



Electromagnetic Flowmeter Datasheet

ECC-LDG

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Overview of Products

ECC-LDG series of electromagnetic flowmeter was developed on long-cultivated technology for flow measure. LDG family has extended its application range with such model as integrated and remote. Through constant development and improvements, LDG series electromagnetic flow meter has become more accurate and reliable and widely used in the industrial instrumental field. We provides wide range of electromagnetic flow meters, all fulfilling the highest demands in terms of accuracy and reliability in industries such as water and waste water, food and beverage, mining, pulp and paper.

- Please note: electromagnetic flow meter is only applicable to measure the flow of conductive liquid. The fresh supply of equipment is in factory setting condition, and only when manufacturers set the appropriate parameters, it can work well.

Features

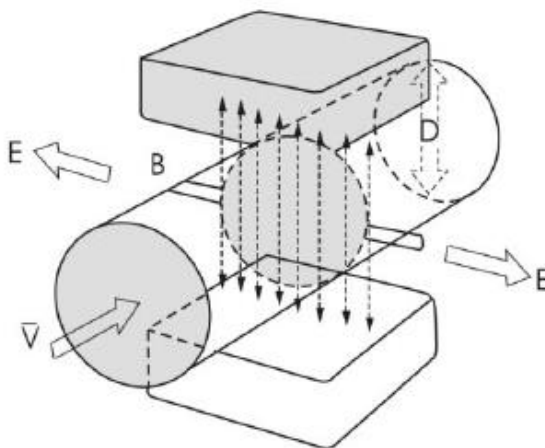
- Excellent measurement repeatability and linearity
- Good reliability and anti-interference performance
- Good pressure resistance sealing ability
- Self-diagnosis for empty pipe detection
- Low pressure loss measurement tube
- Extremely simple operation
- High degree of accuracy
- High intelligent



Working Principle

- The measurement principle of magnetic flowmeters can be described as follows:

When the liquid goes through the pipe at the flow rate, V with a diameter, D within which a magnetic flux density, B is created by an exciting coil, the following electromotive, E is generated in proportion to flow speed, V .



$$E=KBVD$$

E — Induced voltage;

K — Constant;

B — Magnetic induction (magnetic field);

V — Volume flow;

D — Pipe Size

Technical Specifications

| | |
|------------------------------------|---|
| Model Number | LDG |
| Flow Direction | Right & Left |
| Accuracy | 0.5% |
| Reliability | 0.2% |
| Nominal Width Range | DN 10 to 1200 (3/8 to 48") |
| Housing Material | Carbon Steel |
| Process connection | Flange |
| Nominal Pressure | DN6-DN50, PN<4.0MPA DN65-DN150, PN<1.6MPA DN200-DN600, PN<1.0MPA DN700-DN2000, PN<0.6MPA |
| Response Time | 0.02s |
| Lining Material | Rubber, F46, PTFE, PU, PFA |
| Electrodes | 316L, Hastelloy C, Platinum, Tantalum, Titanium, Tungsten carbide |
| Process Connection Material | Stainless Steel |
| Protection Type | IP65 (compact version), IP68 (remote version) |
| Display | Graphical Display |
| Unit | L, m ³ , kg, t/s, min, h |
| Medium Temperature | Rubber (80°C) F46 (150°C) PTFE (120°C) PU (60°C) PFA (180°C) |
| Cable Gland | 10meters (standard) |
| Power Supply | 100-240VAC ; 24VDC |
| Transmitter | 4-20mA, Pulse, RS485, Hart Protocol |
| Conductivity | > 5 μS/cm, (20 μS/cm for demineralized water) |
| ATEX | No |

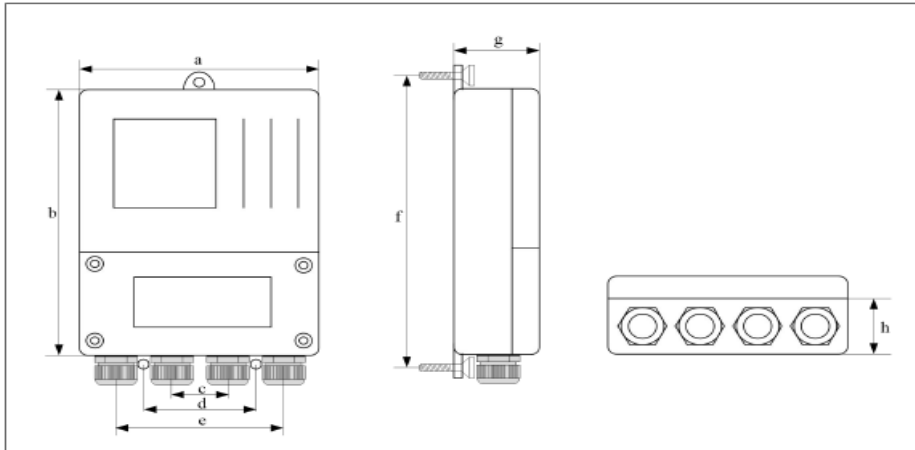
Flowrate

| Diameter (mm) | Flow Range (m ³ /h) | | |
|---------------|--------------------------------|--------------|---------------|
| | | | |
| 10 | 0.02827 – 0.25 | 0.3 – 1.6 | 2.0 – 3.3924 |
| 15 | 0.0636 – 0.6 | 0.8 – 3.0 | 4.0 – 7.632 |
| 20 | 0.131 – 1.0 | 1.2 – 5.0 | 6.0 – 13.6 |
| 25 | 0.176 – 1.6 | 2.0 – 8.0 | 10 – 21 |
| 32 | 0.2895 – 2.5 | 3.0 – 12 | 16 – 35 |
| 40 | 0.4524 – 4.0 | 5.0 – 20 | 25 – 45 |
| 50 | 0.707 – 6.0 | 8.0 – 40 | 50 – 85 |
| 65 | 1.195 – 10 | 12 – 60 | 80 – 143 |
| 80 | 1.81 – 16 | 20 – 120 | 160 – 217 |
| 100 | 2.83 – 25 | 30 – 160 | 200 – 339 |
| 125 | 4.42 – 40 | 50 – 250 | 300 – 530 |
| 150 | 6.36 – 60 | 80 – 400 | 500 – 763 |
| 200 | 11.3 – 100 | 120 – 600 | 800 – 1357 |
| 250 | 17.7 – 160 | 200 – 800 | 1000 – 2120 |
| 300 | 25.45 – 250 | 300 – 1200 | 1600 – 3054 |
| 350 | 34.6 – 300 | 400 – 1600 | 2000 – 4157 |
| 400 | 45.2 – 400 | 500 – 2000 | 2500 – 5429 |
| 450 | 57.3 – 500 | 600 – 2500 | 3000 – 6871 |
| 500 | 70.7 – 600 | 800 – 3000 | 4000 – 8482 |
| 600 | 102 – 800 | 1000 – 4000 | 5000 – 12216 |
| 700 | 139 – 1200 | 1600 – 5000 | 6000 – 16620 |
| 800 | 181 – 1600 | 2000 – 6000 | 8000 – 21270 |
| 900 | 229 – 1600 | 2000 – 8000 | 10000 – 27480 |
| 1000 | 283 – 2000 | 2500 – 10000 | 12000 – 33924 |
| 1200 | 407 – 2500 | 3000 – 12000 | 16000 – 48833 |
| 1400 | 554 – 3300 | 4000 – 16000 | 20000 – 66468 |
| 1600 | 723 – 4000 | 5000 – 20000 | 27000 – 86815 |

*Note: The overall range is the optional range

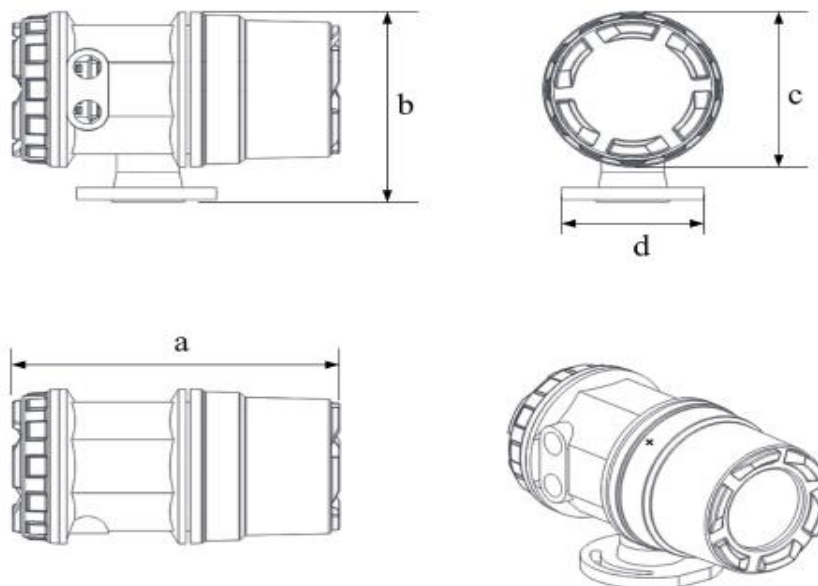
Dimensional Drawings

- Remote Type




| [mm] | | | | | | | | [Kg] |
|------|-------|----|----|-----|-------|------|------|------|
| a | b | c | d | e | f | g | h | |
| 164 | 214.5 | 34 | 70 | 102 | 233.5 | 69.7 | 45.7 | 0.6 |

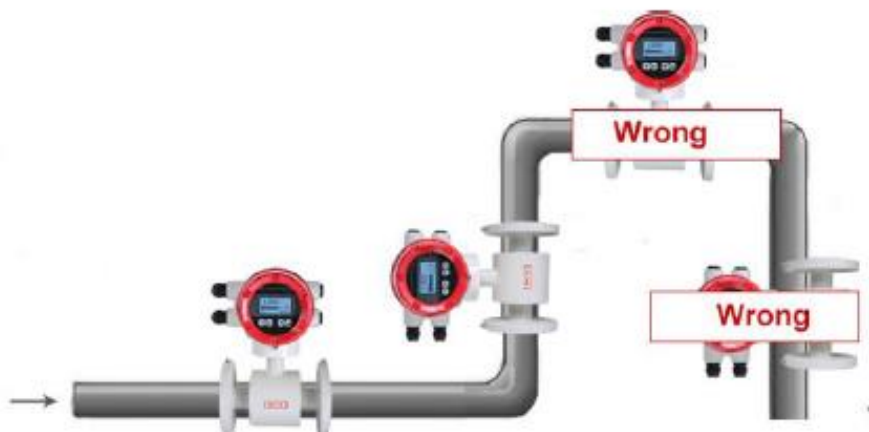
- Compact Type



| [mm] | | | | [Kg] |
|------|-----|-----|----|------|
| a | b | c | d | |
| 219 | 147 | 120 | 90 | 0.6 |

Installation

- The measuring pipe must always be full.
- The flow direction must match the identification marking 
- Install the devices without any mechanical tension (torsion, bending).
- Use a flange seal made from a material that is compatible with the medium and the medium temperature.
- Seals should not extend into the flow area, since any turbulence affects the device accuracy.
- The pipeline must not exert any inadmissible forces or torque on the device.
- Install remote mount transmitters at a location that is largely free of vibration.
- Do not expose the transmitter to direct sunlight; provide sun protection if necessary.



Ordering Code

| Electromagnetic flowmeter | | | | | | | | | | | | |
|---------------------------|----|------|----|----|----|----|---|----|---|-------------|----------------------|--------------------|
| Model | | | | | | | | | | Description | | |
| - | - | - | - | - | - | - | - | - | - | - | | |
| ECC-LDG | | | | | | | | | | | | |
| Basic type | M1 | | | | | | | | | | Compact type | |
| | M2 | | | | | | | | | | Remote type | |
| Nominal pipe | | DNXX | | | | | | | | | DN10-DN2000 | |
| Accuracy | | | J2 | | | | | | | | 0.50% | |
| Output | | | | O1 | | | | | | | Pulse output | |
| | | | | O2 | | | | | | | | 4-20Ma output |
| Communication Output | | | | D0 | | | | | | | No output | |
| | | | | D2 | | | | | | | | RS485 |
| Installation | | | | | I2 | | | | | | Flange installation | |
| | | | | | I4 | | | | | | | Clamp installation |
| Power Supply | | | | | | V1 | | | | | 220VAC | |
| | | | | | | V2 | | | | | | 24VDC |
| | | | | | | V3 | | | | | | Battery powered |
| Electrode Material | | | | | | E1 | | | | | 316L stainless steel | |
| | | | | | | E2 | | | | | | Titanium |
| | | | | | | E3 | | | | | | Tantalum |
| | | | | | | E4 | | | | | | Hastelloy B |
| | | | | | | E5 | | | | | | Hastelloy C |
| | | | | | | E6 | | | | | | Platinum |
| | | | | | | E7 | | | | | | Tungsten Carbide |
| Lining Material | | | | | | L1 | | | | | Neoprene (CR) | |
| | | | | | | L2 | | | | | | Polyurethane (PU) |
| | | | | | | L3 | | | | | | PTFE |
| | | | | | | L4 | | | | | | F46 |
| Body Material | | | | | | | | B1 | | | Carbon Steel | |
| | | | | | | | | B2 | | | | |