

# Radar measurement

## Micropilot NMR84

For high accurate non-contact level measurement in stilling well applications in custody transfer



### Benefits:

- Hardware and software developed according to IEC 61508 up to SIL3 (in homogeneous redundancy) for high level of safety
- Maximum reliability through accuracy up to  $\pm 0.5\text{mm}$  ( $\pm 0.02\text{''}$ )
- Developed according to international metrology recommendations such as OIML R85 and API MPMS
- Local and country-specific certifications like NMI or PTB for custody transfer applications
- Simplified installation and trouble-free operations due to easy connection to major DCS systems via open protocols
- Unique drip-off antenna design eliminates measurement error due to condensation build-up

More information and current pricing:

[www.cz.endress.com/NMR84](http://www.cz.endress.com/NMR84)

### Specs at a glance

- **Accuracy** up to 0.5 mm
- **Process temperature**  $-40^{\circ}\text{C} \dots 150^{\circ}\text{C}$  ( $-40^{\circ}\text{F} \dots 302^{\circ}\text{F}$ )
- **Process pressure absolute / max. overpressure limit** Vacuum ... 25 bar abs
- **Max. measurement distance** 40 m (131 ft) For calibration to regulatory standards: 30 m (98 ft)
- **Main wetted parts** 316L, PTFE

**Field of application:** Micropilot NMR84 is used for custody transfer and inventory control applications with NMI- and PTB-approvals. It meets the relevant requirements according to OIML R85 and API 3.1B. The NMR84 free space radar with drip-off planar antenna is specifically suited for

stilling well applications. The superior drip-off antenna design with proven track record eliminates problems caused by condensation.

## Features and specifications

### Continuous / Liquids

**Measuring principle**

Level radar

**Characteristic / Application**

Planar antenna, 6GHz: High precision measurement for storage tanks up to 30 m (98ft)

**Specialities**

Custody transfer level measurement

**Supply / Communication**

85-264VAC

**Accuracy**

up to 0.5 mm

**Ambient temperature**

Standard:

-40°C...60°C

(-40°F...140°F)

For calibration to regulatory

standards:

-25°C...55°C

(-13°F...131°F)

**Process temperature**

-40°C...150°C

(-40°F...302°F)

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

Vacuum ... 25 bar abs

**Main wetted parts**

316L, PTFE

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## Continuous / Liquids

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### Process connection

Flange:  
DN100/4"...DN300/12"  
UNI-Flange:  
DN150/6"...DN300/12"

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### Max. measurement distance

40 m (131 ft)  
For calibration to regulatory standards:  
30 m (98 ft)

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### Communication

Outputs:  
Fieldbus: Modbus RS485, V1, HART  
Analog 4-20mA output (Exi/ Exd)  
Relay output (Exd)  
Inputs:  
Analog 4-20mA input (Exi/ Exd)  
2-, 3-, 4-wire RTD input  
Discrete input (Exd, passive/ active)

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### Certificates / Approvals

ATEX, FM, IEC Ex, EAC, JPN Ex

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### Safety approvals

Overfill protection WHG  
SIL

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### Design approvals

EN 10204-3.1  
NACE MR0175, MR0103  
AD2000

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### Metrological approvals and certificates

OIML, NMi, PTB

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## Continuous / Liquids

### Options

Redundant fieldbus  
Alu-coated or 316L housing  
Weather protection cover

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### Application limits

Maximum measuring range is  
dependent on the tank form and/  
or application  
Strong condensate or build-up  
formation

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