Advanced ultrasonic technology for mobile and highly accurate flow measurements

Special features

- Very high measurement accuracy (also bidirectional)

- Accurate even at extremely low flow rates (e.g. minimum night flow)

- Ideal for temporary measurements (up to 7 days with additional rechargeable battery)

- Successful even with difficult pipe material (e.g. reinforced concrete pipes)

- Sensors with IP 68 protection (test conditions: 3 months / 2 bar)

Description

The UDM 300 is an extremely robust and easy-to-operate device for monitoring flows temporarily.
The non-invasive installation of sensors on the outside wall of the pipe takes only a few minutes, yet the recorded data have a very high accuracy and reproducibility.

The standard 1 MHz sensors of the UDM 300 allow high-quality measurements even on pipes made of difficult material (e.g. glass-fibre reinforced plastic or reinforced concrete). We offer our extremely powerful 0.5 MHz sensors as an option for pipe diameters up to 3,100 mm.

The ability of the UDM 300 to measure bidirectionally and to detect very low flow rates makes it an ideal device for identifying potential leaks using volume comparisons. Precisely because of its high resolution in the low flow range, the UDM 300 is also used to determine the minimum night flow of isolated areas of the network (called DMAs).

The optional rechargeable battery case increases the continuous operation of the UDM 300 to up to a week, enabling extended measurement campaigns to be carried out in the field. The high degree of protection of the sensors (IP 68) and the transducer (IP 67) together with the reinforced sensor cables make the UDM 300 suitable for hard working conditions.

The UDM 300, which is manufactured in Germany and is CE certified, combines advanced ultrasonic technology with a robust design and very easy operation.

Technical data

Measurement	
Measuring principle	Ultrasonic transit time difference correlation method
Measuring range of flow velocity	0.01 to 25 m/s
Resolution	0.025 cm/s
Reproducibility	0.25% of measured value ±0.01 m/s
Medium	Water with gas and solid content < 6% of the volume
Measurement error (volume flow)	±2% of measured value ±0.01 m/s
Measured values	Volume flow, mass flow, flow rate
Quantity counter	Volume, mass
Sensors	
Maximum nominal width: 1 MHz sensor pair 0.5 MHz sensor pair 2 MHz sensor pair	50 to 1,500 mm 100 to 3,100 mm 25 to 400 mm
Cable length	6 m
Protection class	IP 68 Test conditions: 3 months / 2 bar (20 m water column)
Operating temperature	-40 to +100 °C
Transducer	
Power supply	100 to 240 V/50 to 60 Hz (power supply), 12 V DC (sockets on the transducer)
Operating time of internal rechargeable battery (without outputs and background lighting)	> 20 hours
Operating time with optional external rechargeable battery case	Approx. 7 days
Power consumption	< 6 W
Signal attenuation	0 to 100 s, adjustable
Measurement cycle	10 Hz
Reaction time	1 s
Current output	0/4 to 20 mA
Binary output	32 V/200 mA
Protection class	IP 67
Dimensions	273 x 247 x 127 mm
Weight	2.9 kg
Operating temperature	-10 to +50 °C
Memory capacity of internal logger	> 100,000 readings
Interface	RS 232
Display	2x 16 characters, background lighting

Scope of delivery

- A selection of sensor pairs (see selection of sensors below)
- Transducer
- Sensor bracket
- Readout cable
- Charger
- Wire brush
- Coupling paste
- Ruler
- Operating software
- Transport case

Selection of sensors

- 1 MHz sensor pair (max. application area: 80 to 400 mm)
- 0.5 MHz sensor pair (max. application area: 400 to 3,100 mm)
- 2 MHz sensor pair (max. application area: 25 to 400 mm)

Optional accessories

- Rechargeable battery case (12 V DC, 26 Ah) for approx. 7 days of continuous operation

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