Radar measurement
Micropilot FMR60

The standard sensor for highest demands in liquid level measurement with 80GHz technology

More information and current pricing:
www.lasc.endress.com/FMR60

Benefits:

- Hardware and software developed according to IEC 61508 up to SIL3 in homogeneous redundancy
- Heartbeat Technology for a cost-effective and safe plant operation during the entire life cycle
- HistoROM data management concept for fast and easy commissioning, maintenance and diagnostics
- Highest reliability even with obstructions in vessels due to small beam angle and Multi-Echo Tracking evaluation
- Reduction of engineering effort due to an easier integration of the 80GHz radar instrument into the process
- Innovative drip-off antenna of PTFE for maximum system availability
- The world's easiest proof test concept for SIL and WHG saves time and costs

Specs at a glance

- **Accuracy** +/- 1 mm (0.04 in)
- **Process temperature** -40...+130 °C (-40...+266 °F)
- **Process pressure absolute / max. overpressure limit** Vacuum ... 16 bar (Vacuum ... 232 psi)
- **Max. measurement distance** 50 m (164 ft)
- **Main wetted parts** PTFE antenna PP or 316L process connections

Field of application: Micropilot FMR60 is the first 80GHz radar developed according to the international functional safety directive IEC 61508. The free space radar offers maximum reliability due to the drip-off antenna, improved algorithms and small beam angle. It is used for

continuous non-contact level measurement of liquids, pastes and slurries. The measurement is not affected by changing media, temperature changes, gas blankets or vapors. It also possesses the smart sensor functionality Heartbeat Technology.

Features and specifications

Continuous / Liquids

Measuring principle

Level radar

Characteristic / Application

For basic level measurement in liquids, pastes and slurries;
non affected by changing media, temperature changes, gas blankets or vapor;
For applications with many obstacles due to the very small beam angle.

Specialities

Heartbeat Technology,
SIL 2/3 according to IEC 61508,
Bluetooth® commissioning,
Operation and maintenance SmartBlue App,
Safety and reliability with Multi-Echo Tracking
HistoROM
RFID TAG for easy identification

Supply / Communication

2-wire (HART)
Bluetooth® wireless technology and App (optional)

Frequency

W-band (~80 GHz)

Accuracy

+/- 1 mm (0.04 in)

Ambient temperature

-40...+80 °C
(-40...+176 °F)

Continuous / Liquids

Process temperature
-40...+130 °C
(-40...+266 °F)

Process pressure absolute / max. overpressure limit
Vacuum ...16 bar
(Vacuum ... 232 psi)

Main wetted parts
PTFE antenna
PP or 316L process connections

Process connection
Thread:
G1-1/2", MNPT1-1/2";
Flange:
UNI DN80...DN150 (3"...6")

Max. measurement distance
50 m (164 ft)

Communication
4...20 mA HART,
Additional switch,
Bluetooth® wireless technology

Certificates / Approvals
ATEX, FM, CSA C/US, IEC Ex, JPN Ex, INMETRO, NEPSI, KC, EAC, UK Ex

Safety approvals
Overfill protection WHG
SIL 2, SIL 3

Design approvals
EN 10204-3.1

Continuous / Liquids

Options

Display,
Customized parameterization,
Remote operation via SmartBlue App using Bluetooth®,
Gas-tight feed through,
PWIS free

Application limits

Process temp. > 130 °C (266 °F) -> FMR62
Very aggressive media -> FMR62
Strong turbulences and foam, stilling well and bypass -> FMR5x, FMP5x

More information **www.lasc.endress.com/FMR60**