Ultrasonic Flow Meter

BRIO INSTRUMENTS

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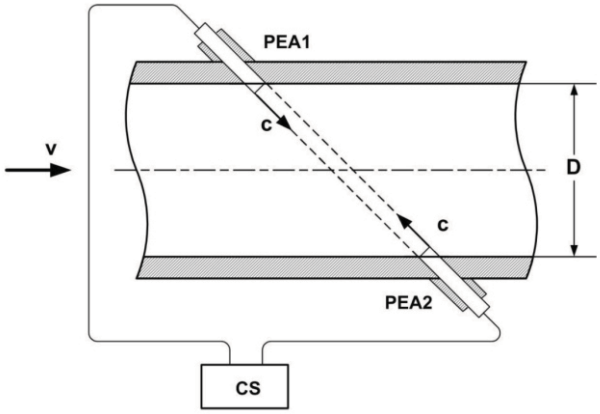
Ultrasonic Flow Meter

Operation principle

UFM flow meter designed on the base of a pulse-phase method of ultrasonic flow measurement, its operational principle based on measuring the time difference (dt) between the time takes for an ultrasonic signal to travel through the liquid with the direction of flow (t1) and against direction of flow(t2),



Measured time difference (dt) is proportional to flow velocity of fluid(v) and correspondingly to volumetric flow rate Q,

$$Q \propto dt$$

Overview

1) The meter is equipped with M-BUS by default.
The interface can form a remote meter reading management system through the M-BUS bus and other communication devices, and the management department can copy the table at any time.
2) The data is convenient for the statistics and management of the user's water volume.
The product for measuring the flow of water in closed full pipes, drinking cold water meters and hot water meters,

Product Features

1, Single or Dual channel measurement, high accuracy, good stability
2, with redundancy, even if one of the channels is blocked by foreign objects or abnormal, the whole table can still be measured normally
3, with self-diagnosis function: flow sensor fault alarm, temperature sensor open circuit and short circuit alarm, measuring over-range alarm, Battery undervoltage alarm,
4, high definition wide temperature type 9-bit LCD display
6, a lithium battery power supply can ensure the use of more than 10 years
7, with photoelectric interface, support handheld infrared meter reading tool on-site reading
8. **Optional wired communication interface (M-BUS, 485) or wireless communication interface (LoRa)**
9. Optional built-in IoT communication module (GPRS or NB-IoT) to form an Internet of Things table
10. Optional power supply mode:
1) Built-in battery power (default)
2) M-BUS takes power
3) External power supply (DC 7.5~24V)
11, can be bidirectional (positive and backward measurement)

Application:-

– residential water consumption metering (cold and hot tap water);
– water consumption metering at industrial enterprises;
– water metering at pipeline control points;
– irrigation.

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Technical Data Sheet :

Material of constructions :
Flow Sensor Transducer: Piezoelectric Ceramic
Flow pipe section : DN50 ~ DN300 cast steel
Battery : ER18505/26500 / 3.6V
LCD display : 9 digits
Accuracy : 2%
Static operating current : < 6uA
Battery life : > (9+1) years
Temperature class : T30
Pressure rating : 28 bar
Pressure loss level : △p25, △p40
Protection class : Ip68
Electromagnetic environment level E1
Installation method horizontal or vertical
Upstream flow field sensitivity level U5
Downstream flow field sensitivity level D3
Reverse flow measurable reverse flow
Range ratio (Q3/Q1) 125, 160, 200, 250, 400 optional

Nominal flow rate : Q3
Dn50 : 25 m3/h
Dn65 : 40 m3/h
Dn80 : 63 m3/h
Dn100 : 100 m3/h
Dn125 : 160 m3/h
Dn150 : 250 m3/h
Dn200 : 400 m3/h
Dn250 : 630 m3/h
Dn300 : 1000 m3/h
Other specifications are customized according to requirements

Line size DN (mm)	L(mm)	D2 (mm)	D1 (mm)	Bolt size	Flange thickness C(mm)
50	200	120	125	4*M18	20
65	200	140	145	4*M18	20
80	225	180	160	8*M18	20
100	250	220	180	8*M18	22
125	250	250	210	8*M16	22
150	300	280	240	8*M20	24
200	345	335	295	12*M20	24
250	445	405	350	12*M24	26
300	500	460	400	12*M24	28