Ultrasonic measurement Time-of-Flight Prosonic FDU95

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

More information and current pricing:
www.endress.com/FDU95

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 ... 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 steal (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 / Communication
4-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"

Continuous / Liquids

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...20 mA output

Components

Transmitter:

FMU90, FMU95

More information **www.endress.com/FDU95**