

# Radar measurement Time-of-Flight Micropilot FMR54

For level measurement in liquids where strong steam or ammonia can occur



More information and current pricing:

[www.at.endress.com/FMR54](http://www.at.endress.com/FMR54)

## Benefits:

- Hardware and software developed according to IEC 61508 up to SIL3 (in homogeneous redundancy)
- 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
- Reliable measurement even for changing product and process conditions
- 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** +/- 6 mm (0.24 in)
- **Process temperature** -60...+400°C (-76...+752°F)
- **Process pressure absolute / max. overpressure limit**  
Vacuum...160 bar (Vacuum...2320 psi)
- **Max. measurement distance** Standard: 20 m (65 ft) Planar antenna in stilling well: 38 m (125 ft)
- **Main wetted parts** 316L

**Field of application:** Micropilot FMR54 is prepared for the use in high temperature and high pressure applications and with the specially designed planar antenna it is particularly suited for stilling well

applications. The FMR54 free space radar 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**

Continuous non-contact level measurement for use in high-pressure and high-temperature applications,  
Horn or planar 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**

C-band (~6 GHz)

**Accuracy**

+/- 6 mm (0.24 in)

**Ambient temperature**

-50...+80 °C  
(-58...+176 °F)

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**Continuous / Liquids****Process temperature**

-60...+400°C  
(-76...+752°F)

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**Process pressure absolute / max. overpressure limit**

Vacuum...160 bar  
(Vacuum...2320 psi)

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**Main wetted parts**

316L

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**Process connection**

Flange:  
DN80...DN300,  
ASME 3"...12",  
JIS 10K, 20K

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**Max. measurement distance**

Standard: 20 m (65 ft)  
Planar antenna in stilling well: 38 m (125 ft)

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**Communication**

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

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**Certificates / Approvals**

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

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**Safety approvals**

Overfill protection WHG  
SIL

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**Design approvals**

EN 10204-3.1  
NACE MR0175, MR0103  
ASME B31.3  
AD2000

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## Continuous / Liquids

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### Marine approval

GL/ ABS/ LR/ BV/ DNV

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### Options

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

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### Application limits

Maximum measuring range is dependent on the tank form and/or application

Free space with nozzle:

FMR51, FMR52, FMR53

Stilling well with ball valve:

FMR51, FMR52

Hygiene requirements:

FMR52, FMR53

316L or Alloy C non-resistant:

FMR52, FMR53

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