DATASHEET | Flow

Wall Mounted Ultrasonic Flow Meter
Model PWF-U2000B

Description

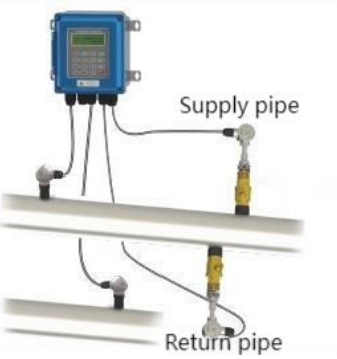
PWF-U2000B ultrasonic flowmeter is used for long-term online measurement of various liquid flows. The converter protection level is IP67, sensor protection level is IP65/IP68. The converter and sensor are installed separately. The converter can be installed indoors/in the cabinet/on the panel. The sensor is installed on the measuring pipe. The converter and the sensor are connected with a special cable for ultrasonic flowmeters to achieve flow measurement. The temperature sensor can be connected to achieve heat measurement.

It is widely used in tap water, heating, water conservancy, metallurgy, chemical industry, machinery, energy and other industries. It can be used for production monitoring, water balance debugging, heat network balance debugging, and energy-saving monitoring. It is an important flow measurement instrument in the production process.

Features

- Measurement accuracy 1%
- Converter protection level IP67, sensor protection level IP65/IP68
- Wide measurement range, pipe size from DN15 to DN6000
- Three installation methods: Wall mounted, rail mounted and explosion-proof box mounted
- Can achieve heat/energy measurement if with a temperature sensor
- Wide fluid temperature range -30~160℃

Measurement Diagram

Sensor Type	Flow Measurement	Heat Measurement	Features
Clamp on			·No need to cut off water, no pressure loss. ·Connect clamp on temperature sensor, can achieve heat/energy measurement. ·Easy to install and maintain.
Insertion			·No need to cut off water, no pressure loss. ·Connect insertion type PT100 temperature sensor, can achieve heat/energy measurement. ·Long-time stability and reliable.
Pipe section			·Need to cut off pipe when installation. ·Connect insertion type PT100 temperature sensor, can achieve heat/energy measurement. ·High accuracy, long-time stability.

Flow Sensor

Please choose the suitable sensor, according to different liquids, pipe condition and installation method(please refer to measurement diagram)

Types	Picture	Spec.	Model	Pipe Range	Temperature	Dimension	
Clamp on		Small Size	TS-2	DN15~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	DN15~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 section		π Type	G1	DN15~DN32	-30~160℃	SUS304 thread connection	Please refer to detailed pipe dimensions
		Standard	G2	DN40~DN1000	-30~160℃	Carbon steel thread connection	

Temperature Sensor

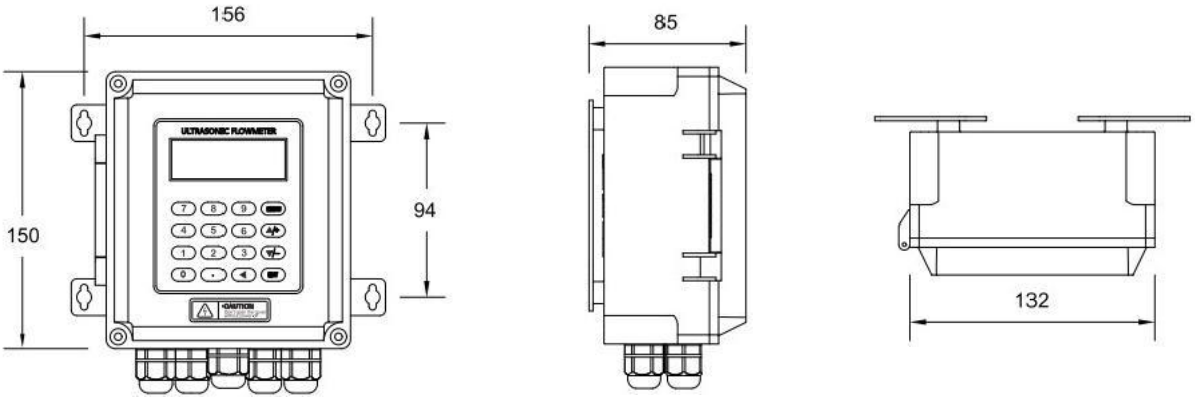
Pictures	Specification	Model	Meas. Range	Temperature	Cut of water	Accuracy
	Clamp on 3-wire PT100 Temperature sensor	CT-1	≥DN50	-40~160℃	No	100℃±0.8℃
	Insertion 3-wire PT100 Temperature sensor	TCT-1	≥DN50	-40~160℃	Yes	
	Insertion 3-wire PT100 with pressure	PCT-1	≥DN50	-40~160℃	No	
	Insertion 3-wire PT100 small diameter pipe	SCT-1	<DN50	-40~160℃	Yes	

Optional SD Memory Card

SD card mass storage of measurement data. The measurement data can be processed using our company's "flow data analysis and statistics software", including functions such as tabulation, statistics, data analysis, report printing, and flow curve production.

<<SD card optional

Converter Dimensions



Specifications

Parameters		Specification
Converter	Principle	Ultrasonic time difference principle, 4-byte IEEE754 floating point operation
	Accuracy	Flow ±1%; Temperature ±2%
	Display	2x20 character LCD with backlight, support the language of Chinese, English and Italy
	Signal output	1 way 4~20mA current output, electric resistance 0~1K, accuracy 0.1%(optional)
		1 way OCT pulse output (pulse width 6~1000ms, default 200ms)
		1 way Relay output
	Signal Input	3 way 4~20mA inputs, accuracy 0.1%, can collect temperature, pressure, liquid level and other signals
		Connect 3-wire PT100 platinum resistor to achieve heat/energy measurement
	Data Interface	Isolated RS485 serial interface, the flow meter can be upgraded through a PC, supporting MODBUS protocols
Special Cable		Twisted-pair cable. Generally the cable length less than 50 meters; Transmission distance can over 1000m for RS485
Pipe Condition	Pipe Material	Steel, stainless steel, cast iron, cement pipe, copper, PVC, aluminum, fiberglass and other dense pipes, lining is allowed
	Pipe ID	DN15~DN6000mm
	Straight Pipe	Sensor installation should follow: Upstream 10D, downstream 5D, 30D from pump.
Measuring Medium	Types	Water, seawater, industrial sewage, acid and alkali solution, alcohol, beer, and other single and uniform liquids that can conduct ultrasonic waves
	Temperature	-30℃~160℃
	Turbidity	<10000ppm and small bubble content
	Velocity	0~±10m/s
Working Environment	Temperature	Converter: -20~60℃; Sensor -30~160℃
	Humidity	Converter: 85%RH; Sensor: Can be dipped in the water≤2 meter(after glue-filling)
Power Supply		DC8~36V or AC85~264V
Power Consumption		1.5W

How to Order

Example Part Number: U2000B TM-1 80 0 06 5 N 1

Model No.	PWF-U2000B	U2000B
Flow Sensor	TS-2 TM-1 TL-1 TS-2-HT TM-1-HT TL-1-HT TC-1 TC-2 G1 G2 G3 (please refer to the Optional Flow Sensor Table)	TM-1
Pipe Inner Diameter (mm)	15=DN15mm 32=DN32mm 50=DN50mm 80=DN80mm 100=DN100mm ... 6000=DN6000mm	80
Pipe Material	0=Carbon Steel 1=Stainless Steel 2= Cast Iron 3=Glass Fiber Reinforced 4=PVC 5=Cement 6=Others	0
Pressure Rating	06=0.6MPa 16=1.6MPa X=Others	06
Cable Length	5=5m 10=10m ...	5
Temperature Sensor	N=None CT-1 TCT-1 PCT-1 SCT-1 (please refer to the Optional Temperature Sensor Table)	N
SD Memory Card	0=With 1=Without	1