Electromagnetic Flow Transmitter

FT015 電磁式流量傳訊器

HART COMMUNICATION PROTOCOL | PROFIBUS | LoRa | NB-IoT

Economic

Standard

Sanitary

Remote

BTU(Energy)

Introduction

FT015 electromagnetic flow meter is suitable for measuring the volumetric flow of conductive liquid in a closed tube. LCD display, mA/Pulse/RS485/HART output, and simultaneously show instant flow & flow rate and cumulative flow. The measurement principle is based on <law of Faraday's electromagnetic induction>. When measuring flow rate, fluid flows through the magnetic field generated by the electromagnetic coil. The conductive liquid flow induces a voltage proportional to the average flow rate (i.e., volume flow), thus requiring the measured liquid with a minimum conductivity. The induced voltage signal through the positive electrode and the ground electrode measures the flow rate and then transmits the data to the microcomputer then displays the calculated flow rate. The transmitter can convert signal into a digital/analog and transmit it to the central system (DCS, PLC, DDC, PC). LoRa & NB-IoT is also available on the IoT specifications.

Feature

- LCD display can be (integrated) or (separated) with the flow meter
- Can display instant flow, total flow, flow rate, temperature, temperature difference, total amount of heat, etc. (BTU type)
- Results are not affected by physical properties such as temperature, pressure, or viscosity, and are used to measure various flow rates of conductive liquids FEP
- lining & SUS body (optional) for working in corrosive environments
- Quantitative control function (optional) for batch control of flow
- Set parameters stored in pluggable EEPROM, and accumulated data will not lose when power is off.
- Built in RS485 Modbus (RTU) protocol, and HART/Profibus can also be purchased.
- Chinese/English operation interface freely switch
- Automatic Zeroing adjustment, show no display in empty tube state, and alarm, error code display.
- Lightning protection design circuit, high efficiency anti-interference circuit, EMC electromagnetic compatibility test, suitable for various harsh environments and outdoor installation Maximum measurable flow is 1.2 times of the standard flow value
- Measure forward/reverse flow (optional) and attach point output
- Optional LoRa or NB-IoT communication output

Application

- Instant flow, cumulative flow and flow rate of liquids and slurries
- Flow measurement of sludge, mud, pulp, mortar, etc.
- Pure water, domestic sewage, industrial wastewater, process wastewater flow measurement
- Air conditioning BTU heat metering
- Chemical and biomedical pharmaceuticals, etc. Food, beverage, catering industry, etc. Semiconductor process water, air conditioning cooling water, etc. Tap water flow meter, reservoir, pumping station, sewage treatment plant, etc.

Electromagnetic Flow Transmitter

Specification

Sensor						
Type	Economic	Standard			Sanitary	
Model	A	B	C	D	E	F
Mechanical Specifications						
Body Material	Die-casting aluminum (DN15~100)	Carbon Steel (DN125~500)	SUS304 (DN125 ~500)	SUS316 (DN125~500)	SUS304 (DN15~150)	SUS316 (DN15~150)
Electrode Material	SUS316L(Standard) Hastelloy C	SUS316L；Hastelloy C；Ti.；Ta.；Pt.			SUS316L；HastelloyC；Ti.	
Lining Material	FEP(DN15~500) Chloroprene Rubber(DN65~500)	FEP(DN15~500)；PU(DN15~500) Chloroprene Rubber(DN65~500)			FEP(DN15~150)	
Connecting Material	SUS304；Carbon Steel				SUS304	SUS316
Connecting Type/Size	Flange				Screw；Sanitary flange	
Measure tube Material	SUS304					
Pipe diameter	DN15~500(mm)					
Product Performance						
Measuring Range	0.5~10m/s	0.2~15m/s			0.5~10m/s	
Accuracy	±0.5% F.S.					
Measure Medium	Liquid (electric conductivity >5μs/cm)					
Install Requirement	5D；3D					
Electrical Specification						
Electrical Connection	M20x1.5					
Electrode	Three electrodes					
Ingress Protection	IP65(Integrate；Remote)；IP68(Remote)					
Environmental Conditions						
Working Pressure	40bar(max，Depending on the connection method)					
Medium Temperature	<80℃ (FEP lining)；<60℃ (CR lining, PU lining)；<120℃ (Remote, FEP lining only)					

Transmitter				
Type	Integral Economic Flow	Integral Standard Flow	Remote Flow	Remote BTU(Energy)
Model	A	B	D	E
Product Performance				
Accuracy	±0.5% F.S；±0.25% F.S.(Optional)			
Operating Interface	Chinese / English			
Resistance Thermometers	None			PT100；PT1000
Measure Unit	Energy unit：None			Energyunit：KJ、MJ、J、K、KWH、WH
	Temperature unit：None			Temperature unit：℃、℉
	Instant flow：m^3/h、m^3/m、m^3/s、L/h、L/m、L/s			
	Cumulative flow：m^3、L			
Electrical Specification				
Power Supply	AC 85~240V；DC 20~36V			
Display	Round shape LCD		Square shape LCD	
IoT	LoRa(Optional)；NB-IoT(Optional)			
Analogue Output	DC 4~20mA			
Digital Output	HART(Optional)；Profibus(Optional)			
Control Output	Pulse			
Communication Protocol	RS485 Modbus(RTU)			
Electrical Connections	M20x1.5			
Ingress Protection	IP65			
Certification	CE			
Mechanical Specifications				
Body Material	Aluminum alloy			
Environmental Conditions				
Ambient Temperature	-10~60℃			
Ambient Environment	≤85%			

Order Form

FT015-

Transmitter	Integral Economic Flow Transmitter A (compatible with housing A or B)	A																									
	Integral Standard Flow Transmitter B (compatible with housing A,B,C,D,E or F)	B																									
	Remote Flow Transmitter D (compatible with housing A,B,C,D,E or F)	D																									
	Remote BTU(Energy) Transmitter E (compatible with housing A,B,C or D)	E																									
	Custom	Y																									
Housing (sensor)	※*Note 1*																										
	Economic A (Cast aluminum)		A																								
	Standard B (Carbon Steel)		B																								
	Standard C (SUS304)		C																								
	Standard D (SUS316)		D																								
	Sanitary E (SUS304)		E																								
	Sanitary F (SUS316)		F																								
	Custom		Y																								
Accuracy																											
	±0.5% F.S.(Standard)			A																							
	±0.25% F.S.			B																							
Dimension	(unit：mm)																										
	15				A																						
	20				B																						
	25				C																						
	32				D																						
	40				E																						
	50				F																						
	65				G																						
	80				H																						
	100				J																						
	125				K																						
	150				L																						
	200				M																						
	250				P																						
	300				Q																						
	350				R																						
	400				S																						
	450				T																						
	500				U																						
Process Connection type																											
	DIN PN16					F	A																				
	DIN PN40					F	C																				
	JIS 10K					F	E																				
	JIS 20K					F	F																				
	JIS 40K					F	H																				
	ANSI 150 lb					F	J																				
	ANSI 300 lb					F	K																				
	ANSI 600 lb					F	L																				
	Tri-Clamp					Q	B																				
	NPT Female					S	F																				
	Custom					Y	Y																				
Process Connection material	(Flange)																										
	SUS304							M	A																		
	SUS316							M	B																		
	Carbon Steel							M	J																		
	Custom							Y	Y																		

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