



ALMAG

Electromagnetic Flowmeter

ALMAGBAT Series

SMC's ALMAGBAT is a battery powered 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 three 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 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 die-cast aluminum enclosure, which allows the device to be used in both indoor and outdoor applications.

FEATURES

- ❑ Available in 1" - 24" (25-600 mm) sizes
- ❑ fluid velocities; 0-50 feet/sec (0-15 m/s)
- ❑ GPRS, CDMA and SRD radio communications
- ❑ Designed for clean water; fluid conductivity $\geq 20 \mu\text{S/cm}$
- ❑ IP68 enclosure; suitable for underground applications
- ❑ Available FEP liner suitable for vacuum applications
- ❑ Excellent accuracy; $\pm 0.5\%$ of reading
- ❑ Empty pipe detection
- ❑ NIST traceable calibration certificate



SPECIFICATIONS

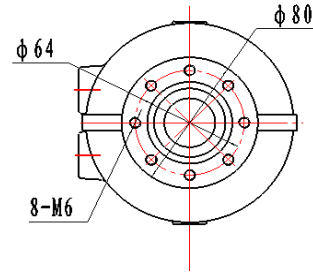
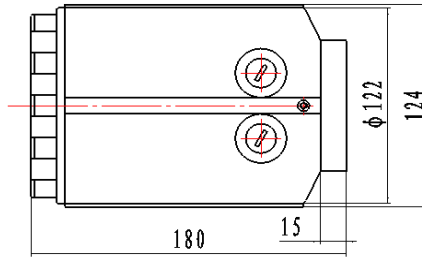
- | | | | |
|-------------------|--|-------------------------|--|
| ● Size | : 25-600mm | ● Fluid Conductivity | : must be $\geq 20 \mu\text{S/cm}$ |
| ● Measuring Range | 0 - 1.6 fps (0.5 mps) min.
0 - 27 fps (8 mps); bi-directional | ● Electrode & Grounding | : Stainless Steel #316L
Hastelloy B
Hastelloy C
Titanium
Tantalum
Platinum -iridium alloy |
| ● Temperature | : 15~175 °F (-10~80 °C) - Polyurethane
-4~158 °F (-20~70 °C) - Neoprene
-40~300 °F (-40~150 °C) - FEP
-40~300 °F (-40~150 °C) - PTFE | ● Resistance excitation | : 250mA exciting current: 50 ~ 60Ω |
| ● Materials | 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(standard)
Stainless Steel #304(Optional)
Stainless Steel #316(Optional) | ● Ambient Temperature | : -13 to 140 °F (-25 to 60 °C) |
| ● Liners | : Polyurethane(40-600 mm)
Neoprene(25-600 mm)
PFA(25-600 mm)
PTFE(25-600 mm) | ● Battery life | : Up to 66 months - see page two
Notes : Battery life depends on flow meter size and/or sampling time (either every 15 or 30 seconds) |
| ● Protection | : IP 65 | ● Accuracy | : $\pm 0.5\%$ of reading(Velocity $\geq 0.5 \text{ m/s}$)
$\pm 0.0025 \text{ m/s}$ (Velocity $< 0.5 \text{ m/s}$) |
| | | ● Power requirements | : LI-SOCL2 battery |
| | | ● Outputs | : Pulse, RS485(opt) |

ALMAG

Electromagnetic Flowmeter ALMAGBAT

Mounting drawing

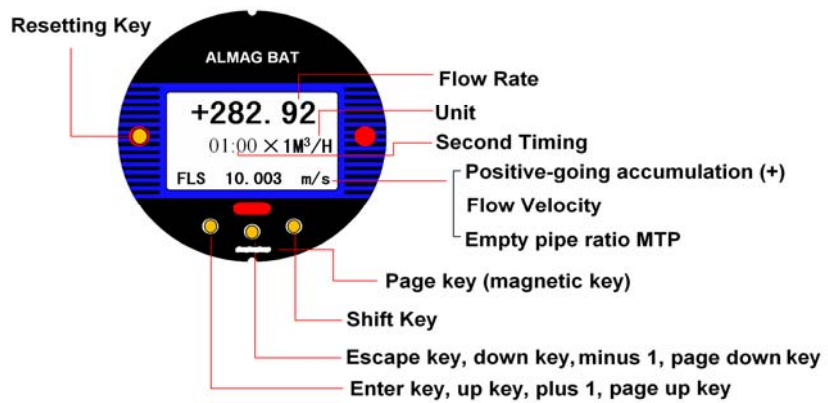
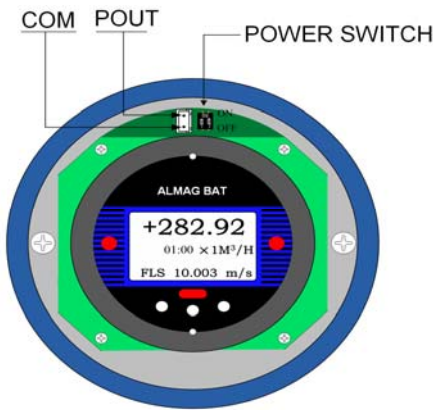
• **Standard Integral type**



• **GPRS function type**



• **Battery Powered Transmitter Display**



Battery

- LI-SOCL2 battery (part number: ER34615)
- Rating: 3.6V_{DC}, 19000 mAh
- Max continuous working current: 200 mA
- Max pulse current: 400 mA
- Working temperature: -65~185 °F (-55~85 °C)
- Dimensions: $\Phi 1\frac{1}{8}'' \times 2\frac{7}{16}''$ ($\Phi 34.2 \text{ mm} \times 61.5 \text{ mm}$)
- Weight: 106 g
- Battery life:

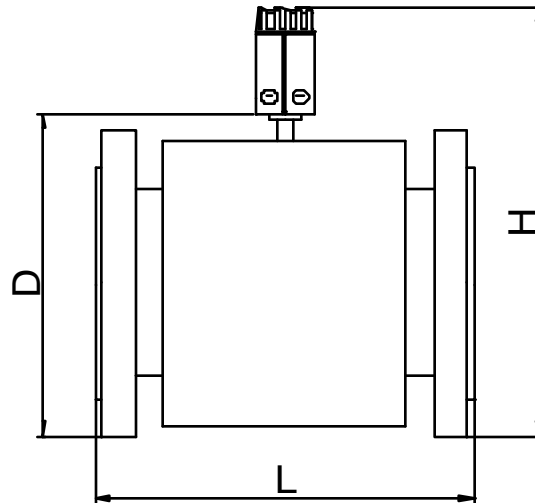
Line size	$\frac{1}{8}''\sim 6''$ (3-150 mm)	8~14'' (200-350 mm)	mm
$\frac{1}{15}$ Hz	40 months	32 months	30 months
$\frac{1}{30}$ Hz	66 months	60 months	50 months

Notes: Excitation frequency

$\frac{1}{15}$ Hz - means flow is monitored every 15 seconds

$\frac{1}{30}$ Hz - means flow is monitored every 30 seconds

➤ DIMENSIONS



Nominal Diameter	Normal pressure psig (MPa)	Dimensions - inches (mm)			Weight lbs. (Kg)
		L	D	H	
1" (25 mm)	362 (2.5)	7 ⁷ / ₈ (200)	6 ¹ / ₂ 165	15 ¹⁵ / ₁₆ (405)	11 (5)
1 ¹ / ₄ " (32 mm)		7 ⁷ / ₈ (200)	7 ³ / ₃₂ (180)	16 ¹⁷ / ₃₂ (420)	14.3 (6.5)
1 ¹ / ₂ " (40 mm)		7 ⁷ / ₈ (200)	7 ¹ / ₂ (190)	16 ¹⁵ / ₁₆ (430)	15.4 (7)
2" (50 mm)		7 ⁷ / ₈ (200)	7 ⁷ / ₈ (200)	17 ⁵ / ₁₆ (440)	19.8 (9)
2 ¹ / ₂ " (65 mm)		9 ²⁷ / ₃₂ (250)	8 ²¹ / ₃₂ (220)	18 ³ / ₈ (460)	24.3 (11)
3" (80 mm)		9 ²⁷ / ₃₂ (250)	9 ⁷ / ₁₆ (240)	18 ²⁹ / ₃₂ (480)	29 (13)
4" (100 mm)	232 (1.6)	9 ²⁷ / ₃₂ (250)	9 ²⁷ / ₃₂ (250)	19 ⁹ / ₃₂ (490)	33 (15)
5" (125 mm)		9 ²⁷ / ₃₂ (250)	11 ¹ / ₃₂ (280)	20 ¹⁵ / ₃₂ (520)	42 (19)
6" (150 mm)		11 ¹³ / ₁₆ (300)	12 ¹⁹ / ₃₂ (320)	22 ¹ / ₃₂ (560)	53 (24)
8" (200 mm)	145 (1.0)	13 ³ / ₄ (350)	14 ³¹ / ₃₂ (380)	24 ¹³ / ₃₂ (620)	71 (32)
10" (250 mm)		17 ²³ / ₃₂ (450)	16 ¹⁵ / ₁₆ (430)	26 ³ / ₈ (670)	104 (47)
12" (300 mm)		19 ¹¹ / ₁₆ (500)	19 ⁹ / ₃₂ (490)	28 ³ / ₄ (730)	148 (67)
14" (350 mm)		19 ¹¹ / ₁₆ (500)	21 ²¹ / ₃₂ (550)	31 ³ / ₃₂ (790)	172 (78)
16" (400 mm)		19 ¹¹ / ₁₆ (500)	23 ³ / ₈ (600)	33 ¹ / ₁₆ (840)	210 (95)
18" (450 mm)		21 ²¹ / ₃₂ (550)	25 ⁷ / ₃₂ (640)	34 ²¹ / ₃₂ (880)	243 (110)
20" (500 mm)		21 ²¹ / ₃₂ (550)	27 ¹⁷ / ₃₂ (700)	37 (940)	287 (130)
24" (600 mm)		23 ³ / ₈ (600)	31 ¹ / ₂ (800)	40 ³¹ / ₃₂ (1040)	353 (160)

ALMAG

Electromagnetic Flowmeter ALMAGBAT

**** Please contact your local SMC application engineer**

You also need to provide the following information:

Type of Fluid	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 m ³ /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

➤ Model Selection Guide

ALMAG BAT Series																
Example: ALMAGBAT-F-100-0-3-IN-1.6-E-0-15-0-NX-NN-NN																
ALMAGBAT	**_	*	*	*_	**	**_	*	*	*_	*	*	*_	*	*	*	Description
ANSI 150# Flange	F														Connection	
Ceramic type	C															
Sanitary	S															
Wafer type	W															
15 ~ 600 mm	**														Line size in units of mm	
316 stainless steel	0														Electrode	
Hast B	1															
Hast C	2															
Ta	3															
Ti	4															
Ceramic	C															
Chloroprene Rubber(Neoprene)	3														Liner Material	
PO	4															
PTFE	5															
PFA	6															
F46	7															
Ceramic	C															
Integral type	IN														Transmitter	
Remote type - with 5m cable	RE															
Max Pressure 2.5Mpa - up to DN80	2.5														Pressure	
Max Pressure 1.6Mpa - up to DN150	1.6															
Max Pressure 1.0Mpa - up to DN600	1.0															
up to 80 deg C	E														Temperature	
up to 150 deg C	H															
Not Needed	0														Grounding electrode/ring	
Grounding electrode	1															
304SS 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	
Aluminum enclosure, 304SS pipe, CS coil housing and flange	NN														Materials	
Aluminum enclosure. 304SS pipe, CS coil housing and 304SS flange	C304															
Aluminum enclosure. 304SS pipe, coil housing and flange	304															
None	NN														Option	
With CS install flange	IF															