

# Guided radar measurement Time-of-Flight Levelflex FMP54

For high temperature and high pressure applications in the oil & gas, chemical and power industry



## Benefits:

- Reliable measurement even for changing product and process conditions
- HistoROM data management concept for fast and easy commissioning, maintenance and diagnostics
- Highest reliability due to new Multi-Echo Tracking evaluation
- Hardware and software developed according to IEC 61508 up to SIL3
- 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 for SIL and WHG saves time and costs

More information and current pricing:

[www.si.endress.com/FMP54](http://www.si.endress.com/FMP54)

## Specs at a glance

- **Accuracy** Rod probe: +/- 2 mm (0.08 in) Rope probe <= 15 m (49 ft): +/- 2 mm (0.08 in) Rope probe > 15 m (49 ft): +/- 10 mm (0.39 in) Coaxial probe: +/- 2 mm (0.08 in)
- **Process temperature** XT: -196...+280 °C (-321...+536 °F) HT: -196...+450 °C (-321...+842 °F)
- **Process pressure absolute / max. overpressure limit**  
Vacuum...400 bar (Vacuum...5800 psi)
- **Max. measurement distance** Rod: 10 m (33 ft) Min DK>1.6  
Rope: 25 m...30 m (82 ft...98 ft) Min DK>1.6; 30 m...45 m (98 ft...148 ft) Min DK >1,9 Coaxial probe: 6 m (20 ft) Min DK>1.4

**Main wetted parts** Rod probe: 304, 316L, Alloy C, Ceramic Rope probe: 304, 316, 316L, Alloy C, Ceramic Coaxial probe: 304, 316L, Alloy C, Ceramic

**Field of application:** Levelflex FMP54 for continuous level measurement in liquids under extreme conditions. The process connection with its ceramic-graphite seal safeguards high temperature and high pressure applications as they occur in steam boilers and toxic media like ammonia. The gas tight feedthrough guarantees additional safety. Only the gas phase compensation of the FMP54 gives reliable results in case of gas and steam phases. Reliable measurement in case of moving surface and foam or in changing medias.

## Features and specifications

### Continuous / Liquids

#### Measuring principle

Guided radar

#### Characteristic / Application

Premium device high pressure/ high temperature

Rod probe, Rope probe, Coaxial Probe

Integrated data memory, Factory precalibrated, Reliable measuring: in case of moved surface + foam, for changing medias

#### Interface measurement

Clean interfaces liquid/ liquid;

Simultaneous measurement of interface and overall level

#### Specialities

Heartbeat Technology,

Bluetooth® commissioning,

Operation and maintenance SmartBlue App,

HistoROM,

RFID TAG for easy identification

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**Continuous / Liquids****Supply / Communication**

2-wire (HART / PROFIBUS PA/ FOUNDATION Fieldbus)

4-wire (HART)

Bluetooth® wireless technology and App (optional)

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**Accuracy**

Rod probe: +/- 2 mm (0.08 in)

Rope probe &lt;= 15 m (49 ft):

+/- 2 mm (0.08 in)

Rope probe &gt; 15 m (49 ft):

+/- 10 mm (0.39 in)

Coaxial probe: +/- 2 mm (0.08 in)

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**Ambient temperature**

-50...+80 °C

(-58...+176 °F)

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**Process temperature**

XT: -196...+280 °C

(-321...+536 °F)

HT: -196...+450 °C

(-321...+842 °F)

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

Vacuum...400 bar

(Vacuum...5800 psi)

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**Main wetted parts**

Rod probe:

304, 316L, Alloy C, Ceramic

Rope probe:

304, 316, 316L, Alloy C, Ceramic

Coaxial probe:

304, 316L, Alloy C, Ceramic

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**Continuous / Liquids****Process connection**

Thread:  
G 1 1/2, MNPT 1 1/2  
Flange:  
ASME 2"...4",  
DN50...DN100,  
JIS 10K, 63K,  
Fisher  
Masoneilan

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**Sensor length**

Rod probe: 10 m (33 ft)  
Rope probe: 45 m (148 ft)  
Coaxial probe: 6 m (20 ft)

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**Max. measurement distance**

Rod:  
10 m (33 ft) Min DK>1.6  
Rope:  
25 m...30 m (82 ft...98 ft) Min DK>1.6;  
30 m...45 m (98 ft...148 ft) Min DK >1,9  
Coaxial probe: 6 m (20 ft) Min DK>1.4

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

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**Safety approvals**

Overfill protection WHG  
SIL

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## Continuous / Liquids

### **Design approvals**

EN 10204-3.1  
NACE MR0175, MR0103  
ASME B31.1, B31.3  
AD2000  
Steam boiler approval

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### **Marine approval**

GL/ DNV/ ABS/ LR/ BV

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### **Options**

Sensor remote with 3 m/ 9 ft cable,  
Remote operation via SmartBlue App using Bluetooth®

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### **Application limits**

Application limits

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More information [www.si.endress.com/FMP54](http://www.si.endress.com/FMP54)