YUA
Fast · Accurate · Managing

Non-contact Measurement

1:400
Ultra-wide Turndown Ratio

High Bubble and Impurity Tolerance



F203B Series
Ultrasonic Flow Meter

New-generation Clamp-type Ultrasonic Liquid Flow Meter

PITOT TUBE FLOWMETER

Product Overview

The working principle of the F203B ultrasonic flowmeter is mainly based on the propagation characteristics of ultrasonic waves in a fluid, measuring flow rate by detecting time delays. Because the ultrasonic flowmeter uses a non-contact measurement method and does not need to directly contact the fluid, it has a wide range of applications

Utilizing FPGA integrated circuit technology, the algorithm integrates threshold comparison gate circuit delay methods and high-speed ADC correlation methods, achieving a measurement rate greater than 300 times per second. Compared to traditional capacitive charging algorithms with measurement rates below 50 times per second, this ensures more accurate and reliable measurement results

There is also a significant improvement in the bubble tolerance within the measurement pipe diameter, with the capability to withstand continuous bubbles or impurities for up to 5 seconds

The unique flip cover design hides all screws after installation, and the use of longer-lasting membrane buttons provides a more comfortable key feel

Product Advantages

Non-contact Measurement

Ultrasonic properties are not affected by changes in fluid properties

Ultra-wide Turndown Ratio

1:400

Ultra-wide turndow ratio of 1:400

High Bubble and Impurity Tolerance

Maintain stable and accurate measurement in complex working conditions

Sensor Protection Code IP68

- Non-contact measurement, unaffected by changes in fluid properties, capable of maintaining stable and accurate measurement in complex environments
- Ultra-wide turndown ratio of 1:400, with a measuring range from 0.03 m/s to12 m/s
- FPGA integrated circuit combined with high-speed ADC algorithm, with a measuring rate greater than 300 times per second to ensure the accuracy
- Fully isolated electrical structure, completely filtering out field disturbances
- With data logging function, allows long-term data recording via an internal SD card (optional)
- Standard RS232/RS485 Modbus interface
- Senosr protection code IP68, applicalbe to various harsh environments
- Clamp-type installation, suitable for pipe diameter DN25 ... DN1200

Technical Data

Flow

Measuring Range	±0.03 ... ±12 m/s
Accuracy	±1 %RD
Repeatability	0.2 %RD
Linearity	±1 %RD
Diameter	DN25 ... DN1200

Output

Analog Output	4 … 20 mA, max load 750 Ω
Pulse Output	0 ... 10 KHz
Digital Output	Modbus RTU (RS485)

Power

Power	10 … 36 VDC / 90 … 245 VAC

Display

Screen	240*128 LCD

Operating Environment

Operating Temperature	Transmitter: -20 … +60 °C Sensor: -40 … +80 °C (standard temperature) Sensor: -40 … +130 °C (high temperature) Sensor: -40 … +180 °C (special high temperature)
Ambient Humidity	0 … 99% RH, non-condensing

Other

Protection Code	Transmitter: IP65 Sensor: IP68
Material	Transmitter: ABS + PC
Cable	Standard / Max: 9 / 300 m

Order Information

Model	Digital Output	Analog Output	Sensor	Data Logging	Description
F203B					Ultrasonic flow meter, wall-mounted transmitter, with 5m cable, with metal tensioner and coupling agent (suitable for pipe diameter DN25 ... DN1200)
F203B-T					Ultrasonic flow meter, wall-mounted transmitter, with 5m cable, with metal tensioner and coupling agent, with temperature sensor and cold/heat energy measuring function (suitable for pipe diameter DN25 ... DN1200)
	1				Modbus RTU (RS485)
		1			4 ... 20 mA + OCT pulse output
			F0105 0004		Calm p-type, IP68, operating temperature -40 °C ... +80 °C (Default)
			F0105 0007		Calm p-type, IP68, operating temperature -40 °C ... +130 °C
			F0105 0008		Calm p-type, IP68, operating temperature -40 °C ... +180 °C
				V0013 0001	None (Default)
				F0105 0005	Data logging function + SD card (32G memory)

* For more selection parameters, please consult sales

https://yua-instruments.com/

A: Room R2-B, Gaoxin Industrial Park, No. 206 Gaoxin South 7th Road, Yuehai Street, Nanshan District, Shenzhen, Guangdong, China

M: sales@yua-instruments.com