

Ultrasonic measurement

Time-of-Flight

Prosonic FMU40

Cost effective device for sophisticated level measurement in liquids and bulk solids for up to 5m



F L E X

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** +/- 2 mm or +/- 0.2 % of set measuring range 1)
- **Process temperature** -40 °C ... 80 °C (-40 °F ... 176 °F)
- **Process pressure / max. overpressure limit** 0.7 bar ... 3 bar abs (10 psi ... 44 psi)
- **Max. measurement distance** Liquids: 5 m (16 ft), Solids: 2 m (6.6 ft)
- **Main wetted parts** PVDF

More information and current pricing:

www.us.endress.com/FMU40

Field of application: The Prosonic FMU40 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

+/- 2 mm or +/- 0.2 % of set measuring range

Ambient temperature

-40 °C ... 80 °C
(-40 °F ... 176 °F)

Process temperature

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(-40 °F ... 176 °F)

Process pressure / max. overpressure limit

0.7 bar ... 3 bar abs
(10 psi ... 44 psi)

Main wetted parts

PVDF

Process connection

G / NPT 1 1/2"

Blocking distance

0.25 m (0.8 ft)

Continuous / Liquids**Max. measurement distance**

Liquids: 5 m (16 ft),

Solids: 2 m (6.6 ft)

Communication

4...20 mA HART

Certificates / Approvals

ATEX, FM, CSA, TIIS, INMETRO, NEPSI

Application limits

For higher resistance:

FMU42/FDU9x

Foam / high turbulence possible:

FMU41/FDU91

Fast filling and discharging rate:

FMU90 + FDU9x

Level limit detection:

FMU90 + FDU9x

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Application limits

Take notice of range diagram

Point Level / Liquids**Measuring principle**

Ultrasonic Limit

Characteristic / Application

Compact ultrasonic transmitter

Point Level / Liquids**Supply / Communication**

2-wire HART

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Point Level / Solids**Measuring principle**

Ultrasonic Limit

Point Level / Solids**Characteristic / Application**Compact ultrasonic transmitter

Supply / Communication2-wire HART

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Application limitsTake notice of range diagram

Liquids

Measuring principle

Ultrasonic

Product headline

Compact ultrasonic measuring instrument

Cost effective solution for open channel

Max. measurement error

Low accuracy

Measuring range

0,25...5m [0.8...16ft]

Max. process pressure

atm.

Medium temperature range

-40°C ... 80°C

(-40°F...176°F)

Degree of protection

IP68

Outputs

4...20mA(Hart),PA,FF

Inputs

2-wire 16-36V DC,

4-wire 16-36V DC,

90-253V AC 50/60Hz

Digital communication

PROFIBUS PA, FOUNDATION Fieldbus

Hazardous area approvals

ATEX, FM, CSA

More information www.us.endress.com/FMU40