Radar measurement
Time-of-Flight
Micropilot FMR52

For level measurement in aggressive liquids or applications with hygiene requirements

More information and current pricing:
www.mesc.endress.com/FMR52

Benefits:

- Hardware and software developed according to IEC 61508 up to SIL3 (in homogeneous redundancy)
- Reliable non-contact measurement even for changing product and process conditions
- HistoROM data management concept for fast and easy commissioning, maintenance and diagnostics
- Highest reliability even in the presence of obstructions in the vessel due to new Multi-Echo Tracking evaluation
- Heartbeat Technology for a cost-effective and safe plant operation during the entire life cycle
- Seamless integration into control or asset management systems and intuitive, menu-guided operation concept (on-site or via the control system)
- World's easiest proof test concept for SIL and WHG saves time and cost

Specs at a glance

- **Accuracy** +/- 2 mm (0.08 in)
- **Process temperature** -196...+200 °C (-321...+392 °F)
- **Process pressure / max. overpressure limit** Vacuum...25 bar (Vacuum...363 psi)
- **Max. measurement distance** Standard: 40 m (131 ft) With advanced dynamics: 60 m (197 ft)
- **Main wetted parts** PTFE

Field of application: For applications in aggressive liquids Micropilot FMR52 offers extraordinary advantages with its completely PTFE-filled and flush-mounted horn antenna. The FMR52 is also the sensor for

hygiene-sensitive applications in the food and life sciences industry - ASME BPE, USP Class VI, 3-A and EHEDG approvals. Micropilot 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.

Features and specifications

Continuous / Liquids

Measuring principle
Level radar

Characteristic / Application
Premium device for continuous non-contact level measurement, in which aggressive media are used as well as for highest hygiene requirements (ASME BPE, USP Class VI);
Flush mounted, fully PTFE filled horn antenna

Specialities
Heartbeat Technology,
SIL 2 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 / PROFIBUS PA/ FOUNDATION Fieldbus)
4-wire (HART)
Bluetooth® wireless technology and App (optional)

Frequency
K-band (~26 GHz)

Accuracy
+/- 2 mm (0.08 in)

Continuous / Liquids

Ambient temperature
-50...+80 °C
(-58...+176 °F)

Process temperature
-196...+200 °C
(-321...+392 °F)

Process pressure / max. overpressure limit
Vacuum...25 bar
(Vacuum...363 psi)

Main wetted parts
PTFE

Process connection
Flange:
DN50...DN150
ASME 2"...6"
JIS 10K

Process connection hygienic
Tri-Clamp ISO2852
DIN11851

Max. measurement distance
Standard: 40 m (131 ft)
With advanced dynamics: 60 m (197 ft)

Communication
4...20 mA HART
PROFIBUS PA
FOUNDATION Fieldbus
Bluetooth® wireless technology

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

Continuous / Liquids

Safety approvals
Overfill protection WHG
SIL

Design approvals
EN 10204-3.1
ASME B31.3
AD2000

Hygienic approvals
3A, EHEDG
CoC ASME-BPE

Marine approval
GL/ ABS/ LR/ BV/ DNV

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

Application limits
Maximum measuring range is dependent on the tank form and/or application
Ammoniacal gas phase:
FMR54 in stilling well
Strong build-up formation:
FMR54 with air purge
Custody transfer measurement:
FMR5xx

More information **www.mesc.endress.com/FMR52**