# Smart electromagnetic flow meter



### **INTRODUCTION:**

Smart electromagnetic flow meter is used to measure conductivity greater than 5 µS/cm volume flow of conductive liquid. Smart Electromagnetic flow meter **support RS485 Modbus RTU(GPRSS/4G/NB-IOT/LoRa.)** communication option. collected data through AMI/AMR systems.

#### **FUNCTION:**

- Automatic control system through communication cable or wireless mode(GPRSS/4G/NB-IOT/LoRa.)
- Measure instantaneous flow and cumulative flow
- ♦ .Flow limit setting and flow Range setting.
- Lower limit of flow alarm, Flow limit alarm, Pipeline empty pipe alarm, Instrument failure alarm.
- Anti radio interference function
- Total flow is recorded in hours/minutes/seconds
- Output: pulse signal, output current signal.

• Two way measurement system, forward total amount, reverse total amount and difference total amount, can display positive and reverse flow.

• Remote transmission function: remote transmission of data and parameters at regular intervals, or manual trigger transmission.



### **APPLICATION**

- Sewage treatment
- Water abstraction.
- Slurry, chemical sewage
- Water purification and desalination.
  - Pulp
- Drinking water distribution networks.
- Revenue metering or billing.
- Leakage detection.
- Irrigation.
- Industry water.
- Cooling water.
- Wastewater

#### **SPECIFICATION:**

MAG Flow Meter	Wireless communication basis on GPRS/LoRa/4G/NB-lot						
Types	Pressure measurement function						
Pressure	1.0Mpa, 1.6Mpa,4.0Mpa,others						
Size	DN15~DN300(1/2 inch~12 inch)						
power	24 VDC,220 VAC/Battery 3.6 VDC(working 3-6years)						
Outputs	Std. 4 – 20 mA,0Hz~5kHz						
Communication	GPRSS/4G/NB-IOT/LoRa.						
Liner	Neoprene, Polyurethane rubber, natural rubber, PFA, PTFE, etc,						
Electrode Material	SS316L(standards), Hastelloy B/C,etc.						
Accuracy	± 0.2%, ± 0.3%, ±0.5% (flowrate<1m/s) .Optional						
Measuring Range	0.5m/s~10m/s						
Display Unit	Standard Unit in m <sup>3</sup> , Litre						
Process Temperature	0°C~80°C						
Protection Class	IP 65,IP67,IP68.Optional						
Flow Tube Material	SS316,SS304(Optional)						
Construction Material	Mild steel/Stainless steel						

## **ELECTRODE MATERIALS:**

Electrode	Application
SS316L	Nitric acid, sulfuric acid with concentration <5% at room temperature, weak acid, alkali solution, sulfite under certain pressure, sea water, acetic acid and other media have strong corrosion resistance.
Hastelloy B Hastelloy C	It can resist the corrosion of oxidizing acids, such as nitric acid, mixed acid, or mixed medium of chromic acid and sulfuric acid, and also can resist the corrosion of oxidizing salts, such as fe++, cu++. Or hypochloric acid and alkali, seawater
Titanium	It is resistant to the corrosion of seawater, various chlorides, hypochlorites, chlorinated acids, organic acids, alkalis, etc., and is not resistant to the corrosion of relatively pure reducing acids (such as sulfuric acid and hydrochloric acid)
Tantalum	Excellent corrosion resistance. Except hydrofluoric acid, fuming sulfuric acid and alkali, it can resist the corrosion of almost all chemical media (including hydrochloric acid, nitric acid with boiling,oint and sulfuric acid below 175 $^{\circ}$ C), but it is not resistant to corrosion in alkali.
Platinum-iridium	Good corrosion resistance to acid, alkali and various salts, But not resistant to nitromurlatic acid corrosion
Stainless steel coated with tungsten carbide	For non corrosive and strong abrasive media

# LINER MATERIALS :

Liner materials	Application							
Soft rubber (DN50~DN3000) Hard rubber(DN50~ DN3000)	0 $^\circ\text{C}$ ~ 80 $^\circ\text{C}$ non strong acid, strong alkali and strong oxidizing medium Masurable sewage and mud							
PTFE (≪DN1000)	125°C~140°C 2. Strong corrosive media such as concentrated acid and alkali 3. Sanitary media							
Polyurethane (≤DN300)	125°C~60°C 2. Neutral strong wear mineral slurry, coal slurry and slurry							
PFA(≪DN250)	125 °C ~ 140°C non strong wear medium 2. sanitary media							
P46(≪DN250)	125 °C ~ 100°C non strong wear medium 2. sanitary media							

### **SELECTION TABLE:**

Model	SDLD-F													
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		eg:015	(2)			(0)	(0)				(10)		(12)	(10)
Caliber	DN15-DN300	means												
		DN15												
	0.25Mpa		02											
Flang standard /	0.6MPa		06	1										
	1.0MPa		10	1										
	1.6MPa		16	1										
	ANSI 150		20	1										
	4.0MPa		40	1										
	ANSI 300		50	1										
	JIS 10K		91	1										
	JIS 20K		92	1										
	Customization		XX	1										
	Soft rubber (DN50~	DN3000)	1	1	-									
	Hard rubber(DN50~ DN3000)			2	1									
Liner	PTFE (≤DN1000)	,		3	1									
materials	Polyurethane (≤DN	300)		4	-									
	PFA(≤DN250)	/		5	-									
	F46(≤DN250)			6	-									
	Ceramics(DN50~ D	N150)		7	-									
	Stainless steel 316				1	1								
	Hastelloy C				2	1								
	Hastelloy B				3	1								
Electrode	Titanium				4	1								
Material	Tantalum				5	1								
	Platinum-iridium				6	1								
	Stainless steel coated with tungsten carbid				7	-								
	Conductive ceramic		01011 00110		8	1								
	Grounding screws					0	1							
Grounding	Grounding rings					1	1							
and lining	Grounding electrodes 2						-							
protection	Inlet protection flan			3	1									
	≤80°C	30				Ŭ	A	1						
Materials	≤120°C							-						
temperature	≤120°C ≤180°C						B C	1						
	≤180°C IP65							1	1					
Protection	IP67							2	-					
Grade	IP68							3	1					
	IP65+Ex d ib mb IIC	T4 Gh						4	1					
	Integrated							-	С	1				
Structure	Seperated								R	1				
	85~265VAC/45~63	Hz								A	-			
Power	16~36VDC									D	-			
Supply	3.6VDC									B	-			
	LCD										1	1		
Display	OLED										2	-		
		lorm (stone	larda)								2		-	
Signal Output And Communication	4~20 mA+ Pulse+a											0	4	
	4~20 mA+ Pulse+a											2	4	
	4~20 mA+ Pulse+a											4 M	4	
	4~20 mA+ Pulse+alarm+MODBUS												4	
	4~20 mA+ Pulse+alarm+HART											H P	4	
	4~20 mA+ Pulse+alarm+Profibus+DP													-
Calibration	±0.5% three flow												1	1
	±0.2% five flow												2	1
	±0.5% five flow												3	1
	Standard												X	
Shell Material	Carbon steel Stainless steel 304													0

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