

ELECTROMAGNETIC FLOW TRANSMITTER

Special Features:

- Full Bore type
- Simple and Cost effective Construction
- Absolutely Maintenance free
- Suitable for all conductive liquids and slurries
- Outstanding Accuracy and Reliable Performance
- Flow measurement in forward and reverse direction on demand
- Universal power supply
- Empty pipe indication on demand
- Simultaneous Analog + Pulse + Modbus + Relay Outputs
- Calibration using COML Protocol



Applications:

Omicron's F6700 are micro controller based full bore type electromagnetic flow transmitter specially used for various industrial applications. These flow transmitters accurately measure the flow rate of conductive liquids and slurries in closed pipes. Due to simple and rigid design, the flow transmitter is an obstruction less & maintenance free instrument in place of conventional mechanical flow measuring device. The use of advance technology offers highest ability & better measuring accuracy in the form of electrical signal 4-20 mA DC linearly proportional to volumetric flow. The Instrument is based on Faraday's law of Electro-magnetic Induction. A magnetic field is generated by the instrument in the flow tube. The fluid flowing through this magnetic field generates a voltage that is proportional to flow velocity.

Performance Specifications:

Media	: Liquids (Conductive)
Minimum Conductivity	: $> 2\mu\text{S}/\text{cm}$
Viscosity	: 200 cp max.
Line Size	: 10NB to 600NB
Excitation	: Pulsed DC Coil
Type of Output	: 4-20 mA isolated
Display	: LCD- 4 digit for Flow rate 9 digit for Totalized flow
Calibration Range	: As per requirements(Factory calibration)
Accuracy	: $\pm 0.5\%$
Repeatability	: $\pm 0.5\%$
Process Temperature	: 85°C, 150°C
Process Pressure	: 40kg/cm ² max.
Material of Construction	: Lining: Rubber/PTFE Flange: CS/MS/SS Electrode: SS316/ Hastalloy C Coil Housing: MS/SS304
Power Supply	: 85 to 250VAC (45 to 63Hz) or 20 to 36VDC
Response Time	: < 50 mSec.
Temperature coefficient	: $\pm 0.1\%$ Per°C
Process Connection	: ASA 150 Flanged
Mounting	: Inline (Horizontal / vertical)
Operating Temperature	: -40°C to 55°C
Transmitter Enclosure	: Aluminum Enclosure IP67/IP68
Nominal Meter Size	: 10 to 1000mm (3/8 to 40 inch)
Liquid Pressure (MPa)	: 1.0, 1.6, 2.5, 4.0, 16, 25
Electrode Material	: SS316L (standard), Hastelloy, Tantalum, titanium, Tungsten Carbide (upon req.)

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Fluid Temperature	: -25 to 85°C (-13 to 140°F) -25 to 180°C(-13 to 356°F)(opt.)
Liner	: CR, FEP, PTFE, PFA
Relative Humidity	: ≤85%
Ambient Temperature	: -10 to 60°C (14 to 140°F)
Current Output	: 0 to 10mA or 4 to 20mA
Frequency Output	: 0 to 5000Hz with photoelectric isolation
Pulse Output	: Adjustable from 0.001 to 1000 Ltr/Pulse
Alarm Output (opt.)	: Upper Alarm-ALMH, Lower Alarm-ALMLwith photoelectric isolation Upper Alarm-ALMH, Lower Alarm-ALMLwith photoelectric isolation
Communications (opt.)	: RS-232 without galvanic isolation RS-485 with galvanic isolation MODBUS.
Power	: S<10W/AC, S<7.5W/DC

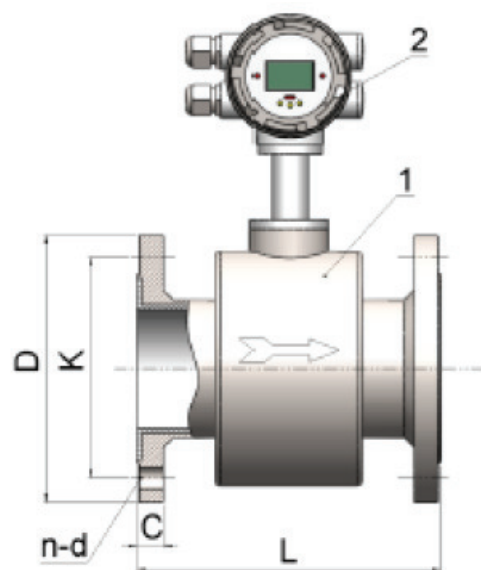
Flow Ranges and Meter Sizes

Meter Size		Min. Flow Range Flow Velocity		Max. Flow Range Flow Velocity	
DN		0 to 0.5 m/s	0 to 1.64 ft/s	0 to 10 m/s	0 to 32.81 ft/s
mm	Inch	l/min, m³/h	gpm	l/min, m³/h	gpm
10	3/8	0 to 2 l/min	0 to 0.52	0 to 40 l/min	0 to 11.88
15	1/2	0 to 5 l/min	0 to 1.32	0 to 100 l/min	0 to 26.41
20	3/4	0 to 7.5 l/min	0 to 1.98	0 to 150 l/min	0 to 39.62
25	1	0 to 10 l/min	0 to 2.64	0 to 200 l/min	0 to 52.83
32	1 1/4	0 to 20 l/min	0 to 5.28	0 to 400 l/min	0 to 105.66
40	1 1/2	0 to 30 l/min	0 to 7.92	0 to 600 l/min	0 to 158.50
50	2	0 to 3 m³/h	0 to 13	0 to 60 m³/h	0 to 264
65	2 1/2	0 to 6 m³/h	0 to 26	0 to 120 m³/h	0 to 528
80	3	0 to 9 m³/h	0 to 39	0 to 180 m³/h	0 to 792
100	4	0 to 12 m³/h	0 to 52	0 to 240 m³/h	0 to 1056
125	5	0 to 21 m³/h	0 to 92	0 to 420 m³/h	0 to 1849
150	6	0 to 30 m³/h	0 to 132	0 to 600 m³/h	0 to 2641
200	8	0 to 54 m³/h	0 to 237	0 to 1080 m³/h	0 to 4755
250	10	0 to 90 m³/h	0 to 396	0 to 1800 m³/h	0 to 7925
300	12	0 to 120 m³/h	0 to 528	0 to 2400 m³/h	0 to 10566
350	14	0 to 165 m³/h	0 to 726	0 to 3300 m³/h	0 to 14529
400	16	0 to 225 m³/h	0 to 990	0 to 4500 m³/h	0 to 19812
450	18	0 to 300 m³/h	0 to 1320	0 to 6000 m³/h	0 to 26417
500	20	0 to 330 m³/h	0 to 1452	0 to 6600 m³/h	0 to 29058
600	24	0 to 480 m³/h	0 to 2113	0 to 9600 m³/h	0 to 42267
700	28	0 to 660 m³/h	0 to 2905	0 to 13200 m³/h	0 to 59117
800	32	0 to 900 m³/h	0 to 3962	0 to 18000 m³/h	0 to 79251
900	36	0 to 1200 m³/h	0 to 5283	0 to 24000 m³/h	0 to 105668
1000	40	0 to 1350 m³/h	0 to 5943	0 to 27000 m³/h	0 to 118877

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Dimension:

Meter Size (DN)		Dimensions (mm)													
		Length	ANSI CL150					DIN PN16 (DN10-DN150) DIN PN10 (DN200-DN500) DIN PN6 (DN600-DN1000)				JIS 10K			
in	mm	L	D	K	C	n-d	D	K	C	n-d	D	K	C	n-d	
3/8	10	200	89	60.5	11.5	4-15.7	90	60	14	4-14	90	65	12	4-15	
1/2	15	200	89	60.5	11.5	4-15.7	95	65	14	4-14	95	70	12	4-15	
3/4	20	200	98	70	13	4-15.7	105	75	16	4-14	100	75	14	4-15	
1	25	200	108	79.5	14.5	4-15.7	115	85	16	4-14	125	90	14	4-19	
1 ¹ / ₄	32	200	117	89	16	4-15.7	140	100	18	4-18	135	100	16	4-19	
1 ¹ / ₂	40	200	127	98.5	17.5	4-15.7	150	110	18	4-18	140	105	16	4-19	
2	50	200	152	120.5	19.5	4-19	165	125	20	4-18	155	120	16	4-19	
2 ¹ / ₂	65	200	178	139.5	22.5	4-19	185	145	20	4-18	175	140	18	4-19	
3	80	250	190	152.5	24	4-19	200	160	20	8-18	185	150	18	8-19	
4	100	250	228	190.5	24	8-19	220	180	22	8-18	210	175	18	8-19	
5	125	250	254	216	24	8-22.4	250	210	22	8-18	250	210	20	8-23	
6	150	300	279	241.5	25.5	8-22.4	285	240	24	8-22	280	240	22	8-23	
8	200	350	343	298.5	28.5	8-22.4	340	295	24	8-22	330	290	22	12-23	
10	250	400	406	362	30.5	12-25.4	395	350	26	12-22	400	355	24	12-25	
12	300	400	482	432	32	12-25.4	445	400	26	12-22	445	400	24	16-25	
14	350	400	533	476	35.5	12-28.4	505	460	26	16-22	490	445	26	16-25	
16	400	450	597	540	37	16-28.4	565	515	26	16-26	560	510	28	16-27	
20	500	450	698	635	43	20-31.8	670	620	28	20-26	675	620	30	20-27	
24	600	600	813	749.5	47.7	20-35	755	705	30	20-26	795	730	32	24-33	
30	700	750	985	914	74.5	28-35	860	810	26	24-26	905	840	34	24-33	
36	900	900	1170	1086	90.5	32-41	1075	1020	26	24-30	1120	1050	38	28-33	
40	1000	1000	1289	1200	90.5	36-41	1175	1120	26	28-42	1235	1160	40	28-39	



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HOW TO ORDER

⚙ Basic Model:

F6700

⚙ Line Size:

-XX Mention Line Size

-DN50

⚙ Electrodes material:

L	316L	V	Titanium	T	Tantalum	L
H	Hastelloy	M	Monel	P	Platinum-Iridium	

⚙ Grounding Electrodes material:

L	316L	V	Titanium	T	Tantalum	N
H	Hastelloy	M	Monel	N	No Grounding Electrode	

⚙ Lining material:

C	Chloroprene Rubber (DN65-2200mm)	F	FEP (DN10-500mm)
T	PTFE (DN50-300mm)	9	Customization

⚙ Flange MOC

F	Carbon Steel	S	Stainless Steel SS304	F
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⚙ Working pressure:

-G1.6

-G1.6	DIN PN. 0.6, 1.0, 1.6, 2.0, 2.5, 4.0, 16, 25, 35, 42MPa
-A150	ANSI CL150, CL300, CL600, CL900, CL1500, CL2500
-J10	JIS 10K, 20K, 30K

⚙ Flow sensor housing material:

C	Carbon steel	A	Cast-aluminum (DN10-300)	C
S	304 Stainless steel with painting (DN10-350)			

⚙ Liquid temperature:

L	<60°C (Short time up to 80°C)	T	<120°C (Integral type with cooling fin)	L
S	<120°C (remote type)	E	<180°C (Integral type with cooling fin)	
H	<180°C (Only remote type)			

⚙ Flow sensor protection Class:

A

A	IP65	C	IP67
B	IP68 (Only remote type)	D	IP66 (Explosion Proof Ex d)

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Construction:

-M Integral type

-D Remote type

-M

Power supply:

A 100VAC-240VAC

B 20-36VDC

C Lithium battery (Pulse output only for calibration)

B

Transmitter type:

U Standard type

S Slurry Type Integral

W Wall Mounting (Remote)

T Slurry Type Wall Mounting

N No Display, Only Output

L

Output signal 1:

C : 4-20mA output

D : 0-10mA output

N: No current output

C

Output signal 2:

P Pulse output

F Frequency output

J Battery supply pulse output

N No pulse output

P

Communication:

N No communication

S RS485 (MODBUS)

G GPRS

F PROFIBUS

H HART

A CDMA

B RS485 (MODBUS)-Battery supply type

N

Cables length:

0 No cable (Integral type)

1 5m of signal and exciting current cable (Remote type default)

2 10m

3 15m

4 20m

5 25m

6 50m

7 80m

8 100m

0

Ordering Example : F6700 - DN50-LNCF-G1.6CLA - MBU-CPS-0