

Micropilot FMR20B - radar sensor for basic applications

Simple and efficient level measurement in liquids and solids



More information and current pricing:

www.endress.com/FMR20B

Benefits:

- Fast commissioning and operation thanks to guided setup sequences (wizards)
- Bluetooth connectivity enables easy, reliable and encrypted wireless remote access
- Device identification during Bluetooth connection thanks to "It's me-function" (LED flashing) and status indication via LED
- Simple device selection thanks to clear segmentation and easy configuration
- Heartbeat Technology allows on-demand verification and diagnostics guided through the wizard without process interruption

Specs at a glance

- **Accuracy** Liquids: +/- 2 mm (0.08") Solids: +/- 4 mm (0.16")
- **Process temperature** -40...+80°C (-40...+176°F)
- **Process pressure / max. overpressure limit** -1...3 bar (-14,5...43 psi)
- **Max. measurement distance** 40 mm/ 1-1/2": 20m (65.6 ft) 80 mm/ 3": 30m (98.4 ft)
- **Main wetted parts** PVDF, PBT/PC

Field of application: The Micropilot FMR20B offers continuous non-contact level measurement with 80 GHz technology. Guiding wizards enable easy handling for installation, commissioning and operation. Efficiency through reduced downtime can be realized with on-demand process verification and device diagnostics, thanks to Heartbeat Technology. The compact design of the device also allows use in narrow installation conditions.

Features and specifications

Continuous / Liquids

Measuring principle

Level radar

Characteristic / Application

Water & Wastewater

(e.g. basins / channels / rivers / dams / lift stations / storm water basins / pump control)

Utility applications in all industries

Storage tanks

Specialities

Bluetooth® commissioning

Operation and maintenance SmartBlue App

Heartbeat Verification

Supply / Communication

2-wire (HART, 4...20 mA)

Bluetooth® wireless technology and App (optional)

Frequency

W-Band (~80 Ghz)

Accuracy

Liquids: +/- 2 mm (0.08")

Solids: +/- 4 mm (0.16")

Ambient temperature

-40...+80°C

(-40...+176°F)

Process temperature

-40...+80°C

(-40...+176°F)

Continuous / Liquids**Process pressure / max. overpressure limit**

-1...3 bar
(-14,5...43 psi)

Main wetted parts

PVDF, PBT/PC

Process connection

Thread:

G1", NPT1"; G1-1/2", NPT1-1/2"

Flange:

UNI flange 2", 3", 4"

UNI slip on flange 3", 4", 6"

Max. measurement distance

30m (98.4 ft)

Communication

4...20 mA HART

Bluetooth® wireless technology

Certificates / Approvals

ATEX, C/US, EAC Ex, JPN Ex, KC Ex,
INMETRO Ex, NEPSI Ex, UK Ex

Safety approvals

Overfill protection WHG

Hygienic approvals

EU Food Contact Material (EC) 1935/2004

US Food Contact Material FDA CFR 21

Marine approval

ABS, LR, BV, DNV

Drinking water approvals

NSF/ANSI 61

Continuous / Liquids

Options

Remote operation via SmartBlue App using Bluetooth®
Remote HART indicator RIA15 in order structure
Flooding protection tube
Different mounting possibilities

Application limits

Process temp. <-40°C (-40°F) or > 80°C (176°F) -> FMR62B
Very aggressive media -> FMR62B
Turbulences, stilling well and bypass -> FMR62B
Strong foam and interfaces --> FMP5x

Continuous / Solids

Measuring principle

Level radar solid

Characteristic / Application

For simple applications:
Reliable, non-contact measurement of levels in silos or storage tanks for bulk solids

Specialities

Bluetooth® commissioning
Operation and maintenance SmartBlue App
Heartbeat Verification

Supply / Communication

2-wire (HART, 4...20 mA)
Bluetooth® wireless technology and App (optional)

Frequency

W-Band (~80 GHz)

Continuous / Solids**Antenna**

40 mm/ 1-1/2"

80 mm/ 3"

Accuracy

Liquids: +/- 2 mm (0.08")

Solids: +/- 4 mm (0.16")

Ambient temperature

-40...+80°C

(-40...+176°F)

Process temperature

-40...+80°C

(-40...+176°F)

Process pressure / max. overpressure limit

-1...3 bar

(-14,5...43 psi)

Main wetted parts

PVDF, PBT/PC

Process connection

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G1", NPT1"; G1-1/2", NPT1-1/2"

Flange:

UNI flange 2", 3", 4"

UNI slip on flange: 3", 4", 6"

Max. measurement distance

40 mm/ 1-1/2": 20m (65.6 ft)

80 mm/ 3": 30m (98.4 ft)

Communication

4...20 mA HART

Bluetooth® wireless technology

Continuous / Solids

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Different mounting possibilities

Application limits

DK < 1.6
Reduction of the max. possible measuring range due to:
Media with poor reflective properties cone of repose
extremely loose surface of bulk solids, e.g. bulk solids with
a
low bulk density during pneumatic filling
buildup, especially of moist products.
Alternative for these applications: FMR67B

More information www.endress.com/FMR20B