ALMAG
Electromagnetic Flowmeter
ALMAG-BAT Series

FACTOCOMPONENTS
INDUSTRIAL SUPPLIES AND MANUFACTURING EQUIPMENT

GENERAL

SmartMeasurement's ALMAGBAT is a battery powered, IP68 electromagnetic flowmeter mainly used in water applications. The ALMAGBAT's display/converter module is equipped with a replaceable lithium battery that can be used for up to five years of continuous operation. The operation period can be extended by using a high-capacity battery instead of our standard lithium battery. Remote communication can be achieved via a base-station-type radio communication network system. With a centrally located base station, the coverage radius can be up to 1000 meters. Base stations within a close proximity (SRD mode) may operate on a 928 MHz frequency. For greater distances, GPRS or CDMA mobile network communications can be used to transmit data to any central office. The ALMAGBAT comes standard with a rugged IP68 stainless steel enclosure, which allows the device to be used in both indoor and outdoor submersible applications.

FEATURES

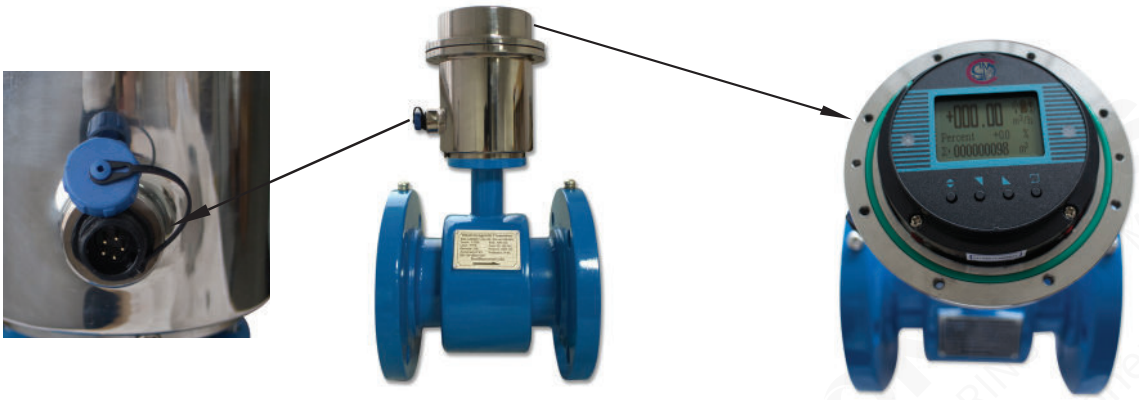
- Available in 1" - 24" (25 - 600 mm) sizes
- 5 years with extended battery life (optional)
- GPRS, CDMA and SRD radio communications
- Designed for clean water; fluid conductivity ≥ 20 µS/cm
- IP68 enclosure - tamper-sealed
- Available FEP liner suitable for vacuum applications
- Excellent accuracy; ±1% of reading
- Built-in pulse output for data-logging or telemetry
- Empty pipe detection
- NIST traceable calibration certificate

SPECIFICATIONS

- **Size:** 1" - 24" (25-600mm)
- **Measuring Range:** 0.1m/s ~10 m/s-bi-directional
  0.3~33 feet/sec -directional
- **Temperature:** +15 – +175°F (-10 – +80 °C) -Polyurethane
  -4 – +158°F (-20 – +70°C) -Neopren
  -40 – +300°F (-40 – +150°C) -FEP
  -40 – +300°F (-40 – +150°C) -PTFE
- **Material:**
  - **Measuring Tube:** Stainless Steel #304
  - **Flange material:** Carbon Steel (std), SS #304 and #316
  - **Flange type:** ANSI, DIN and JIS flanges
  - **Coil Housing:** Carbon Steel (std)
    Stainless Steel #304 (opt)
    Stainless Steel #316 (opt)
  - **Liners:** Polyurethane
    Neoprene
    PFA、PTFE
- **Protection:** IP67, IP68 (opt)
- **Fluid Conductivity:** Must be ⩾ 20 µS/cm
- **Electrode & Grounding:** Stainless Steel #316L
  Hastelloy C
  Titanium
- **Display:** 5 digits for rate, 10 digits for total
- **Units:** GPM, L/s, L/m, m³/m,m³/h, Cubic Feet/Minute, Acre Inch/hour
- **Resistance excitation:** 250mA excitation current:50 ~ 60Ω
- **Ambient Temperature:** -13 to 140 °F (-25 to 60 °C)
- **Power/Battery:** Battery pack with 4 Lithium 3.6V “D” batteries, replaceable std battery life 2.5 years 5 years with extended battery life (opt) External power option (uses 12 – 32 V_{DC}, 30 mA), Lithium batteries serve as backup in power failure(10 year life)
- **Accuracy:** ±1.0% of Reading (Velocity>0.6m/s)
  ±1.0% of Reading ±2mm/s (Velocity≤0.6m/s)
- **Outputs:** pulse, opto-isolated, 30 V_{DC} at 10 mA max, Pulse rate selectable RS485 and GPRS

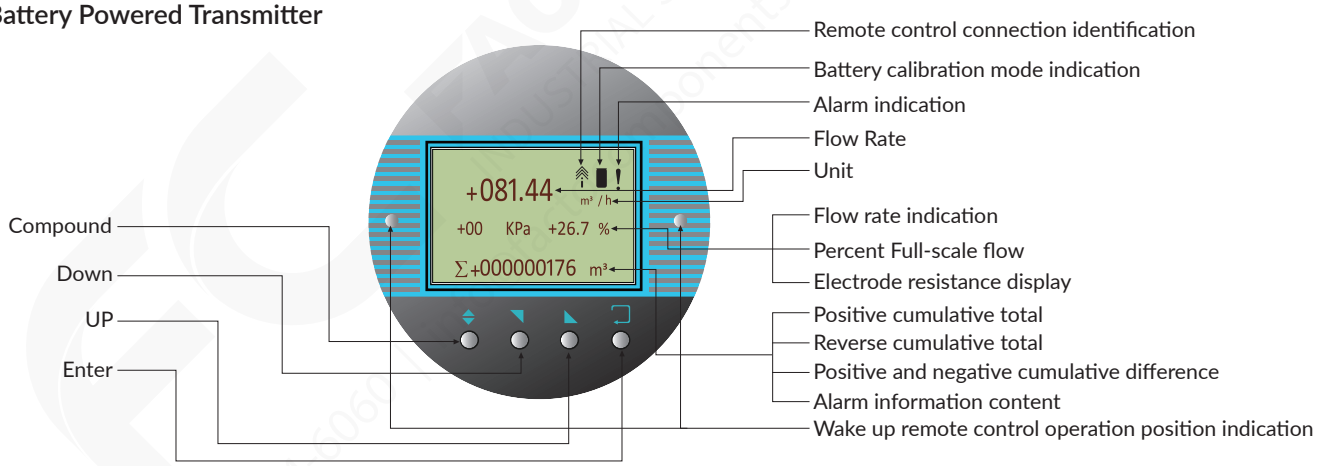
DISPLAY OPTIONS

- Standard Integral IP68 type



- GPRS function type

- Battery Powered Transmitter



BATTERY

- LI-SOCL2 battery (part number: ER34615)
- Rating: 3.6VDC, 19000 mAh
- Max continuous working current: 200 mA
- Max pulse current: 400 mA
- Working temperature: -65~185 °F (-55~85 °C)
  Dimensions: Φ1⅜" x 2⁷⁄₁₆" (Φ34.2 mm × 61.5 mm)

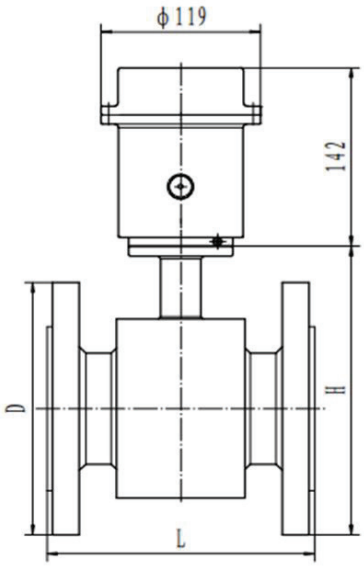
Weight: (3.75 oz) 106 g

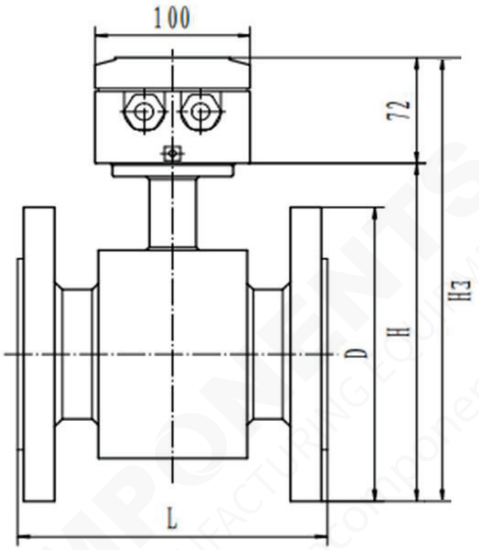
Note; Optional 5 year life battery available

- Battery life:

LINE SIZE	⅛ – 6" (3 - 150 mm)	8 – 14" (200 - 350 mm)	16 – 24" (400 - 600 mm)
1/15 Hz	40 months	32 months	30 months
1/30 Hz	66 months	60 months	50 months
Notes: Excitation frequency			
1/15 Hz - means flow is measured once every 15 seconds			
1/30 Hz - means flow is measured once every 30 seconds			

DIMENSIONS





NOMINAL DIAMETER	NOMINAL PRESSURE (MPA)	DIMENSIONS - INCHES (MM)			CENTER CIRCLE DIAMETER OF SCREW HOLE INCHES (MM)	SCREW HOLE DIAM-ETER (MM)	NUMBER OF BOLTS
		L	D	H	K	A	n
1" (25mm)	4.0	7.87 (200)	4.53 (115)	6.26 (159)	3.35 (85)	14	4
1¼"(32mm)		7.87 (200)	5.51 (140)	6.75 (171.5)	3.94 (100)	18	4
1½"(40mm)		7.87 (200)	5.91 (150)	7.44 (189)	4.33 (110)	18	4
2" (50 mm)		7.87 (200)	6.50 (165)	7.75 (197)	4.92 (125)	18	4
2½" (65 mm)		9.84 (250)	7.28 (185)	8.66 (220)	4.92 (145)	18	8
3" (80 mm)		9.84(250)	7.87 (200)	8.93 (227)	6.30 (160)	18	8
4" (100 mm)	1.6	9.84 (250)	9.25 (235)	10.11 (257)	7.09 (180)	18	8
5" (125 mm)		9.85 (250)	10.63 (270)	11.37 (289)	8.27 (210)	18	8
6" (150 mm)		11.81 (300)	11.81 (300)	12.51 (318)	9.45 (240)	22	8
8" (200 mm)	1.0	13.77 (350)	13.39 (340)	14.92 (379)	11.61 (295)	22	8
10" (250 mm)		17.71 (450)	15.55 (395)	16.88 (429)	13.78 (350)	22	12
12" (300 mm)		19.68 (500)	17.52 (445)	18.97 (482)	15.75 (400)	22	12
14" (350mm)		19.68 (550)	19.88 (505)	21.02 (534)	18.11 (460)	22	16
16" (400mm)		23.6 (600)	22.24 (565)	23.39 (594)	20.28 (515)	26	16
18" (450mm)		23.6 (600)	24.21 (615)	25.53 (648.5)	22.24 (565)	26	20
20" (500mm)		23.6 (600)	26.38 (670)	27.42 (696.5)	24.41 (620)	26	20
24" (600mm)		23.6 (600)	30.71 (780)	31.46 (799)	28.54 (725)	30	20

ALMAG

Battery Powered Electromagnetic Flowme ALMAG-BAT Series

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

TYPE OF LIQUID	Please provide the name of your fluid, including operating PH and conductivity.
FULL SCALE FLOW	Please specify maximum and minimum flow rates in units must be m3/hr., LPM, or GPM
LINE SIZE	Please indicate a nominal pipe diameter as well connection type (flange, threaded, etc..)
PRESSURE & TEMPERATURE	We will calibrate your flowmeter as close to your operating conditions as possible

ALMAG BAT SERIES

EXAMPLE: ALMAGBAT-100-33-PN1.6-E00-100-001-0

ALMAG BAT	**-	*	*-	**	**-	*	*	*-	*	*	*-	*	*	*	DESCRIPTION
Flange type	F														Connection
Ceramic type - 2"~8" (DN15~DN200)	C														
Sanitary - 2"~4" (DN15~DN100)	S														
Threaded type - 2" (DN10~DN50)	T														
Wafer type - 2"~8" (DN10~DN200)	W														
DN10~DN600 (2"~12")		**													Line Size
316 stainless steel			0												Electrode
Nickel			1												
Hast C			2												
Tan			3												
Ti			4												
Cerami ①			C												
Chloroprene Rubber (Neoprene)				3											Liner material
PU (polyurathane)				4											
PTFE ②③④				5											
PFA ②③④				6											
F46 ②③④				7											
Hard Rubber				8											
Ceramic ①				C											
Integral type					IN										Transmitter
Remote type - with standard 5m cable					RE										
Max Pressure 362 psi (2.5Mpa) - up to 3" (DN80)						2.5									Pressure
Max Pressure 232 psi (1.6Mpa) - up to 6" (DN150)						1.6									
Max Pressure 145 psi (1.0Mpa) - up to 24" (DN600)						1.0									
Up to 170°F (+80°C)							E								Temperature
Up to 300°F (+150°C)							H								
Not Needed								0							Grounding electrode/ring
Grounding electrode								1							
SS # 304 grounding ring								2							
Every 15 seconds									15						Excitation frequency
Every 30 seconds									30						
None										0					Communication
RS485										1					
GPRS										2					
CDMA										3					
None											NX				Explosion proof
SS # 304 flow tube, CS coil housing and flanges												NN			Materials
SS # 304 flow tube, CS coil housing and SS # 304 flanges												C304			
SS # 304 flow tube, coil housing and flanges												304			
None													NN		Option
With CS install flange													IF		