

# LONGRUN

Focus On Ultrasonic Flow Meter R&D

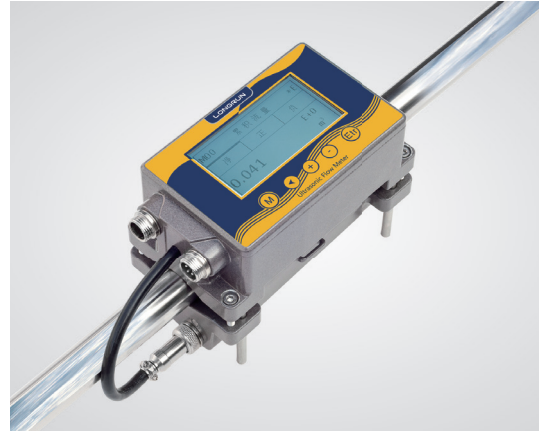


Clamp On Type- Small Pipe Size Solution

## F6 Flow Watch

## Product Features

- Easily and friendly for installation and operation. It only takes a few minutes, from the start of installation to using the flow meter.
- F6 adopts a new external clamp design, which could get the flow rate without touch the measurement medium. Compared with other traditional flow meter, this could avoid pressure loss or media contamination problems.
- As the advantage of a clamp on flow meter, no need to cut off the pipe or long time stop the equipment, save the cost of time and labor costs.
- A variety of modes are available for setting and flexibility. One set is universal for all pipe size in the measuring range, and suitable for many kinds of metal and resin pipes.
- 256\*128 LCD display. Display a variety of information.
- It is optional to become an ultrasonic cooling (heat) meter/ btu meter/ energy meter to realize the monitoring and measurement of energy.

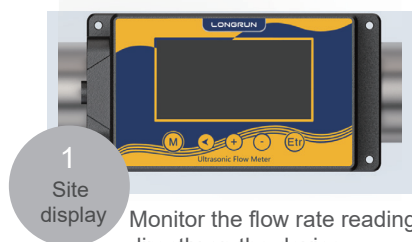


Suitable for various liquids and compatible with various pipeline materials and sizes:

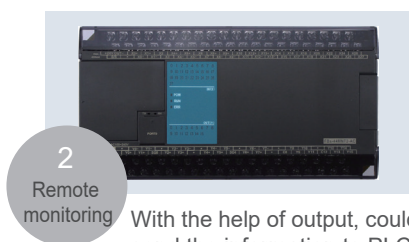
<p>1</p> <p>Applicable fluid</p>	<p>Water</p>	<p>Oil</p>	<p>Chemical</p>		
<p>2</p> <p>Compatible piping material</p>	<p>Metal pipe Stainless steel, Carbon steel, Copper</p>		<p>Resin pipe PVC, Other</p>		
	<p>Stainless steel</p>	<p>Carbon steel</p>	<p>Copper</p>	<p>PVC</p>	<p>Other</p>
<p>3</p> <p>Compatible pipe line size</p>	<p>DN15-DN40 Popular type</p> <p>DN50-DN65 Popular type</p>				

# F6 Flow Watch

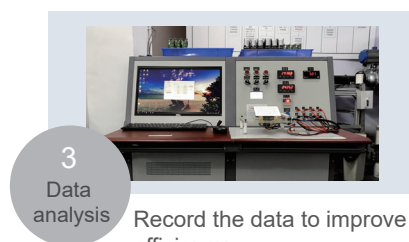
Provide many aspects of help for different flow measurement application requirements:



Monitor the flow rate reading directly on the device.



With the help of output, could send the information to PLC, central control room and etc.










Record the data to improve efficiency.

## Specification

Pipe material	Metal /PVC, PP or PVDF rigid plastic pipe
Liquid type	Water/other liquid (Single liquid medium without solid particles or impurities)
Temperature range	Standard:-10~65 ℃ ; High Temp type:-10~115 ℃
Low velocity cut off value (Default by factory)	0.1m/s
Display	256*128, LCD
Response time	0.5~60s
Accuracy	±2%, (±1% after calibration)
Data Storage period	300ms
Memory for data backup	EEPROM (Data storage: over 10 years, data read/write frequency: over 1 million times)
Power and I/O connection	M12 type aviation plug
Output	4-20mA
Communication	Modbus RS485
(Options for output)	OCT (pulse output)/ One relay alarm (please contact the factory)
Power supply	10-24V VDC
Electric power	< 3W
Protective circuit	Power reverse connection protection, Power surge protection, Output short circuit protection, Output surge protection
Enclosure protection class	IP65
Environment temperature	-10 to 65℃ (No freezing)
Relative humidity	35 to 85% RH (No condensation)
Vibration resistance	10 to 55 Hz double amplitude 1.5 mm, 2 hours in each XYZ axis
Impact resistant	100 m/s <sup>2</sup> 16 ms pulse, 1000 times each for X, Y and Z axis
Main material	Aluminum, Industrial Plastics
cable length	2m(standard ), PT1000 sensor standard cable length is 9m

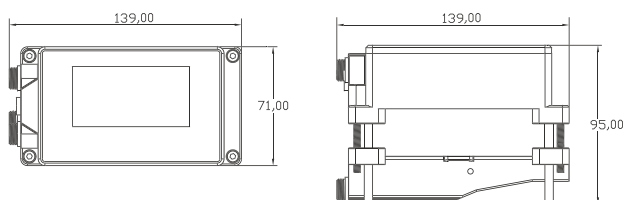
## Flow Range

Pipe size (DN)	Upper flow value (L/min)	
15	60 L/m	
20	100 L/m	
25	200 L/m	
32	300 L/m	
40	400 L/m	
50	600 L/m	
65	1000 L/m	

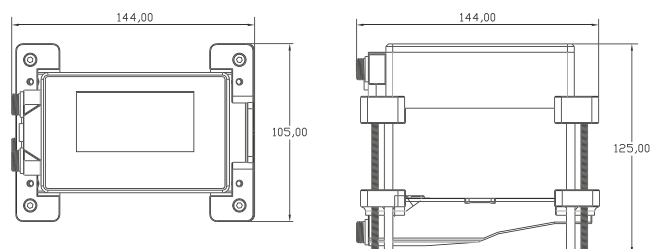
Notice: The minimum measurable pipe size is the inner diameter  $\geq 12\text{mm}$

## Size Drawing (Unit: mm)

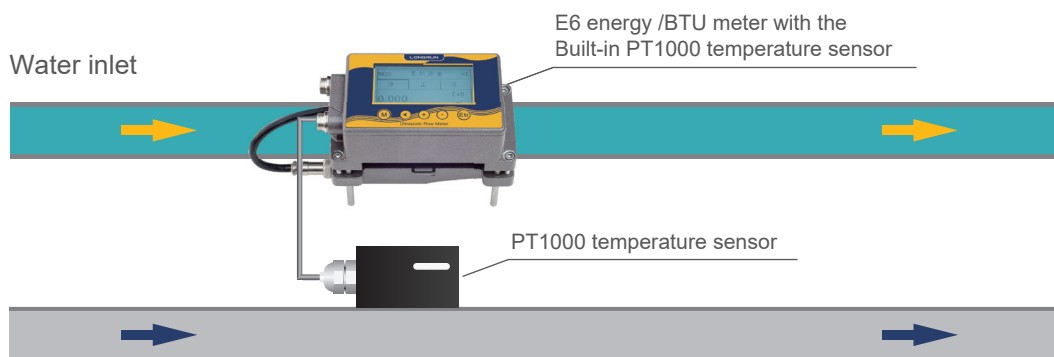
DN15-DN40



DN50-DN65



## Ultrasonic energy /BTU meter



## Ordering confirmation

Model	Description
	Pipe size: DN15-DN65mm
	Velocity : 0.03m/s-10m/s
	Accuracy: $\pm 2\%$ ( $\pm 1\%$ after calibration)
	Medium: water/ single medium liquid without solid impurities
	Power supporting: 10-24VDC/1A
	Transducer temperature range: -10~115°C
	Cable length: 2m
	For Energy/Btu meter: including a pair of PT1000 temperature sensor, one side is with the transmitter and another side cable length for standard unit is 9m
Code	Pipe size range
S	DN15-DN40
T	DN50-DN65
Code	Transmitter type
1	Ultrasonic flow meter
2	Ultrasonic energy/ btu meter
	Type of transducer
TT02S	-10~65°C
TT03S	-10~115°C
Code	Output (choose 2 out of 4)
A	4-20mA
M	Modbus (RS485)
O	OCT (Frequency)
R	1 Relay
PT1000	Cable length of the PT1000
P	Another side cable length 9m
P (15)	Another side cable length 15m
P (25)	Another side cable length 25m

### Flow meter code (example)

F6-S-1-TT02S-AM

Ultrasonic flow meter, pipe size DN15-DN40, TT02S type clamp on transducer(temperature range -10~65°C), with 4-20mA output and RS485 communication, cable length 2m.

### Energy/btu meter code (example)

F6-S-2-TT03S-AM-P

Ultrasonic energy/btu meter, pipe size DN15-DN40, TT03S type clamp on transducer(temperature range -10~115°C), with 4-20mA output and RS485 communication, cable length 2m. Including a pair of PT1000 temperature sensor, one side is with the transmitter and another side cable length is 9m.



## Application

