

USONIC METERING

Clamp on Ultrasonic Flow meter



The natural resources are an important part of our daily lives. Several new technologies and innovations allow us to accurately measure all these resources for multiple purposes. The SF880 product, part of the Smart Flow product series, combines all the multi-feature sets of our typical flowmeters and offers a broad range of outputs that can be used for system automation, BMS and more real time monitoring.

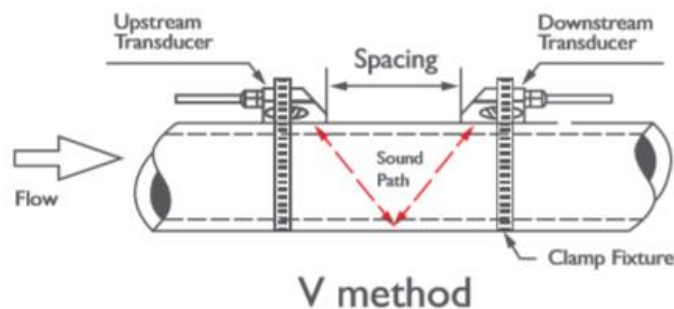
With its multiple and powerful features, the SF880 is perfect for the constantly challenging industrial applications. With application flexibility in mind, the unit accurately captures flow measurements using the combined three approaches: clamp-on, durably built weatherproof enclosure and rich communication features ensure the unit will perform at a high level in any environment.



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OPERATING PRINCIPLE

Based on the transit-time principle, the SF880 utilizes a pair of ultrasonic transducers that function as both transmitter and receiver. The transducers are installed on the pipe wall, either clamped on the outside of the pipe or inserted into the pipe. The flowmeter operates by alternately transmitting and receiving a coded burst of sound energy between the two transducers. The liquid velocity is determined by the difference in the measured transit-times between beams sent into (downstream) and against (upstream) the direction of liquid flow.



FEATURES AND BENEFITS

- Conduct clamp on liquid flow measurements.
- Very affordable non-intrusive technology that eliminates cutting the pipe and all the costly in line installations.
- Minimize operational costs by capturing precise readings using the state-of-the art transit-time technology.
- Cover a wide pipe size range from 3/4" to 120" (DN20 to DN3000).
- Multiple input/output features such as 4-20mA, pulse, Modbus and much more.
- Flow meter calibration using a high accuracy NIST standard.
- Built for indoor and outdoor with a weatherproof enclosure and robust waterproof transducers.
- Extended liquid temperature range: -35°C to +200°C
- Multiple input/output features such as 4-20mA, pulse, Modbus and much more.
- The excellent feature of detecting reverse flow and energy.

APPLICATIONS

- Non-intrusive applications where it's hard & costly to cut the pipe and install in-line meters
- HVAC/Facility Management
- Real time, flow batch and metering verification
- Evaluation and assessment for existing system
- Can be used for various industries including but not limited to:
Potable water flow measurement; Water/Wastewater; Petrochemical; Power plants ...etc.

TRANSMITTER SPECIFICATION:

Measurement principle	Ultrasonic transit-time technology
Flow velocity range	0.01 to 12 m/s, bi-directional
Resolution	0.25 mm/s
Repeatability	0.2 % of reading
Accuracy	±1.0 % of reading at rates >0.3 m/s); ±0.003 m/s of reading at rates < 0.3 m/s
Response time	0.5 s
Sensitivity	0.003 m/s
Averaging of measurement	0-99 s (Damping selectable by the user)
Liquid Types Supported	Both clean and dirty liquids with particle size <50µm
Power Supply	AC: 85-265V DC: 24V/500mA
Enclosure type	Wall-mounted
Degree of protection	IP66 according to EN60529
Operating temperature	-10°C to +60°C
Housing material	Fiberglass

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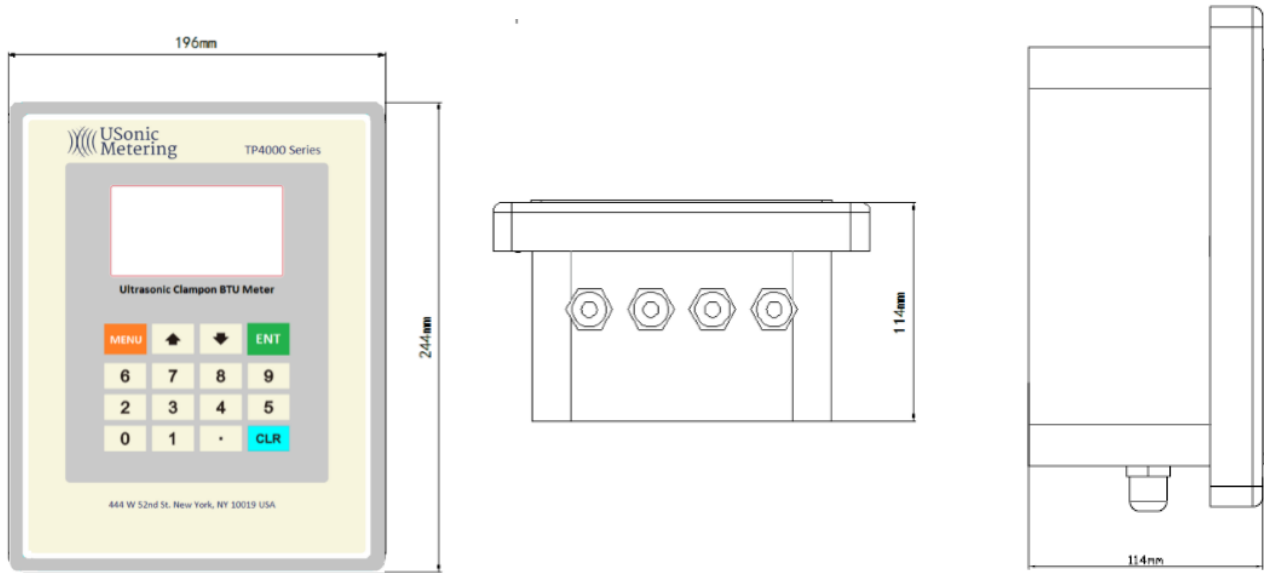
Display	4 line×16 English letters LCD graphic display, backlit
Units	User Configurable (English and Metric)
Display	Flow rate, energy rate, temperature supply and return
Totalizer	gallons, ft ³ , barrels, lbs, liters, m ³ and more
Thermal energy total	GJ, KWh can be optional
Communication	4-20mA (accuracy 0.1%), OCT, Relay, RS232, RS485 (Modbus), data logger
Security	Password protection keypad lock & system lock
Size	244*196*114mm
Weight	2.4kg

TRANSDUCERS SPECIFICATIONS:

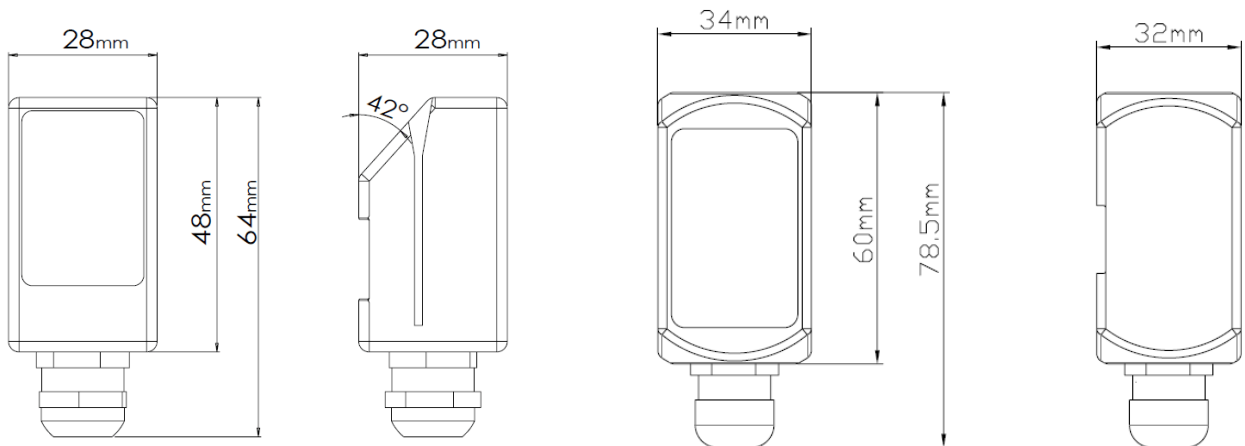
Degree of protection	IP65 according to EN60529 (IP67 or IP68 Upon request).
Liquid Temperature	Std. Temp.: -35°C ~ 85°C for short periods up to 120°C High Temp.: -35°C ~ 200°C for short periods up to 250°C
Pipe diameter range	20-50 mm for type S, 40-1000 mm for type M, 1000-6000 mm for type L
Transducer Size	Type S 48(h)*28(w)*28(d)mm Type M 60(h)*34(w)*32(d)mm Type L 80(h)*40(w)*42(d)mm
Material of transducer	Aluminum for standard temp. sensor, and peek for high temp. sensor
Cable Length	Std:10m
Temperature (optional)	Pt1000, 0 to 200°C, Clamp-on and Insertion type Accuracy: ±0.1 %

Dimensions

Display transmitter unit:



Transducer:



S type

S 48(h)*28(w)*28(d)mm

M 60(h)*34(w)*32(d)mm

L 80(h)*40(w)*42(d)mm

M & L type

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Accessories:



Mounting Frame (Upon request)



Couplant



Stainless Steel Clamps

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Model Number selection:

SF880	Wall-mounted Transit Time Clamp-on Series Flowmeters
	Power supply
A	85-265VAC
D	24VDC
S	65W Solar supply (including solar board)
	Output Selection 1
N	N/A
1	4-20mA (accuracy 0.1%)
2	OCT
3	Relay Output (Totalizer or Alarm)
4	RS232 Output
5	RS485 Output (ModBus-RTU Protocol)
6	Data storage function
7	GPRS (GPRS Software needs extra \$1000)
	Output Selection 2
	Same as above
	Output Selection 3
	Transducer Type
S	DN20-50
M	DN40-1000
L	DN1000-6000
	Transducer Rail
N	None
RS	DN20-50
RM	DN40-600 (For larger pipe size, pls contact us.)
	Pipeline Diameter
DNX	e.g.DN20—20mm, DN6000—6000mm
	Cable length
10m	10m (standard 10m)
Xm	Common cable Max 300m(standard 10m)
XmH	High temp. cable Max 300m

SF880 — A — 1 — 2 — 3 /LTC— M — N — S — N — DN100 — 10m (example configuration)

MEMO

About USonic Metering

USonic Metering is a global leader in flow and energy management solutions. Through continuous innovation, we transform complex ultrasonic technology into affordable, reliable solutions for accurate flow and energy measurement. USonic Metering offers water, heat, electricity, and gas meters as well as AMR/AMI solutions. To find out how we can help today, please tell us about your application.

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