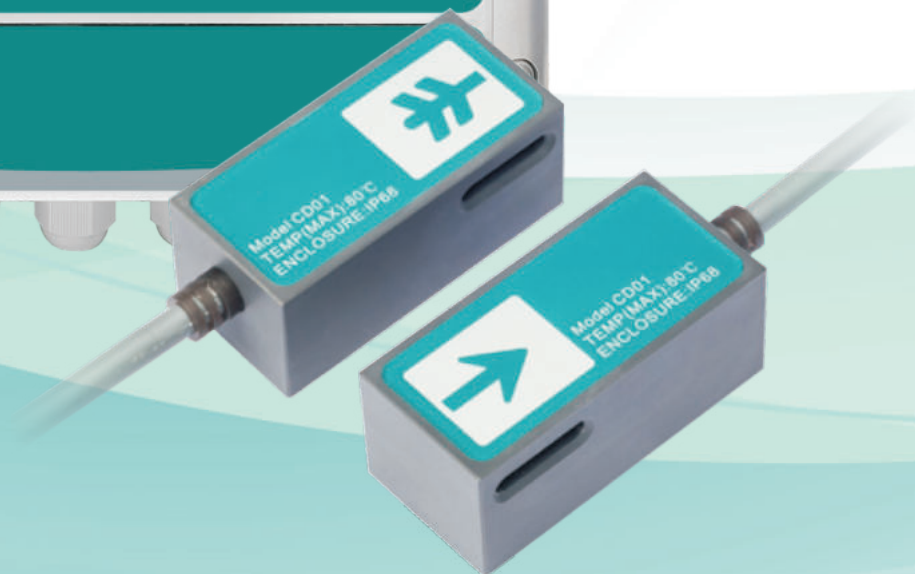




Q&T Instrument Co.,Ltd

QT502 ULTRASONIC FLOW METER

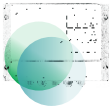


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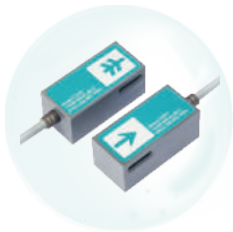
Address: No.1 Wangbai Road, Huanglong Industrial Park, Kaifeng City, Henan Province, China



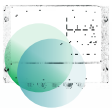
Introduction

QT502 is a wall-mount, clamp-on or insertion type ultrasonic flow meter using transit-time technology. Designed using FPGA chip and low-voltage broadband pulse transmission. Both Clamp on type sensors and Insertion type sensors are available.

QT502 has a 240*128 back lit LCD with 4 line menu display and also the clear, user-friendly menu selections make flow meter more simple and convenient to use. It has daily, monthly and yearly totalized flow; parallel operation of positive, negative, and net flow totalizer with scale factor and 7-digit display.



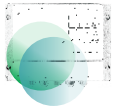
QT502 has the option of adding RTD temperature sensors to become an energy meter for the monitoring of energy use, helping you save energy and money.



Application

QT502 ultrasonic flowmeter is widely applied in HVAC, water treatment, irrigation.





Specification

◆ Performance

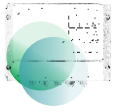
Flow range	±0.09ft/s ~ ±16ft/s (±0.03m/s ~ ±5m/s)
Accuracy	±1% of measured value
Repeatability	0.2% of measured value
Linearity	±1%
Pipe size	1" to 48" (25mm to 1200mm). Pipe size under 1" is an option
Fluid	Water

◆ Function

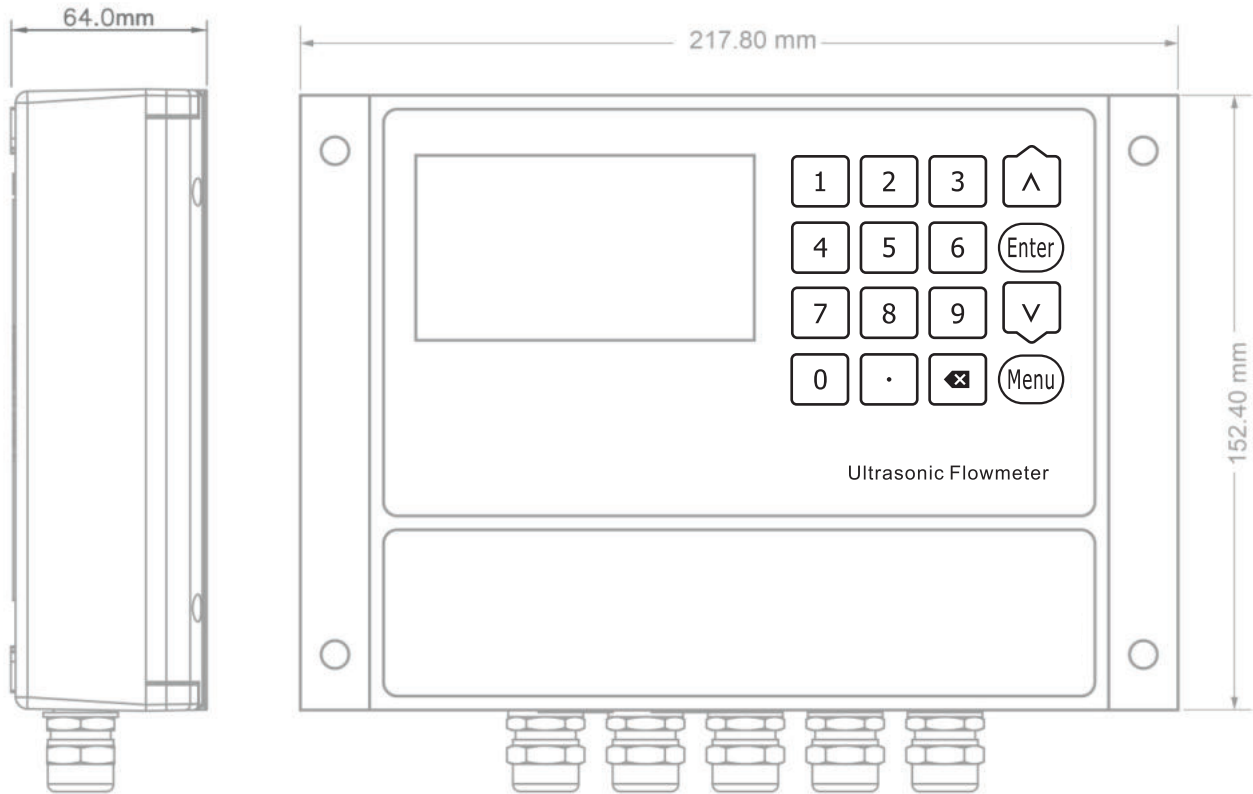
Outputs	Analog output: 4~20mA, max load 750Ω Pulse output: 0~10KHz
Communication	RS232/RS485 Modbus
Power supply	10~36VDC/1A
Display	240*128 back lit LCD
Temperature	Transmitter: -14°F ~140°F (-20°C ~60°C) Transducer: -40°F ~176°F (-40°C ~80°C, standard)
Humidity	Up to 99% RH, non-condensing

◆ Physical

Transmitter	PC/ABS, IP65
Transducer	ABS, IP68 Encapsulated design Double-shielded transducer cable Standard/maximum cable length: 30ft/900ft(9m/274m)



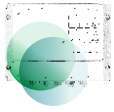
Product Size



Transmitter Size

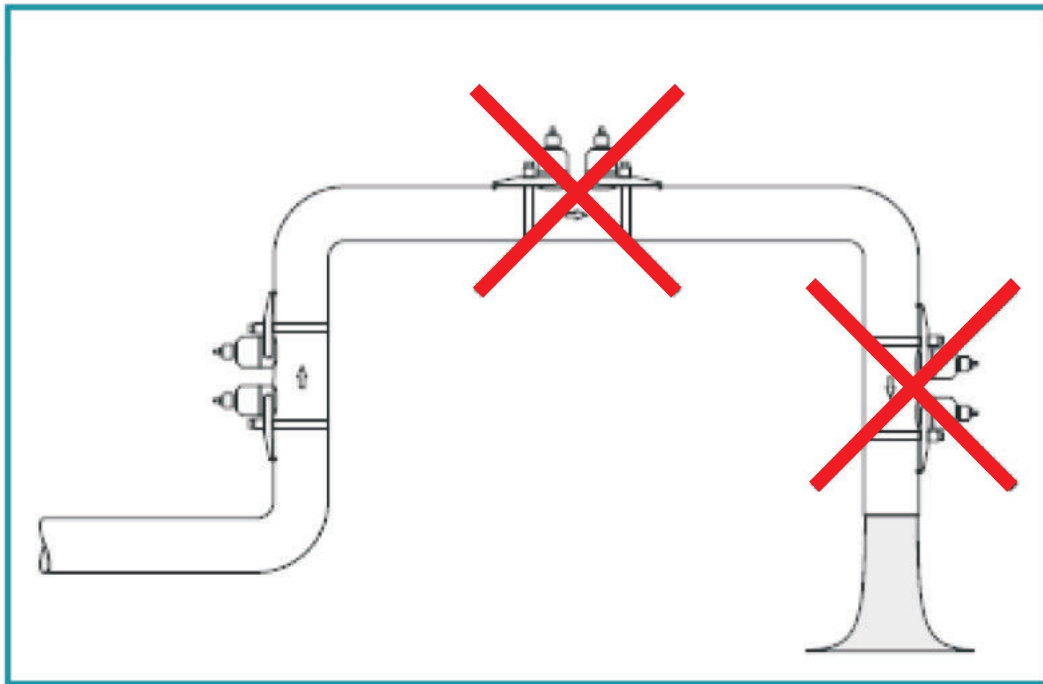


Transducer size

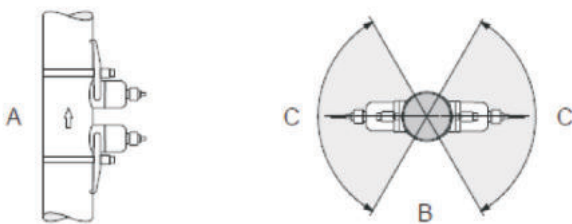


Installation Site Selection

The first condition for ultrasonic flow meter is the pipe must be full of liquid, the bubbles will greatly influence the accuracy of the measurement, please avoid the following installation positions:

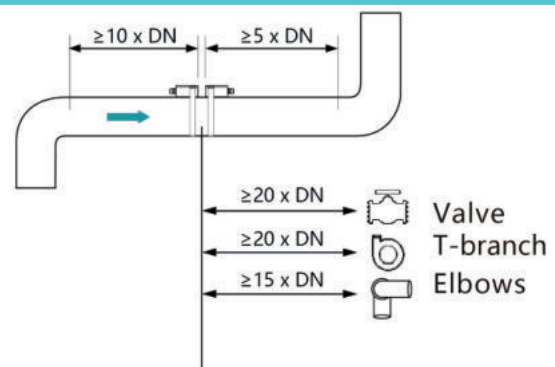


The suggestion installation area is as following:

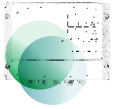


- A is for upright pipeline, please notice the water direction is from the bottom to top.
- B is for horizontal pipeline, the transducers need to be installed inside the C area, angle for area C, max 120°.

Straight pipe demand

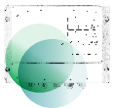
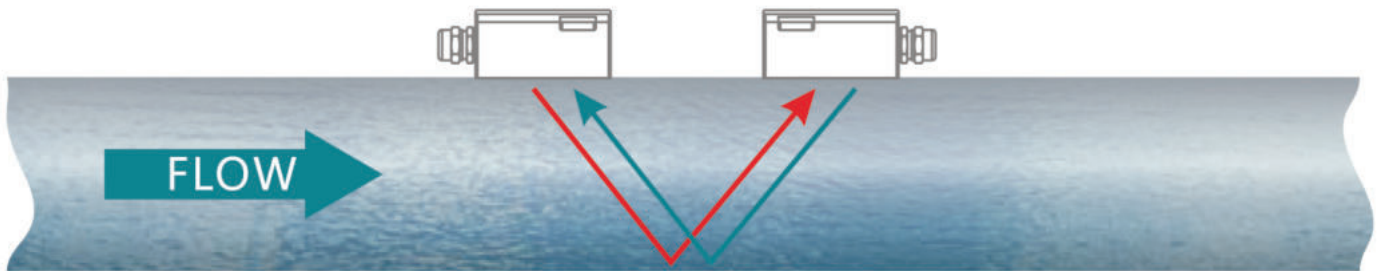


We suggest avoiding valves, T-branch pipes, and elbows if the pipe conditions allow. When dealing with more than one interfering resource, please satisfy the largest position installation requirement.



Measuring Principle

Transit time technology utilizes ultrasonic waves transmitted and received through moving liquid. The difference between upstream and downstream transit time can be used to calculate flow and velocity.



Flow and Energy Measuring

Standard Flow Meter Model

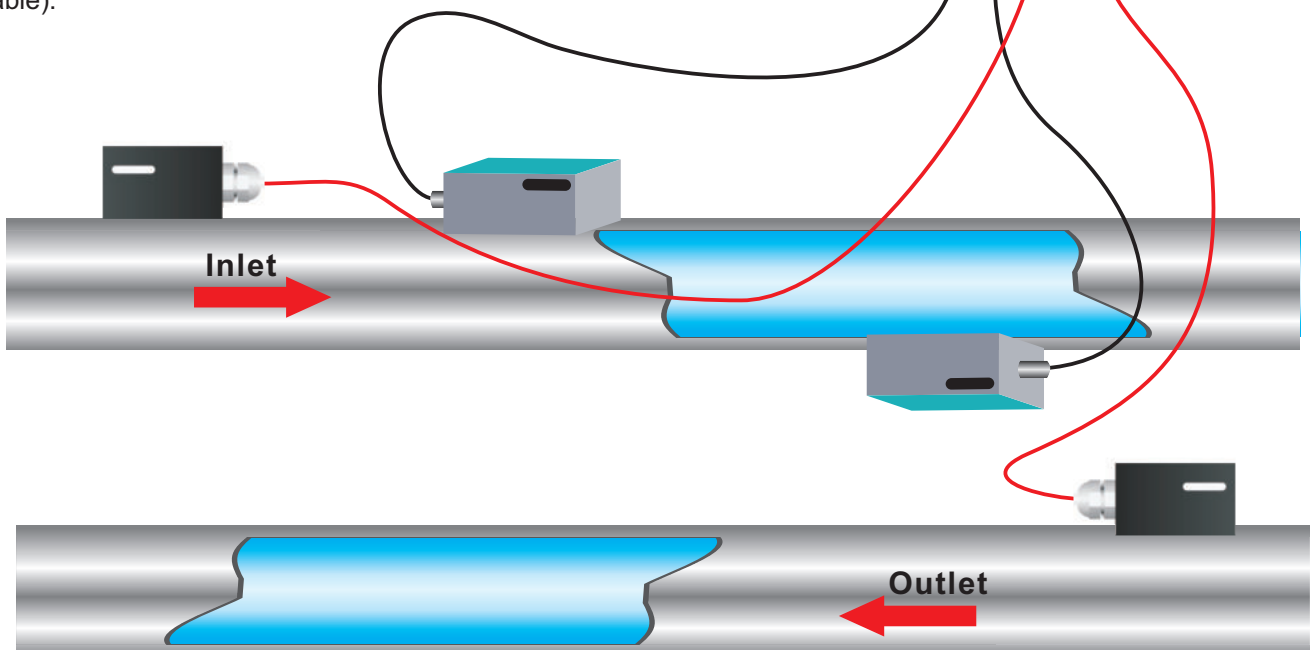
QT502-1-CD01-030

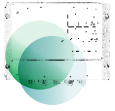
Standard enclosure ultrasonic flow meter, OCT, Relay, RS485, 4-20mA, with a pair of CD01 clamp on transducer, 30ft cable.

Standard Energy/BTU Meter Model

QT502-2-CD01-030-PT1000

Standard enclosure ultrasonic energy/btu meter, OCT, Relay, RS485, 4-20mA, with a pair of CD01 clamp on transducer(30ft cable) and a pair of clamp on type PT1000 sensor (30ft cable).





Ordering confirmation

QT502		X	X	X	X	X	X
Transmitter	Ultrasonic flowmeter Wall mount Flow range: $\pm 0.09\text{ft/s} \sim \pm 16\text{ft/s}$ ($\pm 0.03\text{m/s} \sim \pm 5\text{m/s}$) Accuracy : $\pm 1\%$ of the measure value Repeatability: 0.2% of the measure value Display: 240*128 back lit LCD Power supply: 10-36VDC@1A max Transmitter enclosure: IP65, ABS (Temperature: -20°C~50°C) Output: OCT pulse output 0-10KHz, Relay output, 4-20mA optional Communication: RS232, Modbus Protocol	QT502					
Model & Signal	OCT, Relay, RS-232/RS- 485, 4-20 mA (Volumetric)		1				
	OCT, Relay, RS-232/RS- 485, 4-20 mA, RTD input (Energy) *must select Code PT1000 or provide external temperature sensors		2				
Type of Transducer	Clamp-on, IP68. Operating temperature: -40°F ~ +176°F (-40°C ~ +80°C)				CD01		
	Clamp-on, IP68. Operating temperature: -40°F ~ +176°F (-40°C ~ +80°C)				C1		
	Clamp-on, IP68. 2MHz Pipe size DN15 to DN25 only Operating temperature: 32°F ~140°F (0°C ~ +60°C)				C2		
	Clamp-on, IP68. Operating temperature: -40°F ~ +266°F (-40°C ~ +130°C)				C1U		
	Insertion, IP68. Operating temperature: -40°F ~ +266°F (-40°C ~ +130°C)				W1		
Transducer cable length	Standard length 30ft (9m), C2 transducer standard length 15ft (5m)					030	
	Max length to 900ft (274m)					XXX	
Temperature sensor	PT1000 temperature sensor *must select code 2 for RTD input						PT1000
Option	AC power, 90 to 245 VAC						AC
	SD card						SD
	HART						H



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