Level | Pressure | Flow | Temperature | Liquid Analysis | Registration | Systems Components | Services | Solutions

Technical Information

Fieldgate FXA320, FXA520

Gateways / Interfaces
Gateway for Remote Monitoring of Sensors and Actuators via Web Browsers

Application
Fieldgates enable remote monitoring of connected 4...20 mA sensors/actuators, either via telephone lines (analogue), Ethernet TCP/IP or mobile communications (GSM). The measured data is web compatible (HTTP, HTML, WML) and can, therefore, be analysed in the web browser without additional software.
For remote diagnosis and remote configuration, HART sensors are suitable in conjunction with FXA520.

Their integrated time control make Fieldgates suitable for all applications in which more distant measuring points have to be sporadically analysed. Configurable monitoring of limit values with alarm signalling via e-mail or SMS make it possible to react directly to changes on-site.
The supported data transfer in XML format allows for simple further analysis and processing of the measured data, through to integration into complex planning systems.

Your benefits
- Communication via modem, Ethernet or GSM/GPRS
- Uses standard Internet protocols (TCP/IP, http)
- Simple configuration with web browsers without additional software
- Visualisation via Internet/Intranet in the web browser and/or WAP mobile phone
- Limit value monitoring with alarm signalling via e-mail or SMS
- Synchronised time stamping of all measured values
- XML data transfer allows for simple further processing of the measured data

FXA320
- Optionally, four binary inputs with event counter function and frequency measurement
- Two 4...20 mA current inputs with integrated loop power supply
- Selectable active/passive current input (for 2-wire and 4-wire devices)
- Integrated communication resistor (250 Ω) for configuration via Commubox

FXA520
- Web server for remote monitoring of up to 30 measuring points
- Up to 4 measured values can be displayed per device (HART)
- Intrinsically safe version [EEx ia]IIC for applications in hazardous areas
- Remote diagnosis and remote configuration of connected HART devices
- Applicable in 4...20 mA SIL 2 Loops (IEC 61508)

TI369F/00/en

Endress+Hauser
People for Process Automation

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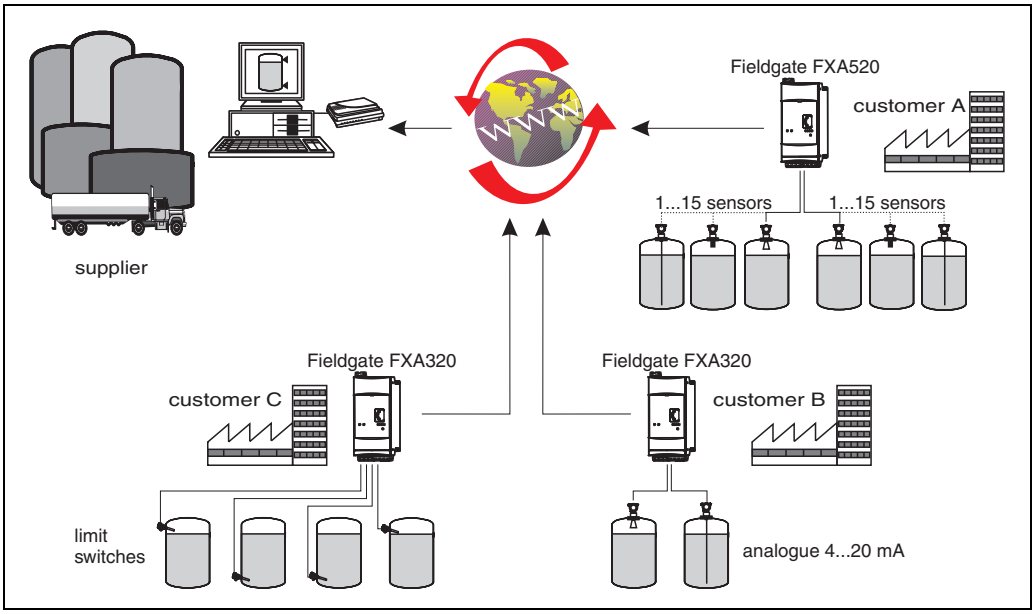
Applications

Vendor Managed Inventory

By using Fieldgates to interrogate tank or silo levels remotely, suppliers of raw materials can provide their regular customers with information about the current supplies at any time and, for example, account for them in their own production planning. For their part, the Fieldgates monitor the configured level limits and, if required, automatically activate the next supply. The spectrum of options here ranges from a simple purchasing requisition via e-mail through to fully automatic order administration by coupling XML data into the planning systems on both sides.



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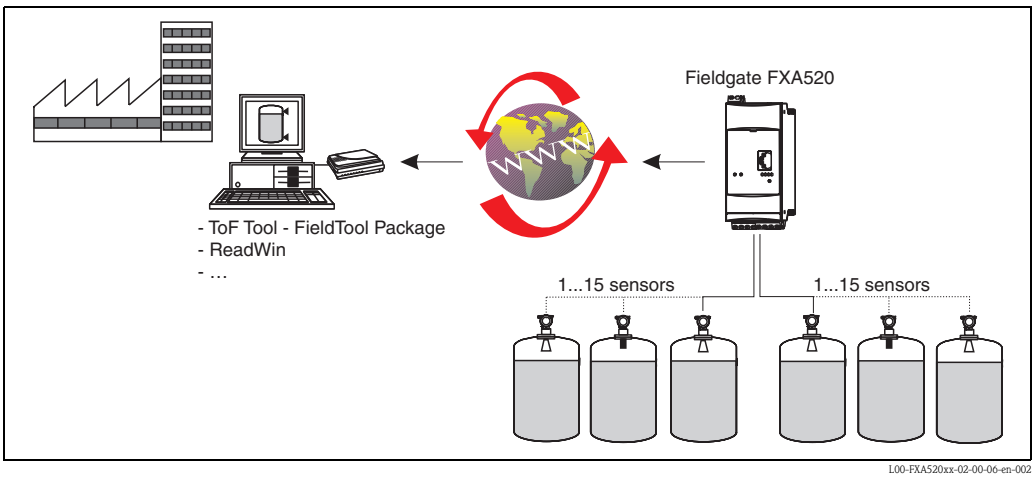
Remote maintenance of measuring equipment (FXA520 only)

Fieldgates not only transfer the current measured values, they also alert the responsible standby personnel, if required, via e-mail or SMS. In the event of an alarm or also when performing routine checks, service technicians can diagnose and configure connected HART devices remotely. All that is required for this is the corresponding HART operating software (e.g. ToF Tool – FieldTool Package, ReadWin, ...) for the connected device. Fieldgate passes on the information transparently, so that all options for the respective operating software are available remotely. Some on-site service operations can be avoided by using remote diagnosis and remote configuration and all others can at least be better planned and prepared.



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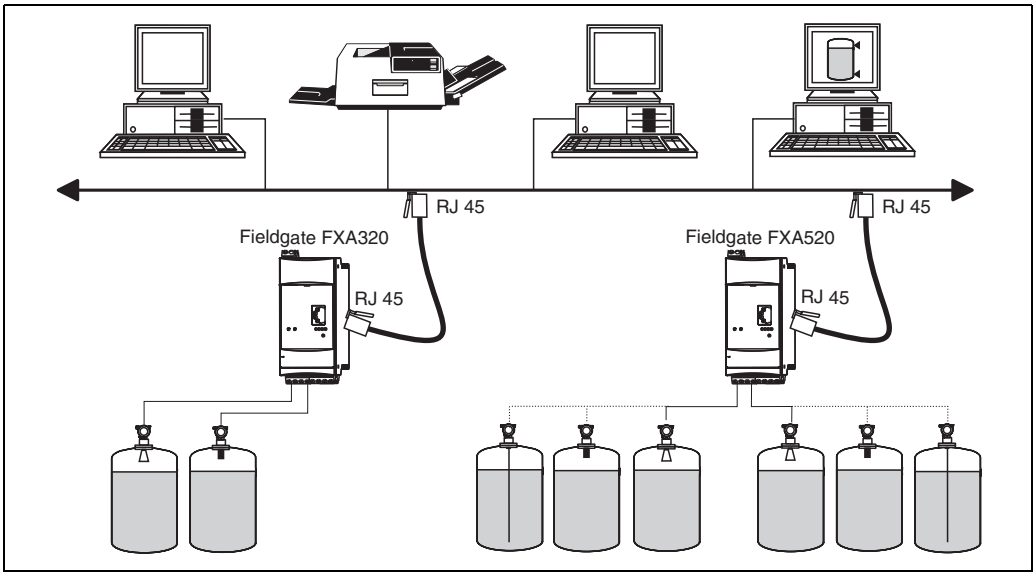
Communication interface

Internet connection

If the Fieldgate dials into the Internet permanently via an Internet Service Provider, it is also possible for several users to access the Fieldgate simultaneously when using an analogue/GSM version. The other advantage is that the respective user does not require a modem as a receiver at the work place.

Ethernet

The 10 Base T Ethernet interface with RJ45 plug-in connection can be connected to the local network using a hub or switch. A standard network cable is used for this. In Ethernet operation, you always have access to the Fieldgate with a standard web browser, since the device is constantly available in the network. Several PCs can access the Fieldgate simultaneously.



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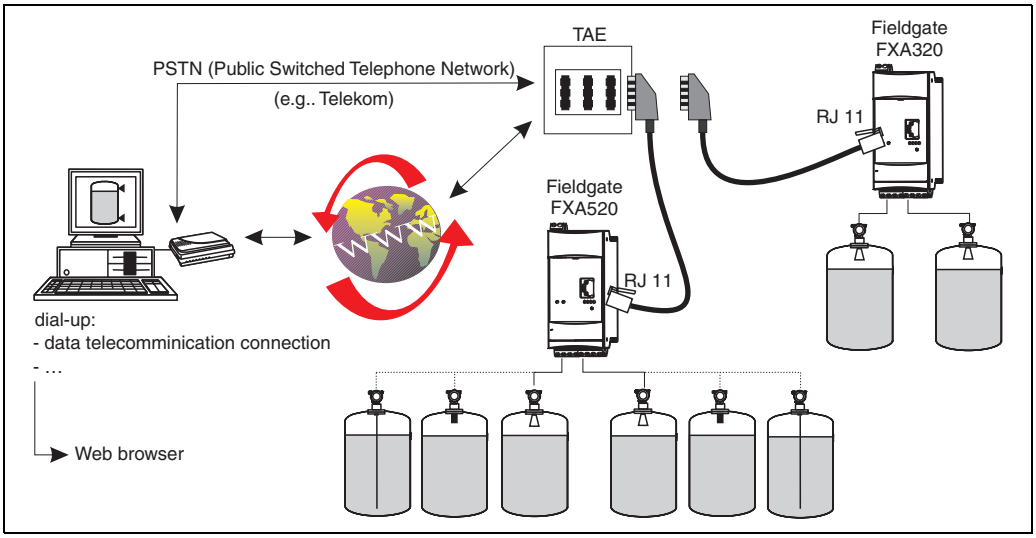
Telephone network (analogue)

The Fieldgate is connected to the available telephone network via an RJ11 (PSTN) plug connector. This form of communication is always a point-to-point connection and only one PC can communicate with the device at any one time. In this configuration, the Fieldgate has to be selected before each access, so that it is ready for online operation. For example, the Windows internal telecommunications network can be used for dialling. After this, the Fieldgate can be accessed with a standard web browser (e.g. Internet Provider).
The Fieldgate is also capable of dialling itself into a central server, in order to deliver periodic measured values for example. Here, it is also possible to transfer the measured values via the Internet using an Internet Service Provider.



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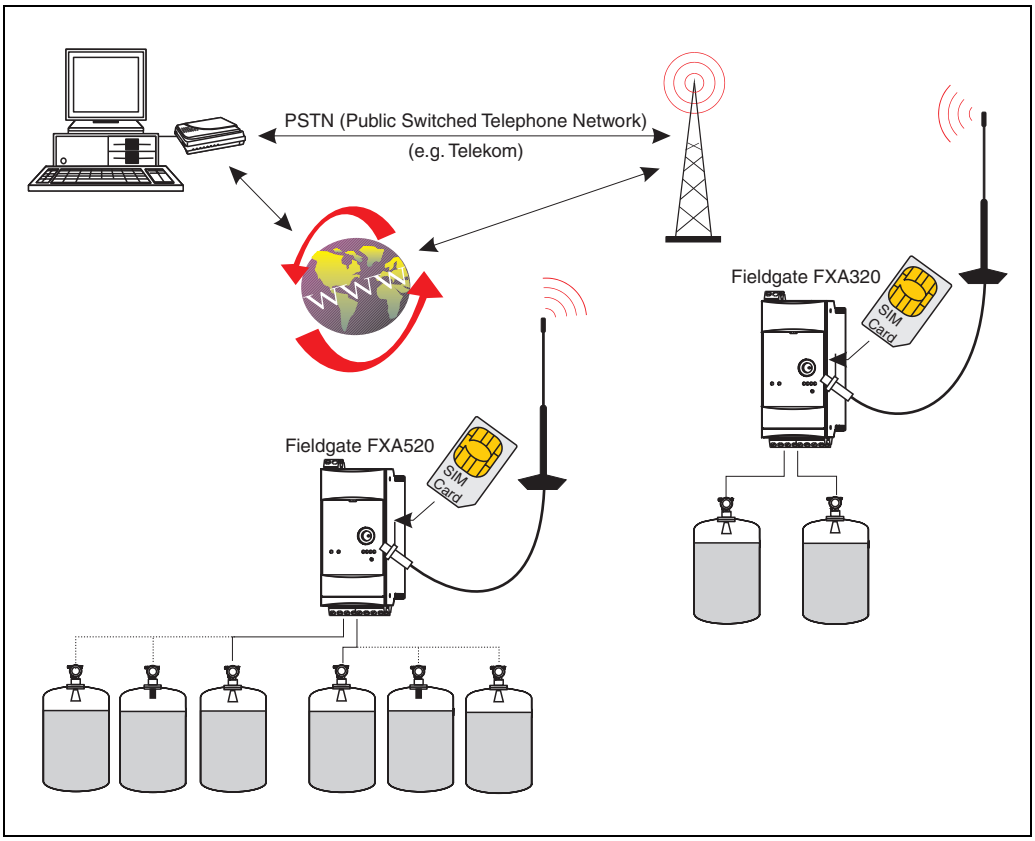
Mobile communications network (GSM)

If there is no Ethernet or telephone network available in the Fieldgate's operating location, the data can also be transferred via GSM using the mobile communications network.
These communications versions can be configured as point-to-point connections or as freely accessible via the Internet/Intranet. A SIM card from a mobile communications network operator is required for GSM operation. Communication takes place via the data channel of the SIM card, which may require additional activation, depending on the GSM provider.



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GPRS support

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 of the Fieldgate can also be used easily and cost-effectively.

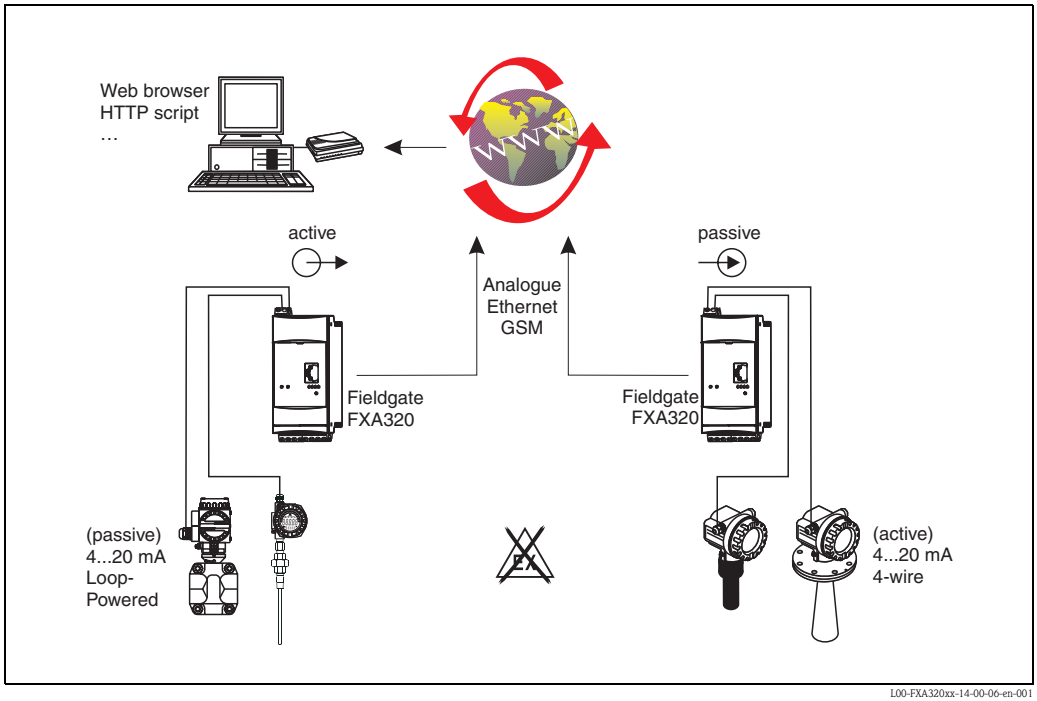
To use the available GPRS functions, the GSM/GPRS provider will need to allocate a public IP address. It will be necessary to determine in each individual case, whether this additional service is offered by the respective operator.

Function and system design

Measuring system

Configuration with analogue input 4...20 mA (FXA320 only)

- Two devices can be connected directly.
- Selectable active/passive current input.



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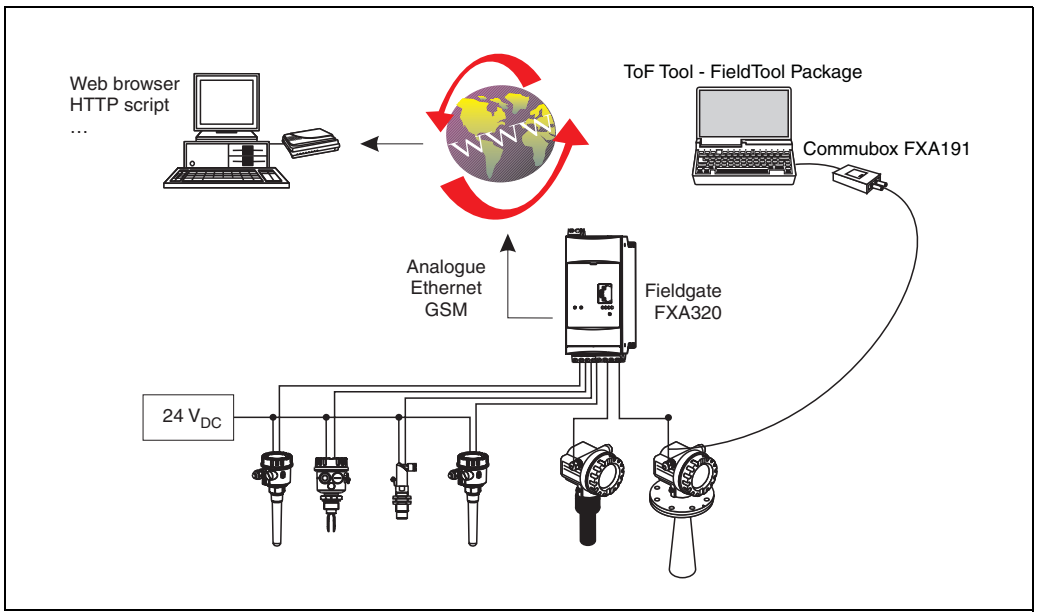
Configuration with binary input (FXA320 only)

- Four binary inputs with event counter function and frequency measurement.
- Two 4...20 mA current inputs.



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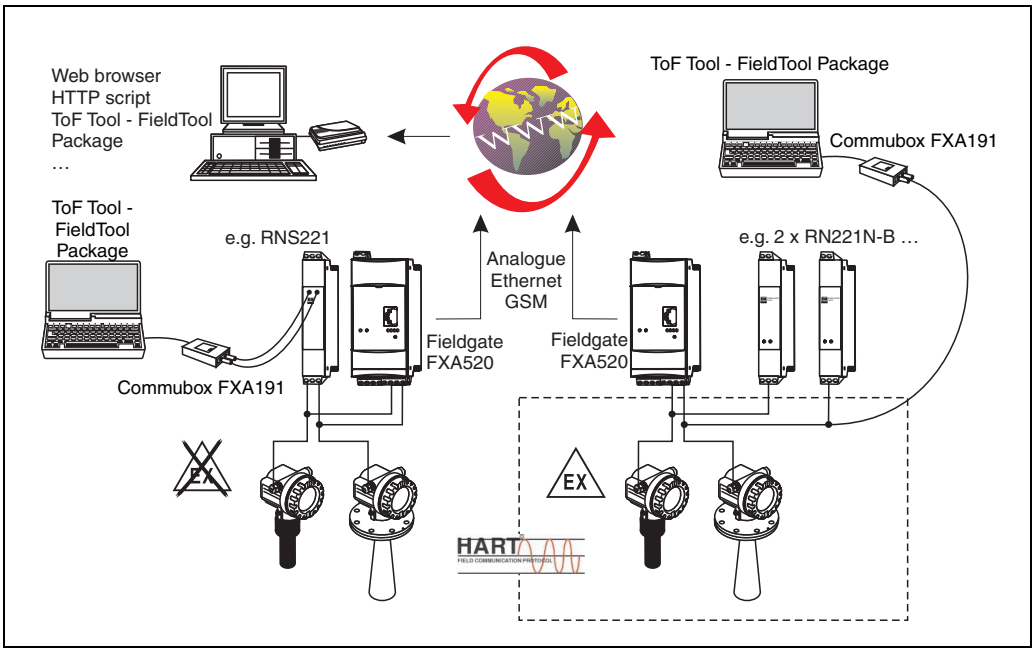
HART - Point-to-Point configuration (FXA520 only)

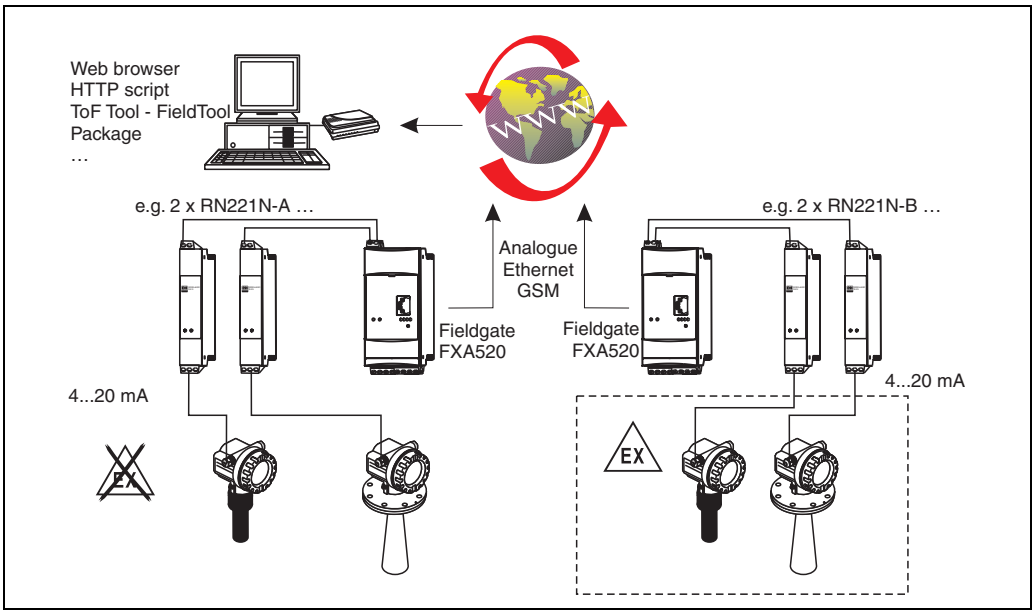
- Two devices can be connected directly
- Can also be used in hazardous areas
- Qualified for 4...20 mA SIL 2 Loops (IEC 61508)
- Subsequent connection to available installation possible
- A HART communication resistor is already integrated into the device
- Additional connection of 4...20 mA sensors is also possible



L00-FXA520xx-14-00-06-en-007

Configuration with analogue input 4...20 mA (FXA520 only)

- Two devices can be connected directly
- Can also be used in hazardous areas (e.g. RN221N)
- Subsequent connection to available installation possible

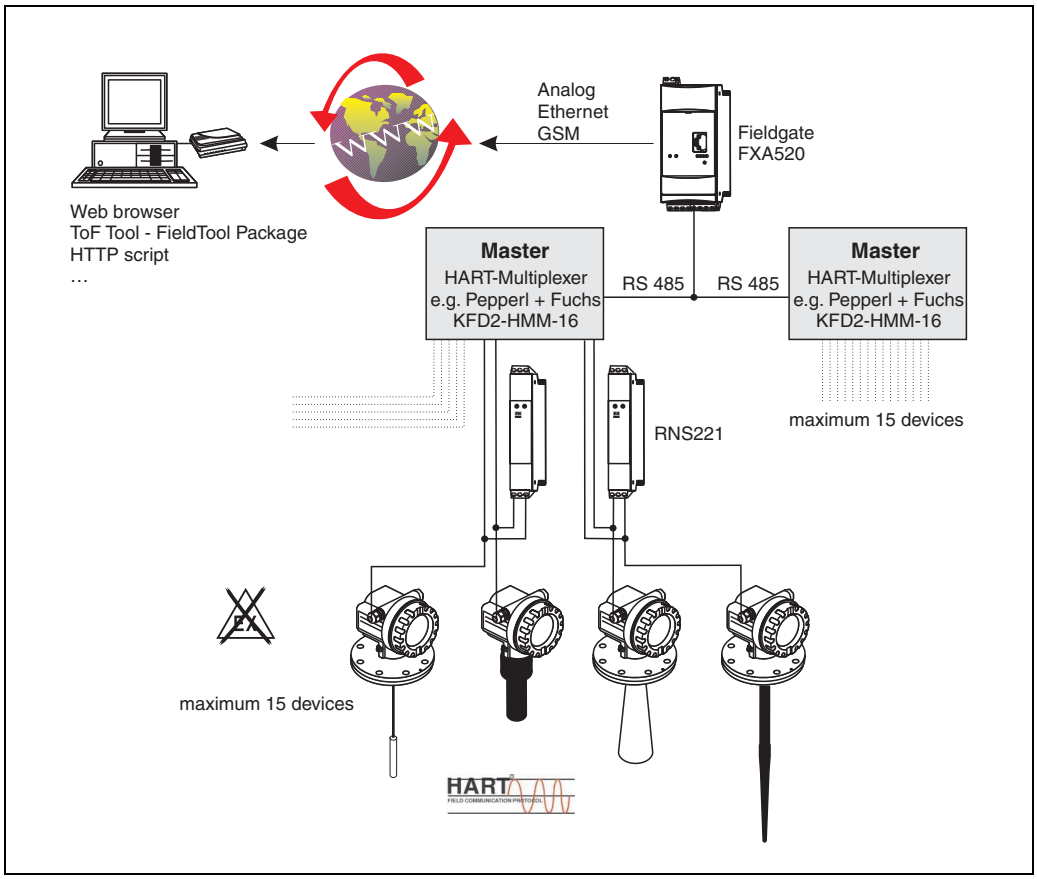


L00-FXA520xx-14-00-06-en-006

HART Multiplexer configuration (FXA520 only)

- Multiplexer, e.g. KFD2-HMM-16 from Pepperl
- Up to 30 devices (2 x 15) can be connected
- Subsequent connection to available installation possible
- 4...20 mA still possible

Note!
Detailed information on the configuration can be found in the operating instructions BA 268F/00.



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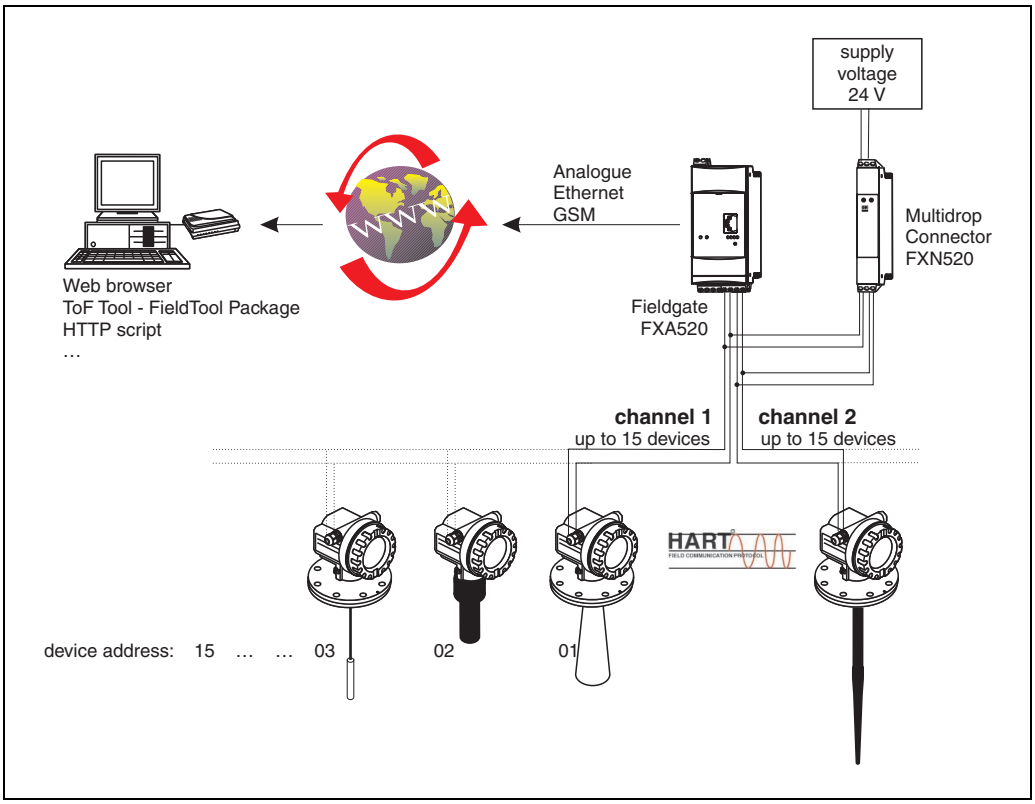
HART - Multidrop configuration (FXA520 only)

- Only HART communication possible
- Up to 30 devices (2 x 15) can be connected
- When the maximum number of devices are connected, observe the following:
  - Minimum operating voltage of the connected devices,
  - Voltage drop at the communication resistor,
  - HART conformity multi-drop of the connected devices,
  - Current consumption of the connected devices
  - Output characteristics of the power supply unit
  - All connected devices must first be allocated their own HART polling address
- A HART communication resistor is already integrated into the device. When the internal communication resistor is used, the permitted number of devices in multi-drop operation is reduced due to the limited current-carrying capacity of the resistor.



L00-FXA520xx-14-00-06-en-003

All E+H measuring devices with the HART protocol can, therefore, be used to the full extent with the Fieldgate

A current list of all E+H measuring devices that have the HART protocol can be found under:

- www.hartcomm.org: "HART Products/Product Catalogue/ ...".

All Endress+Hauser measuring devices with HART protocol can be connected to the Fieldgate.
Even 4...20 mA devices without HART protocol can be operated in conjunction with the Fieldgate, e.g. limit switch (Liquiphant, ...). However, then only the measured value can be read. The remote maintenance function is not given for 4...20 mA devices because the HART protocol is required for this function.

Input

Analogue 4...20 mA inputs

FXA520

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

FXA320

2 channels with galvanic isolation. Can be used independently as active or passive input.

Channel 1&2 - active	
Output voltage	15 V ±5% / (22 mA)
No-load voltage	23.5 V ±5%
Output current	max. 23 mA
Short-circuit current	max. 64 mA
short-circuit duration	Unlimited
Connection cable	Instrument cable, unscreened
Cable resistance	max. 25 Ω per core

Channel 1&2 - passive	
Max. input voltage per channel	35 V
Max. input current per channel	45 mA
Input impedance	254 Ω
Accuracy	≤ 0.5 %
Voltage drop (incl. diode against reverse polarity)	≤ 6.4 V
Connection cable	Instrument cable, unscreened
Cable resistance	max. 25 Ω per core

RS-485 interface (FXA 520 only)

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

HART channel 1&2 (FXA 520 only)

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

Binary inputs (FXA 320 only)

Galvanic isolation of all channels from the rest of the current circuits. Each 2 channels have the same reference potential.

Number of digital inputs	4
Input signal voltage	L-signal: -3 ... +5 V H-signal: +15 ... +30 V
Input current with H-signal	5 mA
Max. quiescent current with L-signal	1 mA
Measuring range of event counter function	0 ...12.5 kHz
Measuring range of frequency measurement	4.7 Hz (±1%) ... 12.5 kHz (±4%)

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

Overvoltage category as per EN 61010

II

Protection class

II (double or reinforced insulation)

Power supply

Electrical connection

Terminal blocks

The removable terminal blocks are isolated after intrinsically safe connections (on top of device) and non-intrinsically safe connections (on bottom of device). Furthermore, the terminal blocks are also different in colour. Blue for the intrinsically safe area and grey for the non-intrinsically safe area. These distinctions allow for safe cable routing.

Connecting the devices

(To the upper, blue terminal blocks).
The two-core connecting wire between the Fieldgate FXA520 and HART devices can be a usual commercial instrument cable or cores in a multi-core cable for measuring purposes. If strong electromagnetic interferences have to be expected, e.g. from machines or radios, using a screened cable is recommended. Only connect the screening to the
grounding connection in the device.
The HART signal is decoupled passively without power supply.

Operating the device in hazardous areas (FXA520 only)

The national explosion protection directives for designing and routing the intrinsically safe signal cable must be observed. Maximum permitted values for capacity and inductivity can be found in the Safety Instructions of XA 188F.

Connecting the supply voltage

(Terminal 1 and 2)
For the voltage versions, see the Ordering information on page 23. A fuse is built into the power supply circuit so that a fine-wire fuse does not need to be connected in series.
The Fieldgate is equipped with reverse polarity protection.

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

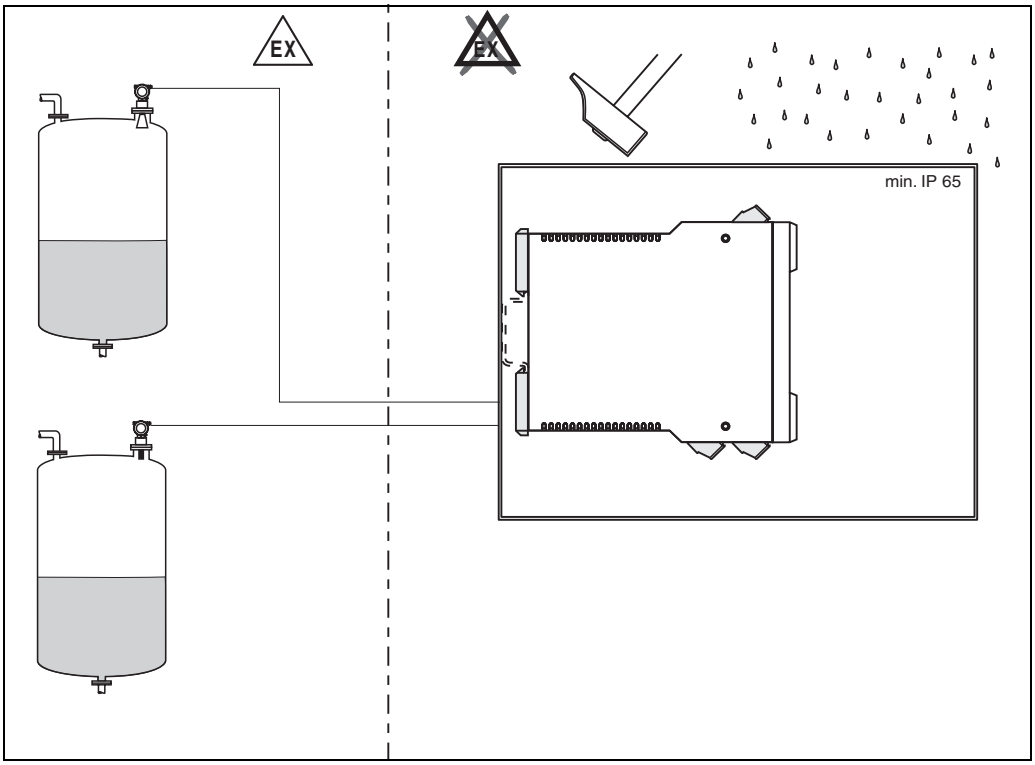
FXA320		AC (at 253 V_{AC})	DC (at 20 V_{DC})	Solar (at 10 V_{DC})
Analogue		8 VA	3.5 W	—
Ethernet		8 VA	3.5 W	—
GSM	Send mode	8 VA	4.8 W	4.6 W
	Standby	6 VA	2.9 W	2.8 W

Operating conditions: Installation

Installation instructions

Mounting location

The Fieldgate must be placed in a cabinet, away from hazardous areas. There is also a protective housing (IP65) for two devices available for outdoor installation.



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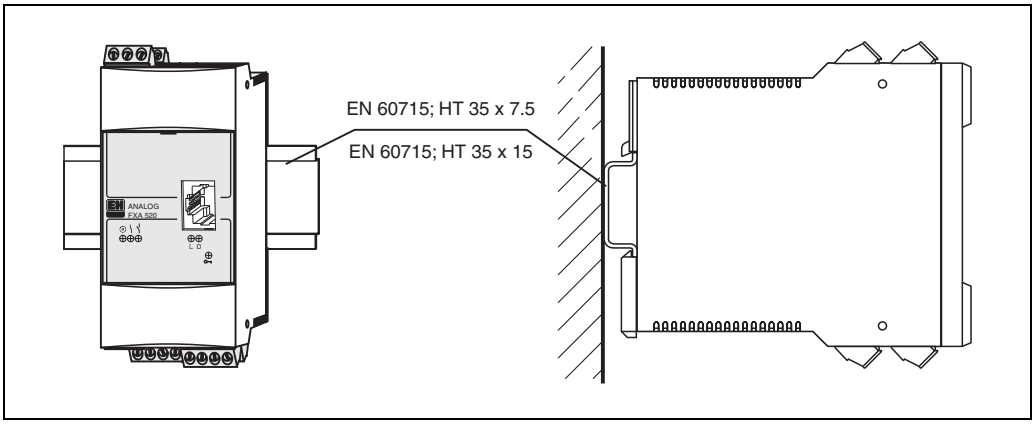
Orientation

Vertical on DIN top-hat rail (HT 35 as per EN 60715).



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Operating conditions: Environment

Mounting location

Cabinet or protective housing

Permitted ambient temperatures

For individual mounting

-20 C... +60 C

For series mounting without lateral spacing

-20 C... +50 C

Storage temperature

-25 C... +85 C (preferably at +20 C)

Installation in protective housing

-20 C... +40 C
Maximum two Fieldgates can be installed into a protective housing.

Caution!
The devices must be mounted such that they are protected from the weather and from impacts, and where possible in places that are not exposed to direct sunlight. This must be especially observed in regions with warm climates.

Climatic and mechanic application class

3K3

In accordance with DIN EN 60721-3-3

3M2

In accordance with DIN EN 60721-3-3

Ingress protection

IP 20, in accordance with EN 60529

Electromagnetic compatibility (EMC)

Interference Emission to EN 61326, Electrical Equipment Class B.

Application in protection functions

The FXA 520 can be attached back effect freely to protection functions that are classified in SIL 2 to IEC 61508.

SFF[1]	60%

1) SFF = Safe Failure Fraction

TI[1]	PFD_{avg}[2]
1 year	$1{,}23 \times 10^{-6}$
5 years	$6{,}13 \times 10^{-6}$
10 years	$1{,}23 \times 10^{-5}$

1) TI = Test Interval between life testing of the protection function (in years)

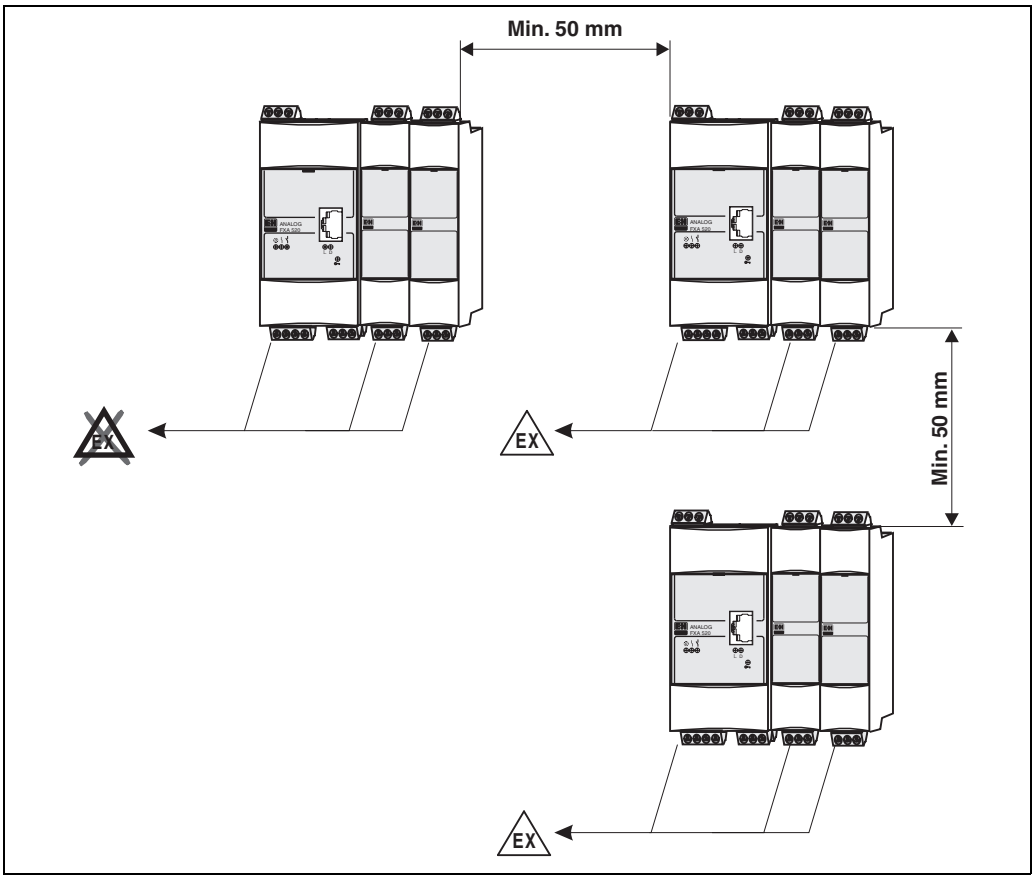
2) PFD_{avg} = Probability (average) of a dangerous Failure on Demand

Mechanical construction

Design, dimensions

Note!
100 mm = 3.94 in

- Housing: aligned housing (top-hat rail design) made of plastic
- Installation: on top-hat rail as per EN 60715; HT 35x7.5 or EN 60715; HT 35x15
- Ingress protection as per EN 60529; IP 20



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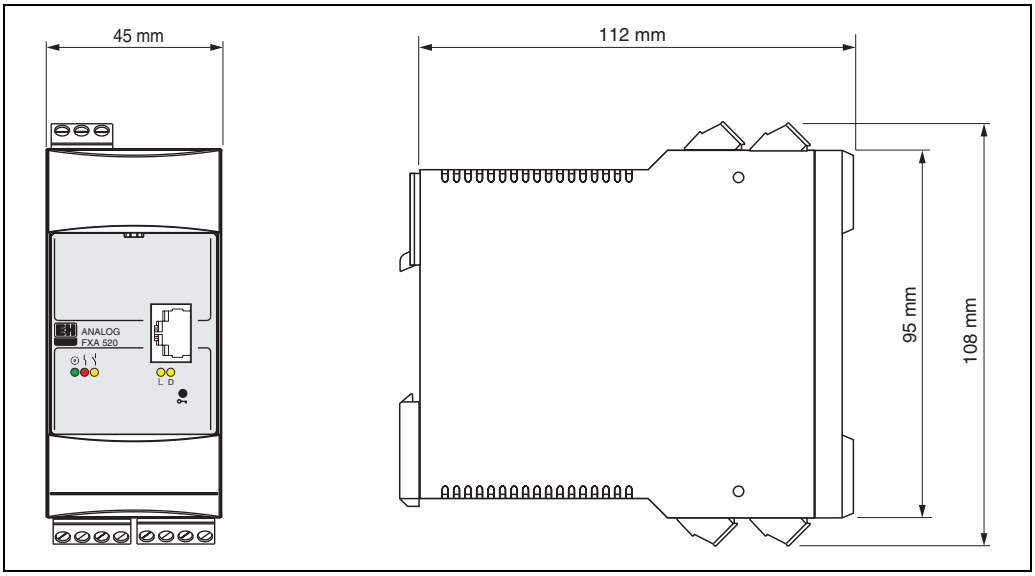
Dimensions



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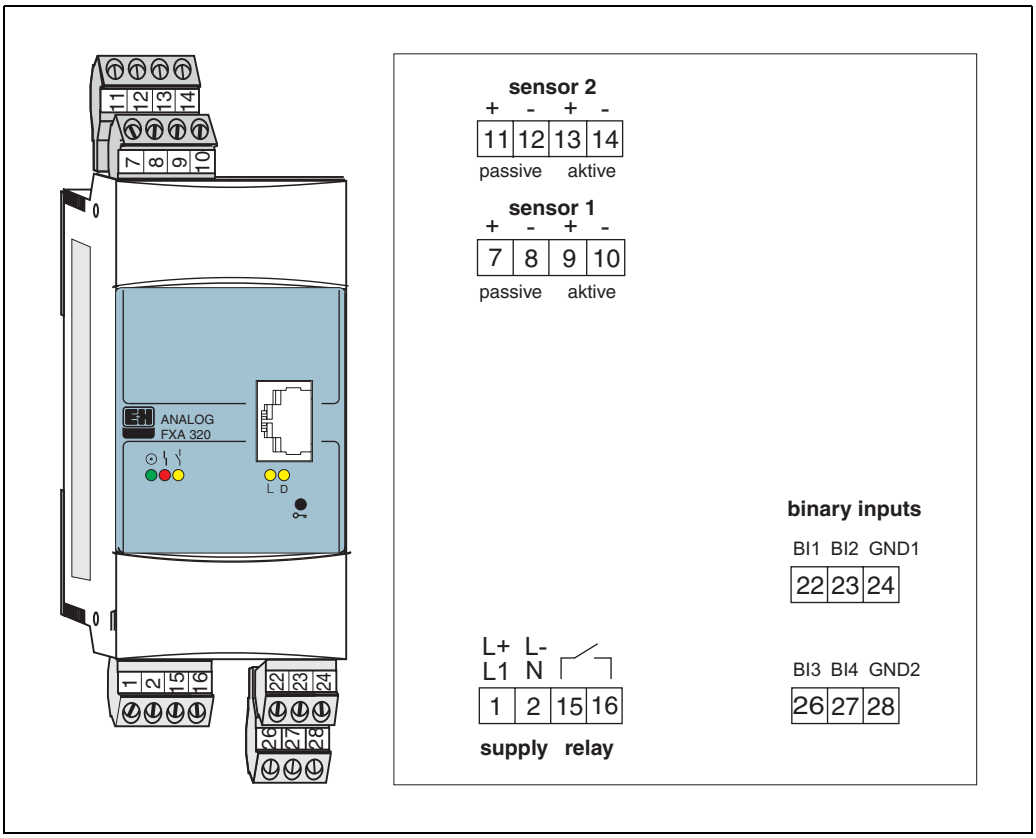
Weight	approx. 250 g
Materials	**Housing** Polycarbonate Colour: light grey, RAL 7035 **Front cover** Polyamide PA6 Colour: blue **Fixing slide (for fastening on the top-hat rail)** Polyamide PA6 Colour: black, RAL 9005
Terminals	**Connection cross-section** maximum 1 x 2.5 mm or 2 x 1.5 mm **Terminal assignment Fieldgate FXA320**



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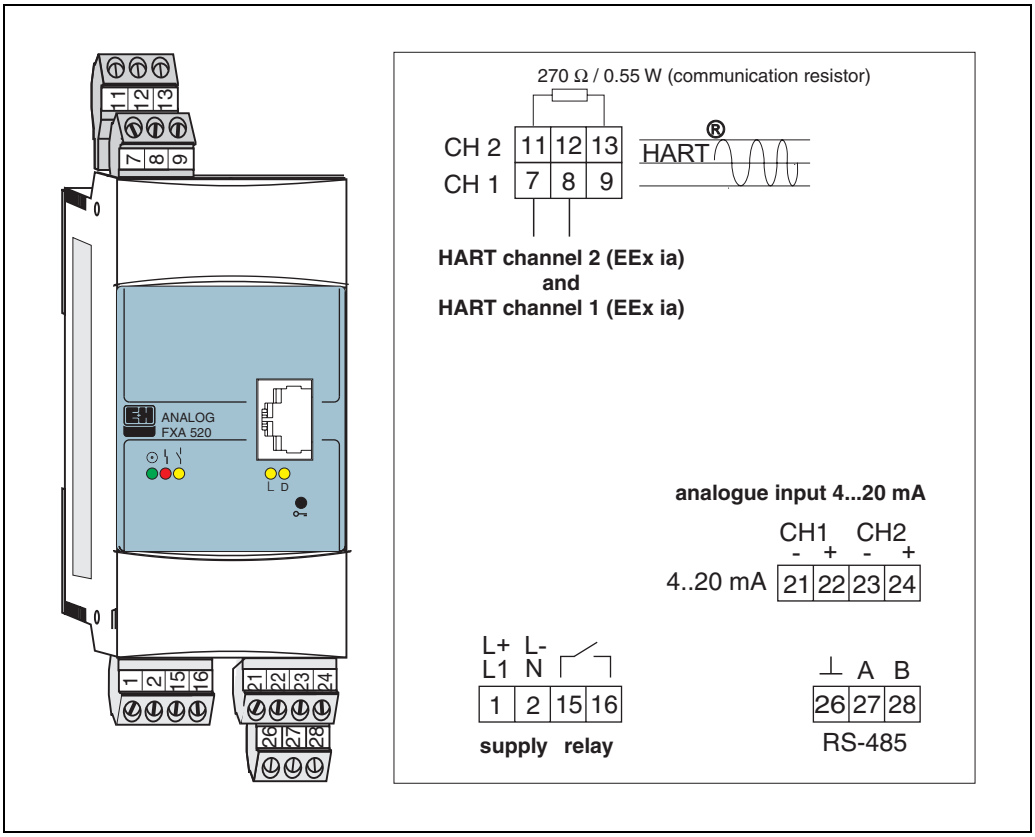
Terminal assignment Fieldgate FXA520



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Plug-in connections

Connection socket for Ethernet Fieldgate versions:

RJ45 socket

Connection socket for GSM antenna:

FME socket (male)

Connection plug for DAT module:

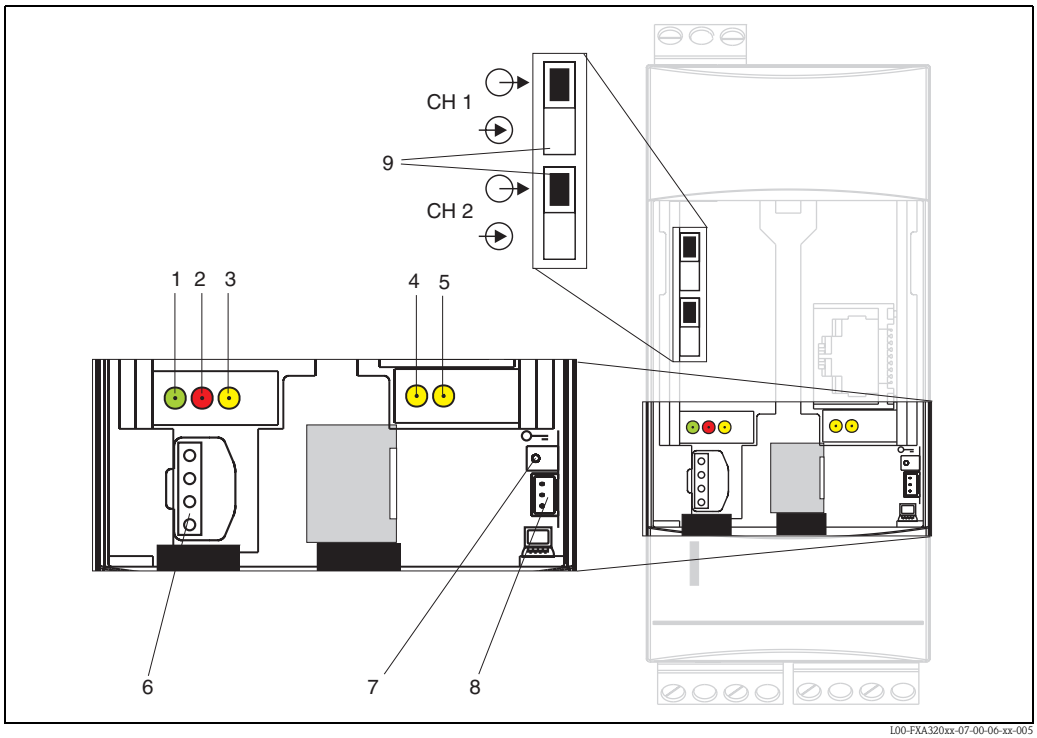
8-pin plug connector in 2.54 mm raster, 2 rows

Connection plug for PC cable:

3-pin plug connector in 2.54 mm raster, 1 row

Human interface

Display elements



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

Operating elements

For the arrangement of the elements, see the diagram above.

Position	Element	Meaning
6	Socket	Connection socket for DAT module
7	Button	Button for hardware security locking and configuration reset
8	Socket	Connection socket for PC cable (service connector)

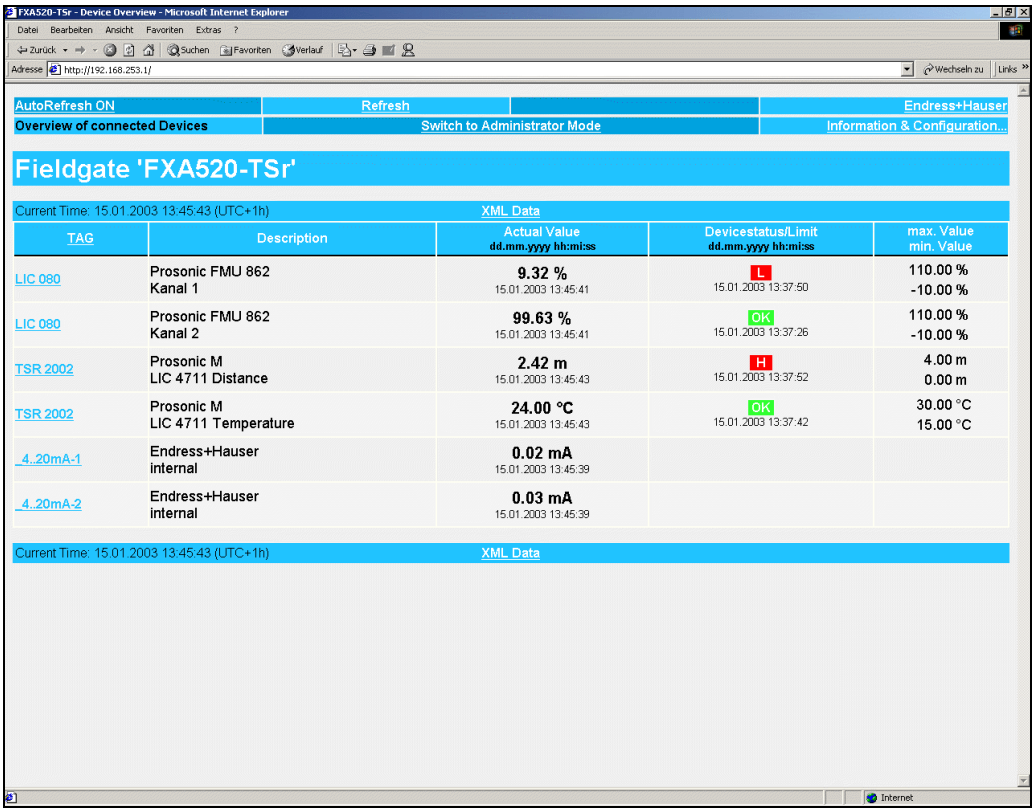
FXA320 only

Position	Element		Current input channel 1 (CH1)		Current input channel 2 (CH2)	
9	Switch position (up)			aktive		aktive
	Switch position (down)			passive		passive

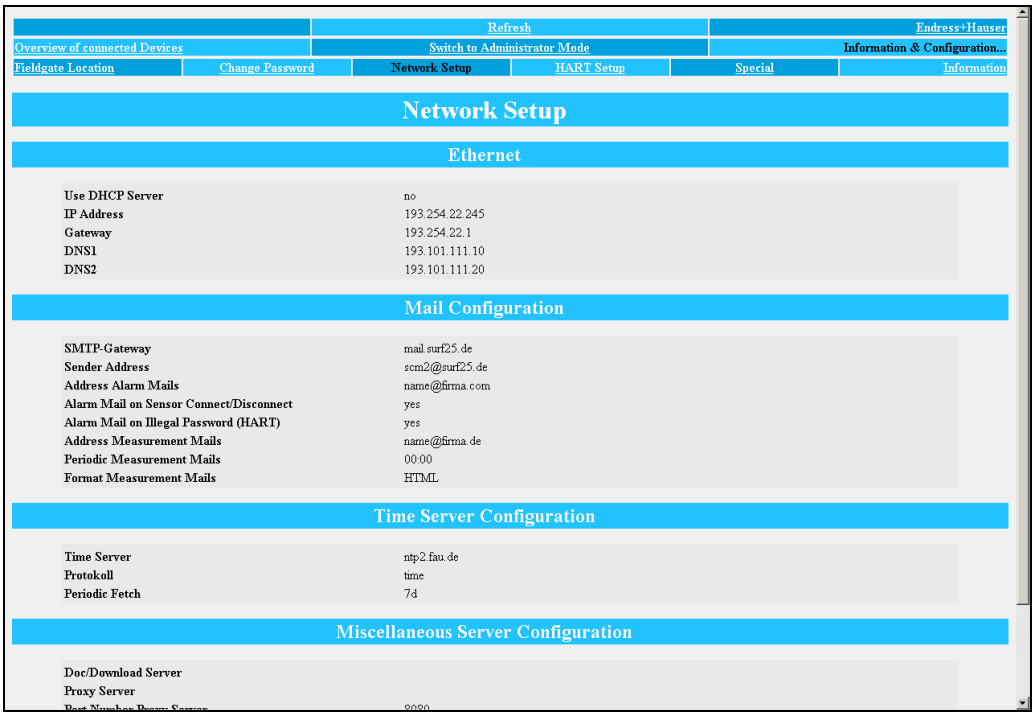
Operation concept

Fieldgate offers world-wide remote monitoring, remote diagnosis and remote configuration of Smart transmitters with the international used HART® protocol. Measured values become available world-wide via Internet and can be efficiently processed. A standard web browser is used for visualising and remote inquiry. Fieldgate displays parameters and measured values of field instruments on an HTML page. Max. 30 measured values can be displayed. Up to 4 measured values can be displayed per device.

Fieldgate FXA520

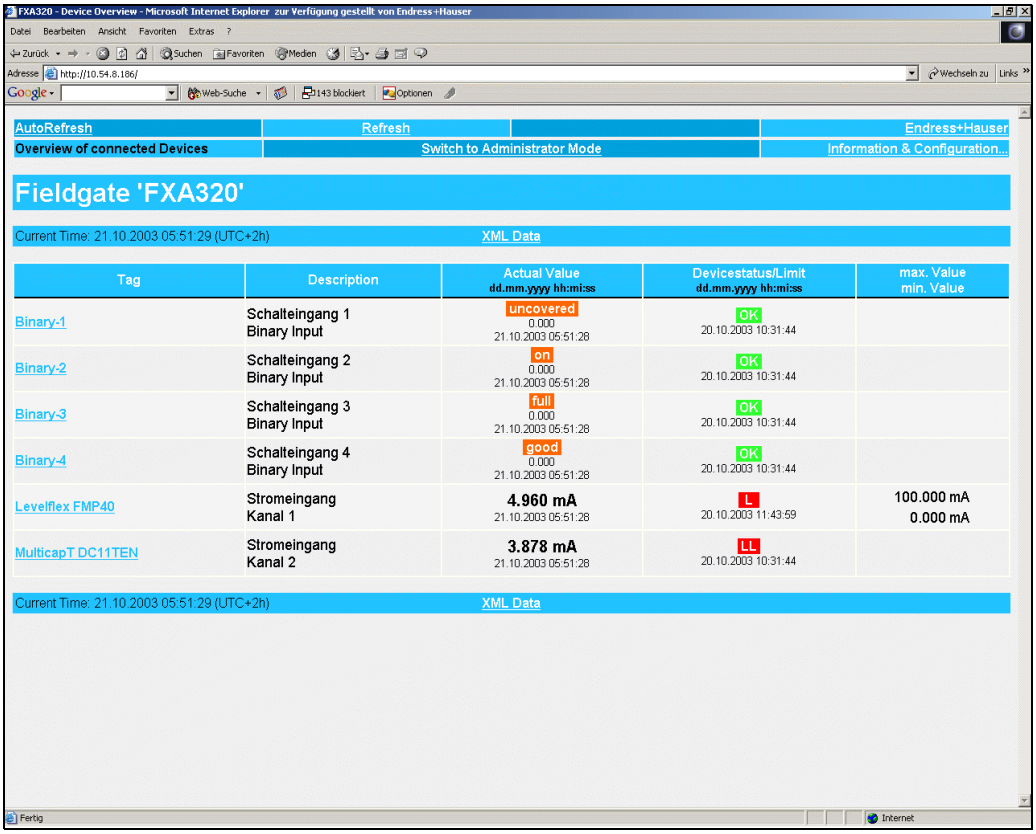


L00-FXAY2Kxx-20-13-00-en-301



L00-FXA520xx-20-13-00-en-167

Fieldgate FXA320



L00-FXA320xx-20-13-00-en-001

Certificates and approvals

CE mark

The Fieldgate meets the legal requirements of the EC directives.
Endress+Hauser confirms that the device has been successfully tested by applying the CE label.

Ex-approval

FXA520

see Ordering information

Explosion protection

FXA520

[EEx ia] IIC
Intrinsically safe circuits

Values for each circuit:
Voltage U_o = 6.5 V_{DC}
Current I_o = 6 mA
Power P_o = 9.8 mW

Max. external values in accordance with the following table:

Group	Capacitance C_o [µF]	Inductance L_o [mH]
IIC	25	1000
IIB	570	1000

If inductances and capacitances are concentrated the following values apply:

Group	Capacitance C_o [µF]	Inductance L_o [mH]
IIC	2 2 1.5	0.5 1 5
IIB	10 10 7	1 2 5

Other standards and guidelines

Other standards and guidelines that have been observed when designing and developing the Fieldgate.

EN 60529

Ingress protections for housing (IP code)

EN 61010

Safety requirements for electrical equipment for measurement, control and laboratory use

EN 61326

Interference emission (class B operating equipment), interference immunity (appendix A – industrial sector)

EN 60950 (IEC 950)

Safety of information technology equipment

Telecommunications Regulatory Compliance

Fieldgate analogue version

North America

FCC CFR 47, part 15 and part 68

Europe

Telecoms Terminal Equipment Directive (98/13/EG)
European approval TBR 21

Fieldgate GSM version

North America
FCC CFR 47 Part 15 and Part 24

Federal Communications Commission Notice

This device generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

To ensure that the unit complies with current FCC regulations and safety requirements limiting both maximum RF output power and human exposure to radio frequency radiation, use an antennna with a maximum gain of 2dBi and a separation distance of at least 20 cm must be maintained between the unit's antenna and the body of the user and any nearby persons at all times and in all applications and uses.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Endress+Hauser may void the user's authority to operate the equipment.

Federal Communications Commission Statement

FCC-ID: LCG-FG-FXA52x-32x
This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

Wireless Notices

In some situations or environments, the use of wireless devices may be restricted. Such restrictions may apply aboard airplanes, in vehicles, in hospitals, near explosives, in hazardous locations, etc. If you are uncertain of the policy that applies to the use of this device, please ask for authorization to use it prior to turning it on.

Ordering information

Fieldgate FXA320

10	**Certificates**						
	A	Version for non-hazardous areas					
	F	CSA, general purpose					
	Y	Special version					
20		**Power supply**					
		A	Power supply 85...253 V_{AC}, 50/60 Hz				
		E	Power supply 20...60 V_{DC}, 20...30 V_{AC}				
		G	Solar panel connection 10...20 V_{DC}				
		Y	Special version				
30			**Modem interface**				
			1	Ethernet - 10 Base T			
			2	Analogue modem			
			4	GSM modem without antenna			
			9	Special version			
40				**DAT module**			
				A	without DAT module		
				B	with DAT module		
				Y	Special version		
50					**Input**		
					A	2-channel analogue (4...20 mA)	
					B	2-channel analogue (4...20 mA) + 4 binary	
FXA320-							Complete product designation

Fieldgate FXA520

10	**Certificates**						
	A	Version for non-hazardous areas					
	G	ATEX II (1) GD	EEx ia IIC T6				
	P	FM	IS - Class I, II, III, Division 1, Group A-G				
	S	CSA	IS - Class I, II, III, Division 1, Group A-G				
	Y	Special version					
20		**Power supply**					
		E	Power supply 20...60 V DC, 20...30 V AC				
		A	Power supply 85...253 V AC, 50/60 Hz				
		Y	Special version				
30			**Modem interface**				
			1	Ethernet - 10 Base T			
			2	Analogue modem			
			4	GSM modem without antenna			
			9	Special version			
40				**DAT module**			
				A	without DAT module		
				B	with DAT module		
				Y	Special version		
FXA520-							Complete product designation

Note!
A PC cable is included in the scope of supply with FXA320/520.

Accessories

Note!
The following table gives an overview of possible application for the individual accessory parts with the Fieldgate FXA320 or FXA520.

Accessory	Fieldgate FXA320	Fieldgate FXA520
Protective housing	X	X
DAT module	X	X
PC cable	X	X
Telephone cable (analogue version only)	is required	is required
Fieldgate data access	X	X
Fieldgate OPC server	X	X
Java applets	X	X
Antenna (GSM version only)	is required	is required
HART Client (FXA 520 only)	—	X
Multiplexer (FXA 520 only)	—	X
E+H power supply units (FXA 520 only)	—	X

Protective housing

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

Dimensions:

W 180 / H 182 / D 165

Colour:

Light grey RAL 7035.
Order number: 52010132.

DAT module

An external EEPROM, in which the configuration data is saved identically to the internal EEPROM, can be attached optionally via plug. For example, this allows for the FXA320/520 to be changed in the event of a defect, without losing the customer-specific configuration data.
Order number: 52013311.

PC cable

A PC can be connected to the FXA320/520 for configuration purposes via a serial RS 232 connection. Order number: 52013984.

Telephone cable

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

Fieldgate data access

Fieldgate Data Access software assists with the collection of data from different Fieldgates. The fetching of data is controlled via entries in the Scheduler. Time control can be via periodic intervals or at user-defined times. Under Windows NT4 / 2000 / XP, collection of the data can accomplished via a "system service", which runs in the background. The data are saved in CSV format. Further processing of the data can be carried out with, e.g. Excel.

Fieldgate OPC server

The Fieldgate OPC server provides an interface between one or more Endress+Hauser Fieldgate devices and all possible OPC Data Access 2.0 compatible Clients. The Fieldgate can be connected via a dial-up modem or through a TCP/IP network.

Java applets

Java applets for a customised view of the screen.

Antenna	Antenna for communication via mobile communications (GSM): ■ Triband flat antenna. Order number: 52018396. ■ Dual band station antenna. Order number: 52018395.
HART Client (FXA 520 only)	The HART Client is a free add-on which is required for remote configuration via HARTtools (e.g. with ToF Tool – FieldTool Package, ReadWin, ...). You can download the current software version from the Internet from the Endress+Hauser product pages (download: http://www.endress.com).
Multiplexer (FXA 520 only)	Accessories for HART Multiplexer system (from Pepperl+Fuchs): ■ HART Multiplexer Master KFD2-HMM-16. Order number: 52017691. ■ Master-interface connecting cable. Order number: 52017687. ■ HART Multiplexer slave KFD0-HMS-16. Order number: 52020232. ■ Master-slave connecting cable. Order number: 52020233. ■ Interface module without communication resistor. Order number: 52017689. ■ Interface module with communication resistor. Order number: 52017690. ■ Switched-mode power supply. Order number: 52017688.
E+H power supply units (FXA 520 only)	**RMA422** Multifunctional 1-2-channel top-hat rail device with intrinsically safe current inputs and transmitter power supply, limit value monitoring, mathematics functions and 1-2 analogue outputs. **RNS221** Power supply unit for supplying power to two two-wire sensors or transmitters in non-hazardous areas. **RN221N** Isolator with power supply for safely isolating 4...20 mA standard signal circuits. **RMA421** Multifunctional 1-channel top-hat rail device with universal input, transmitter power supply, limit value monitoring and analogue output.
E+H Multidrop Connector FXN520	Operated several devices in multi-drop operation for FXA520. Order number: 52023652.
Solarbox	Self-sufficient current supply unit for FXA320 with solar panel.

Documentation

Operating Instructions	**KA 193F/00/a6** Mounting and installation instructions for Fieldgate FXA520. Order number: 52013633. **KA 215F/00/a6** Mounting and installation instructions for Fieldgate FXA320. Order number: 52020867. **BA 258F/00/en** Operating Instructions for Fieldgate FXA520 (online help in the Internet browser). **BA 282F/00/en** Operating Instructions for Fieldgate FXA320 (online help in the Internet browser). **BA 273F/00/en** Operating instructions for Fieldgate Data Access software (download via the Internet). **Ba 272F/00/en** Operating instructions for Fieldgate OPC server software (download via the Internet).
Certificates	**XA 188F-A/00/a3** Safety Instructions for electrical operating equipment for hazardous areas. Order number: 52013636. **ZD 086F/00/en** Control Drawings (FM). Order number: 52013634. **ZD 087F/00/en** Control Drawings (CSA). Order number: 52013635.
Accessories	**BA 265F/00/de** Cable for the HART Multiplexer-System. Order number: 52017693. **BA 266F/00/en** Interface Modul without Communication resistor. Order number: 52017694. **BA 267F/00/de** Interface Modul with Communication resistor. Order number: 52017695. **BA 268F/00/en** HART-Multiplexer Master KFD2-HMM-16. Order number: 52017696. **BA 283F/00/en** HART Multiplexer slave KFD0-HMS-16. Order number: 52021044. **BA 269F/00/en** Switched power supply. Order number: 52017698. **TI 391F/00/en** Solarbox for Fieldgate FXA320. Order number: 52023595.

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