

Ultrasonic measurement Time-of-Flight Prosonic FDU93

Ultrasonic sensor for level and flow measurement for connection to FMU9x (measuring range up to 25m)



More information and current pricing:

www.ca.endress.com/FDU93

Benefits:

- Integrated temperature sensor for Time-of-Flight correction. Accurate measurements are possible, even if temperature changes are present
- Suited for rough ambient conditions thanks to separate installation from the transmitter (up to 300m)
- Reduced build-up formation because of the self-cleaning effect
- Integrated automatic sensor detection for transmitters FMU90/ FMU95 for simple commissioning
- Weather resistant and flood-proof (IP 68)
- Non-contact measurement method minimizes service requirements
- International Dust-Ex and Gas-Ex certificates available

Specs at a glance

- **Process temperature** -40 °C ... 95 °C (-40 °F ... 203 °F)
- **Process pressure absolute / max. overpressure limit** 0.7 bar ... 3 bar abs (10 psi ... 43 psi)
- **Max. measurement distance** Max. measurement distance
- **Accuracy** +/- 2 mm + 0.17% of measured distance
- **Main wetted parts** UP (unsaturated polyester) Silicon / Al PTFE coated

Field of application: The FDU93 ultrasonic sensor for continuous, non-contact and maintenance-free level measurement of fluids, pastes, sludges and powdery to coarse bulk materials. But also for flow measurement in open channels and measuring weirs. The measurement is unaffected by dielectric constant, density or humidity and also

unaffected by build-up due to the self-cleaning effect of sensors. Suited for explosion hazardous areas. Maximum measuring range in liquids 25m (85ft), solids 15m (50ft).

Features and specifications

Continuous / Liquids

Measuring principle

Ultrasonic

Characteristic / Application

Separated version with field housing or top hat rail housing for control cabinet instrumentation, 300 m in-between sensor and transmitter

Supply / Communication

4-wire (HART, Profibus DP)

Accuracy

+/- 2 mm + 0.17% of measured distance

Ambient temperature

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(-40 °F ... 203 °F)

Process temperature

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Process pressure absolute / max. overpressure limit

0.7 bar ... 3 bar abs
(10 psi ... 43 psi)

Main wetted parts

UP (unsaturated polyester)
Silicon / Al PTFE coated

Process connection

G / NPT 1"

Continuous / Liquids**Blocking distance**0.6 m (2 ft)

ApplicationApplication

Max. measurement distanceMax. measurement distance

Communication

Transmitter:

4...20 mA HART

Profibus DP

Certificates / ApprovalsATEX, FM, CSA, IEC Ex, INMETRO, NEPSI, EAC Ex

OptionsSecond 4...20 mA output

Components

Transmitter:

FMU90, FMU95

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Main wetted parts

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Process connection

G / NPT 1"

Blocking distance

0.6 m (2 ft)

Max. measurement distance

15 m (50 ft)

Communication

Transmitter:
4 ... 20 mA HART
Profibus DP

Certificates / Approvals

ATEX, FM, CSA, IEC Ex, INMETRO, NEPSI, EAC Ex

Options

Second 4...20mA output

Components

Transmitter:
FMU90

More information www.ca.endress.com/FDU93