Brief Instructions

Level Radar LCR20

KA01658O/98/A2/01.23-00
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General Information

This document contains information that you need in order to mount and install your product.

This document does not substitute the instruction manual.

For full information on the product, refer to the instruction manual and further documentation on the Internet at www.pepperl-fuchs.com.

For specific device information such as the year of construction, scan the QR code on the device. As an alternative, enter the serial number in the serial number search at www.pepperl-fuchs.com.

i Note

Further information is available on the product detail page of the device on the Internet at www.pepperl-fuchs.com. Enter the order designation in the search field → Select the appropriate device → Open the product detail page → Open the **Product Documentation** tab.

Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismounting lies with the plant operator.

The personnel must be appropriately trained and qualified in order to carry out mounting, installation, commissioning, operation, maintenance, and dismounting of the device. The trained and qualified personnel must have read and understood the instruction manual.

Prior to using the product make yourself familiar with it. Read the instruction manual carefully.

Intended Use

The device is only approved for appropriate and intended use. Ignoring these instructions will void any warranty and absolve the manufacturer from any liability.

Only use the device in the industrial location.

The device is used for continuous level measurement in liquids and solids. The device works with high-frequency radar pulses. The distance from the reference point to the product surface is measured.

Use the device only within the specified ambient and operating conditions.

Only use the device in media to which the process-contacting materials of the device are sufficiently resistant.

Improper Use

Protection of personnel and the plant is not ensured if the device is not used according to its intended use.

Mounting

The following mounting options are possible:
- Wall mounting
- Ceiling mounting
- Nozzle mounting

i Note

For more information see the manual.

⚠ Caution!

Risk of device damage due to incorrect mounting

To avoid damaging the device, follow these instructions.
- Do not use the sensor cables as supporting cables.
- Only operate the device in a vertical position in free-space applications.
- For devices with feature **Process connection rear side**, option **N31 – FNPT1/2 conduit** : Remove the cable protection plug before mounting

Nozzle Mounting

To ensure optimum measurement, the antenna should protrude from the nozzle. The interior of the nozzle must be smooth and may not contain any edges or welded joints. The edge of the nozzle should be rounded if possible.
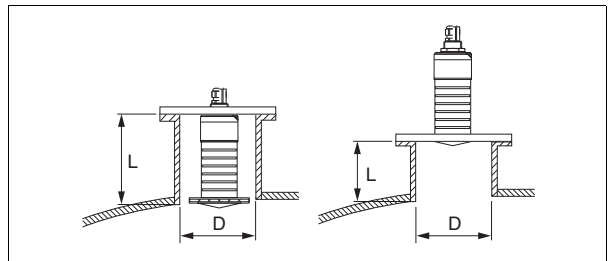

Figure 1   Nozzle mounting

L   Nozzle length
D   Nozzle diameter

The maximum length of the nozzle **L** depends on the nozzle diameter **D**. Observe the limits for the diameter and length of the nozzle.

80 mm (3 inch) antenna, mounting outside the nozzle
- D: min. 80 mm (3 inch)
- L: max. $D \times 4.5$

80 mm (3 inch) antenna, mounting inside the nozzle
- D: min. 120 mm (4.72 inch)
- L: max. 205 mm (8.07 inch) + $D \times 4.5$

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".
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Electrical Connection
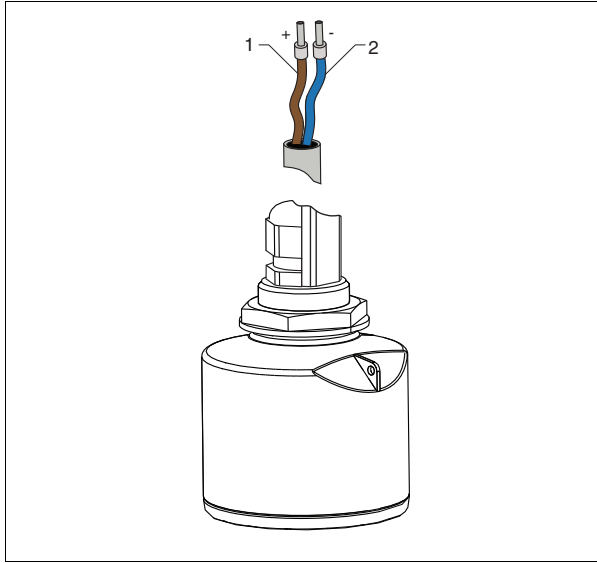
Cable Assignment

Figure 2   Cable assignment

1   Plus, brown wire
2   Minus, blue wire

Supply Voltage

10.5 to 30 V DC
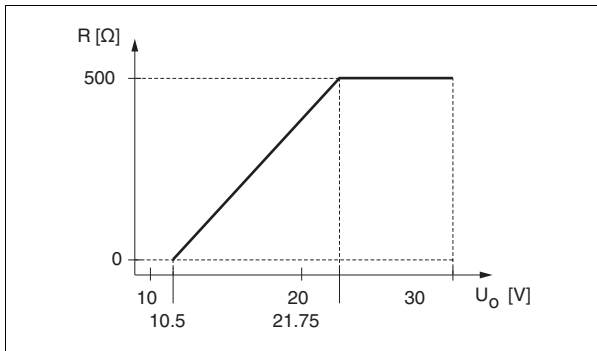An external power supply is necessary.

Figure 3   Maximum load R, depending on supply voltage U_o of power supply unit

Battery operation

The sensor's Bluetooth® communication can be disabled to increase the operating life of the battery.

Potential equalization

No special measures for potential equalization are required.

Connecting the Device

Connection of the device with HART communication, power source and 4 to 20 mA display
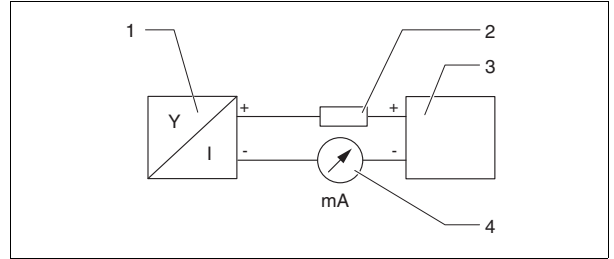

Figure 4   Wiring diagram of HART connection

1   Measuring device, 4 to 20 mA
2   HART communication resistor
3   Power supply
4   Multimeter or ammeter

> **i** **Note**
>
> The HART communication resistor of 250 Ω in the signal line is always necessary in the case of a low-impedance power supply.

The voltage drop to be taken into account is max. 6 V for 250 Ω communication resistor

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