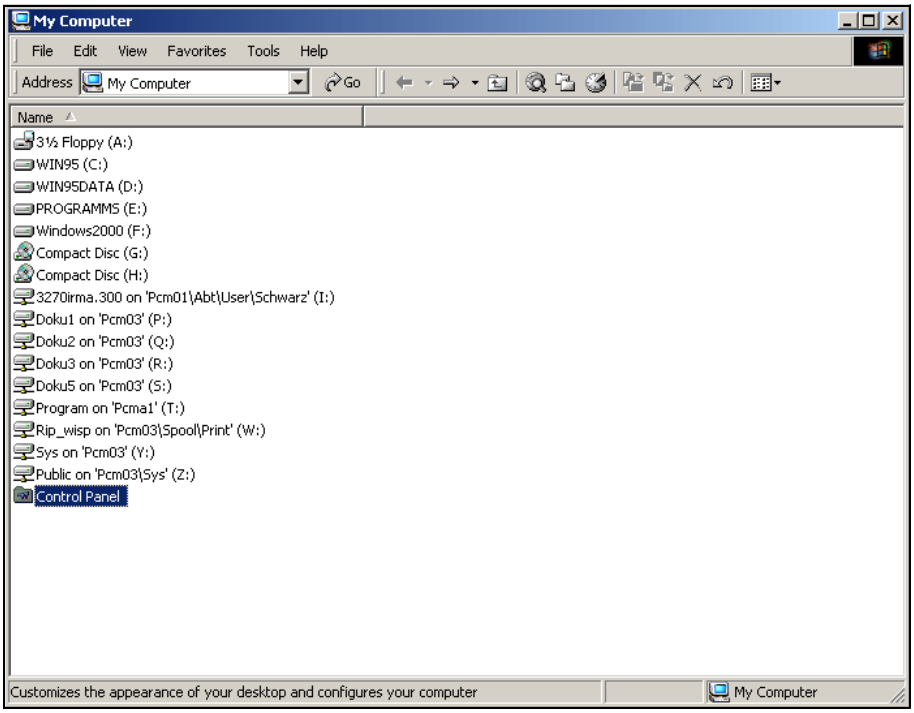
Installing the standard modem

In order to be able to connect to the fieldgate via the service connector, a new standard modem has to be installed.

The following are sample instructions for Windows 2000® :

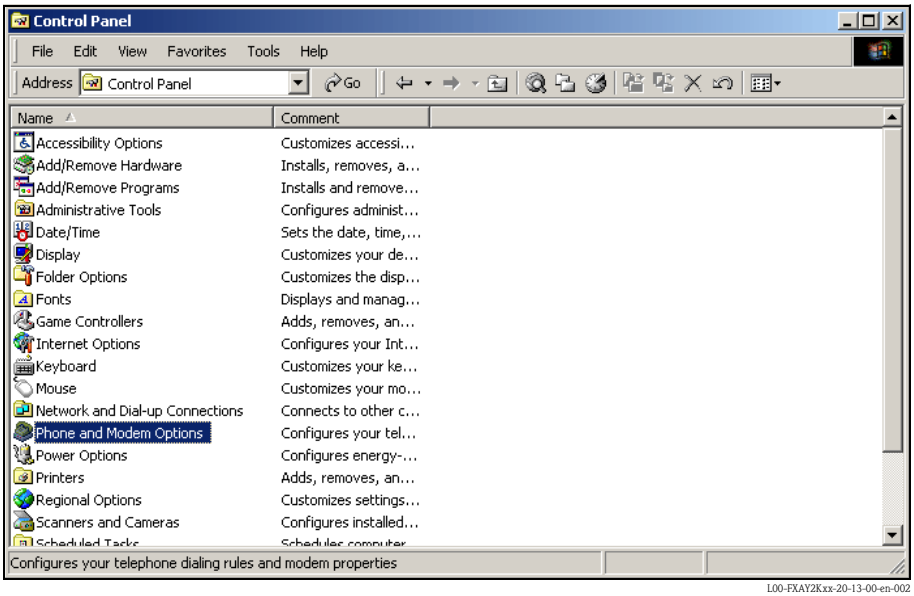
Note!
Examples of instructions for other operating systems can be found in the appendix.

1. Using the left mouse button, double-click the "**My Computer**" icon to open the appropriate window.



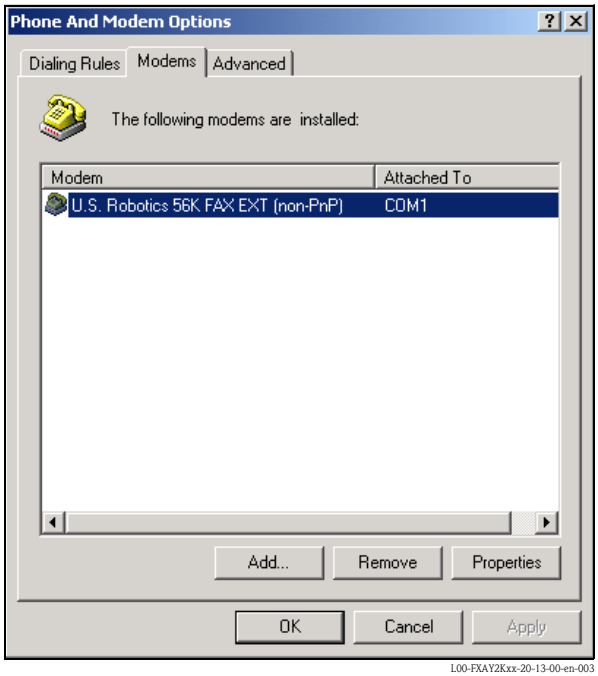
L00-FXAY2Kxx-20-13-00-en-001

2. Using the left mouse button, double-click the "**Control Panel**" icon to open the appropriate window.



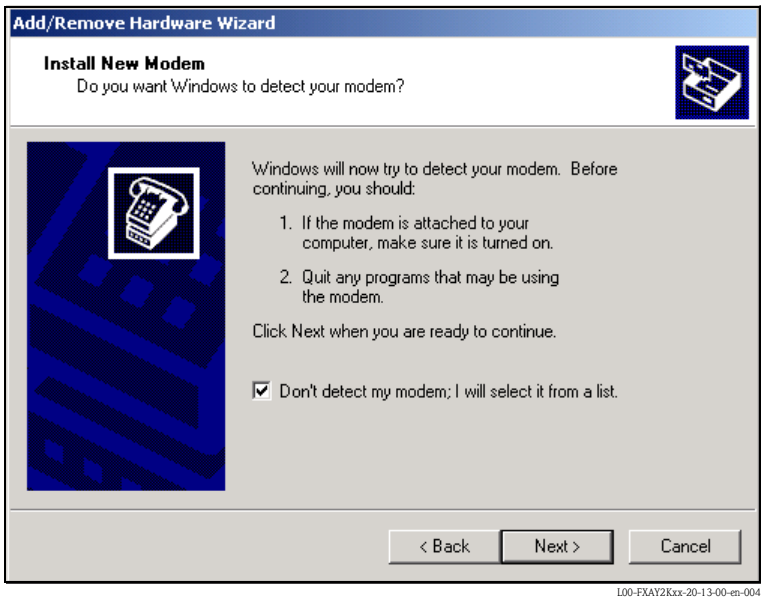
L00-FXAY2Kxx-20-13-00-en-002

3. Using the left mouse button, double-click the "**Phone and Modem Options**" icon to open the appropriate window.



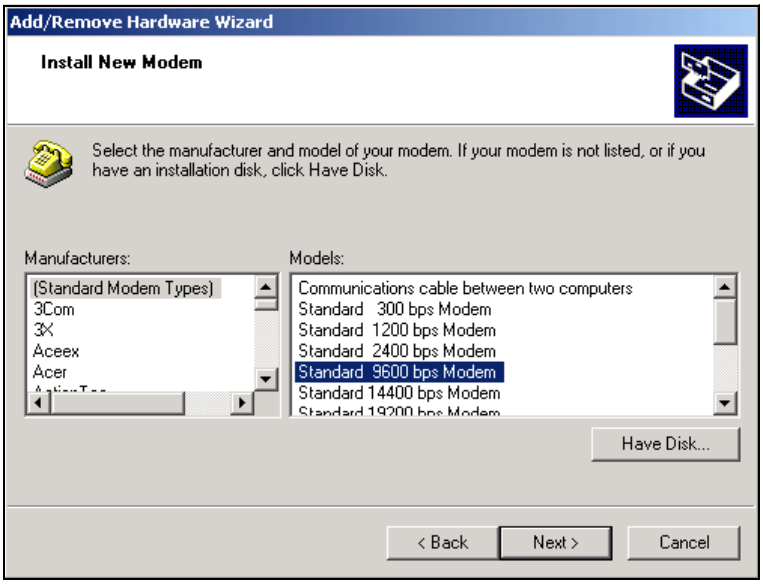
L00-FXAY2Kxx-20-13-00-en-003

4. Here you must left-click the "**Add...** " button to add a new modem.

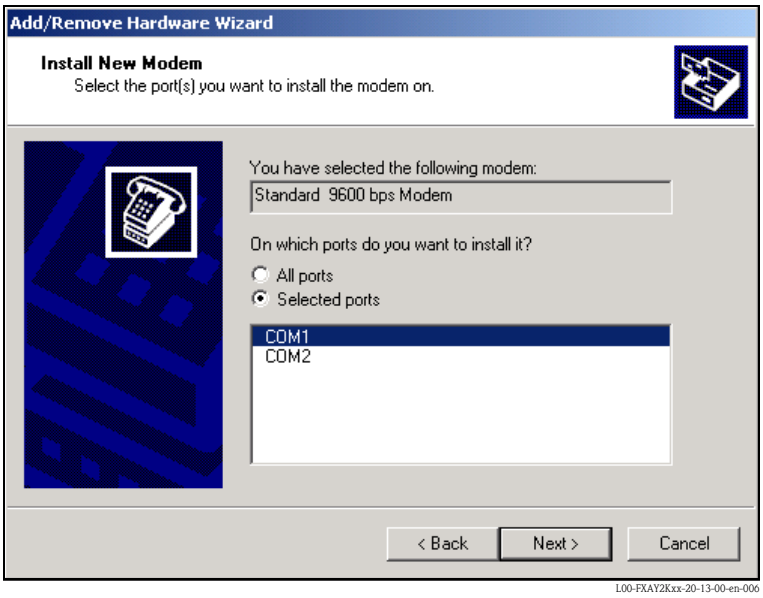


L00-FXAY2Kxx-20-13-00-en-004

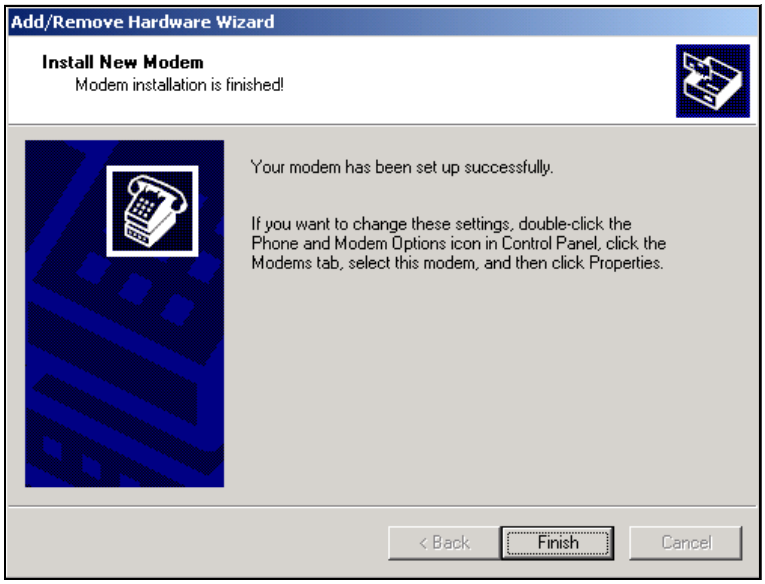
5. Activate the checkbox "**Don't detect my modem; I will select it from a list.**", click "**Next >**" to confirm.



6. Select the following from the picklists "**Manufacturers: ➜ (Standard Modem Types)**" and "**Models: ➜ Standard 9600 bsp Modem**" and click "**Next >**" to confirm.

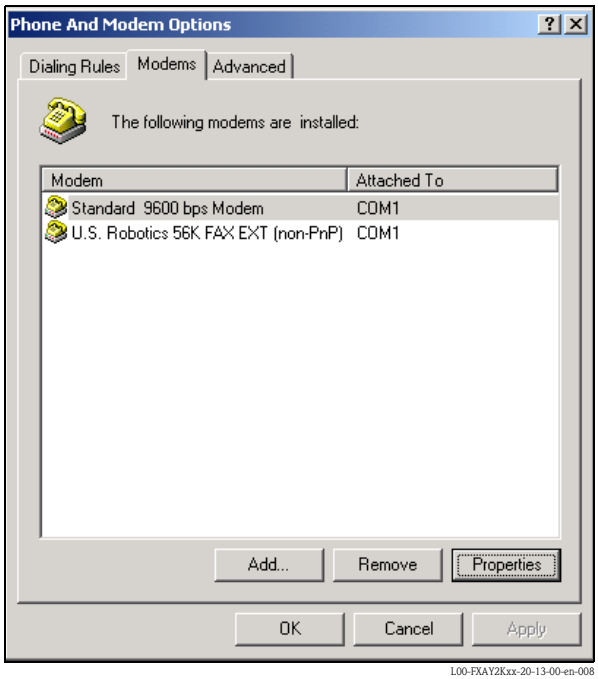


7. Select the desired COM port and click "**Next >**" to confirm.



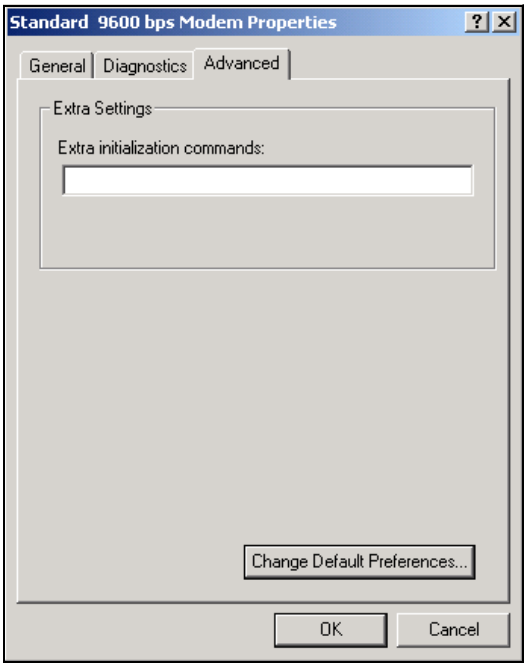
L00-FXAY2Kxx-20-13-00-en-007

8. Click "**Finish**" to confirm the modem installation.
9. Using the left mouse button, double-click the "**Phone and Modem Options**" icon to open the appropriate window.

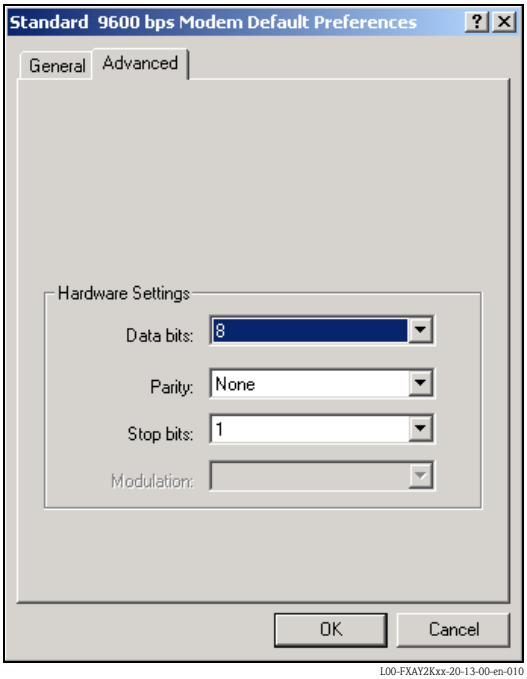


L00-FXAY2Kxx-20-13-00-en-008

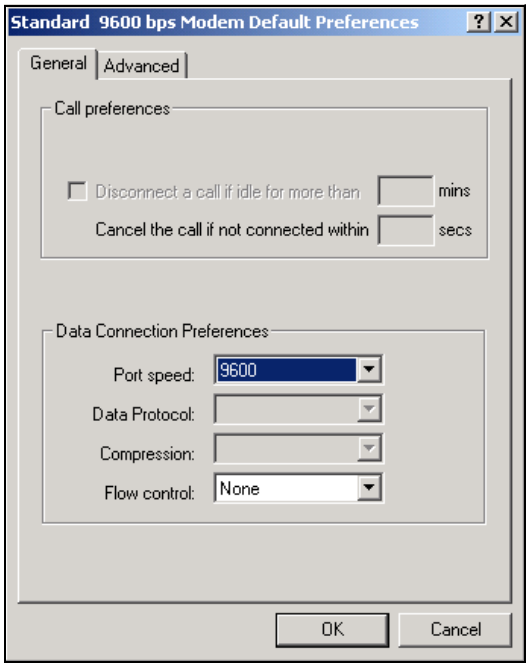
10. Select the newly installed modem "**Standard 9600 bsp Modem**" and left-click the "**Properties**" button.



11. Select the "**Advanced**" tab. Left click the "**Change Default Preferences**" button.

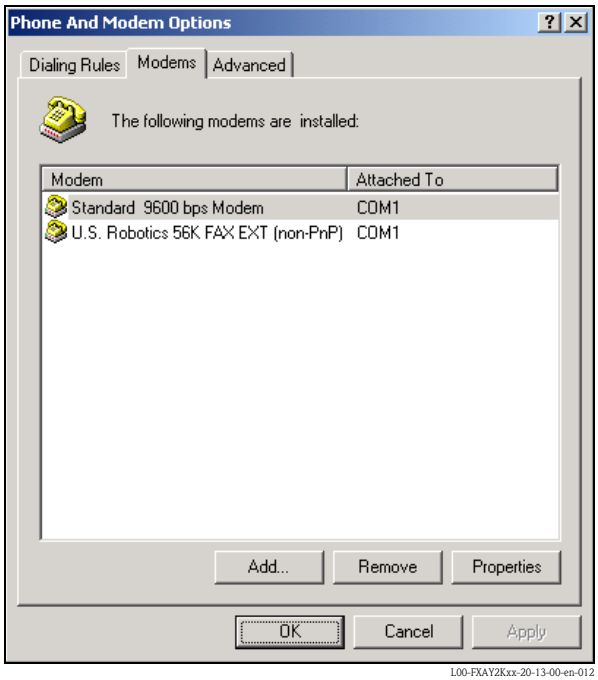


12. Check the "**Hardware Settings**" on the "**Advanced**" tab.



L00-FXAY2Kxx-20-13-00-en-011

13. Change to the "**General**" tab. Change the "**Flow control**" to "**None**". Click "**OK**" to confirm your settings.



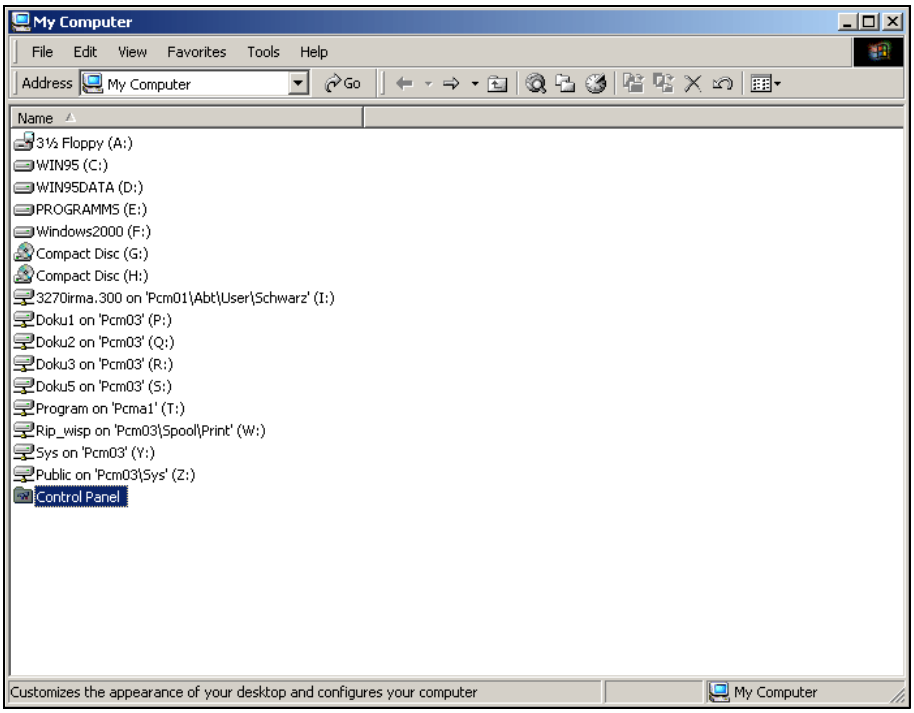
L00-FXAY2Kxx-20-13-00-en-012

14. Click "**OK**" to confirm your settings.

Setting up a dial-up networking connection

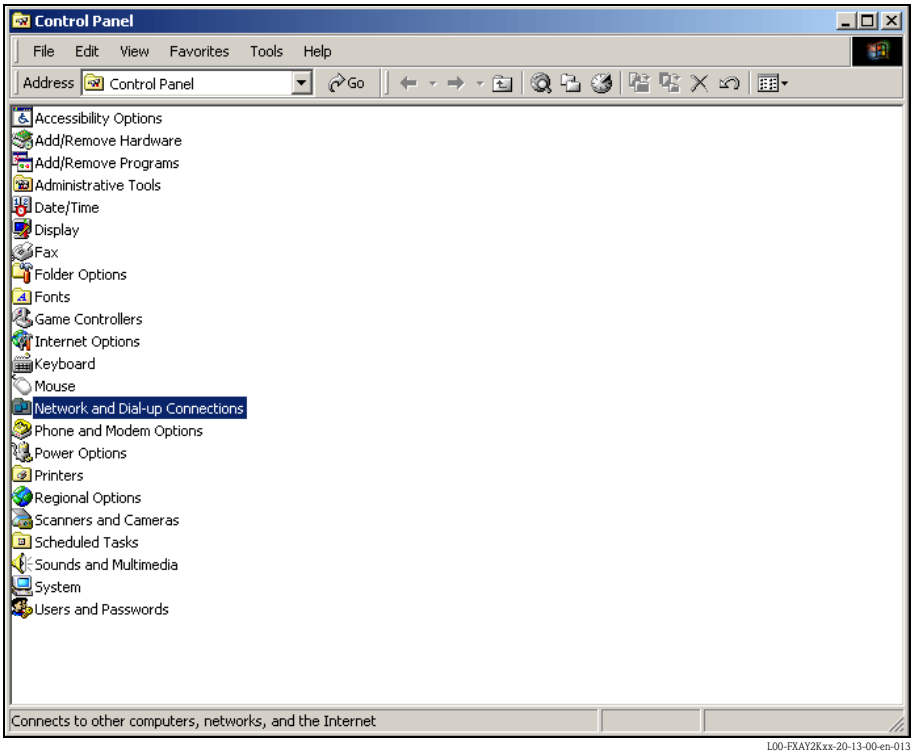
Now you must set up a dial-up networking connection.

1. Using the left mouse button, double-click the "**My Computer**" icon to open the appropriate window.



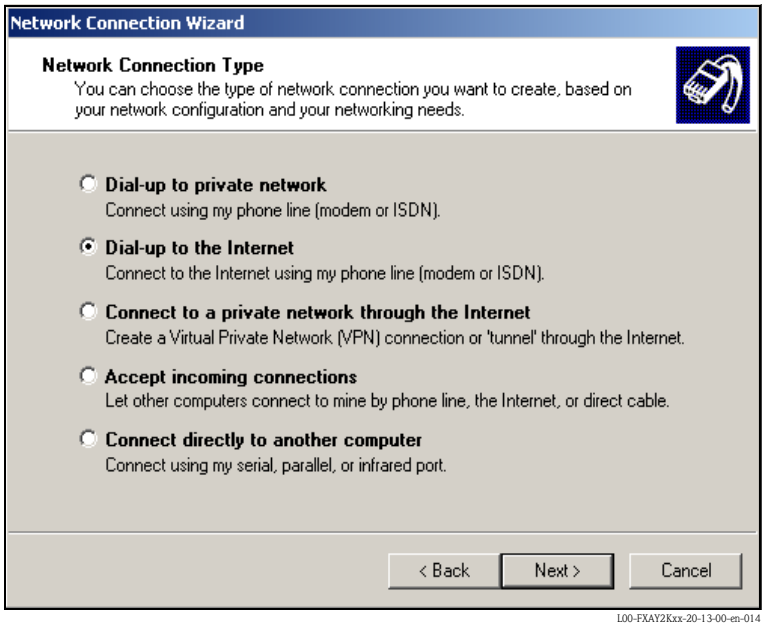
L00-FXAY2Kxx-20-13-00-en-001

2. Using the left mouse button, double-click the "**Control Panel**" icon to open the appropriate window. Double-click the "**Network and Dial-up Connections**" icon.

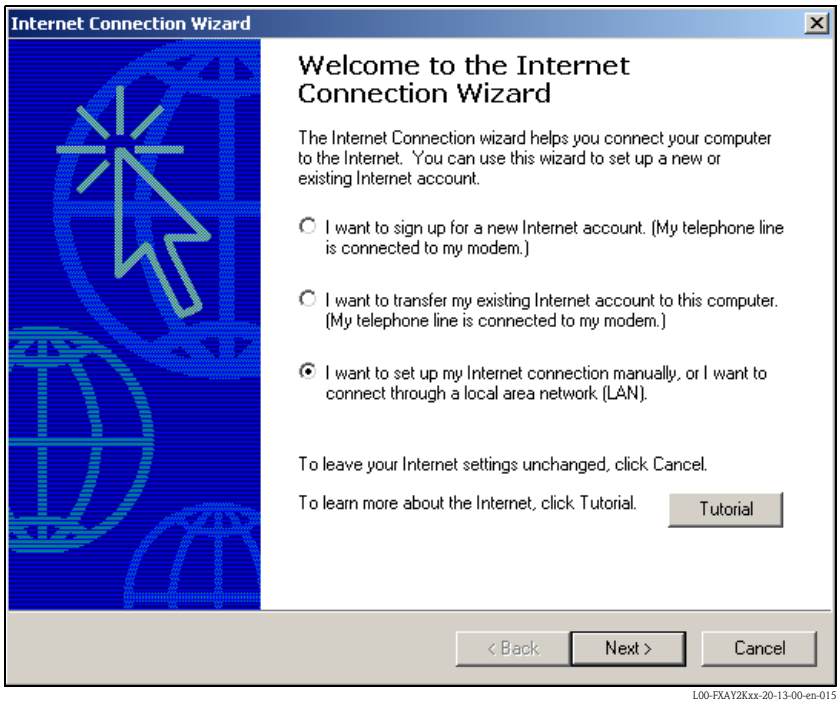


L00-FXAY2Kxx-20-13-00-en-013

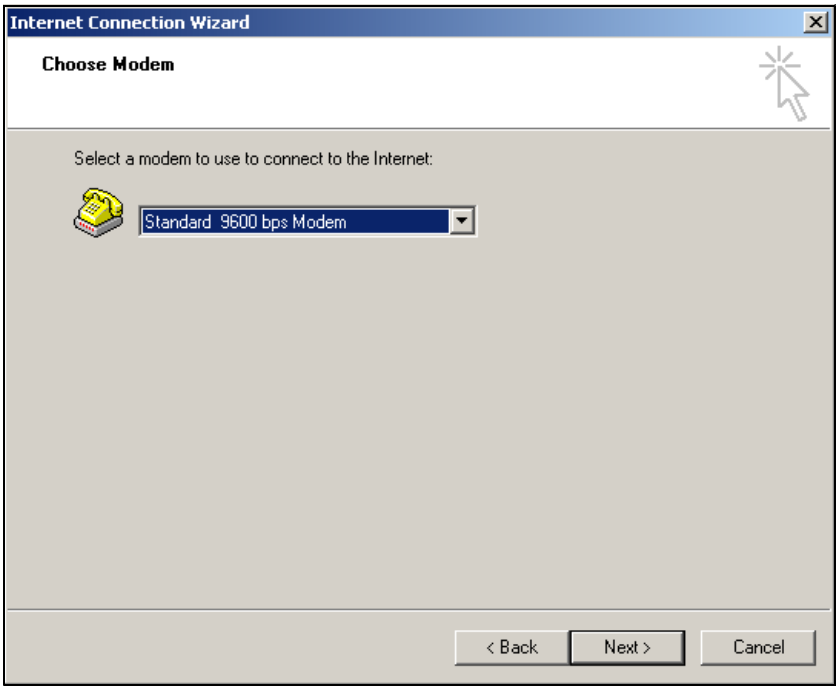
3. Double-click the "**Make New Connection**" icon. Click "**Next >**" to confirm.



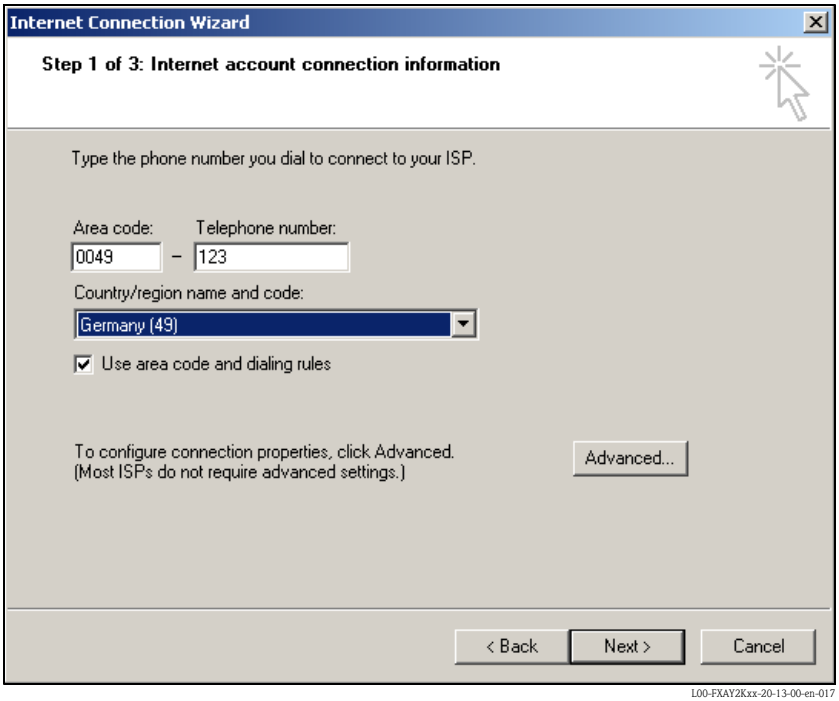
4. Select the "**Dial-up to the Internet**" option and click "**Next >**" to confirm.



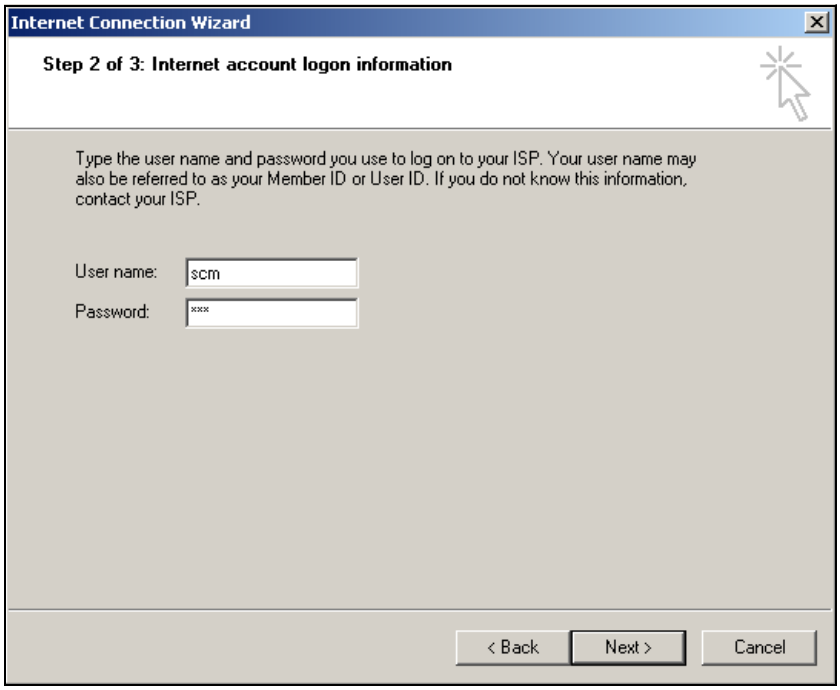
5. Select the "**I want to set up my Internet connection manually, or I want to connect trough a local area network (LAN).**" option and click "**Next >**" to confirm.
6. Click "**I connect through a phone line and a modem**" checkbox and "**Next >**" to confirm.



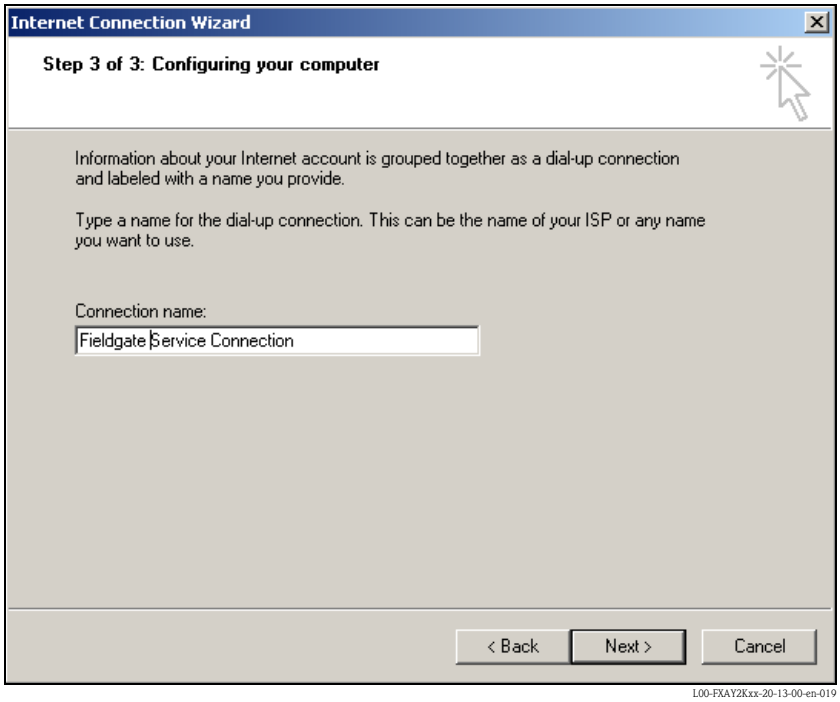
7. Select the newly set up "**Standard 9600 bps Modem**" from the dropdown list and click "**Next >**" to confirm. In the following window, enter the telephone number (a hypothetical number of no significance, such as 123...) and click "**Next >**" to confirm.

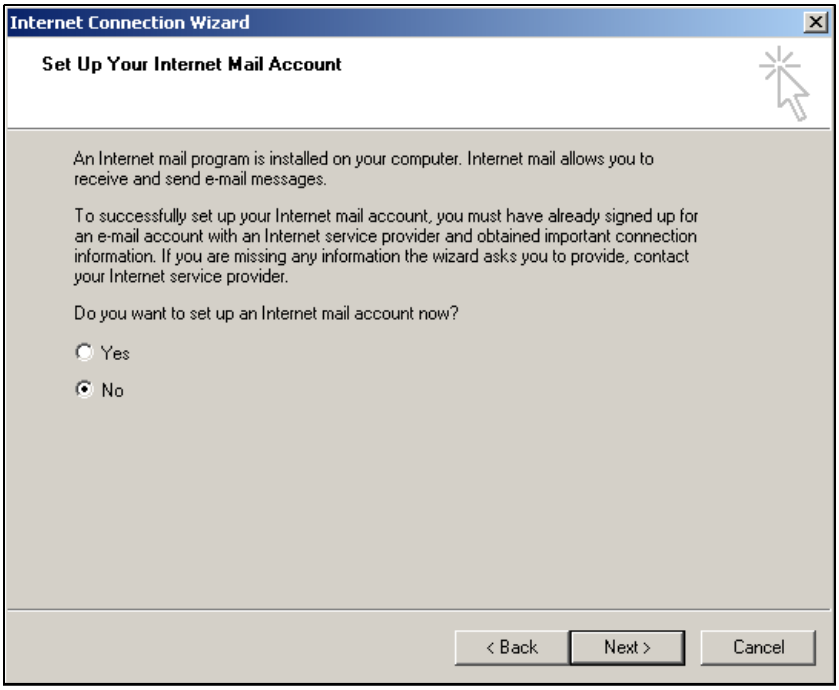


8. Enter:
   – the user name "**scm**"
   (This is permanently stored in the Fieldgate and cannot be altered!)
   – and the password "**scm**"
   (This is permanently stored in the Fieldgate and cannot be altered!)
   Click "**Next >**" to confirm



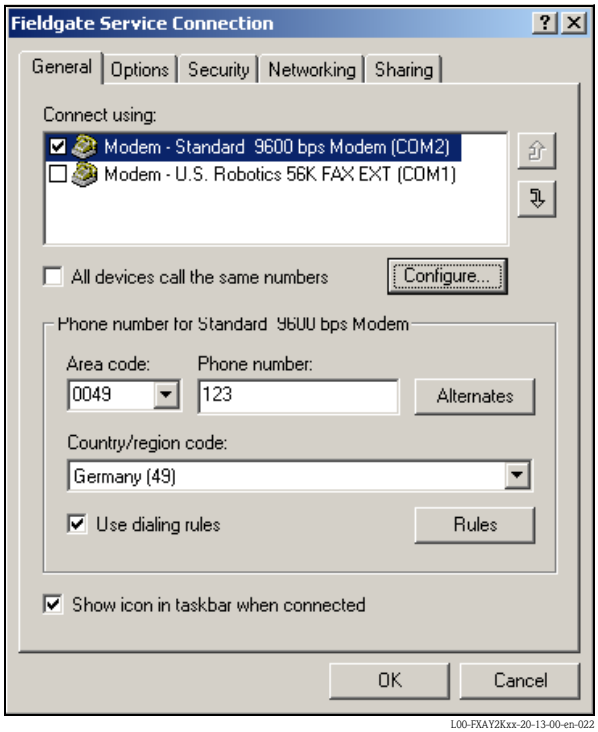
9. Enter the connection name in the "**Connection name:**" field. You can enter any name you choose (e.g. Fieldgate Service Connection in our example). Click "**Next >**" to confirm the name entered.



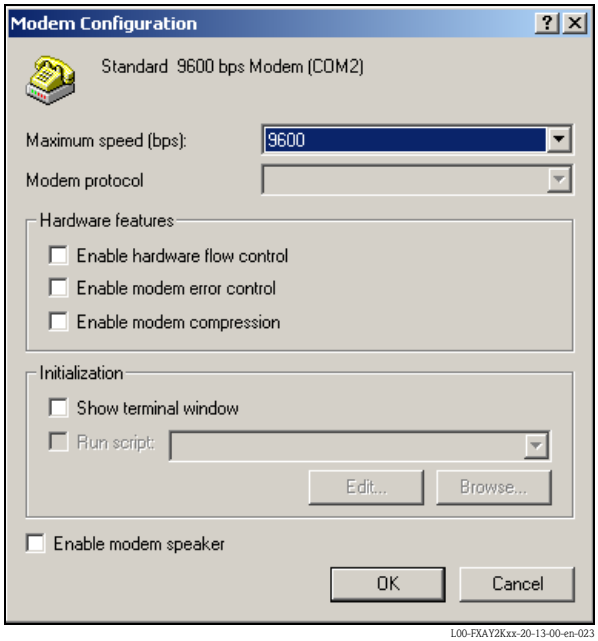


10. Click "**No**" and then "**Next >**" to confirm. Click "**Finish**" to confirm. The dial-up networking connection is set up.

11. Left-click the "**Settings...**" button.



12. Check the "**Hardware Settings**". To to so click the "**Configure...**" button.

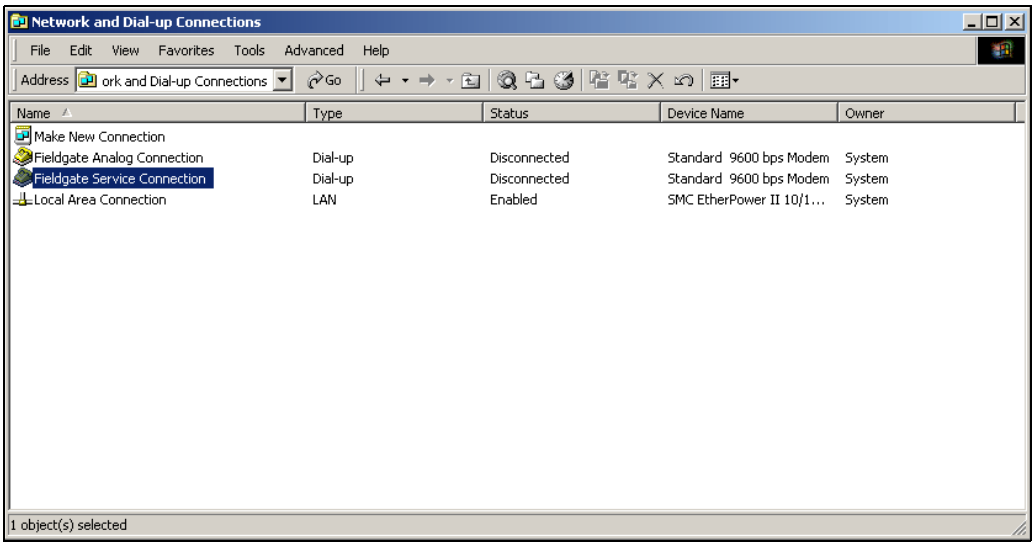


13. De-activate all "**Hardware features**" checkboxes. Click "**OK**" to confirm your settings.

The dial-up networking connection is set up.

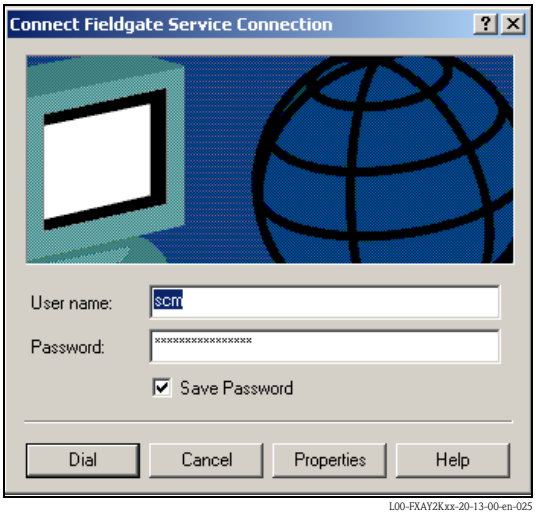
Note!
The newly established dial-up connection has been saved and can be used for the next connection. It can be found in the "**Network and Dial-up Connection**" window.

2.3.3 Making the connection



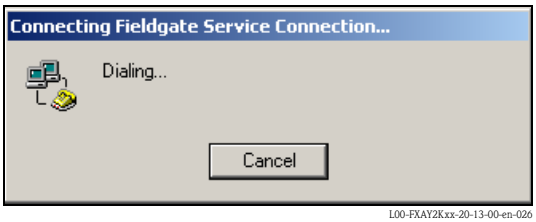
L00-FXAY2Kxx-20-13-00-en-024

1. Using the left mouse button, double-click the "**Fieldgate Service Connection** " icon to open the appropriate window.

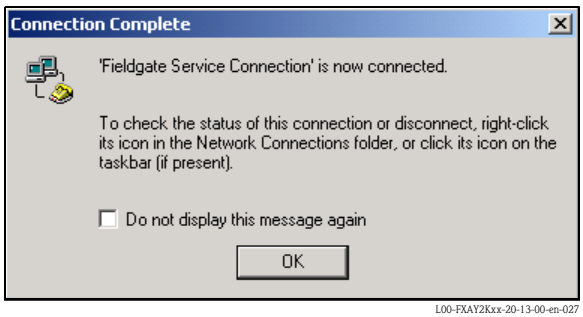


L00-FXAY2Kxx-20-13-00-en-025

2. Click "**Dial**" to confirm the entries.



L00-FXAY2Kxx-20-13-00-en-026

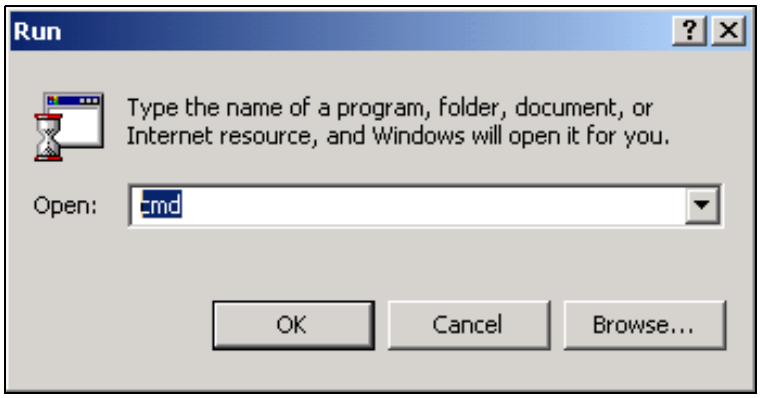


L00-FXAY2Kxx-20-13-00-en-027

3. If you see this window the connection is successfully complete.
4. Start the web browser once the connection is made. Enter the IP address "**192.168.253.1**". This IP address for the service connector is fixed permanently in the Fieldgate and cannot be changed!

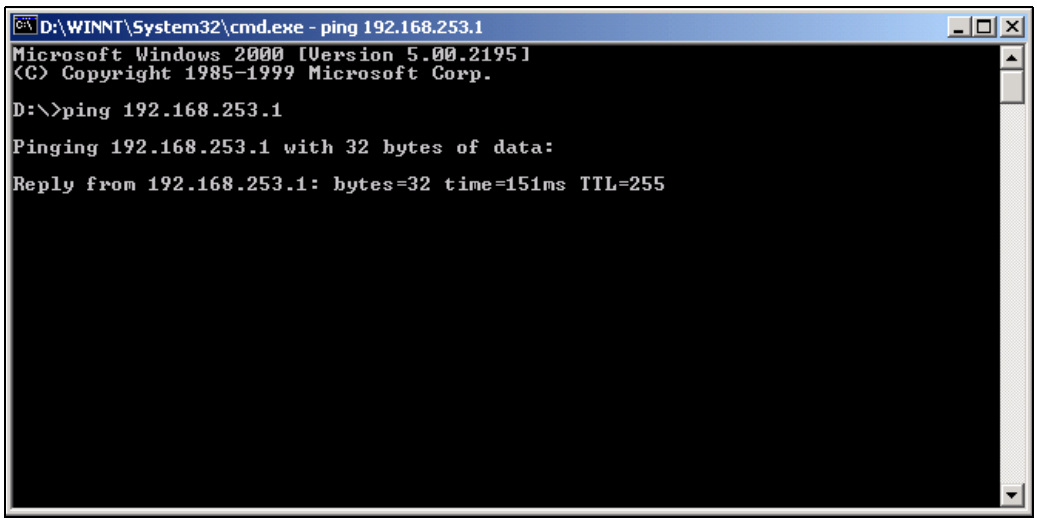
If there is no connection, check the connection to the Fieldgate as follows:

1. Open the DOS prompt "**Start ➜ Run ➜ cmd** "



L00-FXAY2Kxx-20-13-00-en-104

2. Enter "**ping 192.168.253.1**".
   Do you get the answer 192.168.253.1 Bytes=32...
   – Yes. The connection is OK. Check your browser settings (If a proxy server is used try to bypass the IP address 192.168.253.1).
   – No. There is no connection to the Fieldgate.



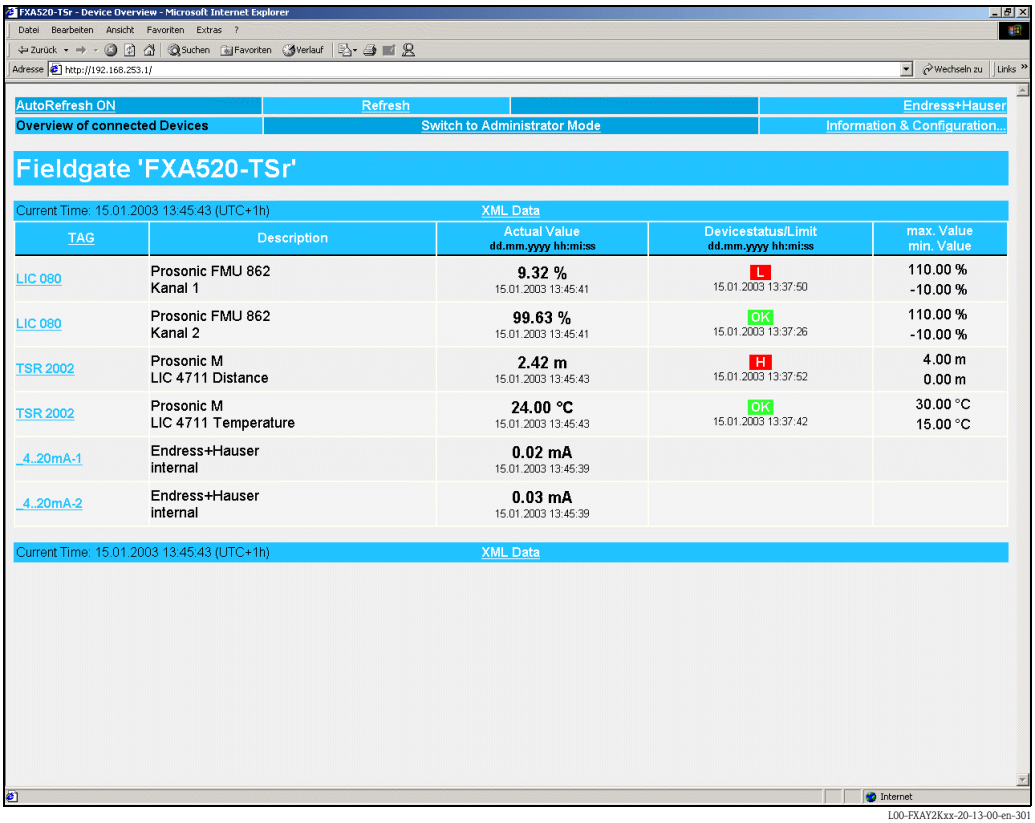
L00-FXAY2Kxx-20-13-00-en-029

2.3.4 Working in the web browser

1. In the following window enter:
   – the user name "**eh**"
   – and the password "**eh**"
   (in the delivery status).
   Click "**OK**" to confirm your entries.

L00-FXAY2Kxx-20-13-00-en-028

The user interface is displayed in the web browser and the Fieldgate can now be commissioned.



L00-FXAY2Kxx-20-13-00-en-301

2.4 Establishing an Ethernet connection

2.4.1 Installation

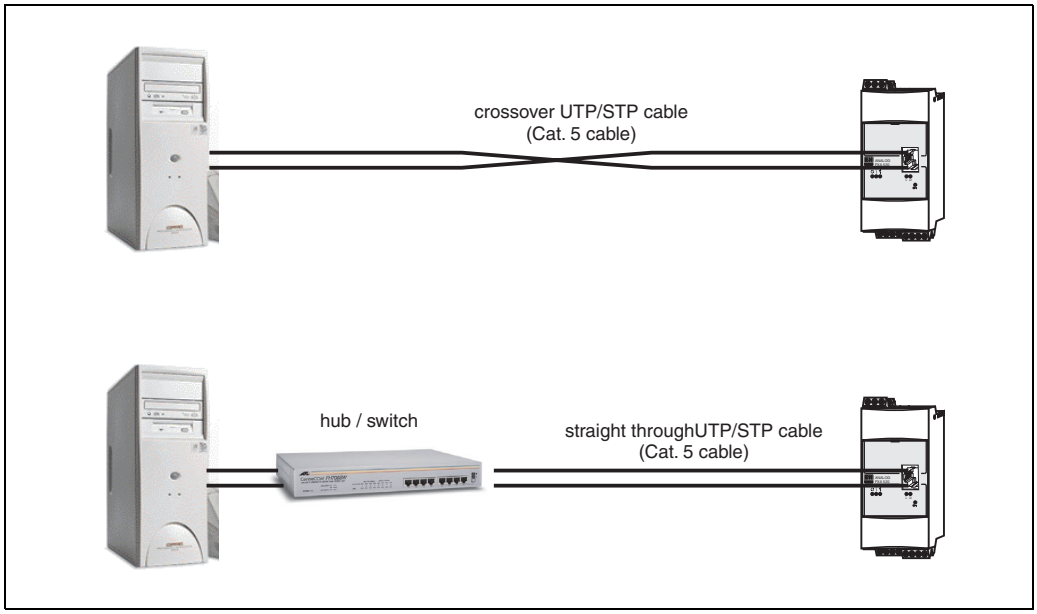
Caution!
Ensure that the supply voltage matches the specifications on the nameplate.
Please refer also to the online help of your operating system.

2.4.2 Setting up the personal computer

To establish an Ethernet connection, your personal computer must be equipped with a network card and the TCP/IP protocol must be supported.

2.4.3 Making the LAN connection

Use a crossover UTP/STP cable (Cat. 5 cable) to connect the Fieldgate to your PC or use a straight-through UTP/STP cable (Cat. 5 cable) and a hub/switch. For this, please use the socket on the front of the Fieldgate.



L00-FXA520xx-04-00-06-en-003

If the yellow LED "**L** " for Link (→ Fig. 10, item 4 on Page 14) lights up, the Fieldgate is physically connected to the Ethernet. If not, check the cable and/or use another cable type (crossover/ straight-through).

For connection to the Fieldgate, you must adapt the IP address of your PC to that of the Fieldgate or add another address to the existing IP address.
When delivered, the Fieldgate has the IP address **192.168.252.1** as standard.

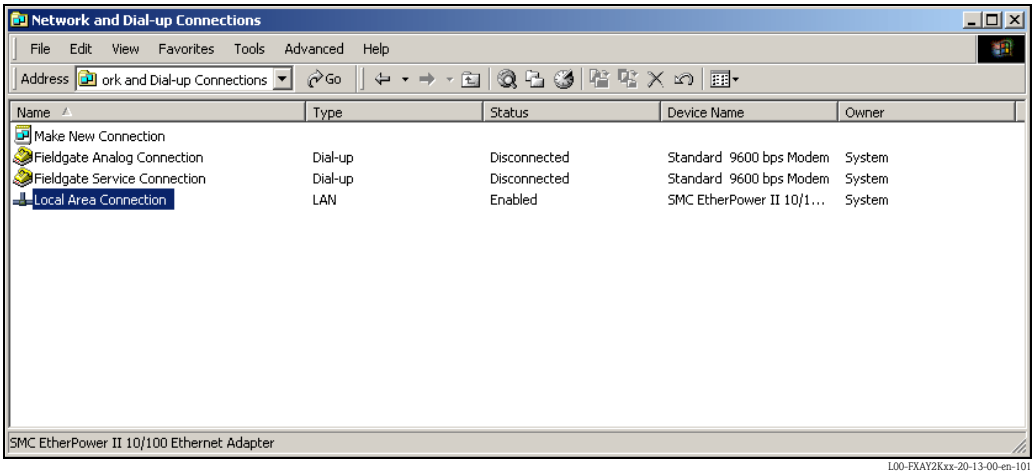
Thus, configure an IP address in the address range 192.168.252.2 to 192.168.254.252. For example, 192.168.252.2 network mask 255.255.255.0.
Please refer to your PC manual for information on how to change the IP address of your PC.

Caution!
For the following instructions under Windows® 2000, you require administrator rights. Contact your system administrator.

The following are sample instructions for Windows ® 2000:

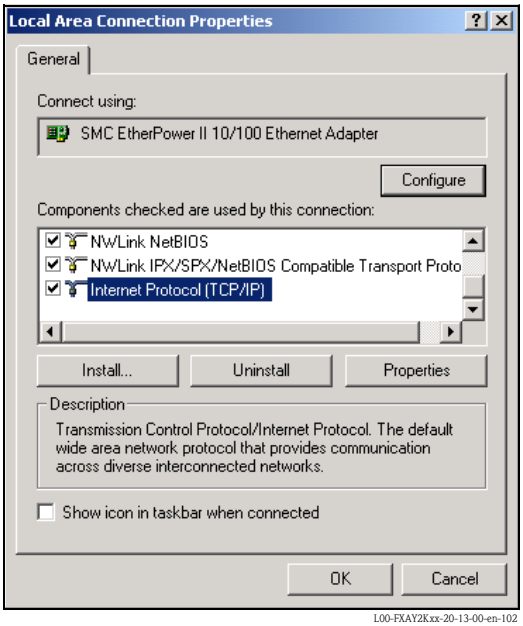
Note!
Examples of instructions for other operating systems can be found in the appendix.

1. Right-click on the desktop icon "**My Network Places**" and select "**Properties**".
2. Right-click "**Local Area Connection ➜ Properties**".



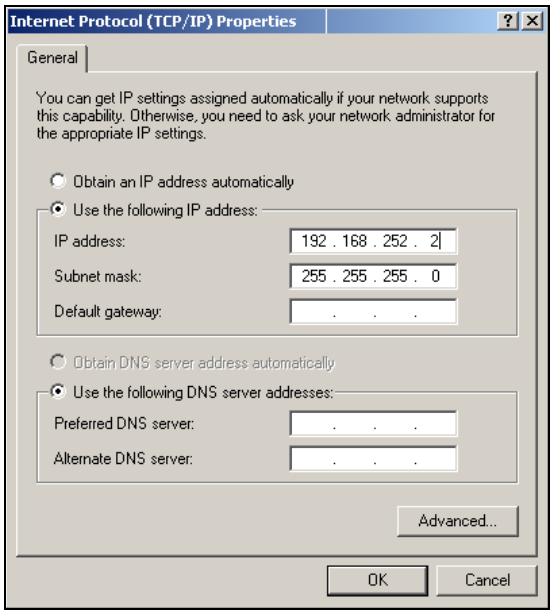
L00-FXAY2Kxx-20-13-00-en-101

3. Using the left mouse button, double-click "**Internet Protocol (TCP/IP)**".



L00-FXAY2Kxx-20-13-00-en-102

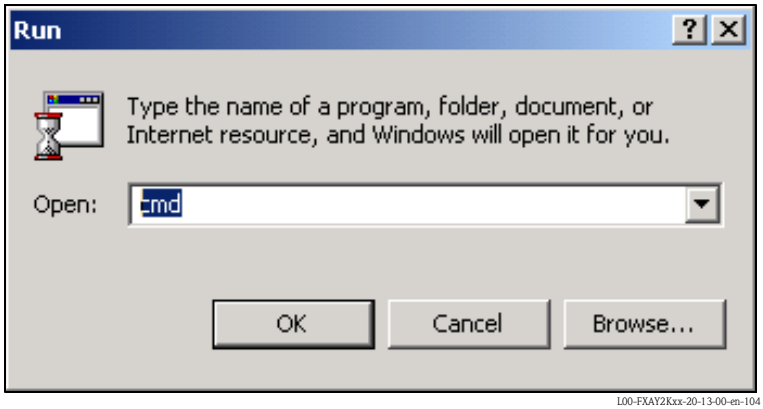
4. Now you can enter/change the values and click "**OK**" to confirm.



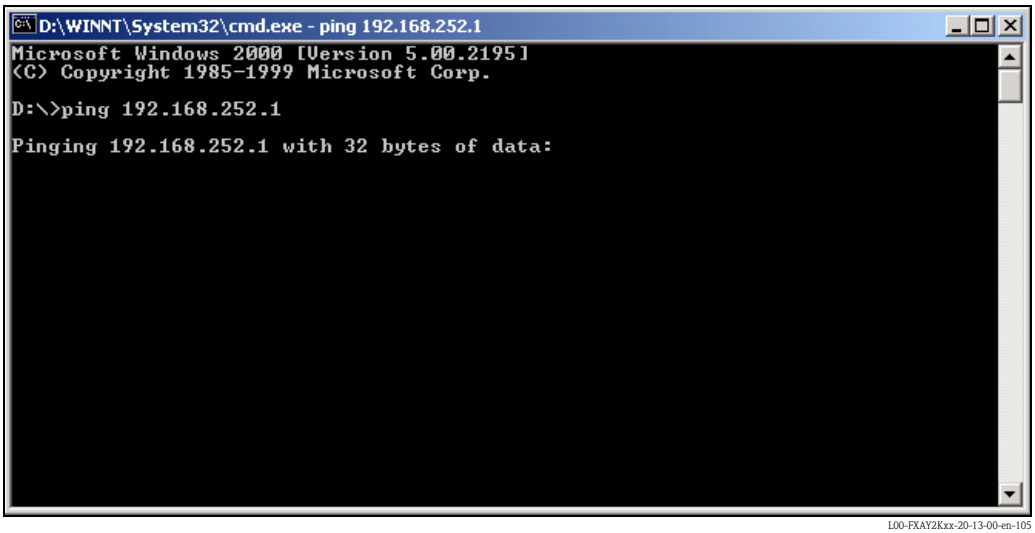
5. Start the web browser, e.g. Internet Explorer.
6. Now enter "**192.168.252.1**" in the address field of your browser. The Fieldgate start page is displayed.

If there is no connection, check the connection to the Fieldgate as follows:

1. Is the Link LED lit on the Fieldgate?
   – Yes, proceed with point 2
   – No, check the cable
2. Is the Link LED of the PC network card lit?
   – Yes, proceed with point 3
   – No, check the cable
3. Open the DOS prompt "**Start ➜ Run ➜ cmd** "



4. Enter "**ping 192.168.252.1**".
   Do you get the answer 192.168.252.1 Bytes=32...
   – Yes. The connection is OK. Check your browser settings.
   If a proxy server is used, try avoid this for the IP address (192.168.254.1).
   – No. There is no connection to the Fieldgate. Check the IP address of your PC.



L00-FXAY2Kxx-20-13-00-en-105

2.4.4 Connecting

Start the web browser.
In the address field of your Internet browser, enter the IP address of the Fieldgate.

2.4.5 Disconnecting

Close your web browser.

2.5 Establishing an analogue modem connection

Note!
The telephone country default setting is set to TBR 21 (basic standard of European countries). You may have to adjust this via the service interface (PC cable).
Please refer also to the online help of your operating system.

2.5.1 Installation

Note!
To be able to configure the Fieldgate, there must be a telephone connection between your personal computer and the Fieldgate.
For this, you require a commercially available analogue modem and 2 analogue telephone connections, one for your analogue modem and one for the Fieldgate. These connections can also be internal ports of a telephone system.
This configuration can also be made using the PC cable (→ Chap. 2.3).

2.5.2 Setting up the personal computer

Caution!
An analogue modem must already be installed on your personal computer. Please refer to the operating instructions for the modem and your PC for information on how to install an analogue modem.

Creating a dial-up networking connection

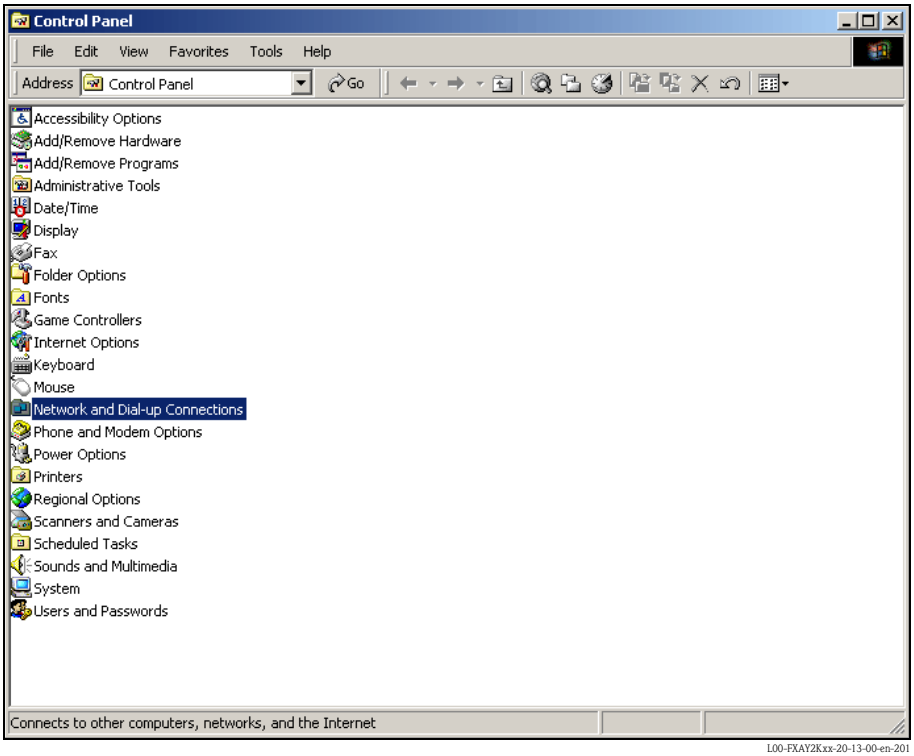
Set up a dial-up networking connection.

Note!
For this purpose, please also refer to the online help of your Windows® operating system on the topic "Setting up a dial-up networking connection".

Note!
The factory setting for the IP address of the analogue modem version is:
"**http://192.168.254.1**".
This IP address can be altered as required.

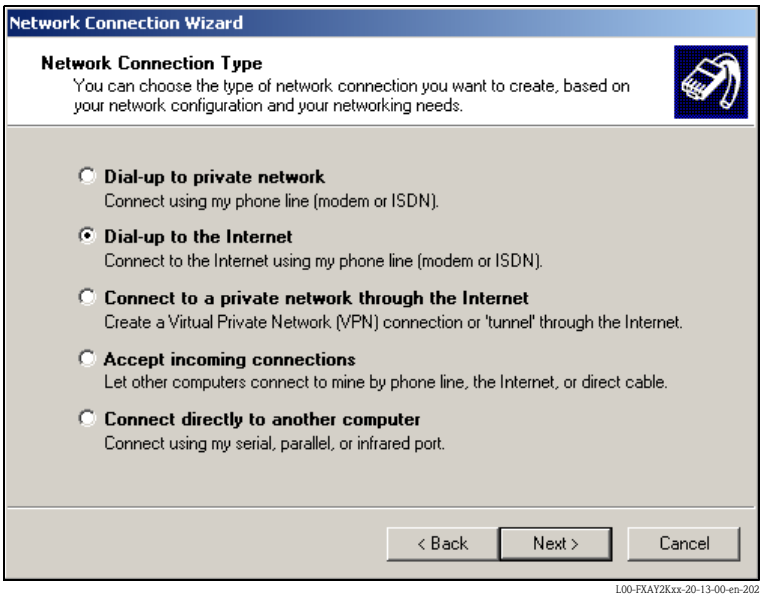
The following are sample instructions for Windows 2000® :

Note!
Examples of instructions for other operating systems can be found in the appendix.



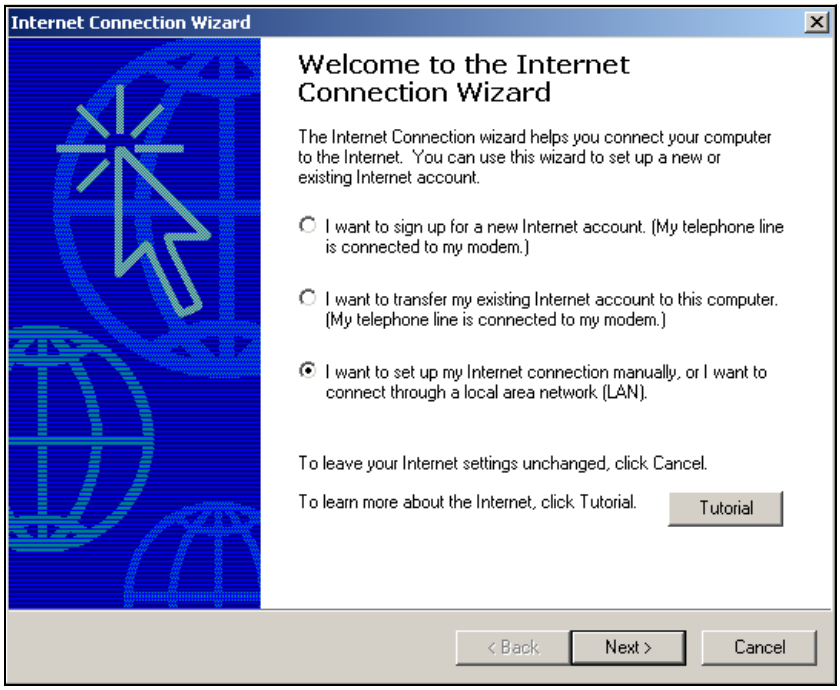
L00-FXAY2Kxx-20-13-00-en-201

1. Using the left mouse button, double-click the "**Network and Dial-up Connections**" icon to open the appropriate window.

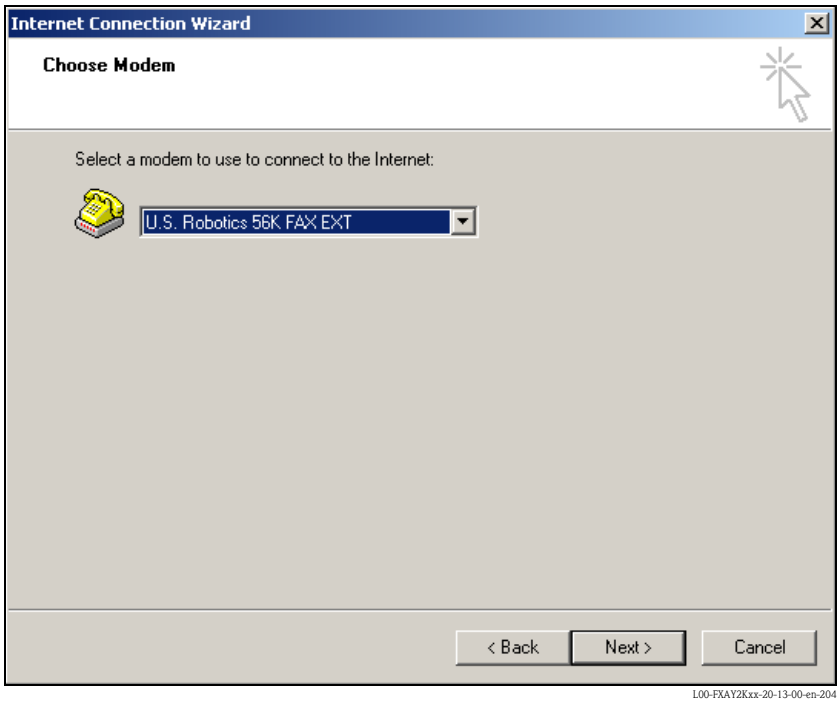


L00-FXAY2Kxx-20-13-00-en-202

2. Select the "**Dial-up to the Internet**" option and click "**Next >**" to confirm.

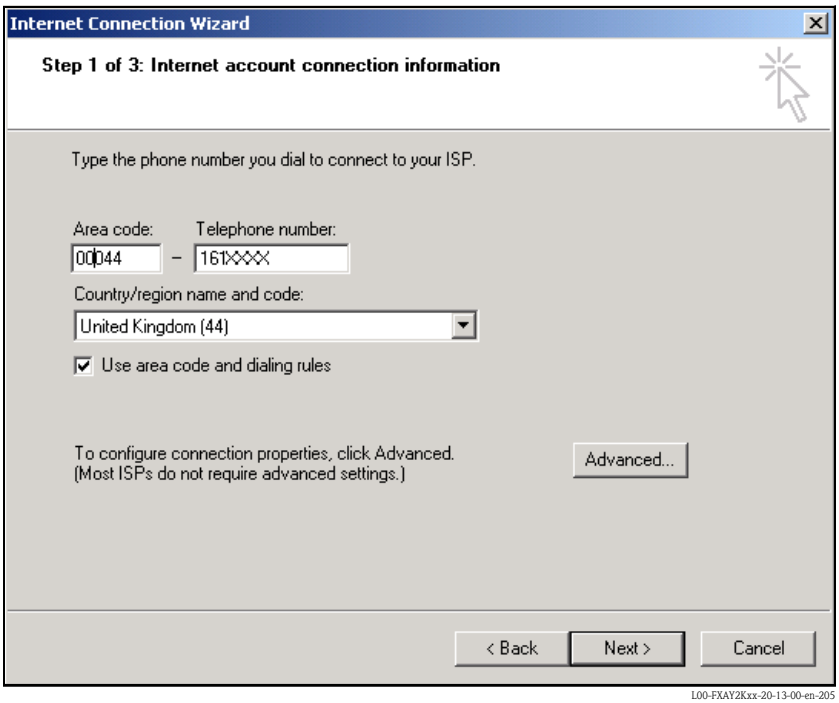


3. Select the "**I want to set up my Internet connection manually...**" checkbox and click "**Next >**" to confirm.
4. Click "**I connect trough a phone line and a modem**" checkbox and "**Next >**" to confirm.



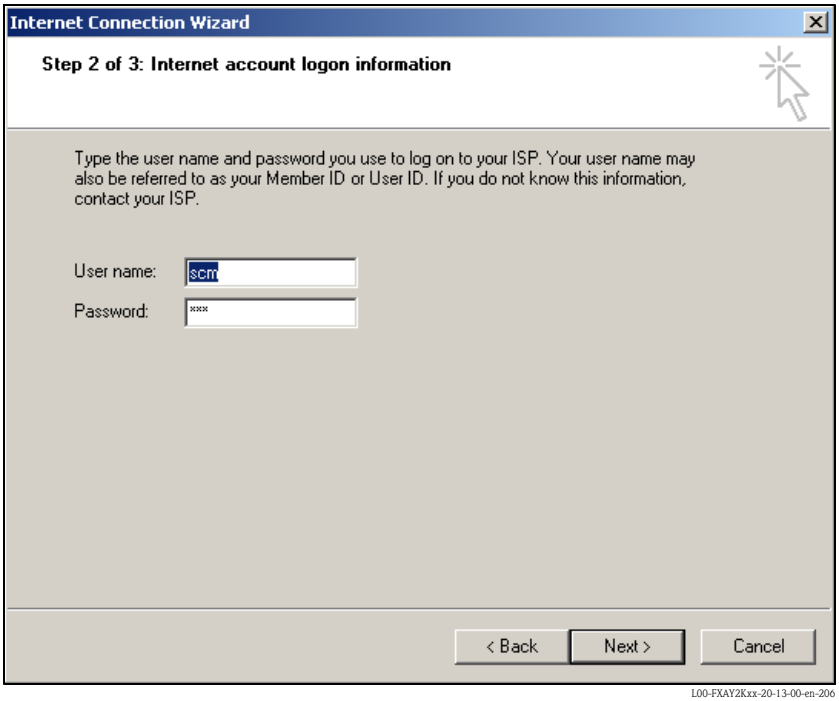
5. Select the analogue modem to be used and click "**Next >**" to confirm your choice.

6. In the following field, specify the telephone number of the Fieldgate.
   Please also enter the exchange number if it is required.
   For example, this means the following for the number "**00044161XXXX**":
   – Position 1 (0 = exchange)
   – Positions 2...5 (0044 = country code, here for UK)
   – Positions 6...8 (161 = area code, here for Manchester)
   – Position 9... (XXXX = Fieldgate telephone number)



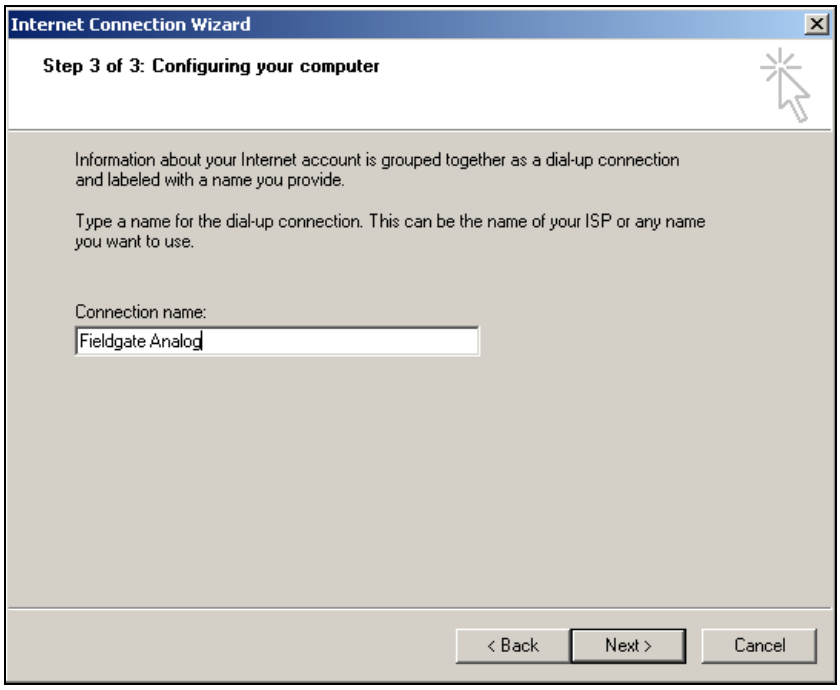
L00-FXAY2Kxx-20-13-00-en-205

Click "**Next >**" to confirm your entries.

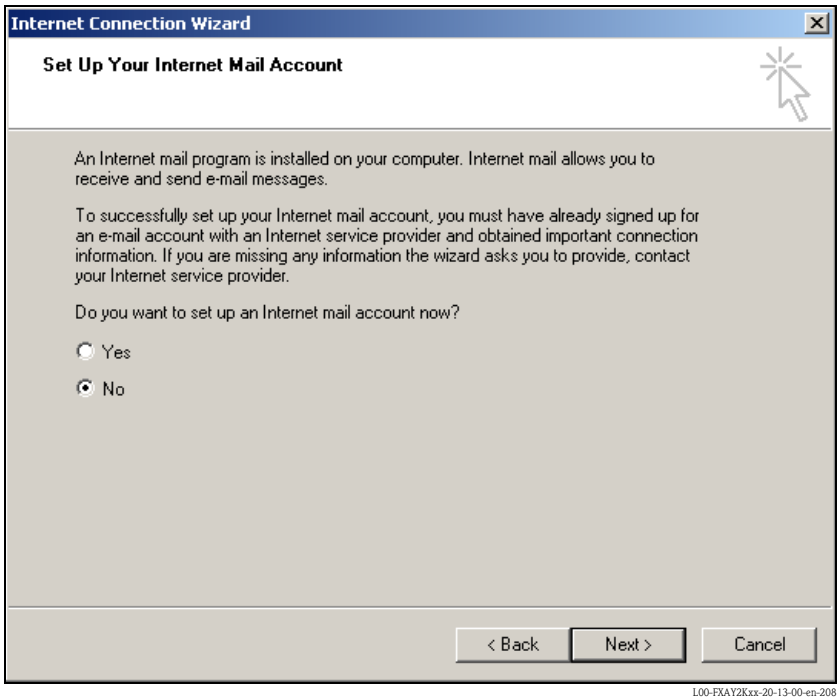


L00-FXAY2Kxx-20-13-00-en-206

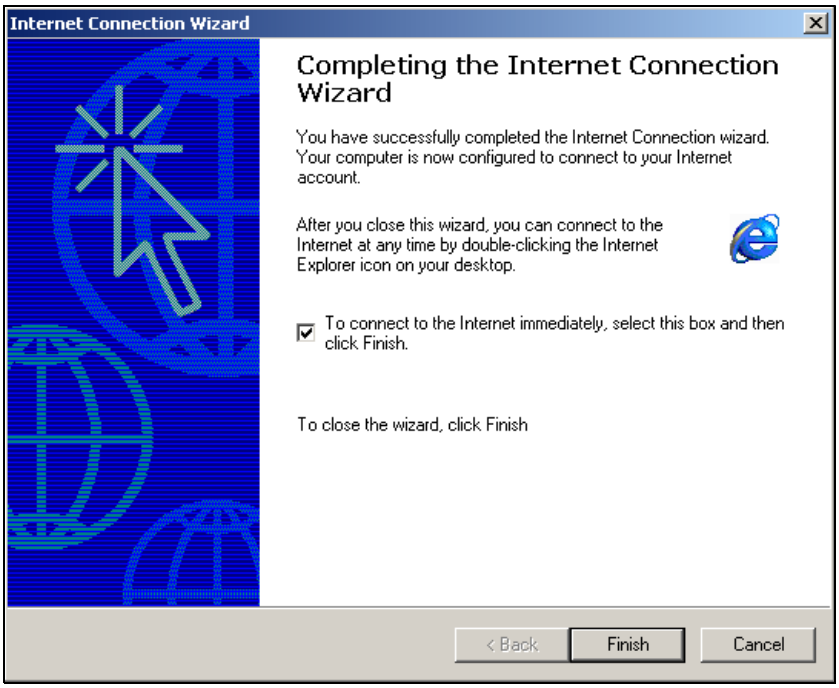
7. Enter:
   – the user name "**scm**"
   (This is permanently stored in the Fieldgate and cannot be altered!)
   – and the password "**scm**"
   (This is permanently stored in the Fieldgate and cannot be altered!)
   Click "**Next >**" to confirm



8. Enter the connection name in the "**Connection name:**" field. You can enter any name you choose (e.g. Fieldgate Analog Connection in our example). Click "**Next >**" to confirm the name entered.



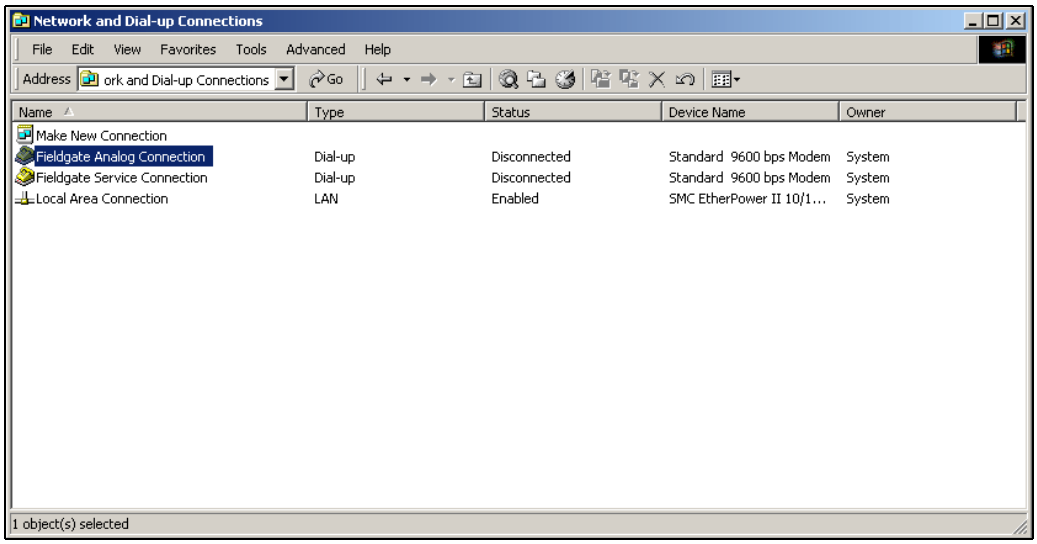
9. Click "**No**" and then "**Next >**" to confirm.



The dial-up networking connection is set up.

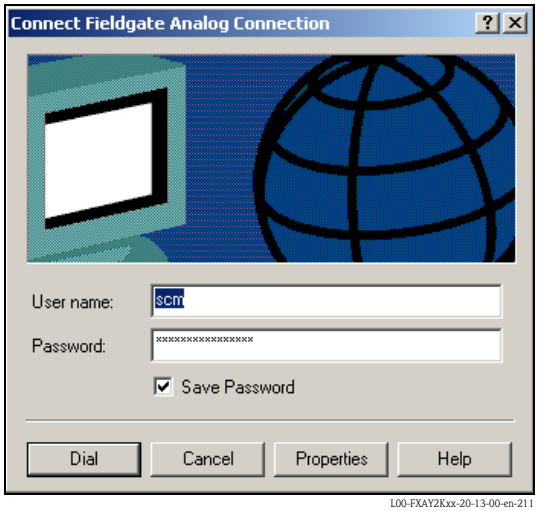
Note!
The newly established dial-up connection has been saved and can be used for the next connection. It can be found in the "**Network and Dial-up Connection**" window.

2.5.3 Making the connection



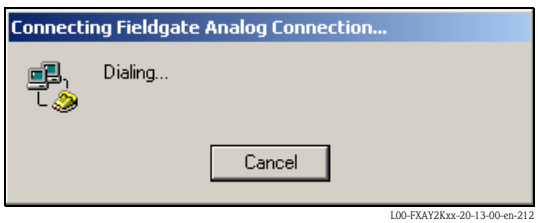
L00-FXAY2Kxx-20-13-00-en-210

1. Using the left mouse button, double-click the "**Fieldgate Analog Connection**" icon to open the appropriate window.

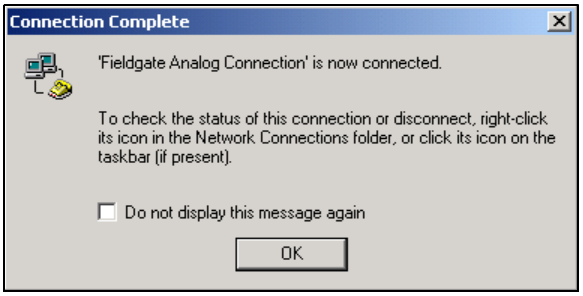


L00-FXAY2Kxx-20-13-00-en-211

2. Click "**Dial**" to confirm the entries.



L00-FXAY2Kxx-20-13-00-en-212

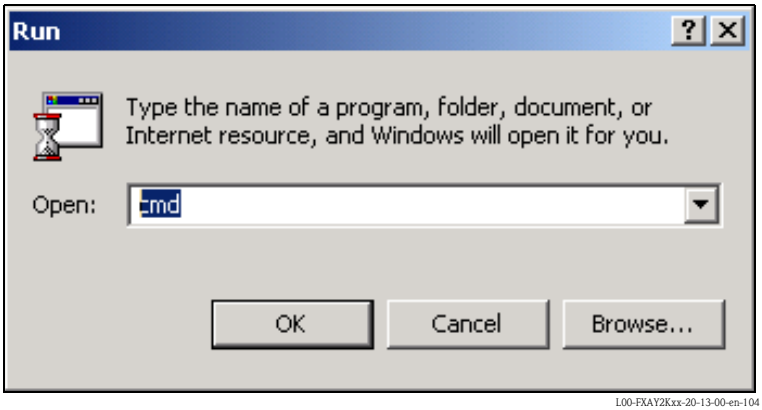


L00-FXAY2Kxx-20-13-00-en-213

3. If you see this window the connection is successfully complete.
4. Start the web browser once the connection is made. Enter the IP address "**192.168.254.1**". This IP address for the analog modem is fixed permanently in the Fieldgate and cannot be changed!

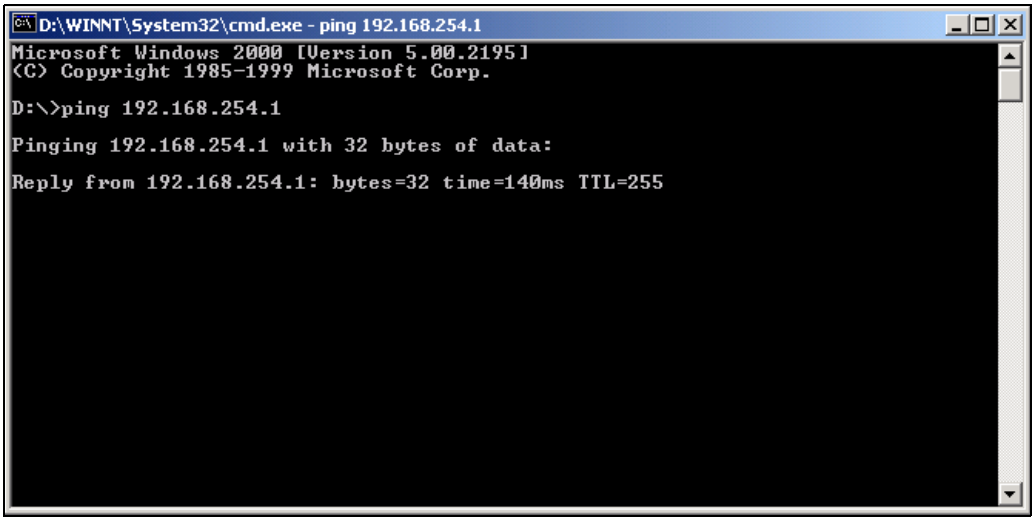
If there is no connection, check the connection to the Fieldgate as follows:

1. Open the DOS prompt "**Start ➜ Run ➜ cmd** "



L00-FXAY2Kxx-20-13-00-en-104

2. Enter "**ping 192.168.254.1**".
   Do you get the answer 192.168.254.1 Bytes=32...
   – Yes. The connection is OK. Check your browser settings (If a proxy server is used try to bypass the IP-address 192.168.254.1).
   – No. There is no connection to the Fieldgate.



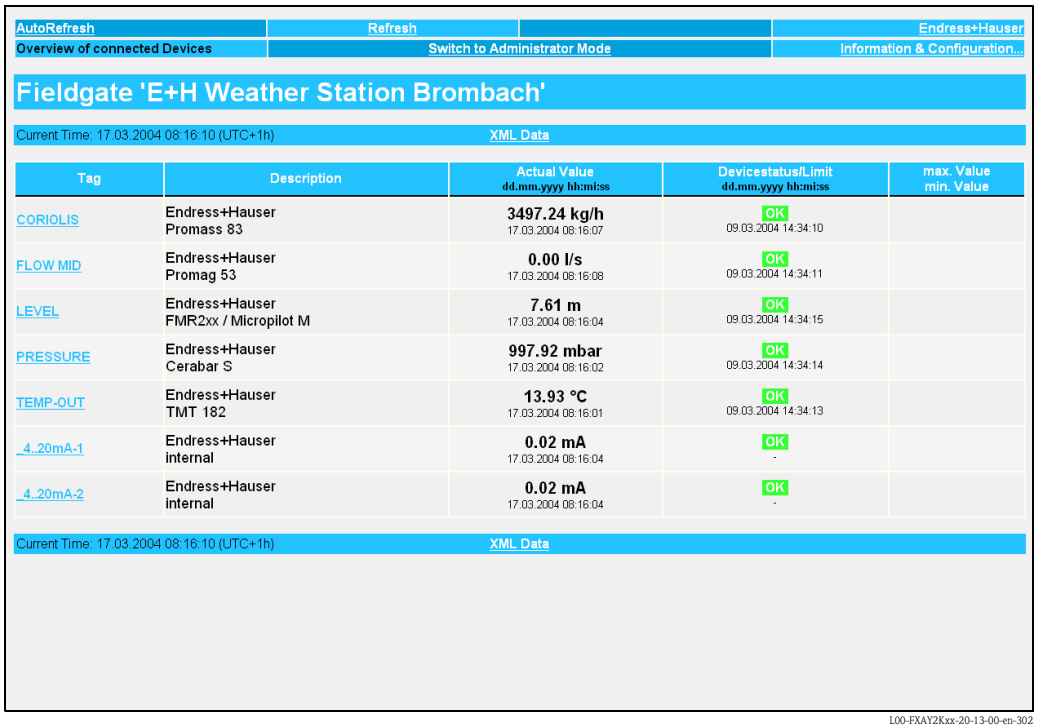
L00-FXAY2Kxx-20-13-00-en-215

2.5.4 Working in the web browser

1. In the following window enter:
   – the user name "**eh**"
   – and the password "**eh**"
   (in the delivery status).
   Click "**OK**" to confirm your entries.

L00-FXAY2Kxx-20-13-00-en-214

The user interface is displayed in the web browser and the Fieldgate can now be commissioned.



L00-FXAY2Kxx-20-13-00-en-302

2.6 Establishing an GSM modem connection

2.6.1 Installation

Before you can establish contact with a GSM Fieldgate, the following components are also required:
- SIM card of a GSM provider with activated data traffic must be inserted into the card holder.
- The PIN of the SIM card must be configured (→ Kap. 10.3.2 "ISP & Modem Configuration").

Note!
To be able to configure the Fieldgate, there must be a telephone connection between your personal computer and the Fieldgate.
For this, you require a commercially available analogue modem and 1 analogue telephone connection. If the connection consists of an analog adapter being connected to a digital telephone facility, data communication must be enabled for this connection.
This configuration can also be made using the PC cable (→ Chap. 2.3).

2.6.2 Setting up the personal computer

Caution!
An analogue modem must already be installed on your personal computer. Please refer to the operating instructions for the modem and your PC for information on how to install an analogue modem.

Creating a dial-up networking connection

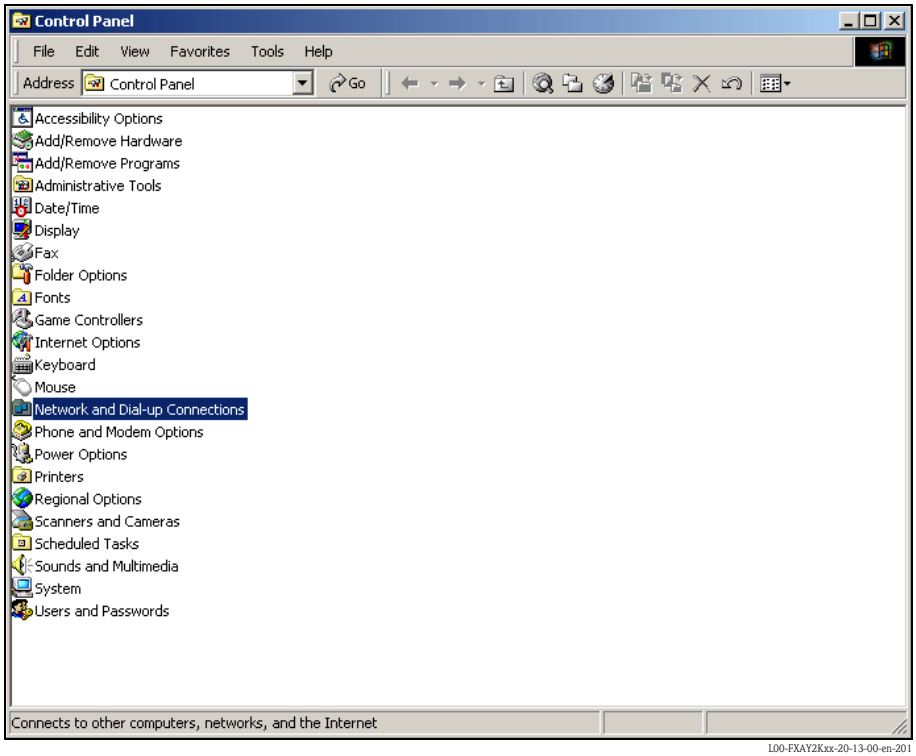
Set up a dial-up networking connection.

Note!
For this purpose, please also refer to the online help of your Windows® operating system on the topic "Setting up a dial-up networking connection".

Note!
The factory setting for the IP address of the GSM modem version is:
"**http://192.168.254.1**".
This IP address can be altered as required.

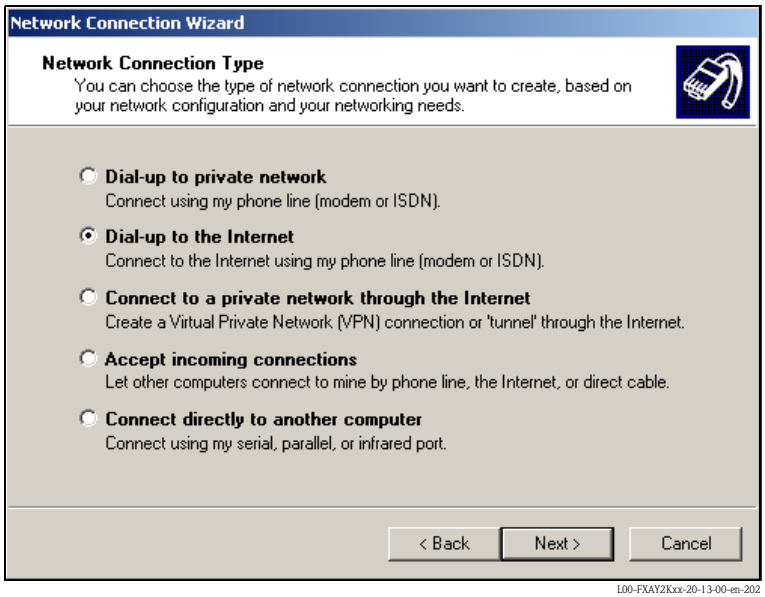
The following are sample instructions for Windows 2000® :

Note!
Examples of instructions for other operating systems can be found in the appendix.



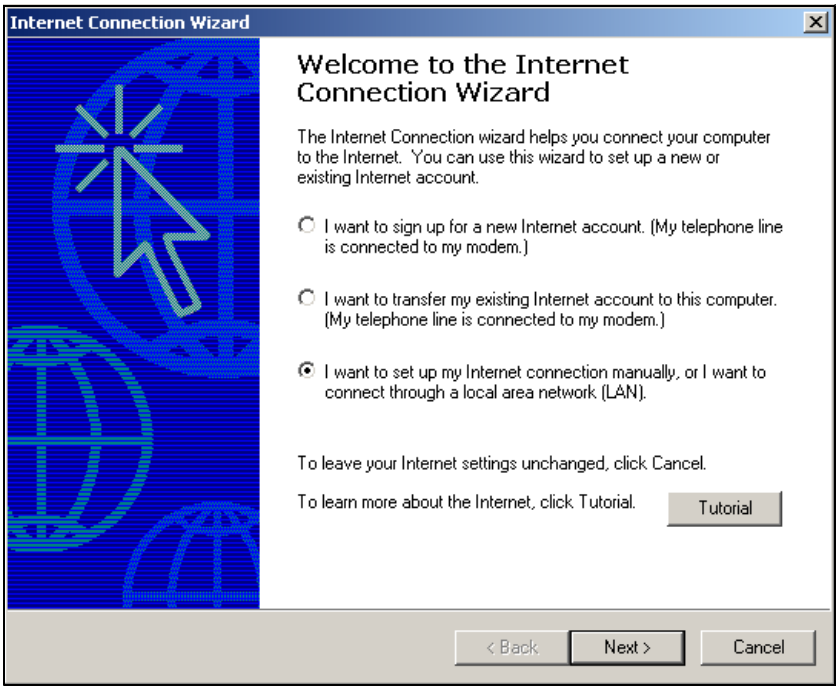
L00-FXAY2Kxx-20-13-00-en-201

1. Using the left mouse button, double-click the "**Network and Dial-up Connections**" icon to open the appropriate window.



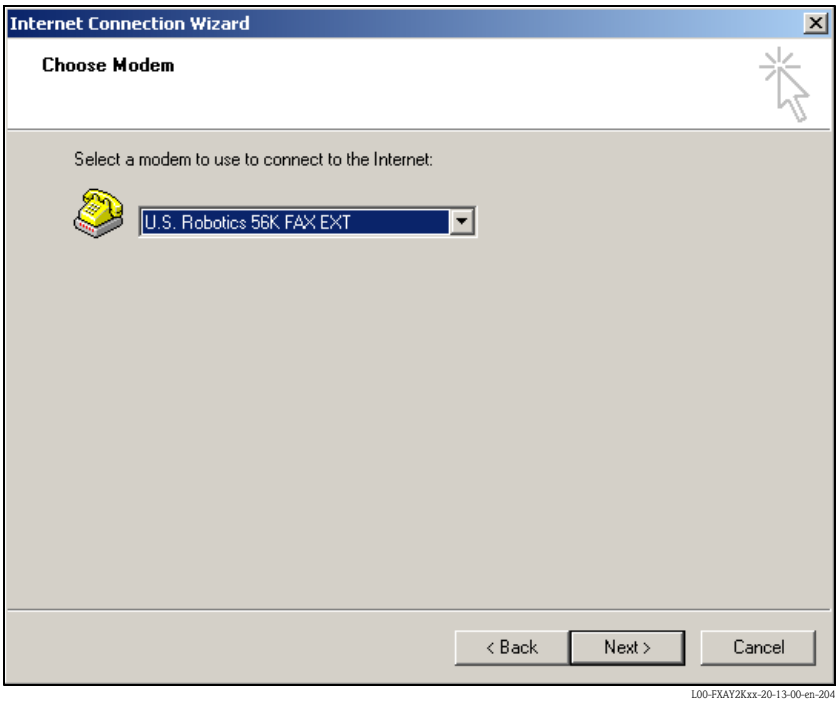
L00-FXAY2Kxx-20-13-00-en-202

2. Select the "**Dial-up to the Internet**" option and click "**Next >**" to confirm.



L00-FXAY2Kxx-20-13-00-en-203

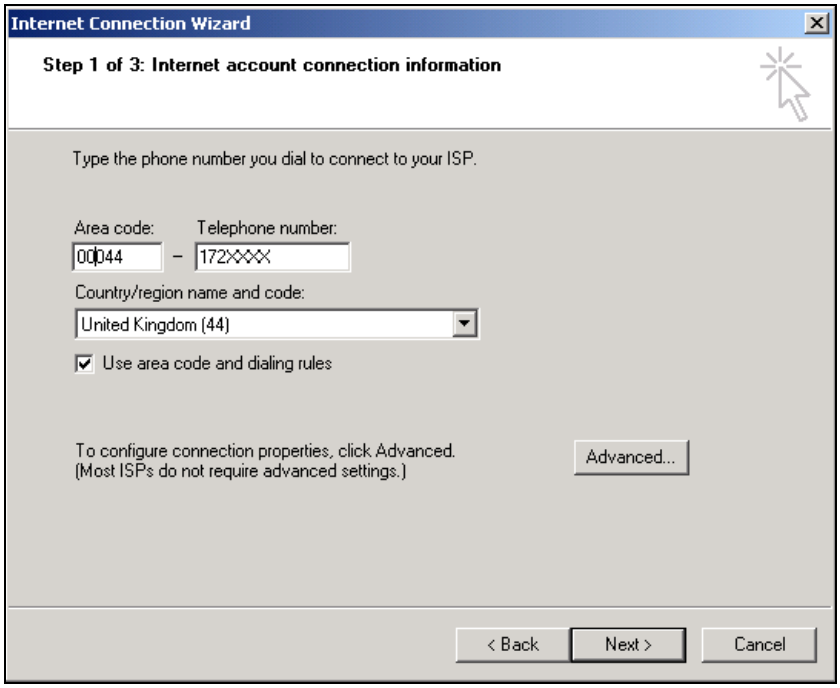
3. Select the "**I want to set up my Internet connection manually...**" checkbox and click "**Next >**" to confirm.
4. Click "**I connect trough a phone line and a modem**" checkbox and "**Next >**" to confirm.



L00-FXAY2Kxx-20-13-00-en-204

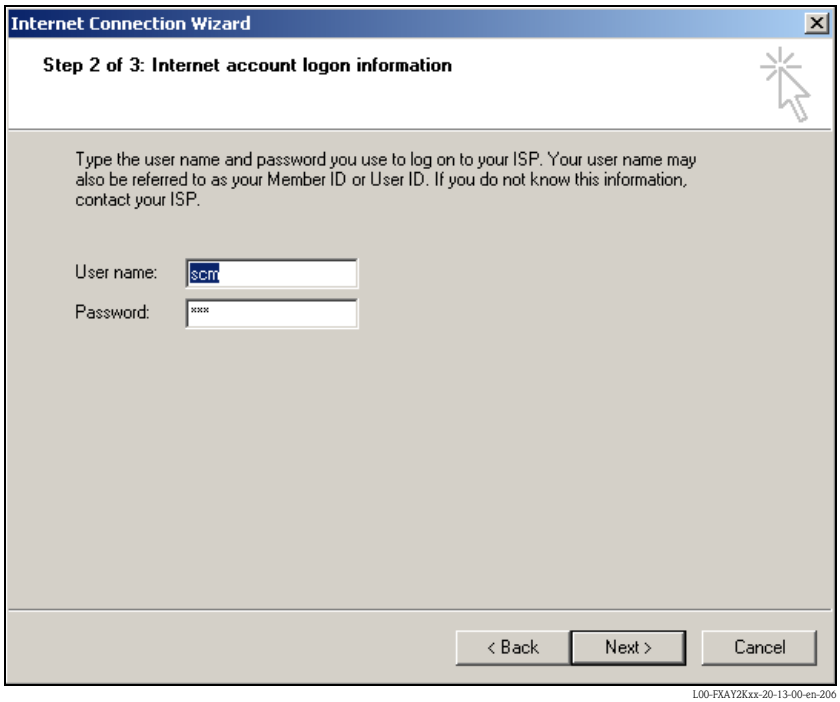
5. Select the analogue modem to be used and click "**Next >**" to confirm your choice.

6. Enter the call number of the SIM card used intended for data traffic in the following input field. Please also enter the exchange number if it is required.
   For example, this means the following for the number "**00044172XXXX**":
   – Position 1 (0 = exchange)
   – Positions 2...5 (0044 = country code, here for UK)
   – Positions 6...8 (172 = e.g. T-Mobile)
   – Position 9... (XXXX = Fieldgate telephone number)



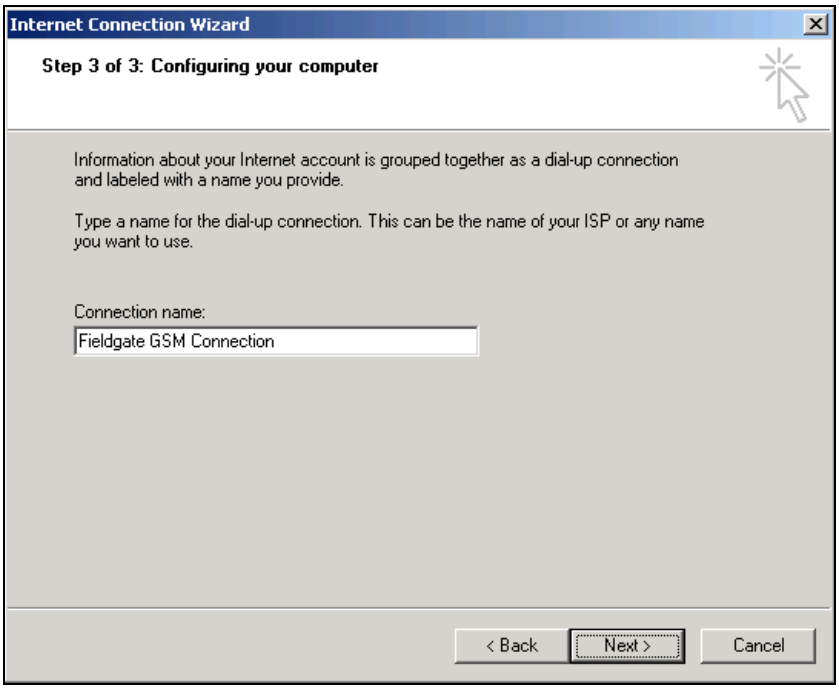
L00-FXAY2Kxx-20-13-00-en-411

Click "**Next >**" to confirm your entries.



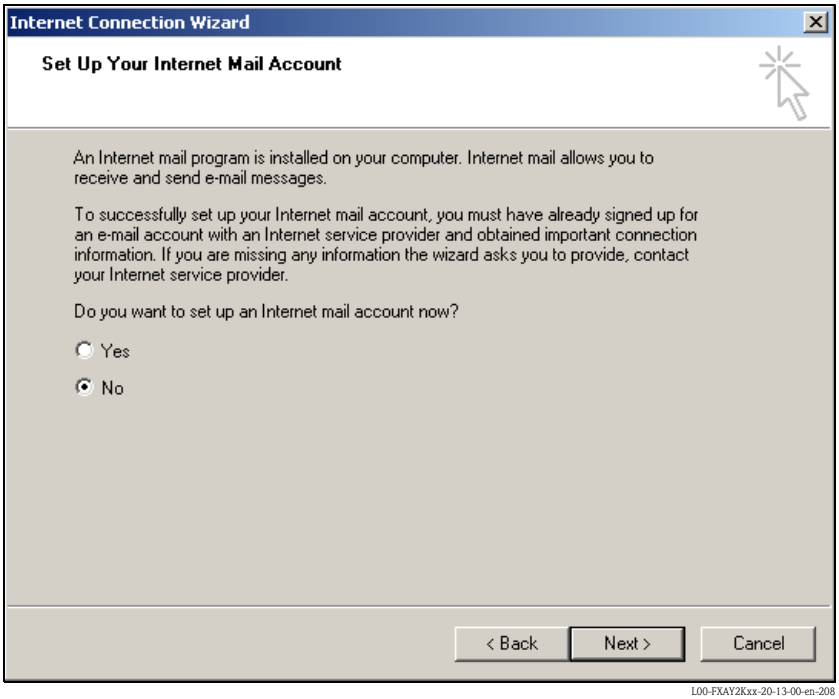
L00-FXAY2Kxx-20-13-00-en-206

7. Enter:
   – the user name "**scm**"
   (This is permanently stored in the Fieldgate and cannot be altered!)
   – and the password "**scm**"
   (This is permanently stored in the Fieldgate and cannot be altered!)
   Click "**Next >**" to confirm



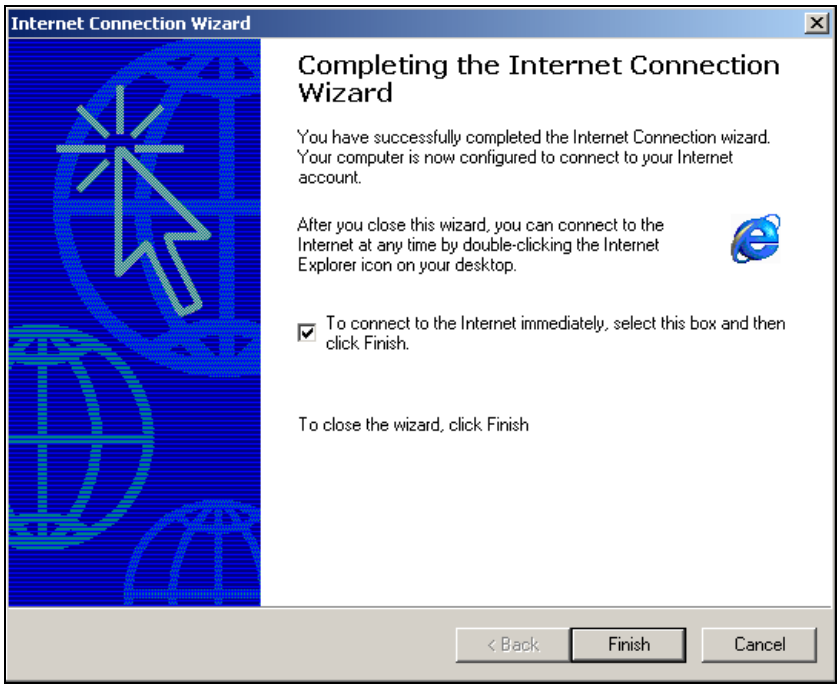
L00-FXAY2Kxx-20-13-00-en-401

8. Enter the connection name in the "**Connection name:**" field. You can enter any name you choose (e.g. Fieldgate GSM Connection in our example). Click "**Next >**" to confirm the name entered.



L00-FXAY2Kxx-20-13-00-en-208

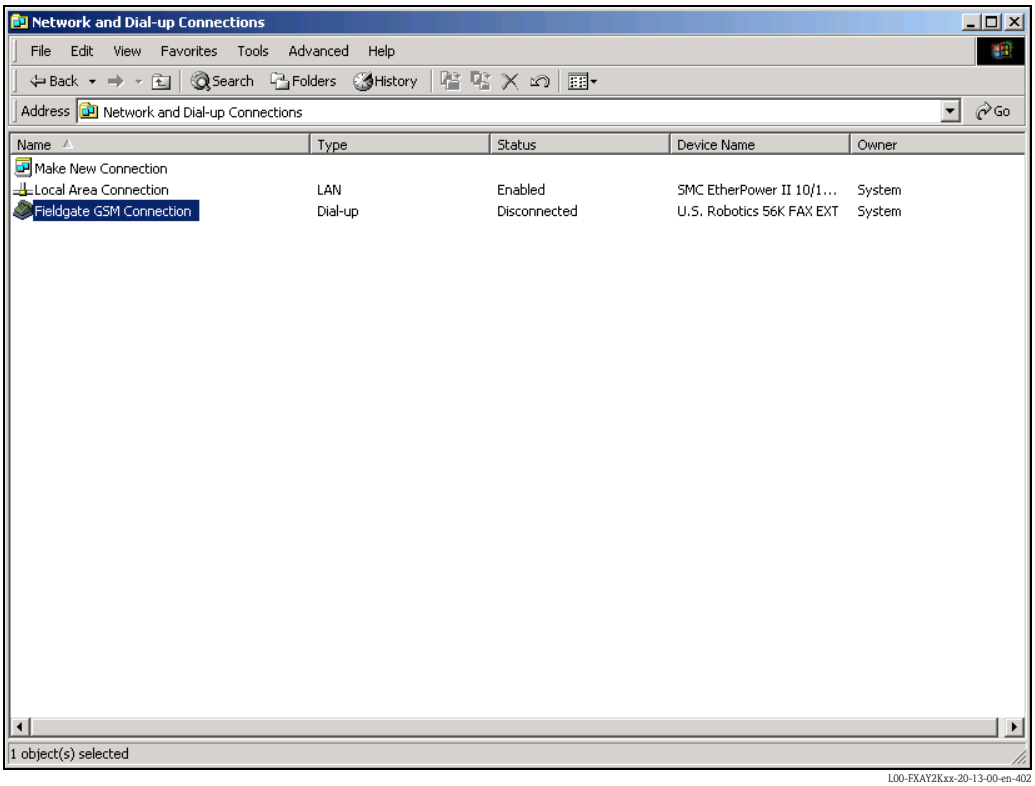
9. Click "**No**" and then "**Next >**" to confirm.



The dial-up networking connection is set up.

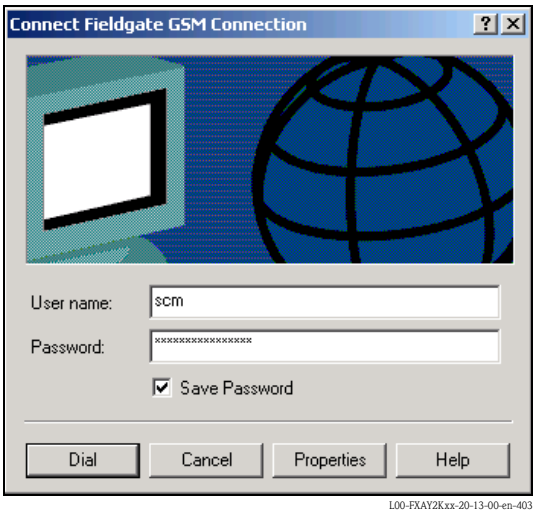
Note!
The newly established dial-up connection has been saved and can be used for the next connection. It can be found in the "**Network and Dial-up Connection**" window.

2.6.3 Making the connection



L00-FXAY2Kxx-20-13-00-en-402

1. Using the left mouse button, double-click the "**Fieldgate GSM Connection**" icon to open the appropriate window.



L00-FXAY2Kxx-20-13-00-en-403

2. Click "**Dial**" to confirm the entries.

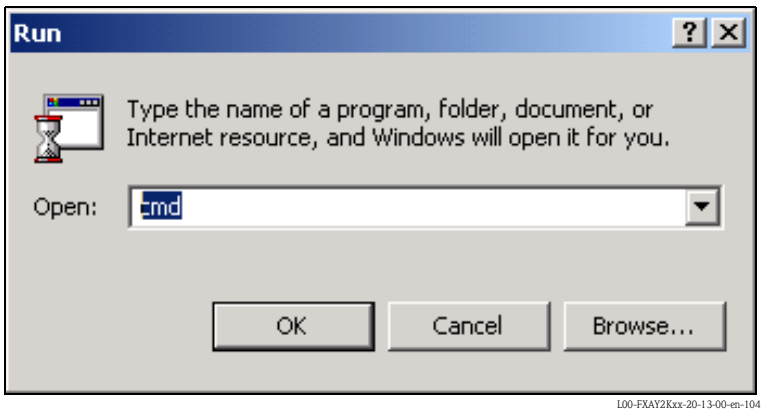
L00-FXAY2Kxx-20-13-00-en-404

L00-FXAY2Kxx-20-13-00-en-405

3. If you see this window the connection is successfully complete.
4. Start the web browser once the connection is made. Enter the IP address "**192.168.254.1**". This IP address for the analog modem is fixed permanently in the Fieldgate and cannot be changed!

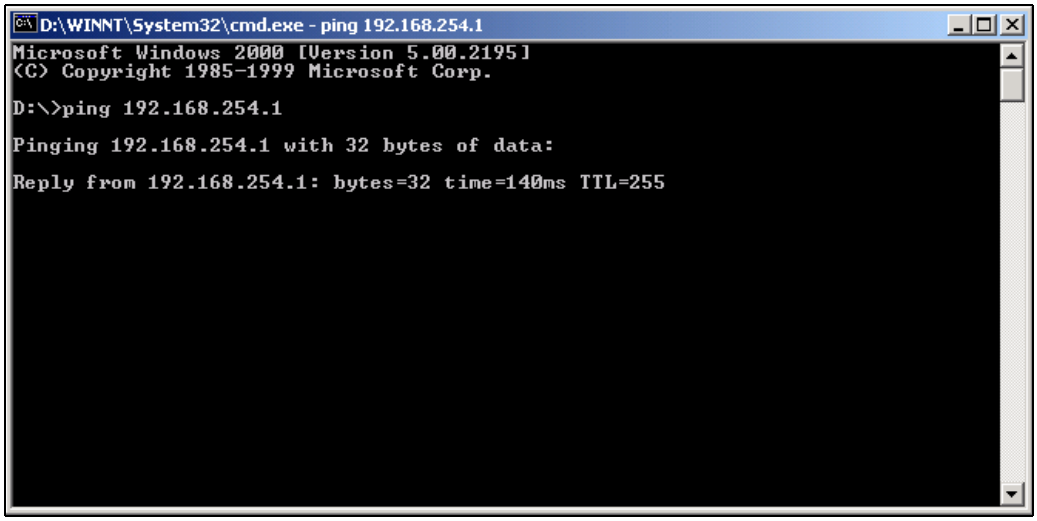
If there is no connection, check the connection to the Fieldgate as follows:

1. Open the DOS prompt "**Start ➜ Run ➜ cmd** "



L00-FXAY2Kxx-20-13-00-en-104

2. Enter "**ping 192.168.254.1**".
   Do you get the answer 192.168.254.1 Bytes=32...
   – Yes. The connection is OK. Check your browser settings (If a proxy server is used try to bypass the IP-address 192.168.254.1).
   – No. There is no connection to the Fieldgate.



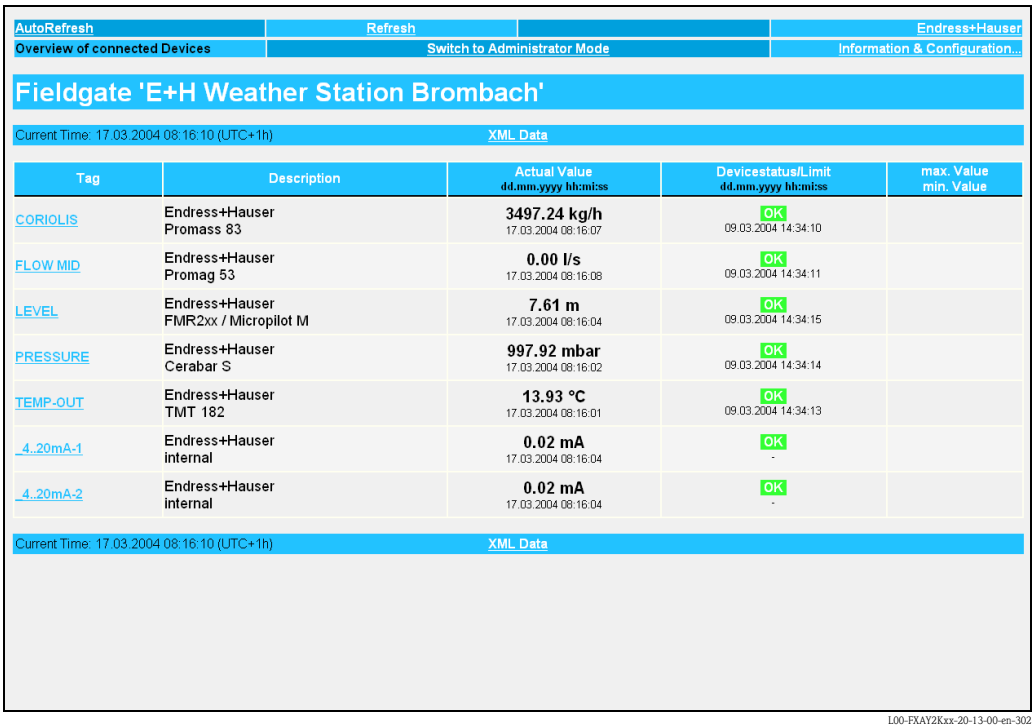
L00-FXAY2Kxx-20-13-00-en-215

2.6.4 Working in the web browser

1. In the following window enter:
   – the user name "**eh**"
   – and the password "**eh**"
   (in the delivery status).
   Click "**OK**" to confirm your entries.

L00-FXAY2Kxx-20-13-00-en-214

The user interface is displayed in the web browser and the Fieldgate can now be commissioned.



L00-FXAY2Kxx-20-13-00-en-302

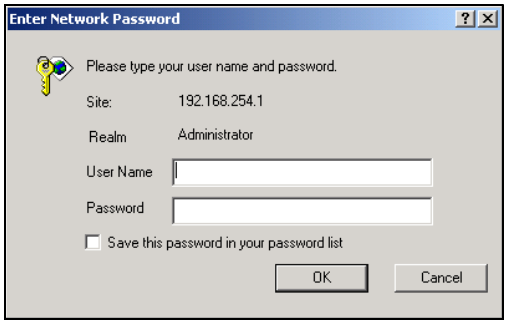
3 Configuration

3.1 User interface

Once the IP address has been entered and the connection made, you are prompted to enter a user name and the password.

Two modes are already initially set in the Fieldgate:

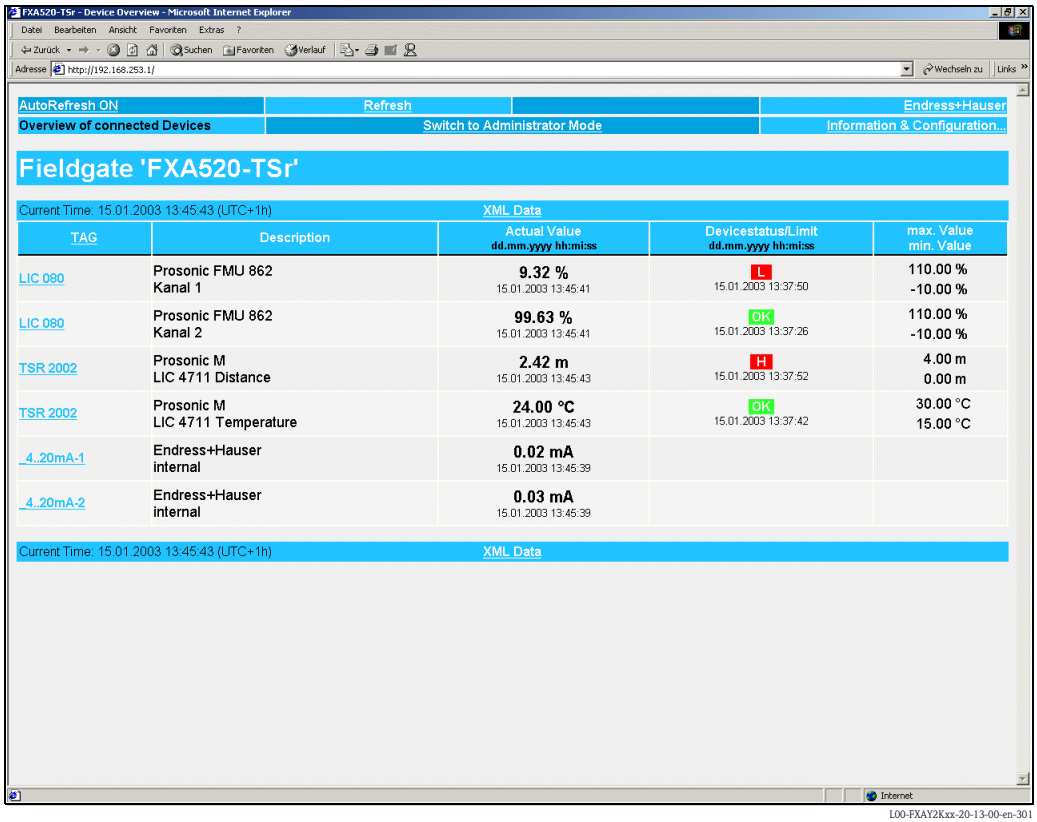
- **User mode (factory setting)**
  In the user mode, you can view almost all the configuration parameters and measured values but you cannot alter them.
  Default setting for:
  – user name is "**eh**"
  – password is "**eh**"
- **Administrator mode**
  In the administrator mode, you can alter all the configuration parameters. In addition, up to 5 user names and passwords can be allocated.
  Default setting for:
  – user name is "**super**"
  – password is "**super**"



L00-FXA520xx-20-13-00-en-016

Please do not enter the inverted commas when entering the user name and password!

Once logged on, the following is displayed in the web browser (this display depends on the devices connected):



L00-FXAY2Kxx-20-13-00-en-301

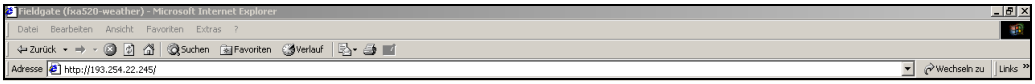
Approx. 1 second update time is required for every measured value in the overview.

The user interface consists of the following elements:

- Menu bar (belongs to the web browser installed)
- Navigation bar
- Configuration editor
- Footer
- A separate help window which is opened after calling up the help function "**?**".

3.2 Menu bar

Example of how the menu bar is displayed in MS Internet Explorer



L00-FXA520xx-20-13-00-en-036

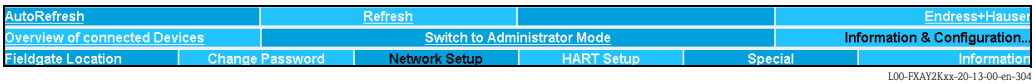
The IP address of the Fieldgate is entered in the address field of the web browser.

Note!
The menu bar contains the standard functions of the installed web browser. More detailed information on the individual menus is provided in the documentation on the web browser.

3.3 Navigation bar

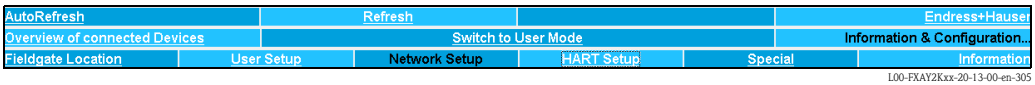
The navigation bar consists of the following functions and subfunctions in the form of links:
- "About Fieldgate" function (in preparation)
- "AutoRefresh" function
- "Refresh" function
- "Endress+Hauser" function
- "Overview of Connected Devices" function
- "Switch to Administrator Mode" or "Switch to User Mode" function
- "Information & Configuration" function
  - "Fieldgate Location" subfunction
  - "Change Password" or "User Setup" subfunction
  - "Network Setup" subfunction
  - "HART Setup" subfunction
  - "Special" subfunction
  - "Information" subfunction

Example of how bar is displayed in user mode:
This display can be activated by means of the "**Switch to User Mode**" function in the navigation bar.



L00-FXAY2Kxx-20-13-00-en-304

Example of how bar is displayed in administrator mode:
This display can be activated by means of the "**Switch to Administrator Mode**" function in the navigation bar.

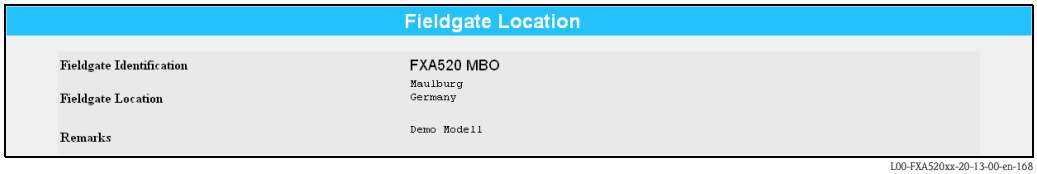


L00-FXAY2Kxx-20-13-00-en-305

3.4 Configuration editor

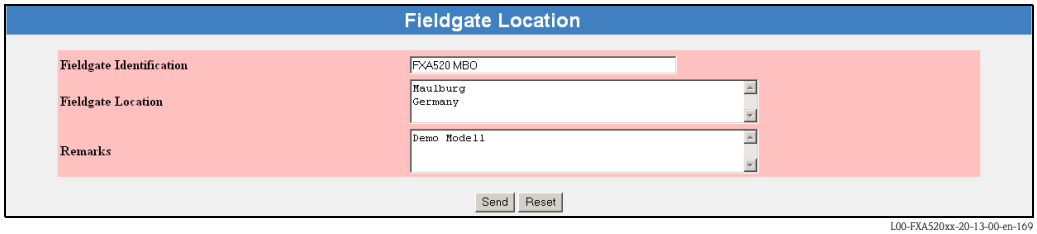
The configuration editor consists of a header and display and entry fields. In addition, a description of the individual functions and parameters can be called up using the help function "**?**" (this function is in preparation).

Example of how editor is displayed in user mode:
This display can be activated by means of the "**Switch to User Mode**" function in the navigation bar.



L00-FXA520xx-20-13-00-en-168

Example of how editor is displayed in administrator mode:
This display can be activated by means of the "**Switch to Administrator Mode**" function in the navigation bar.



L00-FXA520xx-20-13-00-en-169

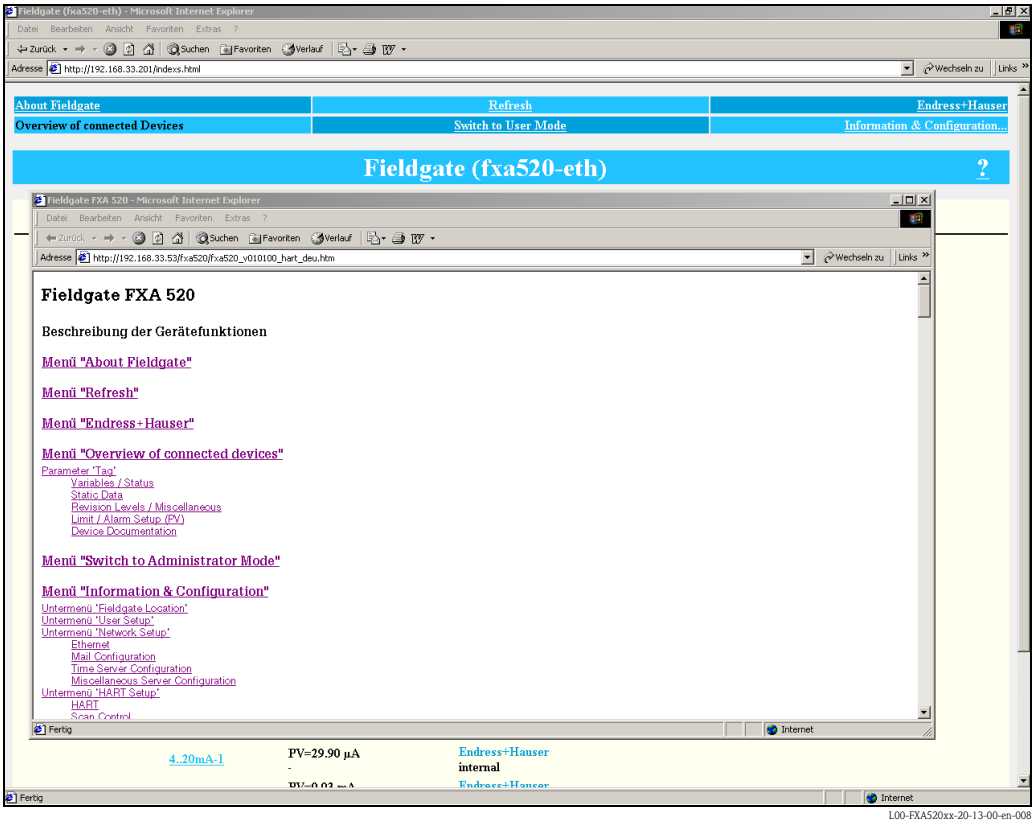
3.5 Footer

L00-FXA520xx-20-13-00-en-006

The following is displayed in the left-hand section of the status bar:

- Current Time: YYYYMMDD-hhmmss (UTC + Offset). You can select the display format → Chap. 10.3.4
  The time is only available if a time server has been configured or the time has been entered manually.

4 "About Fieldgate" function (in preparation)



L00-FXA520xx-20-13-00-en-008

With this function, a separate help window is opened with a complete description of the individual functions, subfunctions and parameters.
In addition, a description of the individual functions and parameters can be called up using the help function "**?**".

Note!
If there is no on-line help for the Fieldgate, then the "**About Fieldgate**" function is not displayed in the navigation bar.

5 "AutoRefresh" function

With this function, the page display is updated every 120 seconds.
Click on "AutoRefresh" to activate updating.

L00-FXAY2Kxx-20-13-00-en-300

Click on "AutoRefresh OFF" to deactivate updating.

L00-FXAY2Kxx-20-13-00-en-322

6 "Refresh" function

The "**Refresh**" function reloads the page currently displayed and has the same function as the "**Refresh**“ function of your web browser (e.g. Internet Explorer with the "**F5**" key).

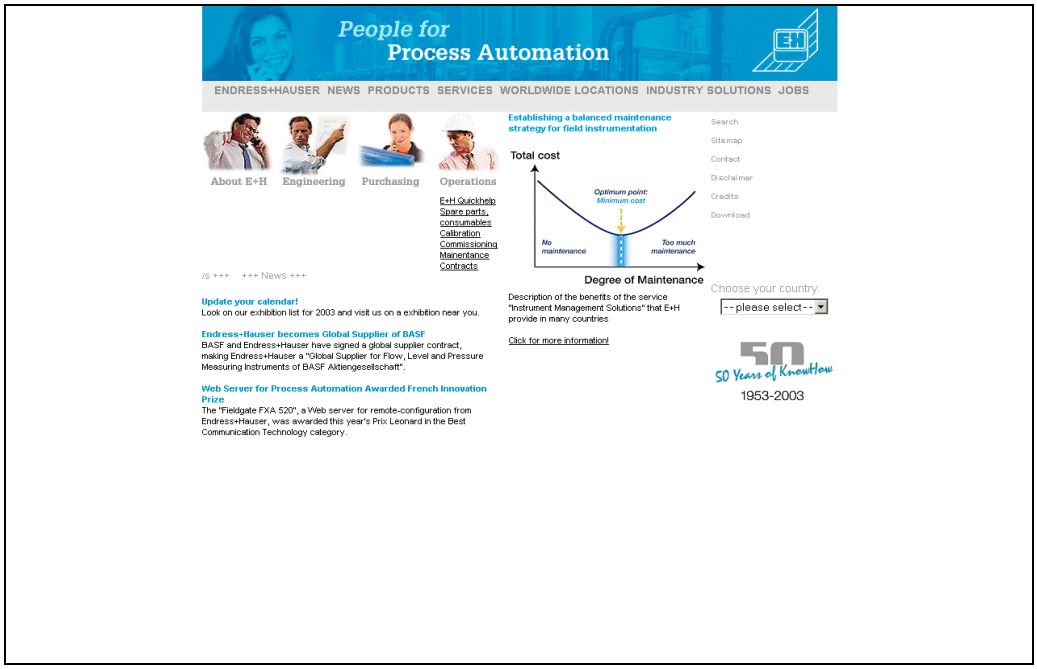
6.1 Cyclic refresh

You can use this function to set the time intervals in which the displayed page is reloaded and thus the display refreshed.

For example, by entering:
"http://192.168.252.1/**?refresh=15**"
the current page is refreshed every 15 s.

7 "Endress+Hauser" function

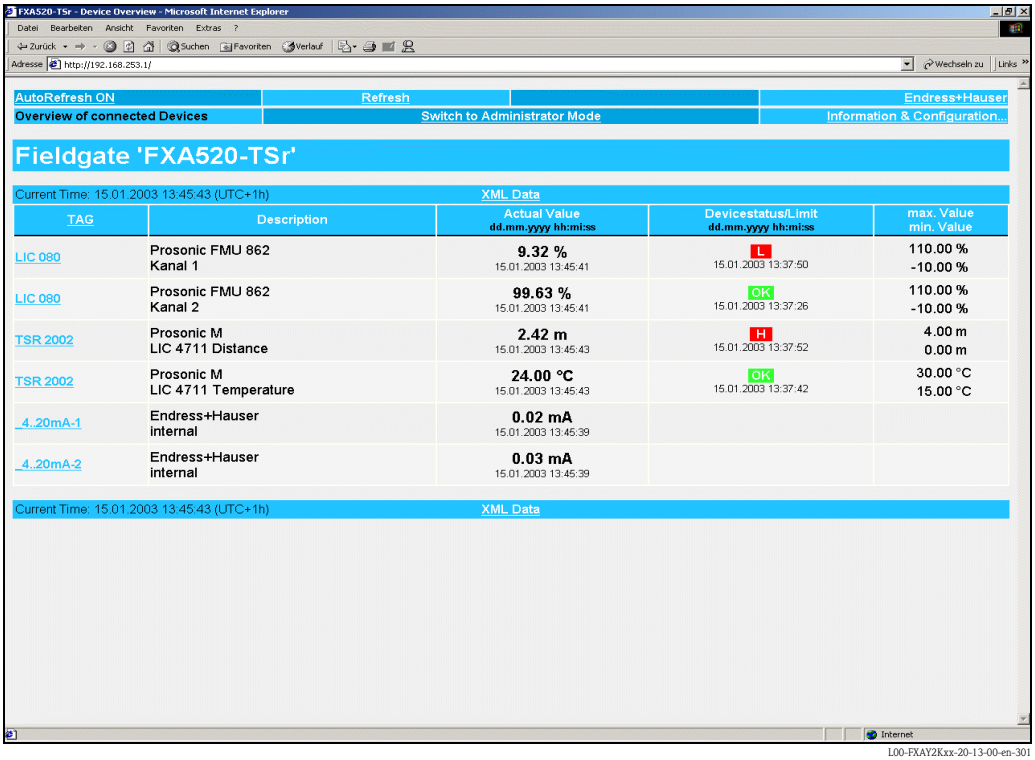
With the "**Endress+Hauser**" function, you go directly to the Endress+Hauser homepage. You require Internet access for this. There is no charge for displaying the page. You only have to pay the fees of your Internet service provider.



L00-FXA520xx-20-13-00-en-009

8 "Overview of Connected Devices" function

With this function, the most important data of the connected HART devices, 4...20 mA inputs, board temperature and board voltage are displayed.



L00-FXAY2Kxx-20-13-00-en-301

Note!
A maximum of 30 measured values can be displayed in the "Overview of connected devices".
Example:
- The Micropilot has only 1 measured value - 30 devices can be connected.
- The Promass has 4 measured values - if all 4 measured values on the interface are activated, then (→ Chap. 8.1 "Show In Overview"), the number of devices is reduced to 7 (7 devices x 4 measured values = 28), in addition to this, 2 more Micropilot measuring devices, for example, can then be connected.

Tag

This column displays the tag designation set in the device.

Description)

Additional information of 2 x 20 characters can be entered in this column (only in admin mode). This is stored in the Fieldgate.
By default, the manufacturer is entered into the first line and the device designation into the second line.

Actual Value

This column displays the measured value last determined with a time stamp (only if a time server is set up) (→ Chap. 10.3.4).

Limit Status

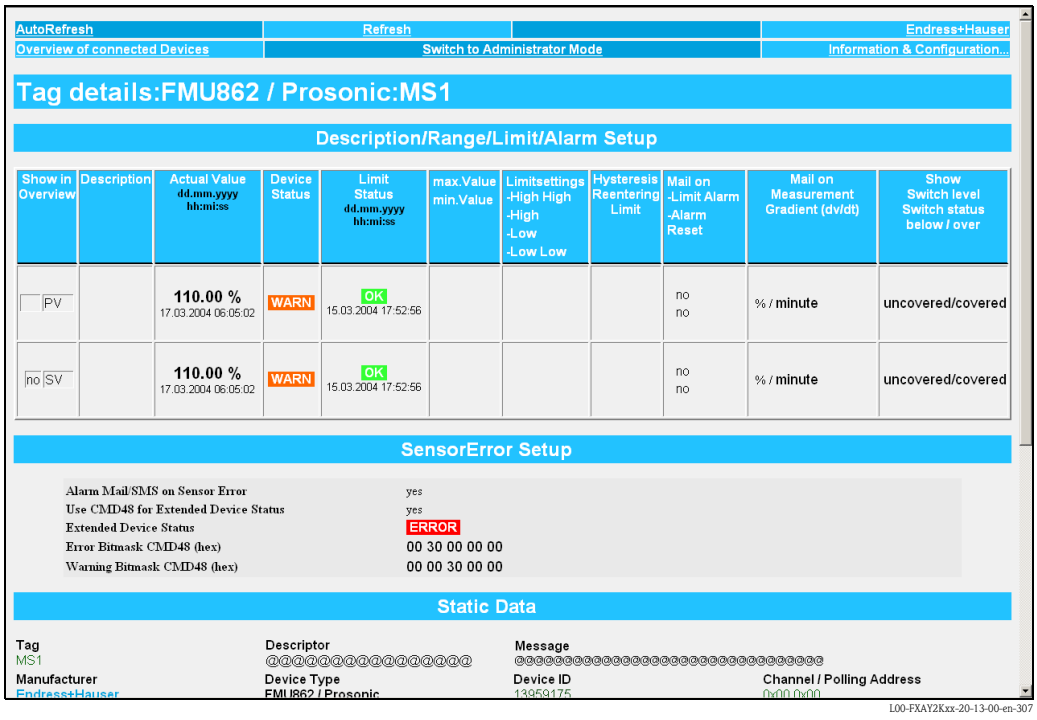
This line displays the limit value status:
- OK (green) - measured value is within the specified limits
- L < (red) first lower limit value has been undershot
- LL < (red) second lower limit has been undershot
- H > (red) first upper limit value has been exceeded
- HH > (red) second upper limit value has been exceeded
  If a device error is present (Device status -> Error), then the limit status is given as "uncertain".
- Display OK = no limit values defined

max. Value / Min. Value

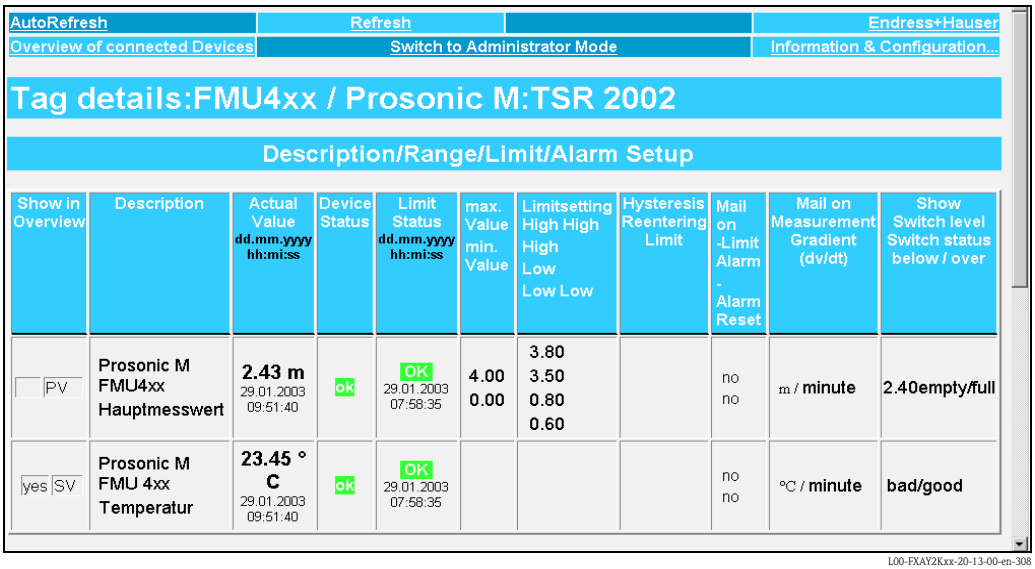
The property of the measuring point is entered in this column (e.g. max. tank content). This can be edited freely and has no effect on measured values and alarms.

8.1 "Tag" parameter

By left-clicking on a device designation in the "**Tag**" column, you get a detailed view of the device (here by selecting "**Prosonic M** " for Prosonic M for example).

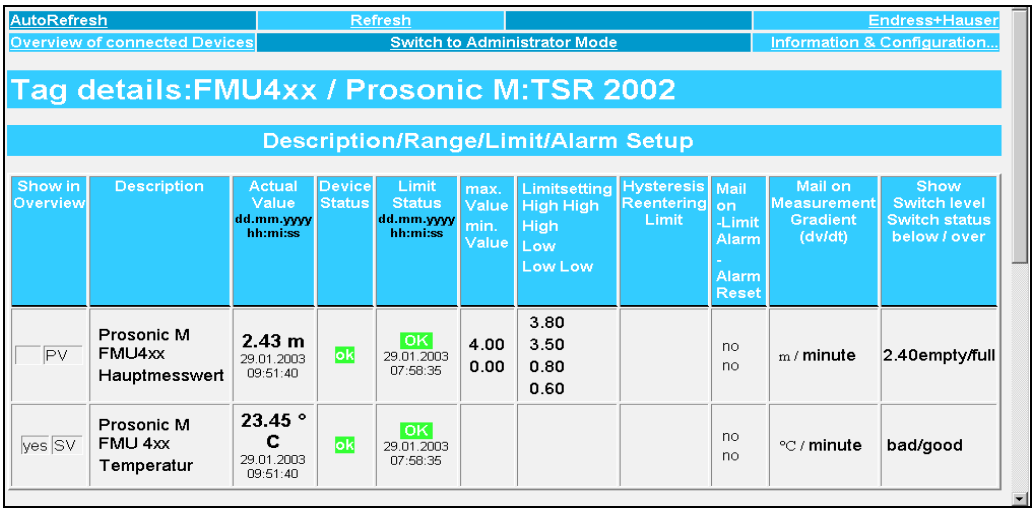


Note!
You can edit the limit values (Limit) in the administrator mode (→ Chap. 9).



L00-FXAY2Kxx-20-13-00-en-308

8.1.1 Description/Range/Limit/Alarm Setup



L00-FXAY2Kxx-20-13-00-en-308

This section provides you with an overview of the measuring signals, measured values and codes returned by the device.

The parameters are categorised as follows:

- Data from the device:
  - Show in Overview
  - Actual Value
  - Device Status

and

- Data in the Fieldgate:
  - Description
  - Limit Status
  - max. Value / min. Value
  - Limitsetting High/HighHigh Low/Low Low
  - Hysteresis Reentering Limit
  - Mail on Limit Alarm / Alarm Reset
  - Mail on Measurement Gradient (dv/dt)
  - Show Switch level / Switch status below/over

Show in Overview

By activating the control box in administrator mode, the second (SV), third (TV) and fourth (QV) measuring value can also be displayed in the "Overview of connected Devices". In this way, several measured values from a device can be displayed in the interface.

Description

Additional information can be entered in this column (only in admin mode). This is stored in the Fieldgate.
By default, the manufacturer is entered into the first line and the device designation into the second line.

Actual Value

This column displays the measured value last determined with a time stamp (only if a time server is set up) (→ Chap. 10.3.4).

Device Status

This column displays the device status:
- OK (green)
- WARN (Warning – orange)
- ERROR (Device error – red)

Limit Status

This line displays the limit value status:
- OK (green) – measured value is within the specified limits
- L < (red) first lower limit value has been undershot
- LL < (red) second lower limit has been undershot
- H > (red) first upper limit value has been exceeded
- HH > (red) second upper limit value has been exceeded
  If a device error is present (Device status -> Error), then the limit status is given as "uncertain".
- Display OK = no limit values defined

max. Value / Min. Value

The property of the measuring point is entered in this column (e.g. max. tank content). This can be edited freely and has no effect on measured values and alarms.

Limitsetting HighHigh/High/Low/Low Low

In this section, limit values can be set which can trigger e-mails or SMS (GSM) to be sent should certain situations arise. These limit values also control the behaviour of the alarm display in the status section of this page as well as on the overview page of the connected devices. The limit values are stored in the Fieldgate

Note!
The limit values can be entered and the e-mail functions activated in administrator mode only. The limit values and functions are only displayed in user mode.

In this column either:
- the first lower L limit value and the second lower LL limit value are entered
  or
- the first upper H limit value and the second upper HH limit value are entered.

Hysteresis Reentering Limit

Here, the hysterisis value of the limit value is entered as an absolute value.
The default value is 0.1% of the measured value. Specifying hysteresis prevents multiple limit messages, e.g. in the form of e-mails, if the measured value fluctuates around a specified limit value.

Mail on Limit Alarm

When the control box is activated, an e-mail is sent when
- OK -> L
- L -> LL
- OK -> H
- H -> HH

are exceeded.

Mail on Alarm Reset

When the control box is activated, an e-mail is sent when
- L -> OK
- LL -> L
- H -> OK
- HH -> H

are exceeded.

SMS on Limit Alarm

When the checkbox is activated, an SMS is sent when
- OK -> L
- L -> LL
- OK -> H
- H -> HH

are exceeded.

SMS on Alarm Reset

When the checkbox is activated, an SMS is sent when
- L -> OK
- LL -> L
- H -> OK
- HH -> H

are exceeded.

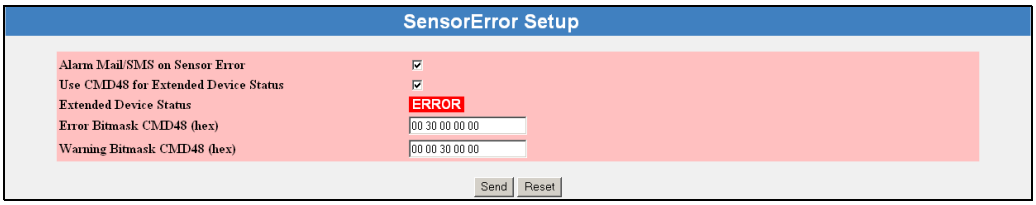
Mail on Measurement Gradient (dv/dt)

Here, an e-mail is sent if the measured value change rate is greater than the set value (SMS is not supported).

Show Switch Status

Definition of a level and the corresponding text display. If the measured value lies below the level or is equal to it, the text before the / is displayed. If the measured value is > the level entered, the text after the / is displayed.

8.1.2 SensorError Setup



L00-FXAY2Kxx-20-13-00-en-310

When the control box is activated, an alarm e-mail is sent in the event of a sensor error.
When using the GSM version, an SMS is sent simultaneously if the "SMS Configuration" checkbox is activated in the "Enable SMS Send" function (→ Chap. 10.3.6).

Alarm mail/SMS on sensor error

If the control box is switched on, an alarm e-mail is sent in the event of a sensor error.
In the GSM version an SMS is sent simultaneously if the "" control box is switched on in the "" function ().

Use CMD48 for Extended Device Status

Switch on the control box if you wish to use the evaluation of the Additional Device Status of HART devices.
For a more precise diagnosis of device statuses, such as status information, warnings or alarms, the Extended Device Status can be read out using the HART command 48. Additional Device Status is a 0 to 10 byte long data field which contains information about the field device in encoded form. The information it contains may be structured differently in each field device and is therefore only partially standardised by HART. For this reason it is not possible to display the encoded information directly in text form and identify it.
However, it is possible to trigger encoded status information using bit masks. In this case, the Fieldgate differentiates between status information which can be displayed as a warning and information which can be displayed as an error and reported.
Several bits, representing particular status information, can be set in the bit masks. Every 10 update times, the Fieldgate compares the current Additional Device Status on the basis of the bits set in the bit mask. If at least one of the bits matches, it reports an error or warning. The current Additional Device Status is sent (e-mail or SMS) together with the error or warning message, to the registered receiver of alarms. The precise identification of the error must then be performed by the receiver using the Additional Device Status.

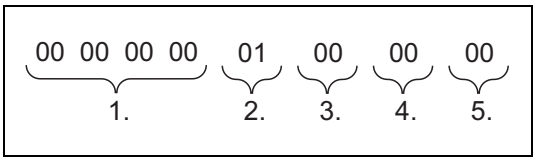
Example:
The Additional Device Status of a TMT162 consists of 8 bytes, as follows:

1. 4 byte device status
2. 1 byte channel 1 status
3. 1 byte channel 2 status
4. 1 byte Extended Device Status (see Common table 17)
5. 1 byte Operating mode (see Common table 14)

Therefore, the status of channel 1 is found in byte 5 of the Additional Device Status.

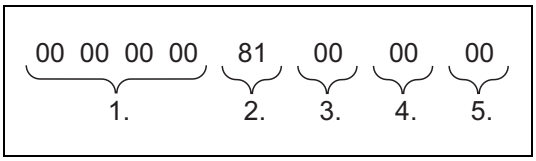
Sample contents of byte 5:
- 0x01 : warning corrosion
- 0x80 : error A/D conversion

If, for example, you now wish to detect and report a corrosion warning using the Fieldgate, the bit mask may appear as follows:



L00-FXA520xx-05-00-00-xx-003

If you wish to detect a warning for corrosion and/or an A/D conversion error, the bit mask may appear as follows:



L00-FXA520xx-05-00-00-xx-004

Extended Device Status

Here it is indicated whether, under consideration of the specified bit masks, the current Additional Device Status contains a warning or an error.
- If it contains a warning, "**WARN**" is displayed.
- If it contains an error, "**ERROR**" is displayed.
- Under normal conditions "**OK**" is displayed.

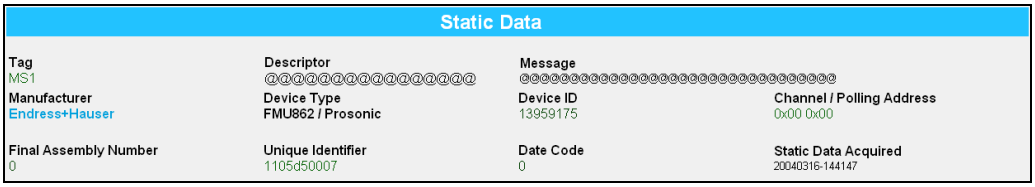
Error Bitmask CMD48 (hex)

Here, enter in hex form the bit mask which is to trigger an error message.
If at least one of the set bits is found to match between the bit mask and the Additional Device Status, an error message is sent by e-mail to the receiver specified under "Address Alarm Mails". In the GSM version there is the option of sending an SMS.

Warning bit mask CMD48 (hex)

Here, enter in hex form the bit mask which is to trigger a warning message.
If at least one of the set bits is found to match between the bit mask and the Additional Device Status, a warning message is sent by e-mail to the receiver specified under "Address Alarm Mails". In the GSM version there is the option of sending an SMS.

8.1.3 Static / Data



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The static data are stored in the device and have either been specified by the manufacturer or entered during device commissioning. These values normally do not change.

Tag

The tag is the designation of the device or the measuring point. It is set in the measuring device and can only be altered in the measuring device (e.g. via ToF Tool).

Descriptor

A user-defined message which is saved in the measuring device.

Message

An additional user-defined message which is saved in the measuring device.

Manufacturer

The name of the manufacturer is displayed here.

Device Type

The manufacturer name of the transmitter is displayed here.

Device ID

The serial number of the measuring device.

Channel / Polling Address

This field contains the channel of the Fieldgate (0x00 or 0x01) to the left. The HART address is on the right and is dependent on the protocol used up to 15 at HART5 (up to 63 at HART6). If the device is connected via a multiplexer, 0x10 is displayed here.

Final Assembly Number

Manufacturer device assembly code.

Unique Identifier

A unique number consisting of three components (standardised by the HCF) is displayed here.

For example, for the number "**110a002148**", this means:
– Positions 1+2 (11 = manufacturer, here Endress+Hauser)
– Positions 3+4 (0a = device, here Prosonic)
– Positions 5...10 (002148 = serial number of the device, this is manufacturer-specific)

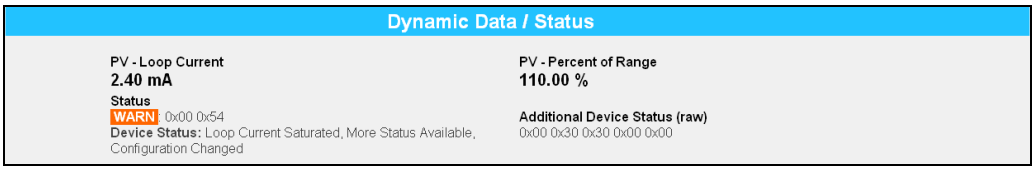
Date Code

The date of manufacture formatted to HART specifications is displayed here.

Static Data Acquired

Date of the last static data acquired.

8.1.4 Dynamic Data / Status



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PV - Loop Current

Display of set 4-20mA current value

PV - Percent of Range

Display of measured value as a percentage of the set measuring range

Status

Display of simple device status according to HART specification:
- Error: "**ERROR**"
- Warning: "**WARN**"
- Normal function: "**OK**"

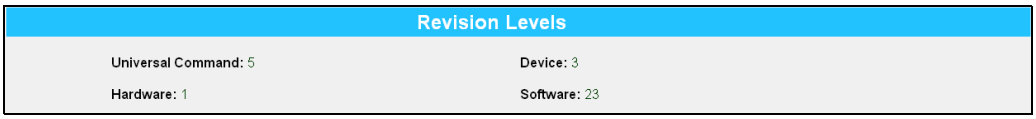
In addition, the Device Status consisting of 2 bytes is displayed in hex form, and the information it contains is displayed in text from below that.

Example:
– ok: 0x00 0x08
– **Device Status:** Loop Current Fixed

Additional Device Status (raw)

The current Additional Device Status is presented here in hex form.
See also "Use CMD48 for Extended Device Status".

8.1.5 Revision Levels / Miscellaneous



L00-FXA520xx-20-13-00-en-013

This section provides you with an overview of the software and hardware revisions of the device selected. All these data are specified by the HCF.

Universal Command

This line displays the version of the HART protocol.

Device

This line displays the version of the device specific commands.

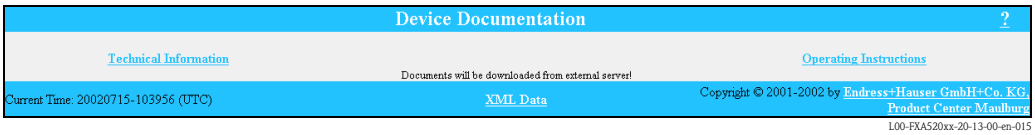
Hardware

This line displays the hardware version.

Software

This line displays the software version.

8.1.6 Device Documentation (in preparation)



This section contains links to corresponding sections of device documentation which you can call up over the Internet.

Note!
This function is only available for Endress+Hauser devices (in preparation).

Technical Information

This link opens a separate window with the Technical Information in PDF format of the device selected. Acrobat Reader must be installed for this purpose.

Note!
This only works if:
- the Fieldgate is accessed via the document server,
- a document server is specified in the "Miscellaneous Server Configuration" function under "Doc/ Download Server".

Operating Instructions

This link opens a separate window with the Operating Instructions in PDF format of the device selected. Acrobat Reader must be installed for this purpose.

Note!
This only works if:
- the Fieldgate is accessed via the document server,
- a document server is specified in the "Miscellaneous Server Configuration" function under "Doc/ Download Server".

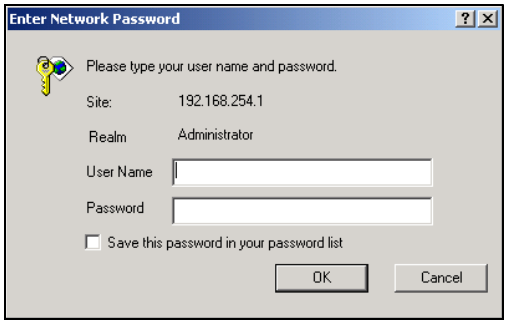
XML Data

This link opens a page on which the device data are displayed in XML format. XML data are especially well-suited to automated information exchange between computers or devices processing data.

9 "Switch to Administrator Mode" or "Switch to User Mode" function

Two modes are already initially set in the Fieldgate:

- **User mode (factory setting)**
  In the user mode, you can view almost all the configuration parameters and measured values but you cannot alter them.
  Default setting for:
  – user name is "**eh**"
  – password is "**eh**"
- **Administrator mode**
  In the administrator mode, you can alter all the configuration parameters. In addition, up to 5 user names and passwords can be allocated.
  Default setting for:
  – user name is "**super**"
  – password is "**super**"



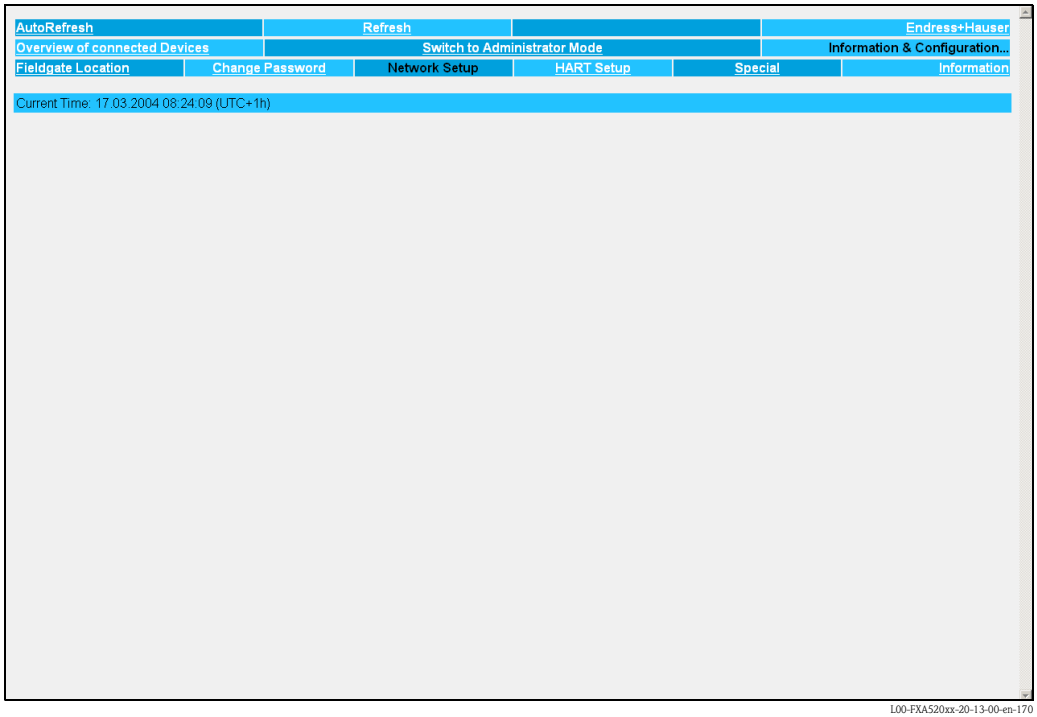
L00-FXA520xx-20-13-00-en-016

Please do not enter the inverted commas when entering the user name and password!

Caution!
All parameters can be viewed and configured in the administrator mode. To avoid errors, only use the administrator mode if you really want to change the configuration.

Example of display in user mode

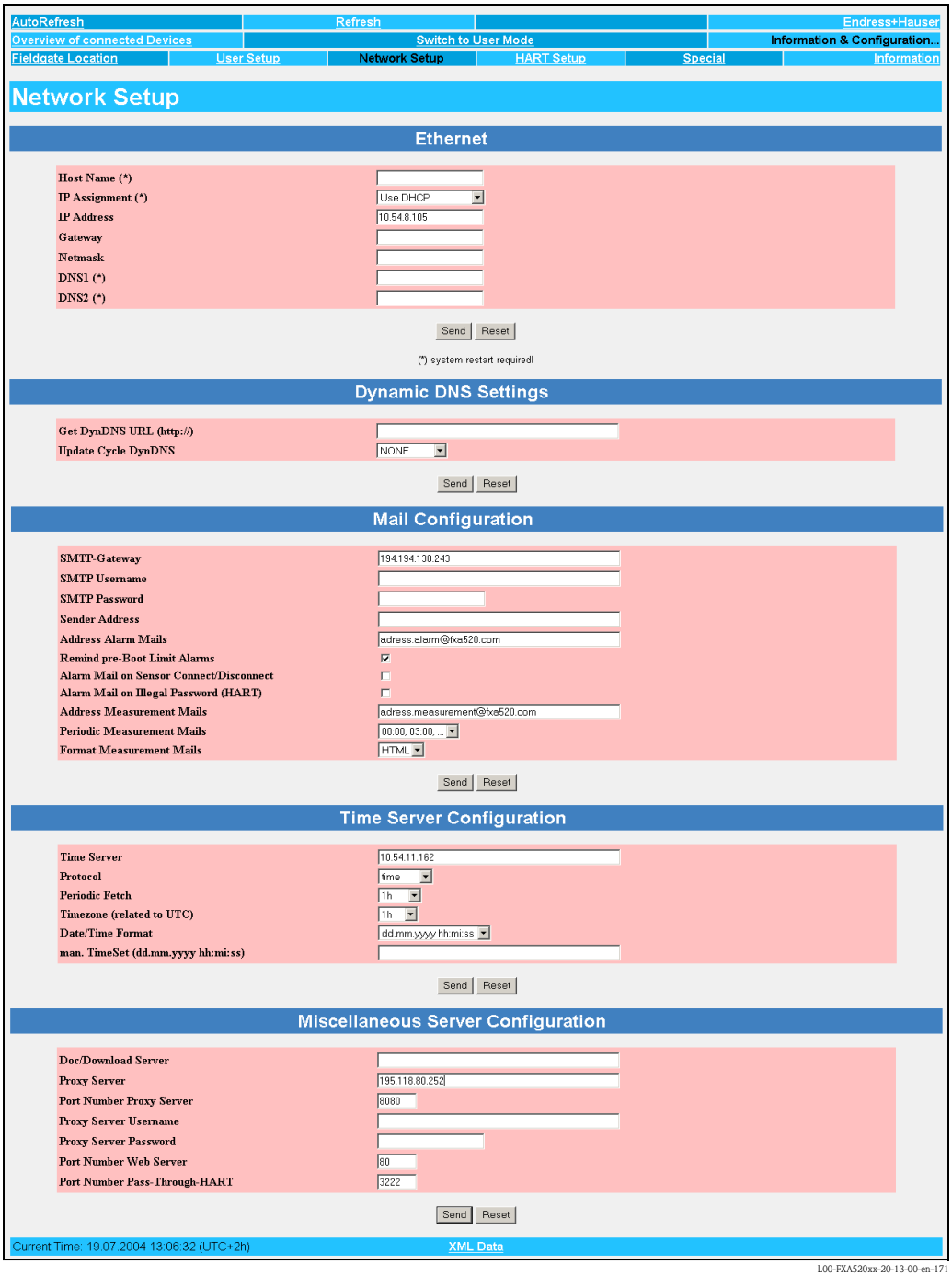
This display can be activated by means of the "**Switch to User Mode**" function in the navigation bar.



L00-FXA520xx-20-13-00-en-170

Example of display in administrator mode

This display can be activated by means of the "**Switch to Administrator Mode**" function in the navigation bar.



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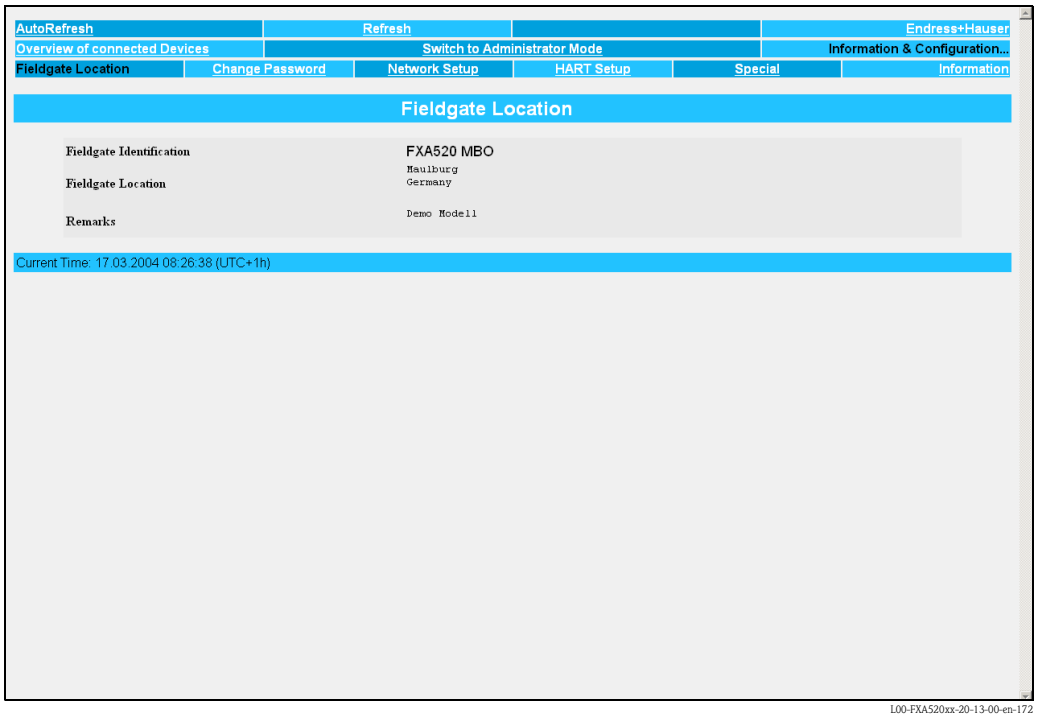
10 "Information & Configuration" function

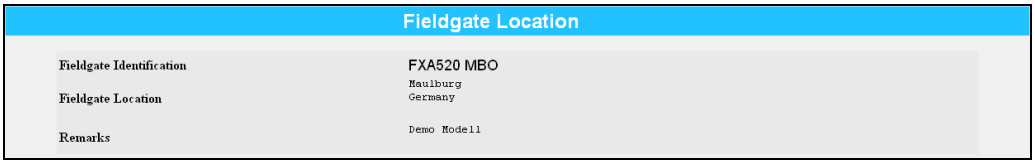
Note!
In the user mode, you can change your password and view the configuration settings. You only have access to all the configuration parameters in the administrator mode and can also only edit them here.



L00-FXA520xx-20-13-00-en-172

With the "**Information & Configuration**" function, you can make and view the configuration settings.

10.1 "Fieldgate Location" subfunction



L00-FXA520xx-20-13-00-en-168

This section provides you with the option of entering additional information on the location and characteristics of the Fieldgate. These data have no effect on the functionality of the Fieldgate and are saved.

Fieldgate Identification

Here, enter the name of the Fieldgate (e.g. FXA520-...) which is also displayed on the overview page, in the header of your browser, in the XML file and the header of the e-mail.

Fieldgate Location

You can enter additional information on the location of the Fieldgate here. These data have no effect on the functionality and solely serve to provide additional information.

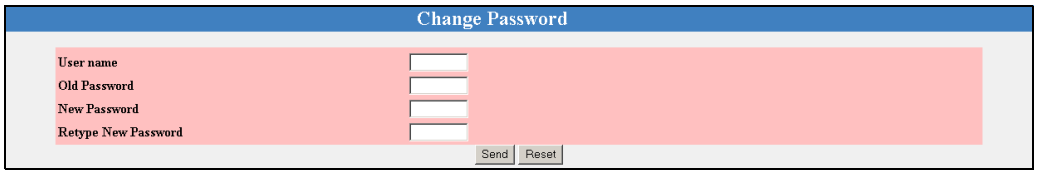
Remarks

You can enter remarks and additional information on the Fieldgate here. These data have no effect on the functionality and solely serve to provide additional information. When using text e-mails, these remarks are entered in the e-mail (e.g. "We hereby order…").

10.2 "Change Password" or "User Setup" subfunction

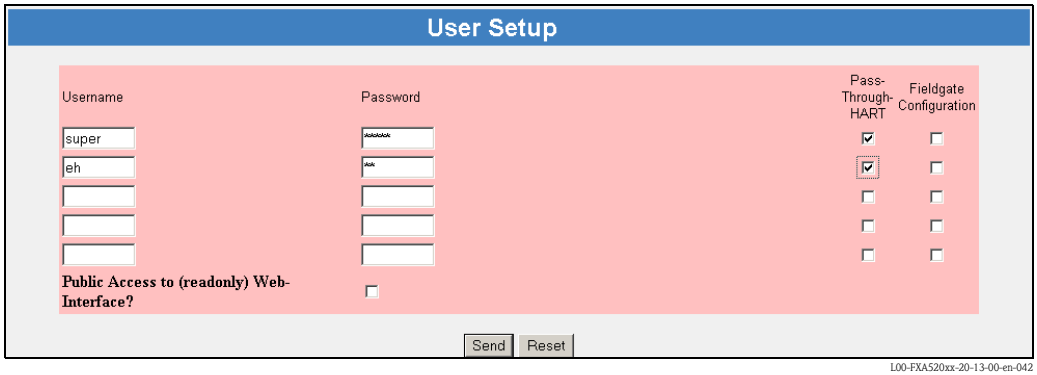
The amount of information you can enter in this section is dictated by your user rights.

Example of display in user mode:
This display can be activated by means of the "**Switch to User Mode**" function in the navigation bar. As the user, you can change your password here.



L00-FXA520xx-20-13-00-en-019

Example of display in administrator mode:
This display can be activated by means of the "**Switch to Administrator Mode** " function in the navigation bar. As the administrator, you can create and manage up to 5 users here.



L00-FXA520xx-20-13-00-en-042

Activating and deactivating the additional checkboxes in the administrator mode has the following functions:

- Fieldgate Configuration
  By activating the checkbox, the password for the configuration (Switch to Administrator Mode) of the Fieldgate is assigned.
  – If the checkbox is deactivated, the selected user has access in user mode. The factory setting for user name/password is "**eh/eh**" (→ Chap. 9 on Page 74). The user name/password can be chosen as required and can be allocated in the administrator mode.
  – If the checkbox is activated, the selected user only has access in administrator mode. The factory setting for user name/password is "**super/super**" (→ Chap. 9 on Page 74). The user name/password can be chosen as required.
  Caution!
  Enabling the checkbox gives the selected user the right to alter the configuration of the Fieldgate and thus administrator rights.
- Pass-Through-HART (HART device configuration)
  If the checkbox is activated, the user has access via a HART tool, such as the ToF Tool, by means of which device configuration is possible. The user name/password can be chosen as required. The factory setting is not activated.
  Caution!
  Enabling the checkbox gives the selected user the right to alter the configuration of the HART device and thus administrator rights.

- Public Access to (read-only) Web-Interface? (Web browser prompt)
  If you enable this checkbox, everyone can view all the pages of the user mode without a password.
  Disable this checkbox so that a prompt to enter a password appears when the Fieldgate web pages are called up.
  The user name/password can be freely defined; for this, the checkboxes for "**Pass-Through-HART"** and "**Fieldgate Configuration**" must be deactivated.

In the user mode, the password can be changed. Proceed as follows to do so:

User Name

Enter your user name here.

Old Password

Enter your old password here.

New Password

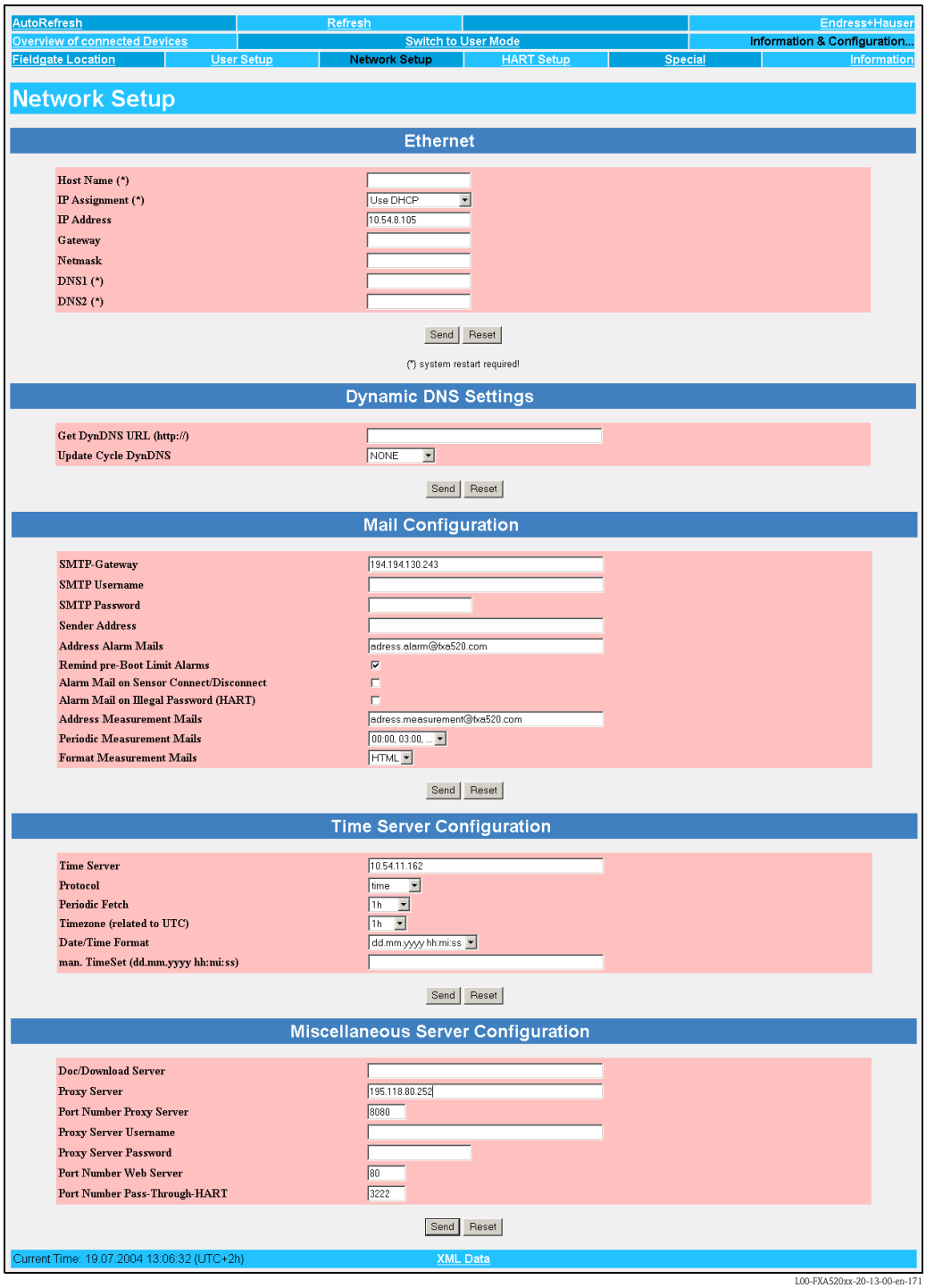
Enter your new password here.

Retype New Password

Enter your new password again here.

10.3 "Network Setup" subfunction

Example for Ethernet:



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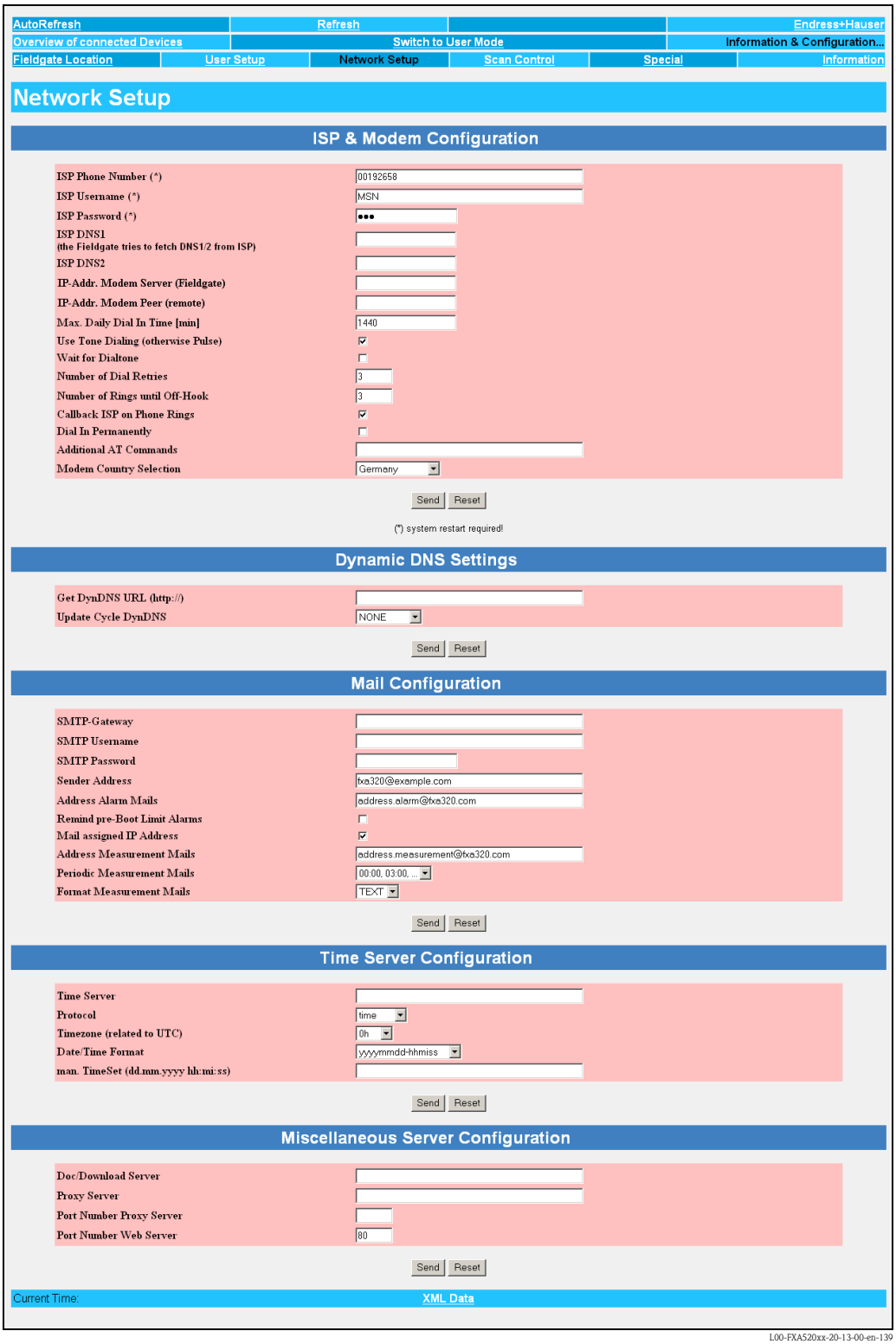
Example for analogue modem:

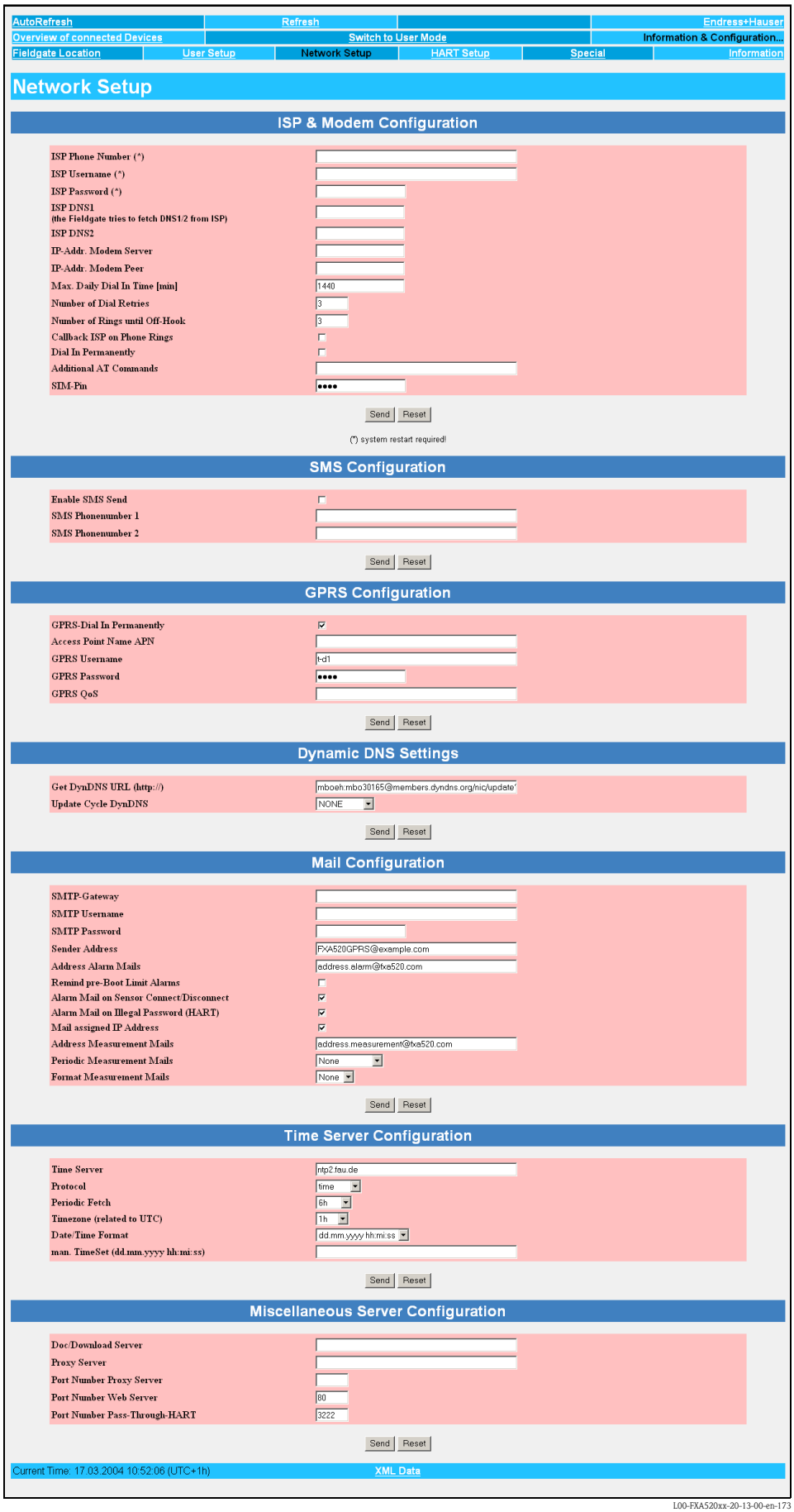


L00-FXA520xx-20-13-00-en-139

In diesem Abschnitt können Sie alle Kommunikationseinstellungen vornehmen. Abhängig von Ihren Rechten können Sie die Parameter nur einsehen (im Benutzer-Modus) oder auch editieren (im Administrator-Modus).

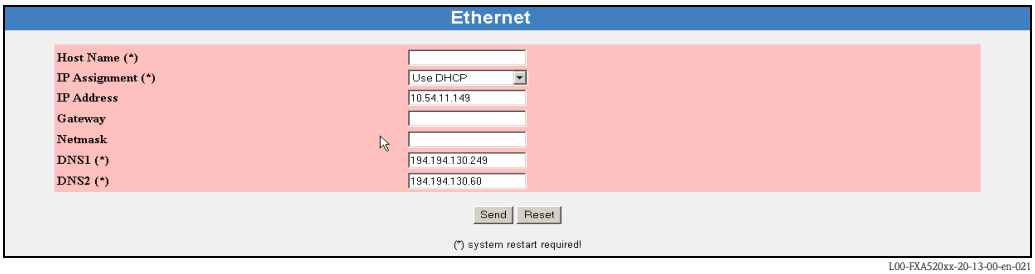
Achtung!
Änderungen müssen für jeden Abschnitt separat mit dem Button "**Send**" bestätigt werden.

Example for GSM modem:



L00-FXA520xx-20-13-00-en-173

10.3.1 Ethernet



L00-FXA520xx-20-13-00-en-021

In this section, you configure the IP address of the Fieldgate.

Caution!
Each IP address may only occur once in a network! You can get an IP address from your Internet provider or your system administrator. The settings must be confirmed with the button "**Send**".

Host name

The host name describes the unambiguous name of a device in the network.

Usage in conjunction with DHCP:
DHCP assigns as standard an IP address on the basis of the MAC address of the device. If the DHCP server being used supports IP allocation using host names, the name of the device in the network can alternatively be used for the assignment of the IP address.

Note!
WINS name resolution is not supported. Therefore, the device cannot be contacted in the network using its host name instead of its IP address. The purpose of the host name in this case is solely to provide an alternative means of allocating IP addresses through the DHCP server.

IP Assignment

Selection list:
- Manual Entry
- Use BootP-Protocol
- Use DHCP

This selection list is used to establish how the IP address is allocated, under which the device can later be contacted in the network. The factory setting is "**Manual Entry** ".

– **Manual Entry**
If no DHCP or BootP is used, then all network settings must be entered manually. Fill out the following field (IP Address, Gateway, ...) for this purpose.
– **Use BootP-Protocol**
Activate the checkbox if a BootP server is being run in the network in which the Fieldgate is being deployed and the IP address should be allocated dynamically. The IP address is then set automatically and the gateway address is also taken from the local BootP server.
Please contact your system administrator if you have any questions.
If you use BootP, a mail is sent after every restart to the recipient or the recipient specified under "**Address Alarm Mails** " containing the currently allocated IP address.
– **Use DHCP**
Activate the checkbox if a BootP server is being run in the network in which the Fieldgate is being deployed and the IP address should be allocated dynamically. The IP address is then set automatically and also the usual network settings such as the gateway or the DNS server are usually taken from the local DHCP server.

Please contact your system administrator if you have any questions.
If you use DHCP a mail is sent after every restart to the recipient or the recipient specified under " Address Alarm Mails " containing the currently allocated IP address.

Caution!
A restart of the system is necessary if a change is made from "**Manual Entry** " to "**Use DHCP** " or "**Use BootP-Protocol** " while operating.

IP Address

Enter the IP address of the Fieldgate here (factory setting is 192.168.252.1). You can get this address from your system administrator.

Caution!
There is the possibility of losing the connection to the Fieldgate after confirming the new IP address. Simply enter the new IP address in the web browser. In addition to this, the web browser must also be informed of the new IP address (adjust proxy server settings).

Gateway

A gateway must be specified if the Fieldgate should be able to access servers or PCs outside its network, e.g. a mail server. This is the network firewall, the Internet router or an internal switch, for example.
If you have any questions, please contact your system administrator.

Netmask

The sub-network mask number to be entered is the one you received from the network administrator or internet provider. This number when taken together with the IP address states which network segment your computer belongs to. A sub-network mask is made up of four numbers from 0 to 255 which are separated from each other by points.

Caution!
If this field is left free then the standard sub-network mask number for the network class is set (e.g. "**255.255.255.0** "). The standard setting can be kept in the majority of cases.

DNS1

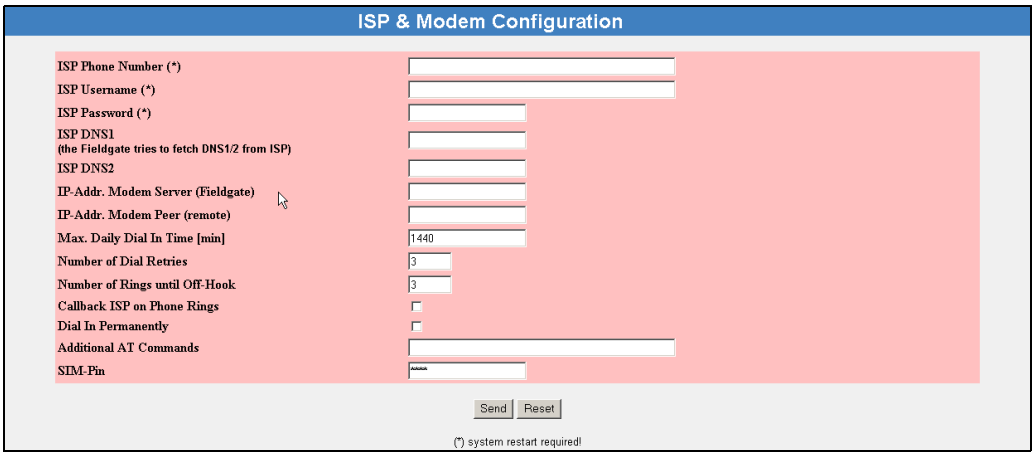
DNS (=Domain Name System) servers convert alphanumeric server data to IP addresses, e.g. **www.pcm.endress.com** to 62.128.16.123. This is required if you enter the name instead of the IP address for a server. You can get the address of your DNS server from your provider or from your system administrator. If you do not enter any information, you must use IP addresses when specifying servers.

DNS2

For safety purposes, a second DNS server can be entered here if DNS1 fails. This entry is not compulsory.

Caution!
IP addresses must be entered if no DNS server is configured. Names are not permitted!

10.3.2 ISP & Modem Configuration



L00-FXA520xx-20-13-00-en-174

Caution!
With the exception of the SIM PIN, the specifications of the following section are not relevant for GPRS operation of the Fieldgate GSM.

The Analog/GSM Fieldgate is capable of dialling into a central server.

This may be necessary for the following reasons:
- The Fieldgate should send an e-mail with the current measured values or alarm messages to a mail server
- The Fieldgate should compare its internal time against a central time server
- The Fieldgate should be reachable via an existing network, e.g. the Internet (dial-in to an Internet Service Provider)
- For security reasons, the Fieldgate should not take any calls but should, upon request (ring), dial into a configurable, trustworthy server/user (automatic call-back mechanism)

Caution!
If you do not want to use any of the four options described in your application, only the "**Number of Rings until Off-Hook**", "**Modem Country Selection**" (only analog version) and "**SIM PIN**" (only GSM version) points are relevant.

ISP Phone Number

Here, enter the dial-in number of the server which the Fieldgate should dial into due to one of the reasons mentioned above (e.g. the access number of your Internet Service Provider).

Caution!
When using the GSM version, special dial-in numbers of the Internet Service Provider should be used, which are provided especially for access via mobile communications. This saves on the costs for dialling into a public fixed network.

ISP Username (in the administrator mode)

Here, enter the user name, required for accessing the server, which you received from the server operator (e.g. ISP).

ISP Password (in the administrator mode)

Here, enter the password, required for accessing the server, which you received from the server operator (e.g. ISP).

ISP DNS1

Here, enter the IP address of the Domain Name Server which should be primarily used by the Fieldgate.
DNS (Domain Name System) servers convert alphanumeric server specifications intoIP addresses, e.g. **www.pcm.endress.com** to 62.128.16.123. This is essential if you enter the name, and not the IP address, for a server. You can get the address of your DNS server from your provider or your system administrator. If you do not enter anything here, you must use IP addresses when specifying servers.

ISP DNS2

A second DNS server can be entered here just in case DNS1 fails.It is not compulsory to enter anything here.

Caution!
If a DNS server is not configured, you must use IP addresses when specifying servers.Names are not permitted!Exception: The server used (e.g. ISP) transmits the addresses of the DNS servers during dial-in (common nowadays).

IP-Addr. Modem Server (Fieldgate)

Enter the IP address of the Fieldgate here (factory setting is 192.168.254.1).
If Fieldgates should be addressed with a modem interface via a network router, every Fieldgate which can be contacted in this way needs a separate IP address comparable with an Ethernet device. Users in a company network can easily contact the required Fieldgate by means of a router solution, for example by entering the IP address in the browser. The router automatically sets up a modem connection to the device.

IP-Addr. Modem Peer (remote)

You can enter an IP address at this location which is allocated to the caller when dialling up the Fieldgate (the factory setting is 192.168.254.2).

Max. Daily Dial In Time [min]

Here, the limit of the daily dial-in time to the specified server (e.g. Internet Service Provider) is entered. The initial setting is 1440 minutes (1 day) and this is also the maximum value. Any value can be entered.

Caution!
Adherence to the specified maximum dial-in time is not guaranteed if, due to faulty configuration (sensor, limit, ISP, e-mail settings), the device dials in periodically at short time intervals to the specified server. The exact dial-in time cannot be calculated exactly in the case of short transmissions occurring in quick succession. Therefore, particularly in the case of GSM devices, pay attention to the correct configuration of the device, as even dial-in attempts may result in charges.

Use Tone Dialing (otherwise Pulse) (analogue version only)

Here, you can choose whether the integrated modem of the Fieldgate should use tone or pulse dialling. The checkbox is activated as standard (a "**yes**" appears in user mode). Uncheck the checkbox if you want to use pulse dialling.

Wait for Dialtone

Activate the checkbox if the Fieldgate should first wait for a dial tone before dialling-in (operation with public telephone network). In the standard setting, the Fieldgate does not wait for a dial tone (operation with an internal telephone system).

Number of Dial Retries

Here, specify the maximum number of times the Fieldgate should retry dialling-in if no modem connection to the server (e.g. ISP) is established.
During each dial-in, the Fieldgate tries to establish a modem connection to the specified server for approx. one minute. If the server does not take the call during this time, the Fieldgate disconnects and, where applicable, tries to dial-in again.

Number of Rings Until Off-Hook

Here, specify the minimum number of rings the Fieldgate should wait for until it takes a call and the line is engaged. The maximum number of rings, however, is limited by the country setting " Modem Country Selection " of the integrated modem. If the value entered exceeds the maximum number of rings allowed in the particular country setting, the Fieldgate automatically adjusts the specified value to the maximum value permitted.
This setting is especially important if you operate the Fieldgate at a connection parallel to a conventional telephone (analogue version only).

Caution!
An exception arises when 0 is specified. In this instance, the Fieldgate does not take any calls/ does allow the connection requested by the opposite party.This setting can be used for the automatic call-back safety mechanism, whereby the Fieldgate dials into a configurable, trustworthy server/user on request (ring) – (automatic call-back mechanism). To use this mode, the "Callback ISP on Phone Rings" setting must be activated and, in addition, the dial-in number and the access data of the server must be specified (basically the first three points of this configuration section).

Callback ISP on Phone Rings

The Fieldgate has an integrated call-back mechanism for dialling into a central server whose dial-in number was specified under "ISP Phone Number". Activate the checkbox if you want to use this function.

The Fieldgate reacts as follows if the function is activated:
- The Fieldgate starts dialling into the specified server if, having detected at least one ring signal, another signal does not follow for ten seconds.
- If another ring signal is detected within this period, it waits for ten seconds again. This procedure is continuously repeated.
- If the number of rings specified under "Number of Rings until Off-Hook" is then exceeded (exception if number = 0), the call is accepted and, where necessary, a modem connection established with the opposite party.
- If no other ring signal is detected within the ten-second period, the Fieldgate starts dialling into the specified server.

Example:
The setting for "Number of Rings until Off-Hook" is 5 and the "Callback ISP on Phone Rings" option is activated. An Internet Service Provider has been specified as the server. The user can now ring the Fieldgate with a conventional telephone. If the user hangs up after a maximum of four rings, the Fieldgate dials into the Internet Service Provider. If the "Mail Configuration" section is completely configured and the "Mail assigned IP Address" option activated, the current IP address of the Fieldgate is sent to the user with the e-mail address specified under "Address Alarm Mails". The Fieldgate can then be reached worldwide in the Internet under this IP address (several users can now also access it simultaneously).

Dial In Permanently

If this option is activated, the Fieldgate tries to dial into the specified server permanently. The Fieldgate behaves as follows here:
- If the server connection is busy, the Fieldgate will keep starting dial-in attempts until dial-in is successful.
- If a connection between the Fieldgate and server is lost, the Fieldgate immediately starts new dial-in attempts until a new connection to the server has been successfully established.

This option can be used to permanently connect a Fieldgate to a server. For example, you can ensure that a Fieldgate installed in the field is always connected to the intranet/local network of a company via a company server (router) and thus can be reached by all those sharing the network.

Additional AT Commands

This setting is for designed for service only. Please do not alter the factory setting of the field.

SIM-Pin (only GSM version)

Enter the PIN of your SIM card here, or change the PIN of your card to the default value 8080.

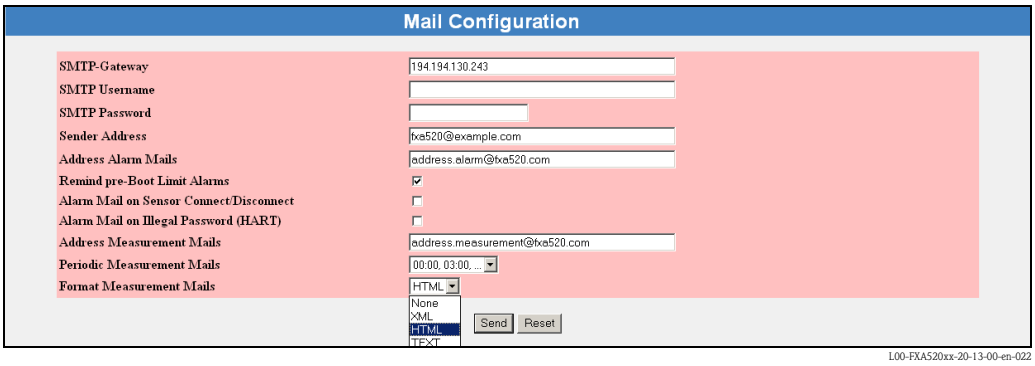
Modem Country Selection (only Analog version)

Differences between the telephone networks of different countries and telephone systems of different manufacturers mean that the settings of the integrated modem have to be adjusted. For this reason, select the country setting suited to your application from the drop-down list. The country settings refer to the specifications of public telephone networks.
When delivered, "United States" is set for the Fieldgate. This setting proves to be a functional basic setting in most countries.

Proceed as follows if problems arise with the current country setting:
- When using a public telephone connection:
  Dial the specific setting for your country if available.
- For telephone systems:
  Ask the manufacturer for the country specification followed (possibly try the country of origin of the manufacturer).
- No country setting is available for your country:
  The specification of the telephone network used corresponds to one of the country settings available, i.e. a country setting which can be selected covers the specification of the country of use. Contact your network operator or try out different country settings.

  For example, try the “Taiwan” setting for the following countries:
  Algeria, Belarus, Bolivia, Bosnia-Herzegovina, Brunei, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Jordan, Lithuania, Morocco, Nicaragua, Peru, Oman, Tunisia, Ukraine, Yemen

10.3.3 Mail Configuration



L00-FXA520xx-20-13-00-en-022

In this section, you can make all the settings for sending e-mails. If the Fieldgate is to send e-mails, a mail server which forwards the e-mails must be entered.

Caution!
If you have configured e-mail sending for "**Address Alarm Mails** ", "**Address Measurement Mails** " and "**Periodic Measurement Mails** ", you must check that mails are sent correctly. If configured incorrectly, the Fieldgate permanently tries to send the e-mails which can result in a very high telephone bill. If e-mailing is not working correctly, it is better to delete the "**ISP Phone Number** " (→ Chap. 10.3.2 "ISP & Modem Configuration" on Page 83).

SMTP-Gateway

Enter the IP address or the name (DNS required) of your mail server here.
If you have any questions, please contact your system administrator.

Test the e-mail delivery. It is best to do this without specifying an SMTP Gateway at first if you have configured the Fieldgate for dialling into an Internet Service Provider. In this case, mails for the analog/GSM version from the server (ISP) specified under "ISP & Modem Configuration" are forwarded directly or by the specified DNS to the mail server of the recipient. When using Ethernet, the mails are then forwarded accordingly by the specified gateway or one of the DNS servers. In some cases, this function is also supported by the mobile communications provider in GPRS operation (GSM version).

Sometimes it can happen that certain mail recipients receive messages here while others do not. Should this occur, use a mail server and enter the SMTP Gateway in the form of an IP address or a name (DNS required).

Authentication:
If you use an SMTP Gateway with authentication, the user name and password must be specified. Here, the Fieldgate supports the authentication methods LOGIN, PLAIN and CRAM-MD5.

SMTP Username

If authentication is required for the specified SMTP Gateway, you have to enter the user name here.

Caution!
If the SMTP Gateway does not request authentication or if no SMTP Gateway is used, nothing must be entered here.

SMTP Passwort

If authentication is required for the specified SMTP Gateway, you have to enter the password here.

Caution!
If the SMTP Gateway does not request authentication or if no SMTP Gateway is used, nothing must be entered here.

Sender Address

Enter the sender address of the Fieldgate here, e.g. **fieldgate@company.uk**. This address appears in the sender field. Depending on the mail server used, this field can have any name or must correspond to a valid account. Ask your system administrator.

Note!
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.

Address Alarm Mails

Enter the recipient of the alarm mails here, e.g. **name@company.uk**.
The recipients entered here receive all messages defined as alarms and limit e-mails, which have been configured under "Mail on Limit Alarm" and "Mail on Alarm Reset".
The e-mail address(es) under ""only receive e-mails if the set limit values are exceeded or undershot (the format is always TEXT).

Remind pre-Boot Limit Alarms

The Fieldgate conducts checking of the current measured values with the configured limit values after every restart if you have activated limit value violation reporting for a channel, for example when the power supply is interrupted. If, after a restart, one of these limit values is undershot or exceeded, an alarm mail or alarm SMS is always sent to the recipient for the respective channel when the equipment is in the delivered condition (no ticks made), even if this alarm condition already arose before the restart and was also reported by mail/SMS. This also happens when the current measured value has not changed compared to the measured value before the restart. Thus the situation can arise where a number of alarm messages are sent regarding one limit value violation, namely before and after the restart.
It is possible to change this behaviour by ticking the box to the extent that the Fieldgate can remember previously sent limit value messages and suppresses sending any further messages. This behaviour is as follows:

- The measured value is stored in a non-volatile memory at the point in time of the violation if a limit value violation takes place while operating. Alarm messages are then sent as an e-mail or SMS depending on the configuration.
- Once the device is restarted the current measured value is compared with the last stored limit value violation. No limit value violation is assumed if the current measured value lies within the limit value range of the stored value and thus no alarm message is sent. If no limit value violation occurred before the restart of the device, an alarm is sent as usual when the current measured value undershot or exceeded a limit value.

Caution!
- No alarm message is sent in this mode if a restart of the system takes place before storing or determining the limit value violation and before the device could send an alarm message (for example due to interruption of the power supply).
- The Fieldgate is not capable of testing whether the recipient really received the alarm message.
- The user is responsible for the correct mail/SMS configuration.

Alarm Mail on Sensor Connect/Disconnect

If you activate this checkbox in the administrator mode (a "**yes**" appears in the user mode), an e-mail is sent as soon as the Fieldgate is no longer in contact with the device. The measured value last determined is sent in another e-mail. Two other e-mails are sent as soon as contact is reestablished – one to confirm the connection and the other with the current measured value.

Alarm Mail on Illegal Password (HART)

Activate this check box in administrator mode ("**yes" appears in user mode)**if you want to be informed about failed login attempts. When using Fieldgate GSM, SMS messages are also sent accordingly if the function under "SMS-Configuration" is activated.

Mail assigned IP Address (analogue version only)

Analogue/GSM version

The Fieldgate Analog is able to dial into a central server (→ Chap. 10.3.2 "ISP & Modem Configuration").
Once the Fieldgate has dialled into the server specified, it receives an IP address from the server. If the Fieldgate dials into an Internet Service Provider, it receives a dynamic IP address of the worldwide Internet, for example, from this provider.
If you activate the checkbox, the IP address currently assigned is sent to the e-mail address specified under "Address Alarm Mails"(→ Chap. 10.3.8 "Dynamic DNS Settings" on Page 97).

GPRS Mode (GSM Version):

In GPRS mode the Fieldgate is assigned an IP address by the provider. This IP address may be altered at undefined time intervals. Here, the newly assigned IP address can be reported by e-mail.

Ethernet version:

If DHCP is used for the Ethernet version, an IP address is assigned to the Fieldgate by the DHCP server. This IP address may be altered at defined time intervals. The newly assigned IP address is always reported automatically by e-mail. It is not possible to deactivate this function.

Address Measurement Mails

Enter the recipient of the measured value mails here, e.g. **name@company.uk**.

Periodic Measurement Mails

From this drop-down field, select the time interval after which the measured value is transmitted per e-mail.

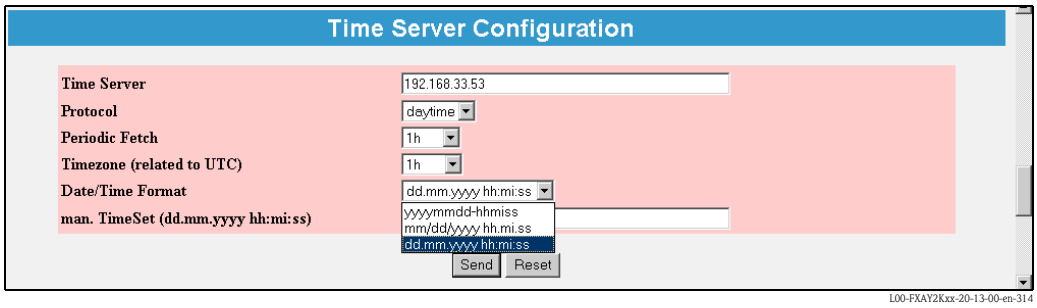
Format Measurement Mails

Set the format of the e-mails here. You can choose between three formats:

- None – with this option, you do not get any measured value mails.
- HTML – for HTML display similar to the overview page.
- XML – for an e-mail formatted as XML.
- Text – for an e-mail created in text format. The remarks entered in "Fieldgate Location" subfunction the are added to the e-mail.

Note!
Alarm mails are always sent in text format.

10.3.4 Time Server Configuration



With the aid of a time server, the Fieldgate automatically synchronises its time with the time of the configured server. An Internet connection or a time server in the local network is required for this. If you have any questions, please contact your system administrator.

Time Server

Enter the name or the IP address of the time server here.

You can find public NTP servers under:
- "**http://www.eecis.udel.edu/~mills/ntp/servers.htm**"

or

- "**http://www.google.de/search?q=public+ntp+servers**"

Protocol

Set the protocol used by the time server here:
- HTTP (standard-port: 80)
- SNTP (standard-port: 123)
- TIME (standard-port: 37)
- DAYTIME (standard-port: 13)
- MAN -> Manual time setting

The time server operator can tell you the protocol the server uses. Normally SNTP and TIME servers are used.

Periodic Fetch

Time interval after which the internal clock is resynchronised with the time server.

Analogue / GSM version:

In the modem versions Periodic Fetch“ is performed in accordance with the set time interval only if the Fieldgate is, for example, connected with the internet via an ISP (e.g. for the sending of e-mails or DynDNS requests). The internal clock is then resynchronised with the specified time server. If the Fieldgate is never connected to the internet, the internal clock cannot be synchronised.

GPRS mode (GSM version):

In GPRS mode Periodic Fetch“ is performed in accordance with the set time interval because a permanent internet connection is available.

Timezone (related to UTC)

Here, an offset from the UTC time can be entered.

Date/Time Format

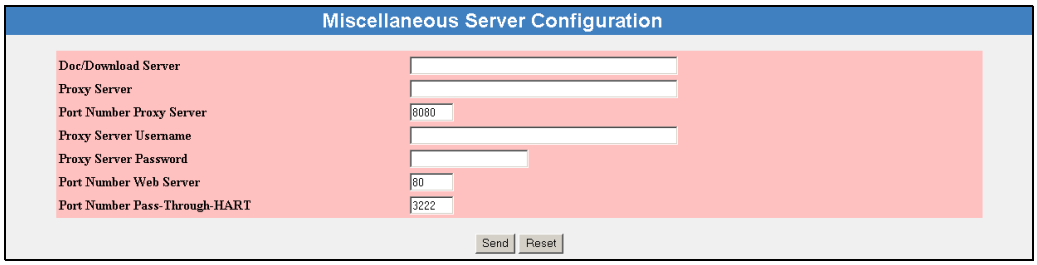
Here, the date and time format can be selected.

man. TimeSet (dd.mm.yyyy hh:mi:ss)

If no time server is available, the time can be set manually here.
When setting, select the "manual" protocol beforehand.

Caution!
After the Fieldgate is switched off, the manually set time is lost.

10.3.5 Miscellaneous Server Configuration



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In this section, you can make further server settings.

Doc/Download Server (in preparation)

Enter the server which contains software updates and documentation (e.g. on-line help) here. If you leave this field empty, you cannot access the on-line help.

Proxy Server

If the Fieldgate is operated in a network with a proxy server, enter the proxy server here.

Port Number Proxy Server

Enter the port number of your proxy server here. This is "**8080**" as standard. Ask your system administrator.

Proxy Server Username

If the proxy server in use demands authentication, enter the user name here.

Proxy Server Password

If the proxy server in use demands authentication, enter the password here.

Test Connection Server

With GPRS operation there is the possibility of checking the Fieldgate connection to the Internet by periodically contacting a server on the Internet once every hour. Enter the address of the required Internet server for the test connection here (e.g. "www.endress.com"). If the connection to the test server fails, a new connection attempt is started after approx. 10 minutes. If the second connection attempt also fails, the Fieldgate disconnects from the GPRS network and then tries again to connect to the GPRS network.

This periodic test connection should be used in the following case:

- Sometimes the Fieldgate does not disconnect from the GPRS network in the usual way and, after longer waiting periods, can no longer be contacted using the current IP address and can be contacted again only after a reset. In this case, ensure that you check the connection to the Fieldgate using the latest IP address of the Fieldgate. When using dynamic DNS services, please also ensure that the dynamic DNS service works correctly and has received the latest IP address from the Fieldgate (see "Dynamic DNS Settings" on page 97).

The Fieldgate is verifiably connected to the GPRS network. However, it can no longer be contacted within acceptable waiting times using the current IP address.

In this case, the setting up of the test connection server ensures that the Fieldgate itself notices a disconnection from the Internet within 1.5 hours at maximum and then establishes a new GPRS connection.

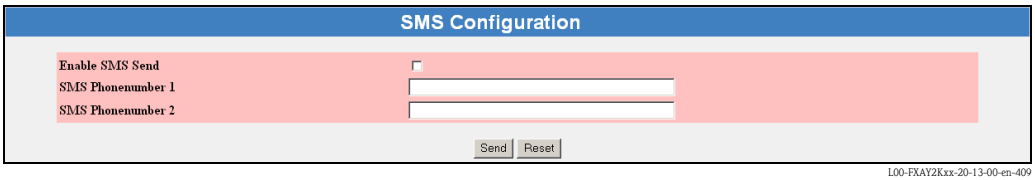
Port Number Web Server

Enter the port number of the web server here. This is "**80**" as standard. Normally, this should not be changed.

Port Number Pass-Through-HART

Here, enter the port number via which you can configure the connected devices per Telnet. The default value = 3222 should be kept unless this is blocked by the firewall.

10.3.6 SMS Configuration



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Enable SMS Send

When the control box is activated, alarm e-mails are sent via SMS.

SMS Phonenumber 1

In order to be able to receive SMS, enter an SMS telephone number.

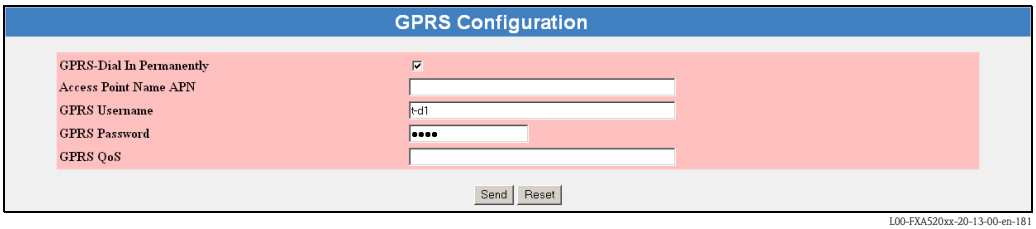
SMS Phonenumber 2

Enter another SMS telephone number here if, for example, you want somebody else to be informed as well.

Note!
Measured values cannot be sent periodically via SMS.

Note!
The SMS function is not available while the Fieldgate is connected to a server via a dial-in connection and when using the permanent GPRS mode. SMS messages may be sent at a later stage after a server connection has been broken off or the GPRS mode has been deactivated.

10.3.7 GPRS Configuration



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GPRS (General Packet Radio Services) is a mobile communications technique, which exploits the advantages of packet-oriented data transmission and channel bundling.
Different from normal GSM connections, no complete channel is reserved for the duration of the connection between the mobile device and the basis station, rather the data is packed into packets, which can be sent depending on requirement and capacity. Data transmission in packets enables not only greater transmission rates but also Always-on-operation. The Fieldgate is thus permanently in a position to connect to the Internet, an Intranet or a mailbox, whereby data is only transferred as required if a new e-mail is sent or a new Internet page is called up. Here, you are only charged for the amount of data actually transmitted (and not for connection time).
The GPRS mode of the Fieldgate GSM thus offers the easiest and most cost-effective option for connecting a measuring point permanently to the Internet or an Intranet. Thanks to Always-on-operation, the WAP functions (→ Chap. 12) of the Fieldgate can also be used easily and cost-effectively.

Note!
Support for WAP interrogation to the Fieldgate in GPRS mode is not offered by every provider. The Fieldgate cannot compose an SMS in this mode.

GPRS-Dial In Permanently

The GPRS function can be switched on by activating the check box. After this, the Fieldgate permanently attempts to connect to a specified mobile Internet Access Point (APN) via GPRS. Previously saved connection parameters are used for this.

The following are some of the connection parameters:
- Access Point Name or APN, the name of the mobile Internet access point of the mobile communications provider
- User name for the mobile Access Point
- Password for the mobile Access Point
- GPRS Quality of Service QoS Parameter

In most cases, GPRS connection parameters are already pre-configured on the SIM card, merely GPRS user name and password still have to be specified in part. For questions regarding this, please ask your mobile communications provider.

If you cannot access the Fieldgate in GPRS mode, it is possible to deactivate the GPRS operation via modem dial-in. To do this, proceed as follows:
- Continue to dial into the Fieldgate using a modem until the connection is accepted. Afterwards, the connection should be broken off immediately. At the first attempt, the connection is not established in the usual way, as the device is still in GPRS mode. Ideally, the device now switches to Ready-to-receive mode for modem connections. You should now wait up to 2 minutes before trying to dial in again.
- For approx. 5 minutes it is now possible to establish a direct modem connection to the Fieldgate. During this time the Fieldgate can also send SMS messages.
- If a modem connection is established within these 5 minutes, GPRS mode is deactivated until the specified control box is switched on again.
- If no modem connection is established within these 5 minutes, the Fieldgate switches back into GPRS mode and connects to the configured Access Point (APN).

Note!
If necessary, the specified procedure must be repeated several times in order to establish a successful connection to the Fieldgate. The specified procedure applies in this form only to Fieldgate FXA520.

Access Point Name APN

The Access Point of the mobile communications provider constitutes the GPRS Gateway to the Internet or Intranet for the Fieldgate. Enter the name of the Access Point here, which you receive from your mobile communications provider or leave the input field empty if the Access Point Name pre-configured on the SIM card is to be used.

Caution!
Not all APNs of the mobile communications providers are suitable for transparent Internet access, some only offer a limited number of information pages within the operator network, meaning that the Fieldgate is not assigned a public Internet address. The Fieldgate can then only be reached within the private mobile communications network. In order for you to be able to access the Fieldgate via the Internet, the device has to have a public Internet address assigned to it by the provider. If you have any problems, ask your provider for an Access Point, which assigns public IP addresses to GPRS participants when you log in and change the name and access parameters, if necessary.

Note!
After every log-in, a new dynamic IP address is assigned to the Fieldgate, under which it can be accessed, for example, on the Internet. The allocated address must be known to the user in order be able to access the Fieldgate. (see Mail Assigned IP Address, Dynamic DNS Settings)

In the following table, the Access Point Names of the German mobile communications providers are listed as examples:

Internet	**T-Mobile (D1)**	**Vodafone**	**E-Plus**	**o2 Germany**
Access Point Name APN	internet.t-d1.de	volume.d2gprs.de	internet.eplus.de	internet
IP-Adresse	dynamisch			

Other Internet service provider settings can be found in chapter "Network parameters for GPRS connections" on P. 179.

GPRS Username

Some providers request authentication from the participant in the form of a user name and password for using the GPRS Access Points. This information must always be entered into the fields intended for this purpose, there are no default values stored on the SIM card for this. You can find out from your mobile communications provider which information needs to be entered here.
In the following table, the user name specifications for authentication to the stated Access Points of the German mobile communications providers are listed as examples:

Internet	T-Mobile (D1)	Vodafone	E-Plus	o2 Germany
Benutzername	td1[1]	-	eplus	-

1) A user name and password must be entered. What is used for this is, however, irrelevant.

Other Internet service provider settings can be found in chapter "Network parameters for GPRS connections" on P. 179.

GPRS Password

In the following table, the password specifications for authentication to the stated Access Points of the German mobile communications providers are listed as examples:

Internet	T-Mobile (D1)	Vodafone	E-Plus	o2 Germany
Passwort	gprs[1]	-	gprs	-

1) A user name and password must be entered. What is used for this is, however, irrelevant.

Other Internet service provider settings can be found in chapter "Network parameters for GPRS connections" on P. 179.

GPRS QoS

The specifications under GPRS QoS define the required quality of the connection to the GPRS provider. When logging in to the GPRS provider, the Fieldgate can request a certain connection quality and specify a minimum quality for the connection. If the provider cannot fulfil the minimum quality criteria, no connection is made.
In most cases, standard values are stored on the SIM card and no specifications have to be made. Ask your mobile communications provider about this.
In the following table, the standard values of the German mobile communications providers are listed as examples:

Internet	T-Mobile (D1)	Vodafone	E-Plus	o2 Germany
Default QoS	3; 4; 3; 0; 0	3; 4; 3; 7; 31	2; 4; 3; 9; 31	2; 4; 3; 4; 31

Other Internet service provider settings can be found in chapter "Network parameters for GPRS connections" on P. 179.

10.3.8 Dynamic DNS Settings

In many applications, the Fieldgate has a dynamic IP address assigned to it if it is connected via a provider to the Internet or via a company router to an Intranet. Dynamic IP addresses change frequently, a new address is usually assigned each time you dial in or log in. The user requires this IP address in order to be able to access the Fieldgate, e.g. with an Internet browser.

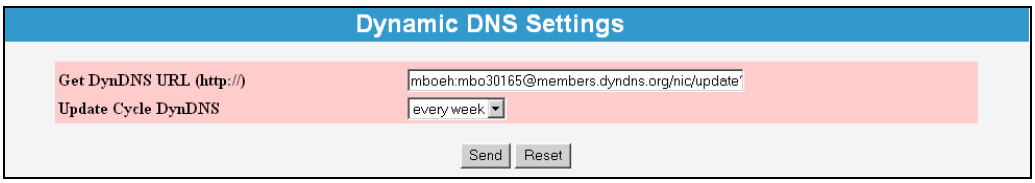
There are basically the following options for finding out the current IP address of the Fieldgate:
- The Fieldgate sends a mail to the user (see "Mail assigned IP Address")
- The user reads the assigned address on-site with the service cable (see "Modem-Log")

The options mentioned are however somewhat inconvenient and difficult to use. The dynamic address management offers a simple solution by using a Dynamic Domain Name Service (DynDNS or DDNS). Here, the Fieldgate is assigned a fixed name (Domain Name), under which it can always be reached in future. DNS servers translated Domain Names into the valid IP addresses, DDNS servers can also manage dynamic addresses.

Get DynDNS URL (http://)

Every time you dial into the Internet, the Fieldgate has to inform the DDNS server of its current IP address. For this, a HTTP-Get-Request is sent to the DDNS server and must be specified under "Get DynDNS URL (http://)". The composition of the Get-Request is dependent on the DDNS provider used.

A known provider for this is, for example, www.DynDNS.org. Here, the request is composed as follows:
http://username:password@members.dyndns.org/nic/update?system=dyndns&
hostname=**yourhost.ourdomain**.ext
myip=
Example:
mboeh:mbo30165@members.dyndns.org/nic/
update?system=dyndns&hostname=FXA520PT01.ath.cx&myip=



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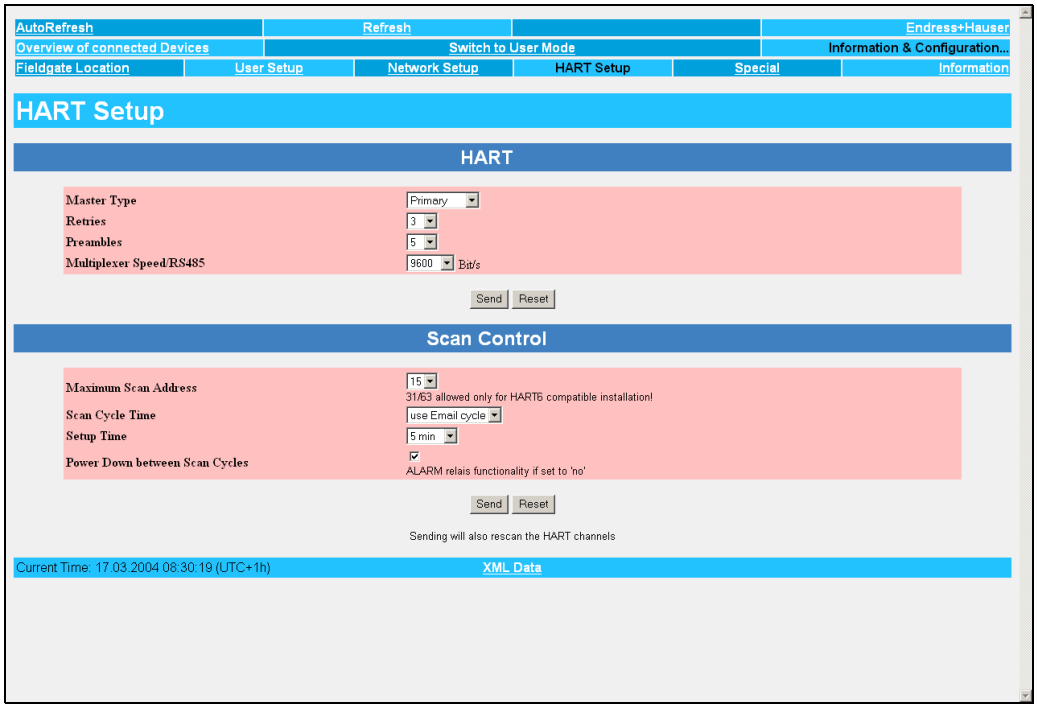
Update Cycle DynDNS

Various DDNS providers stipulate that the Fieldgate not only report to the DDNS server with the current IP address once per Internet dial-in, rather cyclically, for example every half an hour, once a day or once a week. The provider www.DynDNS.org does not require cyclic notification. Set the required value here.

Note!
The dynamic DNS function only functions with DynDNS providers which can receive current IP addresses on the basis of the HTTP-Get-Request described above.

10.4 "HART Setup" subfunction



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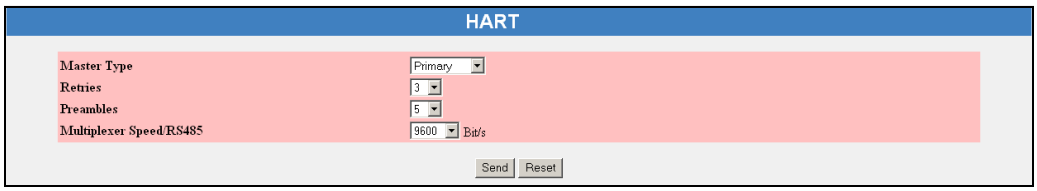
In this section, you can configure the parameters for the HART communication of the Fieldgate with the connected devices.

10.4.1 HART



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In this section, you can configure the HART interface parameters.

Note!
Generally, these values should not be changed. Approx. 1 second update time is required for every measured value in the overview.

Master Type

Select the master type – primary or secondary.

Retries

Here you can view the number of retries in the event of failed attempts to connect on the HART bus. "**3**" is the standard.

Preambles

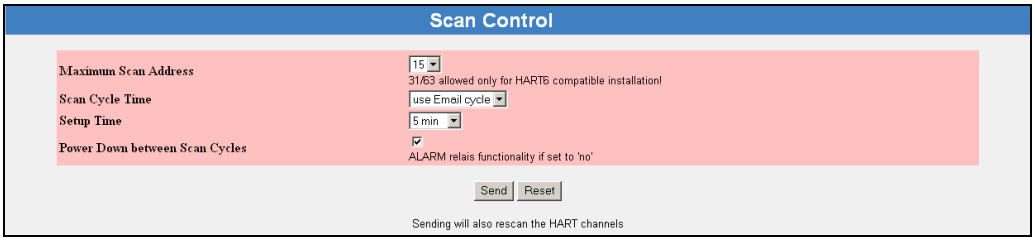
Here you can view the number of preambles. "**5**" is the standard.

Multiplexer Speed/RS485

Select the interface speed. If problems arise, set the speed to **9600 bit/s** (factory setting). The speed values must be the same for the Fieldgate and multiplexer (max. 38400 bit/s).

Note!
The same data transmission speed (= baud rate) must be set in the Fieldgate and multiplexer.

10.4.2 Scan Control



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In this section, you set the scan options for determining the measured value.

Maximum Scan Address

Select the number of addresses to be scanned per channel. "**15**" is the standard for HART5 (up to 63 for HART6). Only change this value if you operate over 15 devices on one channel.

Scan Cycle Time

Here, set how often the measured value should be determined. Choose between continuously and up to one day.
You can set the update time using the periodic e-mail sending cycle. To do so, select "**use E-mail cycle**". In this case the measurement is not started until shortly before the next periodic e-mail so that the measured values in the e-mail are always up to date. In between e-mail times the connected sensors are in power down mode.

Setup Time

Once the sensors have been powered up, it is necessary to wait a set amount of time until a stable measured value can be determined. This is known as the "**Setup Time**". Here you set the time which is required at maximum for the slowest measurement after powering up again or which is determined by the slowest connected sensor.

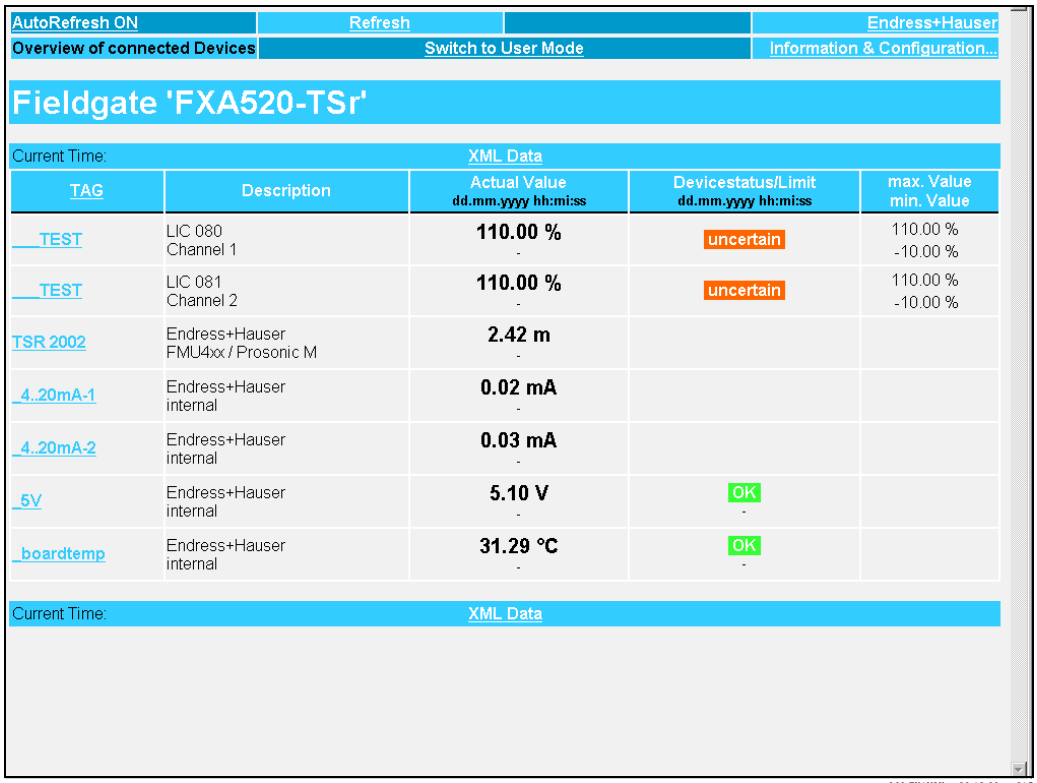
Power Down between Scan Cycles

If you enable this checkbox in the Administrator Mode (a "**yes**" appears in the User Mode), the integrated all-or-nothing relay is opened between two measurements ("Scan Cycle Time") ("Power Down Mode). If the checkbox is not enabled, the relay is de-energised in an alarm status.
This function can be used to switch off the sensor power supplies between the measurements in order to save energy, e.g. for self-sufficient applications (Power Down Mode).
In addition, in the solar version the sensor power supply of the FXA320 is deactivated for both channels between the scan cycles. This may eliminate the use of additional relays for switching off connected sensors.

10.5 "Special" subfunction

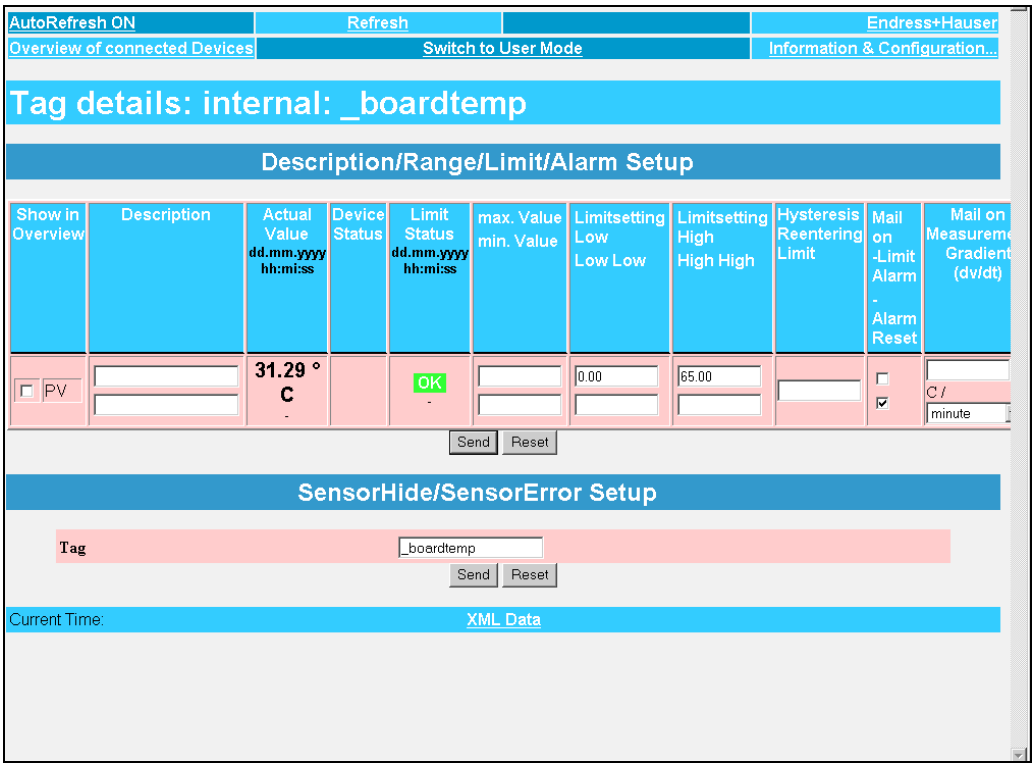
With this function, the tags are displayed for the 4...20 mA inputs and internal sensors (if these were hidden). The following examples explain how you can activate/deactivate the display of the 4...20 mA inputs and the internal sensors (board temperature and board voltage).

Example for deactivating the display



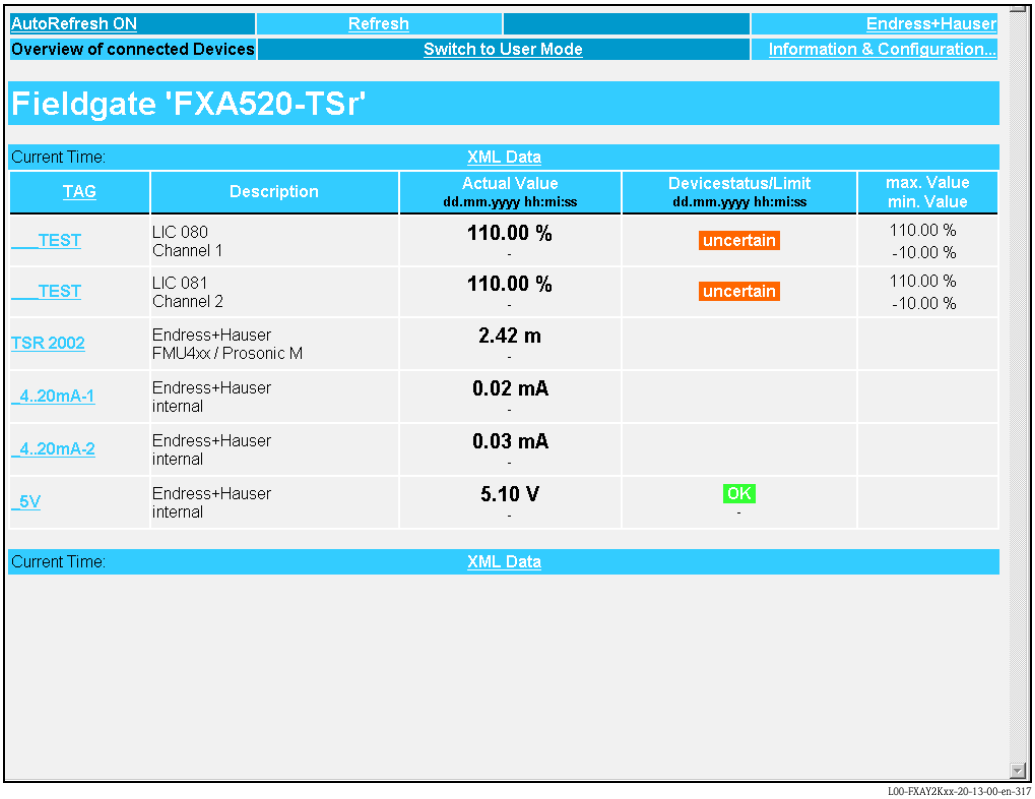
L00-FXAY2Kxx-20-13-00-en-315

1. Left-click the tag name "**Board Temp**", for example.
2. Switch to administrator mode.



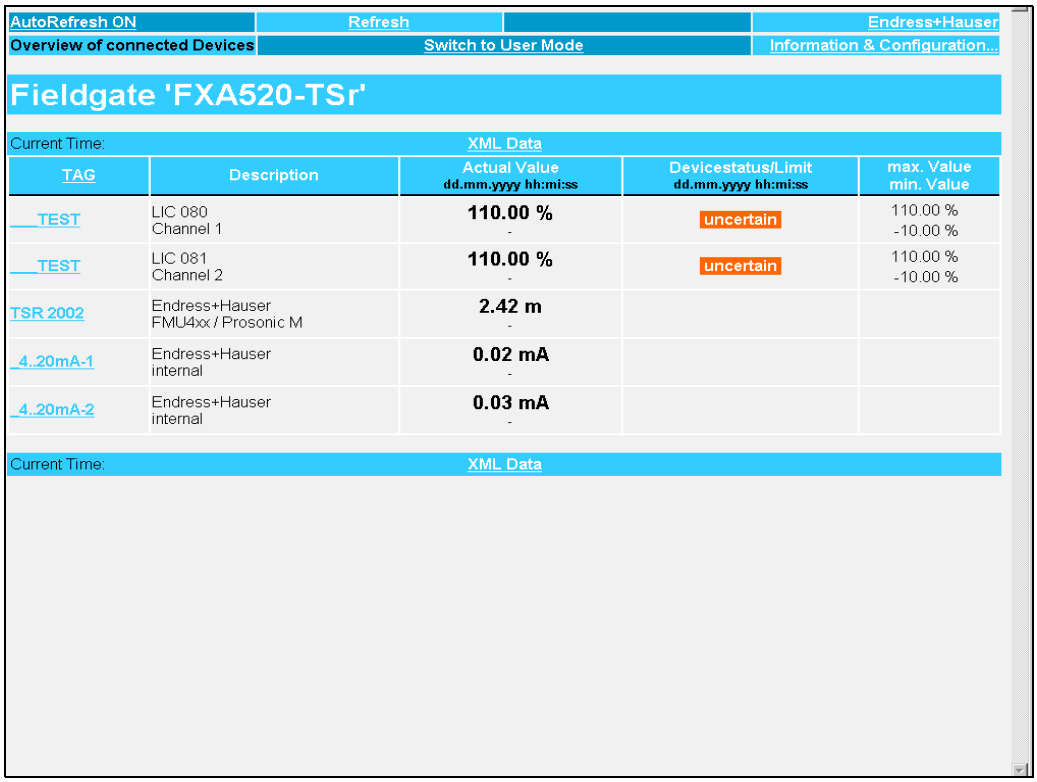
L00-FXAY2Kxx-20-13-00-en-316

3. Deactivate the checkbox for "**Show in Overview**" and click "**Send**" to confirm this setting.
4. The display of the internal sensor e.g. "**Board Temp**" is thereby deactivated and is no longer displayed in the user interface.



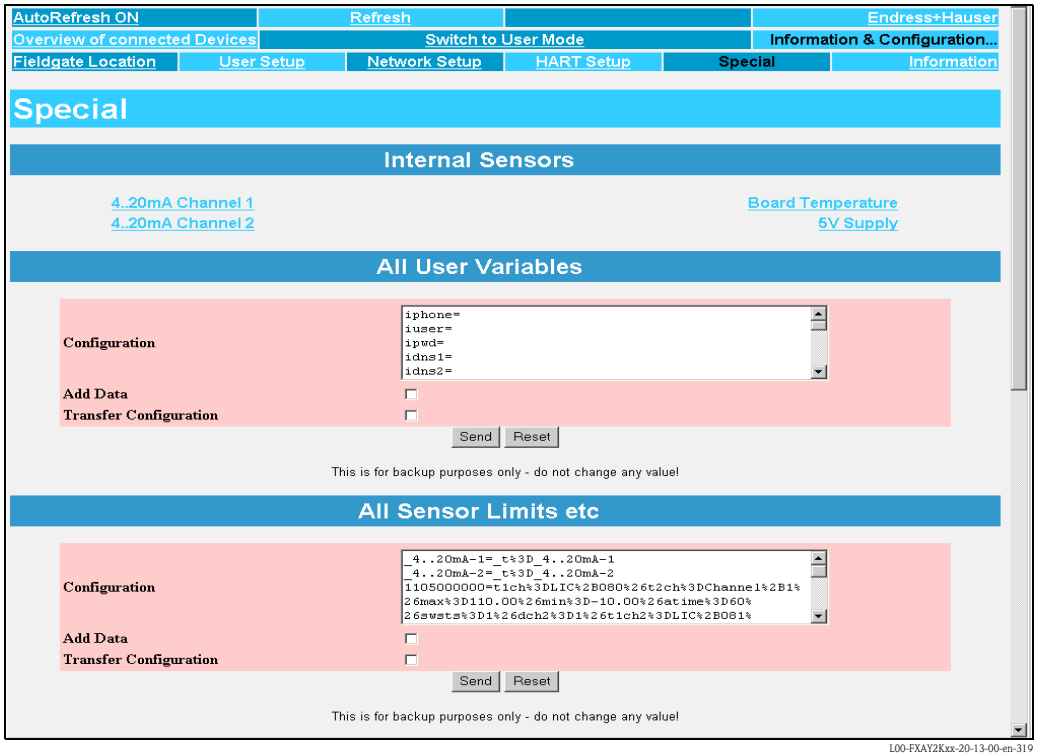
L00-FXAY2Kxx-20-13-00-en-317

Example for activating the display



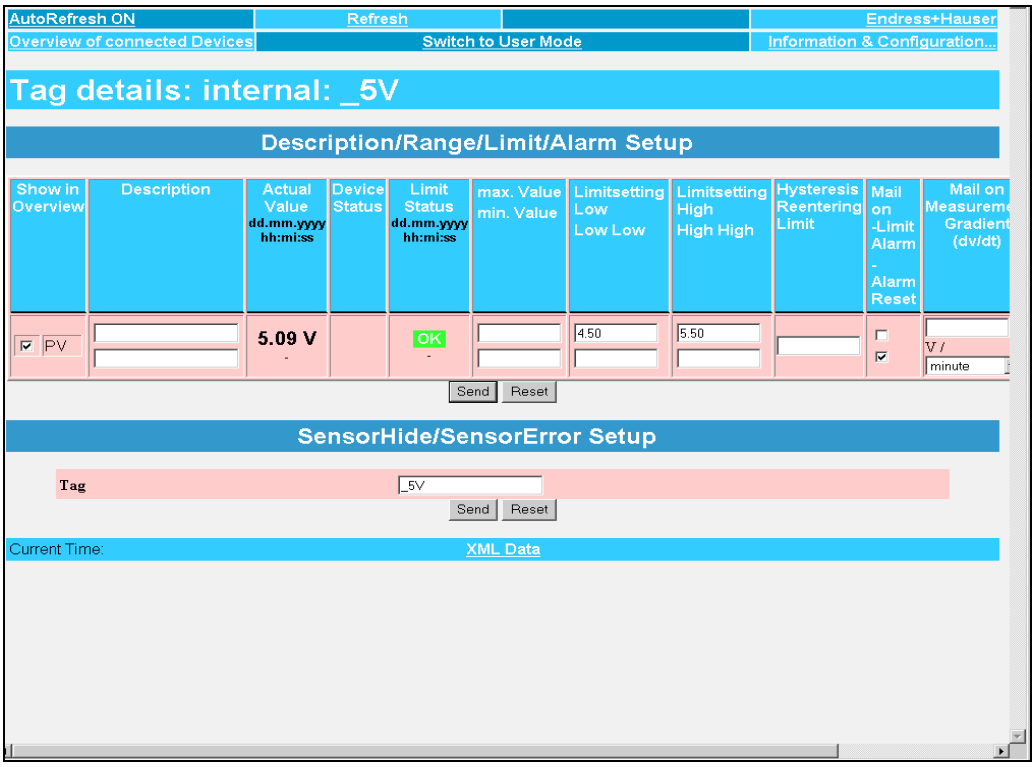
L00-FXAY2Kxx-20-13-00-en-318

1. Switch to administrator mode.
2. Switch to the "**Information & Configuration ➜ Special**" function



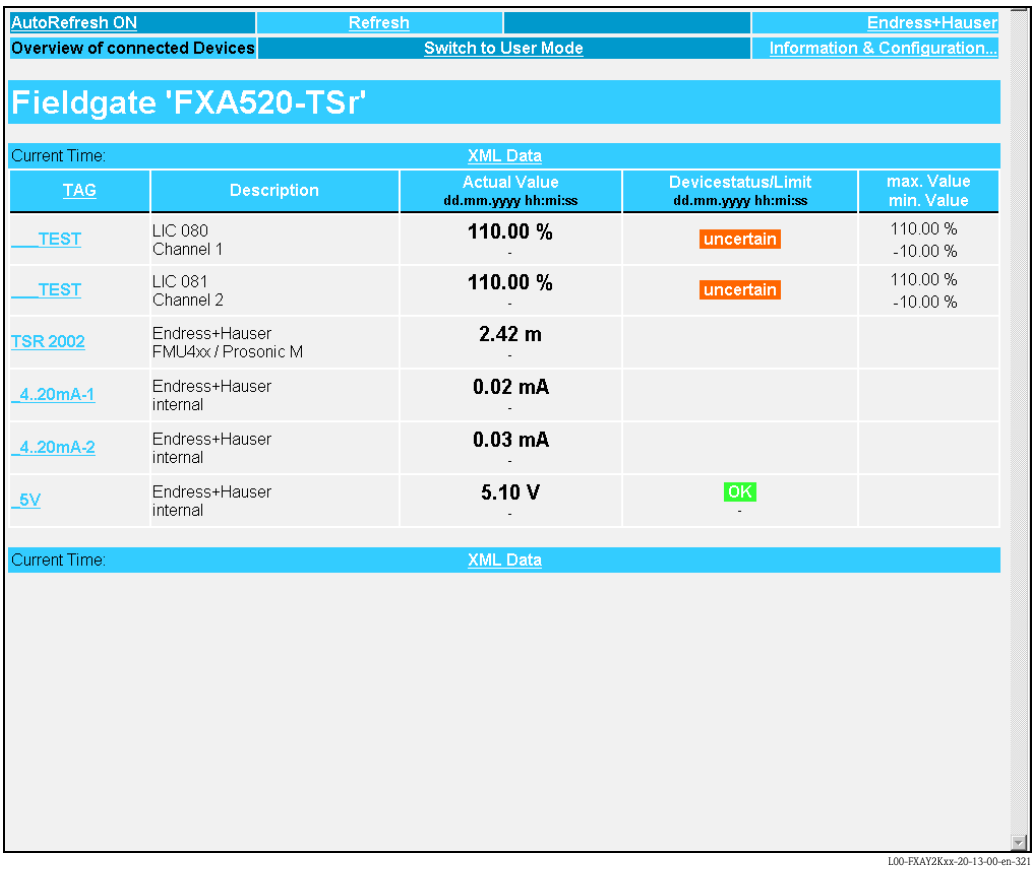
L00-FXAY2Kxx-20-13-00-en-319

3. Using the left mouse button, select one of the 4...20 mA inputs or an internal sensor e.g. "**5V Supply**" for the board voltage.



L00-FXAY2Kxx-20-13-00-en-320

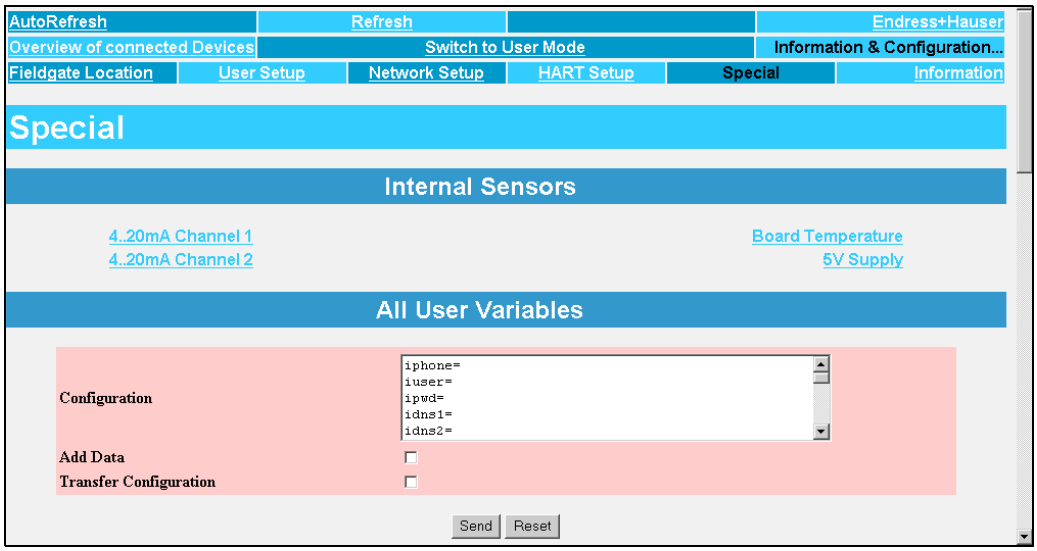
4. Activate the checkbox for "**Show in Overview**" and click "**Send**" to confirm this setting.
5. The display of the internal sensor e.g. "**5V**" is thereby activated and is displayed in the user interface.



L00-FXAY2Kxx-20-13-00-en-321

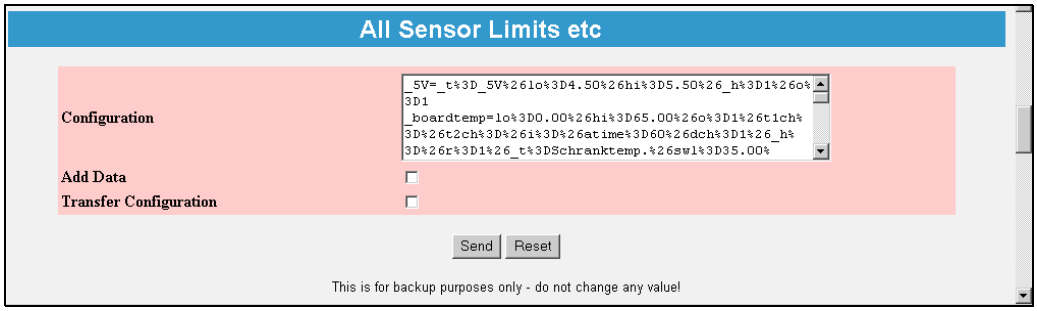
Example of display in administrator mode

In the administrator mode, the entire configuration, saved as text on this page, is also available.



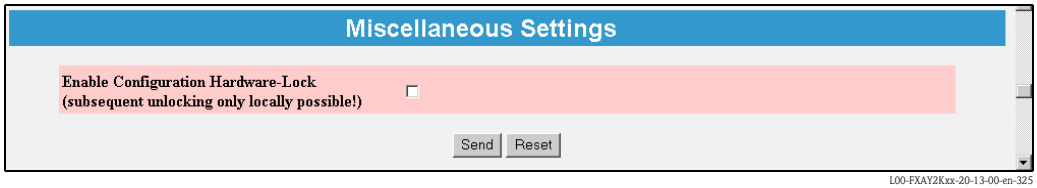
L00-FXAY2Kxx-20-13-00-en-413

Caution!
Do not change anything here! These data are for back-up purposes.



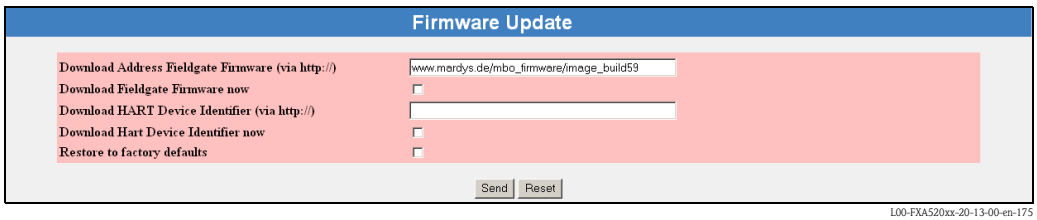
L00-FXAY2Kxx-20-13-00-en-324

Caution!
Do not change anything here! These data are for back-up purposes.



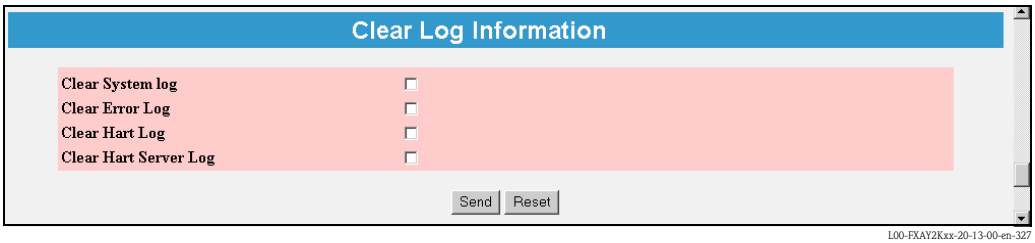
L00-FXAY2Kxx-20-13-00-en-325

For activating the on-site hardware lock, see → Chap. 11.



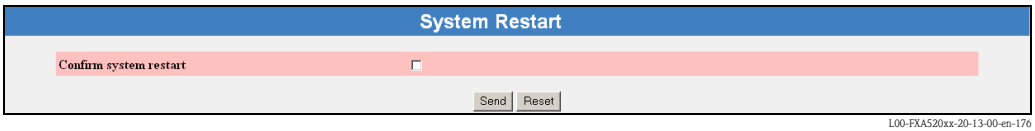
L00-FXA520xx-20-13-00-en-175

Caution!
Do not change anything here! These data are for back-up purposes.



L00-FXAY2Kxx-20-13-00-en-327

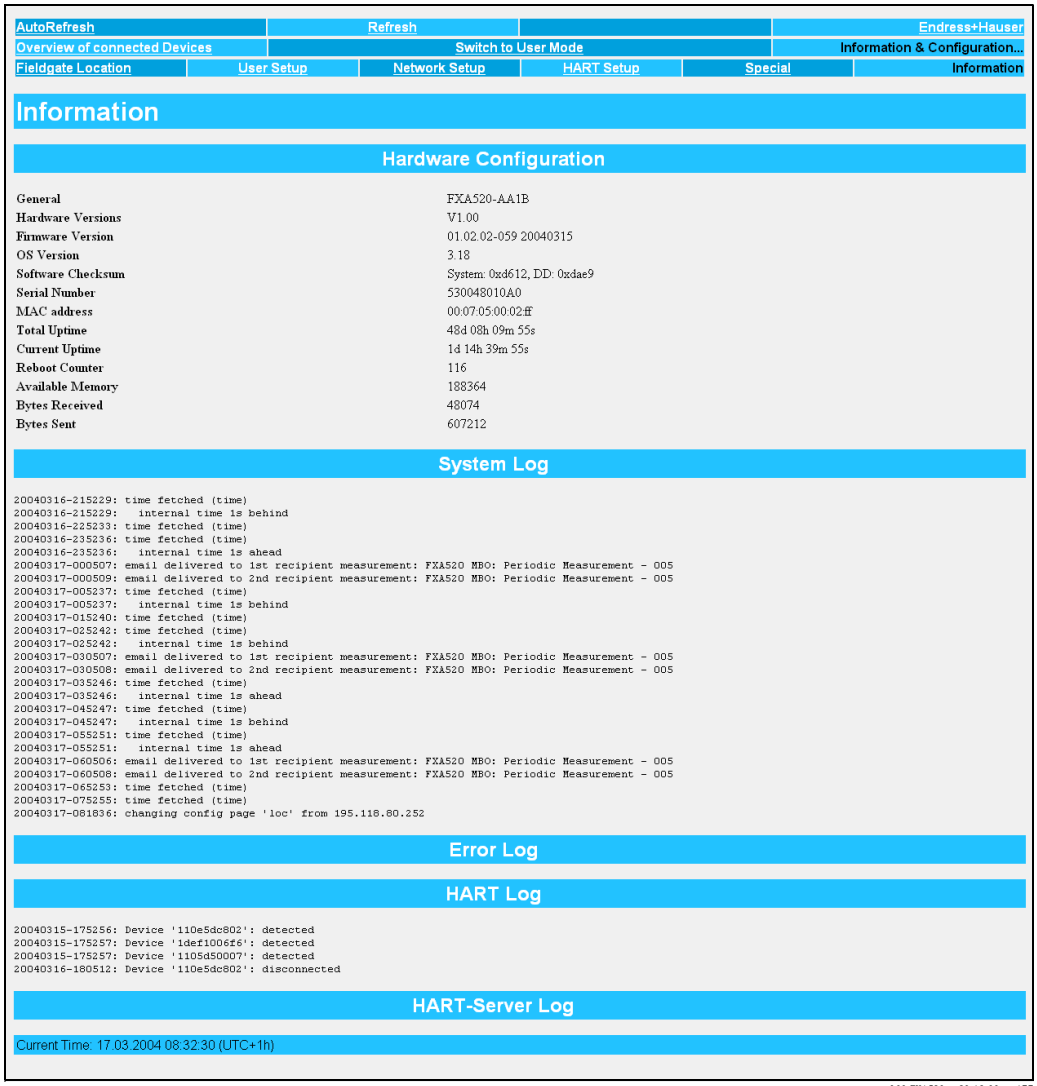
When the individual control boxes are activated, the log files, which are described from → Chap. 10.6.2 onwards, are deleted.



L00-FXA520xx-20-13-00-en-176

When the control box is activated, the Fieldgate software is restarted.
This function takes about 20 seconds. All current connections are interrupted by the system restart and must be set up again, if necessary (analog, GSM, PC cable). Existing connections may need to be closed first.

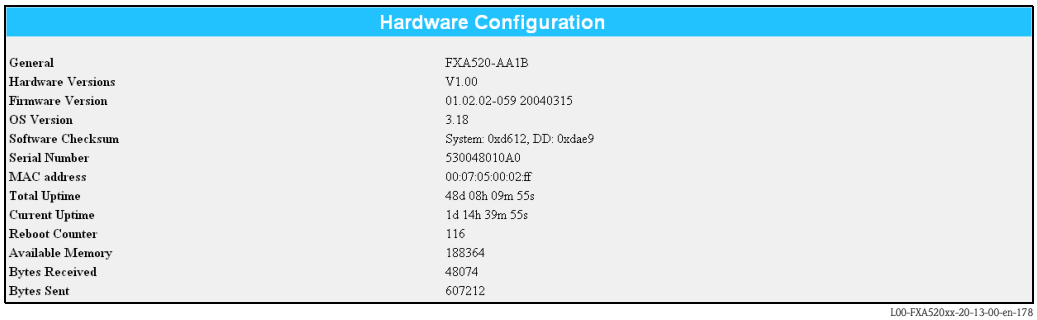
10.6 "Information" subfunction



L00-FXA520xx-20-13-00-en-177

In this section, you receive the current hardware configuration, system run times and log files.

10.6.1 Hardware Configuration



L00-FXA520xx-20-13-00-en-178

In this section, you receive an overview of the hardware configuration.

General

The complete product designation of the Fieldgate (see nameplate) is displayed here.

Hardware Versions

The hardware version of the Fieldgate is displayed here.

Firmware Version

The firmware version of the Fieldgate is displayed here.

Software Checksum

The software checksum can be used to check whether the software in the device has been transmitted without error.

Operating System

Version of the operating system used.

Serial Number

The serial number of the Fieldgate is displayed here.

MAC Address

The unique Ethernet MAC address of the Fieldgate is displayed here (only with Ethernet version).

Total Uptime

The total system run time (= operated hours counter) is displayed here.

Current Uptime

The system run time since the last restart or power up is displayed here.

Reboot Counter

The number of reboots caused by restarting and switching on the Fieldgate is displayed here.

Available Memory

The memory still available in the Fieldgate is displayed here in bytes.

Bytes Received

Number of bytes received of the Fieldgate.

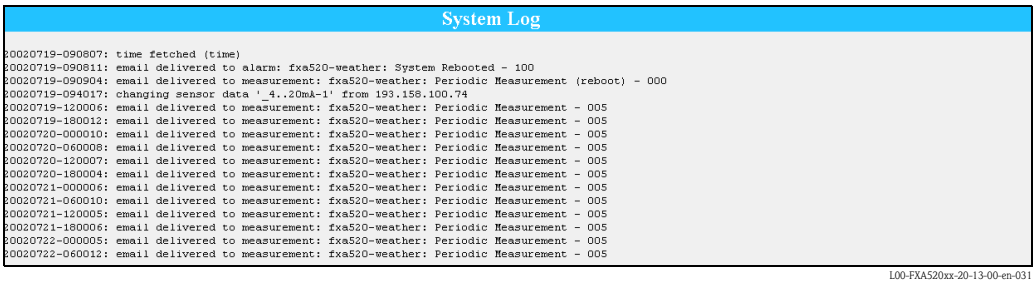
Bytes Sent

The number of received/sent bytes of the Fieldgate is displayed here. It is a way of measuring the frequency of access.

IMEI number (only for GSM version)

Stands for **I**nternational **M**obile station **E**quipment **I**dentity and denotes a type of serial number for the GSM end device in use, from the point of view of the mobile communications provider. The mobile communications network can use the IMEI number to identify a particular device each time it dials in and to enable or disable it with regard to particular functions.

10.6.2 System Log

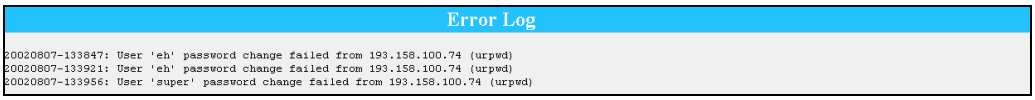


L00-FXA520xx-20-13-00-en-031

This section displays all the activities since the last start, e.g. e-mail delivery, time fetch, alarms, etc. Up to 25 lines are displayed. After switch-off, these data are gone.

System log message	Description
changing config page '<page-name>' from <ip-addr>	A configuration page has been changed from the IP address indicated Possible <page-name>s: ■ loc: Fieldgate Location ■ user: User Setup ■ if: Network Setup ■ hart: HART Setup ■ special: Special ■ info: Information
changing sensor data '<device-id>' from <ip-addr>	Field device date have been changed from the IP address indicated
DHCP: got ip address '<ip-addr>'	Ethernet: an IP address has been assigned to the Fieldgate by the DHCP server
email delivered to alarm: <subject> email delivered to 1st recipient alarm: <subject> email delivered to 2nd recipient alarm: <subject>	An alarm e-mail has been sent to the alarm address
email delivered to measurement: <subject> email delivered to 1st recipient alarm: <subject> email delivered to 2nd recipient alarm: <subject>	A measured value e-mail has been sent to the measured value address
hardware-lock closed	The hardware lock has been closed (i.e. the configuration of the Fieldgate and the connected field devices can now no longer be remotely altered)
hardware-lock opened	The hardware lock has been opened
■ service adapter connected ■ service adapter aborted ■ service adapter disconnected	■ service adapter has been connected ■ service adapter cable has been disconnected ■ connection via service adapter has been aborted
time fetched (<protocol>) ■ internal time <seconds>s ahead ■ internal time <seconds>s behind	Time has been fetched from the Internet. The internal clock has been adjusted accordingly.
User '<user>' changed password from <ip-addr>	A user has changed his/her password from the IP address indicated
SMS send to xxxxxx	A short SMS message has been sent to telephone number xx.
Get successful DynDns	The Fieldgate was able to register with its IP address at a dynamic domain server and can now be reached via its configured symbolic address .

10.6.3 Error Log



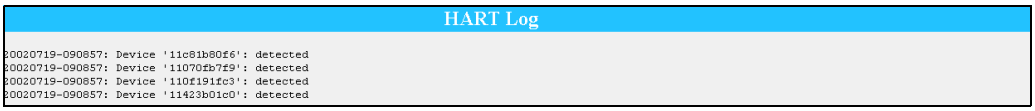
L00-FXA520xx-20-13-00-en-032

In this section, Fieldgate error messages are stored, e.g. failed password change etc. Up to 25 lines are displayed. After switch-off, these data are gone.

Error log message	Description
cannot deliver email: alarm address not specified	Alarm e-mail could not be sent since the alarm address is not specified
cannot deliver email: measurement address not specified	ditto for measured values
cannot deliver email: transmission failed to alarm cannot deliver mail to 1st recipient transmission failed alarm SMTP Send Error Cannot deliver mail to 2nd recipient transmission failed alarm SMTP Send Error	Alarm e-mail could not be sent. The SMTP gateway returned an error when sending the e-mail (possible causes: invalid address, recipient's mail box full, etc.)
cannot deliver email: transmission failed to measurement	ditto for measured values
cannot deliver email: wrong smtp gateway (or down?) or alarm address specified SMTP OPEN ERROR <errorcode>	Alarm e-mail could not be sent. The SMTP gateway could not be reached. Possible cause: invalid SMTP gateway specified (typo, incorrect gateway address, gateway requires authentication (currently not supported)
cannot deliver email: wrong smtp gateway (or down?) or measurement specified SMTP OPEN ERROR <errorcode>	ditto for measured values
Cannot set IP address	Ethernet: IP address could not be set. Possible cause: impermissible IP address structure (only the format a.b.c.d (e.g. 192.168.22.33) is allowed)
Cannot set netmask	ditto for the netmask (cannot be set by user!)
Constant data scan aborted (timeout)	Constant field device data scan has timed out (300s). This can only occur in extremely disturbed environments
DNS initialization failed	Ethernet: initialisation of the DNS has failed. This indicates incorrect DNS specifications.
email queue full	E-mail queue is full. The error message is triggered if the Fieldgate generates e-mails more quickly than they can be sent (e.g. SMTP gateway cannot be reached, many messages in quick succession)
Limit of 30 HART devices reached	More than 30 HART field devices (incl. P+F multiplexer) are connected to the Fieldgate. The Fieldgate can only handle a maximum of 30 channels.
Modem DNS initialization failed	DNS: initialisation of the DNS has failed. This indicates incorrect DNS specifications.
Sensor Environment Overflow. Removing data fo Sensor <device-id>	Data from the field device configuration memory (memory for limit values etc.) in the Fieldgate must be removed since overflow has occurred. It is guaranteed that the data for 30 field devices can be stored
time service: cannot access http time service	The time cannot be called up from the http server (web server). Select another time protocol.
time service: cannot connect to server	The connection to the time server cannot be established. Check server data specified.
time service: cannot create socket	Should not occur during operation
time service: http server returned <errcode>	The http time served has returned an error
time service: ill time pattern received from server	The http time server has returned an invalid answer. Select another server.

Error log message	Description
time service: illegal reply from sntp server	The sntp time server has returned an invalid answer. Select another server.
time service: incompatible protocol version on server	The sntp time server returns an incompatible protocol version. Select another time protocol or another server.
time service: remote server not synchronized	The sntp time server is not synchronised. Select another server.
time service not correctly configured	The sntp/time server has not been specified correctly
User '<username>' password change failed from <ip-addr> (<errfield>)	A user has attempted to change his/her password. This attempt failed. This can indicate an attack on the Fieldgate
SMS queue full	The SMS queue is full. The error message is triggered when SMSs are generated more quickly than they can be sent.
cannot send SMS to xxxx	An SMS could not be sent to telephone number xxxx. This error message can occur when the Fieldgate does not have a connection to the provider.
cannot get DynDns	The Fieldgate could not transmit its IP address to a dynamic domain name server. This message can occur when there are syntax errors in the GPRS-URL entry or when the server malfunctions.
time service: illegal reply from daytime server	A malfunction response when the time synchronisation is requested via the DAYTIME protocol .

10.6.4 HART Log



L00-FXA520xx-20-13-00-en-033

In this section, messages relating to HART communication are stored, e.g. device detected/removed etc. Up to 25 lines are displayed. After switch-off, these data are gone.

HART log message	Description
Device '<device-id>': detected	Device with the HART-ID indicated has been detected
Device '<device-id>': disconnected	Device with the HART-ID indicated has disappeared
Device '<device-id>': ID changed from '<id-old>' to '<id-new>' [1]	
Device '<device-id>': tag '<tag>' already assigned to device '<device-id>' [1]	
Device '<device-id>': tag removed [1]	
Device '<device-id>': tag renamed from '<tag-old>' to '<tag-new>' [1]	

1) Currently not activated!

10.6.5 HART-Server Log

L00-FXA520xx-20-13-00-en-034

In this section, messages relating to the HART server are stored, e.g. Telnet login etc. Up to 25 lines are displayed. After switch-off, these data are gone.

HART server log message	Description
'<username>' logged in from <ip-addr>	Someone has logged onto the HART server from the IP address indicated (plain text authentication)
'<username>' logged in with MD5 authorization from <ip-addr>	ditto with MD5 authentication
'<username>' logged off from <ip-addr>	Someone has logged off the HART server
'<username>' selected ill protocol '<protocol>' from <ip-addr>	Protocol selected is invalid
'<username>' wrong user/password form <ip-addr>	Invalid user/password

10.6.6 Modem-Log

Up to 25 lines are displayed. After switch-off, these data are gone.

Modem log message	Type of connection	Description
dial in (Server) carrier lost (Server) hangup requested by command (Server) hangup (Server)	Modem / GSM	Diagnosis messages for dial-in with Fieldgate
dial in disabled!	Modem / GSM	Fieldgate was called (with maximum number of rings) but dial-in is not allowed
dial in to ISP <phone-number> authentification failed assigned IP: <ip-addr> carrier lost hangup requested by command hangup	Modem / GSM	Diagnosis messages for dial-in with ISP
initiating call back	Modem / GSM	Call-back to ISP started due to ringing
No Signal!	GSM	The GSM module does not have any reception signal
Pin ERROR	GSM	An invalid pin has been specified
Pin Ok	GSM	Pin is OK
User defined AT: <at-cmd>	Modem / GSM	User-defined AT commando output
FAILED: timeout	Modem / GSM	Command at modem triggered a timeout
FAILED: <modem-response>	Modem / GSM	Command at modem returned an unexpected response
OK: <modem-response>	Modem / GSM	Command at modem returned an expected response
GSM signal = 15	GSM	Signal quality of the GSM signal must be between 10-30 (30: best signal).
No signal!	GSM	No GSM signal or signal quality insufficient .
Provider: "T-Mobile D"	GSM	SM provider to which the Fieldgate has dialled in to.
Pin xxxx ist not correct-> ERROR		An attempt has been made to enter the PIN as xxxx, which is presumably not the correct code.
Last retry to set a correct PIN		After the next incorrect attempt to enter the PIN, the SIM card is locked SIM Card defect SIM card or SIM card holder is defective.
SIM Card defect		SIM card or SIM card holder is defective.
SIM PUK required		The SIM card is locked and can only be unlocked by entering the PUK .
PIN Error -> SIM PIN		The first entry of the PIN code was an incorrect value.
PIN Error ->SIM PUK		The SIM card is locked and can only be unlocked by entering the PUK code .
dial in disabled! No provider		The Fieldgate was not able to dial in to a provider. The dial-in function is, therefore, disabled.
initiating GPRS connection		A GPRS connection is being initiated.
dial in to GPRS-network: APN not set->use defaults		The parameters for the access point name at the GPRS have not been configured. The Fieldgate tries again with the standard parameters of the SIM card.

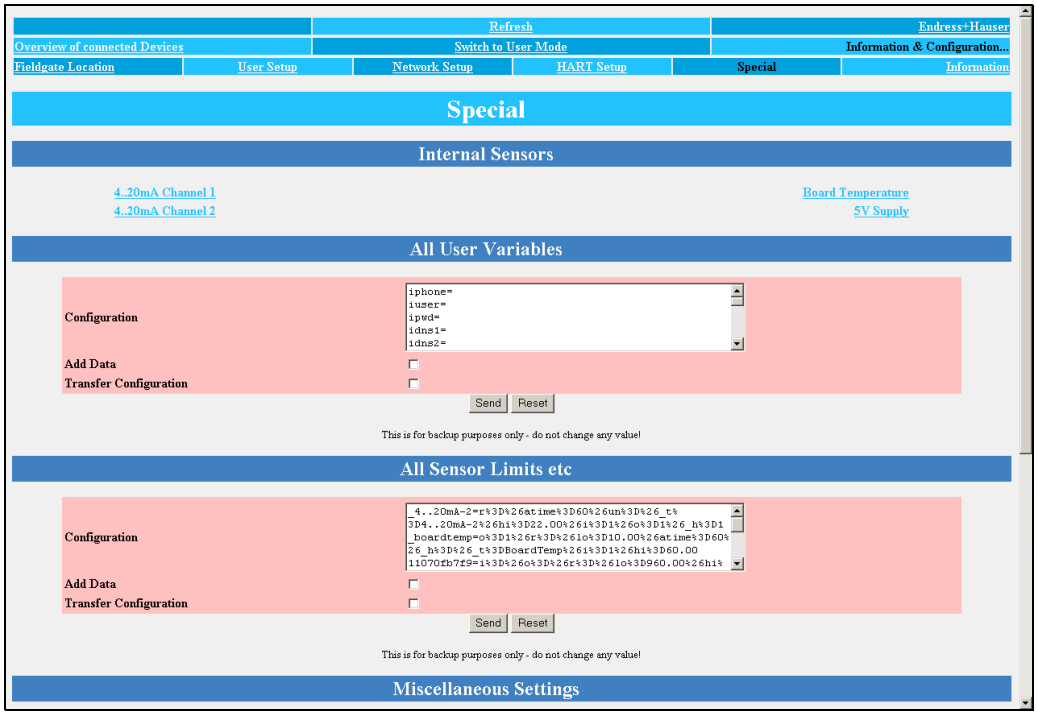
Modem log message	Type of connection	Description
dial in to GPRS-network: internet.t-d1.de		A GPRS connection to the GPRS access point name APN internet.t-d1.de has been established. The APN is provider-dependent.
GPRS-QOS: not set/use defaults		The parameters for the quality of service have not been configured. The Fieldgate adopts the standard parameters of the SIM card.
GPRS-QOS: 3,4,3,0,0		The parameters for the quality of service have been set to the configured values. The GPRS QOS are provider-dependent.

11 Hardware locking

Fieldgate FXA520 has a mechanism which prevents unauthorised access to the configuration of the Fieldgate and all connected devices by means of an integrated hardware locking system. Thus, access to connected devices via a HART operating tool by means of the HART Client is also prevented. If this protective function is activated, write access to all configuration pages is only possible if access has been explicitly enabled for a limited period by consciously pressing the button (7) (→ Fig. 10 on Page 14) locally on the Fieldgate.

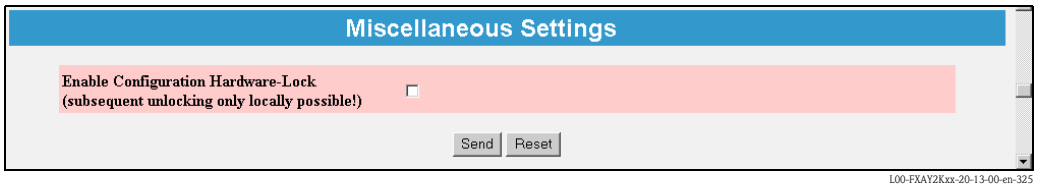
Activating the hardware lock

Hardware locking can be activated in the administrator mode.
The corresponding configuration section can be found in
"**Information & Configuration ➜ Special ➜ Miscellaneous Settings**".



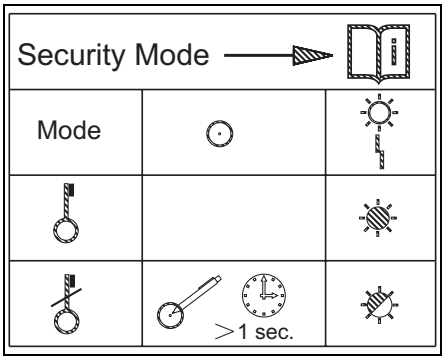
L00-FXA520xx-20-13-00-en-061

You must first tick the checkbox for "**Enable Configuration Hardware-Lock (subsequent unlocking only locally possible!) which can be found here.**". Hardware locking is then activated by clicking the "**Send**" button.



L00-FXAY2Kxx-20-13-00-en-325

If button (7) (→ Fig. 10 on Page 14) of the Fieldgate is now kept pressed for longer than one second, access to the Fieldgate configuration is given for five minutes. In addition, exactly one connection via the HART Client can be established in this time, whereby operation of the connected devices is made possible via HART tools such as the ToF Tool.
If the button is pressed down for longer than five seconds, the hardware lock is reset.



L00-FXA520xxx-19-06-xx-xx-005

Note!
If necessary, complete access is always possible with the PC cable via the service interface in spite of hardware locking.

Deactivating the hardware lock

To be able to deactivate the hardware lock, you must first press the button to release the system and then proceed as when activating, whereby this time you have to untick the checkbox.

12 WAP function

12.0.1 Wireless Application Protocol

The **Wireless Application Protocol (WAP)** is a standard for mobile end devices to access specially programmed Internet pages, in WML (Wireless Markup Language). This language has been optimised for displaying text and simple graphics on small mobile phone displays. This provides you with all services for mobile use.

Every Fieldgate can deliver information for WAP-capable mobile phones. This is done in the form of specially adapted WML pages with a restricted scope of functions. The WAP function is always useful if the Fieldgate can be accessed with a public IP address on the Internet. The following are examples of conceivable options:

- Ethernet Fieldgate is connected to the Internet via a router
- Analog Fieldgate is dialled into an ISP and is therefore connected to the Internet
- GSM Fieldgate is dialled into an ISP and is therefore connected to the Internet
- GSM Fieldgate is in "Always-on-operation" thanks to GPRS and has a public IP address

L00-FXA520xx-07-00-06-xx-002

12.0.2 Homepage of the Fieldgate WAP :

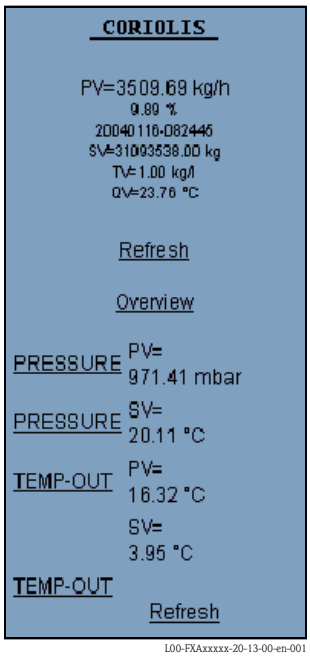
To open the WAP homepage for the Fieldgate, use your mobile phone's WAP browser. The access address (URL) is composed as follows:
http://**<IP address or Domain Name>**/index.wml
Example:
http://www.fieldgate.de/index.wml or http://212.227.127.81/index.wml

12.0.3 How do I use WAP?

A WAP-capable mobile phone is required for using WAP. Virtually all of the devices available today support this function. The mobile communications provider used must also offer the corresponding service. If necessary, various settings have to be made on your mobile phone in order to use the service. Please ask your mobile communications provider about this.
An additional requirement for using the WAP function of the Fieldgate is that basically all pages on the Internet can be accessed via the WAP service of the mobile communications provider.

12.0.4 The Fieldgate provides the following contents via WAP:

- **Startseite/Übersicht**
  Overview of all available measured values corresponding to the "Overview of connected devices" function restricted to the display of TAG and current measured value
  – TAG information.
  – Measured value with unit (primary and secondary value if selected in the "show in overview" function). Primary value displayed as PV= <value> <unit>, secondary value displayed as SV, TV, QV=<value> <unit>.



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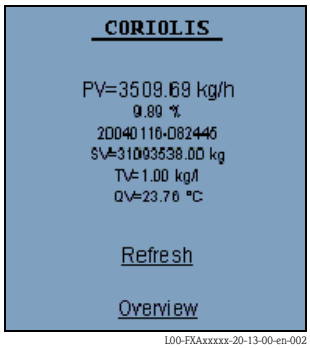
- **Detailansicht Feldgeräte**
  Detailed view of the connected devices according to the "TAG" parameter restricted to the measured values specifying the time stamp
  – TAG information.
  – Measured value with unit and time stamp (primary and secondary value, if selected in the "show in overview" function). Primary value displayed as PV= <value> <unit> <timestamp>, secondary value displayed as SV, TV, QV=<value> <unit> <timestamp>.



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13 Structure of the XML data

13.1 Basic structure

<XML-Version>

LEVEL 1
<Fieldgate Identification>

LEVEL 2
<Fieldgate Parameter>

<Device 1 Identification>

LEVEL 3
<Device 1 Variables>

<Device 1 Parameters>

LEVEL 4
<Parameters>

</Device 1 Parameters>

</Device>

<Device 2 Identification>

LEVEL 3
<Device 2 Variables>

<Device 2 Parameters>

LEVEL 4
<Parameters>

</Device 2 Parameters>

</Device>

. . .

. . .

. . .

</Fieldgate>

13.2 Example

The XML data are described in the following table.

Caution!
- The data are examples only, i.e. the data are not necessarily consistent.
- The field order is random.
- Not necessarily all fields appear (depends on connected field device).
- All specifications are in UTC time.

Example	Comment	Type	Description	Version
<?xml version="1.0" encoding="iso-8859-1"?>				
<fieldgate ser="470009010A0" tag="Endress+Hauser Fieldgate" type="full" devices="all">			tag for fieldgate datas <ser>:serialnumber fieldgate <tag>: name fieldgate <type>: "full" / "partial" (short=1), **Fields marked as "bold"** <devices>: "all" / "single" (id=, tag=)	
<time>20020926-065441</time>		timestamp	actual time fieldgate (UTC time)	
<timezone>60</timezone>		unsigned16	timezone (timeoffset to utc in minutes)	V001.002.000
<ff_version>01.02.00-026 20030228</ff_version>		String	string incl. hardware rev. and software rev.	V001.002.000
<gsmp>Provider: +COPS: 0,0,"T-Mobile D" </gsmp>		string	GSM-Provider	V001.003.000
<gsms>Signal: 18,99 </gsms>		string	Signal quality GSM Signal	V001.003.000
<gsmti>Timestamp: 2266</gsmti>		timestamp	<gsmti>Timestamp: 2266</gsmti>	V001.003.000
<os_version>3.17</os_version>		string	operating system version	V001.002.000
<conf>FXA520-XE1A</conf>		string	hardware configuration fxa520	V001.002.000
<device id="11423b01c0" tag="FLOW" type="HART">			tag field device data: <id>: Unique-ID device <tag>: Tagname device <type>: "HART" / "INTRN"	
<v1>17.49</v1>	cmd001 or cmd003	float	Primary Variable	
<u1>l/s</u1>	cmd001 or cmd003	string	Unit of Primary Variable	
<c1>00 (class)</c1>	cmd008	string	Primary Variable Classification (Hex)	
<v2>14403.25</v2>	cmd003	float	Secondary Variable	
<u2>l</u2>	cmd003	string	Unit of Secondary Variable	
<c2>00 (class)</c2>	cmd008	string	Secondary Variable Classification (Hex)	
<v3>17.49</v3>	cmd003	float	Tertiary Variable	
<u3>kg/s</u3>	cmd003	string	Unit of Tertiary Variable	
<c3>00 (class)</c3>	cmd008	string	Tertiary Variable Classification (Hex)	
<v4>0.00</v4>	cmd003	float	Quaternary Variable	
<u4>not used</u4>	cmd003	string	Unit of Quaternary Variable	
<c4>00 (class)</c4>	cmd008	string	Quaternary Variable Classification (Hex)	
<vstslvl>0</vstslvl>	cmd001 or cmd003	0/1/2	Error Level of Response 0: ok 1: warning 2: error (according to HART6-Spec)	
<vsts>0x00 0x50</vsts>	cmd001 or cmd003	string	Response Code & Field Device Status	
<vtime>20020926-065435</vtime>		timestamp	Timestamp of cmd000 / cmd001 / cmd003	
<v1_100>39.67</v1_100>	cmd002	float	Primary Variable Percent of Range	

Example	Comment	Type	Description	Version
<v1_lc>4.00</v1_lc>	cmd002 or cmd003	float	Primary Variable Loop Current	
<stsext>0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x08 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00</stsext>	cmd048	string	Additional Device Status	
<fnum>0</fnum>	cmd016	unsigned-24	Final Assembly Number	
<datecode>65892</datecode>	cmd013	HART date	Date Code	
<desc>FLOWMETER</desc>	cmd013	string	Descriptor	
<tag>FLOW</tag>	cmd013	string	Tag	
<msg>FLOWTEC</msg>	cmd012	string	Message	
<serno>3867072</serno>	cmd000	unsigned-24	Serial Number	
<hwrev>4</hwrev>	cmd000	unsigned-8	Hardware Revision Level	
<swrev>10</swrev>	cmd000	unsigned-8	Software Revision Level	
<devrev>2</devrev>	cmd000	unsigned-8	Device Revision Level	
<cmdrev>5</cmdrev>	cmd000	unsigned-8	Universal Command Revision Level	
<preambl>5</preambl>	cmd000	unsigned-8	Minimum Number of Preambles	
<dev>Promag 53</dev>	cmd000	string	Device Type	
<man>Endress+Hauser</man>	cmd000	string	Device Manufacturer	
<stime>20020926-065336</stime>		timestamp	Timestamp of cmd000	
<pid>0x00</pid>[1]		unsigned-8	Device Poll ID	
<chn>0x01</chn>[1]		unsigned-8	Device Channel (0=HART0, 1=HART1, 0x10=RS485)	
<type>HART</type>		string	Type ("HART" / "INTRN")	
<ctime>–</ctime>		timestamp	Timestamp of first cmd000	
<unid>11423b01c0</unid>	cmd000, cmd130 (PuF-Mux)	string	Sensor Unique ID	
<hide>1</hide>	web interface, internal sensors only	"1"	Hide Device from Device Overview	
<hlsts1>ok</hlsts1>		"ok" / "LL" / "L" /"H" / "HH"	Limit value status ok, LL, L,H,HH) Device Channel1 (PV)	V001.002.000
<hltime1>20030228-185223</hltime1>		Timestamp	Timestamp limit transition Device Channel 1 (PV)	V001.002.000
<hlsts2>ok</hlsts2>		"ok" / "LL" / "L" /"H" / "HH"	Limit value status (ok, LL, L,H,HH) Device Channel2 (SV)	V001.002.000
<hltime2>20030228-185223</hltime2>		Timestamp	Timestamp limit transition Device Channel 2(SV)	V001.002.000
<hlsts3>ok</hlsts3>		"ok" / "LL" / "L" /"H" / "HH"	Limit value status (ok, LL, L,H,HH) Device Channel3 (TV)	V001.002.000
<hltime3>20030228-185223</hltime3>		Timestamp	Timestamp limit transition Device Channel 3 (TV)	V001.002.000
<hlsts4>ok</hlsts4>		"ok" / "LL" / "L" /"H" / "HH"	Limit value status (ok, LL, L,H,HH) Device Channel4 (QV)	V001.002.000
<hltime4>20030228-185223</hltime4>		Timestamp	Timestamp limit transition	V001.002.000
<param>			(only a example)	
<t1ch></t1ch>	web interface	string	additional textinformation line 1 (PV)	V001.002.000
<t2ch></t2ch>	web interface	string	additional textinformation line 2 (PV)	V001.002.000
<t1ch2></t1ch2>	web interface	string	additional textinformation line 1 Device Channel 2 (SV)	V001.002.000

Example	Comment	Type	Description	Version
<t2ch2></t2ch2>	web interface	string	additional textinformation line 2 Device Channel 2 (SV)	V001.002.000
<t1ch3></t1ch3>	web interface	string	additional textinformation line 1 Device Channel 3 (TV)	V001.002.000
<t2ch3></t2ch3>	web interface	string	additional textinformation line 2 Device Channel 3 (TV)	V001.002.000
<t1ch4></t1ch4>	web interface	string	additional textinformation line 1 Device Channel 4 (QV)	V001.002.000
<t2ch4></t2ch4>	web interface	string	additional textinformation line 2 Device Channel 4 (QV)	V001.002.000
<dch>1</dch>	web interface	"" / "1"	device channel1 (PV) in overview	V001.002.000
<dch2>1</dch2>	web interface	"" / "1"	device channel2 (SV) in overview	V001.002.000
<dch3>1</dch3>	web interface	"" / "1"	device channel3 (TV) in overview	V001.002.000
<dch4>1</dch4>	web interface	"" / "1"	device channel4 (QV) in overview	V001.002.000
<r>1</r>	web interface	"" / "1"	Alarm Mail on Sensor Error	
1	web interface	"" / "1"	Alarm Mail on Entering Limits Device Channel 1 (PV)	
<o>1</o>	web interface	"" / "1"	Alarm Mail on Leaving Limits Device Channel 1 (PV)	
<i2>1</i2>	web interface	"" / "1"	Alarm Mail on Entering Limits Device Channel 2 (SV)	V001.002.000
<o2>1</o2>	web interface	"" / "1"	Alarm Mail on Leaving Limits Device Channel 2 (SV)	V001.002.000
<i3>1</i3>	web interface	"" / "1"	Alarm Mail on Entering Limits Device Channel 3 (TV)	V001.002.000
<o3>1</o3>	web interface	"" / "1"	Alarm Mail on Leaving Limits Device Channel 3 (TV)	V001.002.000
<i4>1</i4>	web interface	"" / "1"	Alarm Mail on Entering Limits Device Channel 4 (QV)	V001.002.000
<o4>1</o4>	web interface	"" / "1"	Alarm Mail on Leaving Limits Device Channel 4 (QV)	V001.002.000
<lo>40.00</lo>	web interface	float	PV Low Limit	
<ll>20.00</ll>	web interface	float	PV Low Low Limit	> 01.01.00
<hi>200.00</hi>	web interface	float	PV High Limit	
<hh>220.00</hh>	web interface	float	PV High High Limit	> 01.01.00
<lo2>40.00</lo2>	web interface	float	SV Low Limit	V001.002.000
<ll2>20.00</ll2>	web interface	float	SV Low Low Limit	V001.002.000
<hi2>200.00</hi2>	web interface	float	SV High Limit	V001.002.000
<hh2>220.00</hh2>	web interface	float	SV High High Limit	V001.002.000
<lo3>40.00</lo3>	web interface	float	TV Low Limit	V001.002.000
<ll3>20.00</ll3>	web interface	float	TV Low Low Limit	V001.002.000
<hi3>200.00</hi3>	web interface	float	TV High Limit	V001.002.000
<hh3>220.00</hh3>	web interface	float	TV High High Limit	V001.002.000
<lo4>40.00</lo4>	web interface	float	QV Low Limit	V001.002.000
<ll4>20.00</ll4>	web interface	float	QV Low Low Limit	V001.002.000
<hi4>200.00</hi4>	web interface	float	QV High Limit	V001.002.000
<hh4>220.00</hh4>	web interface	float	QV High High Limit	V001.002.000
<alt>100.00</alt>	web interface	float	PV Diff	

Example	Comment	Type	Description	Version
<atime>60</atime>	web interface	integer	PV Difftime	
<alt2>100.00</alt2>	web interface	float	SV Diff	V001.002.000
<atime2>60</atime2>	web interface	integer	SV Difftime	V001.002.000
<alt3>100.00</alt3>	web interface	float	TV Diff	V001.002.000
<atime3>60</atime3>	web interface	integer	TV Difftime	V001.002.000
<alt4>100.00</alt4>	web interface	float	QV Diff	V001.002.000
<atime4>60</atime4>	web interface	integer	QV Difftime	V001.002.000
<max>100.00</max>	web interface	float	Max. Value Device Channel 1 (PV)	V001.002.000
<min>0.00</min>	web interface	float	Min. Value Device Channel 1 (PV)	V001.002.000
<max2>100.00</max2>	web interface	float	Max. Value Device Channel 2 (SV)	V001.002.000
<min2>0.00</min2>	web interface	float	Min. Value Device Channel 2 (SV)	V001.002.000
<max3>100.00</max3>	web interface	float	Max. Value Device Channel 3 (TV)	V001.002.000
<min3>0.00</min3>	web interface	float	Min. Value Device Channel 3 (TV)	V001.002.000
<max4>100.00</max4>	web interface	float	Max. Value Device Channel 4 (QV)	V001.002.000
<min4>0.00</min4>	web interface	float	Min. Value Device Channel 4 (QV)	V001.002.000
<hy>0.50</hy>	web interface	float	hysteresis for reeentering limits device channel1 (PV)	V001.002.000
<hy2>0.50</hy2>	web interface	float	hysteresis for reeentering limits device channel2 (SV)	V001.002.000
<hy3>0.50</hy3>	web interface	float	hysteresis for reeentering limits device channel3 (TV)	V001.002.000
<hy4>0.50</hy4>	web interface	float	hysteresis for reeentering limits device channel4 (QV)	V001.002.000
<swl>50.00</swl>	web interface	float	switch level for display switch status device channel1 (PV)	V001.002.000
<swsts>1</swsts>	web interface	integer	text entries to mark the switch status Device Channel1 (PV) 1 = " uncovered" / "covered" 2 = "covered" / "uncovered" 3 = "on" / "off" 4 = "off" / "on" 5 = "empty" / "full" 6 = "full" / "empty" 7= "good" / "bad" 8= "bad" / "good"	V001.002.000
<swl2>50.00</swl2>	web interface	float	switch level for display switch status device channel 2 (SV)	V001.002.000
<swsts2>1</swsts2>	web interface	integer	text entries to mark the switch status Device Channel 2 (SV) 1 = " uncovered" / "covered" 2 = "covered" / "uncovered" 3 = "on" / "off" 4 = "off" / "on" 5 = "empty" / "full" 6 = "full" / "empty" 7= "good" / "bad" 8= "bad" / "good"	V001.002.000
<swl3>50.00</swl3>	web interface	float	switch level for display switch status device channel 3 (TV)	V001.002.000

Example	Comment	Type	Description	Version
<swsts3>1</swsts3>	web interface	integer	text entries to mark the switch status Device Channel 3 (TV) 1 = " uncovered" / "covered" 2 = "covered" / "uncovered" 3 = "on" / "off" 4 = "off" / "on" 5 = "empty" / "full" 6 = "full" / "empty" 7= "good" / "bad" 8= "bad" / "good"	V001.002.000
<swl4>50.00</swl4>	web interface	float	Switch-Level for display switch status Device Channel4 (QV)	V001.002.000
<swsts4>1</swsts4>	web interface	integer	text entries to mark the switch status Device Channel4 (QV) 1 = " uncovered" / "covered" 2 = "covered" / "uncovered" 3 = "on" / "off" 4 = "off" / "on" 5 = "empty" / "full" 6 = "full" / "empty" 7= "good" / "bad" 8= "bad" / "good"	V001.002.000
<_t>4..20mA-1</_t>	web interface, internal sensors only	string	Device Name/Tag	
<_h>1</_h>	web interface, internal sensors only	"" / "1"	Hide Device from Device Overview	
<_u>cA</_u>	web interface, internal analogue inputs only	string	Output Unit	
<p4>40.00</p4>	web interface, internal analogue inputs only	float	Output Value at 4.00mA Input Current	
<p20>200.00</p20>	web interface, internal analogue inputs only	float	Output Value at 20.00mA Input Current	
</param>				
</device>				
<device>				
...				
</device>				
...				
</fieldgate>				

1) **Note!** Devices connected to the multiplexer have chn=0x10 entered as the channel and do not have any Poll ID (pid).

14 E-mail contents

14.1 Types of e-mails

There are two different **types** of e-mails:
- **Measured value e-mails**
  These can be transmitted as XML, HTML or TEXT.
- **Alarm e-mails**
  These are always very short and are in text format.

The following is common to all e-mails: the subject contains text with the name of the Fieldgate, then the reason for the e-mail and then a number:
- "**<fieldgate name>** ": "**<reason>** " "**<3-digit code>** "
  e.g. "fxa520weather: Periodic Measurement 005"

Note!
The **<device-tag>** is also displayed for some alarm e-mails, e.g. "fxa520mdmdev: Leaving Limits: LVLFLEX - 130".

14.1.1 Measured value e-mails

The following "**<reason>** "s and "**<code>** "s exist in measured value e-mails:
- "**Periodic Measurement (reboot)** " / "**000** " first measured value e-mails after a reboot
- "**Periodic Measurement** " / "**005** " periodic measured value e-mail
- "**Device Disconnected (last measurement)** " / "**010** " device was disconnected
- "**Device Connected (first measurement)** " / "**011** " device was re-detected
- "**Device Error (measurement)** " / "**020** " device reports an error
- "**Device Ok (measurement)** " / "**021** " device returns to warning/ok after error condition
- "**Device Transition Low -> OK (measurement)**" / "**030**" → Measured value undershot Low Limit
- "**Device Transition LowLow -> Low (measurement)**" / "**031**" → Measured value undershot LowLow Limit
- "**Device Transition Low -> LowLow (measurement)**" / "**032**" → Measured value leaving LowLow Limit
- "**Device Transition OK -> Low (measurement)**" / "**033**" → Measured value leaving Low Limit
- "**Device Transition High -> OK (measurement)**" / "**034**" → Measured value exceeds High Limit
- "**Device Transition HighHigh -> High (measurement)**" / "**035**" → Measured value exceeds HighHigh Limit
- "**Device Transition High -> HighHigh (measurement)**" / "**036**" → Measured value leaving HighHigh Limit
- "**Device Transition OK -> High (measurement)**" / "**037**" → Measured value leaving High Limit
- "**Device Transition OK -> HighHigh (measurement)**" / "**038**" → Measured value leaving HighHigh Limit
- "**Device Transition OK -> LowLow (measurement)**" / "**039**" → Measured value leaving LowLow Limit
- "**Device Value Changes (measurement)**" / "**040**" → the measured value has experienced a change greater than the specified limit

14.1.2 Alarm e-mails

The following "**<reason>** "s and "**<code>** "s exist in alarm e-mails:
- "**System Rebooted** " / "**100** " device restart, the Fieldgate uses an update as firmware
- "**System Rebooted from Bootarea** " / "**101** " device restart, the Fieldgate uses the firmware supplied with delivery
- "**Device Disconnected:** " **<device-tag>** / "**110** " device was disconnected
  In addition
- "**Device Connected:** " **<device-tag>** / "**111** " device was re-detected
- "**Device Error:** " **<device-tag>** / "**120** " device reports an error
- "**Device Ok:** " **<device-tag>** / "**121** " device returns to warning/ok after error condition
- "**Transition Low -> OK:** " **<device-tag>** / "**130**" → Measured value undershot Low Limit
- "**Transition LowLow -> Low:** " **<device-tag>** / "**131**" → Measured value undershot LowLow Limit
- "**Transition Low -> LowLow:** " **<device-tag>** / "**132**" → Measured value leaving LowLow Limit
- "**Transition OK -> Low:** " **<device-tag>** / "**133**" → Measured value leaving Low Limit
- "**Transition High -> OK:** " **<device-tag>** / "**134**" → Measured value exceeds High Limit
- "**Transition HighHigh -> High:** " **<device-tag>** / "**135**" → Measured value exceeds HighHigh Limit
- "**Transition High -> High High:** " **<device-tag>** / "**136**" → Measured value leaving HighHigh Limit
- "**Transition OK -> High:** " **<device-tag>** / "**137**" → Measured value leaving High Limit
- "**Transition OK -> HighHigh:** " **<device-tag>** / "**138**" → Measured value leaving HighHigh Limit
- "**Transition OK -> LowLow:** " **<device-tag>** / "**139**" → Measured value leaving LowLow Limit
- "**Assigned IP Address** " / "**150** " IP address assigned by provider
- "**Firmware Update Result** " / "**160** " result of a firmware update
- "**illegal User/password combination** " / "**170** " an invalid user/password combination was used with Pass-Through-HART

14.2 Explanations and examples

14.2.1 Explanations

- At system start-up, it is presumed that the measured values are within the specified limits. This means that any measured value outside the limits at system start-up triggers an e-mail.
- At system start-up, it is presumed that the field device has the status ok/warning. This means that a device with an error condition at system start-up triggers an e-mail.
- Measured value e-mails can be completely suppressed by selecting "**None** " in "Network Setup/ Mail Configuration/Format Measurement Mails"; otherwise a measured value e-mail is generated in the format selected for every event (e.g. Sensor Error, Leaving Limit, Periodic).
- The alarm e-mails with the codes "**110** " and "**111** " can be switched on and off via "Network Setup/Mail Configuration/Alarm Mail on Sensor Connect/Disconnect".
- The alarm e-mail with the code "**170** " can be switched on and off via "Network Setup/Mail Configuration/Alarm on Illegal Password (HART)".
- The alarm e-mails with the code "**130**" can be switched on and off individually via the device settings for each device.
- The alarm e-mails with the code "**131**" can be switched on and off individually via the device settings for each device.
- The alarm e-mails with the code "**132**" can be switched on and off individually via the device settings for each device.
- The alarm e-mails with the code "**133**" can be switched on and off individually via the device settings for each device.

- The alarm e-mails with the code "**134**" can be switched on and off individually via the device settings for each device.
- The alarm e-mails with the code "**135**" can be switched on and off individually via the device settings for each device.
- The alarm e-mails with the code "**136**" can be switched on and off individually via the device settings for each device.
- The alarm e-mails with the code "**137**" can be switched on and off individually via the device settings for each device.
- The alarm e-mails with the code "**120** " and "**121** " can be switched on and off individually via the device settings for each device.
- The alarm e-mail with the code "**150** " can be switched on and off via "Network Setup/Mail Configuration/Mail Assigned IP Address".

14.2.2 Limit values

The limit values can be specified individually for each device.
If the "LowLow Limit" has not been specified, –∝ (ca – 1e38) is taken.
If the "HighHigh Limit" has not been specified, +∝ (ca + 1e38) is taken.
Depending on the information given above, an e-mail with the code "**130** " and "**030** " is triggered if the measured value exceeds the "HighHigh Limit" if only the "HighHigh Limit" is specified, for example; a similar situation applies for the "LowLow Limit".

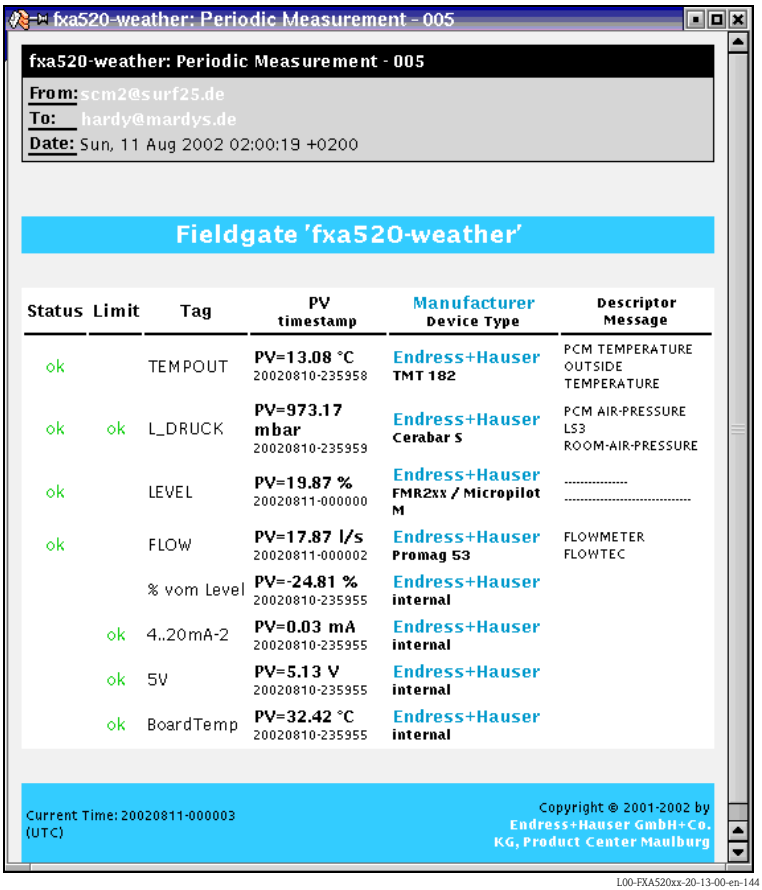
Note!
Measured value e-mailing in the event of measured value changes should only be used as a point of reference. Precise measurement of the measured value changes is not possible at present!

14.2.3 Saving the device settings

The device settings ("LowLow Limit" etc.) are constantly stored in the internal configuration EEPROM and in the DAT-EEPROM.
If many different devices are connected to the Fieldgate over time, this can overtax the capacity of the EEPROM. In such a situation, unrequired device settings are deleted until the settings can be saved again in the EEPROM.

14.2.4 Examples for measured value e-mails

Example for "Periodic Measurement" in HTML format:



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Example for "Device Entering Limit" in HTML format:

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Example for "Periodic Measurement" in XML format:

```
<?xml version="1.0" encoding="iso-8859-1"?>
<fieldgate  ser="-" tag="fxa520-mdm-dev" type="partial" devices="all">
        <time>20020812-095702</time>
        <device id="110a0005a2" tag="HEAD010" type="HART">
                <v2>21.83</v2>
                <u2>°C</u2>
                <v1>24.00</v1>
                <u1>%</u1>
                <vstslvl>0</vstslvl>
                <vsts>0x00 0x00</vsts>
                <vtime>20020812-095651</vtime>
                <v1_100>24.00</v1_100>
                <v1_lc>7.84</v1_lc>
                <dev>FMUx3x / Prosonic T</dev>
                <man>Endress+Hauser</man>
        </device>
        <device id="1112000001" tag="LVLFLEX" type="HART">
                <v1>77.21</v1>
                <u1>t</u1>
                <vstslvl>0</vstslvl>
                <vsts>0x00 0x40</vsts>
                <vtime>20020812-095657</vtime>
                <v1_100>54.42</v1_100>
                <v1_lc>12.71</v1_lc><dev>FMP4xx / Levelflex M</dev>
                <man>Endress+Hauser</man>
        </device>
        <device id="110f000001" tag="DIST. 1" type="HART">
                <v1>66.13</v1>
                <u1>%</u1>
                <vstslvl>0</vstslvl>
                <vsts>0x00 0x00</vsts>
                <vtime>20020812-095700</vtime>
                <v1_100>66.13</v1_100>
                <v1_lc>14.58</v1_lc>
                <dev>FMR2xx / Micropilot M</dev>
                <man>Endress+Hauser</man>
        </device>
        <device id="1def100716" tag="P&#38;F   HM" type="HART">
                <v1>NAN</v1>
                <u1>not used</u1>
                <vstslvl>0</vstslvl>
                <vsts>0x00 0x48</vsts>
                <vtime>20020812-095702</vtime>
                <dev>KFD2-HMM-16</dev>
                <man>Pepperl+Fuchs</man>
        </device>
        <device id="_4..20mA-1" tag="_4..20mA-1" type="INTRN">
                <v1>0.03</v1>
                <u1>mA</u1>
                <vtime>20020812-095636</vtime>
                <dev>internal</dev>
                <man>Endress+Hauser</man>
        </device>
        <device id="_4..20mA-2" tag="_4..20mA-2" type="INTRN">
```

```
                <v1>0.03</v1>
                <u1>mA</u1>
                <vtime>20020812-095636</vtime>
                <dev>internal</dev>
                <man>Endress+Hauser</man>
        </device>
        <device id="_5V" tag="_5V" type="INTRN">
                <v1>5.01</v1>
                <u1>V</u1>
                <vtime>20020812-095636</vtime>
                <dev>internal</dev>
                <man>Endress+Hauser</man>
                <hlsts>ok</hlsts>
        </device>
        <device id="_boardtemp" tag="_boardtemp" type="INTRN">
                <v1>23.95</v1>
                <u1>°C</u1>
                <vtime>20020812-095636</vtime>
                <dev>internal</dev>
                <man>Endress+Hauser</man>
                <hlsts>ok</hlsts>
        </device>
</fieldgate>
```

Example for "Device Value Changes" in XML format:

```
<?xml version="1.0" encoding="iso-8859-1"?>
<fieldgate  ser="-" tag="fxa520-mdm-dev" type="full" devices="single">
        <time>20020812-115737</time>
        <device id="1112000001" tag="LVLFLEX" type="HART">
                <v1>75.21</v1>
                <u1>t</u1>
                <vstslvl>0</vstslvl>
                <vsts>0x00 0x00</vsts>
                <vtime>20020812-115734</vtime>
                <v1_100>50.43</v1_100>
                <v1_lc>12.07</v1_lc>
                <serno>1</serno>
                <hwrev>1</hwrev>
                <swrev>2</swrev>
                <devrev>2</devrev>
                <cmdrev>5</cmdrev>
                <preambl>5</preambl>
                <dev>FMP4xx / Levelflex M</dev>
                <man>Endress+Hauser</man>
                <stime>20020812-115519</stime>
                <stsext>0x00 0x00 0x00 0x00 0x00 0x00</stsext>
                <fnum>0</fnum>
                <datecode>0</datecode>
                <desc>——————————</desc>
                <tag>LVLFLEX</tag>
                <msg>————————————————————</msg>
                <chn>0x10</chn>
                <type>HART</type>
                <ctime>20020812-114856</ctime>
                <unid>1112000001</unid>
                <hlsts>&lt;</hlsts>
                <param>
                        <i>1</i>
                        <o>1</o>
                        <lo>90.00</lo>
                        <hi>100.00</hi>
                        <alt>0.10</alt>
                        <atime>60</atime>
                        <r>1</r>
                </param>
        </device>
</fieldgate>
```

Example for text format e-mail:

FXA520-TSr Meldung.
_____

Tag : TSR 2002
Device: FMU4xx / Prosonic M
Device Status: 0 = OK
Channeldescription PV
Prosonic M
Distance

PV Value ; 2.43 m
Timestamp ; 21.01.2003 16:34:22
Maximum ; 5.00
Minimum ; 0.00

Limitstatus ; OK
Time of Limt ; 21.01.2003 10:54:54
LowLow-Limit ; 0.00
Low-Limit ; 0.50
High-Limit ; 4.00
HighHigh-Limit ; 4.80
Channeldescription SV
Prosonic M
Temperature °C

SV Value ; 23.80 °C
Timestamp ; 21.01.2003 16:34:22
Maximum ; 35.00
Minimum ; 15.00

Limitstatus ; OK
Time of Limt ; 21.01.2003 10:54:54
LowLow-Limit ; 18.00
Low-Limit ; 20.00
High-Limit ; 28.00
HighHigh-Limit ; 30.00
_____

Tag : ___TEST
Device: FMU862 / Prosonic
Device Status: 1 = WARN
Channeldescription PV
LIC 080
Channel 1

PV Value ; -10.00 %
Timestamp ; 21.01.2003 16:34:24
Maximum ; 110.00
Minimum ; -10.00

Limitstatus ; L
Time of Limt ; 20.01.2003 15:42:44
LowLow-Limit ; 5.00
Low-Limit ; 15.00
High-Limit ; 85.00
HighHigh-Limit ; 100.00
Channeldescription SV
LIC 081
Channel 2

SV Value ; 104.57 %
Timestamp ; 21.01.2003 16:34:24
Maximum ; 110.00
Minimum ; -10.00

Limitstatus ; OK
Time of Limt ; 21.01.2003 14:06:15
LowLow-Limit ; -10.00
Low-Limit ; 0.00
High-Limit ; 110.00
HighHigh-Limit ; 120.00
_____

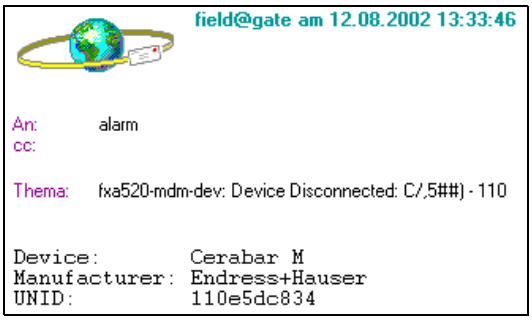
Tag : _5V
Device: internal
Channeldescription PV

PV Value ; 5.09 V
Timestamp ; 21.01.2003 16:34:20

Limitstatus ; OK
Time of Limt ; -
Low-Limit ; 4.50
High-Limit ; 5.50

14.2.5 Examples for alarm e-mails

Example for "Device Disconnected"



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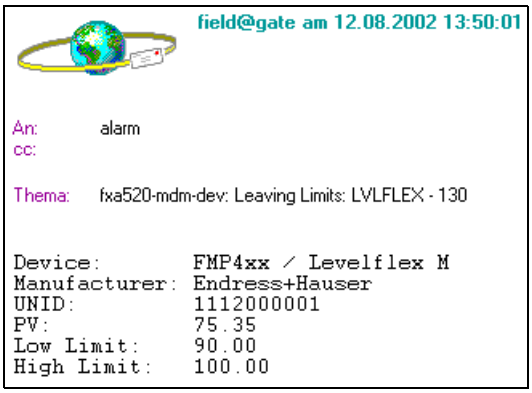
Example for "Leaving Limits"



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Example for "illegal user/password combination"

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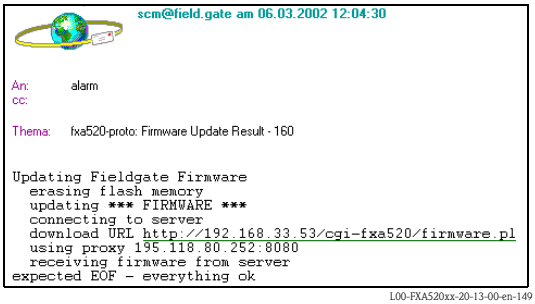
Example for "Firmware Update Result"



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14.2.6 Examples of alarm e-mails via SMS

Example: SMS System reboot

fxa520: System reboot Bootarea

Example: SMS IP address assigned

fxa520:IP assigned : http://80.187.18.162/

Example: SMS Device Connected

fxa520:Device Connected Dev.:FMR2xx / Micropilot M

Example: SMS Alarm limit violation

fxa520:SILO 1:Transition OK -> High: PV:94.14 Time:25.03.2003 15:48:15 HH:99.00 H:90.00 L:85.00 LL:80.00

Sending an SMS in the event of a limit violation alarm is combined with the producing of e-mails. This means that the function for generating e-mails in the event of limit alarms and alarm resets must be activated.

15 Remote configuration (HART Client)

Note!
The HART Client add-on makes it easier to connect to the Fieldgate and is required for remote configuration, e.g. with ToF Tool.

Caution!
The HART Client (version ≥ 1.5) can be run on the following operating systems:
- WIN 98
- WIN NT 4.0
- WIN 2000
- WIN XP

and with the following tools:

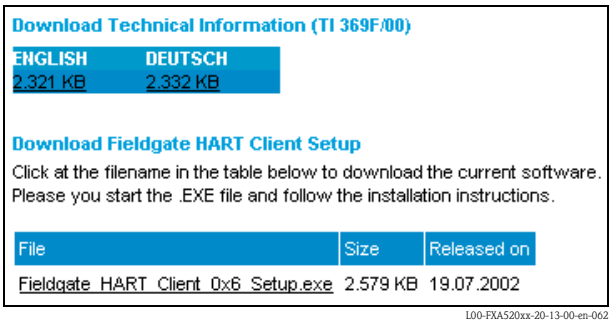
- ToF Tool (version ≥ 3.10)
- FieldTool (version ≥ 1.03.06)
- ReadWin (version ≥ 1.9.2)
- Commuwin II (version ≥ 2.08-1)
- OPC Server (version ≥ 1.4.0.0)

All other operating systems are not supported!

HART Client connection

There is online help available in the HART Client.

Note!
You can download the current HART Client freeware from the Internet from the Endress+Hauser product pages as follows:
Under "**Products ➜ Product Portfolio ➜ System components ➜ Fieldgate ➜ Fieldgate FXA 520**"



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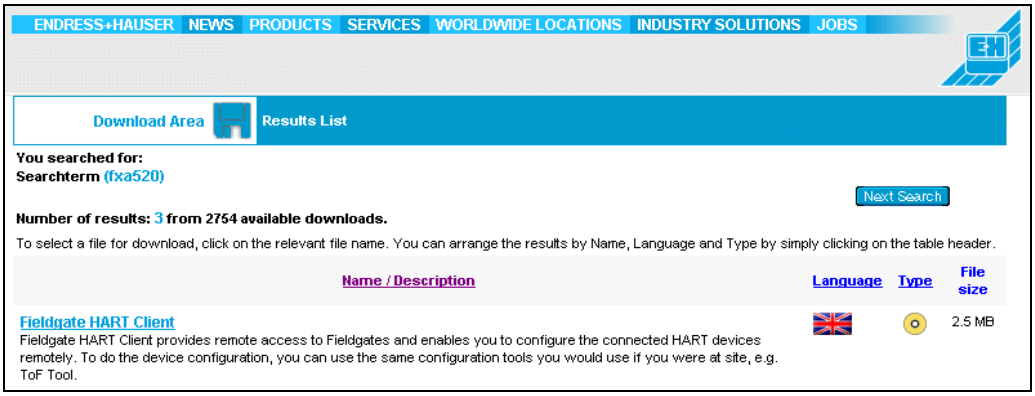
or

With the aid of the download area and the search string "**FXA520** "



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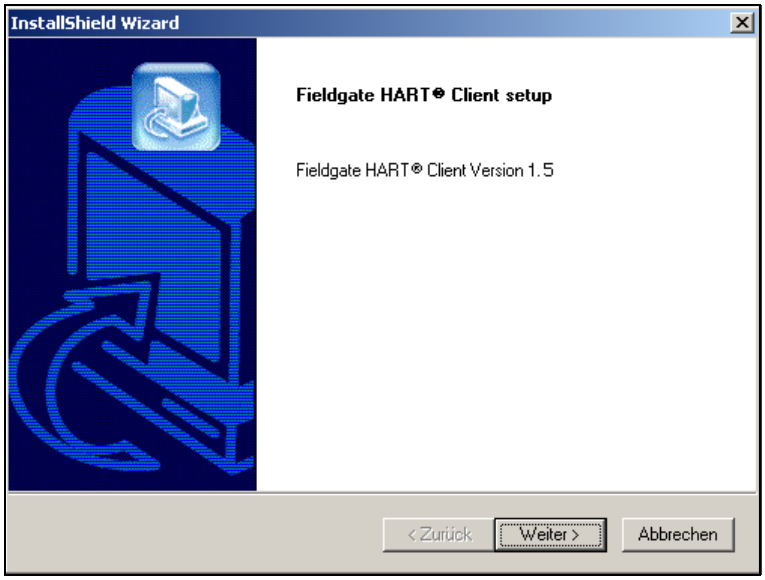
HART Client installation

Start the EXE file and follow the installation instructions.



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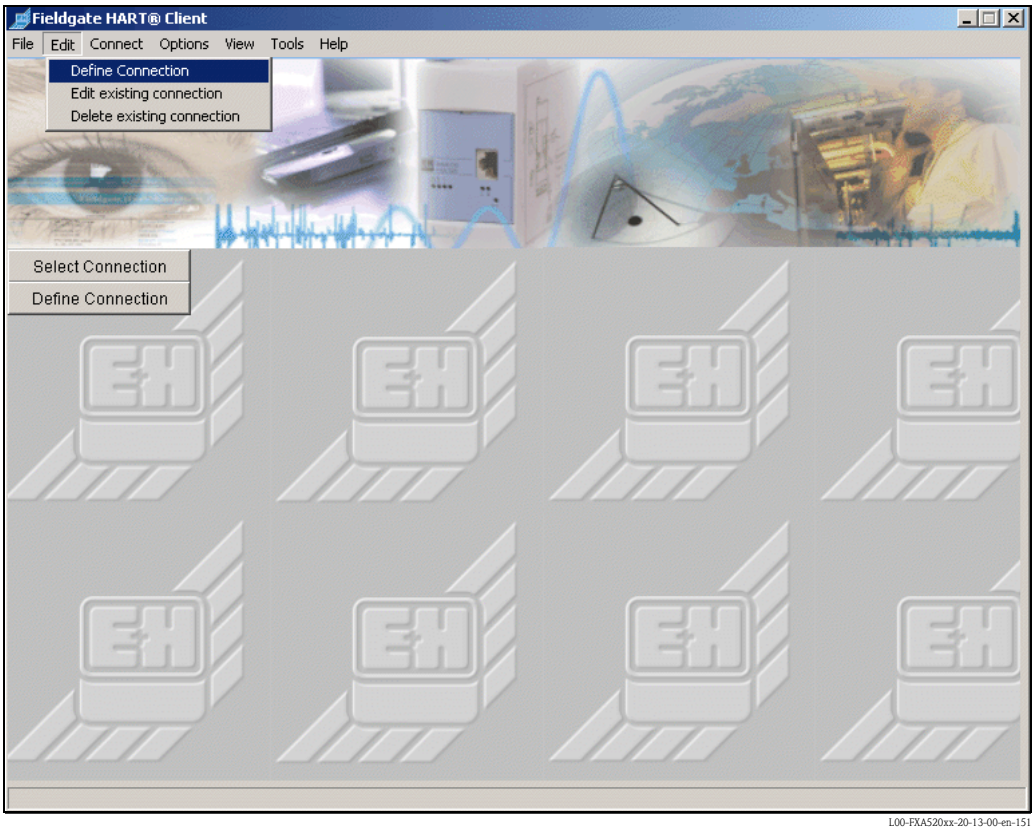
Starting the program

1. Start the program via "**Start ➜ Programs ➜ Endress+Hauser ➜ Fieldgate HART Client**"
2. In the "**Edit**" menu, click:
   - "**Define Connection**" – to define a new connection
   - "**Edit existing connection**" – to edit a connection already defined
   - "**Delete existing connection**" – to delete a defined connection



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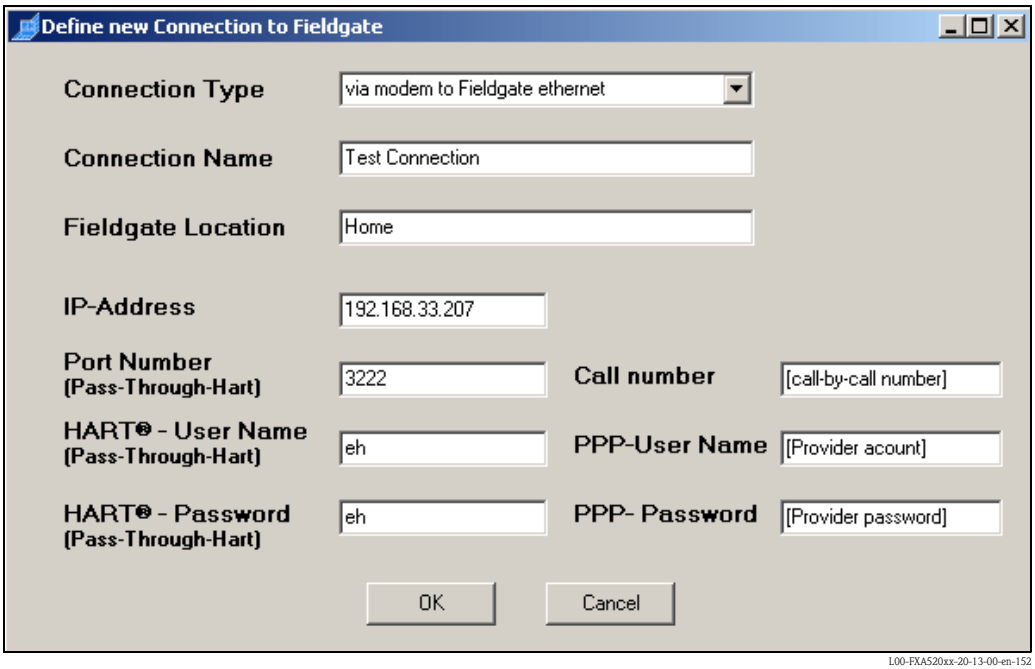
The following parameters can be configured:



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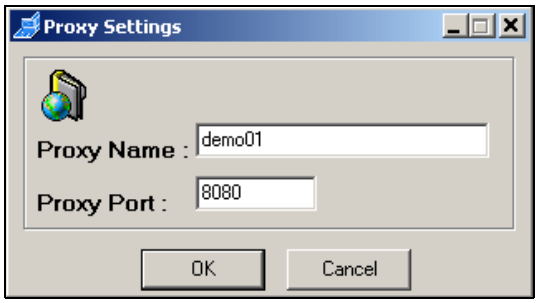
- **Connection Type**
  You can select the connection type here:
  – "**via modem to Fieldgate modem**"
  Connection between PC modem and analogue version of the Fieldgate
  – "**via modem to Fieldgate ethernet**"
  Connection between PC modem and Ethernet version of the Fieldgate
  – "**via Ethernet to Fieldgate ethernet (WAN - via proxy)**"
  Connection between PC Ethernet and Ethernet version of the Fieldgate



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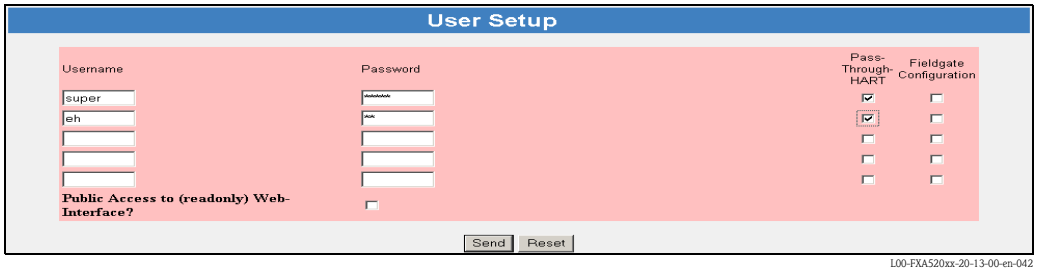
Other types of connection are in preparation.

- **Connection Name**
  The name/description of the Fieldgate is entered here. This entry does not affect the function.
- **Fieldgate Location**
  The name/location of the Fieldgate is entered here. This entry does not affect the function.
- **IP-Address**
  The IP address of the Fieldgate to be selected is entered here.
- **Port Number Pass-Through-Hart**
  The factory setting is set to "3222".
  Please contact your system administrator if you have any problems with this.
- **HART User Name / HART Password**
  The name and the password of the Fieldgate to be selected is entered here (Pass-Through-HART).



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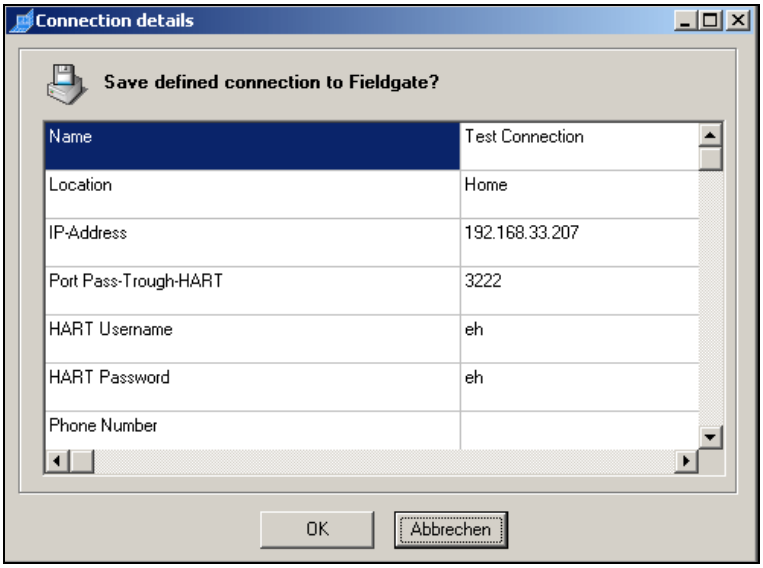
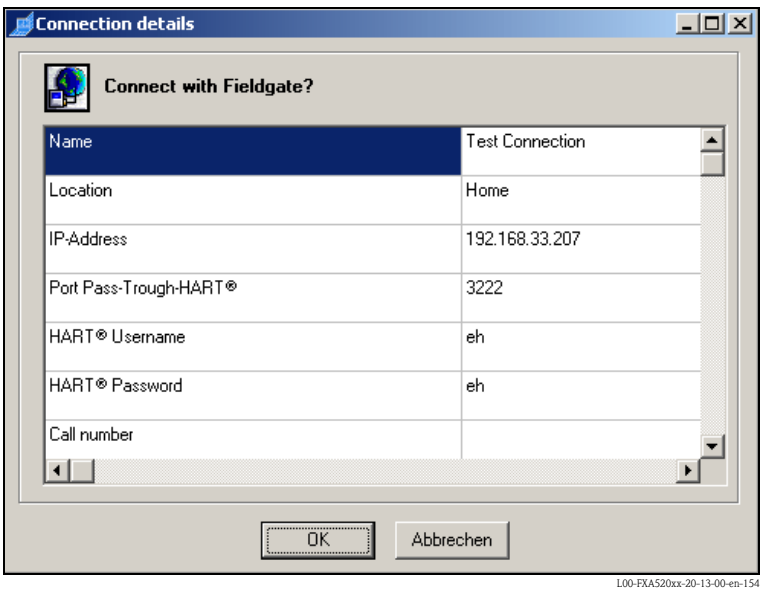
For PC modem ➜ Fieldgate modem or PC modem ➜ Fieldgate Ethernet

- **Call Number**
  The telephone number of the Fieldgate or of the providers is entered here.
- **PPP-User Name** (User Name with Provider)
  For PC modem ➜ Fieldgate Ethernet.
  The name of the user is entered here. "**scm**" is preset.
- **PPP-User Password** (Password with Provider)
  For PC modem ➜ Fieldgate Ethernet.
  The user's password is entered here. "**scm**" is preset.

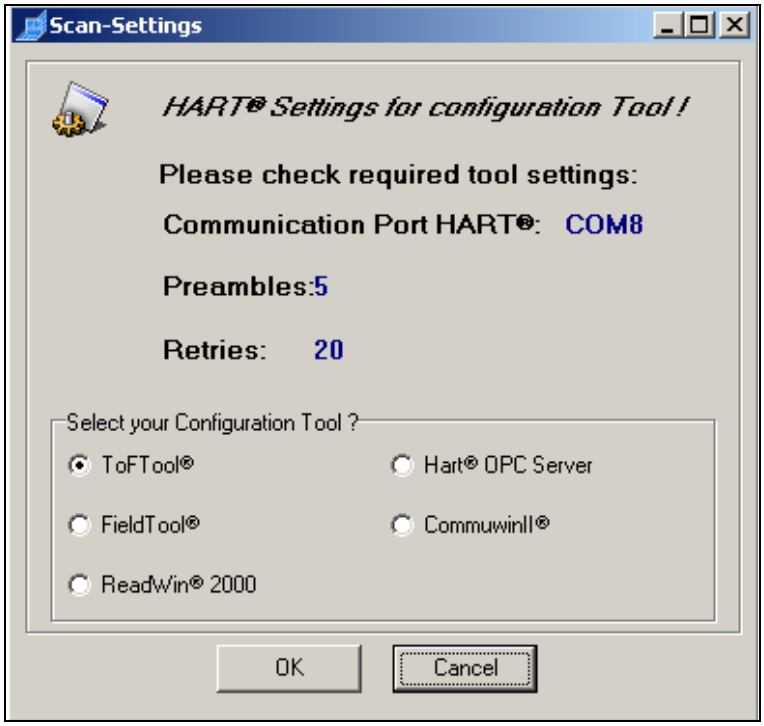
By clicking "**Yes**" to confirm, the connection is listed again. Save the defined connection by confirming with "**OK**".



Confirming with "**OK**" establishes the connection.

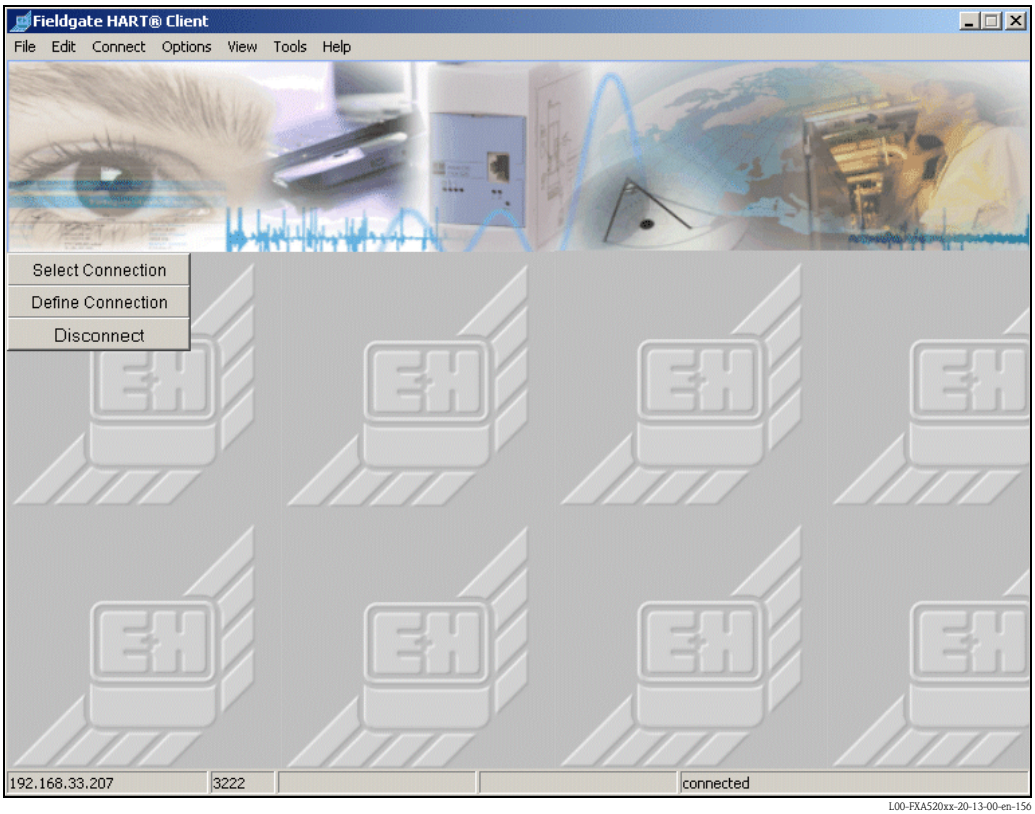


Select the configuration tool, which is to be used, and confirm with "**OK**".



Note!
In the configuration tool (e.g. ToF Tool), the following values must be set for the HART parameters corresponding to the output:
- COM-Port HART = 8
- Retries = 20
- Preambles = 5

The connection is now made and the Fieldgate can be accessed by means of the web browser (e.g. Internet Explorer) or the configuration tool (e.g. ToF Tool). "**connected**" is displayed in the status line of the Fieldgate HART Client window. If you would like to break the connection again, click on the "**Disconnect**" button.



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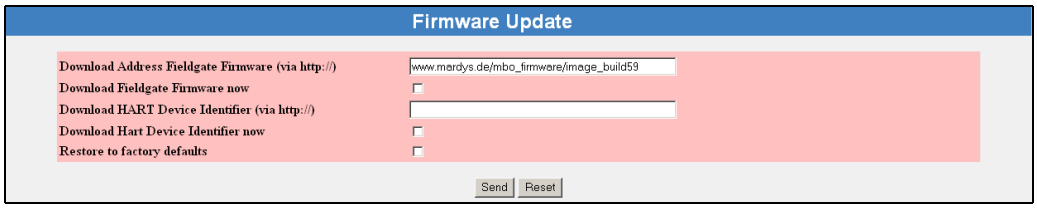
16 Software Update

Note!
This function is in preparation.

Software can be updated in the administrator mode via the web interface as follows:

1. Use the "**Switch to Administrator Mode**" function to switch to the administrator mode.
2. To run a software update, go to the section
"**Information & Configuration ➜ Special ➜ Firmware Update**".



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3. Activate the appropriate checkbox and click the "**Send**" button.

17 FAQs (frequently asked questions)

Error description	Cause	Action
I cannot reach my Fieldgate on GPRS	There are only internal IP addresses10.x, 172.x, 192.x assigned by the GSM / GPRS provider (Check assigned IP Address: Information&Configuration -> Information)	Ask GSM / GPRS Provider to assign you a public IP Address or select another GSM Provider
Fieldgate no longer on GPRS after it has been dialed on the phone	Fieldgate is currently programmed in this way	Enable "GPRS always online" checkbox whenever a call via phone is made
HART Client and ToF Tool: no connection	The parameters in Fieldgate do not correspond to the HART Client settings or user has no rights to use "Pass-Through-HART"	Enable user to access via "Pass-Through-HART" (Checkbox) and / or set HART Port No. the in Fieldgate to the same parameters as in the HART Client
HART Client: No stable connection	Wrong operating tool selected in the HART Client	Set the operating tool in the HART Client to the used tool (ToF Tool, Commuwin, ReadWin, FieldTool, OPC Server...)
HART Client and ToF Tool: no stable connection	The interface parameter is not correctly set in the ToF Tool	Set "Busy Retries" AND "Error Retries" to the values given by the HART Client
HART Client and Commuwin II: no stable connection	Parameters in the Commuwin II HART Server not correct	1. Use Commuwin II version 2.08 2. Add the entry "ModemRequestTimeout=2000" (refer to Commuwin II manual) in the data file C2HART.INI
HART Client: Error opening COM Port	The old version of HART Client has not been correctly uninstalled	Uninstall all versions of the HART Client and re-install the latest version
GSM Fieldgate: a phone call is answered but the modem does not start to synchronize (silence)	Fieldgate is being called on the phone number of the Voice-Channel of the SIM card	Fieldgate has to be called on the phone number of the data channel (can be a different number)
Measurement e-mails are being sent although the checkbox is not enabled	Fieldgate is programmed this way	Delete all values for Limit Settings, where no e-mail should be sent
Fieldgate receives no IP address from a DHCP Server	Currently the Fieldgate supports the BOOTP protocol which is no longer supported from every DHCP Server	Enable BOOTP protocol for the DHCP Server or use a fixed IP Addess or ask for a new Fieldgate Software update (End 2003)
After changes via the Service Cable data is not stored in Fieldgate after the next power up	As long as the Service Cable is connected, the configuration data cannot be stored by the Fieldgate to the EEPROM	Either wait about 5 minutes after the disconnection of the service Cable or perform a restart of the software ("Information & Configuration" -> "Special" -> "System restart")
The password super/super or eh/eh does not operate	Pay attention to upper and lower case	Key-in the password correctly
Time is in the CSV file generated by FXADA V 1.0 registered twice (i.e. 1616:54:32 instead of 16:54:32)	In the country settings of Windows the time format is set to H:mm:ss	Choose as time format HH:mm:ss in the Windows control panel
HART Multidrop: no stable connection	There are disturbances on the HART signal	Decrease the number of HART devices operating on the line
HART Multidrop: no connection	Devices have identical (Long) HART addresses (it can arise with some electronic devices, when the unique serial number has not been assigned)	Replace the electronic devices or enter a unique HART serial number
Promag 53 shows different values on the Display than in HART (Fieldgate)	Promag is not configured properly	Use HART OPC Server (http://www.hartcomm.org/develop/server2/index.html) to put the units in accordance with the Promag operating instructions

Question	Answer
How can I send an SMS with Fieldgate? (Analog/ Ethernet Version)	It is not possible to send an SMS directly from an analogue or Ethernet Fieldgate. You have to go to a provider who, for example, automatically sends an SMS when an e-mail arrives. Many freemailers offer such services (e.g. t-email.de, directbox.com, web.de etc.)

18 Accessories

18.1 Protective housing

The protective housing in protection class IP 66 is equipped with an integrated top-hat rail and is close with a transparent cover that can also be lead sealed.

Diemensions:
W 180 / H 182 / D 165

Color:
Light grey RAL 7035. Order number: 52010132.

18.2 DAT module

The DAT module (Order no. 52013311) is used to save a particular configuration of the Fieldgate. With the aid of a DAT module, you can also duplicate a defined configuration in several Fieldgates.

Note!
Please insert and remove the DAT module in de-energised state only!

Copying the Fieldgate configuration to the DAT module

Once you have configured the Fieldgate, you can copy this configuration to the DAT module. To do so, you must switch off the Fieldgate and insert the DAT module in the socket provided (6) (→ Fig. 10 on Page 14). Then keep button (7) pressed and switch on the Fieldgate. The red LED (2) flashes for approx. 5 s. In this interval, you must release the button (7) and the Fieldgate configuration is stored in the DAT module.

Copying the configuration from the DAT module to the Fieldgate

For this, you must de-energise the Fieldgate and insert the DAT module. When switched on again, the data are copied from the DAT module into the internal EEPROM of the Fieldgate.

18.3 PC cable

A PC can be connected to the FXA 520 for configuration purposes via a serial RS 232 connection. Order number: 52013984.

18.4 Telephone cable

RJ11 (analogue plug, double sided, length: 5 m). Order number: 52014031.

18.5 HART Client

The HART Client is a free add-on which is required for remote configuration via HART tools (e.g. with ToF Tool, FieldTool, ReadWin, ...).
You can download the current software version from the Internet from the Endress+Hauser product pages.

18.6 Antenna

Antenna for communication via mobil communications (GSM). Order number:
- Triband flat antenna. Order number: 52018396
- Dual band station antenna. Order number: 52018395

18.7 Multiplexer

Cable for the HART Multiplexer-System

Order number: 52017687
Operating Instructions BA 265F/00/de - Order number: 52017693

Interface Modul without Communication resistor

Order number: 52017689
Operating Instructions BA 266F/00/en - Order number: 52017694

Interface Modul with Communication resistor

Order number: 52017690
Operating Instructions BA 267F/00/de - Order number: 52017695

HART-Multiplexer Master KFD2-HMM-16

Order number: 52017691
Operating Instructions BA 268F/00/en - Order number: 52017696

Switched power supply

Order number: 52017688
Operating Instructions BA 269F/00/en - Order number: 52017698

HART-Multiplexer Slave KFD0-HMS-16

Order number: 52020232
Operating Instructions BA 283F/00/en - Order number: 52021045

18.8 E+H Multidrop Connector

Operated several devices in multidrop operation for FXA520.
Order number: 52023652.

18.9 E+H power supply units

RMA 422

Multifunctional 1-2-channel top-hat rail device with intrinsically safe current inputs and transmitterpower supply, limit value monitoring, mathematics functions and 1-2 analogue outputs.

RNS 221

Power supply unit for supplying power to two two-wire sensors or transmitters in non-hazardous areas.

RN 221 N

Isolator with power supply for safely isolating 4...20 mA standard signal circuits.

RMA 421

Multifunctional 1-channel top-hat rail device with universal input, transmitter power supply, limitvalue monitoring and analogue output.

19 Appendix

19.1 Establishing a connection with a PC cable (Exemplary instruction for Windows NT)

Note!
All Fieldgate versions can be configured with the PC cable.

19.1.1 Installation

Connect your personal computer and the Fieldgate with the PC cable supplied. The service connector (see Fig. 10, item 8) is used to connect the Fieldgate. The COM port selected is used to connect the PC.

19.1.2 Setting up the personal computer

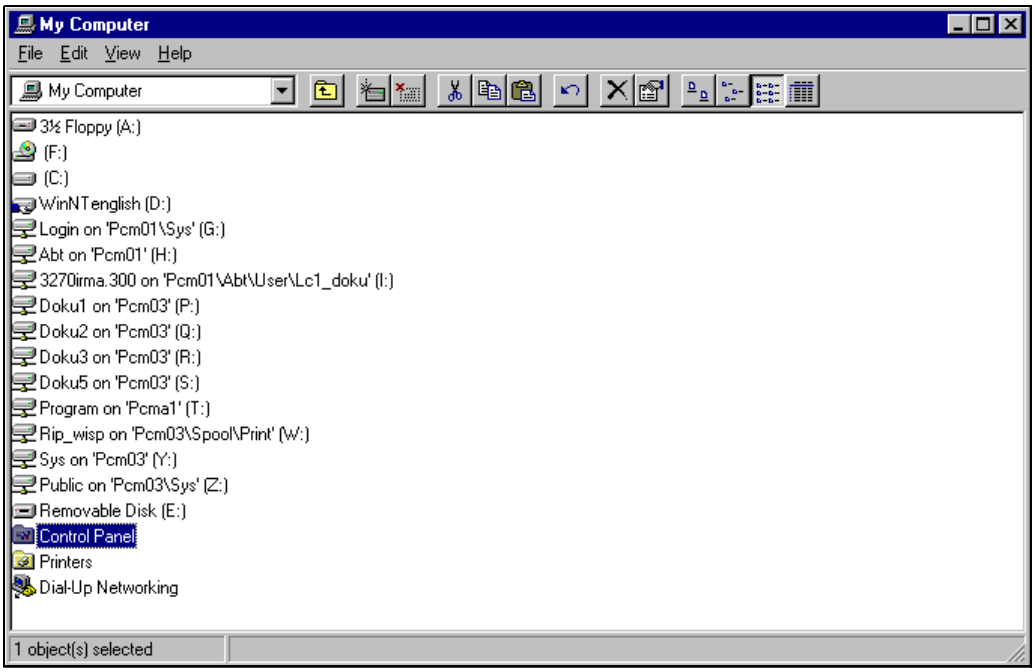
Note!
All Fieldgate communication versions can be commissioned via the PC cable with a web browser (Internet Explorer, Netscape Navigator, etc.). The IP address to be contacted via the PC cable is fixed permanently and cannot be changed (**IP = 192.168.253.1**).

Installing a modem

Install a standard modem if this is not yet installed on your PC.

The following are sample instructions for Windows NT® :

1. Using the left mouse button, double-click the "**My Computer**" icon to open the appropriate window.



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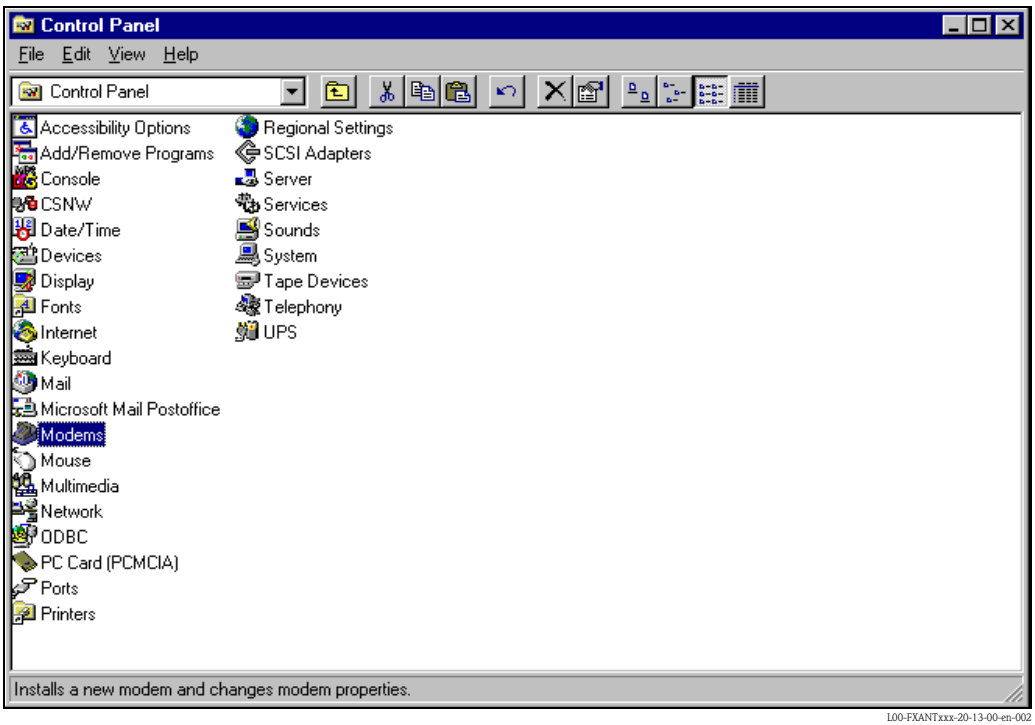
2. Using the left mouse button, double-click the "**Control Panel**" icon to open the appropriate window.



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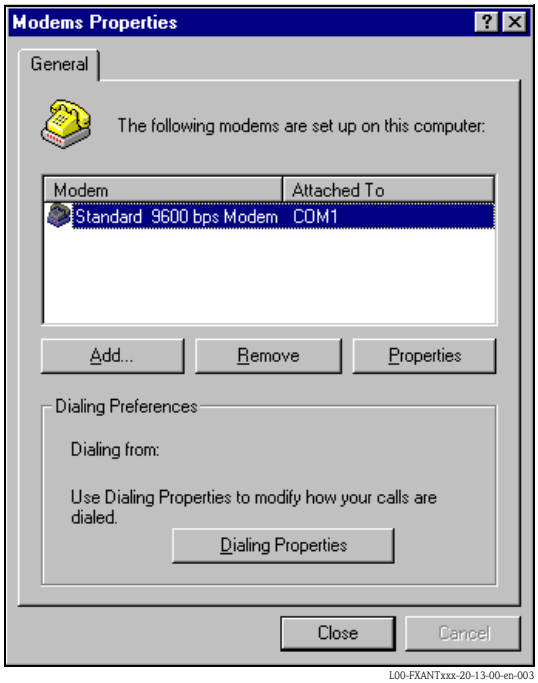
3. Using the left mouse button, double-click the "**Modems**" icon to open the appropriate window.



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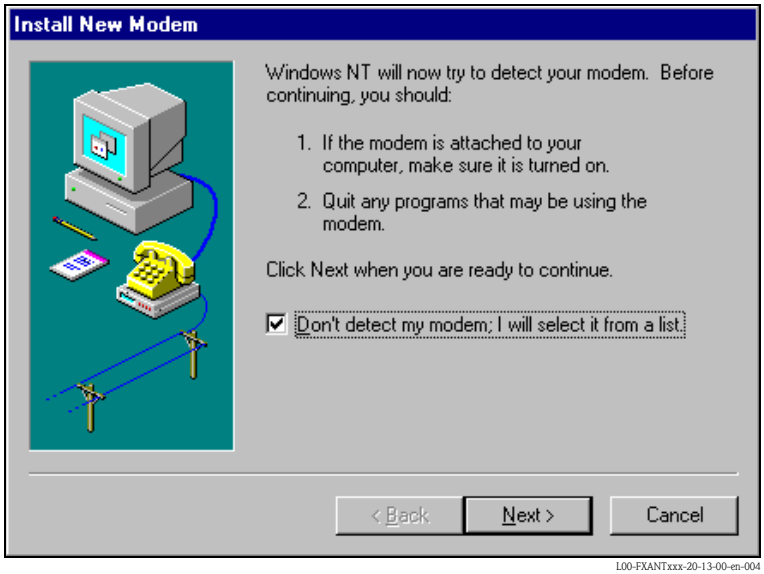
4. Here you must left-click the "**Add...** " button to add a new modem.



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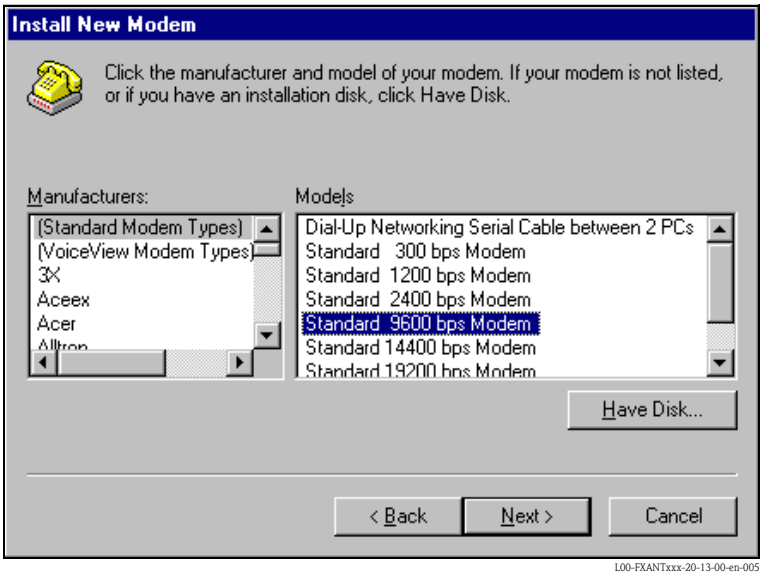
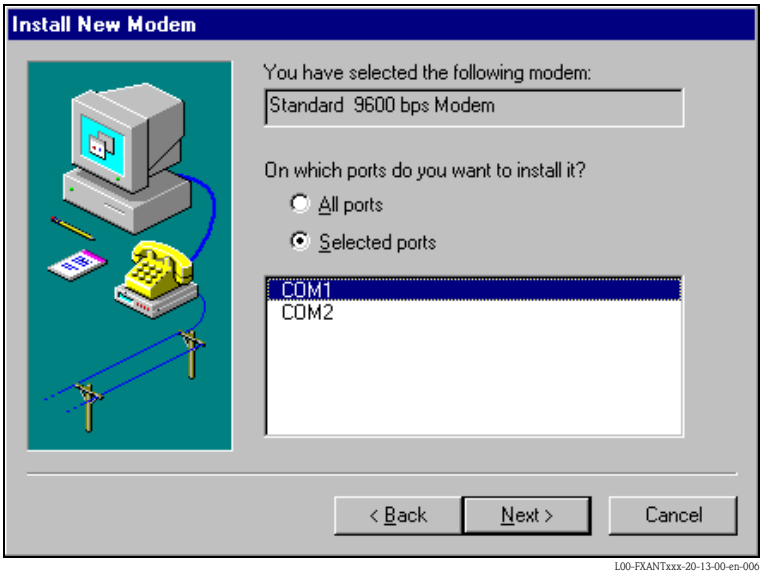
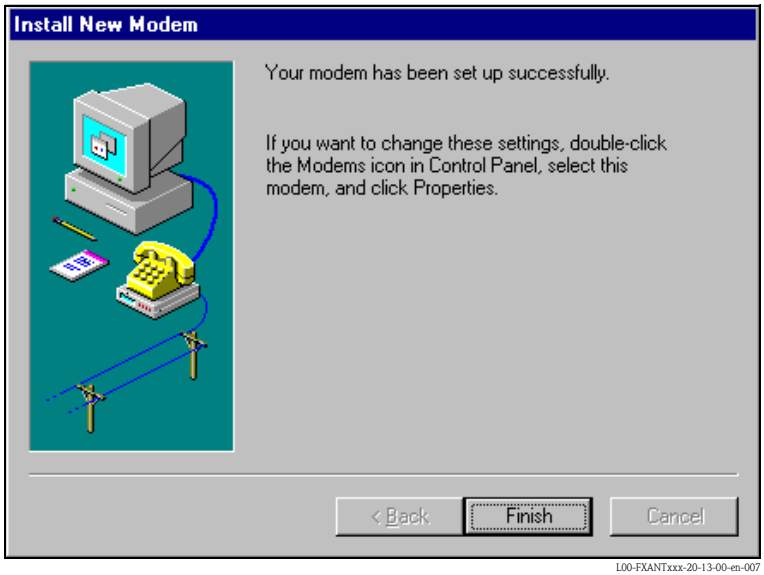
5. Activate the checkbox "**Don‘t detect my modem; I will select it from a list.**", click "**Next >**" to confirm.



6. Select the following from the picklists "**Manufacturers: ➜ (Standard Modem Types)**" and "**Models: ➜ Standard 9600 bsp Modem**" and click "**Next >**" to confirm.



7. Select the desired COM port and click "**Next >**" to confirm.



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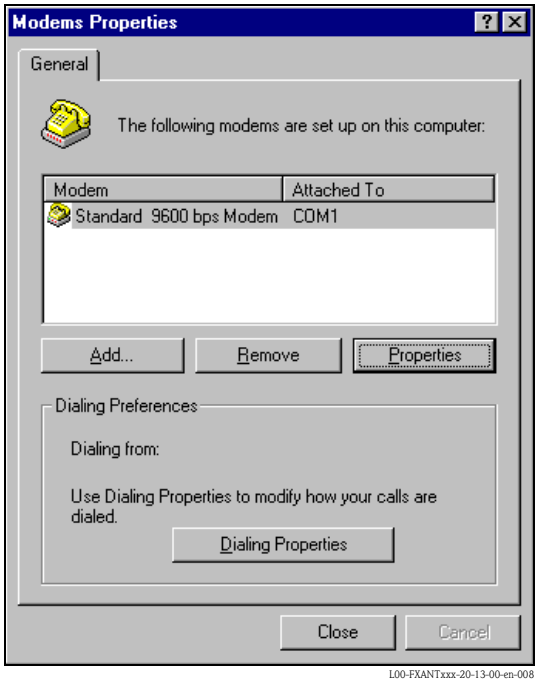
8. Click "**Finish**" to confirm the modem installation.
9. Using the left mouse button, double-click the "**Modems**" icon to open the appropriate window.



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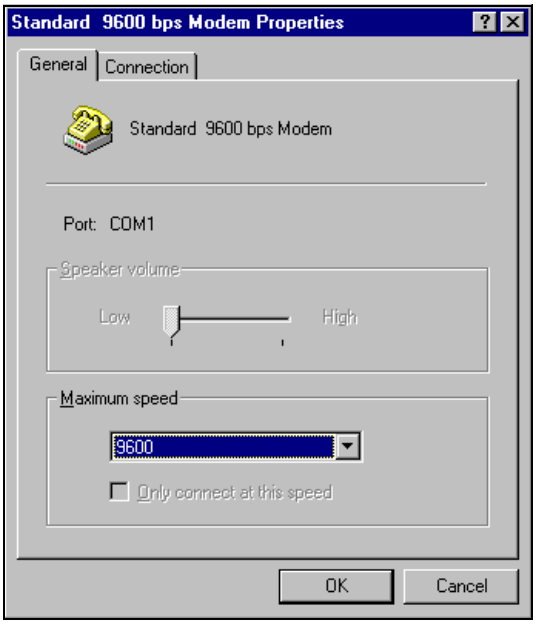
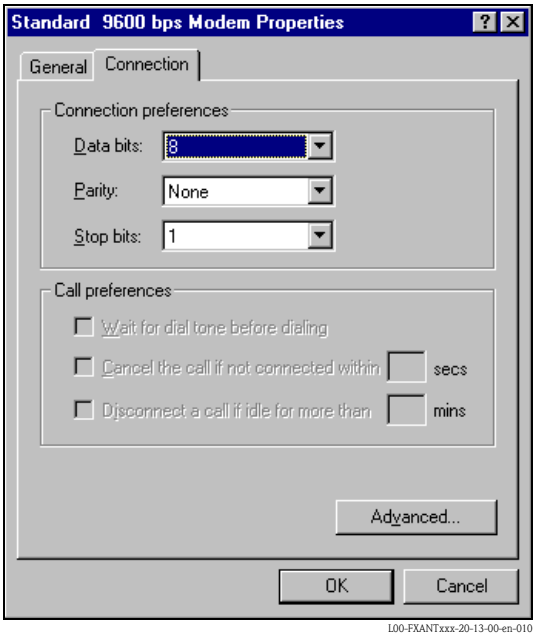
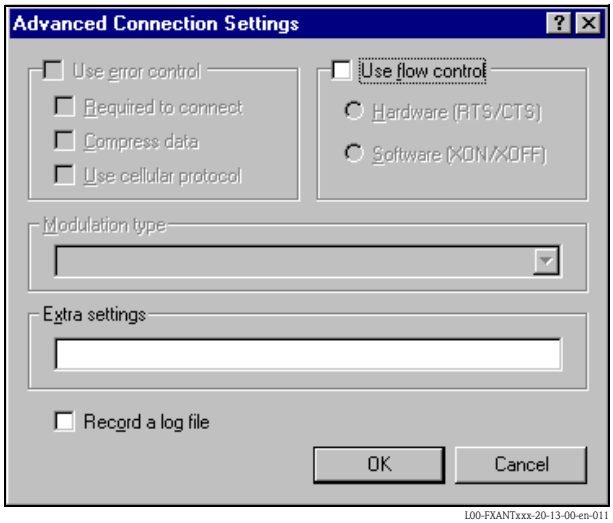
10. Select the newly installed modem "**Standard 9600 bsp Modem**" and left-click the "**Properties**" button.



11. Select the tab for "**Connection**".



12. Left-click the "**Advanced...**" button.
The checkbox for "**Use flow control**" must be deactivated here.
Click "**OK**" to confirm your settings.



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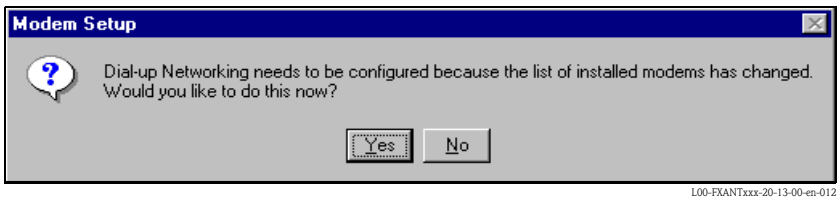
13. Close all windows.
14. Click "**Yes**" to confirm the following message.



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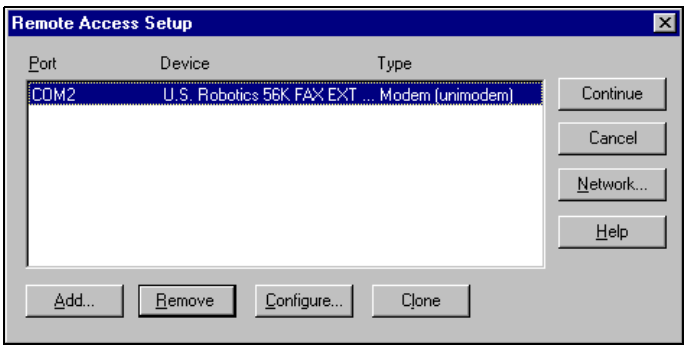
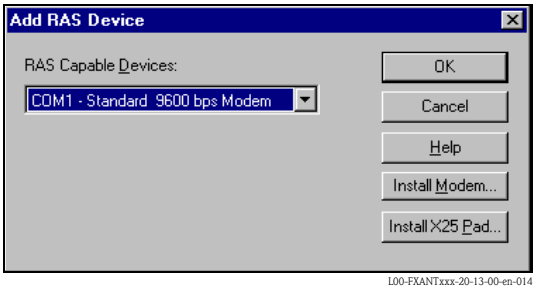
Setting up RAS

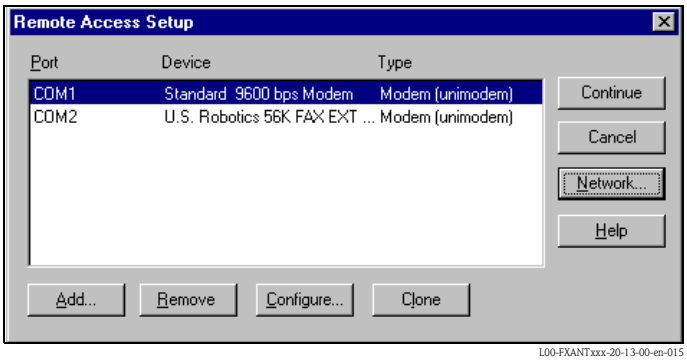
1. In the "**RAS setup**" window, left-click the "**Add...**" button.



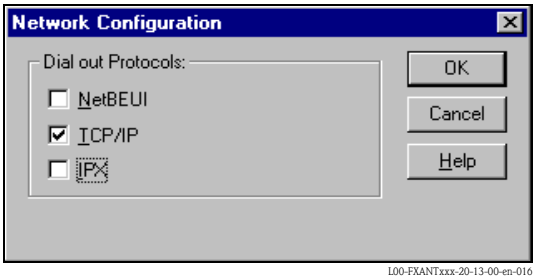
2. Click "**OK**" to confirm your choice.



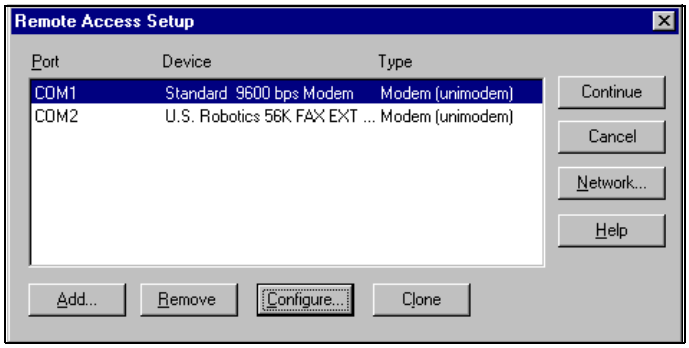
3. Select the newly installed modem and left-click the "**Network...**" button.



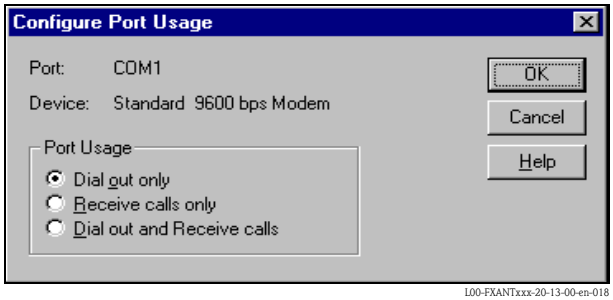
4. Activate the checkbox for "**TCP/IP**" as the client protocol and click "**OK**" to confirm the setting.



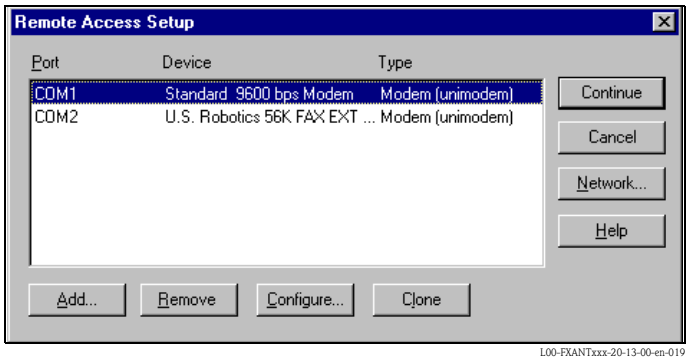
5. Select the newly installed modem and left-click the "**Configure...**" button.



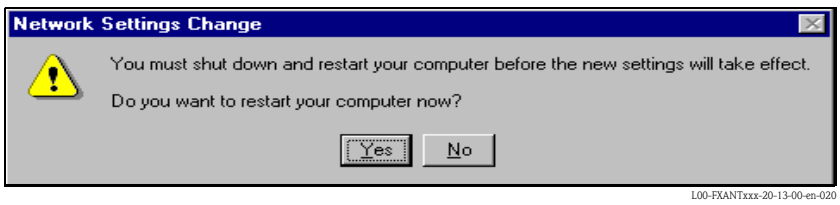
6. For the "**Port Usage**" only activate the option for "**Dial out only**" and click "**OK**" to confirm.



7. Click "**Next >**".



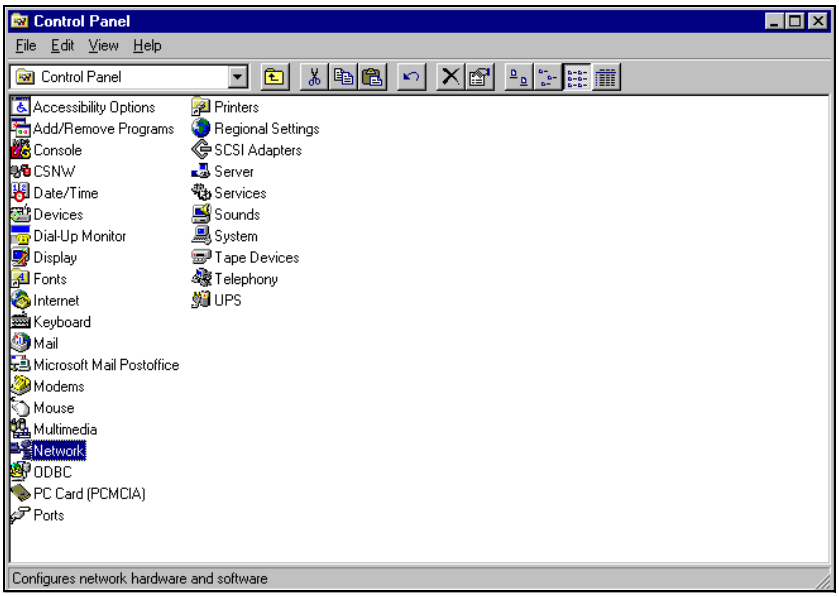
Your modem for the Fieldgate PC cable is now set up and you are requested to restart your computer. Click "**Yes**" to restart your computer.



Setting up a dial-up networking connection

Now you must set up a dial-up networking connection.

1. Using the left mouse button, double-click the "**Network**" icon to open the appropriate window.



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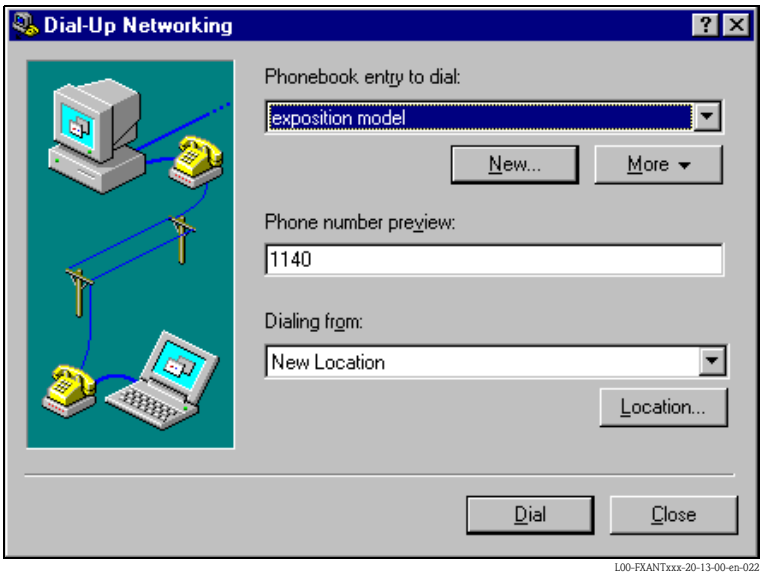
2. Left-click the "**New...**" button.



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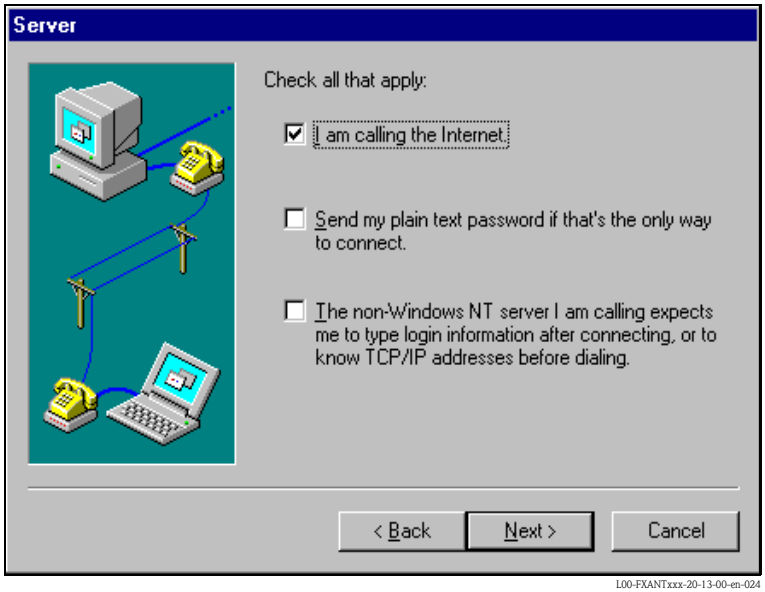
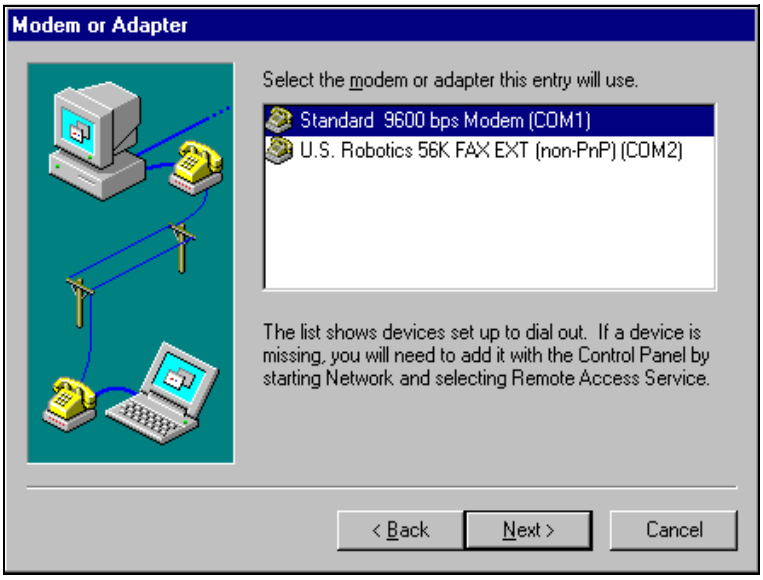
3. Enter the connection name in the "**Name the new phonebook entry:**" field. You can enter any name you choose (e.g. PC cable connection in our example). Click "**Next >**" to confirm the name entered.

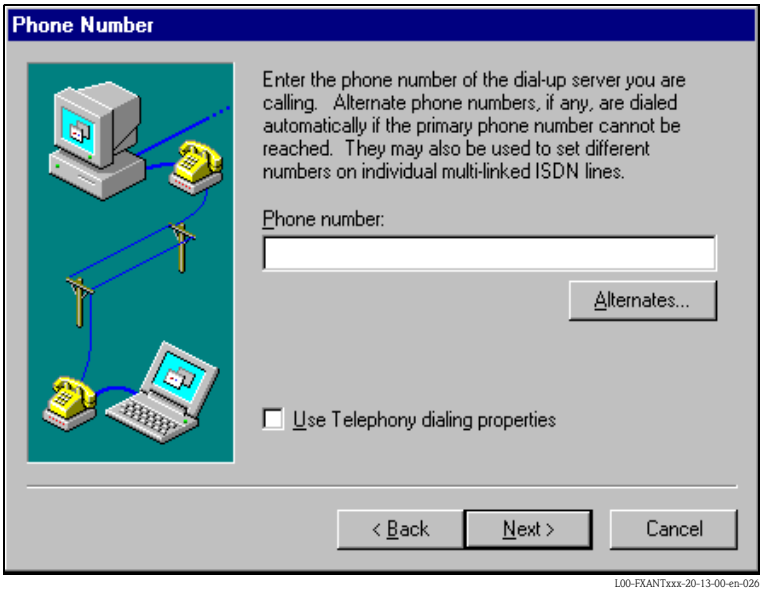
4. In the following window, only activate the checkbox for "**I am calling the Internet**" and click "**Next >**" to confirm.



5. Select the standard modem newly set up "**Standard 9600 bsp Modem (COM1)**" and click "**Next >**" to confirm.



6. In the following window, enter the telephone number (a hypothetical number of no significance, such as 12345...) and click "**Next >**" to confirm.

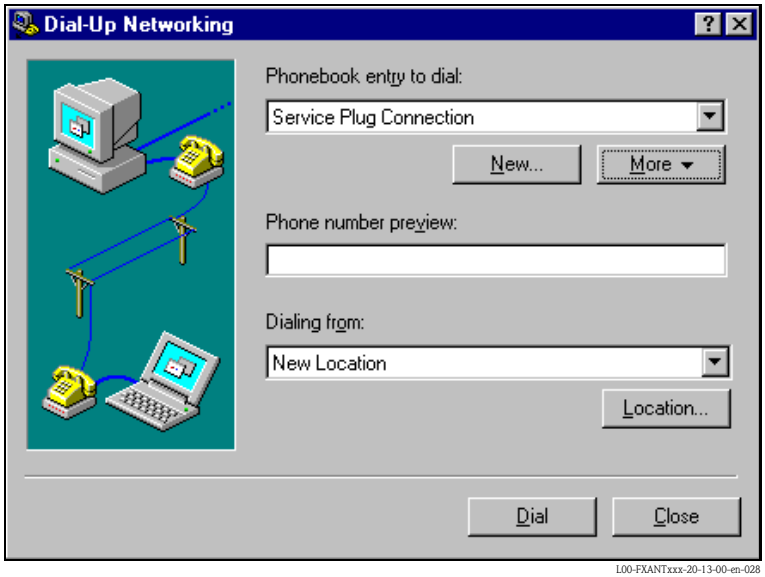


7. Click "**Finish** " to confirm the settings for the new telephone book entry.

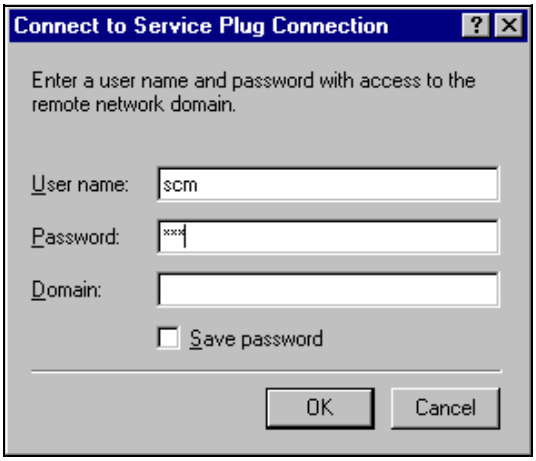
The dial-up networking connection is set up.

19.1.3 Making the connection

1. Using the left mouse button, double-click the "**Network**" icon to open the appropriate window.

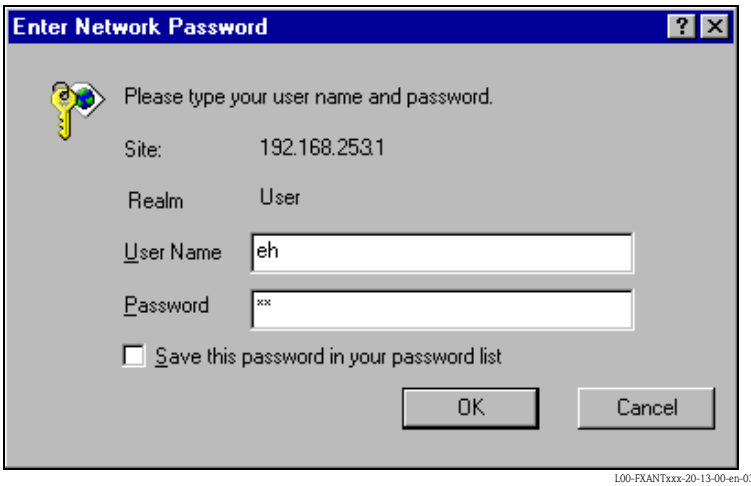


2. Select the connection recently set up (e.g. "PC cable connection"). Check the "**Hardware Settings**". To to so click the "**More**" button. Click "**Dial**" to confirm your settings.
3. In the following window enter:
   – the user name "**scm**"
   (This is permanently stored in the Fieldgate and cannot be altered!)
   – and the password "**scm**"
   (This is permanently stored in the Fieldgate and cannot be altered!)



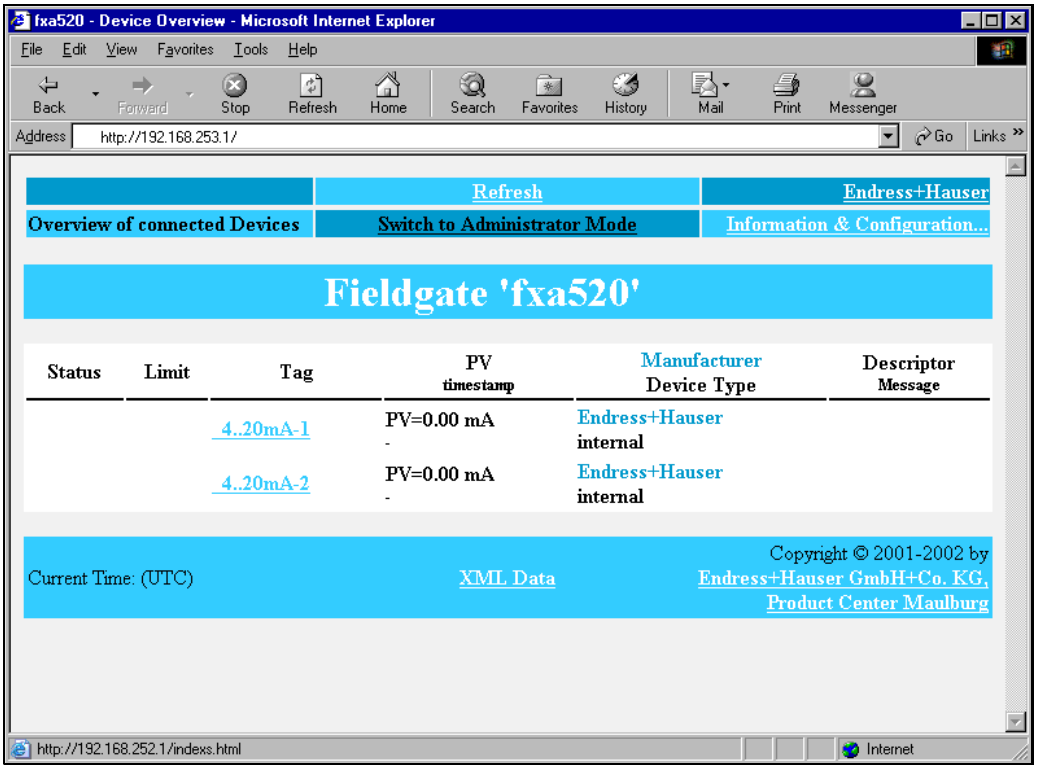
4. Click "**OK**" to confirm your entries.

5. Start the web browser once the connection is made. Enter the IP address "**192.168.253.1**". This IP address for the PC cable is fixed permanently in the Fieldgate and cannot be changed!
6. In the following window enter:
   – the user name "**eh**"
   – and the password "**eh**"
   (in the delivery status).
   Click "**OK**" to confirm your entries.



19.1.4 Working in the web browser

The user interface is displayed in the web browser and the Fieldgate can now be commissioned.



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19.2 Establishing an Ethernet connection (Exemplary instruction for Windows NT)

19.2.1 Installation

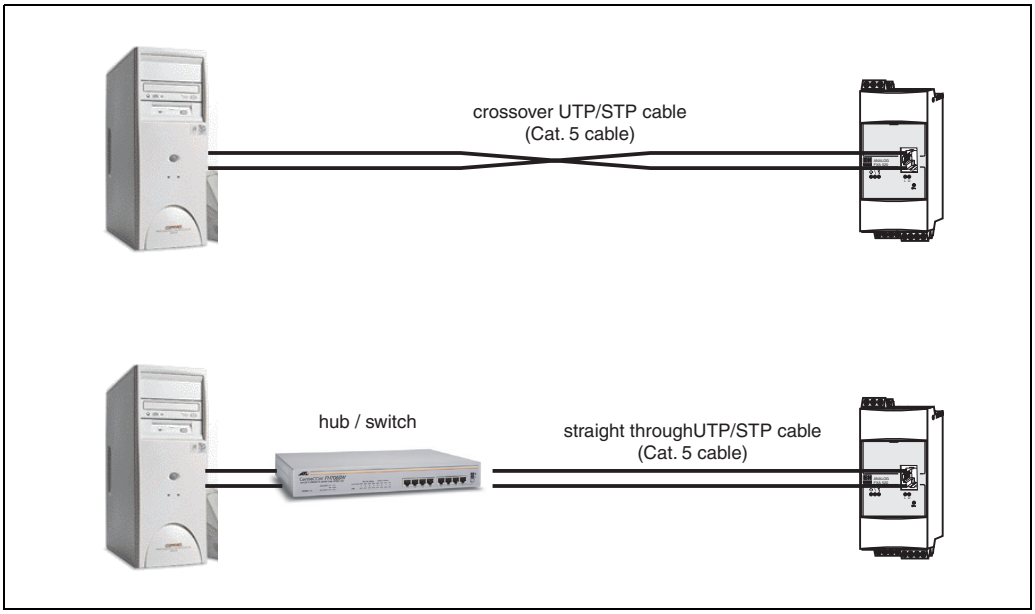
Caution!
Ensure that the supply voltage matches the specifications on the nameplate.
Please refer also to the online help of your operating system.

19.2.2 Setting up the personal computer

To establish an Ethernet connection, your personal computer must be equipped with a network card and the TCP/IP protocol must be supported.

19.2.3 Making the LAN connection

Use a crossover UTP/STP cable (Cat. 5 cable) to connect the Fieldgate to your PC or use a straight-through UTP/STP cable (Cat. 5 cable) and a hub/switch. For this, please use the socket on the front of the Fieldgate.



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If the yellow LED "**L** " for Link (s. Abb. 10, item 4 on Seite 14) lights up, the Fieldgate is physically connected to the Ethernet. If not, check the cable and/or use another cable type (crossover/ straight-through).

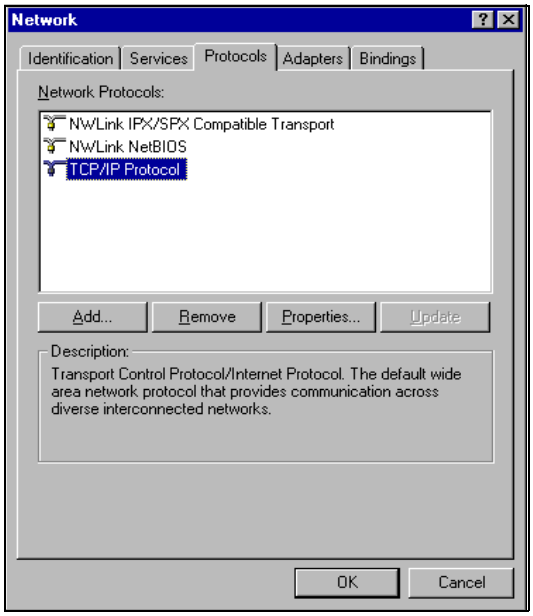
For connection to the Fieldgate, you must adapt the IP address of your PC to that of the Fieldgate or add another address to the existing IP address.
When delivered, the Fieldgate has the IP address **192.168.252.1** as standard.

Thus, configure an IP address in the address range 192.168.252.2 to 192.168.254.252. For example, 192.168.252.2 network mask 255.255.255.0.
Please refer to your PC manual for information on how to change the IP address of your PC.

Caution!
For the following instructions under Windows® 2000, you require administrator rights. Contact your system administrator.

The following are sample instructions for Windows ® NT:

1. Right-click "**Network ➜ Properties**"
2. Select the tab for "**Protocols**".



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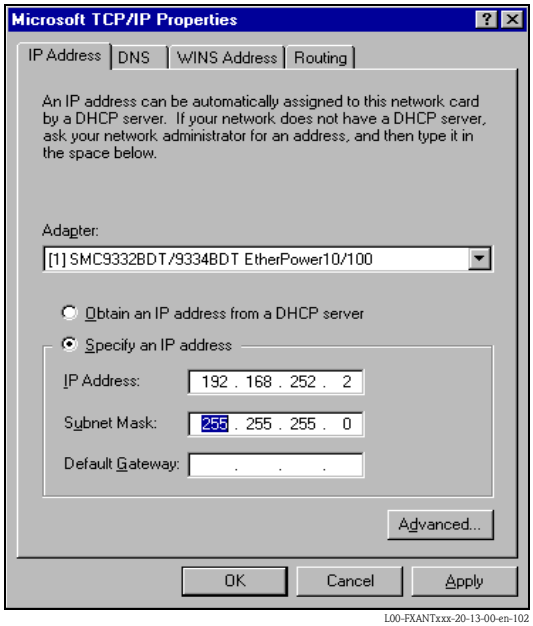
3. Now you can enter/change the values and click "**OK**" to confirm.



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4. Now enter "**192.168.252.1**" in the address field of your browser. The Fieldgate start page is displayed. Click "**OK**" to confirm.
5. Start the web browser, e.g. Internet Explorer.

If there is no connection, check the connection to the Fieldgate as follows:

1. Is the Link LED lit on the Fieldgate?
   – Yes, proceed with point 2
   – No, check the cable
2. Is the Link LED of the PC network card lit?
   – Yes, proceed with point 3
   – No, check the cable
3. Open the DOS prompt "**Start ➜ Run ➜ cmd** "

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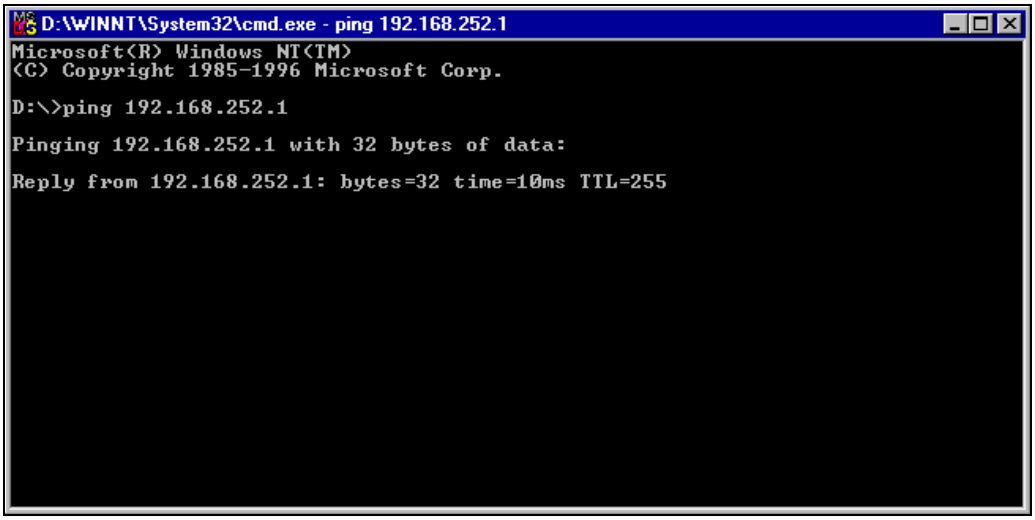
4. Enter "**ping 192.168.252.1**".
   Do you get the answer 192.168.254.1 Bytes=32...
   – Yes. The connection is OK. Check your browser settings (If a proxy server is used try to bypass the IP-adress 192.168.254.1).
   – No. There is no connection to the Fieldgate.



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19.2.4 Connecting

Start the web browser.
In the address field of your Internet browser, enter the IP address of the Fieldgate.

19.2.5 Disconnecting

Close your web browser.

19.3 Establishing an analogue modem connection (Exemplary instruction for Windows NT)

Note!
The telephone country default setting is set to TBR 21 (basic standard of European countries). You may have to adjust this via the service interface (PC cable).
Please refer also to the online help of your operating system.

19.3.1 Installation

Note!
To be able to configure the Fieldgate, there must be a telephone connection between your personal computer and the Fieldgate.
For this, you require a commercially available analogue modem and 2 analogue telephone connections, one for your analogue modem and one for the Fieldgate. These connections can also be internal ports of a telephone system.
This configuration can also be made using the PC cable ().

19.3.2 Setting up the personal computer

Caution!
An analogue modem must already be installed on your personal computer. Please refer to the operating instructions for the modem and your PC for information on how to install an analogue modem.

Creating a dial-up networking connection

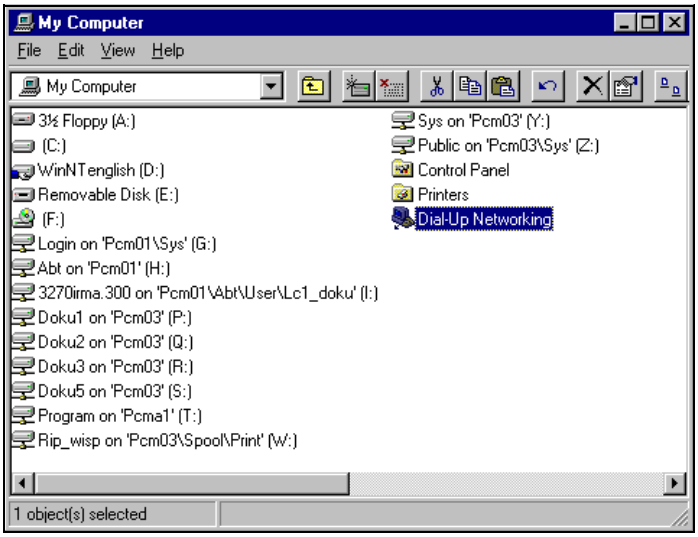
Set up a dial-up networking connection.

Note!
For this purpose, please also refer to the online help of your Windows® operating system on the topic "Setting up a dial-up networking connection".

Note!
The factory setting for the IP address of the analogue modem version is:
"**http://192.168.254.1**".
This IP address can be altered as required.

The following are sample instructions for Windows NT® :

1. Using the left mouse button, double-click the "**Dial-Up Networking**" icon to open the appropriate window.



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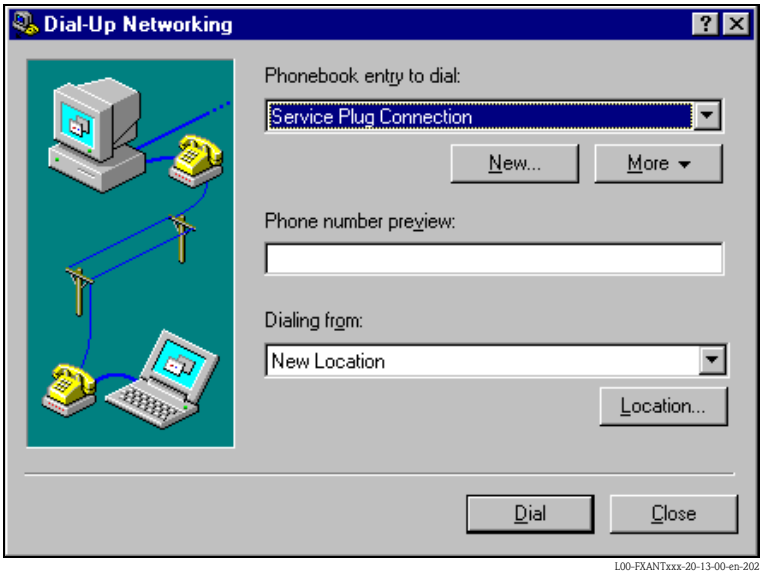
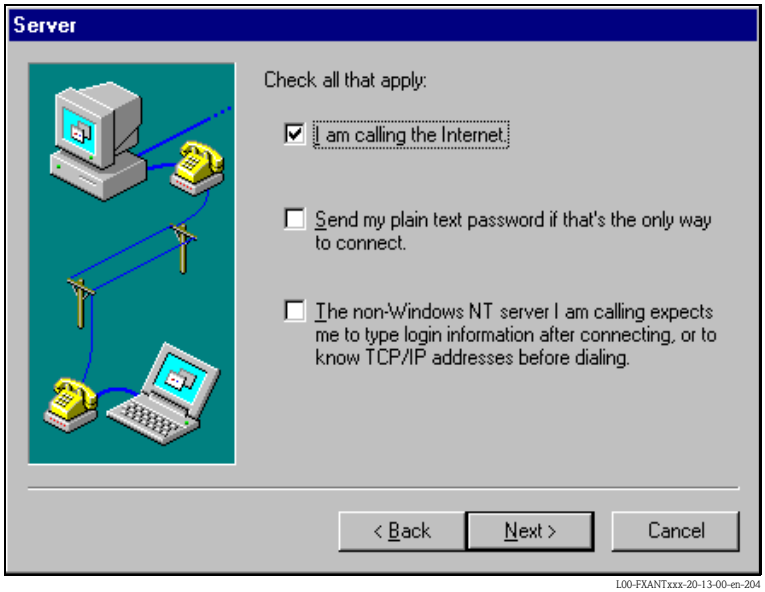
2. Left-click the "**New...**" button.



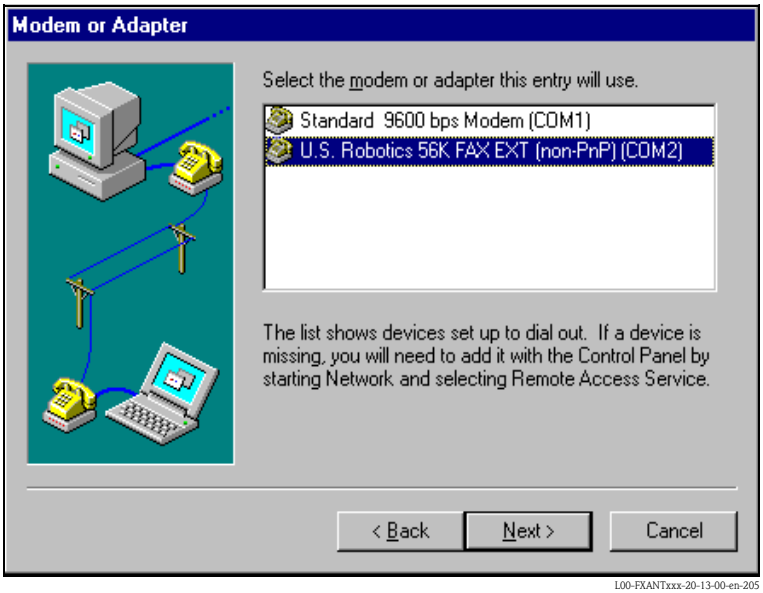
L00-FXANTxxx-20-13-00-en-202

3. Enter the connection name in the "**Name the new phonebook entry:**" field. You can enter any name you choose (e.g. Fieldgate Analog in our example).
Click "**Next >**" to confirm the name entered.

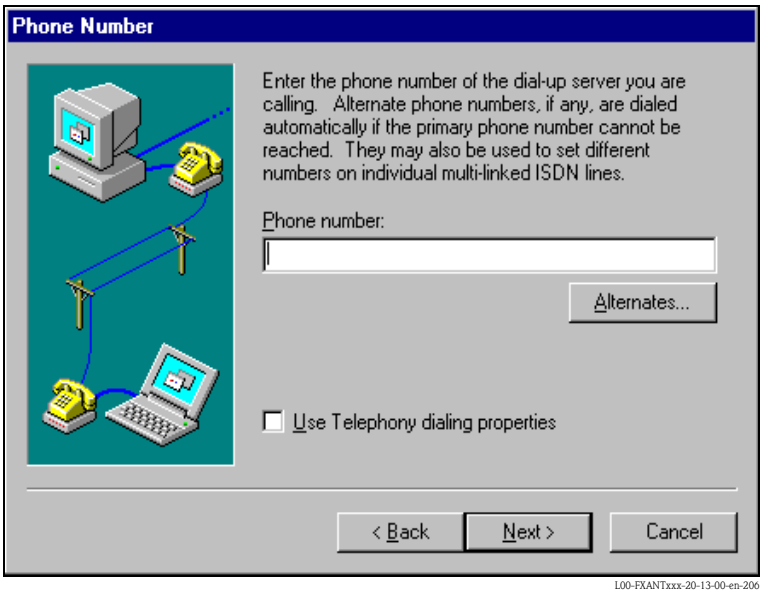
4. In the following window, only activate the checkbox for "**I am calling the Internet**" and click "**Next >**" to confirm.



5. Select the analogue modem to be used and click "**Next >**" to confirm your choice.



6. In the following field, specify the telephone number of the Fieldgate.
   Please also enter the exchange number if it is required.
   For example, this means the following for the number "**00044161XXXX**":
   – Position 1 (0 = exchange)
   – Positions 2...5 (0044 = country code, here for UK)
   – Positions 6...9 (161 = area code, here for Manchester)
   – Position 10... (XXXX = Fieldgate telephone number)
   Click "**Next >**" to confirm your entries.

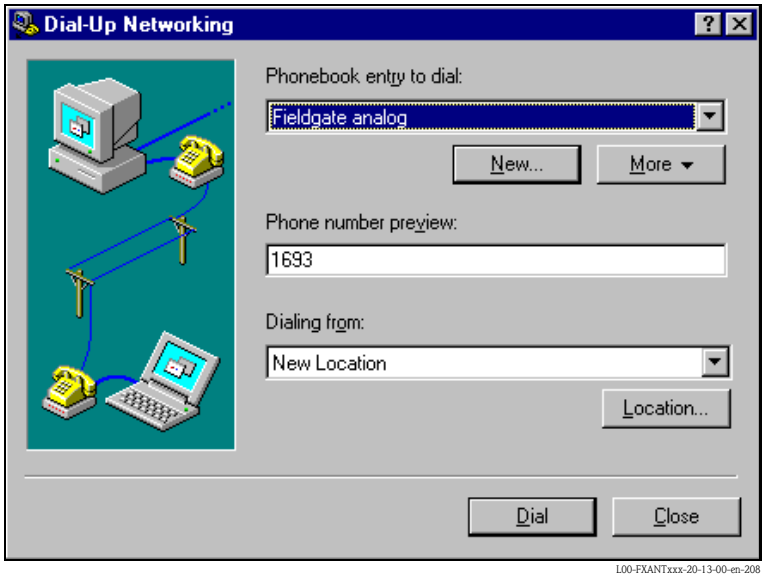


7. Click "**Finish**" to confirm the settings for the networking connection.

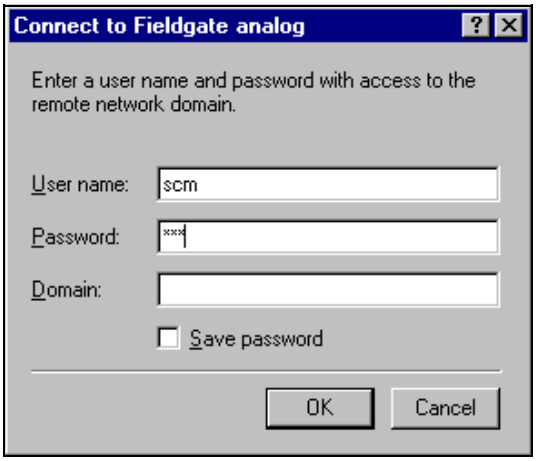
The dial-up networking connection is set up.

19.3.3 Making the connection

1. Using the left mouse button, double-click the "**Dial-up Networking**" icon to open the appropriate window.



2. Select the connection recently set up (e.g. "Fieldgate Analog") and click "**Dial** " to confirm.
3. In the following window enter:
   – the user name "**scm**"
   (This is permanently stored in the Fieldgate and cannot be altered!)
   – and the password "**scm**"
   (This is permanently stored in the Fieldgate and cannot be altered!)



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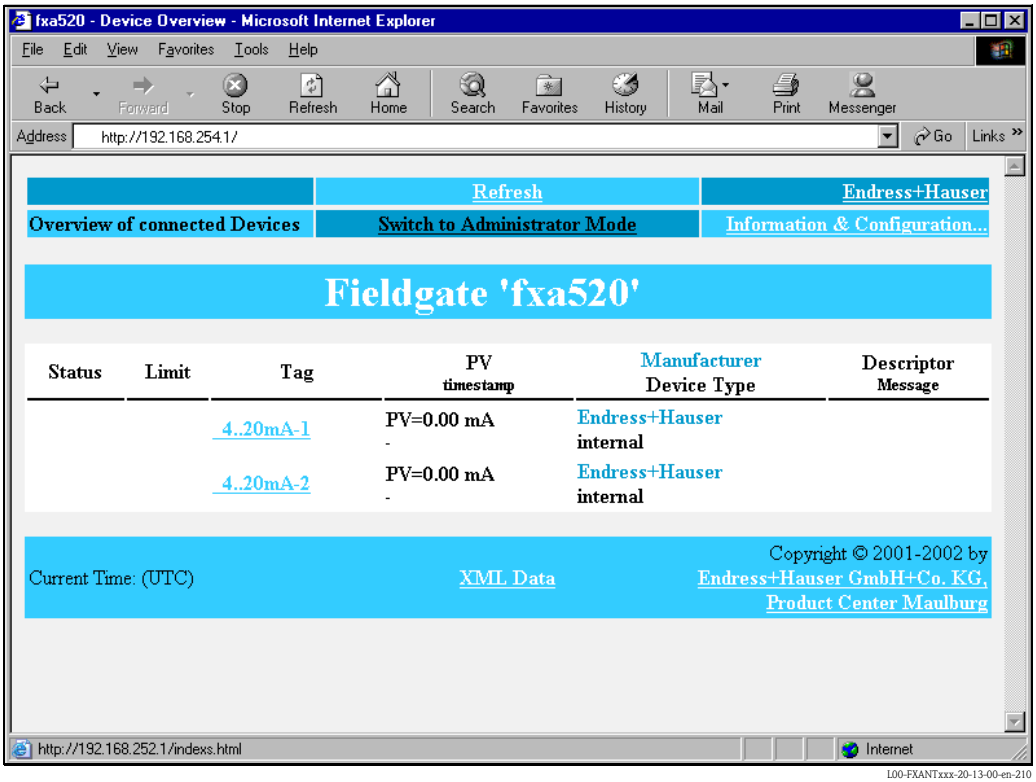
4. Click "**OK**" to confirm your entries.
5. Start the web browser and enter the IP address. The connection is made.

19.3.4 Working in the web browser

The user interface is displayed in the web browser and the Fieldgate can now be commissioned.



L00-FXANTxxx-20-13-00-en-210

19.4 Establishing an GSM modem connection (Exemplary instruction for Windows NT)

19.4.1 Installation

Note!
To be able to configure the Fieldgate, there must be a telephone connection between your personal computer and the Fieldgate.
For this, you require a commercially available analogue modem and 1 analogue telephone connection. If the connection consists of an analog adapter being connected to a digital telephone facility, data communication must be enabled for this connection.
This configuration can also be made using the PC cable ().

19.4.2 Setting up the personal computer

Caution!
An analogue modem must already be installed on your personal computer. Please refer to the operating instructions for the modem and your PC for information on how to install an analogue modem.

Creating a dial-up networking connection

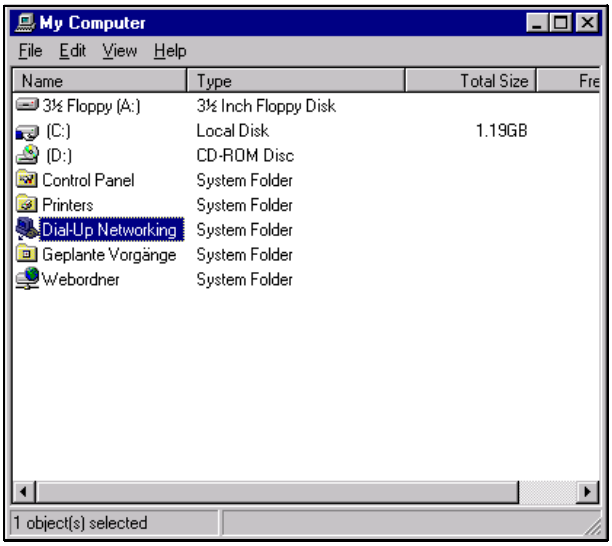
Set up a dial-up networking connection.

Note!
For this purpose, please also refer to the online help of your Windows® operating system on the topic "Setting up a dial-up networking connection".

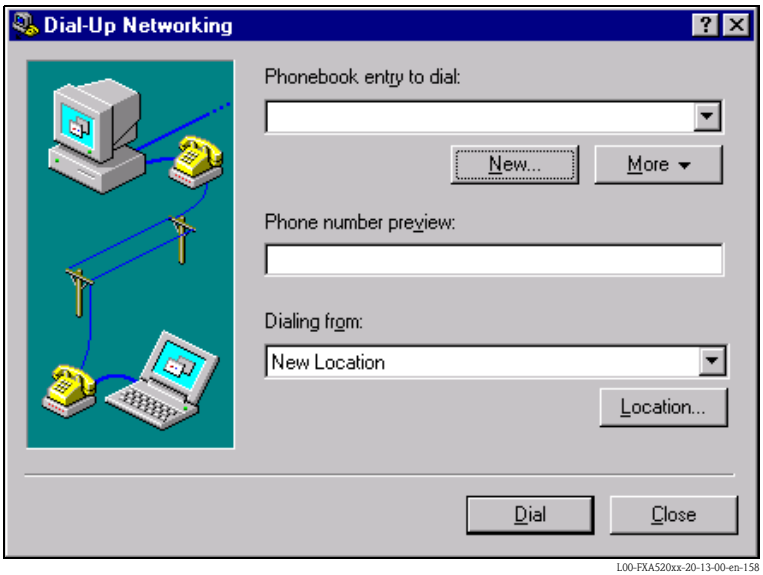
Note!
The factory setting for the IP address of the GSM modem version is:
"**http://192.168.254.1**".
This IP address can be altered as required.

The following are sample instructions for Windows NT® :

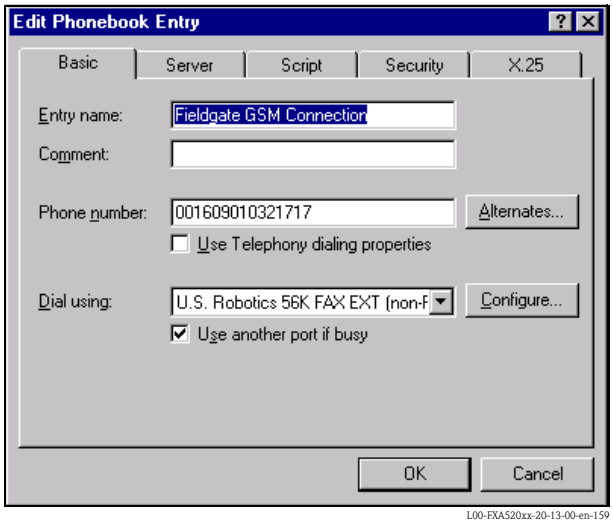
1. Using the left mouse button, double-click the "**Dial-Up Networking**" icon to open the appropriate window.



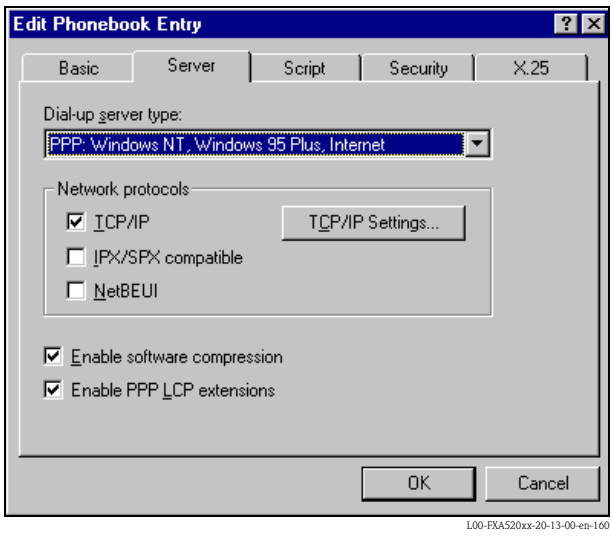
2. Left-click the "**New...**" button.

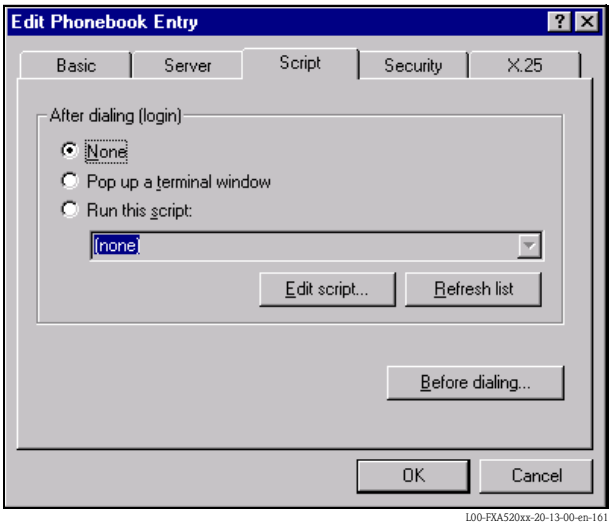


3. Enter the connection name in the "**New phonebook entry:**" field. You can enter any name you choose (e.g. Fieldgate GSM connection in our example). Check the settings on the following register cards.



4. Please enter the number of your SIM card as the call number.





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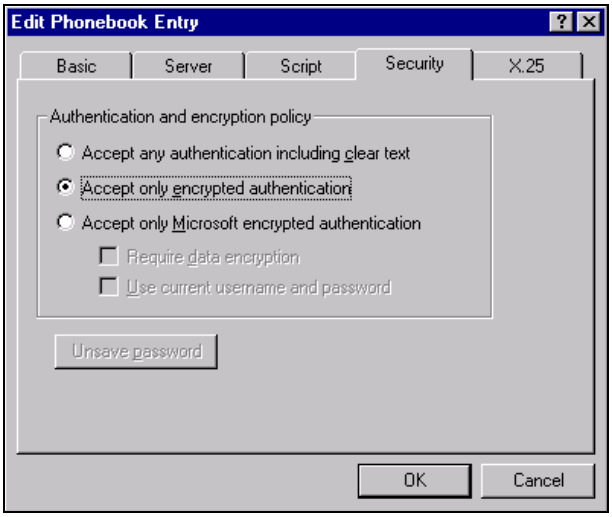
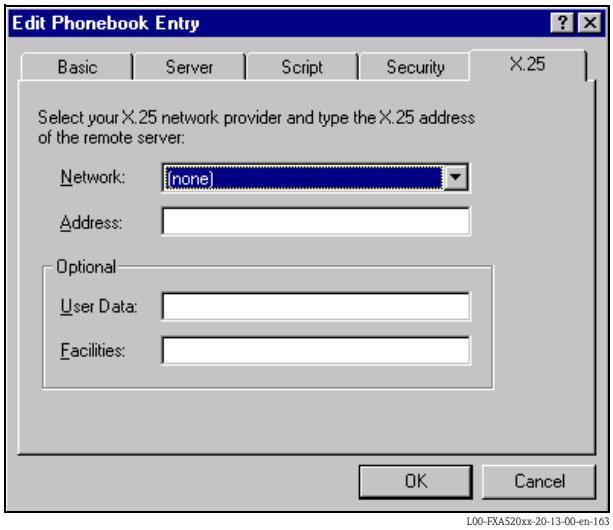
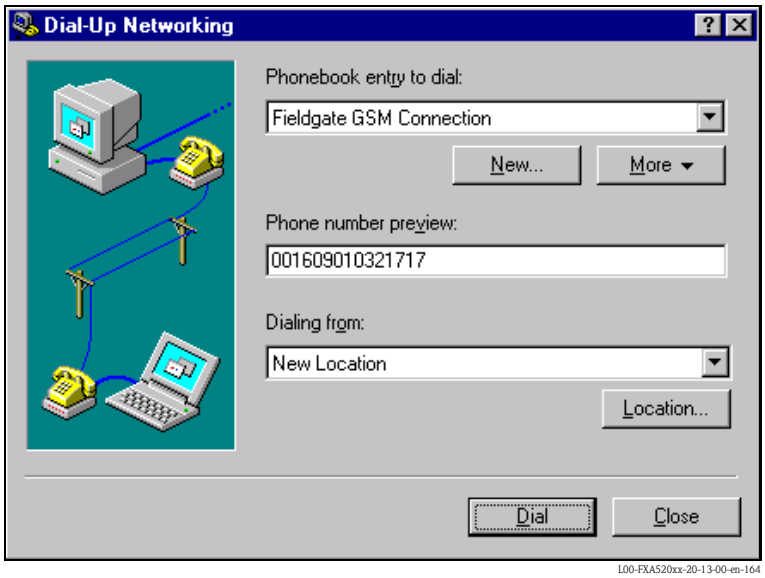


L00-FXA520xx-20-13-00-en-162



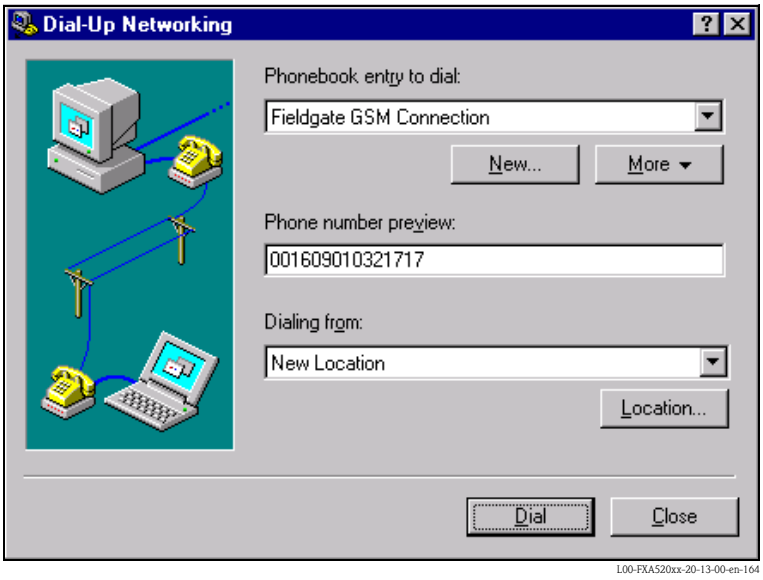
5. Click "**OK**" to confirm your entries.



The dial-up networking connection is set up. Finish the setup by pressing the "**Close**" button.

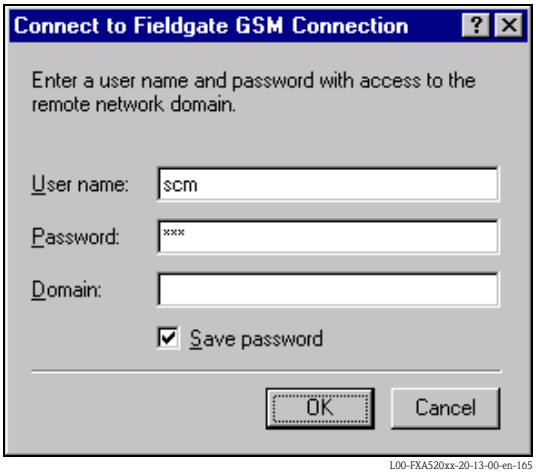
19.4.3 Making the connection

1. Using the left mouse button, double-click the "**Dial-up Networking**" icon to open the appropriate window.



L00-FXA520xx-20-13-00-en-164

2. Select the connection recently set up (e.g. "Fieldgate Analog") and click "**Dial** " to confirm.
3. In the following window enter:
   – the user name "**scm**"
   (This is permanently stored in the Fieldgate and cannot be altered!)
   – and the password "**scm**"
   (This is permanently stored in the Fieldgate and cannot be altered!)

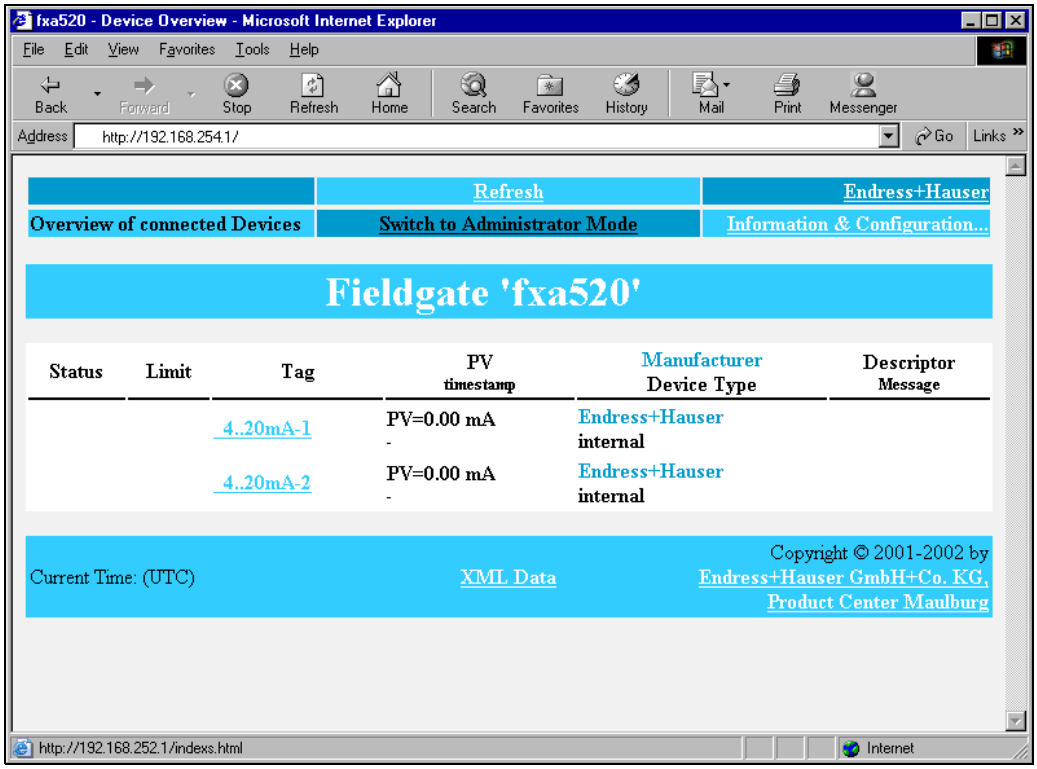


L00-FXA520xx-20-13-00-en-165

4. Click "**OK**" to confirm your entries.
5. Start the web browser and enter the IP address. The connection is made.

19.4.4 Working in the web browser

The user interface is displayed in the web browser and the Fieldgate can now be commissioned.



L00-FXANTxxx-20-13-00-en-210

19.5 Network parameters for GPRS connections

Network parameters for GPRS connections S

Network operator	Country	Modem properties: "extra settings"	Additional AT commands	Telephone number	TCP/IP settings IP address, only if not dynamic	TCP/IP settings: DNS 1, only if not dynamic	TCP/IP settings: DNS 2, only if not dynamic	Connection: user name	Connection: Password
		Please enter in "extra settings" Note: in Windows2000 AT commands are restricted to 40 characters!	If you use Windows 95/98 or WindowsNT, please add to "extra settings". Ex.: China Mobile: AT+CGDCONT=1,"IP","cmnet";+CGQREQ=1,3,4,3,0,0		If "dynamic", keep default setting.	If "dynamic", keep default setting.	If "dynamic", keep default setting.	if "n.a.", you do not need to enter user name	if "n.a.", you do not need to enter user name
Amena	Spain	AT+CGDCONT=1,"IP", "internet";^sgauth=2		*99***1#	dynamic	213.143.33.8	213.143.32.20	CLIENTE	AMENA
AIS (corporate - Intranet)	Thailand	AT+CGDCONT=1,"IP", "ais"		*99***1#	dynamic	202.183.255.20	202.183.255.21	n.a.	n.a.
AIS (Internet)	Thailand	AT+CGDCONT=1,"IP", "internet"		*99***1#	dymanic	202.183.255.20	202.183.255.21	n.a.	n.a.
Aria - Internet	Turkey	AT+CGDCONT=1,"IP", "internet"		*99***1#	dymanic	dymanic	dymanic	*user specific*	*user specific*
AT&T Wireless	USA			*99#	dymanic	dymanic	dymanic	n.a.	n.a.
BeeLine	Russia	AT+CGDCONT=1,"IP", "internet.beeline.ru"		*99***1#	dynamic	194.190.195.066	194.190.192.034	beeline	beeline
Bite GSM	Lithuania	AT+CGDCONT=1,"IP", "banga"		*99***1#	dynamic	213.226.131.131	193.219.32.13	n.a.	n.a.
BLU Contratto	Italy	AT+CGDCONT=1,"IP", "INTERNET"		*99***1#	dynamic	212.17.192.49	212.17.192.209	n.a.	n.a.
BLU Prepagata	Italy	AT+CGDCONT=1,"IP", "PINTERNET"		*99***1#	dynamic	212.17.192.49	212.17.192.209	n.a.	n.a.
Bouygues Telecom	France	AT+CGDCONT=1,"IP", "ebouygtel.com"		*99***1#	dynamic	62.201.129.99	0.0.0.0	n.a.	n.a.
Bouygues Telecom B2Bouygtel	France	AT+CGDCONT=1,"IP", "b2bouygtel.com"		*99***1#	dynamic	62.201.129.99	62.201.159.99	B2B	NET
BPL Mobile	India	AT+CGDCONT=1,"IP", "bplgprs.com"		*99***1#	dynamic	202.169.145.34	202.169.129.40	bplmobile	n.a.
Cesky Mobil-postpaid	Czech Republic	AT+CGDCONT=1,"IP", "internet"		*99***1#	dynamic	dynamic	dynamic	n.a.	n.a.
Cesky Mobil-prepaid	Czech Republic	AT+CGDCONT=1,"IP", "ointernet"		*99***1#	dynamic	dynamic	dynamic	n.a.	n.a.
China Mobile	China	AT+CGDCONT=1,"IP", "cmnet"		*99#	dynamic	dynamic	dynamic	n.a.	n.a.
China Unicom	China	AT+CGQREQ=1,3,4,3,0,0		*99#	dynamic	10.000.002.100	0.0.0.0	n.a.	n.a.
Comviq/Tele2	Sweden	AT^sgauth=1		*99#	dynamic	130.244.127.161	130.244.127.169	gprs	internet

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Network parameters for GPRS connections

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Network operator	Country	Modem properties: "extra settings"	Additional AT commands	Telephone number	TCP/IP settings IP address, only if not dynamic	TCP/IP settings: DNS 1, only if not dynamic	TCP/IP settings: DNS 2, only if not dynamic	Connection: user name	Connection: Password
		Please enter in "extra settings" Note: in Windows2000 AT commands are restricted to 40 characters!	If you use Windows 95/98 or WindowsNT, please add to "extra settings". Ex.: China Mobile: AT+CGDCONT=1,"IP","cmnet";+CGQREQ=1,3,4,3,0,0		If "dynamic", keep default setting.	If "dynamic", keep default setting.	If "dynamic", keep default setting.	if "n.a.", you do not need to enter user name	if "n.a.", you do not need to enter user name
Connect Austria / One	Austria	AT+CGDCONT=1,"IP", "web.one.at";^sgauth=1	0,0,3,0,0	*99***1#	dynamic	194.024.128.100	194.024.128.102	*user specific*	*user specific*
Cosmote	Greece	AT+CGDCONT=1,"IP", "internet"		*99***1#	dynamic	195.167.065.194	0.0.0.0	n.a.	n.a.
CSL	Hongkong	AT+CGDCONT=1,"IP", "internet"	3,4,3,0,0	*99***1#	dynamic	202.84.255.1	203.116.254.150	n.a.	n.a.
D2 Vodafone	Germany	AT+CGDCONT=1,"IP", "volume.d2gprs.de"	3,4,3,7,31	*99***1#	dynamic	139.7.30.125	139.7.30.126	n.a.	n.a.
DIGI	Malaysia	AT+CGDCONT=1,"IP", "diginet"		*99***1#	dynamic	203.092.128.131	203.092.128.132	n.a.	n.a.
Dna	Finland	AT+CGDCONT=1,"IP", "internet"		*99***1#	dynamic	217.78.192.78	217.78.192.22	n.a.	n.a.
DTAC	Thailand	AT+CGDCONT=1,"IP", "www.dtac.co.th"		*99***1#	dynamic	203.155.33.1	203.44.144.33	n.a.	n.a.
E-Plus	Germany	AT+CGDCONT=1,"IP", "internet.eplus.de"	2,4,3,9,31	*99***1#	dynamic	212.23.97.2	212.23.97.3	eplus	n.a.
ERA	Poland	AT+CGDCONT=1,"IP", "erainternet"	;^sgauth=1	*99***1#	dynamic	dynamic	dynamic	erainternet	erainternet
etisalat	United Arab Emirates	AT+CGDCONT=1,"IP", "mnet"		*99***1#	dynamic	dynamic	dynamic	n.a.	n.a.
Eurotel	Czech Republic	AT+CGDCONT=1,"IP", "internet"		*99***1#	dynamic	160.218.10.201	194.228.2.1	n.a.	n.a.
fastlink	Jordan	AT+CGDCONT=1,"IP", "internet"		*99***1#	dynamic	dynamic	dynamic	n.a.	n.a.
Globe	Philippines	AT+CGDCONT=1,"IP", "www.globe.com.ph"	;^sgauth=1	*99***1#	dynamic	203.127.225.010	203.127.225.011	globe	globe
Globtel	Slovakia	AT+CGDCONT=1,"IP", "internet"	0,0,0,0,0	*99***1#	dynamic	213.151.200.3	195.012.140.130	n.a.	n.a.
Idea	Poland	AT+CGDCONT=1,"IP", "www.idea.pl"	;^sgauth=1	*99***1#	dynamic	194.204.159.1	194.9.223.79	idea	idea
KPN Mobile	Netherlands	AT+CGDCONT=1,"IP", "internet"		*99***1#	dynamic	62.133.126.28	62.133.126.29	n.a.	n.a.
IM3	Indonesia	AT+CGDCONT=1,"IP", "www.indosat-m3.net"		*99***1#	dynamic	dynamic	dynamic	gprs	im3

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Network operator	Country	Modem properties: "extra settings"	Additional AT commands	Telephone number	TCP/IP settings IP address, only if not dynamic	TCP/IP settings: DNS 1, only if not dynamic	TCP/IP settings: DNS 2, only if not dynamic	Connection: user name	Connection: Password
		Please enter in "extra settings" Note: in Windows2000 AT commands are restricted to 40 characters!	If you use Windows 95/98 or WindowsNT, please add to "extra settings". Ex.: China Mobile: AT+CGDCONT=1,"IP","cmnet";+CGQREQ=1,3,4,3,0,0		If "dynamic", keep default setting.	If "dynamic", keep default setting.	If "dynamic", keep default setting.	if "n.a.", you do not need to enter user name	if "n.a.", you do not need to enter user name
M1	Singapore	AT+CGDCONT=1,"IP", "mobilenet";^sgauth=1		*99***1#	dynamic	202.79.64.21	202.79.64.26	n.a.	n.a.
Maxis	Malaysia	AT+CGDCONT=1,"IP", "internet.gprs.maxis"		*99***1#	dynamic	202.075.129.101	10.216.4.21	n.a.	n.a.
max.gprs	Austria	AT+CGDCONT=1,"IP", "gprsinternet"		*99#	dynamic	213.162.64.1	213.162.64.2	n.a.	n.a.
max.business. gprs	Austria	AT+CGDCONT=1,"IP", "business.gprsinternet"		*99#	dynamic	213.162.64.1	213.162.64.2	n.a.	n.a.
max.metro.gprs	Austria	AT+CGDCONT=1,"IP", "gprsmetro"		*99#	dynamic	213.162.64.1	213.162.64.2	n.a.	n.a.
mobilecom	Jordan	AT+CGDCONT=1,"IP", "internet.mobilecom.jo"		*99***1#	dynamic	dynamic	dynamic	internet	internet
Mobilkom	Austria	AT+CGDCONT=1,"IP", "A1.net"		*99***1#	dynamic	194.48.124.200	194.48.139.254	GPRS@A1plus.at	n.a.
Mobitel (Internet)	Slovenia	AT+CGDCONT=1,"IP", "internet"		*99***1#	dynamic	dynamic	dynamic	mobitel	internet
Mobitel (Internet Pro)	Slovenia	AT+CGDCONT=1,"IP", "internetpro"		*99***1#	dynamic	dynamic	dynamic	mobitel	internet
Mobistar	Belgium	AT+CGDCONT=1,"IP", "officeaccess.internet.be"		*99***1#	212.065.063.143	212.065.063.10	212.065.063.145	mobistar	mobistar
MTS	Russia	AT+CGDCONT=1,"IP", "internet.mts.ru"		*99***1#	dynamic	213.87.0.1	213.87.1.1	n.a.	n.a.
Netcom	Norway			*99#	dynamic	212.45.188.43	212.45.188.44	n.a.	n.a.
New World	Hongkong	AT+CGDCONT=1,"IP", "internet"	3,4,3,0,0	*99***1#	dynamic	dynamic	dynamic	n.a.	n.a.
OMNITEL	Italy	AT+CGDCONT=1,"IP", "web.omnitel.it"	2,4,3,6,31	*99***1#	dynamic	dynamic	dynamic	n.a.	n.a.
Omnitel Lithuania	Lithuania	AT+CGDCONT=1,"IP", "gprs.omnitel.net"	;^sgauth=1	*99***1#	dynamic	194.176.32.129	195.22.175.1	n.a.	n.a.
Optimus	Portugal	AT+CGDCONT=1,"IP", "internet"		*99***1#	dynamic	194.79.69.129	0.0.0.0	n.a.	n.a.
Orange HK	Hongkong	AT+CGDCONT=1,"IP", "web.orangehk.com"	3,4,3,0,0	*99***1#	dynamic	dynamic	dynamic	n.a.	n.a.

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Network parameters for GPRS connections

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Network operator	Country	Modem properties: "extra settings"	Additional AT commands	Telephone number	TCP/IP settings IP address, only if not dynamic	TCP/IP settings: DNS 1, only if not dynamic	TCP/IP settings: DNS 2, only if not dynamic	Connection: user name	Connection: Password
		Please enter in "extra settings" Note: in Windows2000 AT commands are restricted to 40 characters!	If you use Windows 95/98 or WindowsNT, please add to "extra settings". Ex.: China Mobile: AT+CGDCONT=1,"IP","cmnet";+CGQREQ=1,3,4,3,0,0		If "dynamic", keep default setting.	If "dynamic", keep default setting.	If "dynamic", keep default setting.	if "n.a.", you do not need to enter user name	if "n.a.", you do not need to enter user name
Orange UK	UK	AT+CGDCONT=1,"IP", "orangeinternet"		*99***1#	dynamic	158.43.192.1	158.43.128.1	Orange	n.a.
Orange CH	Switzerland	AT+CGDCONT=1,"IP", "internet";^sgauth=1		*99***1#	dynamic	213.55.128.1	213.55.128.2	n.a.	n.a.
Paegas GPRS Internet	Czech Republic	AT+CGDCONT=1,"IP", "internet.click.cz"		*99***1#	dynamic	62.141.0.1	62.141.0.2	n.a.	n.a.
Paegas GPRS Profil	Czech Republic	AT+CGDCONT=1,"IP", "profil.click.cz"		*99***1#	dynamic	62.141.0.1	62.141.0.2	n.a.	n.a.
Pannon	Hungary	AT+CGDCONT=1,"IP", "net"		*99***1#	dynamic	193.225.155.254	194.149.0.157	n.a.	n.a.
PEOPLE	Hongkong	AT+CGDCONT=1,"IP", "internet"	3,4,3,0,0	*99***1#	dynamic	dynamic	dynamic	n.a.	n.a.
Plus GSM	Poland	AT+CGDCONT=1,"IP", "www.plusgsm.pl"		*99***1#	dynamic	212.2.96.62	212.2.96.52	n.a.	n.a.
Proximus Internet	Belgium	AT+CGDCONT=1,"IP", "INTERNET.PROXIMUS.BE"		*99***1#	dynamic	195.238.002.021	195.238.002.022	n.a.	n.a.
Proximus Intranet	Belgium	AT+CGDCONT=1,"IP", "INTRAPROX.BE"		*99***1#	dynamic	195.238.002.021	195.238.002.022	n.a.	n.a.
Quam	Germany	AT+CGDCONT=1,"IP", "quam.de"	2,4,3,9,31	*99***1#	dynamic	193.189.244.197	193.189.244.205	quam	quam
Radiolinja	Finland	AT+CGDCONT=1,"IP", "internet"		*99***1#	dynamic	213.161.33.200	212.226.226.1	rlnet	internet
SFR	France	AT+CGDCONT=1,"IP", "websfr"		*99***1#	dynamic	172.20.2.10	0.0.0.0	n.a.	n.a.
Simobil	Slovenia	AT^sgauth=2		*99#	dynamic	121.30.86.130	193.189.160.11	n.a.	n.a.
Singtel	Singapore	AT+CGDCONT=1,"IP", "internet";^sgauth=1		*99***1#		165.21.100.88	165.21.83.88	n.a.	n.a.
Smart	Philippines	AT+CGDCONT=1,"IP", "internet";^sgauth=1		*99***1#	dynamic	202.057.096.003	202.057.096.004	n.a.	n.a.
SmarTone	Hongkong	AT+CGDCONT=1,"IP", "hkinternet"	3,4,3,0,0	*99***1#	dynamic	202.140.96.51	202.140.96.52	n.a.	n.a.
Sonera	Finland	AT+CGDCONT=1,"IP", "internet"		*99***1#	dynamic	192.89.123.230	192.89.123.231	n.a.	n.a.

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Network parameters for GPRS connections S S

Network operator	Country	Modem properties: "extra settings"	Additional AT commands	Telephone number	TCP/IP settings IP address, only if not dynamic	TCP/IP settings: DNS 1, only if not dynamic	TCP/IP settings: DNS 2, only if not dynamic	Connection: user name	Connection: Password
		Please enter in "extra settings" Note: in Windows2000 AT commands are restricted to 40 characters!	If you use Windows 95/98 or WindowsNT, please add to "extra settings". Ex.: China Mobile: AT+CGDCONT=1,"IP","cmnet";+CGQREQ=1,3,4,3,0,0		If "dynamic", keep default setting.	If "dynamic", keep default setting.	If "dynamic", keep default setting.	if "n.a.", you do not need to enter user name	if "n.a.", you do not need to enter user name
Sonofon	Denmark			*99#	dynamic	212.88.64.14	212.88.64.15	n.a.	n.a.
Starhub	Singapore	AT+CGDCONT=1,"IP", "shwapint"		*99***1#	dynamic	203.116.001.078	203.116.254.150	n.a.	n.a.
SUNDAY	Hongkong	AT+CGDCONT=1,"IP", "internet"	3,4,3,0,0	*99***1#	dynamic	dynamic	dynamic	n.a.	n.a.
Sunrise	Switzerland	AT+CGDCONT=1,"IP", "internet";^sgauth=1		*99***1#	dynamic	212.35.35.35	212.35.35.5	internet	internet
Swisscom	Switzerland	AT+CGDCONT=1,"IP", "gprs.swisscom.ch"	;^sgauth=1	*99***1#	dynamic	164.128.36.34	164.128.76.39	n.a.	n.a.
TDC	Denmark	AT+CGDCONT=1,"IP", "internet"		*99***1#		193.162.146.9	193.162.153.31	n.a.	n.a.
Telefonica	Spain	AT+CGDCONT=1,"IP", "movistar.es"	;^sgauth=1	*99***1#	dynamic	194.179.1.100	194.179.1.101	MOVISTAR	MOVISTAR
Telenor Mobil	Norway	AT+CGDCONT=1,"IP", "internet"	0,0,0,0,0;+ 0,0,0,0,0	*99***1#	dynamic	212.017.121.003	0.0.0.0	s45	1111
tele.ring	Austria	AT+CGDCONT=1,"IP", "web";^sgauth=1	3,4,3,1,31	*99***1#	dynamic	212.95.31.11	212.95.31.35	web@telering.at	web
Telestet	Greece	AT+CGDCONT=1,"IP", "gnet.b-online.gr"		*99***1#	dynamic	212.152.079.019	212.152.079.020	MSISDN e.g 3093XXXXXXX	24680
Telia	Sweden			*99#	dynamic	dynamic	dynamic	n.a.	n.a.
Telstra	Australia	AT+CGDCONT=1,"IP", "telstra.internet"		*99***1#	dynamic	139.130.4.4	203.50.170.2	n.a.	n.a.
TIM	Italy	AT+CGDCONT=1,"IP", "uni.tim.it";^sgauth=1		*99***1#	dynamic	dynamic	dynamic	n.a.	n.a.
Timecel	Malaysia	AT+CGDCONT=1,"IP", "timenett.com.my"		*99***1#	dynamic	203.121.16.85	203.121.16.120	n.a.	n.a.
TMN	Portugal	AT+CGDCONT=1,"IP", "internet"	3,4,3,1,31	*99***1#	dynamic	194.65.3.20	194.65.3.21	n.a.	n.a.
T-Mobile D	Germany	AT+CGDCONT=1,"IP", "internet.t-d1.de"		*99***1#	dynamic	193.254.160.1	0.0.0.0	n.a.	n.a.
T-Mobile UK	UK	AT+CGDCONT=1,"IP", "general.t-mobile.uk"		*99***1#	dynamic	dynamic	dynamic	user	one2one

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Network parameters for GPRS connections

S S

Network operator	Country	Modem properties: "extra settings"	Additional AT commands	Telephone number	TCP/IP settings IP address, only if not dynamic	TCP/IP settings: DNS 1, only if not dynamic	TCP/IP settings: DNS 2, only if not dynamic	Connection: user name	Connection: Password
		Please enter in "extra settings" Note: in Windows2000 AT commands are restricted to 40 characters!	If you use Windows 95/98 or WindowsNT, please add to "extra settings". Ex.: China Mobile: AT+CGDCONT=1,"IP","cmnet";+CGQREQ=1,3,4,3,0,0		If "dynamic", keep default setting.	If "dynamic", keep default setting.	If "dynamic", keep default setting.	if "n.a.", you do not need to enter user name	if "n.a.", you do not need to enter user name
TM Touch	Malaysia	AT+CGDCONT=1,"IP", "internet"		*99***1#	dynamic	202.188.0.133	0.0.0.0	n.a.	n.a.
Turkcell	Turkey	AT+CGDCONT=1,"IP", "internet"	0,0,0,0,0	*99***1#	dynamic	212.252.168.240	212.252.119.4	n.a.	n.a.
Viag Interkom	Germany	AT+CGDCONT=1,"IP", "internet"	0,0,0,0,0	*99***1#	dynamic	195.182.096.028	195.182.096.061	n.a.	n.a.
VIPNET	Croatia	AT+CGDCONT=1,"ip", "gprs.vipnet.hr"		*99***1#	dynamic	dynamic	dynamic	n.a.	n.a.
Vodafone	Greece	AT+CGDCONT=1,"IP", "internet.vodafone.gr"		*99***1#	dynamic	213.249.17.10	213.249.17.11	n.a.	n.a.
Vodafone	Ireland	AT+CGDCONT=1,"IP", "isp.vodafone.ie"	0,0,3,0,0	*99***1#	dynamic	dynamic	dynamic	*user specific*	*user specific*
Vodafone	Portugal	AT+CGDCONT=1,"IP", "internet.vodafone.pt"	2,4,3,8,31	*99***1#	dynamic	212.18.160.133	212.18.160.134	n.a.	n.a.
Vodafone	Spain	AT+CGDCONT=1,"IP", "airtelnet.es"	;^sgauth=1	*99***1#	dynamic	212.73.32.3	212.73.32.67	wap@wap	wap125
Vodafone	Sweden			*99#	dynamic	dynamic	dynamic	n.a.	n.a.
Vodafone	UK	AT+CGDCONT=1,"IP", "wap.vodafone.co.uk"	;^sgauth=1	*99***1#	212.183.137.12	dynamic	dynamic	user@vodafone.net	user
Westel	Hungary	AT^SGAUTH=1;+CGDCONT=1, "IP","internet"		*99***1#	dynamic	194.176.224.3	194.176.224.1	*user specific*	*user specific*
WIND	Italy	AT+CGDCONT=1,"IP", "internet.wind"		*99***1#	dynamic	212.245.255.2	0.0.0.0	n.a.	n.a.
YES OPTUS	Australia	AT+CGDCONT=1,"IP", "internet.optus.net.au"		*99***1#	dynamic	202.139.83.3	192.65.91.129	n.a.	n.a.

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