

Electromagnetic Flowmeters EM20 Series

General

Electromagnetic flow measurement has been in use around the world for 50 years and more, as witnessed by the popularity of these meters that continues unabated in virtually all sectors of industry.

The Electromagnetic Flowmeter is the ultimate solution for flow measurement and management and can be used to measure all electrically conductive liquids ($> 5 \mu\text{S}/\text{cm}$) with or without solids, e.g. water, wastewater, sludge, sewage, slurries, pastes, acids, alkalis, juices, fruit pulp, and effluent etc. Its performance adheres to the most stringent global industry standards and is certified to key international approvals.



In the industrial environment, sectors that utilize this measuring principle include: water/wastewater, chemicals, pharmaceuticals, pulp and paper, foodstuffs, etc. Electromagnetic flowmeters are even robust enough to be used in mining. Proven in the toughest applications, EM20's rugged, robust and unburnable sensors eliminate the need of expensive meter chambers. Thereby, it provides a long, productive and maintenance-free asset life. Take advantage of its innovative and versatile attributes to achieve interoperability within a wide range of asset management systems.

Advantage

- The principle is virtually independent of pressure, density, temperature and viscosity
- Superior control through advanced sensor design
- Even fluids with entrained solids can be metered (e.g. ore slurry, cellulose pulp)
- Submersible and buriable installation options
- Improved performance through digital signal processing (DSP)
- Intuitive navigation and configuration
- Free pipe cross-section (CIP/SIP cleaning, piggable)
- Speed, ease and security in the field
- No moving parts, Minimum outlay for maintenance and upkeep
- Detailed diagnostics for rapid decision making
- Powerful and flexible transmitter
- No pressure losses, Very high turndown up to 1000:1
- Large nominal-diameter range available: Size range DN 2 ... DN 2000
- High degree of measuring dependability and reproducibility, good long-term stability

Specification

1. Application condition

Ambient temperature: $-25^{\circ}\text{C} \sim +55^{\circ}\text{C}$;
Relative humidity: $5\% \sim 100\%$;
Ambient pressure: $86 \sim 106\text{kPa}$.

2. Process condition

Conductivity of fluid: more than $5\mu\text{S}/\text{cm}$
Pressure : $4.0\text{MPa}(\text{DN}25 \sim \text{DN}150)$
 $1.0\text{MPa}(\text{DN}200 \sim \text{DN}1000)$



Silver Double Inc.
Website: www.sidolim.com
Email: sale@sidolim.com

techservice@sidolim.com

	0.6MPa(DN1200~DN1600)
Operating temperature:	
Remote version:	<80℃ (Soft rubber lining) <60℃ (Polyurethane lining) <180℃ (PTFE lining)
Compact version:	<70℃
Power supply:	220V AC, 50Hz or DC 24V

3. Description and technical data

3.1 Standard

The performance of the flowmeter is in accordance with JB/T 9248-1999 (China).

3.2 Description and technical data

3.2.1 Sensor

Nominal diameter:	25, (32), 40, 50, (65), 80, 100, (125), 150, 200, 250, 300, 350, 400, (450), 500, 600, 700, 800, 900, 1000, 1200, 1400, 1600
-------------------	---

Note: The diameter with bracket has a lower priority.

Velocity range:	0.5m/s~15m/s
Accuracy:	±0.2%, ±0.3%, ±0.5% of the measured value for DN25~DN350; ±0.5% of the measured value for DN400~DN1600
Material of measuring tube:	Stainless steel 1Cr18Ni9Ti
Material of lining:	Soft rubber, polyurethane, PTFE
Material of electrode:	Stainless steel 0Cr18Ni12Mo2Ti, Hastelloy B, Hastelloy C, Titanium, Tantalum
Material of connecting flange:	Carbon steel
Housing protection:	IP68 (only for Rpmag62F remote version), IP65 (others)

3.2.2 Transmitter

It is a microprocessor-controlled transmitter. It displays measured values in both Chinese and English. There are two versions with remote and compact.

Special feature:

- The magnetic field excitation is programmable rectangular wave with low frequency. It increases the stability of flow measurement and has low consumption.
- It uses a 16-bit microprocessor, fast processing and high accuracy.
- All digital processing, high disturbing resistance, reliable measurement, high accuracy, wide measuring range up to 1500:1;
- Switching power supply is suitable the wide changing range of voltage, good EMC.
- Operating menu in Chinese and English is easy to operate.
- Illuminate LCD display with high definition.
- Dual direction measurement function. It can display forward direction flowrate and reverse direction flowrate. Three inside counters can respectively display forward direction volume, reverse direction volume and the different volume of both directions. It is possible to communicate via RS485.
- Big range of constant coil current for sensor can fit different type sensor of electromagnetic flowmeter.
- Multifunction intelligent transmitter has self-test and self-diagnosis function.
- EEROM can save the setting and the counters when power off.
- Remote version and compact version.

Technical data:

Process condition

Ambient temperature:	- 25~+60℃
----------------------	-----------



Silver Double Inc.
Website: www.sidolim.com
Email: sale@sidolim.com

techservice@sidolim.com

Relative humidity:	5%~90%
Power supply:	85~265VAC, 47.5~52.5Hz or DC 24V
Consumption:	less than 20W
Accuracy:	$\pm 0.2\%$, $\pm 0.3\%$, $\pm 0.5\%$
Repeatability:	0.07%, 0.1%, 0.17% of the measured value.
Current output	
Current output:	4~20mA with electric isolation
Load resistance:	0~750 Ω
Basic error:	Basic error of the measured value plus $\pm 10\mu\text{A}$
Frequency and pulse output	
Frequency output:	For forward direction and reverse direction, the maximum frequency can be set between 1~5000Hz. The output is collector of transistor open with galvanic isolation. External power supply should be less than 30V, and maximum current for the collector is 250mA when it works.
Pulse output:	For forward and reverse direction. The pulse can be up to 15000 per second. The pulse width is up to 25ms. The output is collector of transistor open with galvanic isolation. External power supply should be less than 30V, and maximum current for the collector is 250mA when it works. Via an inside pull-up resistor, frequency and pulse output can use the inner 24V power supply. The maximum current for the collector is 2.3mA when it works.
Display:	Display with English and Chinese, five characters for flowrate and ten characters for volume.
Alarm:	Two alarms are the collector of transistor open output with galvanic isolation. External power supply should be less than 30V, and maximum current for the collector is 250mA when it works. Alarm output for the following faults: Empty pipe direction, analog exceeds its range, frequency exceeds its range and the fault for magnetic field excitation.
Status input:	Communication serial output with RS485. It has protection for lightning strike.
Damp:	2~100s (90%)。
Isolation:	The isolating voltage should be more than 500V between analog output, pulse (frequency output), alarm and ground.



www.sidolim.com



sale@sidolim.com

All products should be subjected to any change without notification.

Please don't hesitate to contact us if have any questions.



Silver Double Inc.
 Website: www.sidolim.com
 Email: sale@sidolim.com

techservice@sidolim.com