

FMU SERIES ULTRASONIC FLOW METER



FEATURES

- ◎ Non-Intrusive Measurement: Measures fluid flow using ultrasonic waves without altering the flow state or adding resistance.
- ◎ Continuous, Real-Time Monitoring: Ideal for industrial settings requiring accurate, continuous flow measurement.
- ◎ Various Measurement Methods: Available in external clamp-on, insertion type, and pipe segment type.
- ◎ Wide Measuring Range: Suitable for water, seawater, sewage, alcohol, oils, and other homogeneous liquids that conduct ultrasonic waves.
- ◎ Versatile Pipe Compatibility: Works with carbon steel, stainless steel, cast iron, copper, PVC, aluminum, fiberglass-reinforced plastic, cement pipes, and lined pipes.

INTRODUCTION

The FMU series ultrasonic flow meters are advanced devices designed for accurate, non-intrusive fluid flow measurement in a wide range of industrial applications. These meters utilize ultrasonic wave technology to measure fluid flow without altering the flow state, making them ideal for continuous and real-time monitoring.

WORKING PRINCIPLE

The FMU series operates by transmitting ultrasonic waves through the fluid medium. The flow rate is determined by measuring the time it takes for the waves to travel between sensors, converting this data into precise flow rate readings. Because the ultrasonic flow meter does not require installation of measurement elements within the fluid, it introduces no resistance or flow disruption, ensuring that the fluid's state remains unchanged. This feature makes the FMU series particularly suitable for various industrial environments where maintaining the integrity of the flow is critical.

SPECIFICATIONS

Diameter(mm)	DN15-DN6000
Flow speed	0.3m/s~10m/s
Power supply	8-36VDC, 85-264VAC
Signal Output	1 standard isolation RS485 output 1 channel isolated 4-20mA or 0-20mA active output 1 OCT output (programmable pulse width 6-1000ms, factory default 200ms). 1 isolation relay output, Available on output positive, negative, net cumulative pulse and various alarm signals
Signal input	Two three-wire PT100 platinum resistance input loop, Available to achieve heat measurement function (enthalpy difference method). 3 channels of 4-20mA input optional, accuracy 0.1%, which can input pressure, liquid level, temperature and other signals, can also be used as a digital interface
Display	2x10 backlight Chinese characters or 2x20 character LCD display (Chinese and English bilingual options)
Operation	4x4 touch keyboard window operation
Other functions	Automatically stores data for the previous 512 days, 128 months, and 10 years. It can also record the positive and negative net accumulated flow rates for the last 30 instances. Power-on and power-off times, along with flow rates, can be logged automatically or manually, and all data can be accessed via the Modbus protocol.
Installation mode	Clamp on/Insertion/Inline
Temperature	-30 ~ 90°C
Communication protocol	MODBUS
Serial port	RS485
Protection	IP65

PRODUCTS TYPES

Ultrasonic Flow meter = Main unit +flow sensor

Ultrasonic Heat meter = Main unit +flow sensor + Temperature sensor

MAIN UNIT TYPE

Model	Wall Mount FMU120	Wall Mount FMU130	Wall Mount FMU140	Explosion proof FMU150
Picture				
Model	Panel mount FMU160	Module FMU170	Fix Mount FMU180	
Picture				

FLOW SENSOR TYPE

Flow sensor	Picture	Model	Measuring range	Temperature
Clamp on		FCS-2(Small)	DN25-100	-30 ~ 90°C
		FCM-1(Medium)	DN50-700	
		FCL-1(Large)	DN300-6000	
Clamp on High temp.		FHS-2(Small)	DN25-100	-30 ~ 160°C
		FHM-1(Medium)	DN50-700	
		FHL-1(Large)	DN300-6000	
Insertion		FIS-1 (standard)	DN300-6000	-30 ~ 160°C
		FIE-2 (extended)	DN50-6000	
		FIP-1 (parallel)	DN80-6000	
Inline		Standard	DN15-1000	-30 ~ 160°C

TEMPERATURE SENSOR TYPE

Temperature sensor	Picture	Model	Measuring range	Temperature	Temperature
Clamp on		TSC-1	DN50-6000	-40 ~ 160°C	No need
Insertion		TSI-1	DN50-6000	-40 ~ 160°C	Need
Insertion with pressure		TSP-1	DN50-6000	-40 ~ 160°C	No need
Insertion small sizes		TSS-1	< DN50	-40 ~ 160°C	Need

INSTALLATION

FMU120 MOUNTING TYPES



Clamp on



Insertion



Inline

FMU130 MOUNTING TYPES



Clamp on



Insertion



Inline

FMU170 MOUNTING TYPES



Clamp on



Insertion



Inline

FMU180 MOUNTING TYPES



Clamp on



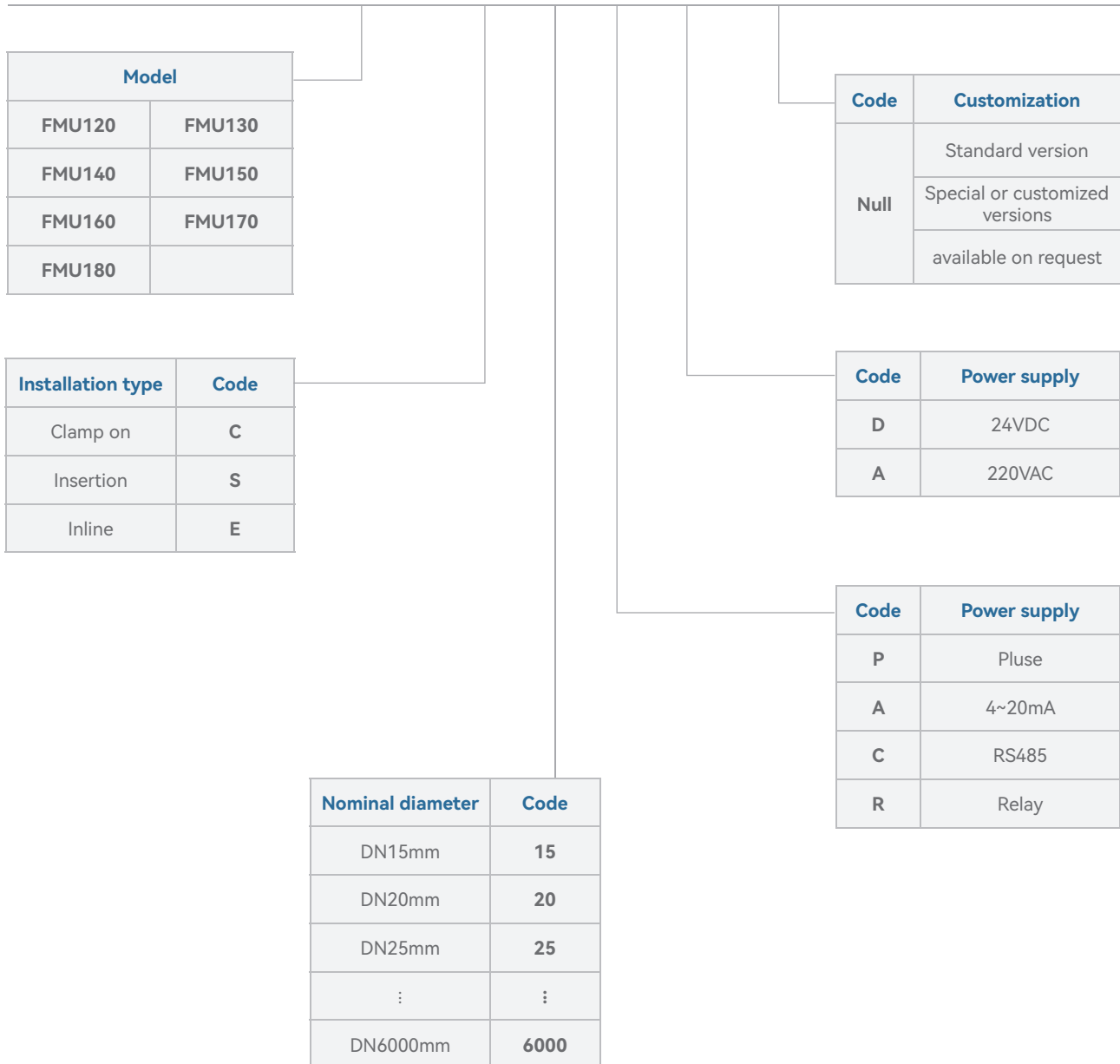
Insertion



Inline

ORDER FORMAT

FMU180 - C - 15 - P - D - XXX



EXAMPLE:

FMU180C15PD

FMU180 series fix mounting type flow meter, clamp on installation, DN15 diameter, pluse output signal, 24VDC power supply, standard version .