

# Radar measurement

## Micropilot FMR540

### Horn antenna and parabolic antenna for custody transfer applications



More information and current pricing:

[www.apsc.endress.com/FMR540](http://www.apsc.endress.com/FMR540)

#### Benefits:

- Better than 1mm accuracy
- National approvals (NMI, PTB) for custody transfer
- Applicable as stand-alone system or integrated into tank gauging systems via the Tank Side Monitor NRF590
- Cost-effective and simple installation via 4-wire cable with HART and 24 V DC intrinsically safe power supply
- Alignment device to compensate any flange inclination
- Easy on-site operation via menu-driven alphanumeric display
- Easy commissioning, documentation and diagnostics via operating software (FieldCare)

#### Specs at a glance

- **Accuracy** +/- 1 mm
- **Process temperature** -40°C...200°C (-40°F...392°F)
- **Process pressure absolute / max. overpressure limit** Horn: Vacuum...16 bar (232 psi) Parabolic: Vacuum...6 bar (87 psi) Use of UNIflange: Vacuum...1 bar (14.5 psi)
- **Max. measurement distance** Max. measurement distance
- **Main wetted parts** 316L

**Field of application:** Micropilot FMR540 is used for custody transfer and inventory control applications with NMI- and PTB-approvals and meets the requirements according to OIML R85 and API 3.1B. FMR540 with parabolic antenna is particularly suited for free space applications up to 40m and with horn antenna for free space applications that disallow the use of a parabolic antenna due to tank/nozzle geometry. Cost-effective and simple installation via 4-wire cable with HART and 24 V DC intrinsically safe power supply.

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## Features and specifications

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### Continuous / Liquids

**Measuring principle**

Level radar

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**Characteristic / Application**

Horn antenna:

High precision measurement for storage tanks up to 20 m (65ft)

Parabolic antenna:

High precision measurement for free space applications up to 40 m (131 ft)

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**Supply / Communication**

4-wire (HART)

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**Frequency**

K-band (~26 GHz)

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**Accuracy**

+/- 1 mm

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**Ambient temperature**

Standard:

-40°C...80°C

(-40°F...176°F)

For calibration to regulatory standards:

-25°C...60°C

(-13°F...131°F)

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**Process temperature**

-40°C...200°C

(-40°F...392°F)

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

Horn: Vacuum...16 bar (232 psi)

Parabolic: Vacuum...6 bar (87 psi)

Use of UNIflange: Vacuum...1 bar (14.5 psi)

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## Continuous / Liquids

**Main wetted parts**

316L

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**Process connection**

Horn Antenna: DN100, DN150 Flange

UNIFlange DN150, DN200, DN250

Parabolic antenna: UNIflange with Top Target  
positioner DN200, DN250

For dk value < 1.9, contact Endress+Hauser

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**Application**

Application

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**Max. measurement distance**

Max. measurement distance

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**Communication**

4...20 mA HART

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**Certificates / Approvals**

ATEX, FM, CSA, IEC Ex, NEPSI

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**Application limits**

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

Strong condensate or build-up formation

FMR53x

Existing stilling wells with non-ideal measuring conditions

FMR532

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More information [www.apsc.endress.com/FMR540](http://www.apsc.endress.com/FMR540)