



ALMAG-EG

Electromagnetic Energy Meter

Model ALMAG Series

GENERAL

The ALMAG-EG is an in-line electromagnetic energy flowmeter ideal for conductive liquids. A wide variety of sizes are available to accommodate nominal pipe diameters ranging from ½" through 120". The ALMAG-EG may be used in many applications that require accurate thermal energy measurement in chilled water, hot water and condenser water systems. The ALMAG-EG flowmeter is available in a stand-alone configuration and may also be used with various SmartMeasurement transmitter and display packages.

FEATURES

- Available with a wide range of liner and electrode materials
- Fluid velocity range of 0 – 32 feet/sec, with good results for low flow applications .
- Flange-type process connections are standard; ANSI, DIN, JIS style available.
- Ideal for energy management applications.
- Used in applications where ultrasonic energy flowmeters are rejected.
- FEP liner suitable in vacuum tube pressure applications.
- High accuracy – ±0.5% of reading standard or ±0.2% of range optional.
- Available with PT100 and PT1000 temperature sensors.

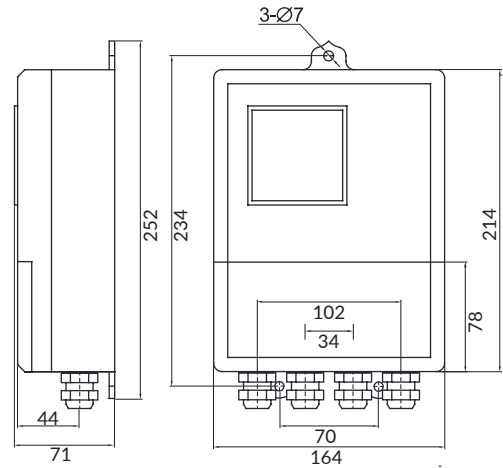


SPECIFICATION

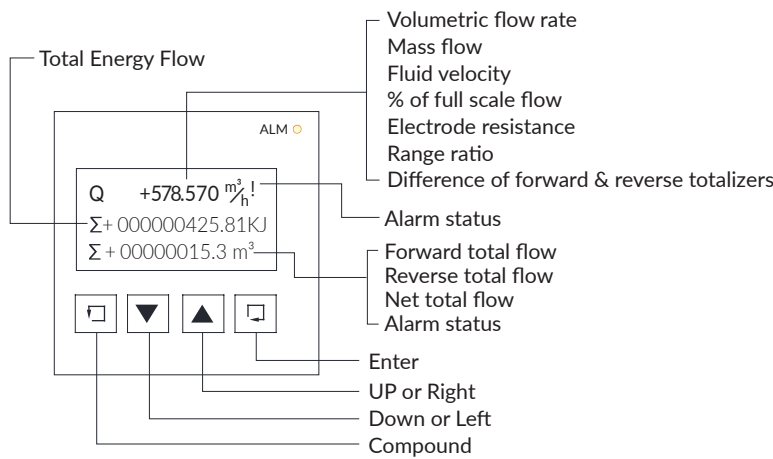
- **Size:** ½" – 120" (15 – 3000 mm)
- **Temperature:** w/integral electronics: +15 – +140 °F (-10 – +60 °C)
w/remote electronics: +15 – +300 °F (-10 – +150 °C)
- **Measuring Range:** 0.9 – 32 feet/sec (0.3 – 10 m/s)
- **Material:**
 - Measuring Tube: Stainless Steel #304(standard)
Stainless Steel #316 (optional)
 - Housing: Aluminium (standard)
 - Flange: Carbon Steel (standard)
 - Flange: Stainless Steel #304 (optional)
Stainless Steel #316 (optional)
 - Liner: Polyurethane
Neoprene
FEP (up to 12")
PTFE
- **Electrode & Grounding:** Stainless Steel #316L
Hastelloy B
Hastelloy C
Titanium
Tantalum
Tungsten Carbide
- **Cable Entry:** 2 X PG11
- **Ambient Temperature:** -15 – +140 °F (-25 – +60 °C)
- **Process Connection:** Flange, wafer
Flanges type: JIS, ANSI, PN
- **Grounding Resistance:** Must be less than 10 Ω
- **Accuracy:** ±0.5% of reading
±0.2% of reading (optional)
- **Protection:** IP 65
IP68 (Submersible, with remote style)
- **Display:** Flow rate, fluid velocity, percentage,
total flow, total energy flow
- **Conductivity:** must be ≥ 5 µS/cm
- **Power Consumption:** ≤ 15 Watts

MOUNTING DRAWING

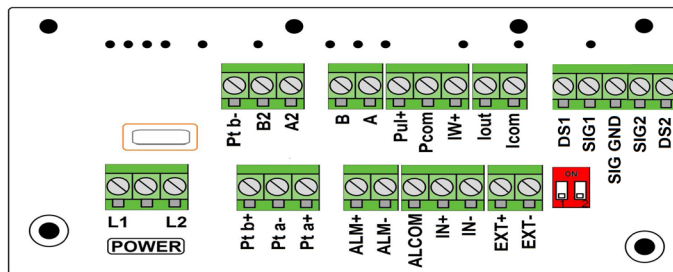
STANDARD REMOTE TYPE



-All dimensions in mm-



Wiring



L1 110/220V_{AC} (24V_{DC}+) input
 L2 110/220V_{AC} (24V_{DC}-) input
 DS1 Shield Drive 1
 SIG1 Signal Input 1
 SIG GND Signal Ground

DS2 Shield Drive 2
 SIG2 Signal Input 2

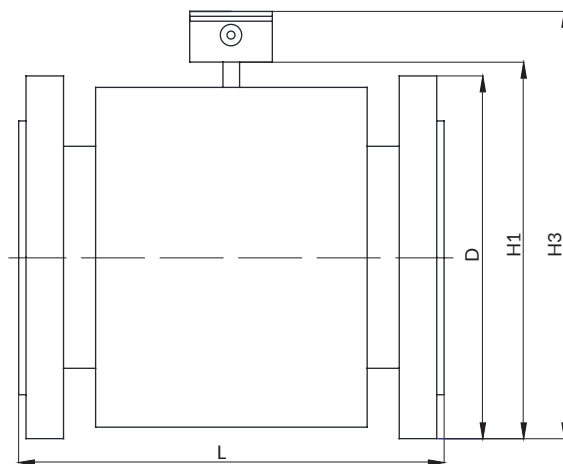
pt b- Downstream Temperature Sensor Input-
 A 2 RS485 output +
 B 2 RS485 output -

pt b+ Downstream Temperature Sensor Input +
 pt a- Upstream Temperature Sensor Input -
 pt a+ Upstream Temperature Sensor Input +

B Downstream Temperature Sensor Input
 A Upstream Temperature Sensor Input
 Pul + Frequency/pulse output +
 Pcom Frequency/pulse output -
 IW + Passive 420 mA Output +
 Iout Active 420 mA Current output +
 Icom Active 420mA Current output -

24V+ & I1in Reserved as 4-20mA input
 DCOM Alarm Output -
 D01 Alarm Output +
 IN + Reserved as +12V_{DC}
 EXT+ Coil excitation +
 EXT- Coil excitation -

DIMENSIONS - Inline (ANSI flanged)



NOM. PIPE DIAMETER - IN. (mm)	RATED PRESSURE PSIG (bar)	INSTRUMENT OUTLINE DIMENSION INCHES (mm)				FLANGE CONNECTION DIMENSION INCHES (mm)	WEIGHT LBS. (Kg)	
		L	H1	H2	H3		Integral	Remote
½" (15)	363 (25)	7.87 (200)	5.86 (149)	10.87 (276)	8.70 (221)	3.5 (88.9)	12.12(5.5)	7.71(3.5)
¾" (20)		7.87 (200)	6.06 (154)	11.06 (281)	8.90 (226)	3.88 (98.6)	14.33(6.5)	9.92(4.5)
1" (25)		7.87 (200)	6.25 (159)	11.26 (286)	9.09 (231)	4.25 (108.0)	15.43(7)	11.02(5)
1¼" (32)		7.87 (200)	6.77 (172)	11.77 (299)	9.61 (244)	4.62 (117.3)	18.73(8.5)	14.33(6.5)
1½" (40)		7.87 (200)	7.44 (189)	12.44 (316)	10.28 (261)	5.0 (127.0)	19.84(9)	15.43(7)
2" (50)		7.87 (200)	7.76 (197)	12.76 (324)	10.59 (269)	6.0 (152.4)	24.25(11)	19.84(9)
2½" (65)		7.87 (200)	8.66 (220)	13.66 (347)	11.50 (292)	7.0 (177.8)	28.66(13)	24.25(11)
3" (80)		7.87 (200)	8.94 (227)	13.94 (354)	11.77 (299)	7.5 (190.5)	33.06(15)	28.66(13)
4" (100)	230 (16)	9.85 (250)	10.12 (257)	15.12 (384)	12.95 (329)	8.5 (215.9)	37.47(17)	33.06(15)
5" (125)		9.85 (250)	11.38 (289)	16.38 (416)	14.21 (361)	9.0 (228.6)	37.47(21)	41.88(19)
6" (150)		11.81 (300)	12.52 (318)	17.52 (445)	15.35 (390)	10.0 (254.0)	57.32(26)	52.91(24)
8" (200)		13.78 (350)	14.92 (379)	19.92 (506)	17.76 (451)	11.0 (279.4)	74.95(34)	70.54(32)
10" (250)	145 (10)	17.71 (450)	16.89 (429)	21.89 (556)	19.72 (501)	13.5 (342.9)	108.02(49)	103.61(47)
12" (300)		19.68 (500)	18.98 (482)	23.98 (609)	21.81 (554)	16.0 (406.4)	130.07(59)	125.66(57)
14" (350)		21.65(550)	21.02 (534)	26.02 (661)	23.86 (606)	19.0 (482.6)	154.32(70)	149.91(68)
16" (400)		23.62 (600)	23.38 (594)	28.389 (721)	26.22 (666)	21.0 (533.4)	191.80(87)	187.39(85)
18" (450)		23.62 (600)	25.55 (649)	30.55 (776)	28.39 (721)	23.5 (596.9)	224.87(102)	220.46(100)
20" (500)		23.62 (600)	27.44 (697)	32.44 (824)	30.28 (769)	25.0 (635.0)	268.96(122)	264.55(120)
24" (600)		23.62 (600)	31.46 (799)	36.46 (926)	34.29 (871)	27.5 (698.5)	357.14(162)	352.73(160)
28" (700)		87 (6)	27.56 (700)	35.79 (909)	40.79 (1036)	38.62 (981)	32.0 (812.8)	676.82(307)
32" (800)	31.50 (800)		40.11 (1019)	45.12 (1146)	42.95 (1091)	38.38 (975)	919.33(417)	914.91(415)
36" (900)	35.43 (900)		44.06 (1119)	49.06 (1246)	46.89 (1191)	42.32 (1075)	1161(527)	1157(525)
40" (1000)	39.37 (1000)		47.20 (1199)	52.20 (1326)	50.04 (1271)	46.25 (1175)	1503(682)	1499(680)
48" (1200)	47.25 (1200)		55.87(1419)	60.87 (1546)	58.70 (1491)	55.31 (1405)	1647(747)	1642(745)
56" (1400)	55.12 (1400)		64.17 (1630)	69.29(1760)	66.53 (1690)	64.17 (1630)	2441(1107)	2436(1105)
64" (1600)	63.00 (1600)		72.04 (1830)	77.16(1960)	74.40 (1890)	72.04 (1830)	3146(1427)	3141(1425)
72" (1800)	70.87 (1800)		80.51 (2045)	85.62(2175)	82.87 (2105)	80.51 (2045)	4314(1957)	4310(1955)
80" (2000)	78.75 (2000)	89.17 (2265)	94.29(2395)	91.53 (2325)	89.17 (2265)	5472(2482)	5467(2480)	

** Please contact your local SmartMeasurement application engineer
You also need to provide the following information:

TYPE OF FLUID	We need the name of your fluid, including operating density and viscosity
FULL SCALE FLOW	Maximum and minimum flow rates, units must be Lb/hr, LPM or GPM.
LINE SIZE	We need to know your pipe size as well connection type (flange, wafer or sanitary)
PRESSURE & TEMPERATURE	We will calibrate your flowmeter as close to your operating condition as possible

ALMAGEG SERIES															
EXAMPLE: ALMAGEG-F100-03-ST-4.0-65-0-DC-0-NX-NN-NN															
ALMAG EG	*_	*	*_	*	*_	*	*_	*	*_	*	*_	*	*_	*	DESCRIPTION
ANSI 150# Flanged	F														Connection
Ceramic type (DN15 - DN200)	C														
Sanitary (DN15 - DN100)	S														
Threaded type (DN10 - DN50)	T														
Wafer type (DN10 - DN200)	W														
½"-120" (DN10 - DN3000)		**													Size
316 stainless steel			0												Electrode
Nickel			1												
Hast C			2												
Tan			3												
Ti			4												
Ceramic			C												
Chloroprene Rubber (Neoprene)				3											Liner material
PU (polyurethane)				4											
PTFE				5											
PFA				6											
F46				7											
Hard Rubber				8											
Ceramic				C											
Remote energy meter - 5m cable						ST									Transmitter
Integral flow meter and remote flow computer						IN									
Remote flow meter and flow computer - 5m cable						RE									
Max Pressure 2.5Mpa 3"/ DN80							2.5								Pressure
Max Pressure 1.6Mpa 6"/ DN150							1.6								
Max Pressure 1.0Mpa 36"/ DN900							1.0								
Max Pressure 0.6Mpa 120" / DN3000							0.6								
Standard - IP65								65							Protection
IP68 flowbody and IP65 transmitter, only for remote type								68							
Not Needed									0						Grounding rings
Grounding electrode									1						
SS # 304 grounding ring									2						
16 - 30 V _{DC}										DC					Power supply
85 - 265V _{AC} , @ 45 - 63 Hz										AC					
No digital communication											0				Communication
HART											1				
RS485 - Modbus											2				
No Explosion Proof													NX		Explosion proof
Aluminium enclosure, SS# 304 flow tube, CS coil housing and process connection, with RTD														NN	Materials
Aluminium enclosure. SS# 304 flow tube, CS coil housing and 304SS process connection, with RTD														C304	
Aluminium enclosure. SS# 304 flow tube, coil housing and process connection, with RTD														304	
None														NN	Option
With CS install flange														IF	

