Ultrasonic measurement Time-of-Flight Prosonic FMU41

Cost effective device for sophisticated level measurement in liquids and bulk solids for up to 8m

More information and current pricing:
www.endress.com/FMU41

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
- **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: 8 m (26 ft), Solids: 3.5 m (11 ft)
- **Main wetted parts** PVDF

Field of application: The Prosonic FMU41 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
-40 °C ... 80 °C
(-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 2"

Blocking distance
0.35 m (1.15 ft)

Continuous / Liquids

Max. measurement distance
Liquids: 8 m (26 ft),
Solids: 3.5 m (11 ft)

Communication
4...20 mA HART

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

Application limits
For higher resistance:
FMU42/FDU9x
Foam / high turbulence possible:
FMU42/FDU91
Fast filling and discharging rate:
FMU90 + FDU9x
Level limit detection:
FMU90 + FDU9x

Continuous / Solids

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Ultrasonic

Characteristic / Application
Compact ultrasonic transmitter

Supply / Communication
2-wire HART

Accuracy
+/- 2 mm or +/- 0,2 % of set measuring range
1)

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

Continuous / Solids

Process temperature
-40 °C ... 80 °C
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(10 psi ... 44 psi)

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Liquids: 8 m (26 ft),
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Application limits
Take notice of range diagram

Liquids

Measuring principle
Ultrasonic

Product headline
Compact ultrasonic measuring instrument
Cost effective solution for open channels

Liquids

Max. measurement error
> 2 mm depending on flow application

Measuring range
Measuring distance 0.4...8 m [1.3...26 ft]

Max. process pressure
0.7 bar...3 bar (10 psi...44 psi)

Medium temperature range
-40°C...80°C
(-40°F...176°F)

Degree of protection
IP68

Outputs
4...20mA HART

Inputs
2-wire

Digital communication
HART

Hazardous area approvals
ATEX, IEC, FM, CSA, INMETRO, NEPSI

More information **www.endress.com/FMU41**