### **Ultrasonic Flow Module / RTU**

## **FEATURES**

• Wide measuring range. Several types transducer for selection.

• 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
 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

# APPLICATION

- Water supply and drainage
- Heating
- Construction of Energy-saving
- Metallurgy
- Petrochemical
- Power



**FL108** 

CONVERTOR		
Principle	:	Transit -time ultrasonic flowmeter
Accuracy	:	±1%
Operation	:	4 keyboards operation
Signal output	:	<ol> <li>1 way 4~20mA output, electric resistance 0~1K, accuracy 0.1%</li> <li>1 way OCT pulse output (Pulse width 6~1000ms, default is 200ms)</li> <li>1 way relay output</li> </ol>
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	:	156000mm
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.
Type of liquid Temperature	:	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.);
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# WORKING ENVIRONMENT Temperature : Convertor: -20...60°C; Flow Transducer: -30...160°C Humidity : Convertor: 85% RH: Flow Transducer: can measure under water,

Convertor: 85% RH: Flow Transducer: can measure under water, water depth ≤ 2m (transducer sealed glue)

#### 01/03

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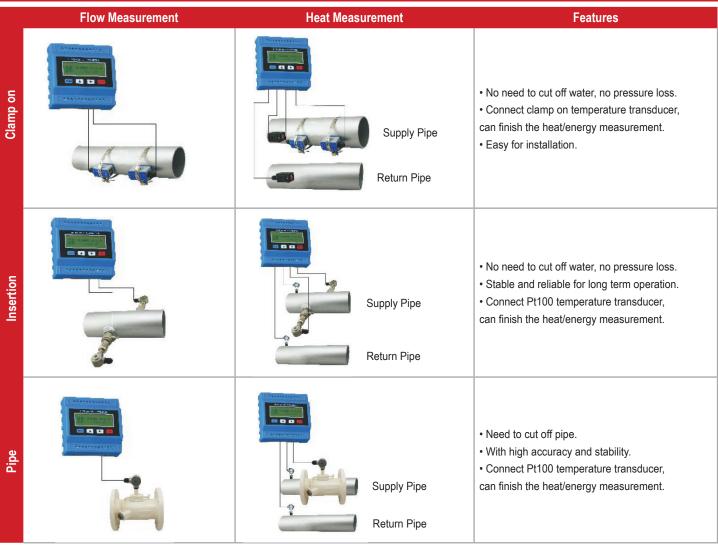
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#### SPECIFICATIONS

Power supply	: DC8-36V or AC10-30V (optional)
Power consumption	: 1.5W
Dimension	: 95 x 95 x 35 mm (convertor)

#### **MEASURING DIAGRAM**



#### MEASURING DIAGRAM





Dimensions: 92 x 90 x 34mm
LCD display: 60 x 19mm

4 keyboard operation

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Wiring Diagram



**Back View** 



• Installation method: Guide Rail (width is 35mm) Rev. 00

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# **Ultrasonic Flow Module / RTU**



#### **OPTIONAL TRANSDUCERS**

Types	Picture	Spec.	Model	Measurement Range	Temperature	Dimension
Clamp on		Small size	TS-2	DN15~DN100	-3090°C	45 x 25 x 32mm
		Medium size	TM-1	DN50~DN700	-3090°C	64 x 39 x 44mm
		Large size	TL-1	DN300~DN6000	-3090°C	97 x 54 x 53mm
High temp clamp on		Small size	TS-2-HT	DN15~DN100	-30160°C	45 x 25 x 32mm
		Medium size	TM-1-HT	DN50~DN700	-30160°C	64 x 39 x 44mm
		Large size	TL-1-HT	DN300~DN6000	-30160°C	97 x 54 x 53mm
Insertion		Standard	TC-1	DN80~DN6000	-30160°C	190 x 80 x 55mm
		Lengthen	TC-2	DN80~DN6000	-30160°C	335 x 80 x 55mm
Pipe		π type	G3	DN15~DN25	-30160°C	
		Standard	G2	DN32/DN40	-30160°C	Please refer to detailed pipe dimensions
		Standard	G1	DN50~DN6000	-30160°C	

#### OPTIONAL TEMPERATURE TRANSDUCERS

Picture	Specification	Model	Meas. Range	Temperature	Cut of water	Accuracy
	Clamp on temperature Transducer Pt100	CT-1	≥DN50	-40160°C	No	
	Insertion temperature Transducer Pt100	TCT-1	≥DN50	-40160°C	Yes	100%0 0.0%0
	Insertion Pt100 Installation with pressure	PCT-1	≥DN50	-40160°C	No	– 100°C ± 0.8°C
O	Insertion Pt100 small size pipe diameter	SCT-1	<dn50< td=""><td>-40160°C</td><td>Yes</td><td>-</td></dn50<>	-40160°C	Yes	-

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Rev. 00