

# Ultrasonic measurement

## Time-of-Flight

### Prosonic FMU42

Cost effective device for sophisticated level measurement in liquids and bulk solids for up to 10m



More information and current pricing:

[www.endress.com/FMU42](http://www.endress.com/FMU42)

#### Benefits:

- Reliable non-contact measurement
- Quick and simple commissioning via menu-guided on-site operation with four-line plain text display, 7 languages selectable
- Envelope curves on the on-site display for simple diagnosis
- Hermetically sealed and potted sensor
- Chemically resistant sensor out of PVDF
- Calibration without filling or discharging
- Integrated temperature sensor for automatic correction of the temperature dependent sound velocity

#### Specs at a glance

- **Accuracy** +/- 4 mm or +/- 0,2 % of set measuring range
- **Process temperature** -40 °C ... 80 °C (-40 °F ... 176 °F)
- **Process pressure / max. overpressure limit** 0.7 bar ... 2.5 bar abs (10 psi ... 36 psi)
- **Max. measurement distance** Liquids: 10 m (33 ft), Solids: 5 m (16 ft)
- **Main wetted parts** PVDF

**Field of application:** The Prosonic FMU42 sensor is suited for non-contact level measurement in fluids, pastes, coarse bulk material and flow measurement in open channels or at weirs. The two-wire or four-wire compact transmitter can be used in applications with storage tanks, agitators, on stockpiles and conveyor belts. The envelope curve can be shown on the on-site display for simple diagnosis. Linearization function

(up to 32 points) for conversion of the measured value into any unit of length, volume or flow rate.

## Features and specifications

### Continuous / Liquids

**Measuring principle**

Ultrasonic

**Characteristic / Application**

Compact ultrasonic transmitter

**Supply / Communication**

2-wire HART

**Accuracy**

+/- 4 mm or +/- 0,2 % of set measuring range

**Ambient temperature**

-40 °C ... 80 °C  
(-40 °F ... 176 °F)

**Process temperature**

-40 °C ... 80 °C  
(-40 °F ... 176 °F)

**Process pressure / max. overpressure limit**

0.7 bar ... 2.5 bar abs  
(10 psi ... 36 psi)

**Main wetted parts**

PVDF

**Process connection**

Flange  
DN80, ASME 3", JIS 10K 80  
DN100, ASME 4", JIS 10K 100  
Mounting bracket

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**Continuous / Liquids****Blocking distance**0.4 m (1.3 ft)

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**Max. measurement distance**

Liquids: 10 m (33 ft),

Solids: 5 m (16 ft)

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**Communication**4...20 mA HART

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**Certificates / Approvals**ATEX, FM, CSA, INMETRO, NEPSI

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**Application limits**

Foam / high turbulence possible:

FMU44/FDU92

Fast filling and discharging

rate:

FMU90 + FDU9x

Level limit detection

FMU90 + FDU9x

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**Continuous / Solids****Measuring principle**Ultrasonic

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**Characteristic / Application**Compact ultrasonic transmitter

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**Supply / Communication**2-wire HART

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**Accuracy**+/- 4 mm or +/- 0,2 % of set measuring  
range

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## Continuous / Solids

**Ambient temperature**

-40 °C ... 80 °C  
(-40 °F ... 176 °F)

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**Process temperature**

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**Process pressure / max. overpressure limit**

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**Main wetted parts**

PVDF

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**Process connection**

Flange  
DN80, ASME 3", JIS 10K 80  
DN100, ASME 4", JIS 10K 100  
Mounting bracket

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**Blocking distance**

0.4 m (1.3 ft)

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**Max. measurement distance**

Liquids: 10 m (33 ft),  
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**Communication**

4...20 mA HART

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**Certificates / Approvals**

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**Application limits**

Take notice of range diagram

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