

LONGRUN

ULTRASONIC FLOWMETER SAMPLE BOOK

TYPE:LRF-2000F

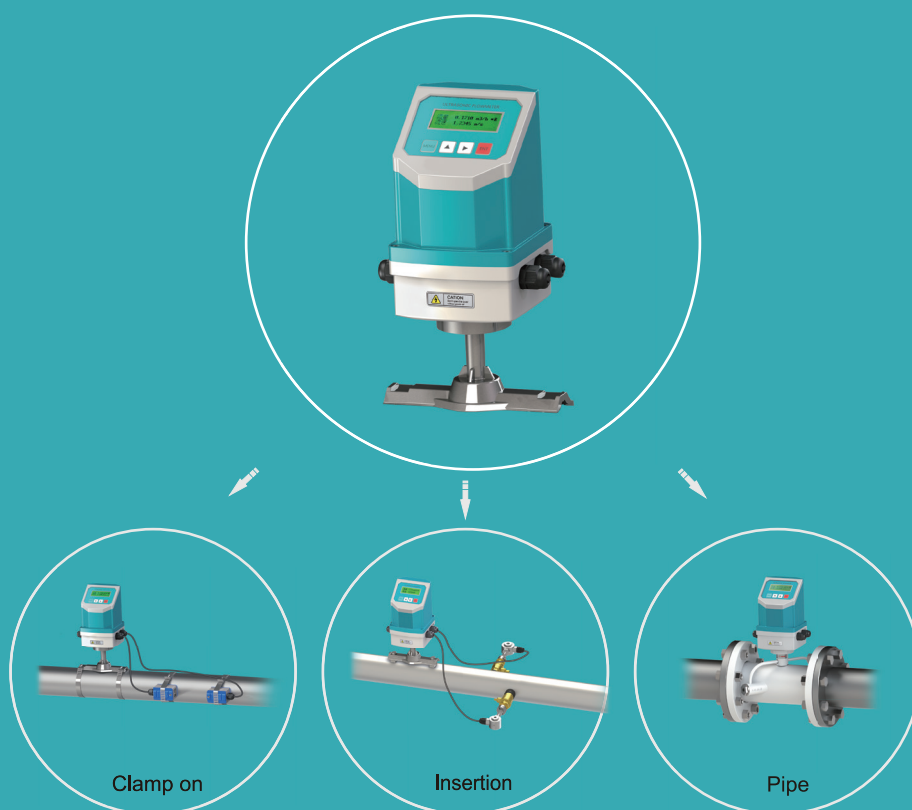
Concentrating on Flow
Measurement

LONGRUN
Industrial Instrument
Co., Ltd



This model is inline measurement with various kinds of transducers

Converter and transducers are installed fixing on the pipe



Features

- **High accuracy**
Better than $\pm 1\%$
- **Wide measuring range**
Several types transducer for selection, pipe size from Dn15mm 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
- **Far Transmission Distance, Easy for Networking**
RS485 support wireless network, connect GPRS module to accomplish wireless transmission .
- **Support Heat Measurement**
Connect the temperature transducer ,can finish the heat/energy measurement

LRF-2000F Fixed Integrated Ultrasonic Flowmeter

liquid Type

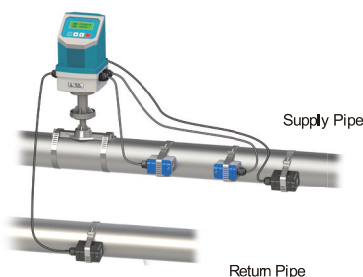
This flowmeter can be virtually applied to a wide range of measurement. A variety of liquid applications can be accommodated: ultra-pure liquids, potable water, chemicals, raw sewage, reclaimed water, cooling water, river water, plant effluent. etc

Measuring Diagram

Flow Measurement



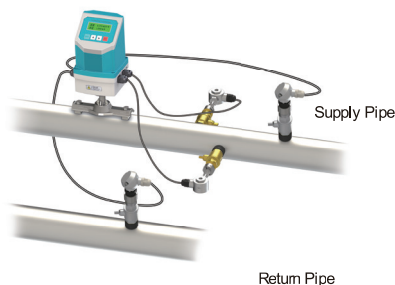
Heat Measurement



Features

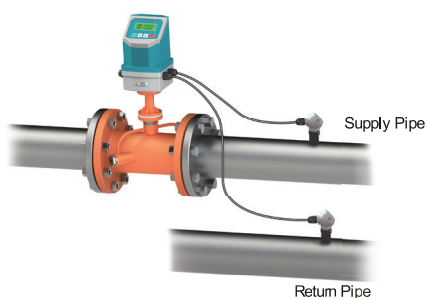
- No need to cut off water, no pressure loss
- Easy for installation
- Connect clamp on temperature transducer, can finish the heat/energy measurement

Clamp on



- 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

Insertion



- Need to cut off pipe
- With high accuracy and stability
- Connect Pt100 temperature transducer, can finish the heat/energy measurement

Pipe

Integrated type

Applications

Water supply and drainage

Heating

Construction of Energy-saving

Metallurgy












Petrochemical

Power







LRF-2000F Fixed Integrated Ultrasonic Flowmeter

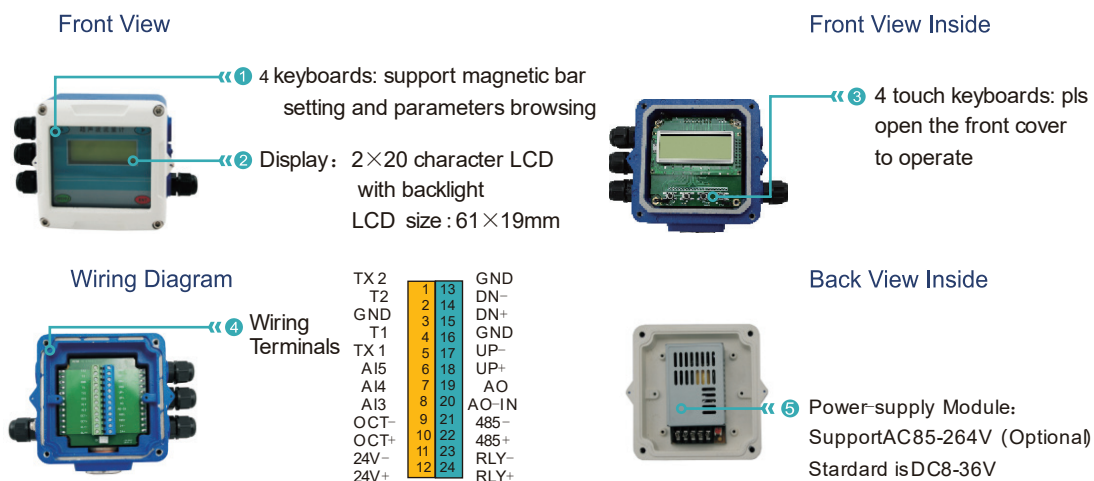
Optional Transducers

Types	Picture	Spec.	Model	Measurement Range	Temperature	Dimension
Clamp on		Small Size	TS-2	DN 15~DN100	-30~90℃	45×25×32mm
		Medium Size	TM-1	DN50~DN700	-30~90℃	64×39×44mm
		Large Size	TL-1	DN 300~DN6000	-30~90℃	97×54×53mm
High temp. clamp on		Small Size	TS-2-HT	DN 15~DN100	-30~160℃	45×25×32mm
		Medium Size	TM-1-HT	DN50~DN700	-30~160℃	64×39×44mm
		Large Size	TL-1-HT	DN 300~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	DN 15~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	

Parts Descriptions



Integrated type

LRF-2000F Fixed Integrated Ultrasonic Flowmeter

Datasheet

Items		Performance & Parameter
Converter	Principle	Transit-time ultrasonic flowmeter
	Accuracy	±1%
	Operation	Support 4 keyboards magnetic bar/4 touch keyboards/simulation keyboard software
	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	Material	Steel, Stainless steel, Cast iron, Copper, Cement pipe,PVC, Aluminum, Glass steel product, liner is allowed
	Diameter	15~6000mm
	Straight Pipe	Transducer installation should be satisfied: upstream10D, 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	DC8~36V or AC85~264V (optional)	
Power Consumption	1.5W	
Dimension	110*110*95mm(converter)	

Ordering Code

LRF-2000F - Flow Transducer Diameter Pipe Material Pressure Cable Length Temperature Transducer
 LRF-2000F - - DN mm - - MPa - m -
 TS-2
 TM-1
 TL-1
 TS-2-HT
 TM-1-HT
 TL-1-HT
 TC-1
 TC-2
 G

0 Carbon Steel
 1 Stainless Steel
 2 Cast Iron
 3 Glass Fiber reinforced
 4 PVC
 5 Cement
 6 Others

None
 CT-1
 TCT-1
 PCT-1
 SCT-1

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

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