Electromagnetic Flowmeter GT300-Mini

1. Summary

The **GT300 Mini_Electromagnetic Flowmeter** extremely compact, low cost, inductive magnetic flowmeter (including Transmitter and sensor), the Mini Inductive Magnetic Flowmeter is the perfect solution for measuring the flow of conductive liquids in applications where reliability and low-pressure loss of a magmeter are desired at an economical price compared to higher end models.

This Magnetic flowmeter measures flow using the magnetic-inductive principle like as GT300.
According to Faraday's law of magnetic induction, current is induced into a conductor as it moves through a magnetic field.
The amount of current induced is directly proportional to the velocity of the moving conductor.
A conductive liquid passing through the flowmeter body acts as the conductor.
The flowmeter body contains a set of electromagnetic coils that generate the magnetic field.
Electrodes mounted in the flowmeter body collect the current, whose magnitude is proportional to flow rate.

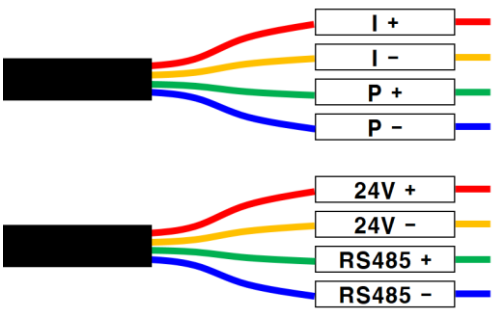
2. Features

- Full-bore design, no additional pressure drops
- Designed for continuous measurement of many conductive liquids.
- Small pipe size: DN3, DN6, DN10, DN15.
- Magneto-inductive technology with no moving parts, no additional pressure drops
- Compact mini design
- LCD Display
- Liner: PEEK
- For use with a wide variety of conductive liquids, acids and caustics
- Aluminum body W/SS316L electrodes or aluminum body with HC electrodes
- Output: 4-20mA, Pulse, Relay and Modbus.

3. Technical specification

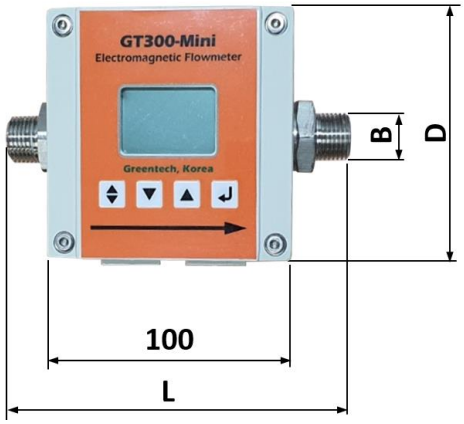
Model	GT300-Mini
Size	DN3, DN6, DN10, DN15
Velocity range	0.3m/s~ 12 m/s, low limit flow and be 1% of up limit flow.
Accuracy	±0.5% of RS (Velocity >0.6m/s)
Repeatability Error	< ±0.1%
Media Conductivity	20 ms/ cm
Measuring Direction	Bi-directional measurement
Max Working Pressure	1.6MPa
Max Working Temperature	80°C for PEEK
Liner	PEEK
Electrodes	SS316L or HC, Titanium
Enclosure	Aluminum, IP65 for Blind version
Connection	Thread G 1/2", G1/4". G3/8". NPT. Flange.
Power supply	24VDC, ≤100mA
LCD display	Flow rate and total flow 128X 128mm, 3 lines.
Analog output	4~ 20mA, 3 Wire, RS485 (Modbus)
Pulse output	0~ 5KHz
Relay Output	Optional, 1 Relay 2A/ 30VDC for flow switch
Communication	RS485 MODBUS
Cable gland	Plug with cable 1m
Required straight pipe	Inlet Path ≥ 5D, Outlet Path ≥ 3D

4. Wiring

Connector Label/ Cable Color	Cable Descriptions
	4-20mA Current Output + 4-20mA Current Output - Pulse + Pulse - Power supply 24VDC + Power supply 24VDC - RS485 + RS485 -

5. Structure dimension (Unit: mm)

Housing material: Aluminum



Nominal size (mm)	Nominal Pressure (MPa)	Dimension			
		L	D	H	B
3	0.6~1.6	135	100	70	G 1/2”
6		145			
10		145			
15		155			

6. Flow rate table per meter size:

- **Standard Measure Range**

DN (mm)	Start Flow		Flow Velocity (m/s)	Standard Range	Flow Velocity (m/s)
	m^3/h	L/min		L/min	
3	0.00127	0.02117	0.05	0.2~4	0.5~10
6	0.00508	0.08467	0.05	0.8~16	0.5~10
10	0.0141	0.23500	0.05	2.0-40	0.5~10
15	0.0318	0.53000	0.05	5.0~100	0.5~10

- **Measure Range & Accuracy**

Nominal size (mm)	Measure Range (m/s)	Accuracy
DN3~DN15	0.3~1	±1% R
	1~12	±0.5% R
% FS: for relative ranges / %/R for relative value of measurement		

7. Main applications

Special are designed for Flow monitoring, flow measuring, dosing and counting:

- Food & beverages industry:
  - Water
  - Soft drinks
  - Milk and dairy
  - Beer
  - Fruit juices and other fluids with fibers
- Chemical process control industry.
- Cooling systems and cooling circuits
- Pharmaceutical dosing system;
- Plumbing applications;
- Plant construction
- For automated animal (such as calf, pig and chicken) feeding systems
- flow or temperature monitoring
- Mechanical engineering

8. Model selection

Electromagnetic Flowmeter_GT300 Mini			
Nominal size		**3. 5. 6.....15**	DN3, DN6, DN10, DN15
Power		**A**	AC 85-250V, 50-60Hz
		D	DC 20-36V
Display		**Y**	With Display
Material	**Electrode**	**S**	SS316L
		H	HC
		T	Titanium
		O	Others
	Thread	**S**	SS316L
		H	HC
		T	Titanium
		O	Others
Output		**S**	4-20mA DC. RS485/Modbus. Pulse.
		R	With 1 contact relay output
Connection type		**G14**	G 1/4" Thread for 3mm and 6mm
		N14	NPT 1/4" Thread for 3mm and 6mm
		G38	G 3/8" Thread for 3mm and 6mm
		N38	NPT 3/8" Thread for 3mm and 6mm
		G12	G 1/2" Thread for all sizes.
		N12	NPT 1/2" Thread for all sizes
		F	Flange
Option		**( )**	Temperature sensor Y: Yes. N: No