SANDWICH INSERTION ULTRASONIC WATER METER

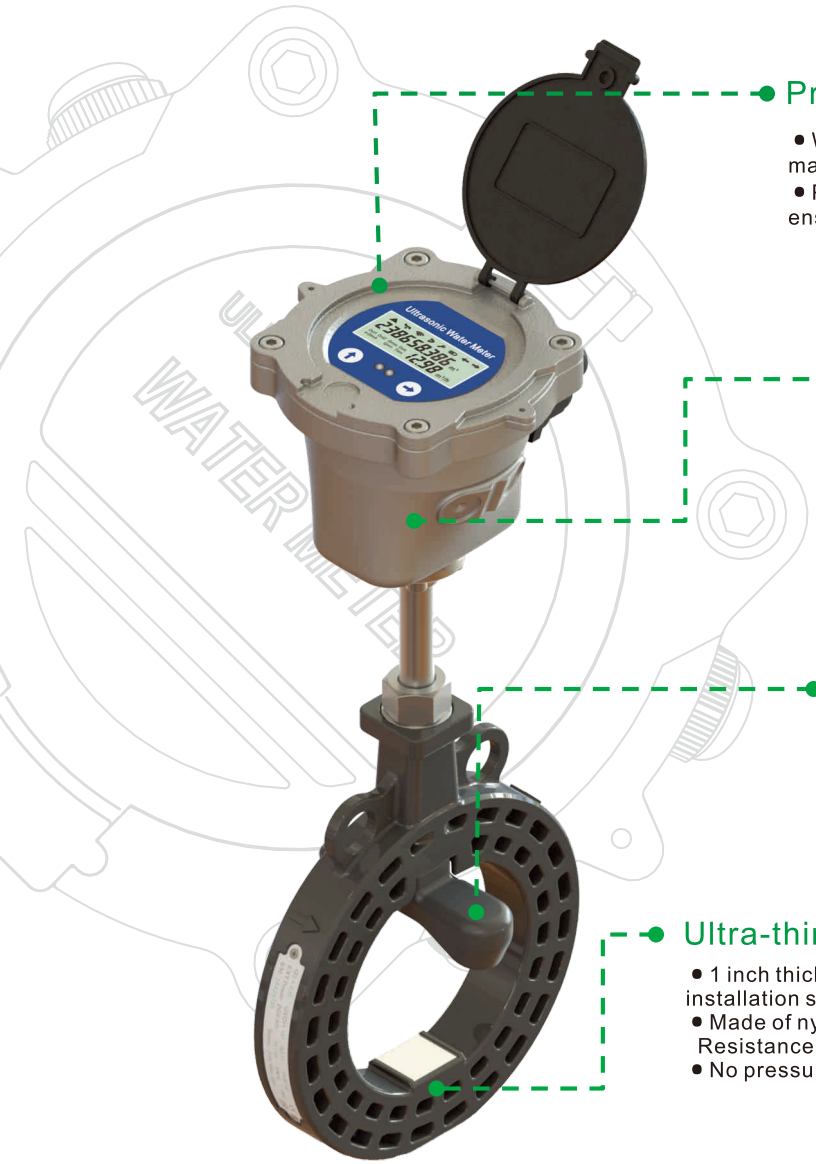
FUZHOU CANWELL IMPORT & EXPORT CO., LTD.

Introduction

Sandwich Insertion Ultrasonic Water Meter is a new series of patented product developed by our factory. It is a new-style water meter specifically designed for agricultural irrigation, garden management and water resource supervision.

Advantages of this water meter include low cost, high accuracy, low power consumption, stability and reliability. 1 inch thickness of the meter helps to save the installation space, and all parts achieve to IP68 enable the water meter work in any severe environment. Due to the unique design structure, there will be no pressure loss and different water medium will have no influence on measurement. This ultrasonic water meter will be a major breakthrough for water measurement in agricultural irrigation.

Characteristics



Protection Class IP68

- Whole machine Waterproof：the seal property of whole machine achieve to IP68
- Parts waterproof：each part achieve to IP68 separately, ensure long term work even if the meter get into the water.

Built-in Quantitative Controllers Built-in Time Accumulator

- Automatically start the controller at the set time, achieve to supply water automatically, regularly and quantitatively.
- Time-sharing flow accumulation within the set period of time, to achieve gradient rate..

Ultrasonic measurement, No Rotation, No worn parts

- Ensure long-term high measuring accuracy.
- Apply to varieties of water quality, including the water contain gravel and weeds

Ultra-thin design

- 1 inch thickness of the meter helps to save installation space
- Made of nylon, high strength and corrosion Resistance, very low cost.
- No pressure loss.

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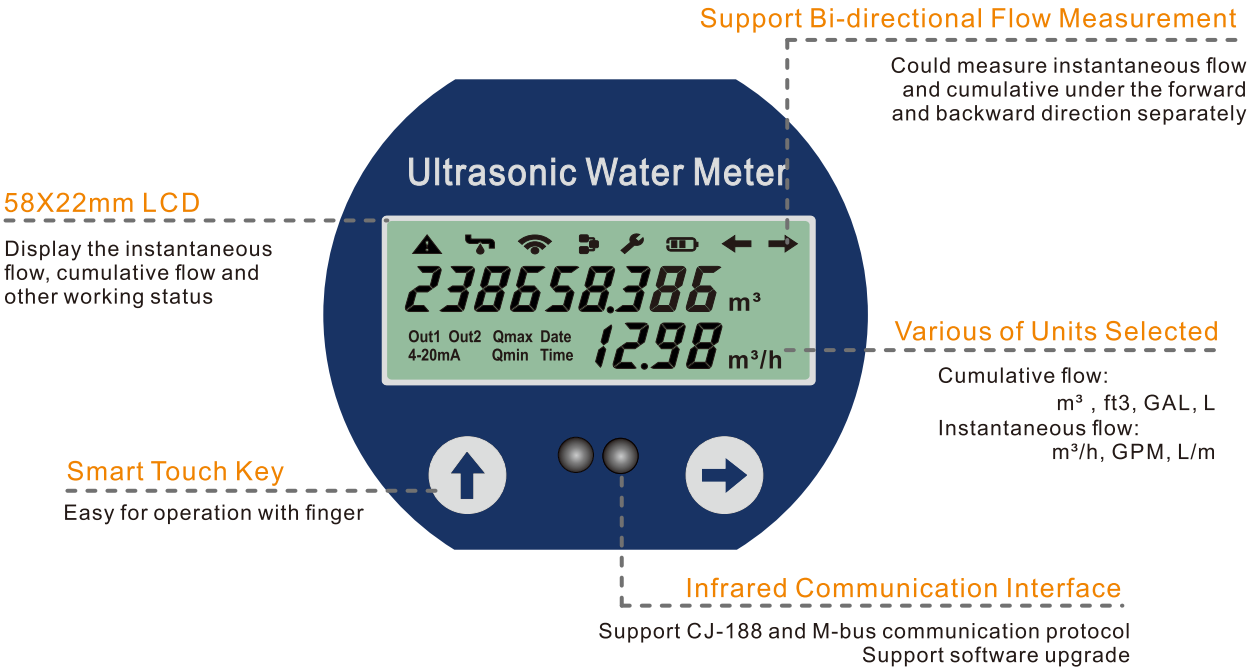
Display and Operation



Communication and Signal Output

External waterproof connector is used for communication and signal output, which helps to complete wiring connection without opening the water meter cover.

Standard Configuration:

1 485+ (A)
2 485- (B)
3 DC8-36V
4 GND (could be used as 485 earthing terminal)

Optional:

1 Two-wired system 4-20mA
(24V power supply is available)
2 OCT1 (open-collector output 1)
3 OCT2 (open-collector output 2)
4 C1 (TTL level pulse output 1)
5 C2 (TTL level pulse output 2)

Tips: Any two of above communication interfaces and output signals can be selected to connect to external waterproof connector while ordering.

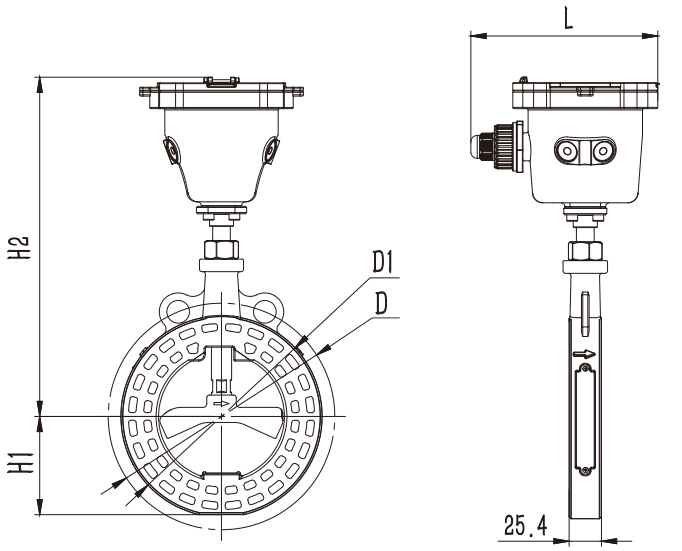
Data Sheet

Item	Specification
Standard	ISO 4064-2005，GBT 778-2007
Measure Fluid	Water, Sewage, Seawater(other liquid need to be customized) The pipeline should be full of liquid.
Medium Temperature	0.1-30℃
Working Environment	Temperature: -10~45℃; Humidity≤100%(RH)
Pressure	1.6MPa
Pressure Loss	None
Upstream Sensitivity	U5
Downstream Sensitivity	D3
Climate and mechanical	C level
Electromagnetic compatibility class	E2 level
Communication Interface	RS485/USART/Infrared
Output Signal	Two way OCT or TTL pulse output/ one way 4-20mA analog output
Power supply	Built-in Lithium battery(3.6V，19Ah)/ DC8-36V power supply/ two-wire system 4-20mA
Protection Level	Ip68, available to work 2 meters underwater
Digital Display	9 digits cumulative flow and 4 digits instantaneous flow shown in two rows, and varies of state prompt and units.
Data Storage	Use EEPROM/FLASH，automatically record the cumulative flow of last 128 months and last 512 days.
Measurement Cycle	Measuring： 1 times/second ; Verification： 4 times/second
Power Consumption	≤ 2.7AH/Year, 6 years battery life

Flow Range

Nominal Diameter (mm)	R	Flow (m^3/h)				
		Starting Flowrate	Minimum Flowrate Q1	Transitional Flowrate Q2	Permanent Flowrate Q3	Overload Flowrate Q4
DN65	40	0.394	1.575	2.520	63.000	78.750
DN80	40	0.625	2.500	4.000	100.000	125.000
DN100	40	1.000	4.000	6.400	160.000	200.000

Size and Weight

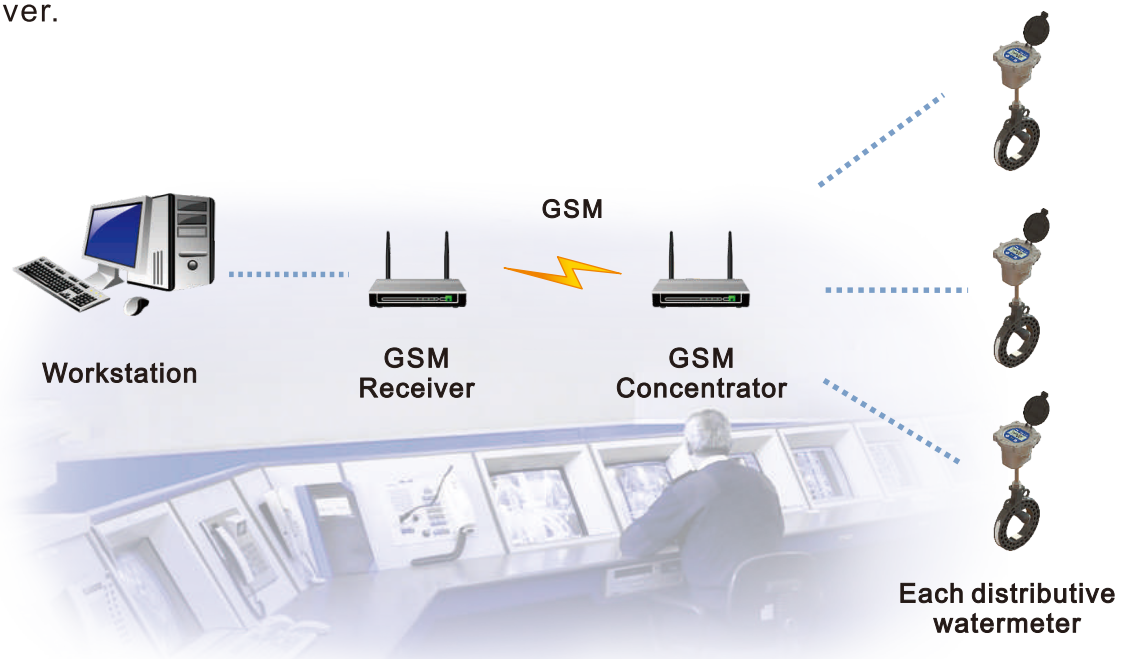


Unite: mm

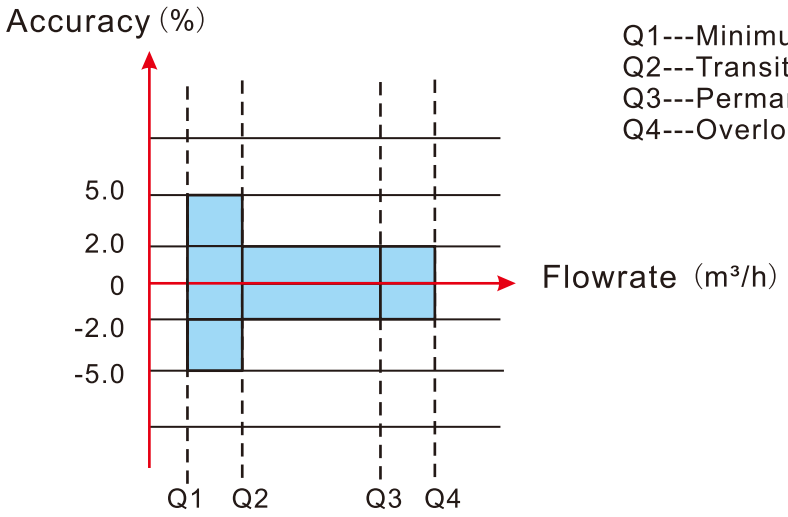
Nominal Size DN(mm)	Dimension			Flange Size				Weight kg	Pressure MPa
	L	H1	H2	Outer Diameter D1	Central circle diameter of bolt holes D	Bolt Hole			
						Bore diameter ×Quantity Φ × n	Quantity		
DN65	147	61	256	124	145	18×4	2	2.1	1.6
DN80	147	68	263	140	160	18×8	2	2.2	1.6
DN100	147	78	270	160	180	18×8	2	2.3	1.6

Communications and Networking

External waterproof connector is used for communication and signal output, which helps to complete wiring connection without opening the water meter cover.



Error Curve



Selection Coding

A B C D E

T3-1-C- □-□-□-□-□

Letter	Parameter	Explanation	Remarks
A	Calibre	DN65 DN80 DN100	Please select the diameter required
B	Material	1 Main body made of nylon , watchcase and fulcrum bar made of 304 stainless steel.	Standard configuration 1
C	Communication Interface	0 None 1 RS485 2 M-BUS	Standard configuration 1
D	Output Signal/ External Power	0 None 1 DC8-36V 2 Two-wired system 4-20mA(could be directly connected with 24V as auxiliary power supply) 3 OCT1（open-collector output 1） 4 OCT2（open-collector output 2） 5 C1（TTL level pulse output 1） 6 C2（TTL level pulse output 2）	Standard configuration 1
E	Additional Function	0 None 1 RF communication module(In developing) 2 GSM module(In developing)	Choose additional module will not allow to choose the output interface

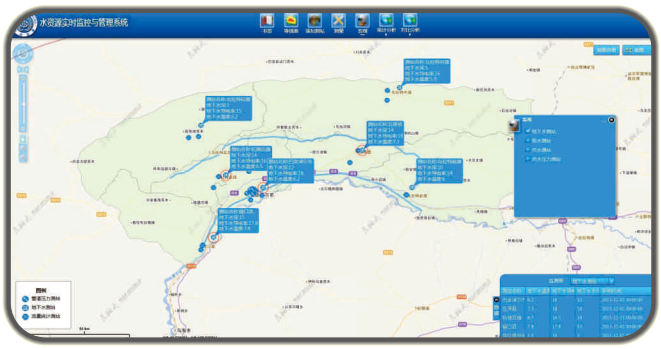
Note: From C and D, up to 2 options could be selected.

Example: T3-1-C-DN100-1-1-1-0

Explanation: DN100 sandwich ultrasonic water meter - mainbody made of nylon, header made of 403 stainless steel, communication interface:RS485 - external power supply: DC8-36V
- wireless meter reading has not been available.

Typical Applications

Water Resource Management



Used in water settlement,remote monitoring and computer management.

- 1 inch thickness (25.4mm), very little installation space, low cost investment.
- No pressure loss, Protection level IP68, suitable for varieties of work environment.
- High accuracy make the water fees accurate and reliable.
- No rotate abrasion, long service time, apply to a variety of water quality including the water contain gravel and weeds.
- Convenient communication network achieve to centralized management of water resource, which could improve management efficiency and reduce management cost.

Irrigation and landscaping

Flow control function could set the time to supply water according to local climate and growth habit of plant(Up to 5 times daily), achieve to water-saving irrigation and scientific irrigation.

Computer networking can also be used in centrally managing timed and quantitative irrigation.