

Ultrasonic measurement

Time-of-Flight

Prosonic FDU95

Ultrasonic sensor for level measurement for connection to FMU9x (measuring range up to 45m)



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

More information and current pricing:

www.casc.endress.com/FDU95

Specs at a glance

- **Process temperature** -40 °C ... 80 °C or 150 °C (-40 °F ... 176 °F or 302 °F)
- **Process pressure absolute / max. overpressure limit** 0.7 bar...1.5 bar abs (10 psi...22 psi)
- **Max. measurement distance** 45 m (148 ft)
- **Accuracy** +/- 2mm + 0.17% of measured distance
- **Main wetted parts** UP (unsaturated polyester) Silicon / PE foam (80°C / 176°F) Silicon / stainless steel (150°C / 302°F)

Field of application: The FDU95 ultrasonic sensor for continuous, non-contact and maintenance-free level measurement of powdery to coarse bulk materials. 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 solids 45m (148ft).

Features and specifications

Continuous / Solids

Measuring principle

Ultrasonic

Characteristic / Application

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

Supply / Communication

4-wire (HART , Profibus DP)

Accuracy

+/- 2mm + 0.17% of measured distance

Ambient temperature

-40 °C ... 80 °C

or 150 °C

(-40 °F ... 176 °F

or 302 °F)

Process temperature

-40 °C ... 80 °C

or 150 °C

(-40 °F ... 176 °F

or 302 °F)

Process pressure absolute / max. overpressure limit

0.7 bar...1.5 bar abs

(10 psi...22 psi)

Main wetted parts

UP (unsaturated polyester)

Silicon / PE foam (80°C / 176°F)

Silicon / stainless steal (150°C / 302°F)

Continuous / Solids**Process connection**

G / NPT 1"

Blocking distance

0.7 m / 80 °C
(2.3 ft / 176 °F)
0.9 m / 150 °C
(2.9 ft / 302 °F)

Max. measurement distance

45 m (148 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

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 / Communication4-wire (HART, Profibus DP)

Continuous / Liquids**Accuracy**

+/- 2 mm + 0.17% of measured distance

Ambient temperature

-40 °C...80 °C
or 150 °C,
(-40 °F...176 °F
or 302 °F)

Process temperature

-40 °C...80 °C
or 150 °C,
(-40 °F...176 °F
or 302 °F)

Process pressure absolute / max. overpressure limit

0.7 bar...1.5 bar abs
(10 psi...22 psi)

Main wetted parts

UP (unsaturated polyester)
Silicon / Al PTFE coated

Process connection

G / NPT 1"

Blocking distance

0.7 m / 80 °C,
(2.3 ft / 176 °F),
0.9 m / 150 °C,
(2.9 ft / 302 °F)

Max. measurement distance

45 m (148 ft)

Communication

Transmitter:
4...20 mA HART
Profibus DP

Continuous / Liquids

Certificates / Approvals

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

Options

Second 4...20 mA output

Components

Transmitter:
FMU90, FMU95

More information www.casc.endress.com/FDU95