

Radar measurement Time-of-Flight Micropilot FMR20

Level measurement of liquids and solids in all industries



Benefits:

- Non-contact radar with commissioning via HART or wireless via Bluetooth® app or with remote display
- Most compact radar due to unique radar chip design offering perfect fit in limited space applications
- Best price-performance-ratio radar
- Perfect application fit for water & wastewater, mining, minerals & metals as well as utilities in all industries (IP66, 68 / NEMA4x, 6P)
- Full PVDF body to resist outdoor conditions, sealed wiring and fully potted electronics eliminates water ingress and allows operation under harsh environmental conditions
- Easy setup with three main parameters suits for most applications
- Simple, safe and secure wireless remote access via Bluetooth® – even in hazardous areas or places difficult to reach

More information and current pricing:

www.se.endress.com/FMR20

Specs at a glance

- **Accuracy** +/- 2 mm (0,08")
- **Process temperature** -40...+80°C (-40...+176°F)
- **Process pressure / max. overpressure limit** -1...3 bar (-14,5...43 psi)
- **Max. measurement distance** DN40: 15 m (49.2 ft), DN80: 20 m (65.6 ft)
- **Main wetted parts** PVDF, PBT

Field of application: Micropilot FMR20 offers continuous non-contact level and flow (via linearization table) measurement and is a perfect application fit for the water & wastewater industry and utilities across all industries. Commissioning is possible via HART or wireless via app using

Bluetooth® or with remote display. Signal curves can be shown via app on every Bluetooth®-enabled smartphone/tablet (iOS, Android). With the compact design, thanks to unique chip, the device is ideal for limited space applications.

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

Supply / Communication

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

Bluetooth® wireless technology and App (optional)

Frequency

K-band (~26 GHz)

Accuracy

+/- 2 mm (0,08")

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)

Continuous / Liquids

Main wetted parts

PVDF, PBT

Process connection

Thread:

G1", NPT1"; G1 1/2", NPT1 1/2", G2", NPT2",

Flange:

UNI DN80....DN150 (3"...6")

Max. measurement distance

DN40: 15 m (49.2 ft),

DN80: 20 m (65.6 ft)

Communication

4...20mA HART

Modbus

Bluetooth® wireless technology

Certificates / Approvals

ATEX, CSA C/US, IEC Ex, NEPSI, EAC, JPN Ex, INMETRO

Options

Remote operation via SmartBlue App using Bluetooth®,

Remote HART indicator RIA15 in order structure,

Flooding protection tube,

Different mounting possibilities

Application limits

FMR5x;

Ammoniacal gas phase:

FMR54 in stilling well;

Strong build-up formation:

FMR54 with air purge;

Only PTFE resistant:

FMR52;

Custody transfer measurement:

FMR5xx or NMR8x

Continuous / Solids**Measuring principle**Level radar solid

Characteristic / Application

For simple applications:

Reliable non-contact level measurements in silos or storage tanks for bulk solids

Specialities

Bluetooth® commissioning,

Operation and maintenance SmartBlue App

Supply / Communication

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

Bluetooth® wireless technology and App (optional)

FrequencyK-band (~26 GHz)

Antenna80 mm/ 3"

Accuracy

Liquids: +/- 2 mm (0,08")

Solids. +/- 5 mm (0.2")

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 partsPVDF, PBT

Continuous / Solids**Process connection**

Thread:

G1", NPT1";

Flange:

UNI DN80....DN150 (3"...6")

Max. measurement distance

Liquids: 20 m (66.6 ft)

Solids: 10 m (32.8 ft)

Communication

4...20 mA HART

Modbus

Bluetooth® wireless technology

Options

Remote operation via SmartBlue App using Bluetooth®,

Remote HART indicator RIA15 in order structure,

Flooding protection tube,

Different mounting possibilities

Application limits

DK < 2

Reduction of the max. possible measuring range through:

Media with poor reflection properties

Angle of repose

Extremely loose surfaces of bulk solids, e.g. bulk solids with low bulk weight for pneumatic filling

Build-up, above all of moist products

More information www.se.endress.com/FMR20