

Technical Information

Liquiline CM42B

Two-wire transmitter
Field device and device for DIN rail mounting



Measurement with digital or analog sensors

Scope

The device is a two-wire transmitter for connecting digital sensors with Memosens technology or analog sensors (configurable). It features a 4 to 20 mA current output with optional HART communication and can be operated via an onsite display or optionally using a smartphone or other mobile devices via Bluetooth.

The device is designed for use in the following industries:

- Chemical industry
- Pharmaceutical industry
- Water and wastewater
- Food and beverage production
- Power stations
- Applications in hazardous areas
- Other industrial applications

Your benefits

- Comfortable operation and configuration:
The intuitive operating concept makes commissioning and configuration on-site easy and fast. Bluetooth connection and the SmartBlue app provide an overview of the measuring point on your smartphone or tablet.
- Unique security:
The Bluetooth connection features a unique security concept that prevents intrusion and enables sophisticated role management of the operating staff. You profit from external and internal security.
- Suitable for all process environments:
The transmitter is available as stainless steel, plastic or DIN-rail version. Simply select the suitable version to integrate it into a skid, use it in hygienic environments or apply it in hazardous areas.
- Increased process safety and uptime:
Memosens technology provides you with reliable, digital data transmission and high availability of measured values. Plug & play of pre-calibrated sensors reduces process downtime for calibration.
- Seamless system integration:
Liquiline CM42B offers HCF-certified HART communication which makes integration into your process control system easy and secure.

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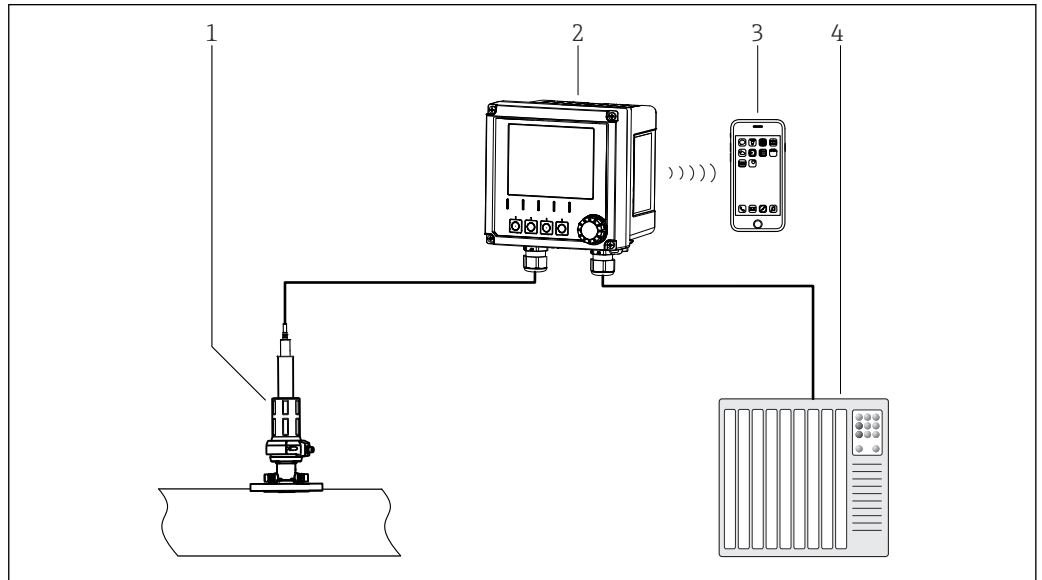
Function and system design

Measuring system

The overview shows examples of measuring systems. Other sensors and assemblies can be ordered for conditions specific to your application (www.endress.com/products).

A complete measuring system comprises the following components:

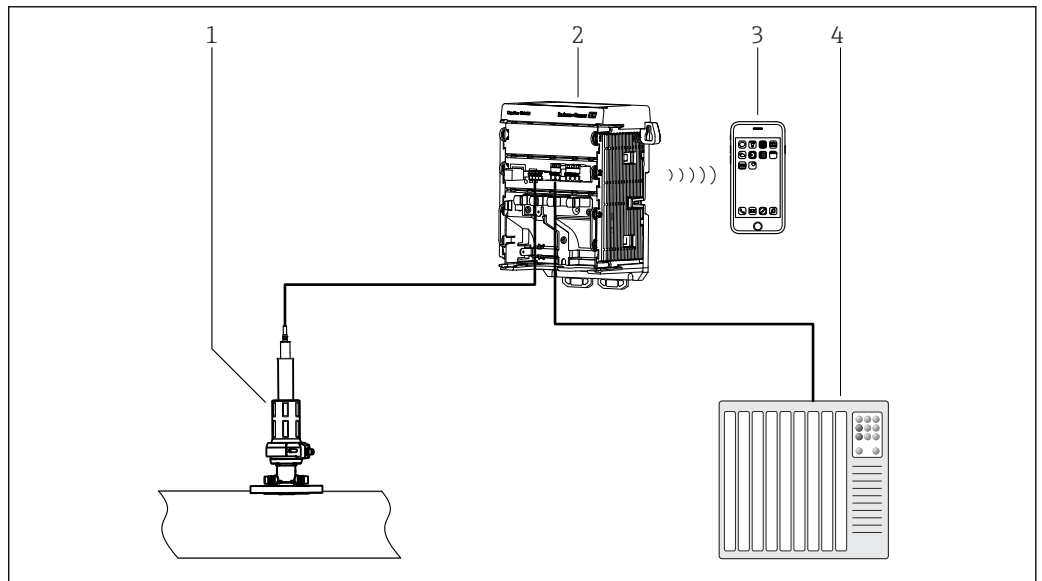
- Liquiline CM42B transmitter
- Sensor
- Assemblies suitable for the sensor used
- Measuring cables



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1 Example of a measuring system with Liquiline CM42B field device

- 1 Measuring point with sensor and assembly
- 2 Liquiline CM42B
- 3 Mobile device with SmartBlue app, connection via Bluetooth LE (optional)
- 4 PLC (programmable logic controller)



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2 Example of a measuring system with Liquiline CM42B for DIN rail mounting

- 1 Measuring point with sensor and assembly
- 2 Liquiline CM42B
- 3 Mobile device with SmartBlue app, connection via Bluetooth LE (optional)
- 4 PLC (programmable logic controller)

Sensor connection

Sensors with Memosens protocol

Sensor types	Sensors
Digital sensors with inductive Memosens plug-in head or sensors with fixed cable and the support of the Memosens protocol	<ul style="list-style-type: none"> ▪ pH sensors ▪ ORP sensors ▪ pH/ORP combined sensors ▪ Oxygen sensors, amperometric ▪ Oxygen sensors, optic ▪ Conductivity sensors, inductive ▪ Conductivity sensors, conductive

Analog sensors (only field device)

Sensor types	Sensors
The measuring parameter depends on the order. Upgrading to Memosens is possible via accessories.	<ul style="list-style-type: none"> ▪ pH sensors ▪ ORP sensors ▪ pH/ORP combined sensors ▪ Conductivity sensors, inductive ▪ Conductivity sensors, conductive

Communication and data processing

Types of communication:

- Current output 1: 4 to 20 mA, passive, optional HART
- Current output 2 (optional): 4 to 20 mA, passive
- Bluetooth® LE wireless technology (optional)

Reliability

Dependability


Memosens 

Memosens makes your measuring point safer and more reliable:

- Non-contact, digital signal transmission enables optimum galvanic isolation
- No contact corrosion
- Completely watertight
- Sensor can be calibrated in a lab, thus increasing the availability of the measuring point in the process
- Intrinsically safe electronics mean operation in hazardous areas is not a problem.
- Predictive maintenance thanks to recording of sensor data, e.g.:
 - Total hours of operation
 - Hours of operation with very high or very low measured values
 - Hours of operation at high temperatures
 - Number of steam sterilizations
 - Sensor condition

Security

Secure signal transmission via Bluetooth® LE

 Signal transmission via Bluetooth® wireless technology uses a cryptographic technique tested by the Fraunhofer Institute.

Security levels for Endress and Hauser Bluetooth infrastructure – ¹⁾:

- Protocol: **High**
- Algorithms: **High**

Measured against:

- The security objectives, e.g. confidentiality, integrity, availability, etc.
- The risk analysis, e.g. key distribution, authentication, password recovery, etc.
- The attack model, e.g. motivation for attack, time required, expertise in electronics, etc.
- The weak-point analysis

For comparison: The general Bluetooth standard is classified as "Low".

1) Multi-level scale for security assessments in accordance with Fraunhofer AISEC cryptographic technique: "Very low", "Low", "High", "Very high"

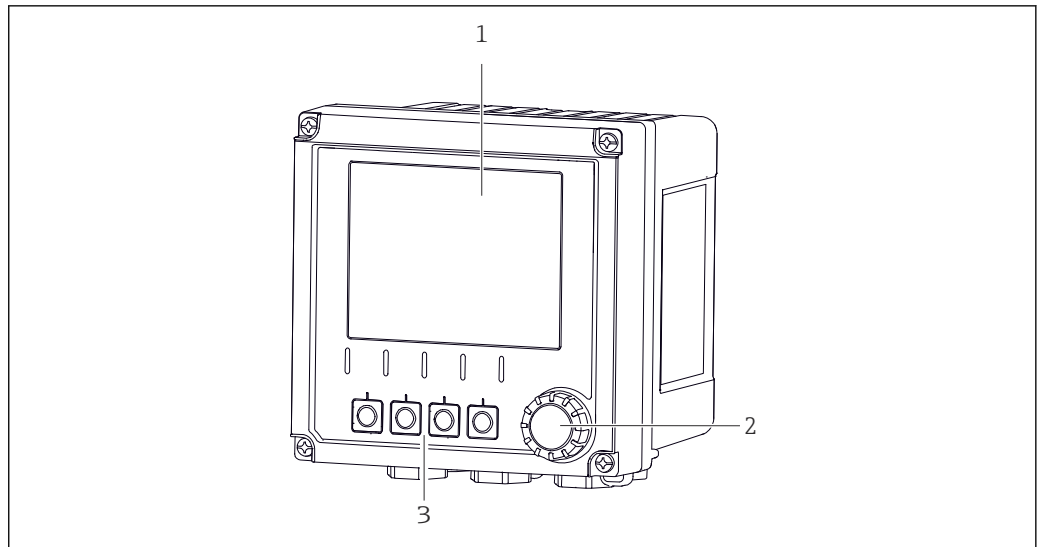
Protection against unauthorized access:

- Password-protected
- Without the SmartBlue app, the device is not visible via Bluetooth® wireless technology.
- Only one point-to-point connection is established between a sensor and a smartphone or tablet.
- The Bluetooth® wireless technology interface can be disabled via the onsite user interface.
- Bluetooth® is optional. The device can be ordered with this functionality enabled.
If ordered with Bluetooth® disabled, Bluetooth® can be enabled at a later stage by means of an activation code (accessory kit) linked to the serial number.

Device architecture

Field device

Housing closed

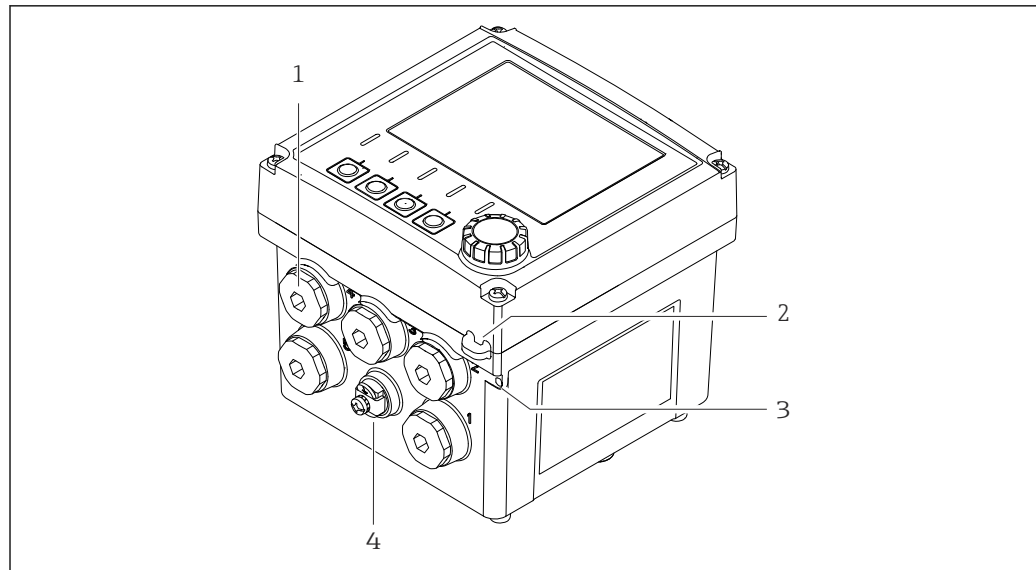


3 Exterior view

1 Display

2 Navigator

3 Soft keys, assignment depends on menu



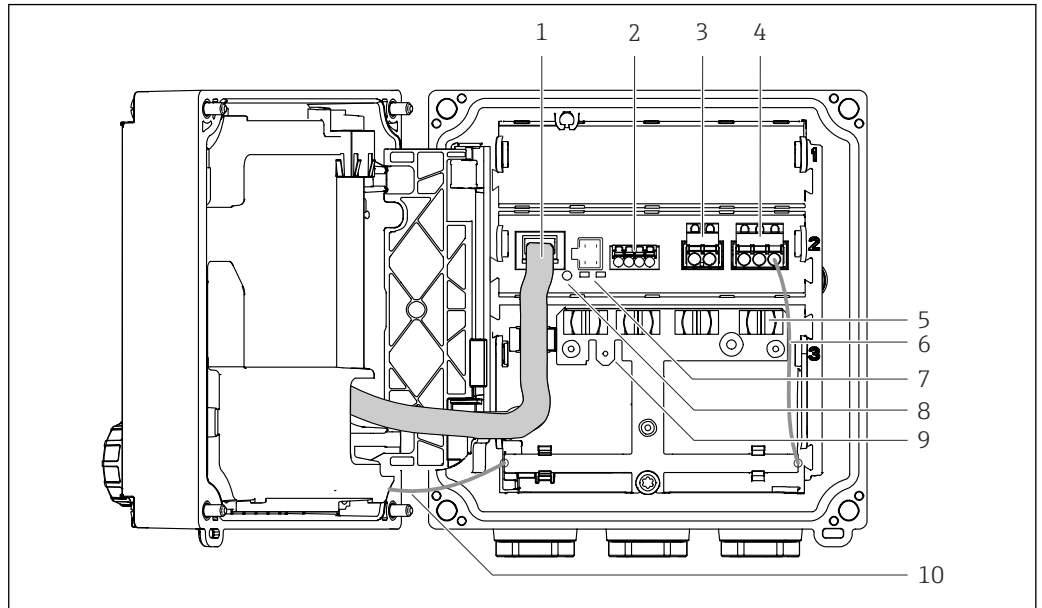
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4 Exterior view

- 1 Connections for cable glands
- 2 Eyelet for security seal
- 3 Eyelet for Tagging (TAG)
- 4 Connection for potential equalization or functional ground

Housing open

Design of MEMOSENS sensors



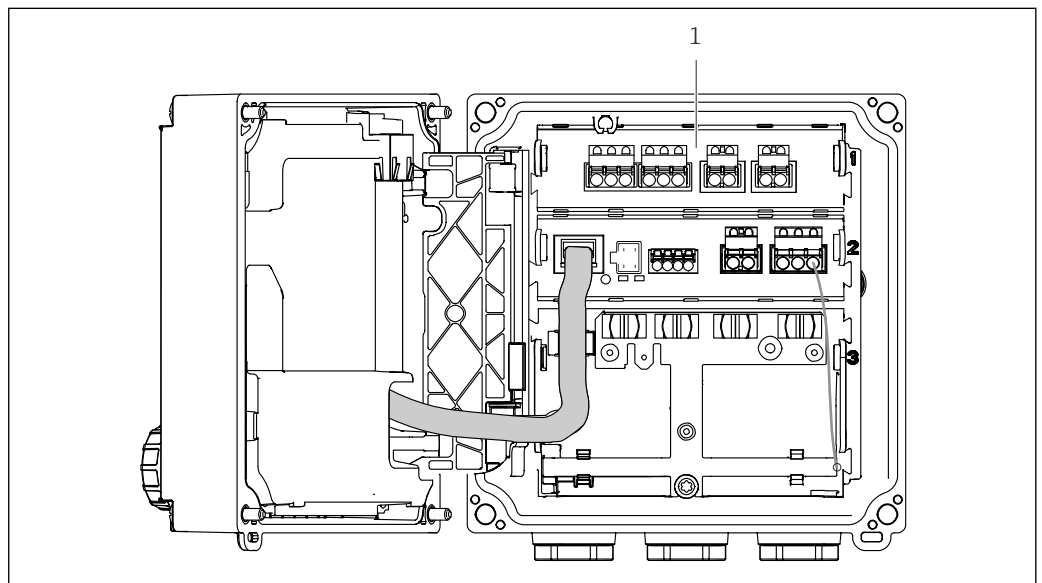
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- 1 Display cable
- 2 Memosens input
- 3 Current output 1: 4 to 20 mA, passive/optional HART
- 4 Current output 2 (optional): 4 to 20 mA, passive
- 5 Cable mounting rail
- 6 Internal ground cable, wired at the factory
- 7 Status LEDs
- 8 Reset button
- 9 Internal grounding connection for blade receptacle 6.35 mm x 0.8 mm (0.25 in x 0.032 in), usage optional
- 10 Internal ground cable for display (only for devices with a stainless steel housing), wired at the factory



The status LEDs are only active if the display is not connected.

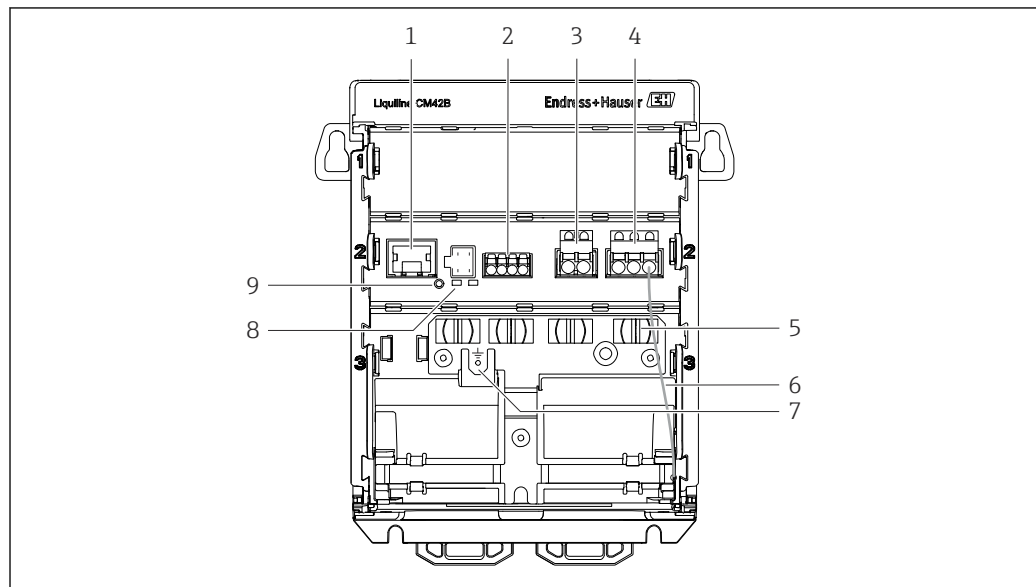
Design of analog sensors (pH/ORP, inductive/conductive conductivity)



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- 1 Connection area for analog sensors (different layout depending on the design)

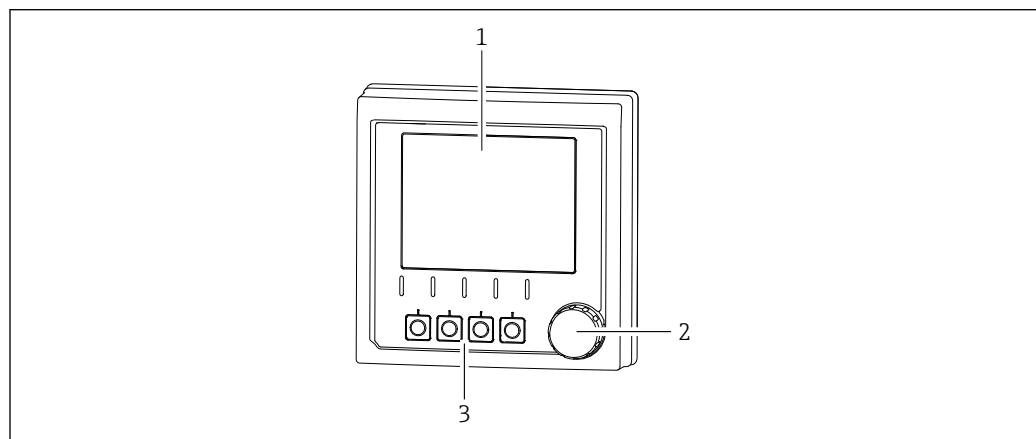
Device for DIN rail mounting Device




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- 1 RJ50 socket for display cable
- 2 Memosens input
- 3 Current output 1: 4 to 20 mA/optional HART, passive
- 4 Current output 2 (optional): 4 to 20 mA, passive
- 5 Cable mounting rail
- 6 Internal ground cable (wired at the factory)
- 7 Connection for potential equalization or functional earth, connection established via cable lug 6.35 mm
- 8 Status LEDs
- 9 Reset button

 The status LEDs are only active if no external display is connected.

Display (optional)

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-  5 External display (optional)
- 1 Display
 - 2 Navigator
 - 3 Soft keys, assignment depends on menu

Input


Measured variable	<ul style="list-style-type: none"> ▪ pH ▪ ORP ▪ pH/ORP ▪ Conductivity ▪ Dissolved oxygen
--------------------------	---

Measuring range	→ Documentation of the connected sensor
------------------------	---

Type of input	<p>Depending on the ordered variant, the device has one of the following types of input:</p> <ul style="list-style-type: none"> ▪ Digital sensor input for Memosens sensors ▪ Sensor input for analog sensors (only field device) <ul style="list-style-type: none"> ▪ pH/ORP ▪ Conductivity, inductive ▪ Conductivity, conductive
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Abbreviations and color codes used

Explanation of abbreviations and labels used in the following illustrations:

Abbreviation	Meaning
pH	pH signal
Ref	Signal from reference electrode
PM	Potential Matching = Potential equalization (PAL)
Sensor	Sensor
Ⓕ	Signal of temperature sensor
d.n.c.	do not connect!
	Cable shield grounding clamp
<small>A0056947</small>	

Explanation of color codes in the following illustrations:

Color code	Meaning
BK	Black
BN	Brown
BU	Blue
GN	Green
OG	Orange
RD	Red
YE	Yellow
VT	Violet
WH	White
TR	Transparent
SC	Braided shield/silver

Memosens input

Cable specifications

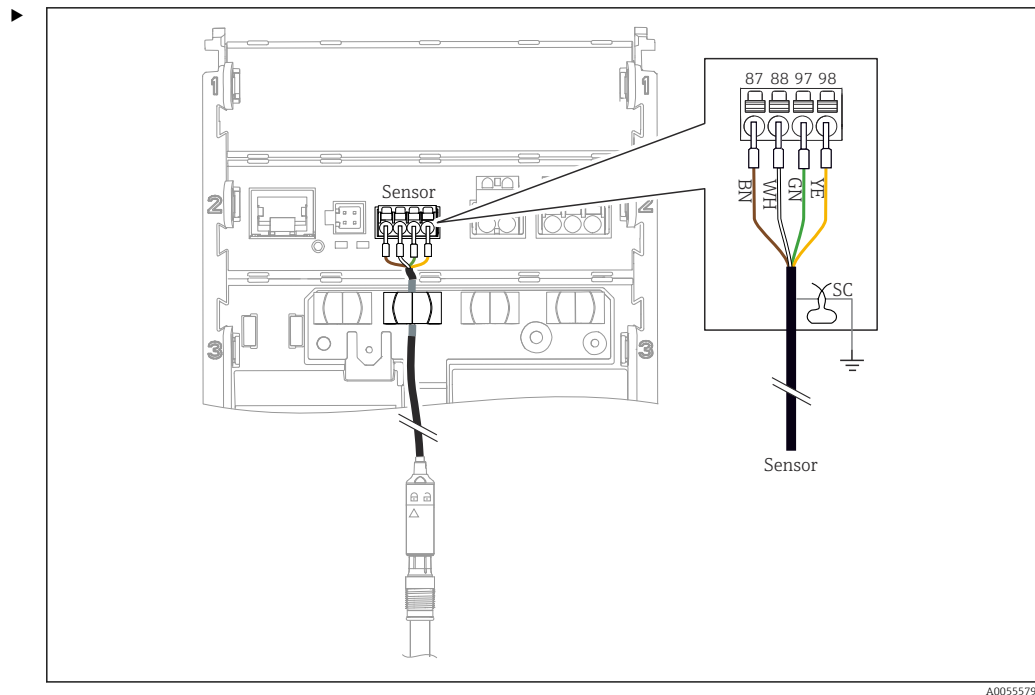
- Memosens data cable or fixed sensor cable, in each case with ferrules
- Cable length max. 100 m (330 ft)

Ex specifications

Max. output voltage U_o	5 V
Max. output current I_o	100 mA
Max. output power P_o	120 mW
Max. internal inductance L_i	Negligible
Max. internal capacitance C_i	15.6 μ F

Connecting Memosens sensors

Connecting sensors with Memosens plug-in head (via Memosens cable) and sensors with a fixed cable and Memosens protocol



6 Connecting Memosens sensors

Connect the sensor cable as shown in the illustration.

Analog input of conductivity, measured inductively (only field device)*Cable specifications*

- Cable length max. 55 m (180 ft)
- For cable types, see the documentation of the connected sensor

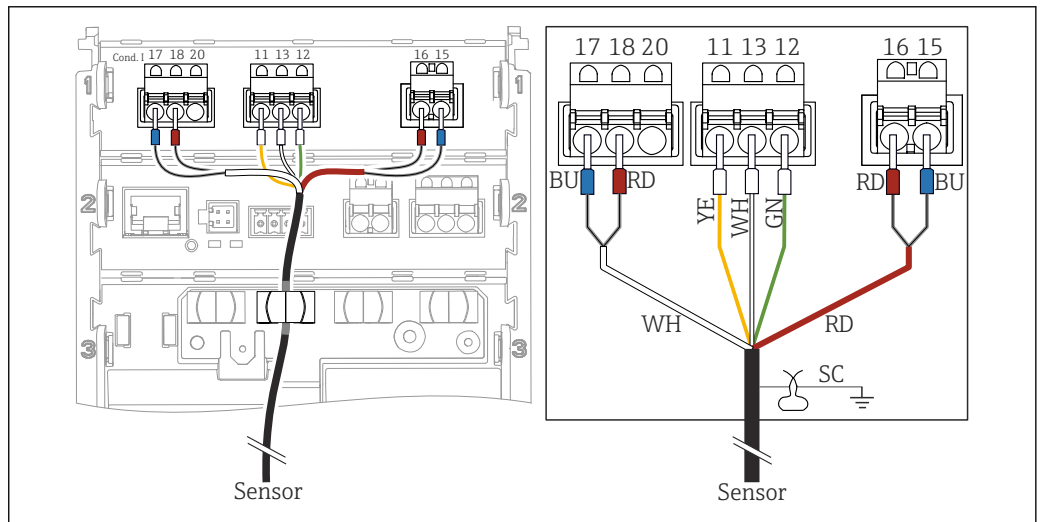
Temperature sensors

- Pt100
- Pt1000

Ex specifications

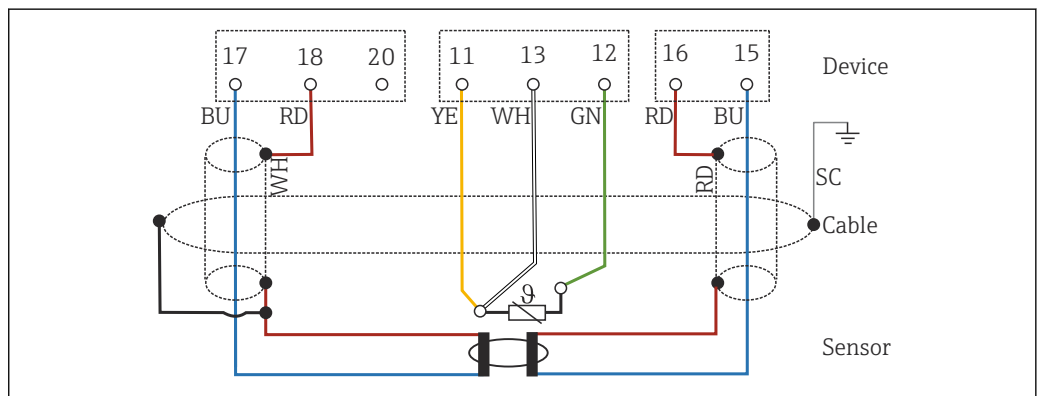
Max. output voltage U_o	7.6 V
Max. output current I_o	95 mA
Max. output power P_o	100 mW
Max. internal inductance L_i	Negligible
Max. external inductance L_o	3.5 mH
Max. internal capacitance C_i	480 nF
Max. external capacitance C_o	10.4 μ F

Connecting analog conductivity sensors (inductive)



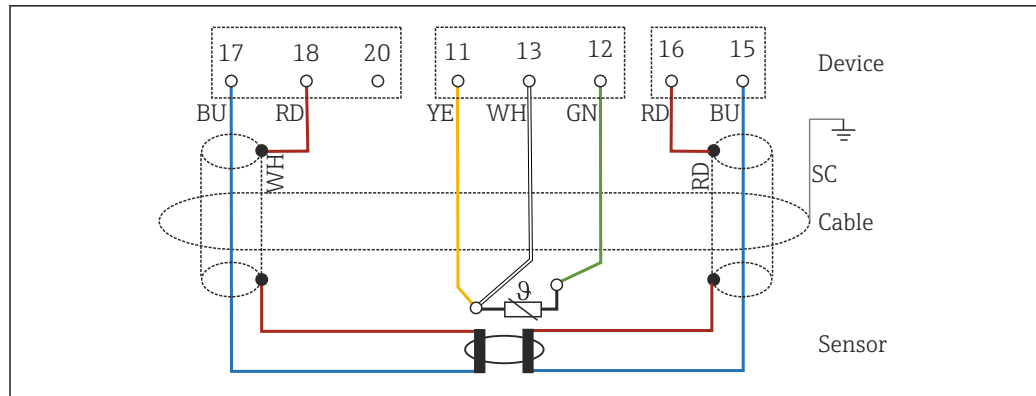
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7 Device view



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8 Wiring diagram CLS50



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9 Wiring diagram CLS54

- Connect the sensor as shown in the illustration.

Analog input of conductivity, measured conductively (only field device)

Cable specifications

- Cable length max. 15 m (49.2 ft)
- For cable types, see the documentation of the connected sensor

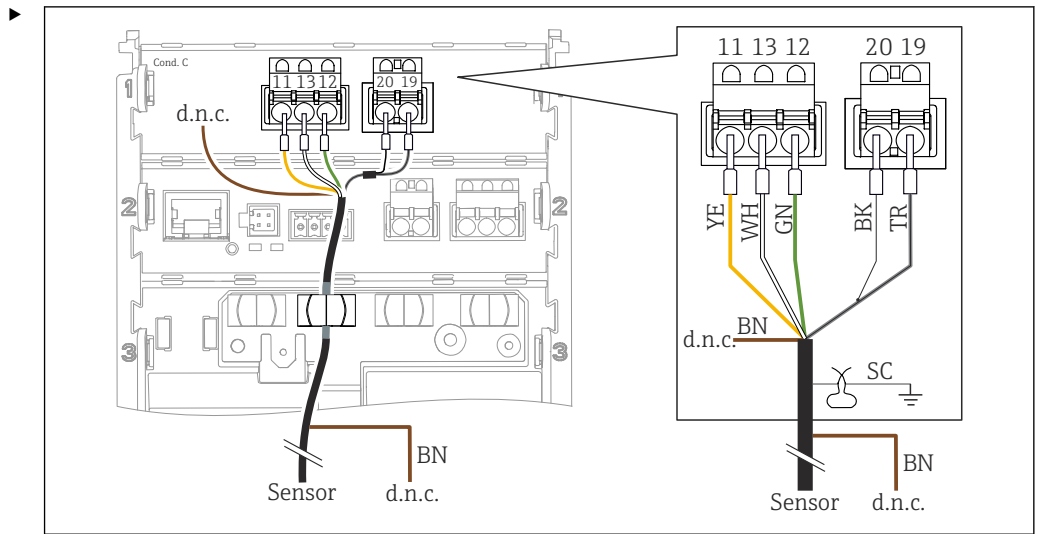
Temperature sensors

- Pt100
- Pt1000

Ex specifications

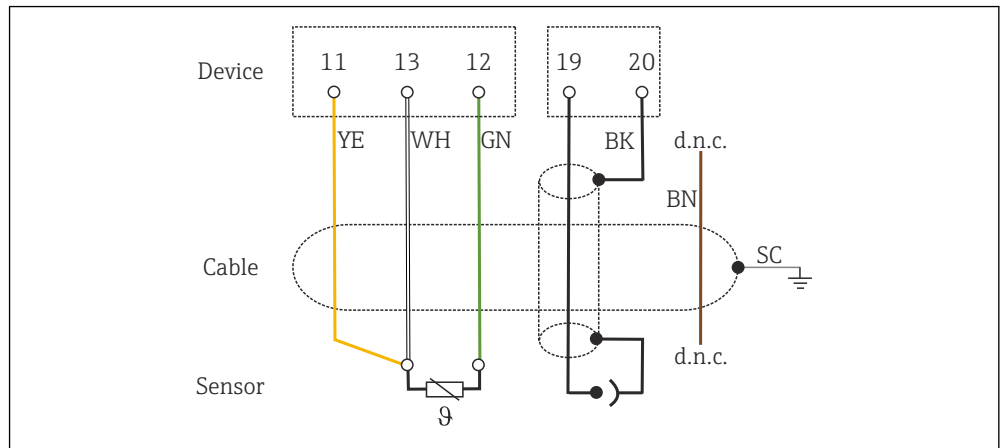
Max. output voltage U_o	8.2 V
Max. output current I_o	30 mA
Max. output power P_o	38 mW
Max. internal inductance L_i	Negligible
Max. external inductance L_o	30 mH
Max. internal capacitance C_i	0 nF
Max. external capacitance C_o of cabling	7.6 μ F

Connecting analog conductivity sensors (conductive)



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10 Device view



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11 Wiring diagram

Connect the sensor as shown in the illustration.

pH/ORP analog input (only field device)

Cable specifications

Analogue pH sensors and analogue ORP sensors from Endress+Hauser

- Recommended cable length max. 30 m (98 ft)
- For cable types, see the documentation of the connected sensor

Pfaunder electrodes type 03/04, type 18, type 40, pH Reiner

Cable length max. 10 m

Temperature sensors

- Pt100
- Pt1000

Input impedance

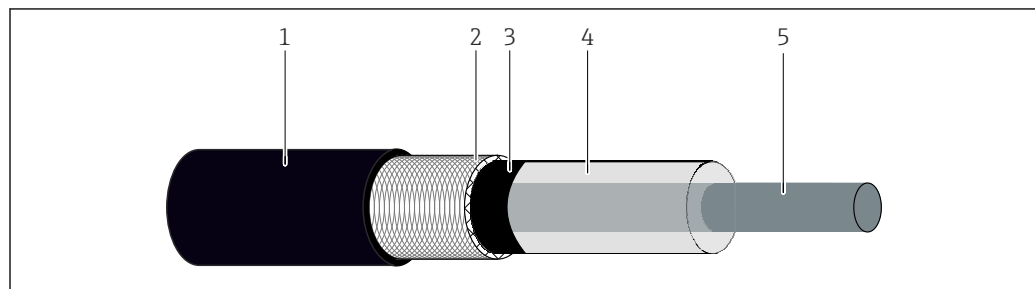
> 10¹² Ω (at rated operating conditions)

Input leakage current

< 10⁻¹³ A (at rated operating conditions)

Ex specifications

Max. output voltage U_o	5 V
Max. output current I_o	30 mA
Max. output power P_o	37.5 mW
Max. internal inductance L_i	Negligible
Max. external inductance L_o	30 mH
Max. internal capacitance C_i	1 μ F
Max. external capacitance C_o	100 μ F

*Connecting analog pH sensors**Note on connecting coaxial cables*

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☐ 12 Coaxial cable structure

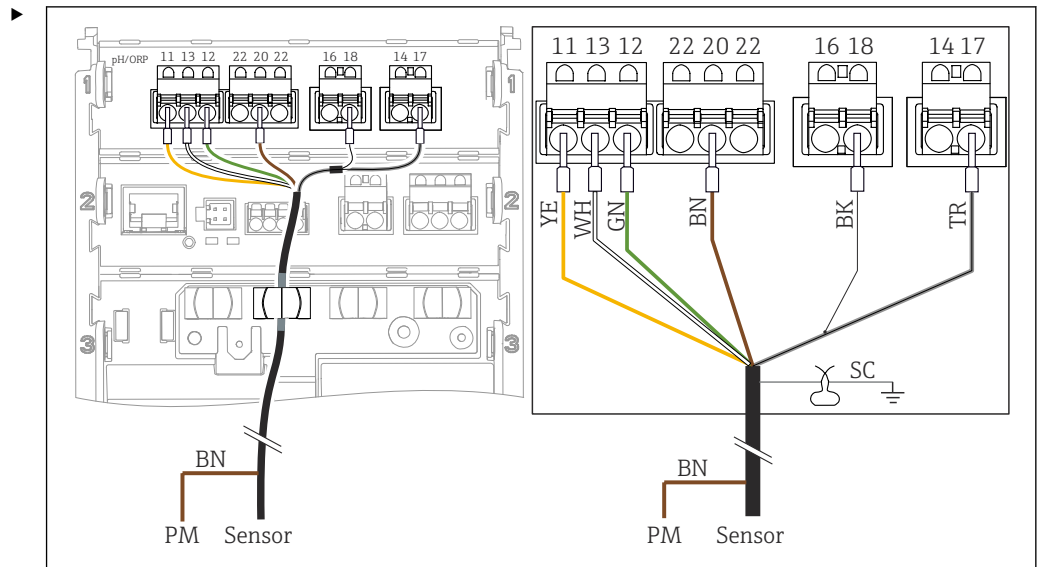
- 1 Protective sheath
- 2 Shield/outer conductor of the coaxial cable
- 3 Semi-conductive polymer layer
- 4 Inner insulation
- 5 Inner conductor

1. Completely remove the semi-conductive polymer layer (3) up to the end of the shield.
2. Ensure that the inner insulation (4) of the coaxial cable is not in contact with other components. Ensure there is an air gap around all components; otherwise, measurement errors may occur.

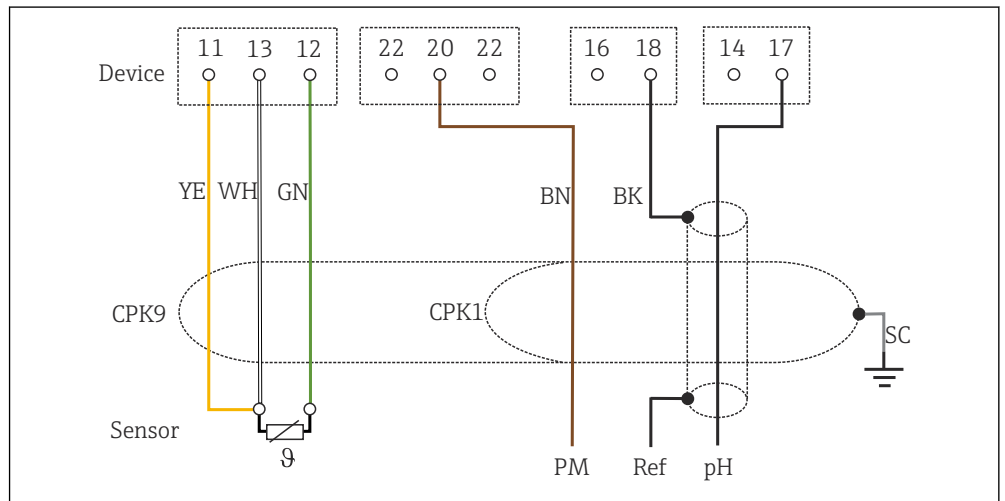
Unconnected cables

- ▶ Route unconnected cables (marked with d.n.c.) in such a way that they are not in contact with other connections.

Connecting pH glass electrodes with PML (symmetrical)



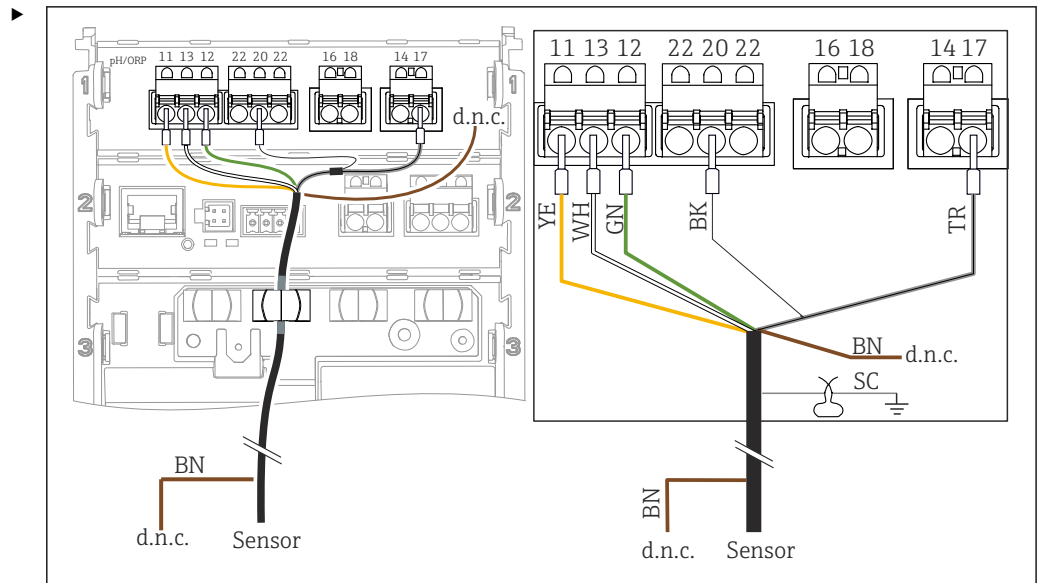
13 Device view



14 Wiring diagram

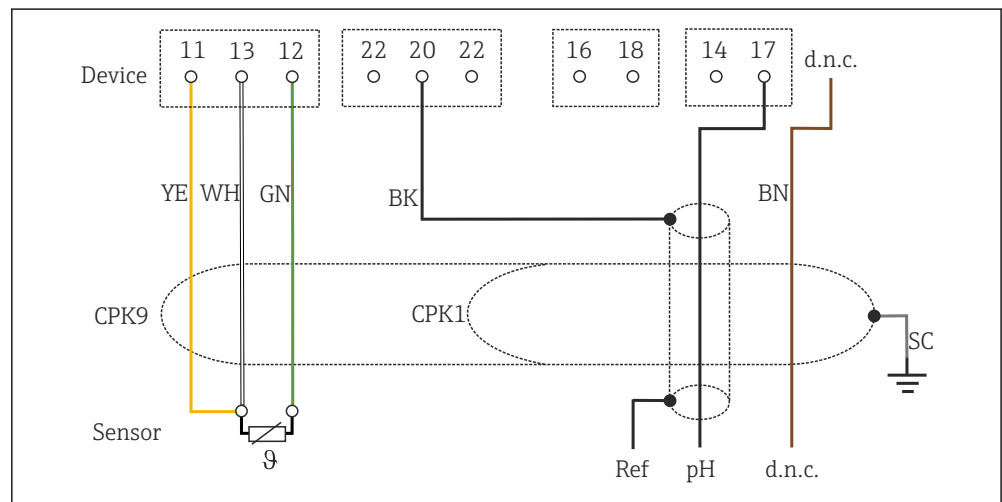
Connect the sensor as shown in the illustration.

Connecting pH glass electrodes without PML (asymmetrical)



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15 Device view

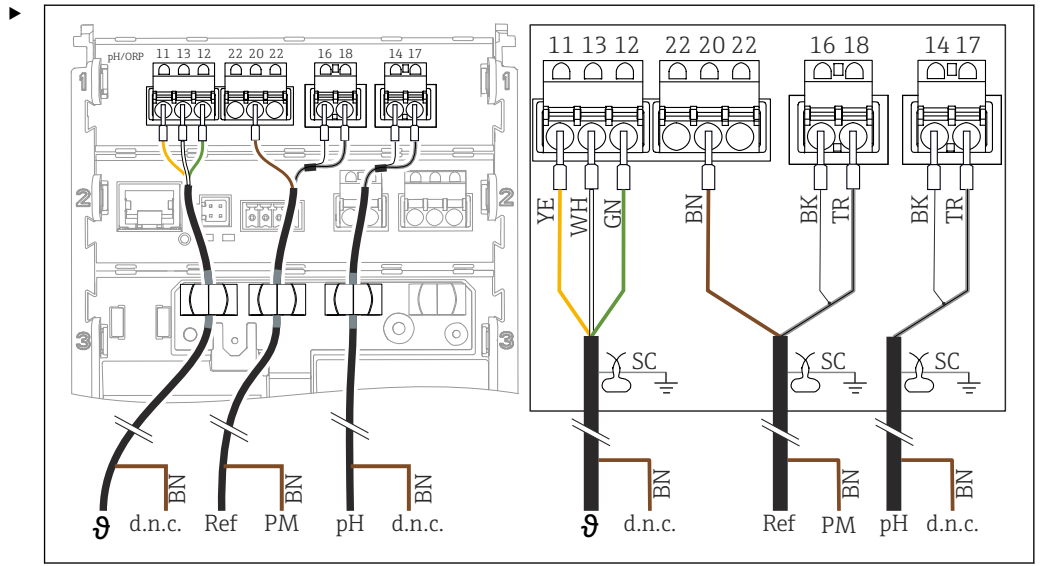


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16 Wiring diagram

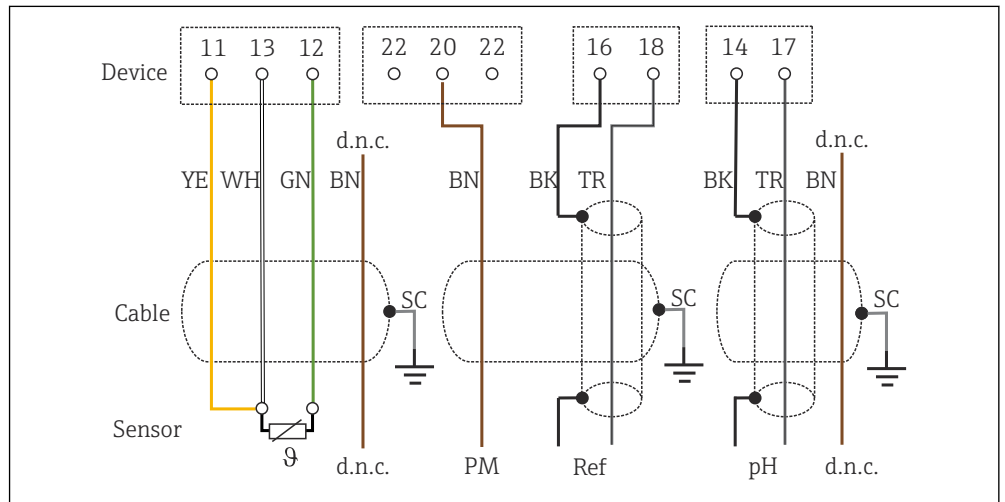
Connect the sensor as shown in the illustration.

Connecting pH single electrodes with PML (symmetrical) and separate reference electrode and separate temperature sensor



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17 Device view

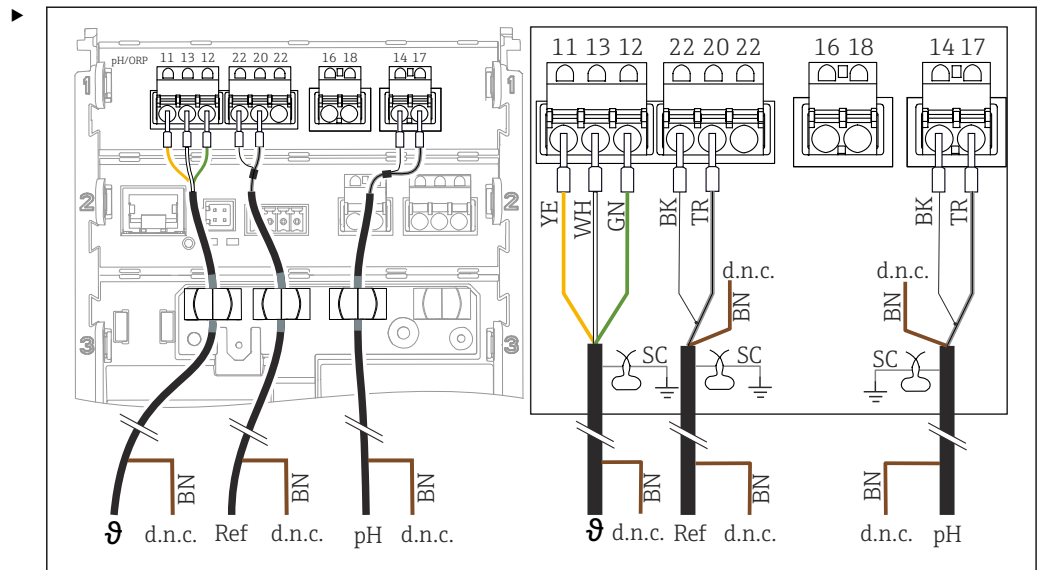


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18 Wiring diagram

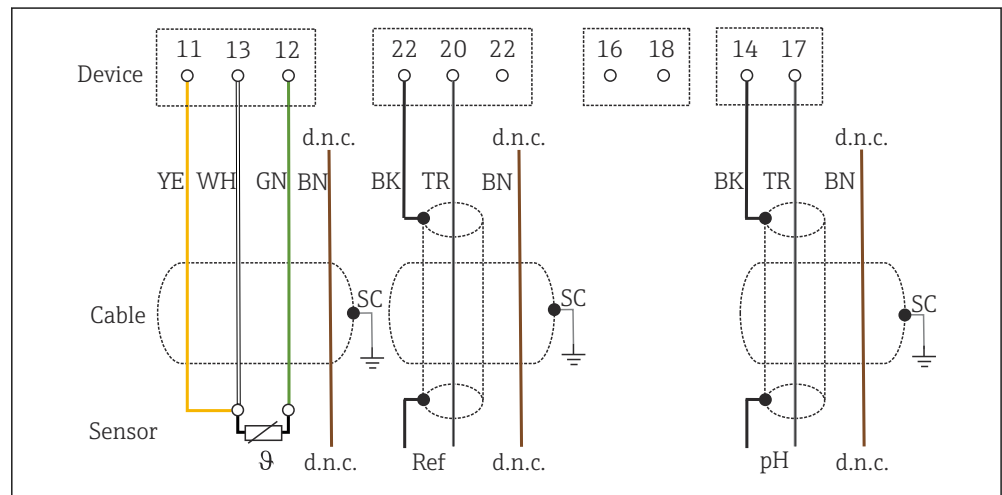
Connect the sensor as shown in the illustration.

Connecting pH single electrodes without PML (asymmetrical) and separate reference electrode and separate temperature sensor



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19 Device view



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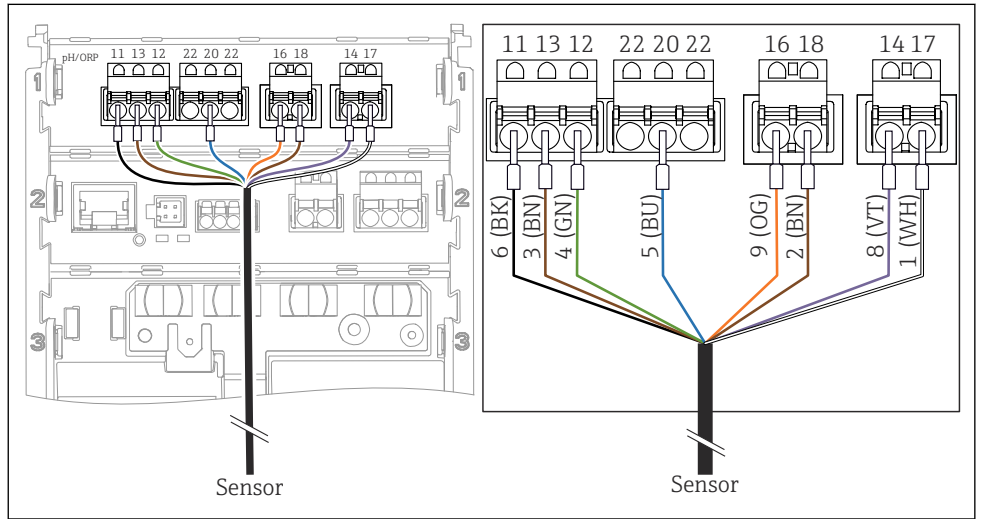
20 Wiring diagram

Connect the sensor as shown in the illustration.

Connecting pH enamel electrodes

Pfaunder electrode, absolute (type 03/type 04) with PML (symmetrical) with LEMOSA cable

1.



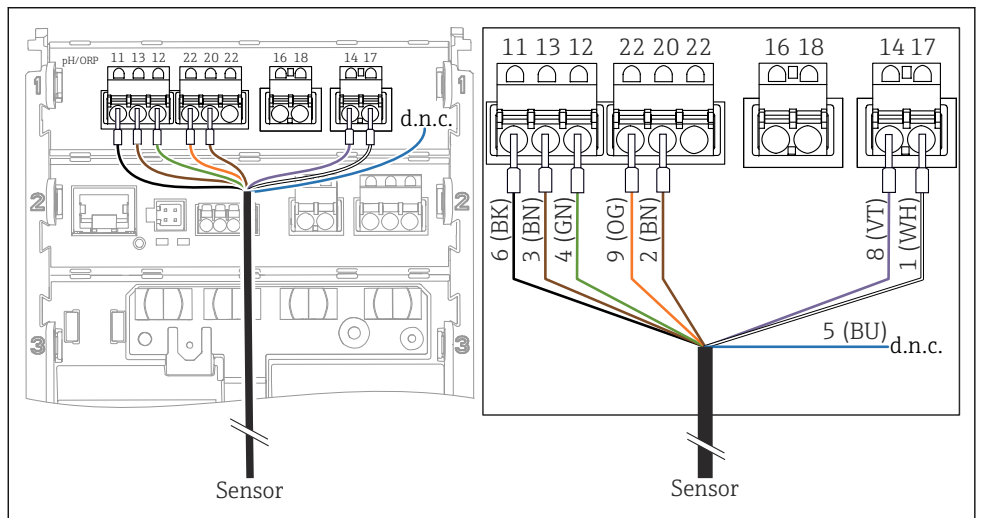
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Connect the sensor as shown in the illustration.

2. Only ground the cable shield on the sensor side.

Pfaunder electrode, absolute (type 03/type 04) without PML (asymmetrical) with LEMOSA cable

1.

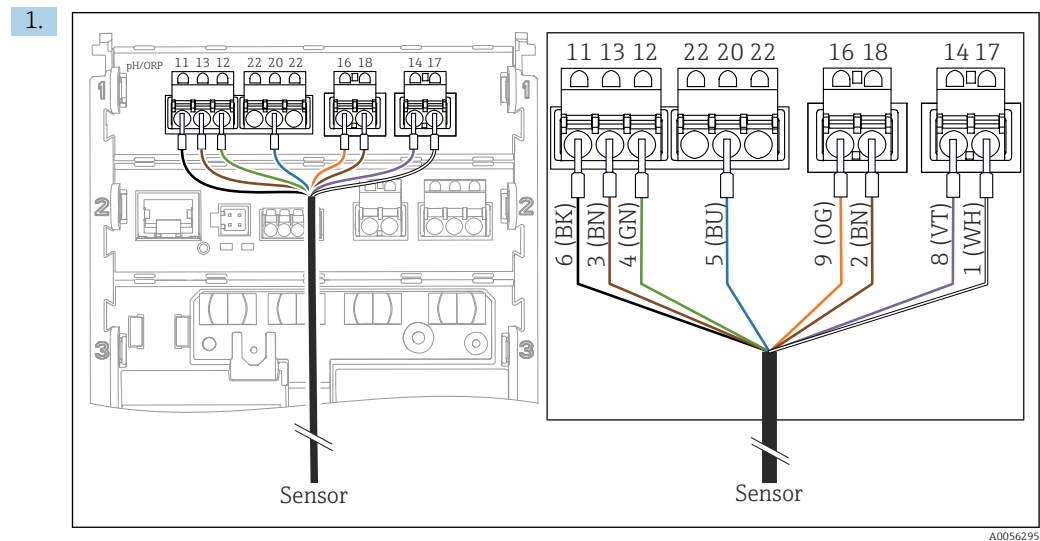


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Connect the sensor as shown in the illustration.

2. Only ground the cable shield on the sensor side.

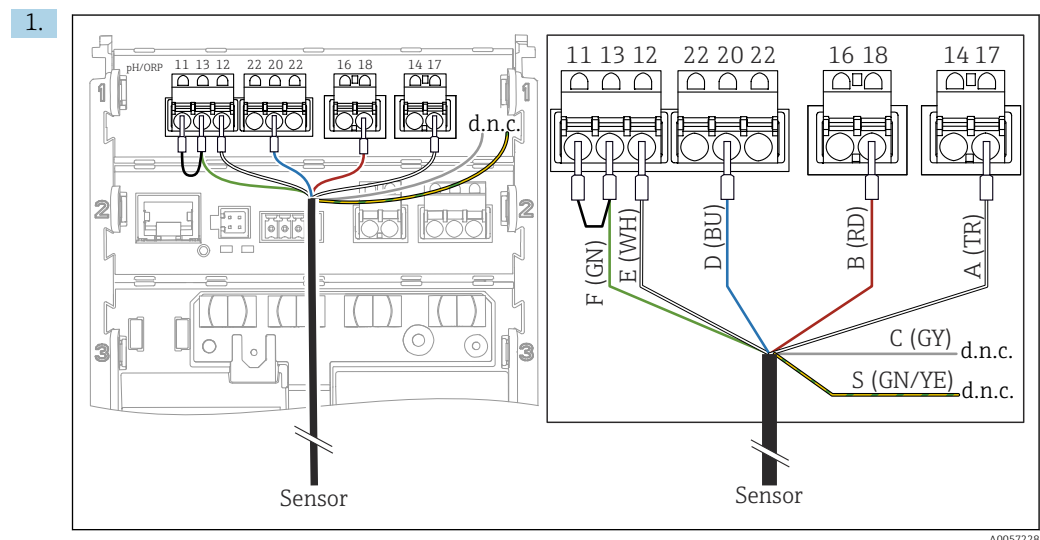
Pfaunder electrode, relative (type 18/type 40) with PML (symmetrical) with LEMOSA cable



Connect the sensor as shown in the illustration.

2. Only ground the cable shield on the sensor side.

pH-Reiner Pfaunder electrode with PML (symmetrical) with VARIOPIN cable



Connect the sensor as shown in the illustration.

2. Only ground the cable shield on the sensor side.

Output

Output signal

Passive current output

Current output 1

- 4 to 20 mA, optionally with HART support
- Galvanic isolations
 - Against current output 2
 - Depends on the device version against the analog sensor input

Current output 2 (optional)

- 4 to 20 mA
- Galvanic isolations
 - Against current output 1
 - Depends on the device version against the analog sensor input or against the Memosens input

HART

HART	
Signal encoding	FSK \pm 0.5 mA above current signal
Data transmission	1200 baud
Galvanic isolation	See current output 1
Load (communication resistor)	250 Ω

Protocol-specific data

Manufacturer ID	0x0011
Device type	0x11A4 (pH), 0x11A5 (conductivity), 0x11A6 (oxygen)
Device revision	1
Manufacturer name	Endress+Hauser
Model name	Depends on the measuring principle
HART version	7.9
Device description files (DD/DTM)	www.endress.com/hart https://www.fieldcommgroup.org/registered-products Device Integration Manager DIM
Device variables	PV, SV, TV and QV can be selected from all device variables. All measured values are each available as a device variable.
Supported features	FDI packages

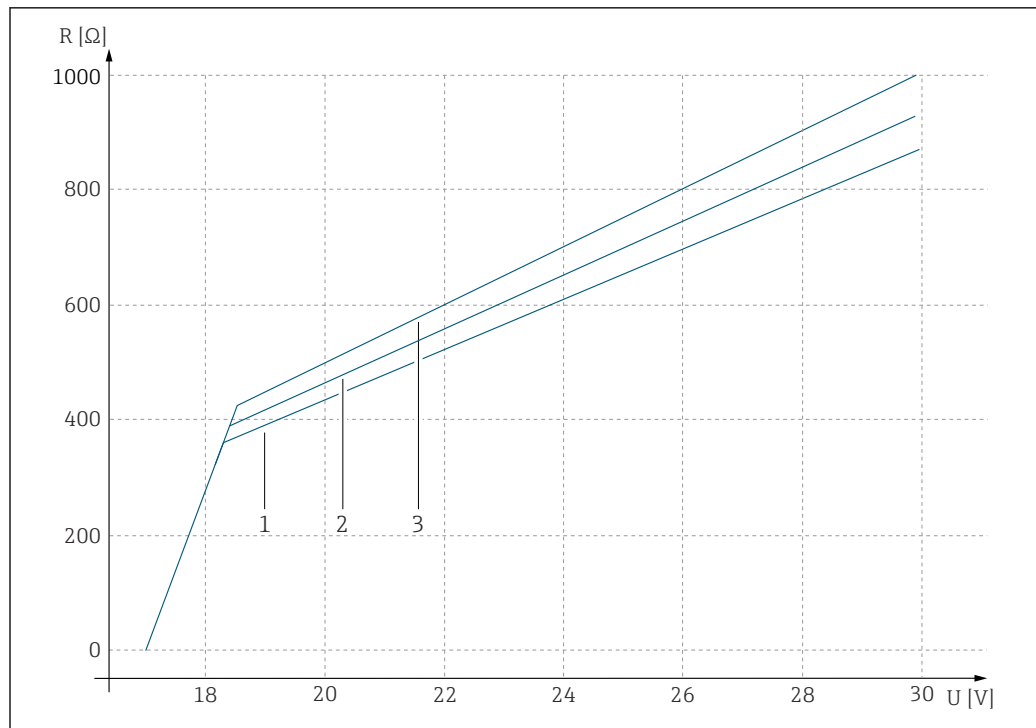
Signal on alarm as per NAMUR NE 43

The following values can be selected:

- < 3.6 mA
- 21.5 mA
- 22.0 mA
- 22.5 mA
- 23.0 mA

Load

For load, see characteristic curve.



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- U Supply voltage [V]
 R Load [Ω]
 1 Max. load with configured failure current 23 mA
 2 Max. load with configured failure current 21.5 mA
 3 Max. load with configured failure current < 3.6 mA

Output span

3.6 to 23 mA

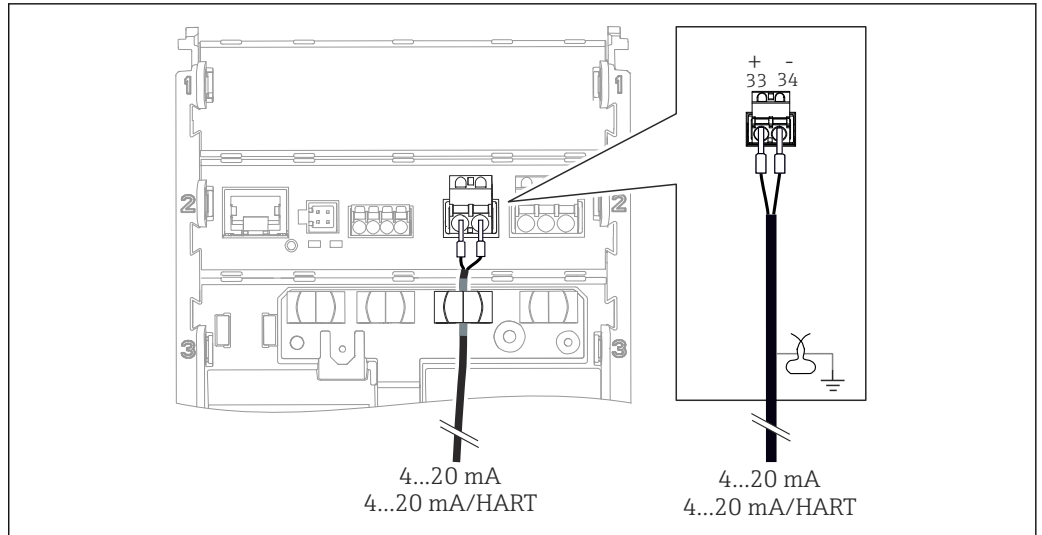
Ex connection data

Intrinsically safe power supply and signal circuits, passive	
Max. input voltage U_i	30 V
Max. input current I_i	100 mA
Max. input power P_i	750 mW
Max. internal inductance L_i	30 μ H
Max. internal capacitance C_i	Current output 1: 15.2 nF Current output 2: 7.9 nF

Connecting the power supply and signal circuit

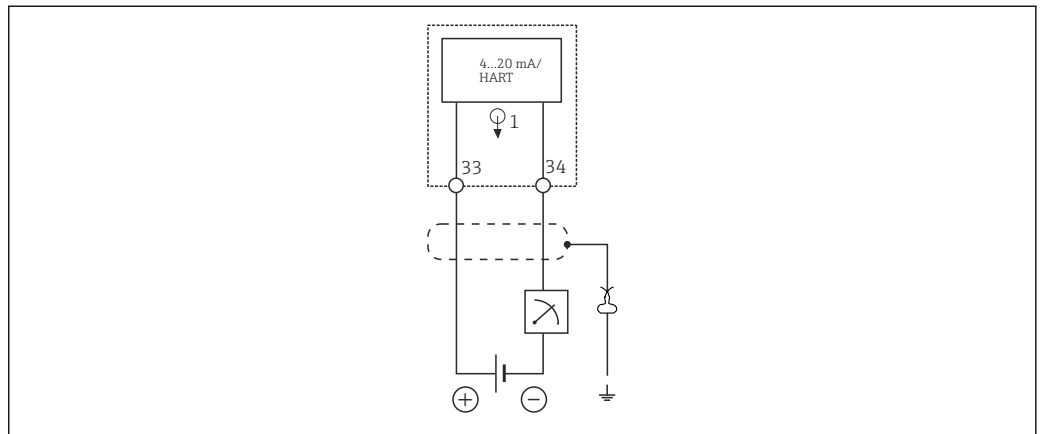
- Connect the current outputs with shielded two-wire cables as described in the following illustrations.

The type of shield connection depends on the anticipated interference influence. Grounding one side of the shield is sufficient to suppress electrical fields. To suppress interference due to an alternating magnetic field, the shield must be earthed on both sides.



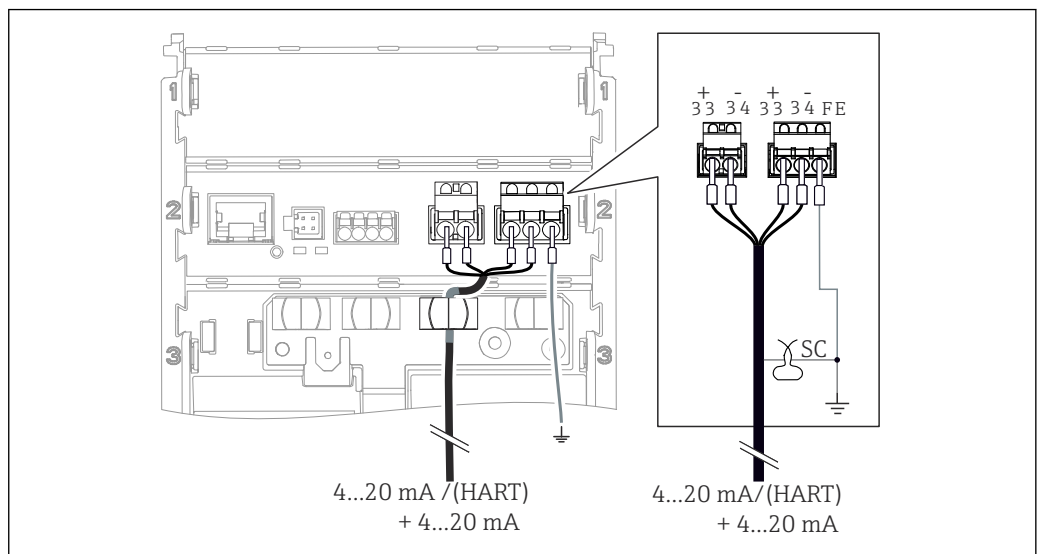
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21 Connection of 1 current output



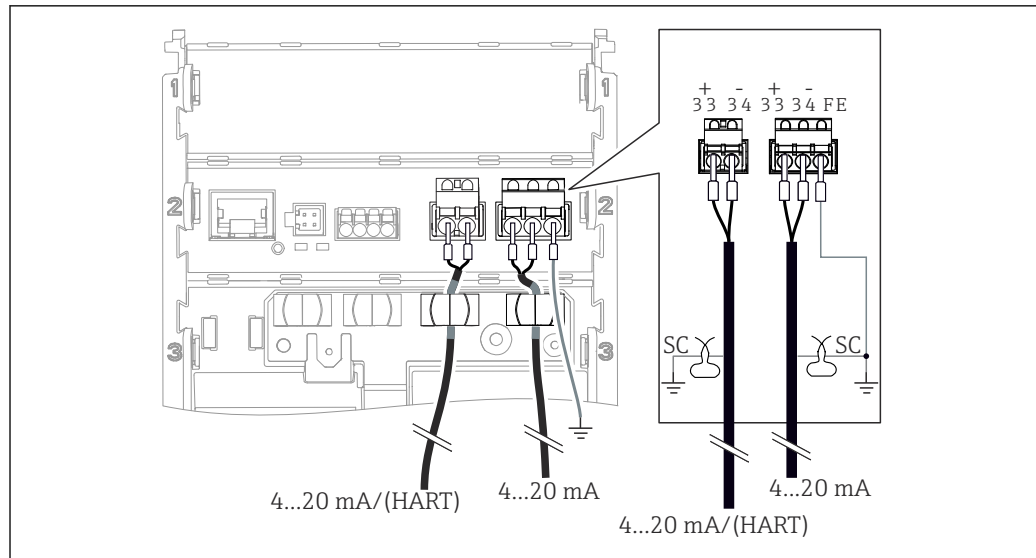
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22 Wiring diagram: 1 current output



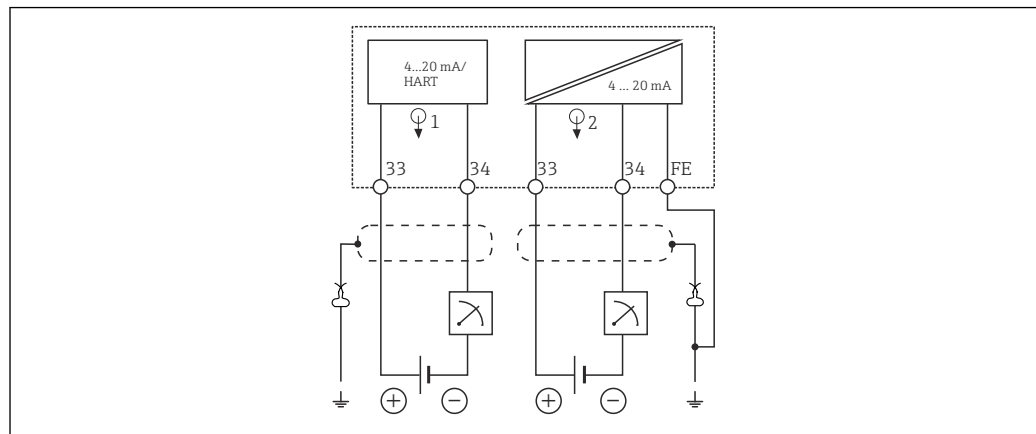
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23 Connection of 2 current outputs via 1 cable



A0054902

24 Connection of 2 current outputs via 2 cables



A0054915

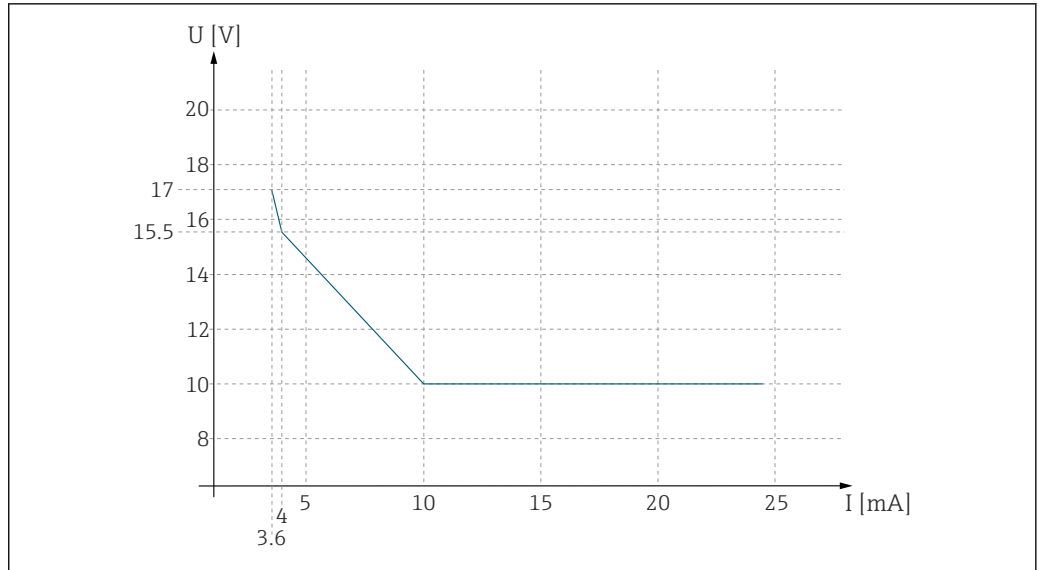
25 Wiring diagram: 2 current outputs

Power supply

Supply voltage

i The power supply must comply with the relevant safety requirements and be separated from the mains voltage by double or reinforced insulation. (ELV)

- For supply voltage, see characteristic curve
- Max. supply voltage: 30 V DC



26 Min. supply voltage at the transmitter depending on the output current

U Supply voltage [V DC]
 I Output current [mA]

Cable specification

Qualified cable glands (only field device)

Cable gland	Clamping area, permitted cable diameter
M20	6 mm to 12 mm (0.24" to 0.47") 5 mm to 9 mm (0.2" to 0.35")
NPT1/2 Via M20 adapter on NPT1/2	6 mm to 12 mm (0.24" to 0.47") 5 mm to 9 mm (0.2" to 0.35")
G1/2 Via M20 adapter on G1/2	7 mm to 12 mm (0.28" to 0.47") 4 mm to 9 mm (0.16" to 0.35")

Cable cross-section

Terminal connector is suitable for strands and ferrules.

Cable cross-section: 0.25 mm² (≈23 AWG) to 2.5 mm² (≈12 AWG)

Performance characteristics

Resolution

Current output

< 5 μA

Response time

Current output

t₉₀ = max. 500 ms for an increase from 0 to 20 mA

Tolerance

Current output

Typical measuring tolerances:

< ±20 μA (if current value = 4 mA)
 < ±50 μA (for current values 4 to 20 mA)
 at 25 °C (77 °F) each

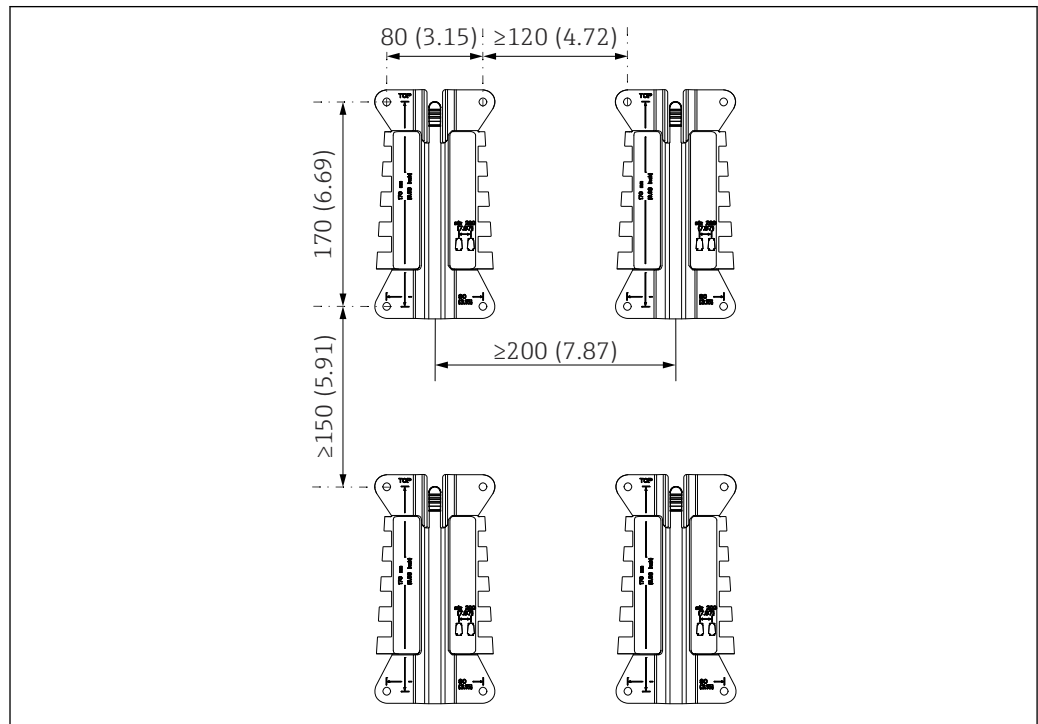
additional tolerance depending on the temperature:

< 1.5 μA/K

Mounting

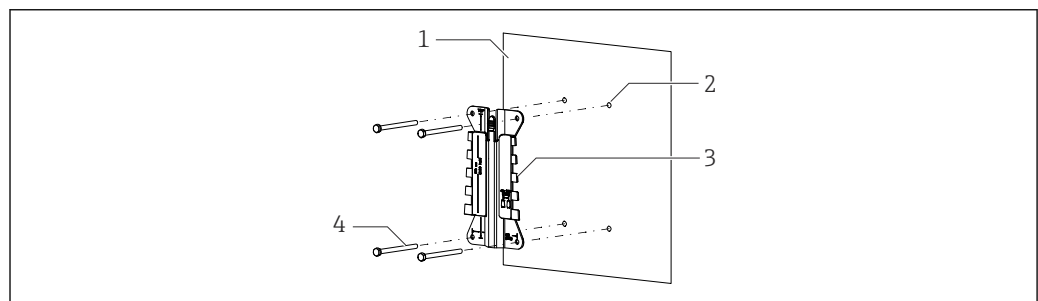
Field device

Wall mounting



A0053942

27 Mounting clearances in mm (in)



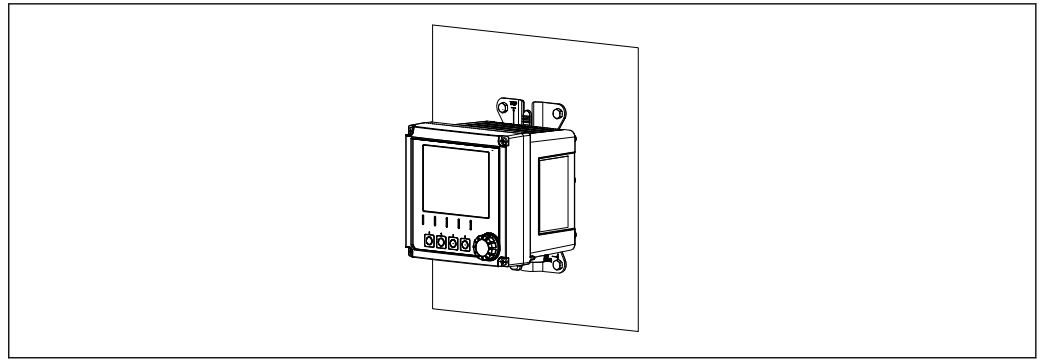
A0053945

28 Wall mounting

- 1 Wall
- 2 Four drill holes
- 3 Mounting plate
- 4 Screws (not included in the scope of delivery)

The size of the drill holes depends on the mounting material used. Mounting material must be provided by the customer.

Screw diameter: Max. 6 mm (0.23 in)

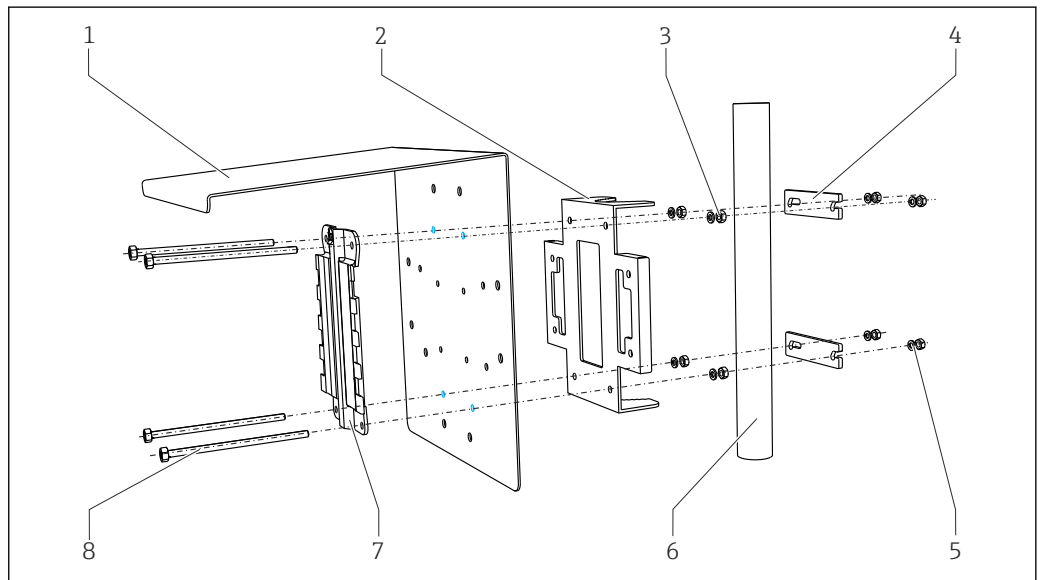


A0057522

29 Device mounted

Post mounting

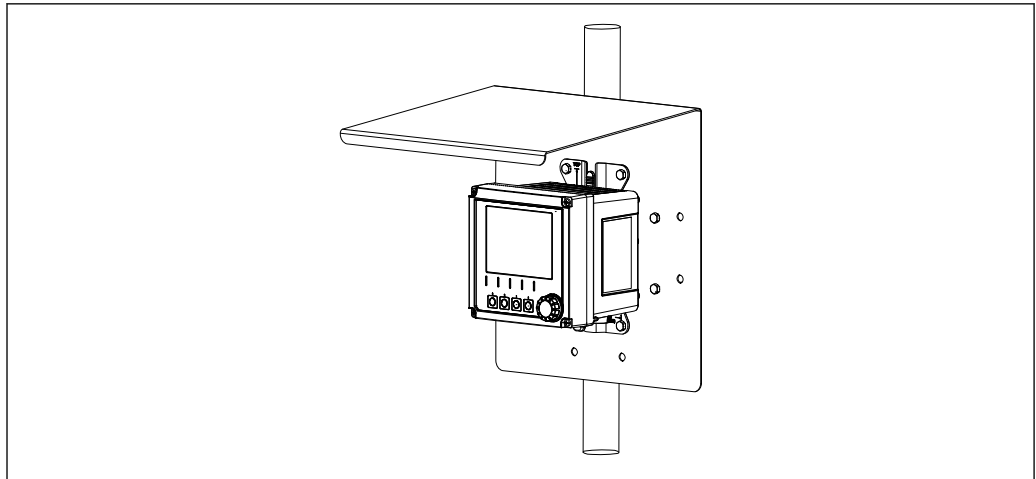
i You require the post mounting kit (optional) to mount the unit on a pipe, post or railing (square or circular, clamping range 20 to 61 mm (0.79 to 2.40")).



A0033044

30 Post mounting

- | | | | |
|---|---|---|---|
| 1 | Weather protection cover (optional) | 5 | Spring washers and nuts (post mounting kit) |
| 2 | Post mounting plate (post mounting kit) | 6 | Pipe or post (circular/square) |
| 3 | Spring washers and nuts (post mounting kit) | 7 | Mounting plate |
| 4 | Pipe clamps (post mounting kit) | 8 | Screws (post mounting kit) |

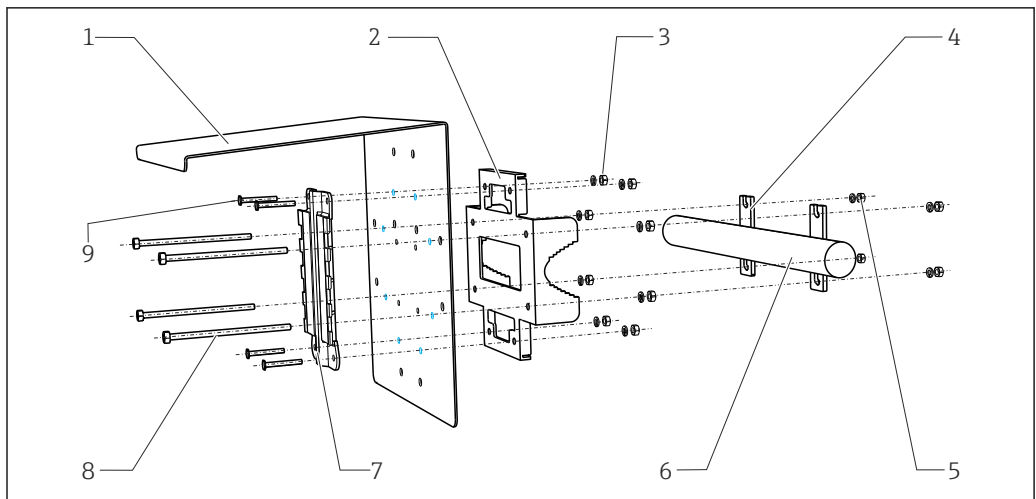


A0057518

31 Device mounted

Rail mounting

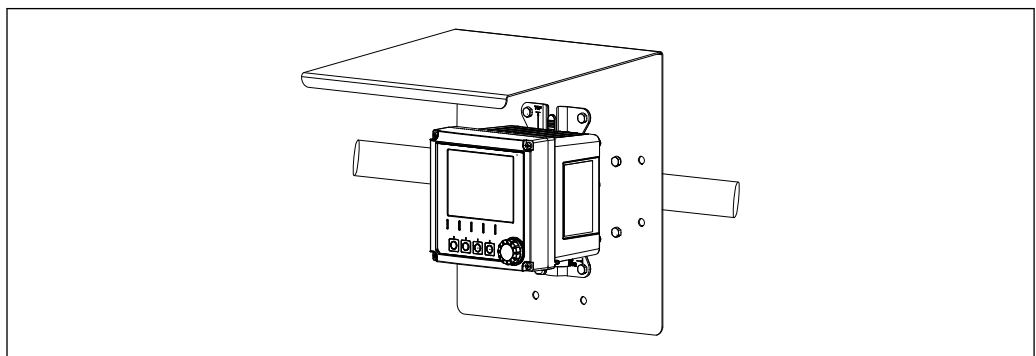
You require the post mounting kit (optional) to mount the unit on a pipe, post or railing (square or circular, clamping range 20 to 61 mm (0.79 to 2.40")).



A0012668

32 Rail mounting

- | | | | |
|---|---|---|-----------------------------------|
| 1 | Weather protection cover (optional) | 6 | Pipe or railing (circular/square) |
| 2 | Post mounting plate (post mounting kit) | 7 | Mounting plate |
| 3 | Spring washers and nuts (post mounting kit) | 8 | Threaded rods (post mounting kit) |
| 4 | Pipe clamps (post mounting kit) | 9 | Screws (post mounting kit) |
| 5 | Spring washers and nuts (post mounting kit) | | |



A0057517

33 Device mounted

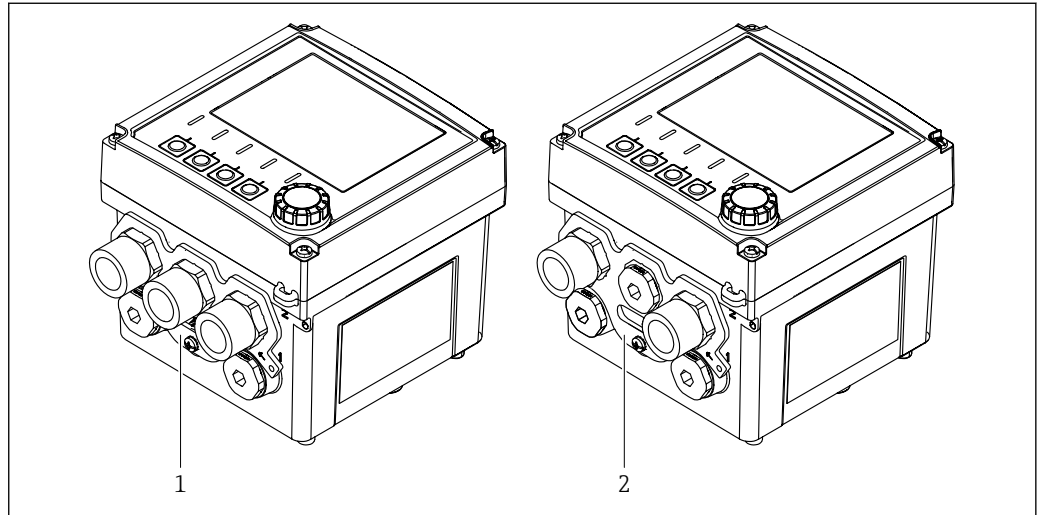
Mounting the adapter for conduit installation

The adapters are included in the scope of delivery in accordance with the order.

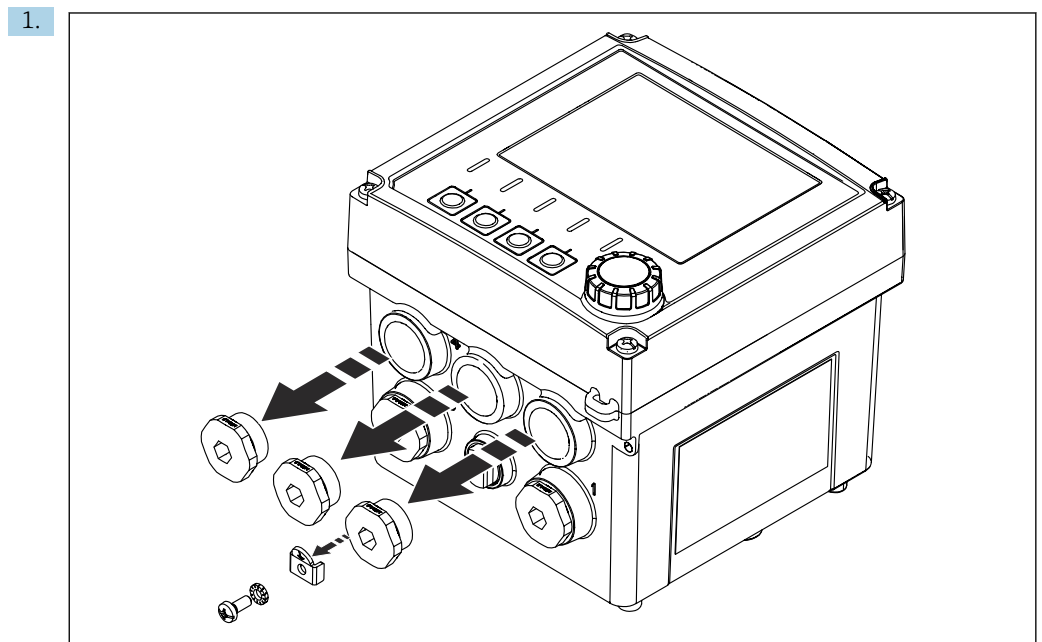
NOTICE

Leaks due to conduit adapter without connected pipe

- ▶ With two pipes: Mount adapters at positions 2 and 4. Leave the sealing plugs at all the other positions.
- ▶ With three pipes: Mount adapters at positions 2, 3 and 4. Leave the sealing plugs at all the other positions.
- ▶ If a non-piped conduit adapter is mounted, seal it with a sealing plug (customer-supplied).



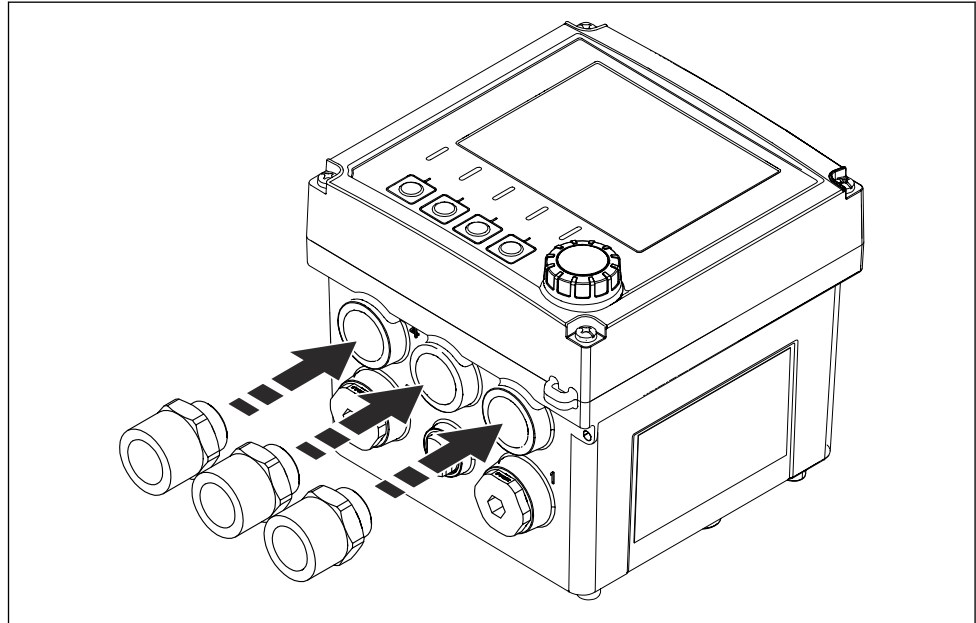
- 1 Example: Three conduit adapters mounted at positions 2, 3 and 4
- 2 Example: Two conduit adapters mounted at positions 2 and 4



Remove the sealing plug.

- 2. Remove the screw, securing disk and retaining plate from the potential equalization connection.

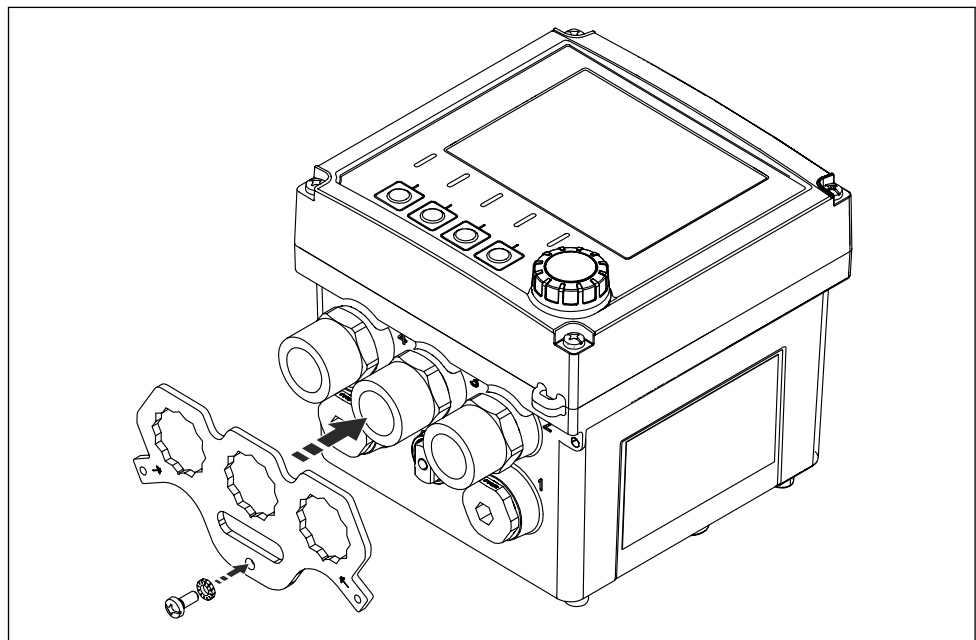
3.



A0057687

Screw in the conduit adapter. Tightening torque 2.5 to 3 Nm.

4.



A0057690

Fit the conduit adapter support on the adapters or sealing plugs. Where necessary, align the adapters or sealing plugs by turning them.

5. Bolt the conduit adapter support to the potential equalization connection using the screw and securing disk.
6. Bolt the piping with the adapters.

Device for DIN rail mounting **Mounting on DIN rail as per IEC 60715**

NOTICE

Condensation on the device

Potential device failure

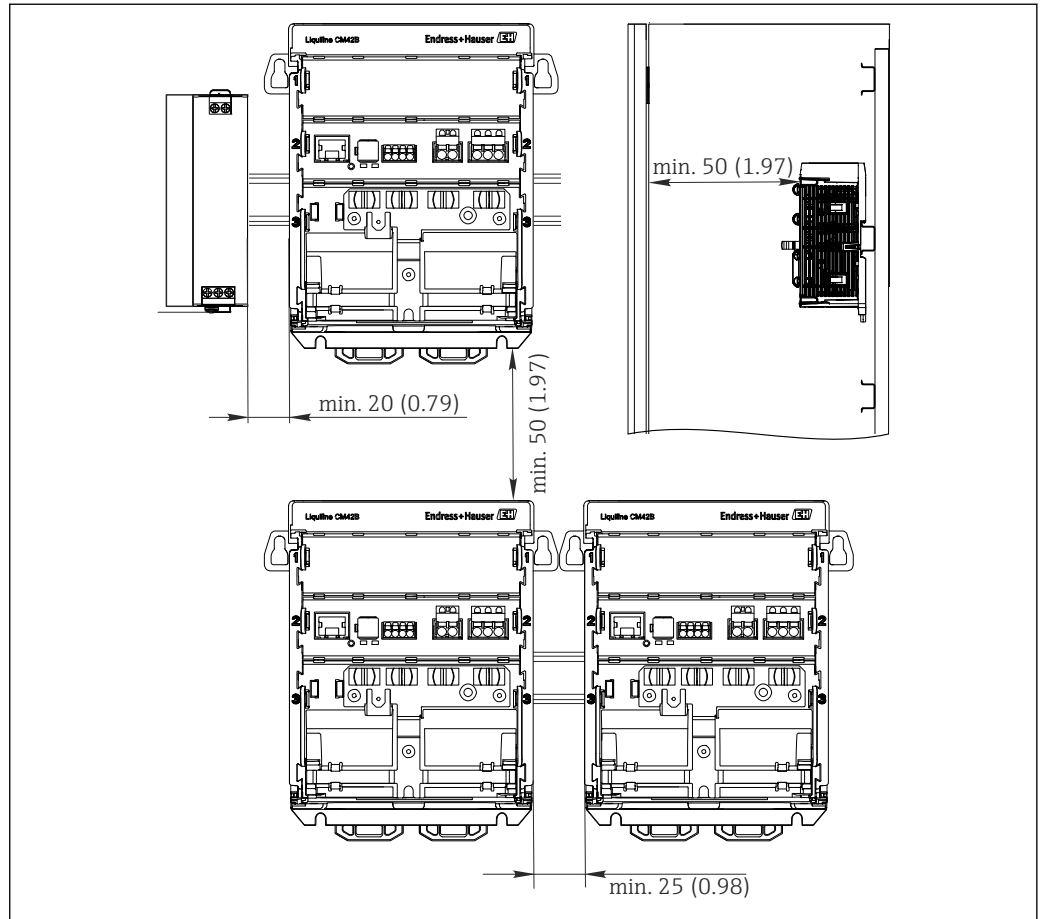
- ▶ The device complies with the IP20 degree of protection. It is designed only for environments with non-condensing moisture.
- ▶ Comply with the specified ambient conditions, e.g. by installing the device in an appropriate protective enclosure.

NOTICE

Incorrect mounting location in the control cabinet, spacing regulations not observed

Possible malfunctions as a result of heat buildup and interference from neighboring devices!

- ▶ Do not position the device directly above sources of heat.
- ▶ The components are designed for convection-based cooling. Avoid heat buildup. Ensure openings are not covered, e.g. by cables.
- ▶ Observe the specified distances to other devices.
- ▶ Physically separate the device from frequency converters and high-voltage devices.



A0057277

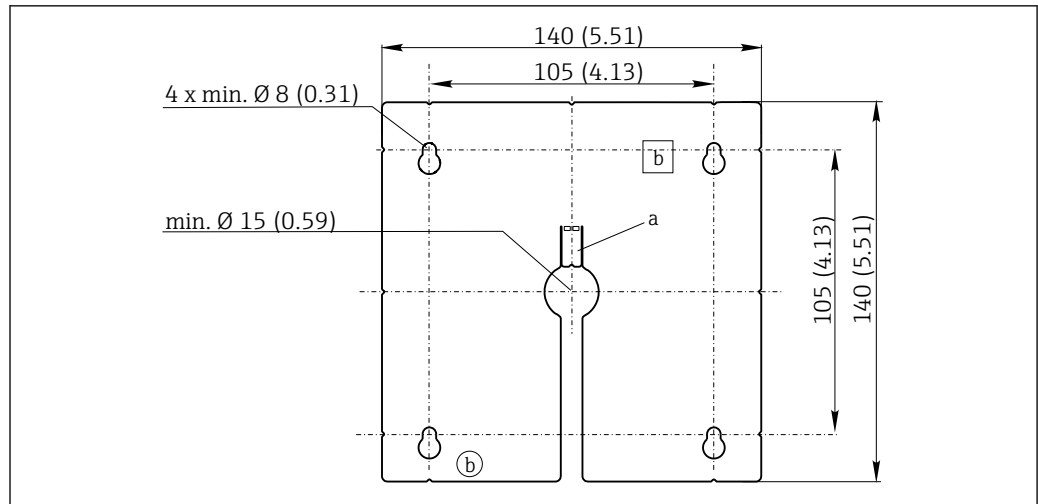
34 Minimum clearance in mm (in)

Minimum clearances required:

- Distance at the side, to other devices and control cabinet wall:
At least 20 mm (0.79 inches)
- Distance above and below the device and depth distance (to control cabinet door or other devices installed there):
At least 50 mm (1.97 inches)

Mounting the external display (optional)

- i** The mounting plate also serves as the drilling template. The side markings are used to mark the drill holes.



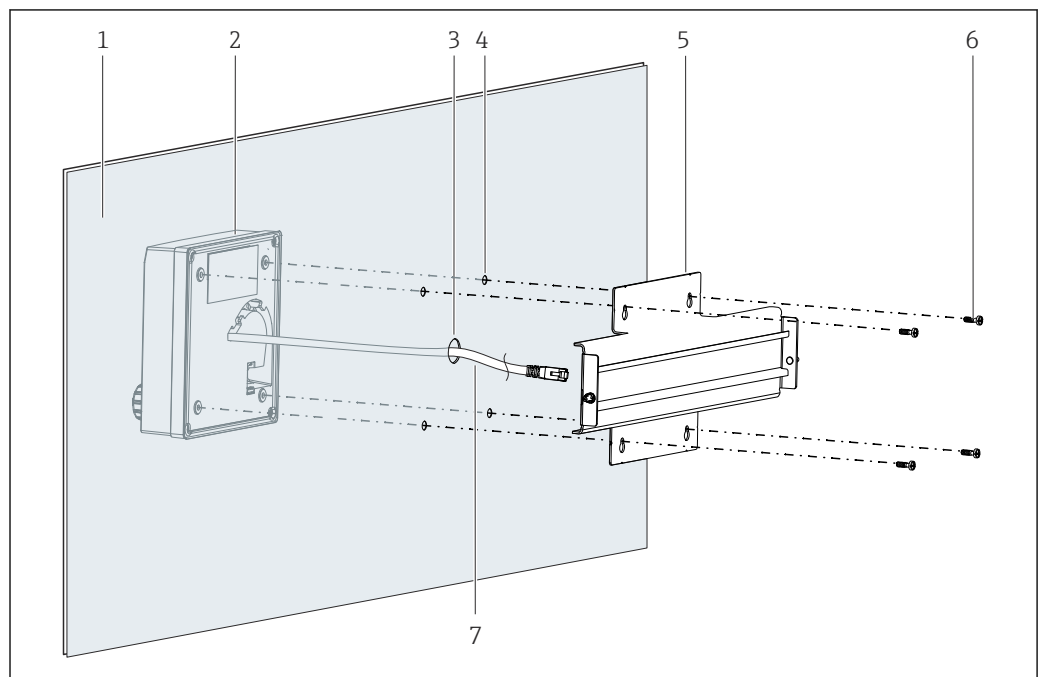
A0025371

35 Mounting plate of external display, dimensions in mm (in)

a Retaining tab

b Production-related recesses, no function for the user

Mounting on panel (incl. display)



A0054860

36 Mounting the external display and DIN rail

1 Panel/mounting surface

2 External display

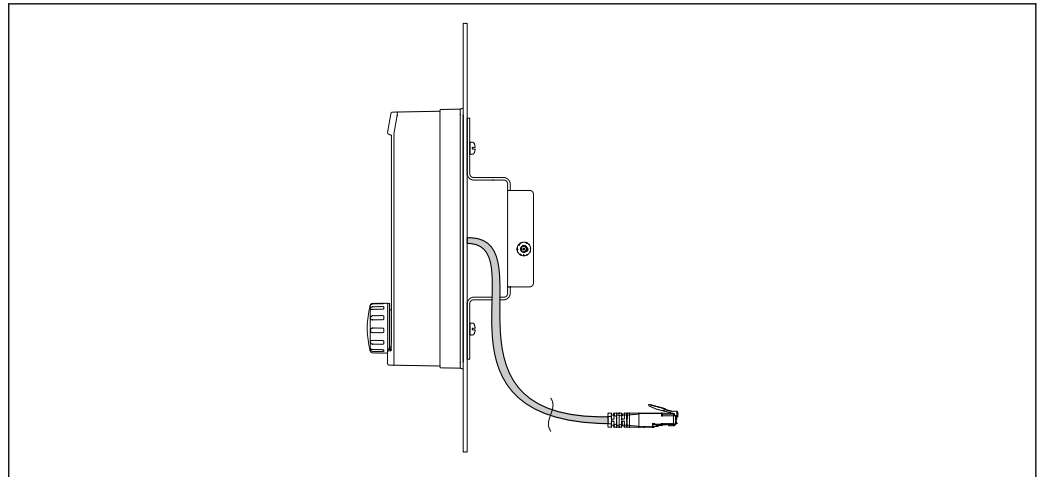
3 Drill hole for display cable

4 Drill holes for screws

5 Mounting plate with DIN rail

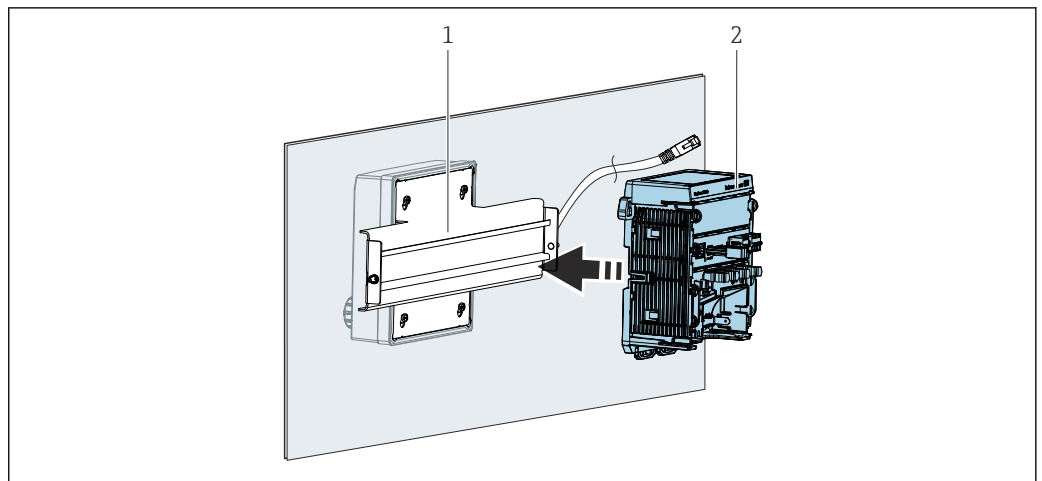
6 Screws

7 Display cable



A0056254

37 Layout of the display cable



A0054861

38 Mounting the transmitter

- 1 DIN rail
- 2 Transmitter

Environment

Ambient temperature range	<p>Non-Ex version -30 to 70 °C (-20 to 160 °F)</p> <p>For Ex versions, please refer to the relevant safety instructions (XA) on the online product pages.</p>
Storage temperature	-40 to +80 °C (-40 to 176 °F)
Operating height	<2000 m (6500 ft)
Relative humidity	10 to 95 %, non-condensing
Degree of protection	<p>Field device IP66/67 as per IEC 60529 Housing protection rating NEMA Type 4X as per UL 50E</p>

Device for DIN rail mounting

Device
IP20

External display (optional)

IP66 front-panel, when installed correctly including seal for door/wall

Electromagnetic compatibility (EMC)

According to IEC 61326-1

- Interference immunity: Table 2 (industrial environments)
- Interference emission: Class B (residential environments)

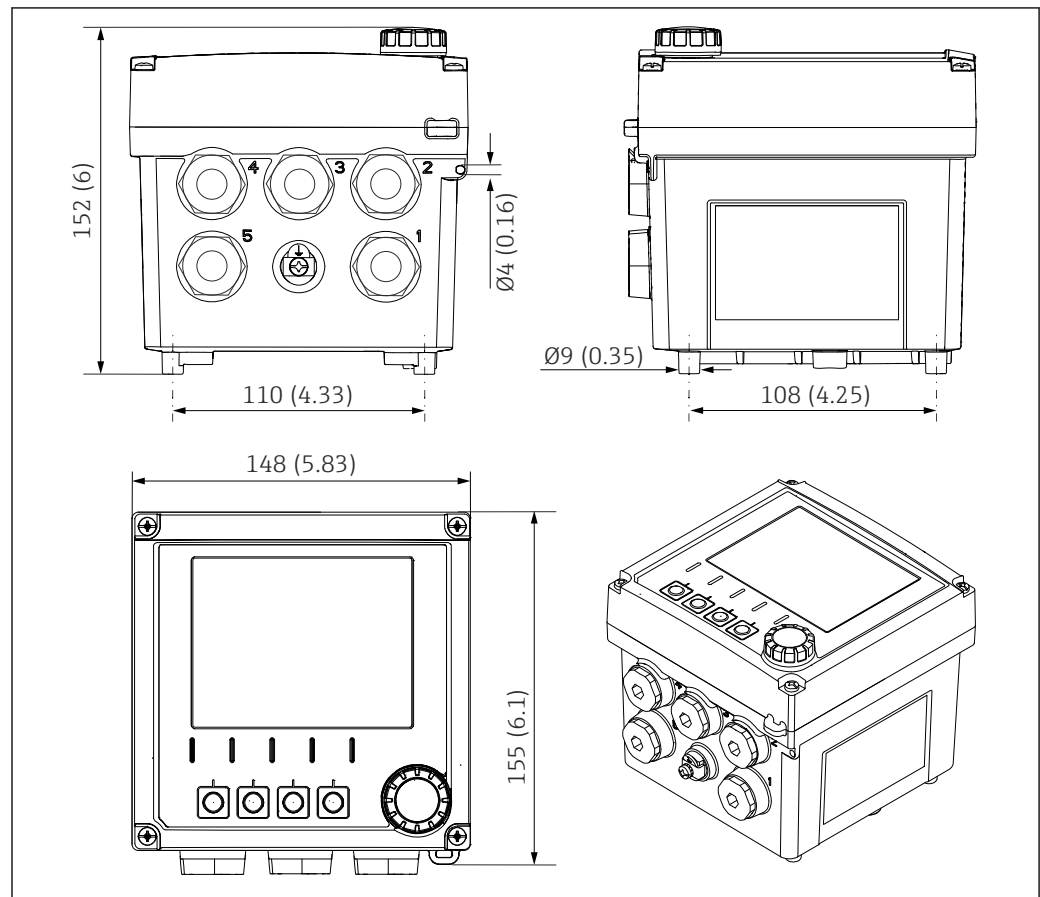
Pollution degree (only field device)

The product is suitable for pollution degree 4.

Mechanical construction

Dimensions

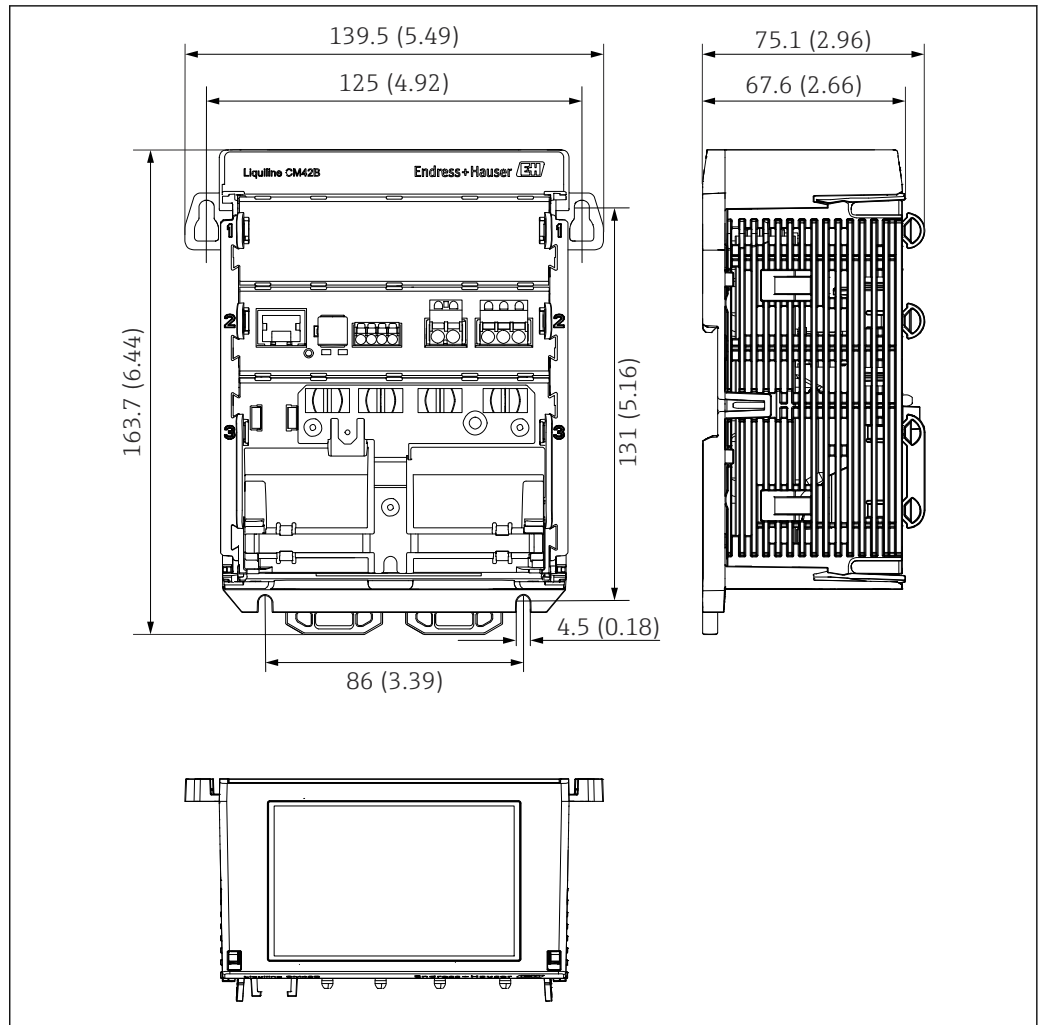
Field device



39 Dimensions of field housing in mm (in)

A0053890

Device for DIN rail mounting



40 Dimensions of device in mm (inches)

A0057647

Materials

Field device

Plastic housing	
Housing	PC-FR (polycarbonate, flame-retarding)
Housing seals	EPDM

Stainless steel housing	
Housing	Stainless steel 1.4408
Housing seals	EPDM

Other materials	
Cable glands	PA
Sealing plug	PA
Adapter for G or NPT cable glands (plastic housing)	PA
Adapter for G or NPT cable glands (stainless steel housing)	Stainless steel 1.4404

Device for DIN rail mounting

Housing	PC-FR (polycarbonate, flame-retarding)
External display (optional)	PC-FR (polycarbonate, flame-retarding)

Weight**Field device****Plastic housing**

1.5 kg (3.3 lbs)

Stainless steel housing

4 kg (8.8 lbs)

Device for DIN rail mounting

0.43 kg (0.95 lbs)

Display and user interface

Operation concept

Operation and settings via:

- Operating elements on the device
- SmartBlue app (does not support the full range of functions)
- Control station (via HART)

Operation at the device*User management*

The onsite display menu offers user management functions. There are two roles in user management.

- Operator
- Maintenance

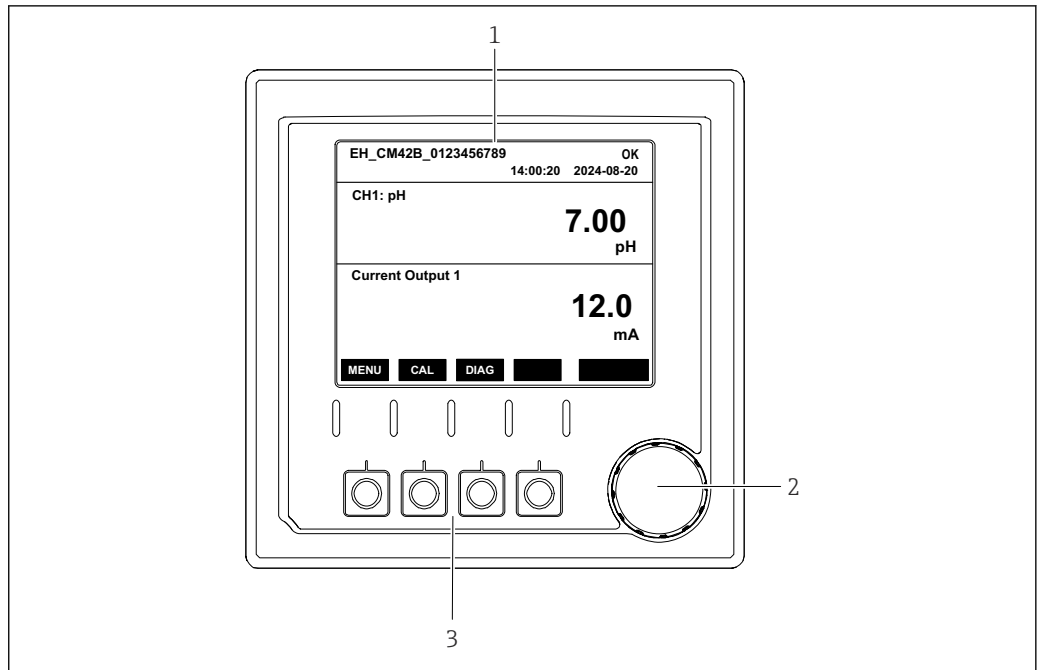
Both roles can be protected via a PIN as an option. Only one PIN can be set for the Operator role if a PIN is also set for the Maintenance role.

The Maintenance role has the authorization to change both PINs.

It is recommended to set the PINs after initial commissioning.

If PINs are set, the two roles first appear when the menu is called up. To access other menu items, login is required with a role.

Operating elements



A0056333

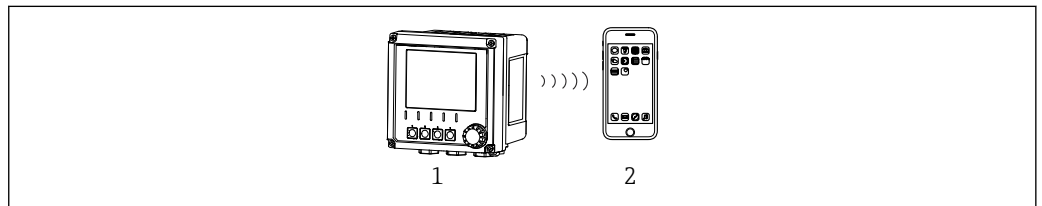
41 Operating elements

- 1 Display
- 2 Navigator
- 3 Soft keys

Operation via the SmartBlue app

Access to the operating menu via the SmartBlue app

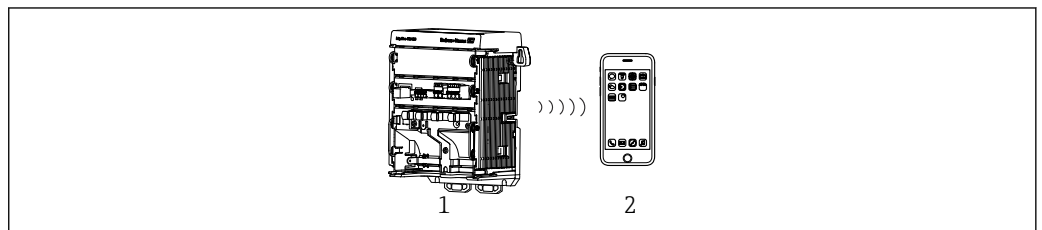
With the Bluetooth® LE wireless technology (energy-efficient wireless transmission) option that can be ordered, the device can be controlled via mobile devices.



A0056361

42 Options for remote operation via Bluetooth® LE wireless technology (field device)

- 1 Transmitter with Bluetooth® LE wireless technology
- 2 Smartphone/tablet with SmartBlue app



A0056364

43 Options for remote operation via Bluetooth® LE wireless technology (device for DIN rail mounting)

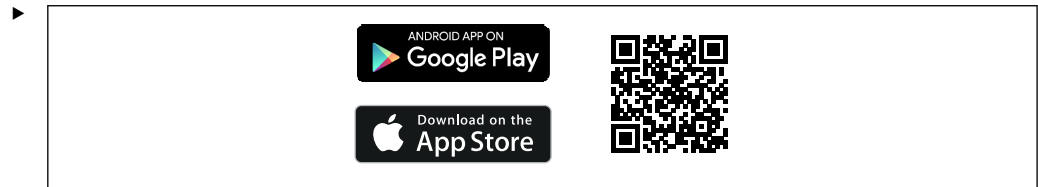
- 1 Transmitter with Bluetooth® LE wireless technology
- 2 Smartphone/tablet with SmartBlue app

The SmartBlue app is available for download from the Google Play Store for Android devices and from the Apple App Store for iOS devices.

System requirements

- Mobile device with Bluetooth® 4.0 or higher
- Internet access

Download the SmartBlue app:



A0033202

Download the SmartBlue app via a QR code.

SmartBlue app accounts

The SmartBlue app is protected against unauthorized access by means of password-protected accounts. The authentication options of the mobile device can be used to log into the accounts.

The following accounts are available:

- operator
- maintenance
- admin

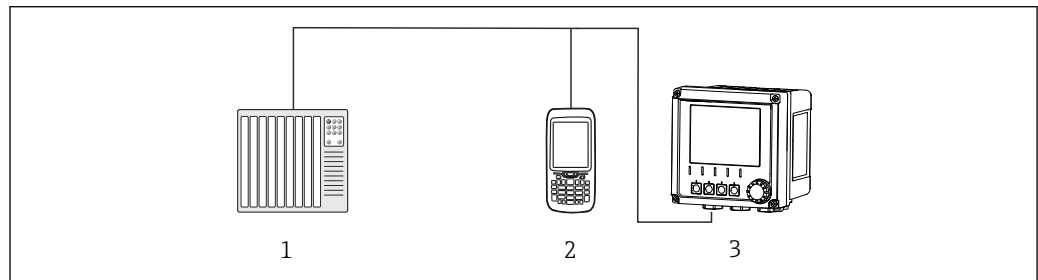
Functions via the SmartBlue app

The SmartBlue app supports the following functions:

- Firmware update
- User management
- Export of information for the service

Remote operation

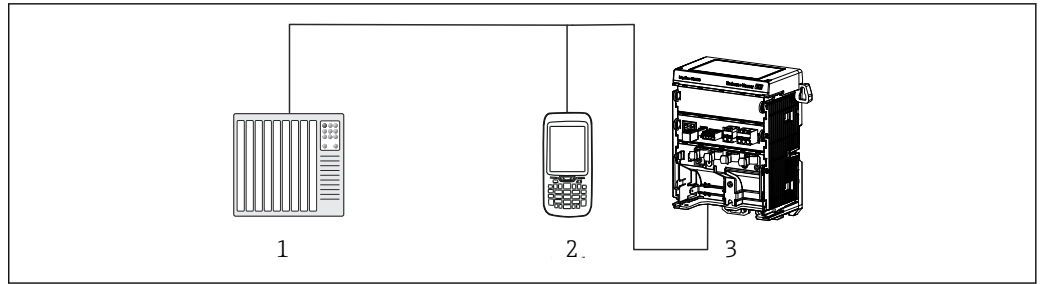
HART



A0056628

44 Wiring options for remote operation via HART protocol (field device)

- 1 PLC (programmable logic controller)
- 2 HART operating device (e.g. SFX350), optional
- 3 Transmitter



A0056314

45 Wiring options for remote operation via HART protocol (device for DIN rail mounting)

- 1 PLC (programmable logic controller)
- 2 HART operating device (e.g. SFX350), optional
- 3 Transmitter

Certificates and approvals

Current certificates and approvals for the product are available at www.endress.com on the relevant product page:

1. Select the product using the filters and search field.
2. Open the product page.
3. Select **Downloads**.

Ordering information

Product page www.endress.com/CM42B

Product Configurator

1. **Configure:** Click this button on the product page.
2. Select **Extended selection**.
 - ↳ The Configurator opens in a separate window.
3. Configure the device according to your requirements by selecting the desired option for each feature.
 - ↳ In this way, you receive a valid and complete order code for the device.
4. **Accept:** Add the configured product to the shopping cart.

i For many products, you also have the option of downloading CAD or 2D drawings of the selected product version.

5. **CAD:** Open this tab.
 - ↳ The drawing window is displayed. You have a choice between different views. You can download these in selectable formats.

Scope of delivery

The scope of delivery includes:

- Liquiline CM42B
- Cable glands depending on order (only field device)
- Field device mounting plate (only field device)
- Brief Operating Instructions
- Safety instructions for hazardous area (for Ex versions)

Accessories

The latest list of accessories, all compatible sensors and activation codes is provided on the product page: www.endress.com/CM42B



www.addresses.endress.com
