PF-222

Portable Ultrasonic Liquid Flowmeter according to Transit-Time Difference Method

Description:

The portable ultrasonic liquid flow meters of the PF series measure the flow in a closed pipe according to the cross correlation method without the need for any mechanical parts to be inserted through the pipe wall. Two ultrasonic transducers are mounted to the pipe with a fastening rail. In the course of commissioning, individual data of the measuring point, like for example the medium, pipe material, pipe diameter, wall thickness etc., is entered into the transmitter. The ideal seperation distance of the two transducers is then calculated by the transmitter in response to the entered data concerning the pipe and fluid characteristics.In the measuring mode the transducers work alternating as emitter and receiver. The transit time of the ultrasound between the transducers is measured once in flow direction and once against the flow direction. Because the ultrasound transmitted in the same direction as the liquid flows is faster than against it, a time difference which is directly proportional to the flow velocity of the liquid and independent of the individual features of the fluid results. The PF-222 is capable to transmit the recorded flow data as analog output or pulse output and also in alphanumeric text on the built-in LCD backlit graphic display as flow rate or velocity together with totalized values. The internal battery of the PF-222 allows up to 14 hours of operating time, depending on the output utilisation and backlight usage. The PF-222 is delivered either with transducers A for pipe sizes 13 mm to 115 mm or with transducers B for pipe sizes 50 mm to 1000 mm.

NEW: The PF-222 can now be operated with both sensor pairs A/B.

Features

/ Measurement through the pipe

/ Non-contacting

/ Easy to install

/ For pipes up to 1000 mm

/ Operating temp. up to 135˚C

/ Reynoldsnumber correction

/ Cost effective

/ Ideally suited for difficult media

Application:

- Building services

- Pump verification

- Leak detection

- Fuel oil measurement

- Filter sizing and inspection

- Ultrapure water

- Hydraulik system testing

- Heavy fuel oil

- Balancing systems

and much more…

Dimensions in mm:
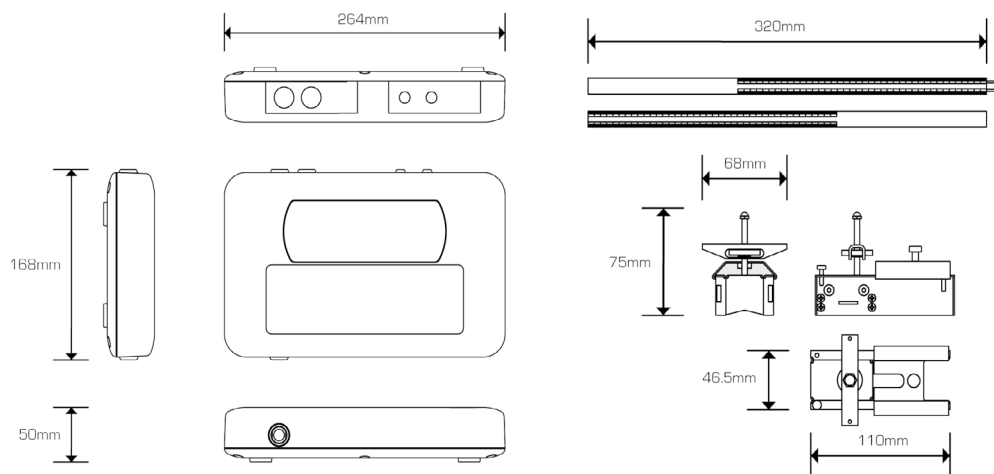
Technical Specifications:

Equipment

PF-222.A /   evaluation unit with backlit graphic display

0/4. . .20 mA-output

language options:
German, English, French, Spanish

transducers A or
pipe outer diameter 13. . .115 mm
temperature range -20. . .+135°C

extra strong IP67 carrying case from
PP foam inlay and double walls, cable,
instruction manual, ancillary equipment

transducer guide rails with all mounting
hardware

test piece for confirmation of correct
system operation

The version PF-222.B contains the following:

transducers B for pipe outer diameter 50. . .1000 mm
temperature range -20. . .+135°C

instead of the transducers A. The rest of the equipment is identical.

**The PF-222.A/B version contains both pairs of sensors, the rest of
the version is identical.**

Flow range /   0.1. . .20 m/s, bi-directional

Accuracy /   ± 0.5% up to ± 2% of measuring value
for flow velocities > 0.2 m/s
and pipe inner diameters > 75 mm

± 3% of measuring value for
flow velocities > 0.2 m/s
and pipe inner diameters 13-75 mm

Electrical Specifications:

Outputs /   3 x Pulse Output: Pulse or Frequency.
Opto Isolated MOSFET relay.
4. . .20mA flow proportional output,
optically isolated 1500 volts 620 ohms
maximum load.
Frequency max. 200 Hz
Pulse > 100 V AC/DC, 150 mA

Display /   64 x 240 Pixel

Exposition /   continuous display of battery status,
signal strength and flow information
(counter and flow)

Keypad /   16 keys

Supply voltage /   rechargeable battery or line voltage

Battery capacity /   14 hours, 2,5 charge time

Line voltage /   110. . .240 VAC, 50 Hz ± 10%

Approval /   CE

Ordering Codes:

Order number	**PF-222.**	**A**

**PF-222 Portable Ultrasonic Liquid Flowmeter
according to Transit Time Difference Method**

Transducers /
A   = with transducers A for pipe diameters 13. . .115 mm
B   = with transducers B for pipe diameters 50. . .1000 mm
A/B   = with transducers A/B

PROFI MESS GMBH