

ELMAG® 600

BATTERY OPERATED ELECTROMAGNETIC FLOW METER

Features

- Battery / Solar Powered
- Suitable for conductive liquids
- Full bore type
- Empty pipe indication
- Data Logging facility
- Local Indication through LCD
- Communication port (Optional)
- Simple & Cost Effective Construction
- Maintenance Free



Description

Electronet series ELMAG®-600 battery-powered Electromagnetic flow meter. It is ideal when power supply on field is not present, the battery powered ELMAG®-600 gives the flexibility to install a reliable flow meter, virtually anywhere, without distorting accuracy & performance. ELMAG®-600 is provided with 2 to 10 years of continuous battery operation based on sampling time & communication interval. The flow meter is extremely easy to use, simple to install & requires no regular maintenance. The product is engineered for various industrial as well as domestic applications such as Municipal and Industrial Water applications, Cooling tower, Water treatment, etc. The LCD display provides indication for flow rate & totalized flow with key selection. The display automatically turns OFF after 10 minutes, which can be again turned ON by pressing the 'enter' key.

Technical Specifications

Media	Liquid (Conductive)
Line Size	15 NB to 600 NB
Power Supply	Battery / Solar Powered
Electronics	Integral / Remote
Conductivity	> 5 μ S/cm
Viscosity	200 cp max
Excitation	Pulsed DC
Display	LCD Display – 5 digit for Flow Rate & 9 digit for Totalizer Flow
Calibration Range	Wet Calibrated on IEC/ISO/EN17025 Accredited Calibration Laboratory.
Accuracy	< \pm 1% of M.V. (+ \pm 5mm /sec) for Velocity Range 0.3 m/s to 6 or 12 m/s
Linearity	+/- 0.5% of M.V.
Repeatability	+/- 0.2% of M.V.
Temperature Coefficient	+/- 0.05% per $^{\circ}$ C
Process Temperature	-20 to 85 $^{\circ}$ C max for Rubber Lining & -20 to 220 $^{\circ}$ C for PTFE Lining
Process Pressure	16 kg/cm ² max (Higher on request)
Material of construction	1) Lining – Neoprene / Hard / Ebonite Rubber, EPDM, PFA, PTFE, PU, CERAMIC
	2) Flange – MS, CS, SS316, SS304 & PVC
	3) Electrode – SS316L, Hastelloy C, Platinum, Tantalum, Titanium
	4) Coil Housing – MS, SS304, SS316 & PVC
Certification	CE

Low Bat indication	Provided	
Battery Life	2 to 10 Years depending on sampling time.	
Response Time	10 Sec.	
Electronic Protection Class	Field Mount Weather Proof IP-67, Flameproof (CMRI IIA IIB Certified)	
Sensor / Flow Tube Protection class	Weather Proof IP-67, IP-68	
Process Connections	ANSI150 flanged, as per table B 16.5 (Other On Requirement)	
Mounting	In-Line Horizontal / Vertical	
Ambient Conditions	Temperature -20 to 75°C / Humidity 5 to 95% non condensing	
Communication Output	Output : 1 (Any one)	RS485 supporting MODBUS RTU Protocol
	Output : 2 (Any one)	1) GSM
		2) GPRS
		3) RF

Assembly Overview

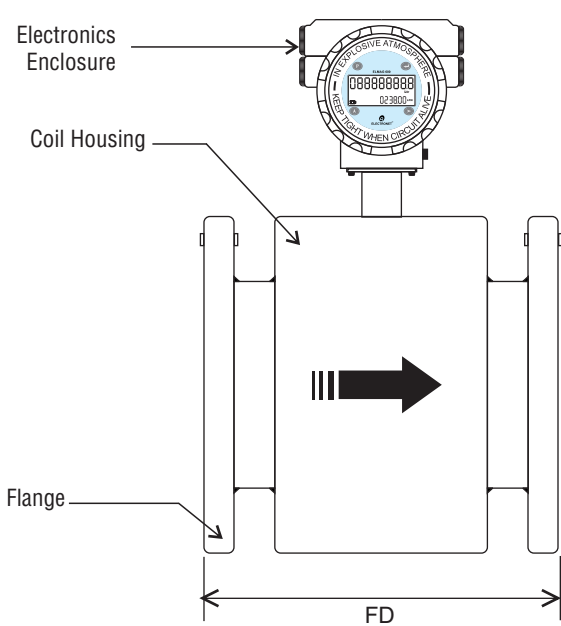


Fig. 1 Front View

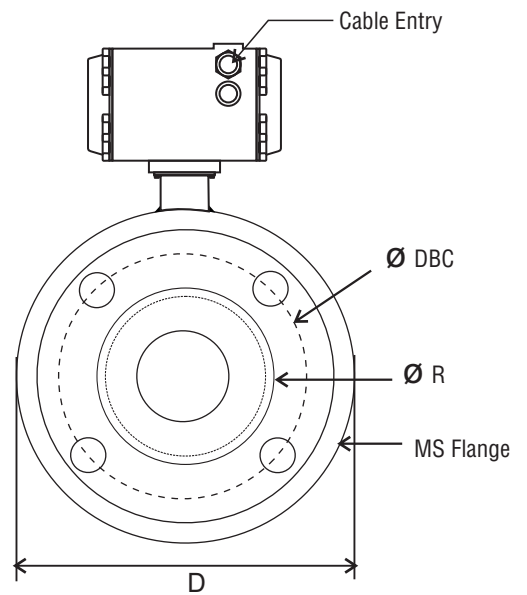


Fig. 2 Side View

TABLE : Dimensional Details Of Flange (as Per ANSI 150 # B-16.5) & Finished Product

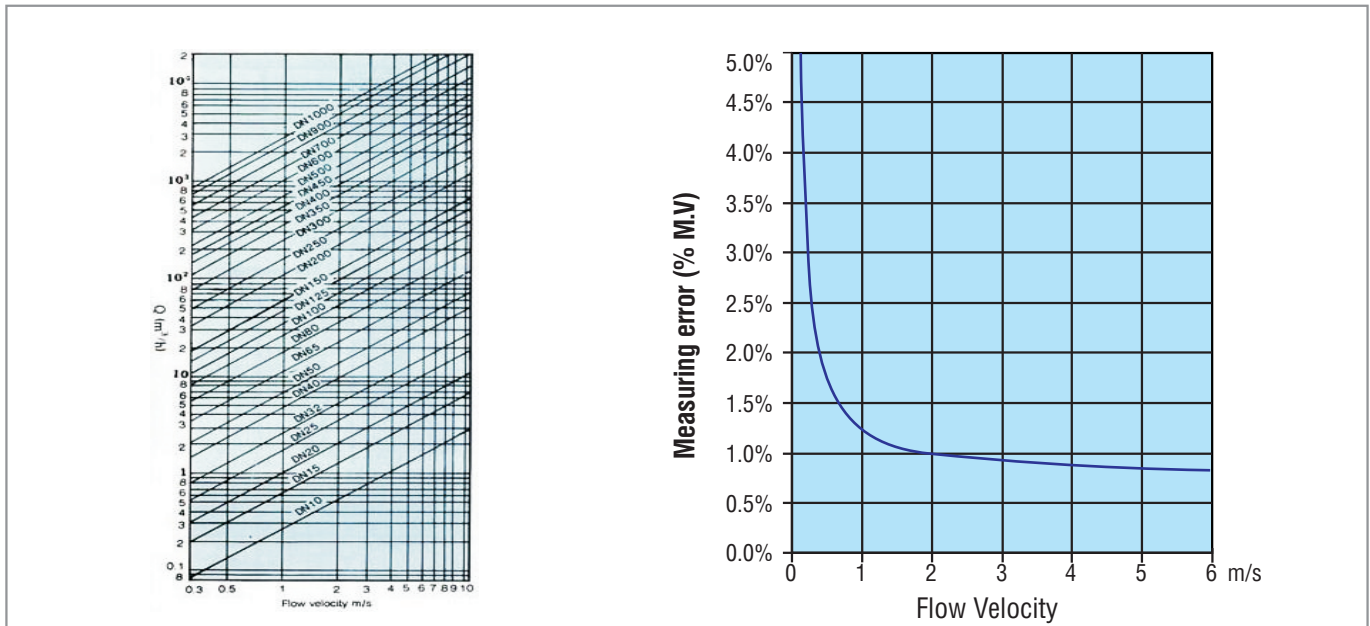
Refer Drg. Fig.1 & 2

Line Size Inch	NB	Flange Diameter D (mm)	Diameter of Raised Face R (mm)	Diameter of Bolt Hole Circle DBC (mm)	Diameter of Bolt Hole (mm)	No. of Holes	Thickness of Flange	Housing OD (mm)	Flange to Flange Distance (FD) (mm)	Flow Range (m ³ /hr) for Velocity 0.3m/s to 6m/s	
										Min.	Max.
1/2"	15	88.9	34.9	60.3	15.9	4	11.1	125	200	0.19	3.817
3/4"	20	98.4	42.9	69.8	15.9	4	12.7	125	200	0.33	6.785
1"	25	107.9	50.8	79.4	15.9	4	14.3	145	200	0.53	10.602
1 1/4"	32	117.5	63.5	88.9	15.9	4	15.9	155	200	0.86	17.371
1 1/2"	40	127.0	73.0	98.4	15.9	4	17.5	155	200	1.35	27.143
2"	50	152.4	92.1	120.6	19.0	4	19.0	165	200	2.12	42.4115
2 1/2"	65	177.8	104.8	139.7	19.0	4	22.2	185	200	3.58	71.675
3"	80	190.5	127.0	152.4	19.0	4	23.8	205	200	5.42	108.573
4"	100	228.5	157.2	190.5	19.0	8	23.8	245	260	8.48	169.646
5"	125	254.0	185.7	215.9	22.2	8	23.8	265	260	13.25	265.071
6"	150	279.4	215.9	241.3	22.2	8	25.4	285	310	19.085	381.703
8"	200	342.9	269.9	298.4	22.2	8	28.6	355	360	33.929	678.584
10"	250	406.4	323.8	361.9	25.4	12	30.2	405	460	53.014	1060.28
12"	300	482.6	381.0	431.8	25.4	12	31.8	485	510	76.340	1526.81
14"	350	533.4	412.7	476.7	28.6	12	34.9	555	562	103.908	2078.16
16"	400	596.9	469.9	539.7	28.6	16	36.5	605	612	135.716	2714.33
18"	450	635.0	533.4	577.8	31.7	16	39.7	605	612	171.766	3435.33
20"	500	698.5	584.2	635.0	31.7	20	42.9	630	612	212.057	4241.15
24"	600	812.8	692.1	749.3	34.9	20	47.6	755	612	305.362	6107.25

Note : Flange to flange distance (FD) Tolerance : 1) 1/2"(15NB) to 6"(150NB) : +/-3mm 2) 8"(200NB) to 24"(600NB) : +/-5mm

- All dimensions are in 'mm'
- For dimensions of line size above 600NB, please consult factory.
- Typical mounting dimensions are for reference only.
- Wet Calibrated at IEC/ISO/EN17025 Accredited Calibration Laboratory.
- Flow meter should be selected with the help of Nomograph (recommended full scale velocity).
- Flow indication of 6 digit max. up to 999999.

Flow Nomograph



Applications

Food Industry	Chemical Industry	Atomic Energy	Manufacturing Industry
Automation Industry	Thermal Power Energy	Process Industry	Water Treatment Industry

Product Ordering Information :

Order Code for Flow Transmitter			
Sample Order Code : TX 1 A3 B2 C1 E1 G1 H2			
Parameter	Code	Description	
TX	Electronics Transmitter	TX 1	Field Mount Weather Proof IP67
		TX 4	Flameproof (CMRI IIA IIB Certified)
A	Power Supply	A3	Battery Operated
		A4	Solar Powered 24V DC
		A5	Solar Powered 3.6V DC
B	MOC Electronics Enclosure	B1	Aluminium Die Cast
		B2	SS316
C	Electrical Connection	C1	M20 *1.5 F
		C2	1/2 Inch NPT F
		CY	Other
Parameter	Code	Description	
E	Output 2 (Any One)	E1	Pulse (Open Collector Type)
		EX	NA
G	Communication Output 1 (Any One)	G1	RS485 (MODBUS RTU)
		GX	NA
H	Communication Output 2 (Any One)	H1	GSM
		H2	GPRS
		H3	RF
		H4	Ethernet MODBUS TCP
		HX	NA
Note : ▪ In case of flameproof version only electronics enclosure is flameproof certified. ▪ Accuracy defined at Lab Conditions.			

Order Code for Flow Tube

Sample Order Code : FT 15 J2 K1 L1 M2 N2 O3 P1 Q2 R2 S2

Parameter	Code	Description	Code	Description	Parameter	Code	Description		
FT	Flow Tube	FT 15	15 NB	FT 150	150 NB	P	Flow Tube Lining Material	P1	Neoprene Rubber (Above 40 NB)
		FT 20	20 NB	FT 200	200 NB			P2	Hard Rubber (Above 40 NB)
		FT 25	25 NB	FT 250	250 NB			P3	Ebonite Rubber (Above 40 NB)
		FT 32	32 NB	FT 300	300 NB			P4	EPDM (40 to 2000 NB)
		FT 40	40 NB	FT 350	350 NB			P5	PFA (15 to 300 NB)
		FT 50	50 NB	FT 400	400 NB			P6	PTFE (15 to 600 NB)
		FT 65	65 NB	FT 450	450 NB			P7	PU (15to 400 NB)
		FT 80	80 NB	FT 500	500 NB			P8	Ceramic (15 to 200 NB)
		FT 100	100 NB	FT 600	600 NB			P9	PVC
		FT 125	125 NB					PY	Other
J	Electronics Location	J1	Integral (Local)		Q	Flange Standard and Rating	Q1	ANSI 150 B16.5	
		J2	Remote				Q2	ANSI 300 B16.5	
K	Remote Cable Length	K1	5 Meter				Q3	ANSI 600 B 16.5	
		KX	NA				Q4	DIN PN 10 EN 1092-1	
L	Flow Tube Protection Class	L1	IP-67 (In case of Integral)				Q5	DIN PN 16 EN 1092-1	
		L2	IP-68 (In case of Remote)				Q6	DIN PN 25 EN 1092-1	
M	Process Connection	M1	Threaded (15 to 50 NB)				Q7	DIN PN 40 EN 1092-1	
		M2	Flanged (15 To 600 NB)				Q8	IS 1538	
		M3	Triclover (15 to 100 NB)				Q9	BS 10 Table D	
		M4	SMS Union (25 to 100 NB)				Q10	BS 10 Table E	
		M5	Compact (Wafer) – 15 to 200 NB Maximum				Q11	BS 10 Table H	
N	Material of construction – Flange	N1	MS				Q12	AWWA Table D	
		N2	CS				Q13	AWWA Table F	
		N3	SS304		QY	Other			
		N4	SS316		QX	NA			
		N5	PVC		R1	SS304			
		NX	NA		R2	SS316			
O	Material of construction – Coil Housing	O1	MS		R3	PVC			
		O2	SS304		RY	Other			
		O3	SS316		S1	SS316L			
		O4	PVC		S2	Hastelloy C			
R	Material of construction – Flow Tube				S3	Platinum Coated			
					S4	Tantalum			
					S5	Titanium			
S	Material of construction – Electrode								

Note :

- Due to our continuous product revisions, design specification and model numbers are subject to change without notice.
- To be used for industrial applications.
- Accuracy defined at Lab Conditions.
- For other requirement please consult factory.

ELECTRONET EQUIPMENTS PVT. LTD.

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