



Brief Operating Instructions Micropilot FMR10

Free space radar

These Instructions are Brief Operating Instructions; they are not a substitute for the Operating Instructions pertaining to the device.
For detailed information, refer to the Operating Instructions and other documentation.

Available for all device versions via:

- Internet: www.endress.com/deviceviewer
- Smart phone/Tablet: Endress+Hauser Operations App

Basic safety instructions

Requirements for personnel

- Personnel must meet the following requirements to perform their tasks:
- ▶ Trained specialists must have a qualification that is relevant to the specific function and task.
 - ▶ Must be authorized by the plant owner/operator.
 - ▶ Must be familiar with national regulations.
 - ▶ Must have read and understood the instructions in the manual and supplementary documentation.
 - ▶ They must follow instructions and comply with general policies.

Intended use

The device is designed for non-contact continuous level measurement of liquids.

Application

- ▶ Measured process variables: distance
- ▶ Calculated process variables: volume or mass in vessels of any shape; flow rate through measuring weirs or channels (calculated based on the level using the linearization functionality)

Operational safety

Risk of injury!

- ▶ Operate the device only if it is in proper technical condition, free from errors and faults.
- ▶ The operator is responsible for the trouble-free operation of the device.

Mounting

Wall, ceiling or nozzle installation is possible.

Wall and ceiling installation; see Operating Instructions.

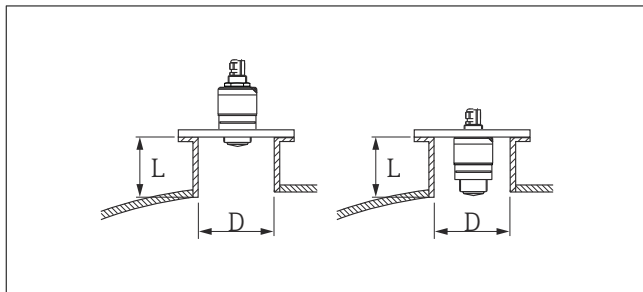


Caution!

- The sensor cables are not designed as supporting cables. Do not use them for suspension purposes.
- Always operate the device in a vertical position in free-space applications.

Nozzle mounting

The antenna should project out of the nozzle for optimum measurement. 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.



1 Nozzle mounting

L Nozzle length
D Nozzle diameter

The maximum length of the nozzle **L** depends on the nozzle diameter **D**.

Please note the limits for the diameter and length of the nozzle.

Mounting outside the nozzle

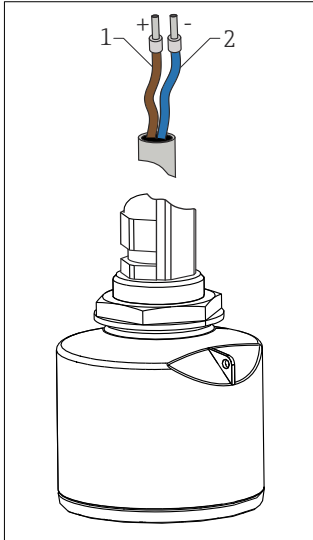
- D: min. 40 mm (1.5 in)
- L: max. $D \times 1.5$

Mounting inside the nozzle

- D: min. 80 mm (3 in)
- L: max. $140 \text{ mm (5.5 in)} + D \times 1.5$

Electrical connection

Cable assignment



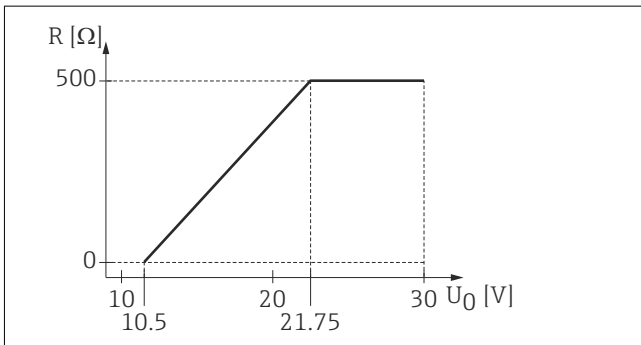
2 Cable assignment

- 1 Plus, brown wire
- 2 Minus, blue wire

Supply voltage

10.5 to 30 V_{DC}

An external power supply is necessary.



3 Maximum load R , depending on supply voltage U_0 of power supply unit

Battery operation

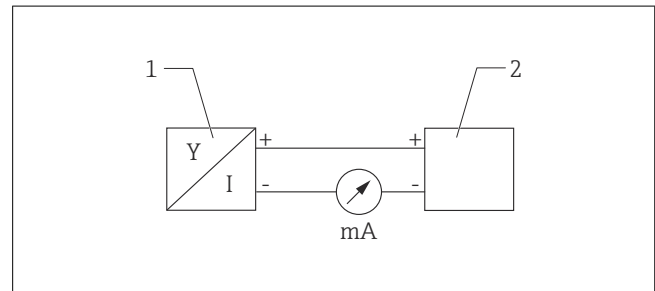
The sensor's *Bluetooth*® wireless technology communication can be disabled to increase the operating life of the battery.

Potential equalization

No special measures for potential equalization are required.

i Various power supply units can be ordered as an accessory from Endress+Hauser.

Connecting the device



4 FMR10 block diagram

- 1 Micropilot FMR10, 4 to 20 mA
- 2 Power supply