

ELMAG 200 NSR



NO **UPSTREAM & DOWNSTREAM** STRAIGHT RUN REQUIREMENT

FEATURES

- Full Bore Flow Measurement
- Zero Pressure Loss
- No Upstream/Downstream Straight Run Requirement
- High Accuracy & Stable Performance
- Integrated Data Logger

APPLICATIONS

- Water Distribution Networks
- Sewage & Wastewater Treatment
- Industrial Process Lines
- Pumping Station
- Irrigation & Pipeline Systems
- Municipal Water Management

Description

The Electronet ELMAG 200 NSR is NO STRAIGHT LENGTH REQUIRED electromagnetic flow meter, designed for unrestricted and maintenance-free flow measurement based on Faraday's Law of Electromagnetic Induction. With no requirement for straight pipe runs and a full-bore design that ensures zero pressure loss, it delivers high accuracy, a wide turndown ratio, and long-term reliability with no moving parts. Built with robust liner and electrode options, it is ideal for demanding applications in water distribution, wastewater treatment. The flowmeter also features an integrated display for easy local operation, eliminating the need for additional software or hardware, making it one of the most efficient and user-friendly flow measurement solutions available.

Technical Specifications

Performance Characteristics	
Nominal diameters	50 NB To 300 NB (2" to 12")
Process connections	Flanges: EN(DIN), ASME, JIS, AWWA
Process temperature	-20 to +90°C (-4 to +194°F)
Degree of protection	IP 67 (Type 4X Enclosure)
Max. measured error	Standard: $\pm 0.5\%$ of M.V. to $\pm 2\%$ of M.V. Based on Installation Conditions
Turndown	100:1
Materials (liners)	Polyurethane, Hard Rubber, PTFE
Electrical conductivity	$\geq 5\mu\text{S/cm}$ (liquids in general)
Inlet/outlet runs	0 x DN
Wetted materials	Liner material hard rubber: 0 to +80 °C (+32 to +176 °F) Liner material polyurethane: -20 to +50 °C (-4 to +122 °F) Liner material PTFE: -20 to +180 °C (-4 to +356 °F) Electrodes: SS-316L, Hastelloy C 22, Tantalum, Platinum
Measured variables	Volume flow, Velocity, Pressure, Temperature, Conductivity & TDS
Max. process pressure	PN 40, Class 300, 20K
Ambient temperature range	Liner material hard rubber: 0 to +80 °C (+32 to +176 °F) Liner material polyurethane: -20 to +50 °C (-4 to +122 °F)
Velocity	0.3 m/s - 2.5m/s upto Max. 10m/s
Medium temperature range	Liner material hard rubber: 0 to +80 °C (+32 to +176 °F) Liner material polyurethane: -20 to +50 °C (-4 to +122 °F) Liner material PTFE: -20 to +180 °C (-4 to +356 °F)
Sensor housing material	MS / SS-304 / SS-316
Transmitter housing material	Aluminium Die Cast / SS-316
Degree of protection	Compact version: IP 66 / IP 67 Enclosure Sensor remote version (standard): IP 66 / IP 67 Enclosure Sensor remote version (option): IP 68 with protective varnish Transmitter remote version: IP 66 / IP 67 Enclosure
Display/Operation	4-line backlit display with touch control (operation from outside) Configuration via local display
Outputs	3 outputs: 0-20 mA/4-20 mA with Generic HART (Active) Pulse/frequency/switch output (passive) Pulse/frequency output (passive) Switch output (passive)

ELMAG 200 NSR

MULTIVARIABLE ELECTROMAGNETIC FLOW METER



Technical Specifications

Digital communication	HART, RS-485 (MODBUS RTU)
Power supply	100 - 240 V AC/ 24 V DC
Conductivity	5 to 9999 $\mu\text{S}/\text{cm}$
Metrological approvals and certificates	Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025)
Material certificates	3.1 material
Sensor features	Flexible connections, corrosion-protected (EN ISO 12944), IP 68
Transmitter features	Display with backlight for safe operation Durable housing Integrated data logger.

Assembly Overview - Remote

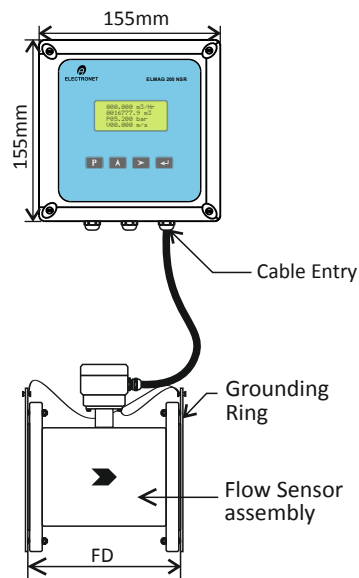


Fig. 1 Front View

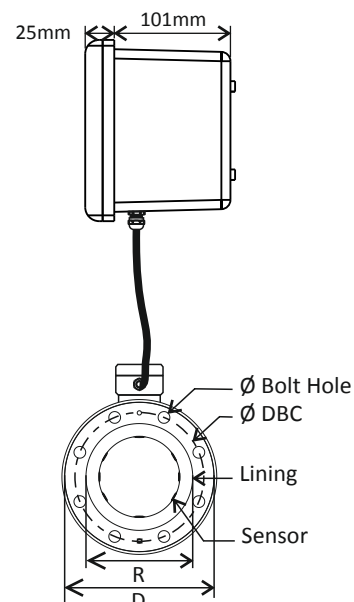


Fig. 2 Side View

Line Size		Flange To Flange Distance	Flow Range (m^3/Hr)			
Inch	NB		Velocity 0.3m/s	Velocity 2.5m/s	Velocity 6m/s	Velocity 10m/s
2"	50	200	2.12	17.67	42.4115	70.69
2½"	65	200	3.58	29.86	71.675	119.46
3"	80	200	5.43	45.24	108.573	180.96
4"	100	250	8.48	70.69	169.646	282.74
5"	125	250	13.25	110.45	265.071	441.79
6"	150	300	19.09	159.04	381.703	636.17
8"	200	350	33.93	282.74	678.584	1130.97
10"	250	450	53.01	441.79	1060.28	1767.15
12"	300	500	76.34	636.17	1526.81	2544.69

Note : Flange to flange distance (FD) Tolerance : 1) 1/2"(50NB) to 6"(150NB) : +/-3mm 2) 8"(200NB) to 12"(300NB) : +/-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 Rig.
- Flow meter should be selected with the help of Nomograph (recommended full scale velocity).

Ordering Information for Flow Transmitter

Sample Order Code : ELMAG 200 NSR-TX-A1-B1-C1-D1-E1-F1-G1-H1-I1-J1-K1-L1-M1-N1-O1

Parameter		Code	Description	Parameter		Code	Description
A	Transmitter/ Electronics Mounting	A1	Integral (Local)	I	Electrical Output 3 (Alarm /Relay) For Flow	I1	One Alarm
		A2	Remote			I2	Two Alarm
B	Power Supply	B1	24 VDC			IX	NA
		B2	230 VAC	J	Alarm Type	J1	Open Collector
C	Enclosure MOC	C1	Aluminium Die Cast			J2	Potential Free
		C2	SS-316			J3	PNP Output
		CY	Other			JX	NA
D	Enclosure IP Rating	D1	IP 54	K	Communication Output 1	K1	RS485 (MODBUS RTU)
		D2	IP 67			KX	NA
		D3	IP 68	L	Communication Output 2	L1	GPRS
E	Hazardous Certification	E1	ATEX			L2	GSM
		E2	FF (CMRI 2A, 2B)			L4	MBUS
		EX	NA			LX	NA
(Only For Electronics Enclosure)				M	Conductivity Measurement Sensor Type	M1	Cell Constant 0.1
F	Electrical Connection	F1	M20			M2	Cell Constant 1.0
		F2	1/2 NPT		N	Process Pressure Calibration Range	N1
		FY	Other	N2			20 Kg/cm ²
G	Electrical Output 1 (Current) For Flow	G1	4 to 20 mA	NY			Other
		G2	4 to 20 mA With HART	O	Temperature Measurement Sensor	O1	PT-100 RTD
		GX	NA			OX	NA
H	Electrical Output 2 (Pulse) For Flow	H1	Pulse Output				
		HX	NA				

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Ordering Information for Flow Tube

Sample Order Code : ELMAG 200 NSR- FT50-P1-Q1-R1-S1-T1-U1-V1-W1-X1-Y1

Parameter		Code	Description	Code	Description
FT	Flow Tube	FT 50	50 NB	FT 150	150 NB
		FT 65	65 NB	FT 200	200 NB
		FT 80	80 NB	FT 250	250 NB
		FT 100	100 NB	FT 300	300 NB
		FT 125	125 NB		
P	Electronics Location	P1	Integral (Local)		
		P2	Remote		
Q	Remote Signal Cable Length	Q1	5 Meter		
		Q2	10 Meter		
		Q3	15 Meter		
		Q4	25 Meter		
		QX	NA		
R	Process Connection	R1	Flanged (50 To 600 NB)		
		R2	Triclover (50 to 100 NB)		
		R3	SMS Union (50 to 100 NB)		
S	Flange MOC	S1	MS		
		S2	CS		
		S3	SS304		
		S4	SS316		
		SX	NA		
T	Flange Standard and Rating	T1	ANSI 150 B16.5		
		T2	ANSI 300 B16.5		
		T3	ANSI 600 B 16.5		
		T4	DIN PN 10 EN 1092-1		
		T5	DIN PN 16 EN 1092-1		
		T6	DIN PN 25 EN 1092-1		
		T7	DIN PN 40 EN 1092-1		
		T8	IS 1538		
		TY	Other		
		TX	NA		

Parameter		Code	Description
U	Lining Material	U1	Hard /ebonite Rubber
		U2	Neoprene Rubber
		U3	PFA
		U4	PTFE
		U5	Ceramic
		U6	PEEK (Up To 50 NB)
V	Electrode Material	V1	SS316L
		V2	Hastelloy C
		V3	Platinum
		V4	Tantalum
W	Conductivity Measurement Sensor Type	W1	Cell Constant 0.1
		W2	Cell Constant 1.0
X	Process Pressure Calibration Range	X1	10 Kg/cm ²
		X2	20 Kg/cm ²
		XY	Other
Y	Temperature Measurement Sensor	Y1	PT-100 RTD
		YX	NA

Note :

▪ Due to our continuous product revisions, design specification & 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.

▪ This product is meant for laboratory/Process application only & not for custody transfer application.



Office & Manufacturing Unit

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