

# Ultrasonic measurement Time-of-Flight Prosonic FMU90

Transmitter in housing for field or top hat rail mounting for up to 2 sensors  
FDU90/91/92/93/95



## Benefits:

- Simple, menu-guided operation with 6-line plain text display, 15 languages selectable
- Envelope curves on the display for quick and simple diagnosis
- Easy operation, diagnosis and measuring point documentation with the supplied "FieldCare" operating program
- Time-of-Flight correction via integrated or external temperature sensors
- Linearisation (up to 32 points, freely configurable) for the most common flumes and weirs pre-programmed and selectable
- Online calculation of the flume-/weir-flows via integrated flow curves
- Automatic detection of the sensors FDU9x

More information and current pricing:

[www.us.endress.com/FMU90](http://www.us.endress.com/FMU90)

## Specs at a glance

- **Accuracy** +/- 2mm + 0.17% of measured distance

**Field of application:** Prosonic FMU90 separated version with field housing or top hat rail housing for control cabinet instrumentation are suited for continuous, non-contact level measurement of fluids, pastes, sludge and powdery to coarse bulk solids. Also the flow measurement in open channels and weirs is possible as the simultaneous measurement of level and flow in a storm water overflow basin with only 1 sensor. Up to 6 relays for tendency alarm, flow pulse output or backwater/sludge alarm, 1 or 2 channel version.

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## Features and specifications

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### Liquids

**Measuring principle**

Ultrasonic

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**Product headline**

Separated version with field housing or top hat rail housing for control cabinet instrumentation, up to 6 relays for tendency alarm, flow pulse output or backwater / sludge alarm, 1 or 2 channel version

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**Sensor features**

pre-programmed flow curves for typical open channel measurement

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**Degree of protection**

IP66 (Fieldhousing)

IP20 (top hat rail housing)

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**Display/Operation**

Illuminated display, 6 line graphic display with country specific menu guidance, on-site diagnosis with envelope curve on display

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**Outputs**

4...20mA HART

Optional:

second 4...20 mA output (e.g. for 2 times flow measurement)

1 relay (standard)

Optional:

3 or 6 relays

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**Inputs**

up to 2 FDU9x sensors

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**Digital communication**

HART, Profibus DP

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**Hazardous area approvals**

FMU allowed to operate FDU9x in Ex-zone

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**Continuous / Solids****Measuring principle**Ultrasonic

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**Characteristic / Application**

Separated version with Field housing or top hat rail housing for control cabinet instrumentation, up to 6 relays for limit control, 1 or 2 channel version

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**Specialities**

Protection Class IP 66 / NEMA 4x  
automatic sensor recognition of FDU9x sensors

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**Supply / Communication**

90 ... 253 VAC  
10.5 ... 32 VDC  
up to 2x 4...20mA HART  
Profibus DP

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**Accuracy**

+/- 2mm + 0.17% of measured distance

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**Ambient temperature**

-40 °C ... 60 °C  
(-4 °F ... 140 °F)

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**Communication**

up to 2x 4 ... 20 mA HART  
Profibus DP

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**Certificates / Approvals**

ATEX, CSA

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**Options**

Illuminated display, 6 line graphic display with country specific menu guidance, on-site diagnosis with envelope curve on display

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**Components**

Sensors FDU9x

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## Continuous / Liquids

### Measuring principle

Ultrasonic

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### Characteristic / Application

Separated version with Field housing or top hat rail housing for control cabinet instrumentation, up to 6 relays for pump / rake / limit control, 1 or 2 channel version

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### Specialities

Protection Class IP 66 / NEMA 4x  
automatic sensor recognition of FDU9x sensors  
option: flow measurement for open channel and weirs or additional pump control functions

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### Supply / Communication

90 ... 253 VAC  
10.5 ... 32 VDC  
up to 2x 4...20mA HART  
Profibus DP

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### Accuracy

+/- 2mm + 0.17% of measured distance

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### Communication

up to 2x 4 ... 20 mA HART  
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### Certificates / Approvals

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### Options

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Continuous / Liquids

**Components**

Sensors FDU9x

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