

# Radar measurement Time-of-Flight Micropilot FMR53

For simple level measurement applications in liquids



More information and current pricing:

[www.mesc.endress.com/FMR53](http://www.mesc.endress.com/FMR53)

## Benefits:

- 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
- 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
- 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** -40...+150 °C (-40...+302 °F)
- **Process pressure absolute / max. overpressure limit**  
Vacuum...40 bar (Vacuum...580 psi)
- **Max. measurement distance** Standard: 20 m (66 ft)
- **Main wetted parts** PTFE, PVDF

**Field of application:** Micropilot FMR53 for simple level measurement applications in liquids. With its slim rod antenna, FMR53 free space radar is particularly suited for small process connections. The PTFE coating of the rod antenna and flange plating guarantee resistance also in

aggressive media. The Micropilot FMR53 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

For common non-contact continuous level measurement in liquids, especially suited for small process connections and for chemically aggressive media;

Rod antenna with PTFE coating

#### 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)

## Continuous / Liquids

**Ambient temperature**

-40...+80 °C  
(-40...+176 °F)

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**Process temperature**

-40...+150 °C  
(-40...+302 °F)

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

Vacuum...40 bar  
(Vacuum...580 psi)

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**Main wetted parts**

PTFE, PVDF

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**Process connection**

Thread:  
MNPT 1 1/2, R 1 1/2  
Flange:  
DN50...DN150,  
ASME 2"...6",  
JIS 10K

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**Max. measurement distance**

Standard: 20 m (66 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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## Continuous / Liquids

### Design approvals

EN 10204-3.1  
ASME B31.3  
AD2000

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### Options

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

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### Application limits

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

Nozzle height >250 mm:

FMR51, FMR52, FMR54

Low DK:

FMR51, FMR52, FMR54

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