



# ALSONIC-PL

## Ultrasonic Flowmeter

### Model ALSONIC Series



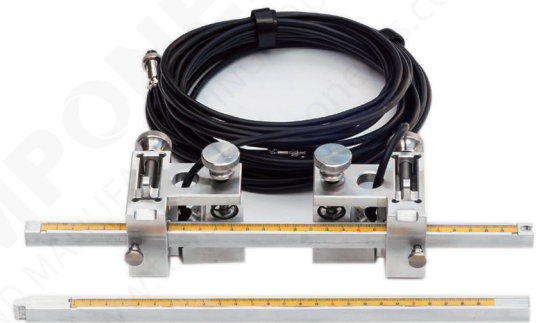
## GENERAL

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

- 2 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  $\pm 0.98$  ft/s  $\sim$   $\pm 32$  ft/s ( $\pm 0.1 \sim \pm 10$  m/s)
- Pipe sizes from 1-48" (25~1200) 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

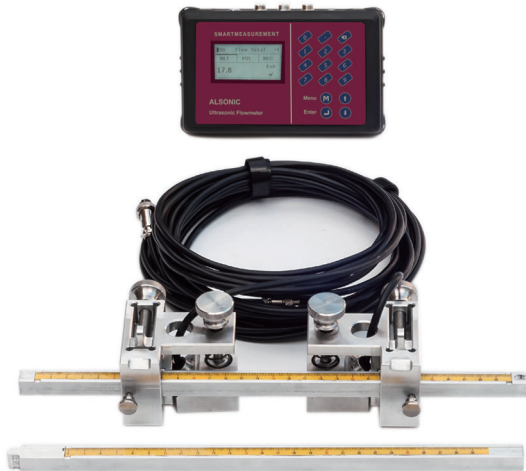


## SPECIFICATIONS

- |                       |  |                     |   |
|-----------------------|--|---------------------|---|
| • Flow range:         | $\pm 0.98$ ft/s $\sim$ $\pm 32$ ft/s ( $\pm 0.1 \sim \pm 10$ m/s)      | • Power supply:     | Rechargeable lithium battery, 3000mAh (16 hours continuous operation)             |
| • Pipe size :         | Clamp-on: 1"~48" (25mm~1200mm)   | • Temperature:      | Ambient: -40°F $\sim$ +140°F (-40°C $\sim$ +60°C)                                 |
| • Fluid:              | Clean liquids w/up 1% particles/bubbles                                | • Temperature:      | Process -40°F $\sim$ +176°F (-40°C $\sim$ +80°C) and up to 230°F (130°C) optional |
| • Accuracy            | $\pm 1\%$ of reading (0.3~5 m/s);<br>$\pm 5\%$ of reading (0.1~10 m/s) | • Humidity:         | Up to 99% RH, non-condensing  |
| • Pipe material:      | Carbon steel, stainless steel,<br>PVC, copper, PVDF, polypropylene     | • Transmitter:      | NEMA3S, IP54  |
| • Outputs:            | Analog output: 4~20mA, Max 750 $\Omega$ .<br>Modbus/RS485              | • Transducer:       | Encapsulated design, IP68   |
| • SD card:            | 16Gb for data-logger   | • RTD (options):    | PT100, PT500, PT1000  |
| • Measuring Interval: | User set 1 ~ 99999 sp seconds  | • Transducer cable: | Standard cable length: (16ft) 5m  |
| • Display:            | 240*128 back-lit LCD   | • Keypad:           | Membrane type   |

## ■ ACCESSORIES

- Carrying Case
- Flow computer (transmitter)
- Transducers
- Mounting track, ST or DT type
- Mounting straps
- Coupling compound (silicone), battery charger, output cable and measuring Tape



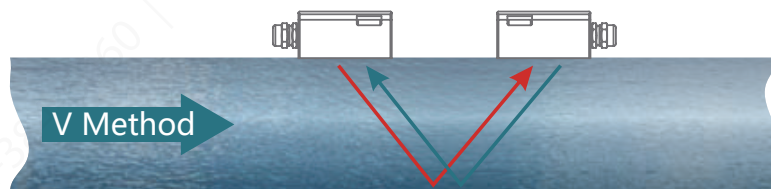
Single guide mounting bracket (ST)



Dual guides mounting bracket (DT)

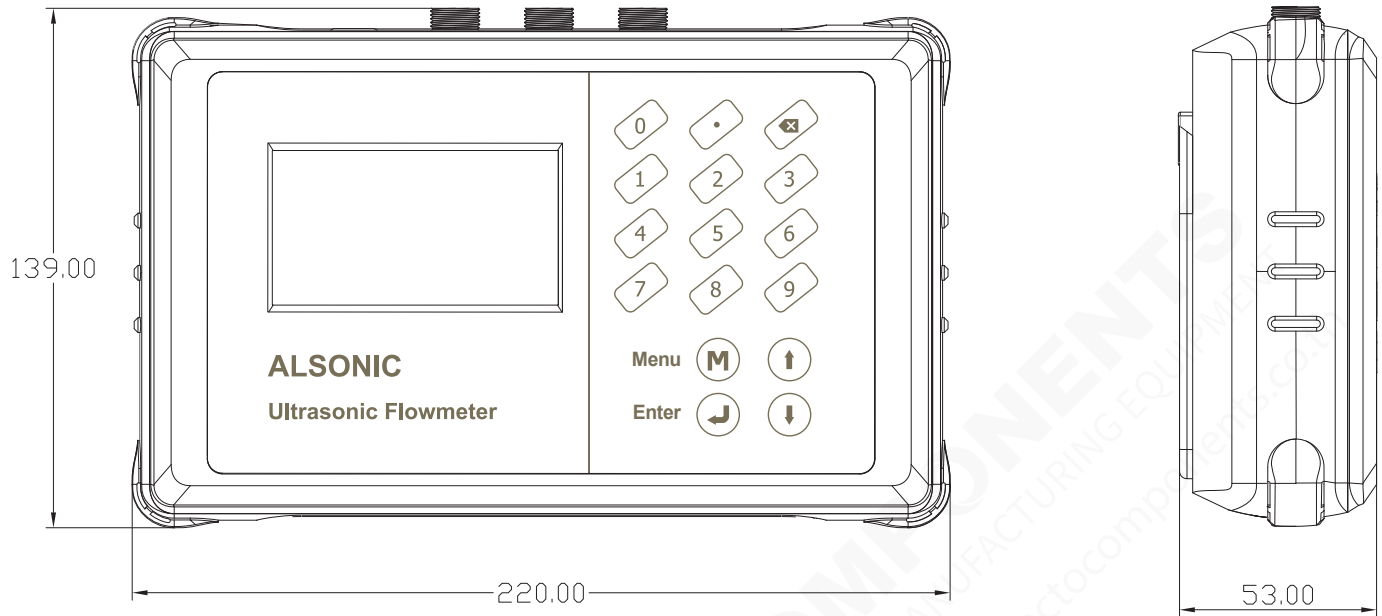
## ■ MEASURING PRINCIPLE

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 flow velocity moving through the pipe.



The Alsonic PL is also capable of measuring heat and energy flow rates used 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.

## ■ DIMENSIONS



**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

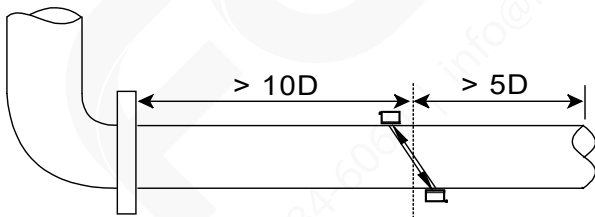
4 ~ 20mA output

1 relay output,

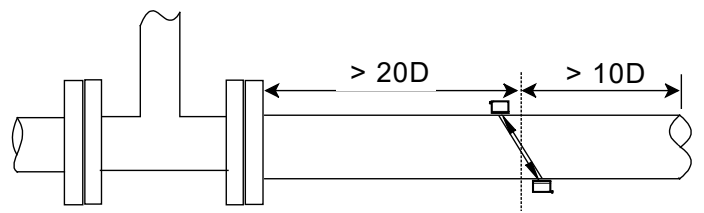
data logger (optional)

**Protection:** IP54

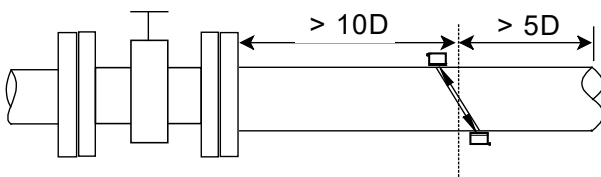
**ELBOW 90°**



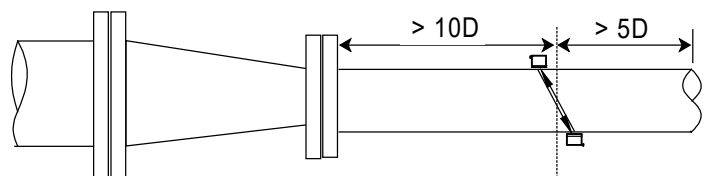
**Tee Fitting**



**Valve**



**Reducer**



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

<b>TYPE OF FLUID</b>
<b>FULL-SCALE FLOW RATE</b>
<b>LINE SIZE</b>
<b>PRESSURE &amp; TEMPERATURE</b>

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), 25~800mm		SC1				Transducers	
Large clamp sensor with single mounting track (-30~+75°C), 500~1200mm		SC2					
High-temp clamp-on sensor with single mounting track (-30~+110°C), 25~500mm		HC1					
Standard insertion sensor (-30~+110°C), 80~1200mm		IC1					
No Cables				NC		Signal Cable Length	
Standard 5m x 2 Cables				C1			
**m cables up to +75 deg C				C**			
**m cables up to +110 deg C				H**			
Battery power : 3000mAh					BA	Power Supply	
None option					NN	Options	
Thickness gauge					TT		
Dual mounting track for portable, up to 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		

