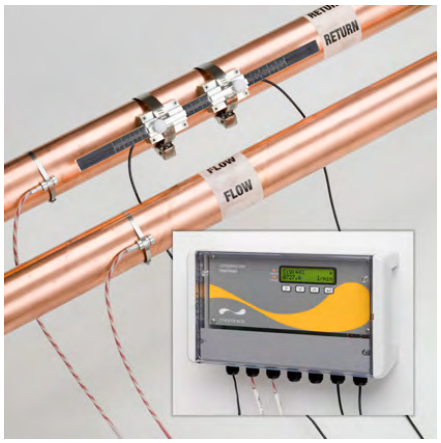

U-1000

Ultrasonic Flow Meter based on Transit Time Difference Method for permanent Installation

Features

/ NEW: wall mounted display
/ Measurement through the pipe
/ Easy calibration
/ For steel-, plastic- or copperpipes
/ For 22 (25) mm to 115 mm OD
or 125 mm to 180 (225) mm OD
/ Operating temperatures up to 85°C
at wall mounted display up to 135°C
/ LCD display with backlights
/ Integrated pulse or frequency output
/ 4 to 20 mA output (optional)
/ Modbus (optional)
/ Supply 12 to 24V AC/DC (external)

Description:

The U-1000 is a clamp-on, ultrasonic flowmeter that uses a multiple slope transit time algorithm to provide accurate flow measurements. An ultrasonic beam of a given frequency is generated by applying a repetitive voltage pulse to the transducer crystals. This transmission goes first from the Downstream transducer to the Upstream transducer. The transmission is then made in the reverse direction, being sent from the Upstream transducer to the Downstream transducer. The speed, at which the ultrasound is transmitted through the liquid, is accelerated slightly by the velocity of the liquid through the pipe. The subsequent time difference is directly proportional to the liquid flow velocity. Having measured the flow velocity and knowing the pipe cross-sectional area, the volumetric flow can be easily calculated.
The U-1000 is scheduled for fixed installation, easy to install and requires the minimum of information to be entered by the user. The instrument displays the required seperation after the pipe internal diameter and material are entered. Both the electronics and guide rail housings form an integral unit that is attached to the pipe using the supplied jubilee clips. Power to the unit is provided by an external 12 - 24V AC/DC power supply. The U-1000 is intended to operate on steel, copper and plastic pipes with maximum 180 (225) mm OD. Compact, rugged and reliable, the U-1000 has been designed to provide sustained performance in industrial environments.

Application:

Flow-metering and monitoring as:
Hot water meter, heat meter, chilled water meter, drinking-water meter, ultrapure water meter and for process water

Version:

U-1000 Ultrasonic Flow Meter

/ Measurement of the flow velocity and flow rate
/ Recommended for hot water < 85°C, chilled water, portable water and demineralised water
/ Configurable pipe size between 22. . .115 mm or 125. . .180 mm outer diameter
/ Pipe materials: steel, plastic and copper
/ Simplified guide rail & sensor assembly
/ Clamp-on sensor
/ LCD display with backlight
/ Display: 2 line x 16 characters
/ Key pad: 4 key tactile feedback membrane keypad
/ Password controlled menu structure
/ Menu language: english
/ Selectable units: m/s, ft/s, l/s, l/min, gal/s, gal/min, USgal/s, USgal/min, m^3/min, m^3/h, litres, m3, gals, USgals
/ Integrated pulse- or frequency output and optional 4. . .20 mA output or Modbus

U-1000 Ultrasonic Flow Meter with wall mounted display

/ Measurement of the flow velocity and flow rate
/ Temperature range: 0. . .135°C
/ Configurable pipe size between 25. . .115 mm or 125. . .225 mm outer diameter
/ Pipe materials: steel, plastic and copper
/ Simplified guide rail & sensor assembly
/ Clamp-on sensor
/ LCD display with backlight
/ Display: 2 line x 16 characters
/ Key pad: 4 key tactile feedback membrane keypad
/ Password controlled menu structure
/ Menu language: english
/ Selectable units: m/s, ft/s, l/s, l/min, gal/s, gal/min, USgal/s, USgal/min, m^3/min, m^3/h, litres, m3, gals, USgals
/ Integrated pulse- or frequency output and optional 4. . .20 mA output or Modbus

Technical Specifications:

Measuring technique /	transit time
Measurement channels /	1
Timing resolution /	± 50 / sec.
Turn-down ratio /	100 : 1
Flow velocity range /	0.1. . .10 m/s
Pipe ranges Ø /	22. . .115 mm outer diameter 125. . .180 mm outer diameter
Pipe ranges Ø / Wall mounted display	25 . .115 mm outer diameter 125. . .225 mm outer diameter
Media /	clean water with < 3 % particle volume-content
Accuracy /	± 3 % of measured value for flow rate > 0.3 m/s
Repeatability /	± 0.15 % of measured value
max. Temperature /	
Media temperature:	0. . .+85°C 0. . .+135°C (wall mounted display)
Operating temperature:	0. . .+50°C (electronic)
Storage temperature:	-10. . .+60°C
Humidity /	90 % RH at 50°C max.

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fax +49 (0)471 98 24 152 | **mail** info@profimess.de | **web** profimess.com

Electrical Specifications:

Power supply /	12. . .24V ±10% AC/DC
Power consumption /	max. 7 watt
Elect. connection /	cable, 5 m x 6 core, for power input and data output
Output 1 /	Pulse or frequency, default values depending on pipe diameter
Pulse width:	default value 50 ms (choose from 3. . .99 ms)
Pulse repetition rate:	up to 166 pulses/sec (depending on pulse width)
Frequency mode:	max. 200 Hz for flow rate
Output 2 /	current (optional) for flow rate
Output:	4. . .20 mA
Resolution:	0.1 % of scale
max. Load:	620 Ω
Protection class /	IP 54 (casing) IP 68 (wall mounted display)
Modbus /	
Format	RTU
Baudrate	1200, 2400, 4800, 9600, 19200, 38400
Data-Parity-StopBits	8-none-2, 8-none-1, 8-odd-2, 8-even-1
Standards:	PI-MBUS-300 Rev. J
Physical connection:	RS485

Ordering Codes:

Order Number	**U-1000.**	**1.**	**1.**

U-1000 Ultrasonic Flow Meter

Version /

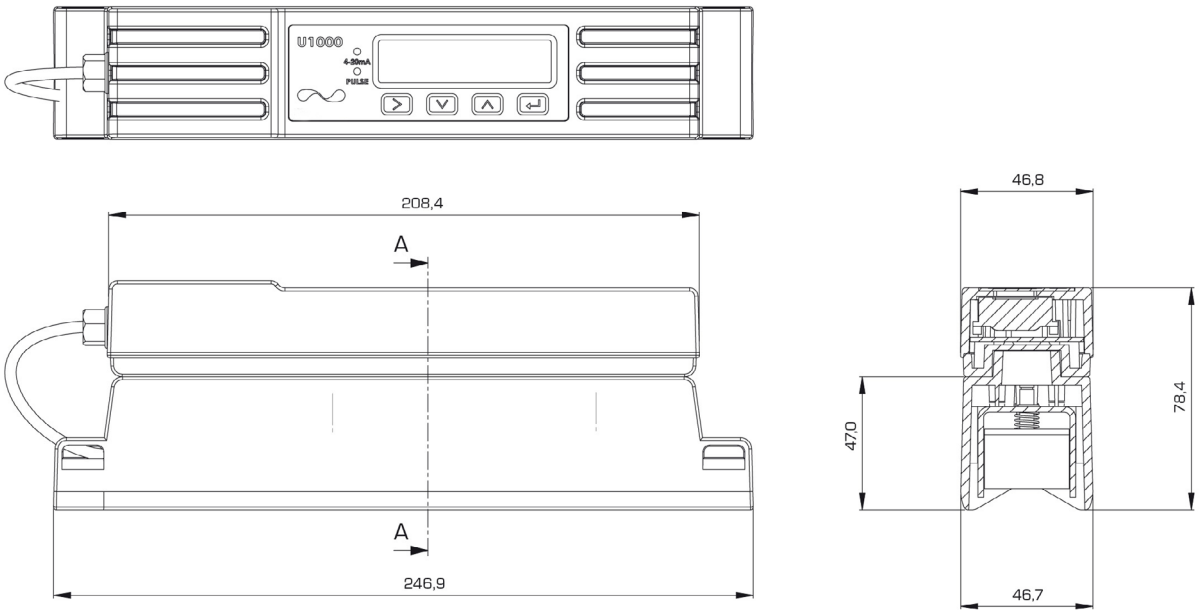
1 = with pulse output
2 = with pulse and 4. . .20 mA output
3 = with pulse and Modbus
4 = with pulse and M-bus
5 = with wall mounted display (For nominal sizes see technical data)

Nominal diameter /

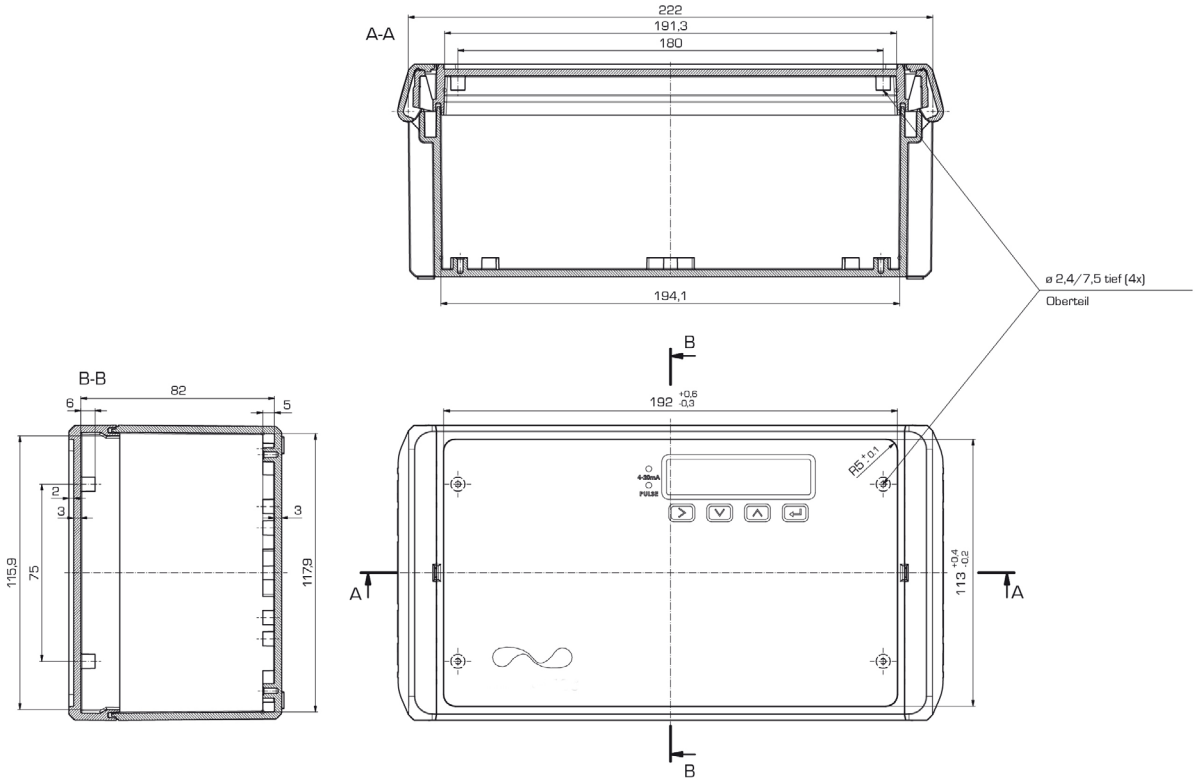
1 = 22. . .115 mm outer diameter
2 = 125. . .180 mm outer diameter

Dimensions in mm:

U-1000 for pipe mounting:



U-1000.5 Elektronic for wall mounting:



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