

# Guided radar measurement Time-of-Flight Levelflex FMP51

The standard sensor for highest demands in liquid level measurement



## 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.ca.endress.com/FMP51](http://www.ca.endress.com/FMP51)

## 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** -50...+200 °C (-58...+392 °F)
- **Process pressure / max. overpressure limit** Vacuum...40 bar (Vacuum...580 psi)
- **Max. measurement distance** Rod: 10 m (33 ft) Min DK>1.6  
Rope: 25 m...30 m (82ft...98 ft) Min DK>1.6; 30m...45 m (98ft...148 ft) Min DK>1,9  
Coaxial probe: 6 m (20 ft) Min DK>1.4

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

**Field of application:** Levelflex FMP51 for level measurement even under extreme process conditions like high temperature and high pressure in the process industry. FMP51 offers maximum reliability even in case of moved surface and foam or when numerous tank baffles interfere with the measurement. Levelflex FMP51 is used for continuous level measurement of liquids, pastes and slurries but also for interface measurement. The measurement is not affected by changing media, temperature changes, gas blankets or vapors.

## Features and specifications

### Continuous / Liquids

#### Measuring principle

Guided radar

#### Characteristic / Application

Premium device

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**

-50...+200 °C

(-58...+392 °F)

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**Process pressure / max. overpressure limit**

Vacuum...40 bar

(Vacuum...580 psi)

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**Main wetted parts**

Rod probe:

316L, Alloy C, Ceramic

Rope probe:

316, 316L, Alloy C, Ceramic

Coaxial probe:

316L, Alloy C, Ceramic, PFA

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## Continuous / Liquids

### Process connection

Thread:  
G3/4...G1 1/2;  
MNPT 3/4...MNPT1 1/2  
Flange:  
ASME 1 1/2"...8",  
DN50...DN 200,  
JIS 10K

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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 (82ft...98 ft) Min DK>1.6;  
30m...45 m (98ft...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 C/US, IEC Ex, INMETRO, NEPSI, KC, EAC, JPN Ex, 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 B31.1, B31.3  
AD2000

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## Continuous / Liquids

### **Marine approval**

GL/ ABS/ LR/ BV/ DNV

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### **Options**

Sensor remote with 3 m/ 9 ft cable,

Gas-tight feed through,

Remote operation via SmartBlue App using Bluetooth®

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### **Application limits**

Application limits

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More information [www.ca.endress.com/FMP51](http://www.ca.endress.com/FMP51)