

# Radar measurement

## Micropilot FMR62

For 80GHz level measurement in aggressive liquids or applications with hygiene requirements



More information and current pricing:

[www.endress.com/FMR62](http://www.endress.com/FMR62)

### Benefits:

- Hardware and software developed according to IEC 61508 up to SIL3 in homogeneous redundancy
- Heartbeat Technology for 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
- PTFE-filled and flush-mounted horn antenna for maximum system availability
- Reduction of engineering effort due to an easier integration of the 80GHz radar instrument into the process
- 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...+200 °C (-40...+392 °F)
- **Process pressure absolute / max. overpressure limit** Vacuum... +25 bar (Vacuum...+362.6 psi)
- **Max. measurement distance** 80 m (262 ft)
- **Main wetted parts** PTFE or PEEK antenna, 316L threads, PTFE clad flanges

**Field of application:** Micropilot FMR62 is the first 80GHz radar developed according to the international functional safety directive IEC 61508. For applications in aggressive liquids, FMR62 offers

extraordinary advantages with its completely PTFE-filled and flush-mounted antenna. The integrated PEEK antenna allows very small process connections. The FMR62 free space radar offers maximum reliability due to improved algorithms and small beam angle. It also possesses the smart sensor functionality Heartbeat Technology.

## 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); For applications with many obstacles for small vessels 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)

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**Continuous / Liquids****Ambient temperature**

-40...+80 °C  
(-40...+176 °F)

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**Process temperature**

-40...+200 °C  
(-40...+392 °F)

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

Vacuum...+25 bar  
(Vacuum...+362.6 psi)

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**Main wetted parts**

PTFE or PEEK antenna,  
316L threads,  
PTFE clad flanges

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**Process connection**

Threads:  
G, MNPT 3/4", 1-1/2"  
Flanges:  
DN50 ... DN150  
ASME 2" ...6"

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**Process connection hygienic**

DIN11851, Tri-Clamp

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**Max. measurement distance**

80 m (262 ft)

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**Communication**

4...20 mA HART,  
Additional switch,  
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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## Continuous / Liquids

### Safety approvals

Overfill protection WHG,  
SIL 2, SIL 3

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### Design approvals

EN 10204-3.1  
NACE MR0175, MR0103  
AD2000

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### Hygienic approvals

CoC-ASME BPE

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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

Process temp. > 200 °C (392 °F) -> FMR5x  
Strong turbulences and foam, stilling well and bypass -> FMR5x,FMP5x

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