

LONGRUN

ULTRASONIC FLOWMETER SAMPLE BOOK

TYPE:LRF-2000S
Concentrating on Flow
Measurement

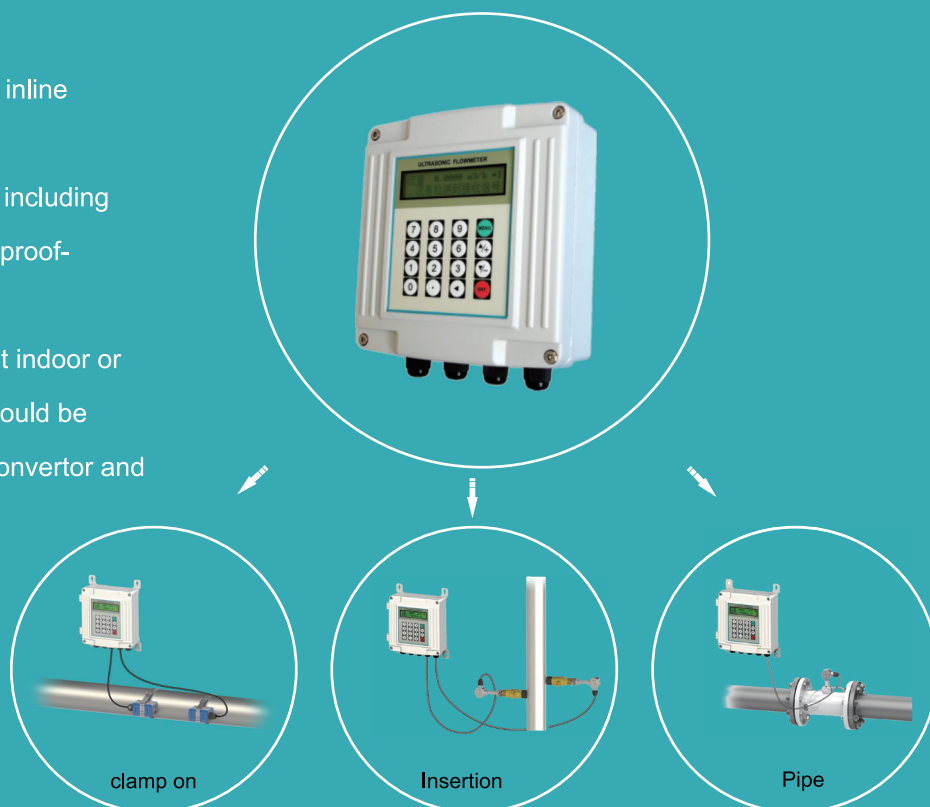
LONGRUN
Industrial Instrument
Co., Ltd



The fixed separated model is inline measurement for long-term.

There are 3 types convertors including wall mounted, panel mounted and proof-explosion.

Convertors can be installed at indoor or instrument cabinet Transducers should be installed on the measuring pipe; Convertor and transducer be connected by cable.



Features




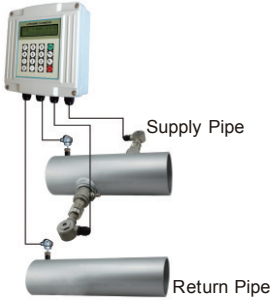

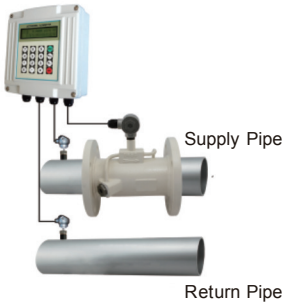
- **High Accuracy**
1%
- **Wide measuring range**
Several types transducer for selection, pipe size from Dn32mm to Dn6000mm
- **High Reliability**
Adopt low voltage, multi-pulse technology to improve accuracy, useful life and reliability.
- **Strong Anti-interference**
Dual-balance signal differential receiver/driver circuit to avoid interference of converter, TV tower, high voltage line etc.
- **Powerful Recording Function**
Automatically record the following data:
 1. The totalizer data of the last 512 days/128 months/10 years
 2. The time and corresponding flow rate of the last 64 times of power on and off events
 3. The working status of the last 32 days
- **Support Heat Measurement**
Connect the temperature transducer, can finish the heat/energy measurement
- **Support SD card Memory**

LRF-2000S Wall Mounted Ultrasonic Flowmeter

Liquid Type

This flowmeter can be virtually applied to a wide range of measurement. A variety of liquid applications can be accommodated: ultra-pure liquids, potable water, chemicals, raw sewage, reclaimed water, cooling water, river water, plant effluent. etc

Measuring Diagram

Flow Measurement	Heat Measurement	Features
 <p>Calmp on</p>	 <p>Supply Pipe Return Pipe</p>	<ul style="list-style-type: none"> • No need to cut off water , no pressure loss • Easy for installation • Connect clamp on temperature transducer, can finish the heat/energy measurement
 <p>Insertion</p>	 <p>Supply Pipe Return Pipe</p>	<ul style="list-style-type: none"> • No need to cut off water , no pressure loss • Stable and reliable for long term operation • Connect Pt100 temperature transducer, can finish the heat/energy measurement
 <p>Pipe</p>	 <p>Supply Pipe Return Pipe</p>	<ul style="list-style-type: none"> • Need to cut off pipe • With high accuracy and stability • Connect Pt100 temperature transducer, can finish the heat/energy measurement

Optional Convertor

According to different installation condition, pls choose relative convertor



- Wall mounted LRF-2000SW
- Wall mounting installation
- Dimension: 170×180×56mm
- Power supply : DC8~36V or AC85~264V



- Panel mounted LRF-2000SS
- Instrument cabinet installation
- Dimension: 170×180×56mm
- Hole-opening dimension: 152×76mm
- Power supply : DC8~36V or AC85~264V








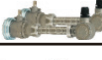





- Explosion-proof LRF-2000SD
- Explosion-proof installation
- Dimension: 298×298×110mm
- Power supply : DC8~36V or AC85~264V
- Grade: D II BT4





Wall mounted type

LRF-2000S Wall Mounted Ultrasonic Flowmeter

Optional Transducers

Types	Picture	Spec.	Model	Measurement Range	Temperature	Dimension
Clamp on		Small Size	TS-2	DN32~DN100	-30~90℃	45×25×32mm
		Medium Size	TM-1	DN50~DN700	-30~90℃	64×39×44mm
		Large Size	TL-1	DN300~DN6000	-30~90℃	97×54×53mm
High temp. clamp on		Small Size	TS-2-HT	DN32~DN100	-30~160℃	45×25×32mm
		Medium Size	TM-1-HT	DN50~DN700	-30~160℃	64×39×44mm
		Large Size	TL-1-HT	DN300~DN6000	-30~160℃	97×54×53mm
Insertion		Standard	TC-1	DN80~DN6000	-30~160℃	190×80×55mm
		Lengthen	TC-2	DN80~DN6000	-30~160℃	335×80×55mm
Pipe		π type	G3	DN15~DN25	-30~160℃	Pls refer to detailed pipe dimensions
		Standard	G2	DN32~DN40	-30~160℃	
		Standard	G1	DN50~DN6000	-30~160℃	

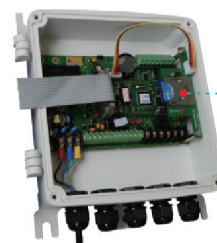
Optional Temperature Transducers

Picture	Specification	Model	Meas. Range	Temperature	Cut of water	Accuracy
	Transducer Pt100 Clamp on temperature	CT-1	≥DN50	-40~160℃	No	100℃ ± 0.8℃
	Transducer Pt100 Insertion temperature	TCT-1	≥DN50	-40~160℃	Yes	
	Insertion Pt100 Installation with pressure	PCT-1	≥DN50	-40~160℃	No	
	Insertion Pt100 Small size pipe diameter	SCT-1	< DN50	-40~160℃	Yes	

Optional SD card memory

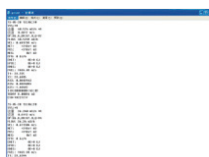
The SD card memory can be expanded to 2GB, which can achieve the ultrasonic flowmeter measurement data mass storage, can solve the problems for wall-mounted flowmeter measurement data stored, reading, and processing inconvenience, can completely replace manual meter reading, no paper records instrument.

In addition, the SD memory card measurements data, can be used by our company's "Flow data analysis, statistical software" for processing, including the tabulation, statistical, data analysis, printing reports, production flow curve

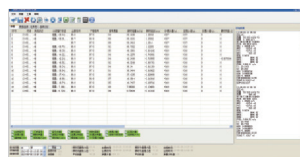


SD card memory of wall mounted

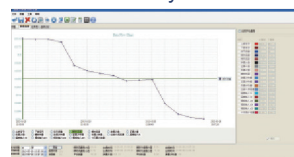
• Raw Data



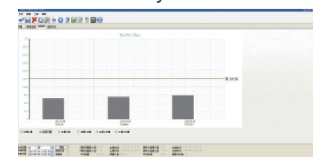
• Software Import Data



• Instantaneous Flow Curves Generated by Software



• Cumulative Flow Bar Chart Generated by Software



Wall mounted type

LRF-2000S Wall Mounted Ultrasonic Flowmeter

Datasheet

Items Performance & Parameter		
Converter	Principle	Transit-time ultrasonic flowmeter
	Accuracy	±1%
	Display	2×20 character LCD with backlight, support the language of Chinese, English and Italy
	Signal Output	1 way 4~20mA output, electric resistance 0~1K, accuracy 0.1%
		1 way OCT pulse output (Pulse width 6~1000ms, default is 200ms)
		1 way Relay output
	Signal Input	3 way 4~20mA input, accuracy 0.1%, acquisition signal such as temperature, press and liquid level
		Connect the temperature transducer Pt100, can finish the heat/energy measurement
	Data Interface	Insulate RS485 serial interface, upgrade the flowmeter software by computer, support the MODBUS
Special Cable	Twisted-pair cable, generally, the length under 50 meters; Select the RS485, transmission distance can over 1000m	
Pipe Installation Condition	Pipe Material	Steel, Stainless steel, Cast iron, Copper, Cement pipe, PVC, Aluminum, Glass steel product, liner is allowed
	Pipe Diameter	32~6000mm
	Straight Pipe	Transducer installation should be satisfied: upstream 10D, downstream 5D, 30D from the pump
Measuring Medium	Type of Liquid	Single liquid can transmit sound wave, such as Water (hot water, chilled water, city water, sea water, waste water, etc.); Sewage with small particle content; Oil (crude oil, lubricating oil, diesel oil, fuel oil, etc.); Chemicals (alcohol, etc.); Plant effluent; Beverage; Ultra-pure liquids, etc.
	Temperature	-30~160℃
	Turbidity	No more than 10000ppm and less bubble
	Flowrate	0~±7m/s
Working Environment	Temperature	Converter: -20~60℃; Flow Transducer: -30~160℃
	Humidity	Converter: 85%RH; Flow Transducer: can measure under water, water depth ≤ 2m (transducer sealed glue)
Power Supply	DC 8~36V or AC 85~264V (optional)	
Power Consumption	1.5W	
Dimension	170*180*56mm (converter)	

Ordering Code

LRF-2000S - - DN mm - MPa - m -

Converter	Flow Transducer	Diameter	Pipe Material	Pressure	Cable Length	Temperature Transducer	SD card Memory
W	TS-2		0 Carbon Steel			None	0 Yes
S	TM-1		1 Stainless Steel			CT-1	1 No
D	TL-1		2 Cast Iron			TCT-1	
	TS-2-HT		3 Glass Fiber reinforced			PCT-1	
	TM-1-HT		4 PVC			SCT-1	
	TL-1-HT		5 Cement				
	TC-1		6 Others				
	TC-2						
	G						

Example LRF-2000SW+TM-1+DN300+0+1.6MPa+10m+PCT-1+0

PS: Standard configuration=LRF-2000SW(converter)+TM-1+5M cable + Steel belt(DN200) + Couplant(1 pc)

Wall mounted type