



Recorder



Flow



Pressure



Temp



Analyzer



Level

Datasheet

Electromagnetic Flow Meter

LDG-SUP-A100-IS

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Datasheet**Electromagnetic flow meter
LDG-SUP-A100**

The electromagnetic flowmeter is designed based on the Faraday electromagnetic induction principle and are used to directly measure the flow rate of conductive liquids in closed pipelines. During on-site monitoring and display, standard current signals, pulse signals, and RS485 digital signals can be output for recording, adjustment, and control, achieving automatic detection and control.

It can be widely used in industries such as tap water, chemical industry, coal, environmental protection, light textile, metallurgy, papermaking, etc.

Applications

- Sewage treatment
- Printing and dyeing
- Chemical industry
- Environmental protection
- Metallurgy
- Pharmaceutical
- Paper making
- Tap water supply

**Features**

- 0.5%F.S measuring accuracy
- RS-485 modbus communication, 4-20mA output
- The grounding screws are available by default
- It can directly measure the flow rate of conductive liquids in closed pipelines.

Electromagnetic flow meter

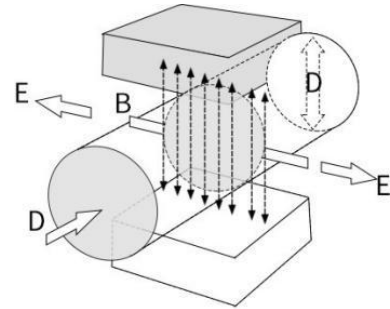
Principle

The measurement principle of magnetic flowmeters can be described as follows: when the liquid goes through the pipe at the flow rate of v with a diameter D , within which a magnetic flux density of B is created by an exciting coil, the following electromotive E is generated in proportion to flow speed v :

$$E = K \times B \times V \times D$$

Where:

- E — Induced electromotive force
- K — Meter constant
- B — Magnetic induction density
- V — Average flow speed in cross-section of measuring tube
- D — Inner diameter of measuring tube

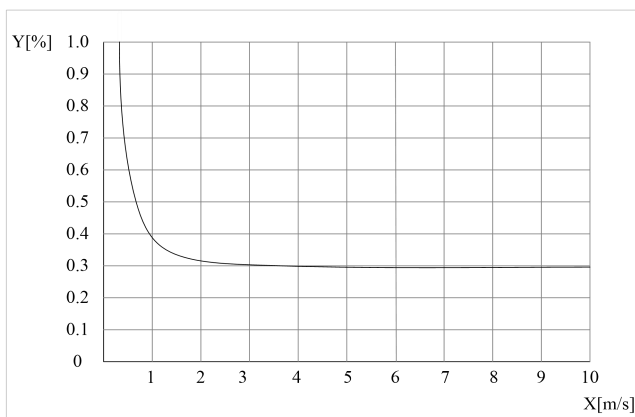


The induced voltage signal is detected by two electrodes and transmitted to the converter via a cable. After a series of analog and digital signal processing, the accumulated flow and real-time flow are displayed on the display of the converter.

Accuracy

Reference condition

- (1) Medium: water
- (2) Temperature: 20°C
- (3) Pressure: 0.1MPa
- (4) Stallation requirements: Inlet run $\geq 10DN$, Outlet run $\geq 5DN$



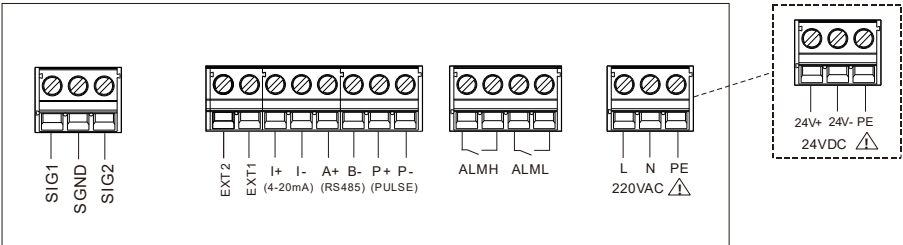
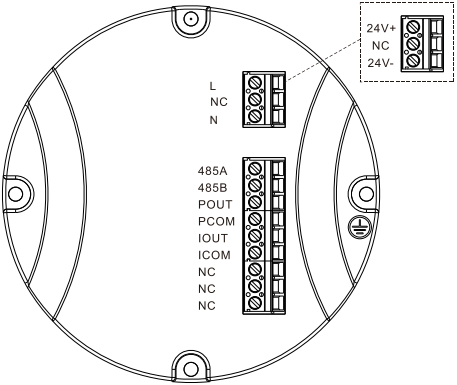
①X[m/s]: Velocity of flow

②Y[%]: Actual measured value deviation

Parameters	
Measured variable	Direct measured variables : Flow velocity Calculated measured variables : Volume flow , mass flow
Velocity of flow	Typically Velocity of flow: 0.5m/s~5m/s
Nominal diameter	DN10~DN1000
Range ratio	1:10
Current output	Function
	Measurement of volume and quality (in the case of constant density)
	Scope (4~20)mA
	Max 20mA
	Min 4mA
Pulse output	Internal voltage
	24VDC
	Loading
	≤750Ω
	Function
	Set up Pulse output
	Basis: $F_{max} \leq 5000$ cp/s Output pulse width: 0.1ms ~2000ms (This value is lower than the maximum duty cycle, with a maximum duty cycle of 1:1 $F_{max} \leq 5000$ cp/s Pulse coefficient: 0.001~100000/unit
	Passive
	$U_{Outer} \leq 30VDC$
	Active
	$U_{Internal} \leq 24VDC$ $I \leq 4.52mA$
Communications	RS485 serial , MODBUS-RTU communication protocol
Supply voltage	100VAC~240VAC, 50/60Hz; 20VDC~28VDC
Power consumption	≤15W
Terminals	Screw type terminal block, maximum wire diameter 2.5mm ²
Cable entries	M20*1.5 Cable gland
Signal cable	Apply only to remote type

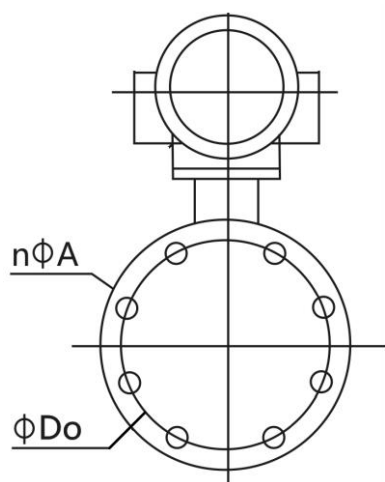
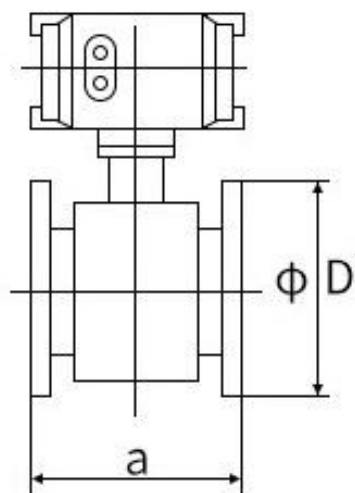
Wiring

Terminal	Description
L, N	220V AC power supply
24V+, 24V-	24V DC power supply
485A, 485B	RS485 serial communication
IOUT, ICOM	(4~20)mA output
POUT, PCOM	Pulse output
	Converter instrument protection grounding



Terminal	Description
SIG1、SIG2、SGND	Sensor signal
EXT1、EXT2	Excitation signal
I+、I-	(4~20)mA output
A+、B-	RS485 serial communication
P+、P-	Pulse output
ALMH、ALML	Relay output (Optional)
L, N	220V AC power supply
24V+, 24V-	24V DC power supply
PE	Ground

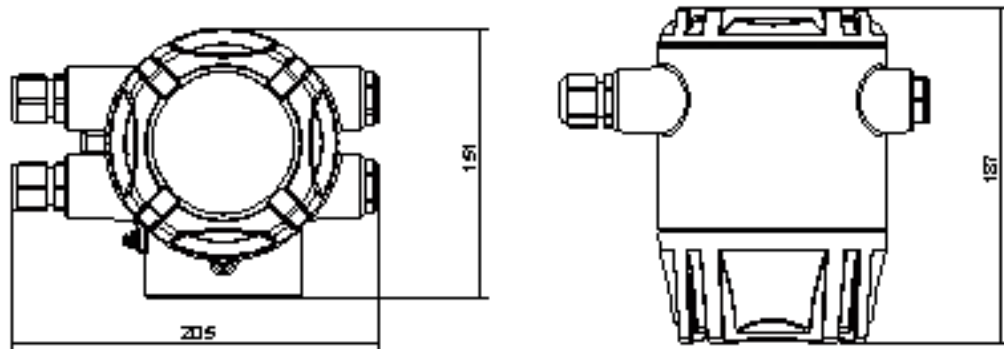
Dimension



Sensor Dimensions

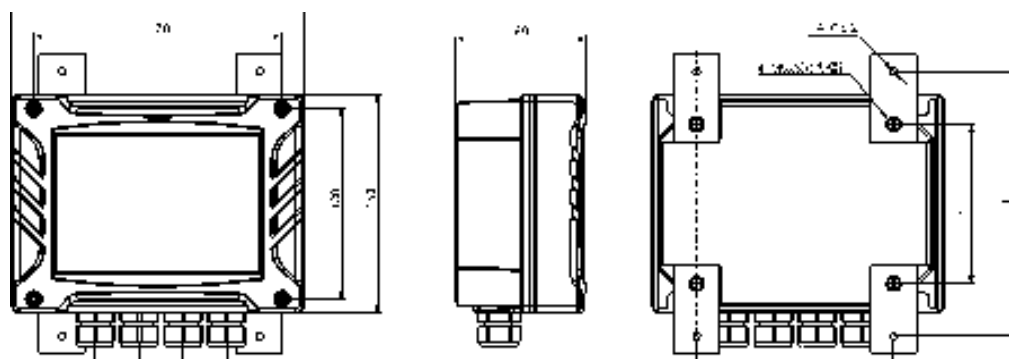
DN	a	D	Do	n*A	Pressure resistance
10	200	90	60	4*14	1.6MPa
15	200	95	65	4*14	1.6MPa
20	200	105	75	4*14	1.6MPa
25	200	115	85	4*14	1.6MPa
32	200	135	100	4*18	1.6MPa
40	200	145	110	4*18	1.6MPa
50	200	160	125	4*18	1.6MPa
65	200	180	145	4*18	1.6MPa
80	200	195	160	8*18	1.6MPa
100	250	215	180	8*18	1.6MPa
125	250	245	210	8*18	1.6MPa
150	300	280	240	8*23	1.6MPa
200	350	335	295	12*23	1.6MPa
250	450	405	355	12*25	1.6MPa
300	500	440	400	12*23	1.0MPa
350	550	500	460	16*23	1.0MPa
400	600	565	515	16*25	1.0MPa
450	600	615	565	20*25	1.0MPa
500	600	670	620	20*25	1.0MPa
600	600	780	725	20*30	1.0MPa
700	700	895	840	24*30	1.0MPa
800	800	1015	950	24*33	1.0MPa
900	900	1115	1050	28*33	1.0MPa
1000	1000	1230	1160	28*36	1.0MPa

Integrated



Unit:mm

Remote



Unit:mm

Ordering code

LDG-SUP-A100-15-J-B-MC-K-AA-M3-N6-WA-00											Description
LDG-SUP -A100	-	-	-	-	-	-	-	-	-	-	
Nominal Diameter	15										DN15 (1/2")
	20										DN20 (3/4")
	25										DN25 (1")
	32										DN32 (1.25")
	40										DN40 (1.5")
	50										DN50 (2")
	65										DN65 (2.5")
	80										DN80 (3")
	1C										DN100 (4")
	1E										DN125 (5")
	1G										DN150 (6")
	2C										DN200 (8")
	2G										DN250 (10")
	3C										DN300 (12")
	3G										DN350 (14")
	4C										DN400 (16")
	4G										DN450 (18")
	5C										DN500 (20")
	6C										DN600 (24")
	7C										DN700 (28")
	8C										DN800 (32")
	9C										DN900 (36")
	A0										DN1000 (40")
Thread Type Standard	J										JB/T 81 Flange
	I										ISO2852 Clamp
	X										Other
Nominal Pressure	B										PN10
	C										PN16
	X										Other
Thread Type Material and Body Material	MC										Carbon Steel
	M1										304SS
	XX										Other
Accuracy										K	0.5 Class
Output and Power Supply										AA	4-20mA+Pulse+RS485, 220VAC
										AM	4-20mA+Pulse+RS485, 24VDC
										AC	Pulse+4-20mA+RS485+SPST,

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Integrated, M20×1.5 Plug,
Aluminum Alloy, IP65,
Matching Flange Carbon
Steel.