



ALSONIC-PL

Ultrasonic Flowmeter

Model ALSONIC Series

GENERAL

THE ALSONIC-PL is a portable transit-time ultrasonic flow and energy meter with clamp-on transducers for non-invasive liquid flow rate measurement. Our microprocessor based, user friendly, field programmable flow measurement technique creates no interruption of the process flow and has low installation costs.

FEATURES

- 4 line LCD display with flow rate, totalizer & diagnostics
- Stores up 512 days of data w/recording interval of 1 to 3600 seconds
- Velocity range of ± 0.98 ft/s $\sim$ ± 32 ft/s ($\pm 0.1 \sim \pm 10$ m/s)
- Pipe sizes from $\frac{1}{2}$ "-48" (15~1200) mm
- Bracket-type transducers for easy installation without mounting belt
- Data logger includes date, totalizer, signal condition & diagnostic code status
- Response time of less than 1 second

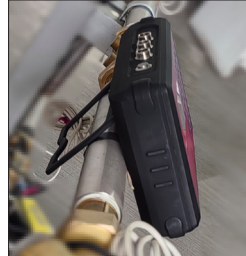


SPECIFICATIONS

- | | | | |
|-----------------------|---|---------------------|--|
| • Velocity range: | ± 0.98 ft/s $\sim$ ± 32 ft/s ($\pm 0.1 \sim \pm 10$ m/s) | • Power supply: | Rechargeable lithium battery, 3000 mAh (16 hours continuous operation) |
| • Pipe sizes: | Clamp-on: 1"~48" (25mm~1200mm)
Optional: $\frac{1}{2}$ "~ $1\frac{1}{2}$ " (15mm~40mm) | • Temperature: | Ambient: -22°F $\sim$ +140°F (-30°C $\sim$ +60°C) |
| • Fluid: | Clean liquids w/up 1% particles/bubbles | • Temperature: | Transducer -22°F $\sim$ +167°F (-30°C $\sim$ +75°C) and up to 230°F (110°C) optional |
| • Accuracy | $\pm 1\%$ of reading (0.3~5 m/s);
$\pm 5\%$ of reading (0.1~10 m/s) | • Humidity: | Up to 99% RH, non-condensing |
| • Pipe material: | Carbon steel, stainless steel,
PVC, copper, PVDF, polypropylene | • Protection: | Transmitter: NEMA13, IP54
Transducer: Encapsulated design, IP68 |
| • Outputs: | Analog output: 4~20mA, Max 750 Ω .
Modbus/RS485 | • RTD (options): | PT1000 (only for energy unit) |
| • SD card: | 16 Gb for data-logger | • Transducer cable: | Standard cable length 3m (9ft) for SC3 and 5m (16ft) for other models |
| • Measuring Interval: | User set; 1 ~ 99999 seconds | • Keypad: | Membrane type |
| • Display: | 240*128 back-lit LCD | | |

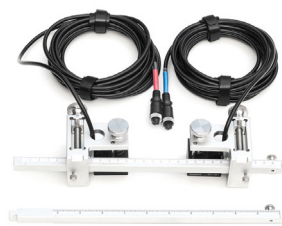
■ ACCESSORIES

- Carrying Case
- Portable transmitter
- Transducers
- Mounting track (Single or dual type)
- Mounting straps
- Battery charger*1, output cable*1 and measuring tape*1



■ STANDARD TRANSDUCER

Fluid Temperature: -22 ~ 167°F (-30 ~ +75°C)
 Optional: -22 ~ 230°F (-30 ~ +110°C)
 Accuracy: ±1%



Model	SC1 (Medium Size)	SC2 (Large Size)
Pipe Size	1" ~ 32" (DN25 ~ 800mm)	20" ~ 48" (DN500 ~ 1200mm)

■ SPECIAL TRANSDUCER

Fluid Temperature: 32°F ~ 149°F (0°C ~ +65°C)
 Accuracy: ±1%



Size	SC3 (Mounting track small sensor)
Pipe Size	½" ~ 1½" (DN15 ~ DN40)

■ ENERGY / BTU METER FAMILY



Single mounting track type



Clamp on PT1000

or



Insertion PT1000



Dual mounting track type



Clamp on PT1000

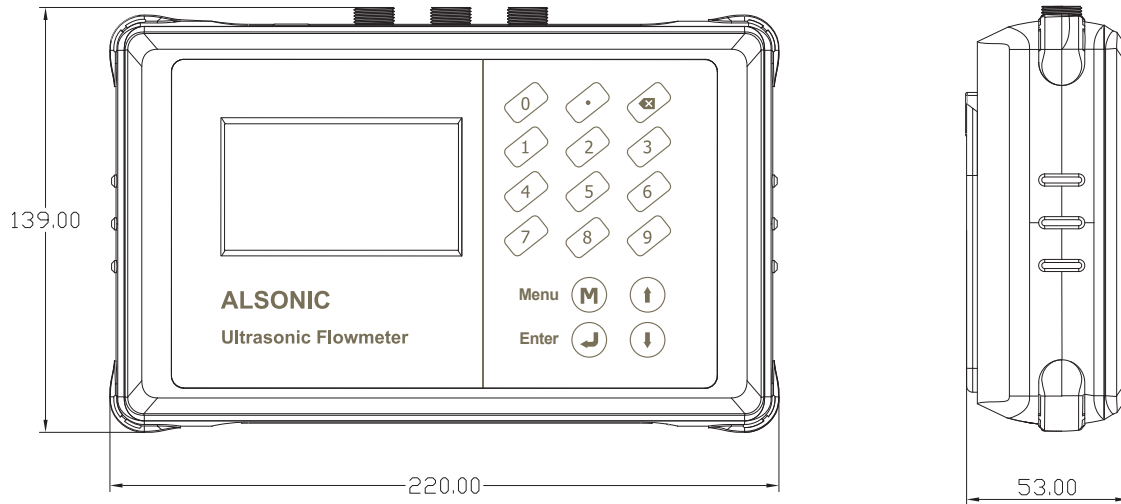
or



Insertion PT1000

■ DIMENSIONS

- All Dimensions in units of mm -



Size: 8.66" x 5.47" x 2.09" (220*139*53mm)

User Settings: Flow unit, zero, clear total flow, K- factor, Passwords, linearization table

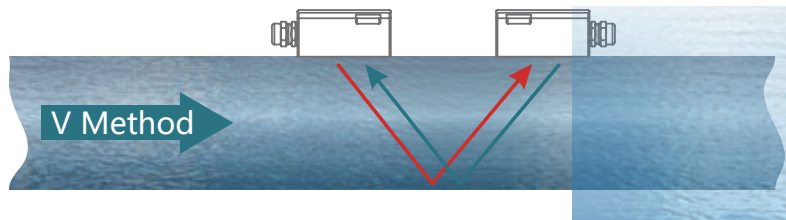
Inputs: 4 ~ 20 mA analog input (temperature)
PT1000 resistor input (temperature)

Outputs: Isolated RS485 output
4 ~ 20mA output
1 relay output,
data logger (optional)

Protection: IP54

■ MEASURING PRINCIPLE

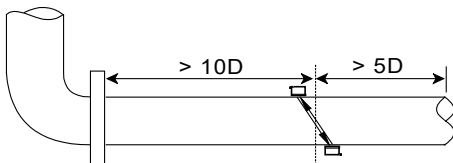
Flow rate is calculated by measuring the transit times of ultrasonic signals from the transducers transmitted and received through the moving liquid. The difference between the upstream and downstream transit time is proportional to the fluid velocity moving through the pipe.



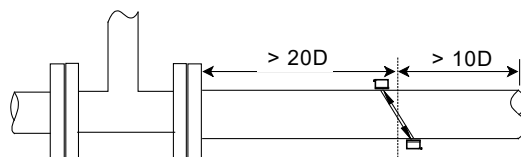
The Alsonic PL is also capable of measuring heat and energy flow rates in devices such as heat exchangers. With clamp-on or insertion temperature RTDs, users can measure flow and heat rates of both the inlet and outlet of a system, enabling accurate measurement of energy usage.

■ Straight Run Requirements

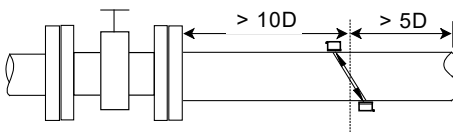
Elbow 90°



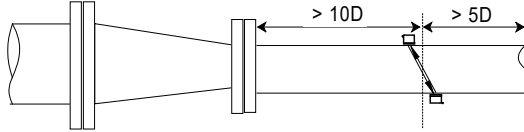
Tee Fitting



Valve



Reducer



Please contact your **SmartMeasurement** application engineer
You also need to provide the following information:

TYPE OF FLUID
FULL-SCALE FLOW RATE
LINE SIZE
PRESSURE & TEMPERATURE

Please provide the name of your fluid, including operating density and viscosity

Please provide the max and min flow rate, normal flow rate also

Please provide the line size and pipe material

We will calibrate your flow meter as close to your operating conditions as possible

ALSONIC-PL SERIES

EXAMPLE: ALSONIC-PL-SC1-NC-NN

ALSONIC		**	**	**	**	**	DESCRIPTION
Standard portable flow meter with display, 4-20mA, RS485		PL					Flowmeter Type
Standard portable energy meter with display, 4-20mA, RS485		EG-P					
Medium clamp sensor with single mounting track (-30~+75°C), 25~800 mm		SC1					Transducers
Large clamp sensor with single mounting track (-30~+75°C), 500~1200 mm		SC2					
Mounting track small clamp sensor (0~+60 °C), ½"~1" (15~25 mm), 2 MHz		SC3					
High-temp clamp-on sensor with single mounting track (-30~+110 °C), 25~500mm		HC1					
Standard insertion sensor (-30~+110 °C), 80~1200 mm		IC1					
Other sensor		**					
No Cables				NC			Signal Cable Length
Standard 5m x 2 Cables				C1			
m cables up to +75 °C				C			
m cables up to +110 °C				H			
Battery power : 3000 mAh					BA		Power Supply
None option						NN	Options
Thickness gauge						TT	
Dual mounting track for portable, up to 24" (DN600)						DS	
Clamped on PT1000 with 5m cable, one pair						RTD	
Clamped on PT1000 with **m cable, one pair						R**	
Data logger with 16G SD card						DL	

