



ALMAG-MN

In-Line Electromagnetic Flowmeter

Model ALMAG Series

GENERAL

SMARTMEASUREMENT's ALMAG-MN is an in-line electromagnetic flowmeter ideal for low flow of conductive liquids of 20 $\mu\text{s}/\text{cm}$ or greater. The ALMAG-MN comes with $\frac{1}{2}$ " npt or $\frac{1}{2}$ " BSPP process connections in sizes and is available with 6, 8, or 10 mm tube ID's. The ALMAG-MN is designed for low-flow chemical injection or difficult to meter applications with pulsating flows, corrosive fluids or food and beverage applications.

The ALMAG-MN flow tube is available in ceramic, polyethylene or PEEK materials. The flow meter is available with a built-in temperature sensor, an integrated three line display or in a blind version. The ALMAG-MN can be used in areas where mechanical meters like turbines or paddle wheels cannot be used due to contamination/particulates in the fluid.



FEATURES

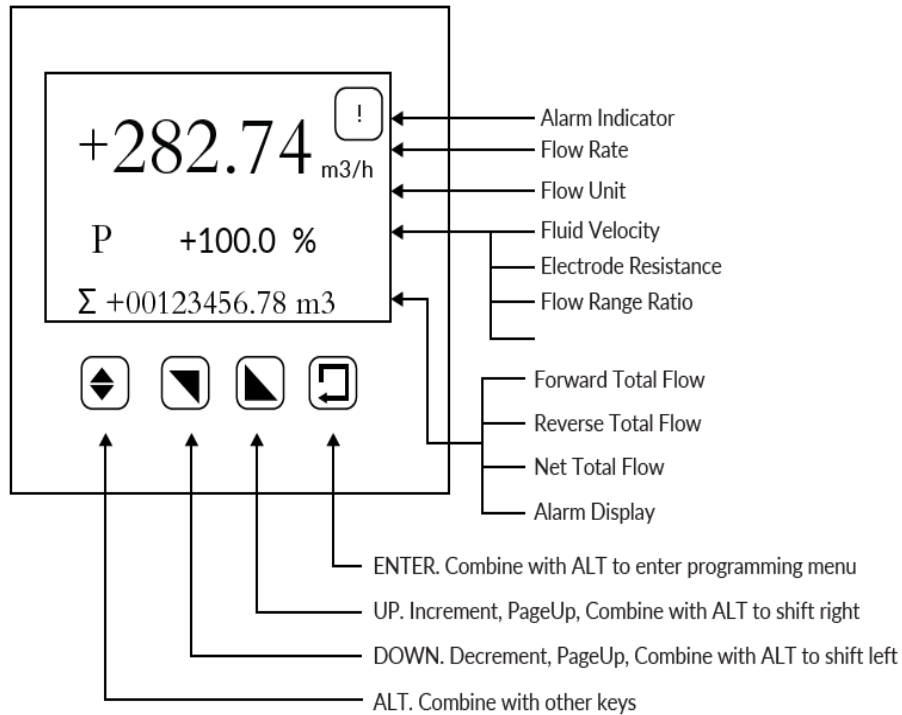
- Liner materials: PE, PEEK or Ceramic
- Fluid velocity range of 0.01m/s – 10m/s; ideal for flow applications
- $\frac{1}{2}$ " NPT or BSP process connections
- Ideal for extremely low flow applications
- Features a built in PT1000 temperature sensor; 0.1°F resolution
- Available with SS #316L or Hastelloy C electrodes
- High accuracy – $\pm 0.5\%$ of reading (Velocity > 0.6m/s) or $\pm 3\text{mm/s}$ (Velocity $\leq 0.6\text{m/s}$)
- Available with 4-20mA and 0-5KHz pulse and 2A relay outputs
- RS485/MODBUS; Optional for version w/ display, standard for blind version

SPECIFICATIONS

- | | | | |
|-----------------------|---|--------------------------|--|
| • Size: | $\frac{1}{2}$ " npt/BSPP6, 8 or 10mm I.D. | • Blind version: | All parameters via standard RS485 communicator |
| • Temperature: | 140°F (60°C) for PE, 195°F (90°C) | • Electrode & Grounding: | Stainless Steel #316L
Hastelloy C |
| • Pressure: | Up to 150 psig (10 barg) | • Cable Entry: | 2 X PG11 |
| • Measuring Range: | 0.01m/s - 10 m/s, bi-directional | • Ambient Temperature: | -15 ~ 140°F (-25 ~ 60°C) |
| • Material: | | • Grounding Resistance: | Must be less than 10 Ω |
| • Measuring Tube: | PE, PEEK or Ceramic | • Accuracy: | $\pm 0.5\%$ of reading for Velocity > 0.6m/s
Or $\pm 3\text{mm/s}$ (Velocity $\leq 0.6\text{m/s}$) |
| • Housing: | Aluminum (standard) | • Protection: | IP65 |
| • Process connection: | G- $\frac{1}{2}$ " or $\frac{1}{2}$ "NPT aluminum (standard)
Stainless Steel #316 (optional) | • Conductivity: | Must be $\geq 20\mu\text{S}/\text{cm}$ |
| • Display: | LCD Flow rate, fluid velocity, % Full scale, total flow, diagnostics and various alarms | • Power Supply: | 24 V _{DC} , $\leq 100\text{mA}$ |



DISPLAY

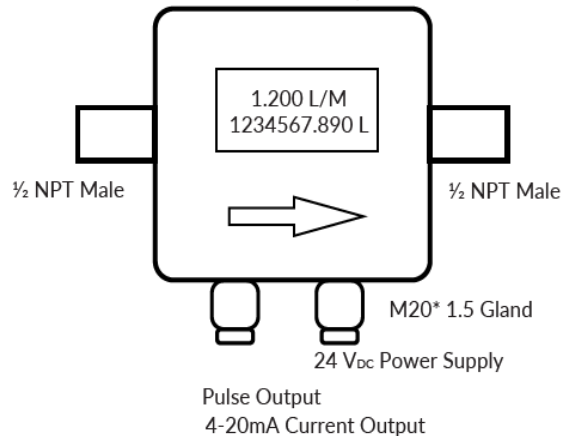


ACCURACY: ±0.5% OF RS (VELOCITY > 0.6M/S) FLOWRANGE	SIZE MM (IN)	ACCURACY ±3MM/S (VELOCITY ≤ 0.6M/S)	
		FLOW RANGE LPM	Flow Range GPM
1-17 LPM (0.26-4.5) GPM	6mm (¼")	17-1000 (±5)	0.05-0.26 (±0.001)
2-30 LPM (0.50-8.0) GPM	8mm (⅓")	30-2000 (±9)	0.08-0.5 (±0.002)
2.8-47 LPM (0.75-12.5) GPM	10mm (¾")	47-2800 (±90)	0.25-0.74 (±0.02)

CABLE ENTRY AND EXIT

***Note: for the display style use the display diagram

Dimension: 3.93" x 3.93" x 2.75" Thick (100mm x 100mm x 70mm Thick)



WIRING DIAGRAM

CONNECTOR LABEL	CABLE COLOR	CABLE DEFINITION	CABLE DESCRIPTION
7	Gray	+24V _{DC}	The external 24V _{DC} Power +
8	Blue	COM	Common Ground
6	White	P+	Pulse +
5	Brown	I+	4-20mA Current Output +
3	Green	NO1	Relay NO Contact 1
4	Black	NO2	Relay NO Contact 2
1	Red	A	RS485 A
2	Yellow	B	RS485 B

CABLE ENTRY AND EXIT



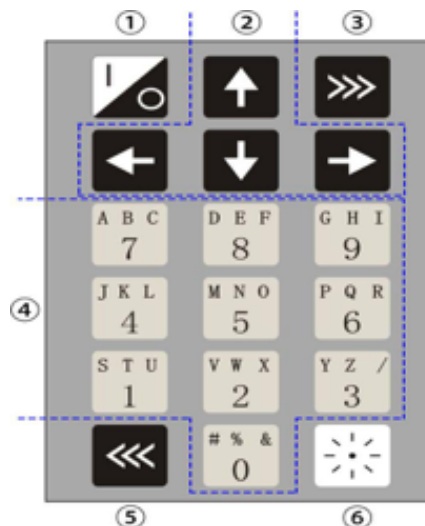
HANDHELD COMMUNICATOR



KEYPAD FUNCTIONS

The keypad function is depicted as below:

- [On/Off] Turn on/off the controller
- [Up] Scroll up, previous option or increment value
- [Down] Scroll down, next option or decrement value
- [Left] Scroll left or shift left
- [Right] Scroll right or shift right
- [Enter] Enter/Save
- [Number] Input number at the cursor
- [Back] Return to previous level menu
- [Pause] Pause when multiple communication



TYPE OF FLUID	Please provide the name of your fluid, including operating density and viscosity
FULL-SCALE FLOW RATE	Please provide the max and min flow rate
LINE SIZE	Please provide the line size and connection
PRESSURE & TEMPERATURE	We will calibrate your flow meter as close to your operating conditions as possible

ALMAG MN SERIES

EXAMPLE: ALMAGMN-N-6-2-0-L-1.0-65-DC-2-NX-NN-N

ALMAGMN	**_	*	*_	**	**_	*_	**	*	**	**_	*	DESCRIPTION
½" NPT Male	N											Process Connection
G½" Male	G											
Other connection	**											
(⅓") 6 mm		6										Flow Tube Inside Diameter
(¼") 8 mm		8										
(⅜") 10 mm		10										
316 stainless steel			0									Liner Material
Hast C			2									
PEEK			3									
PK			4									
Other Liner			**									
LCD Display with 4-20 mA				L								Transmitter
Blind Type with 4-20 mA				B								
Max Pressure 145 psi (1.0 MPA)					1.0							Pressure
Other Pressure					**							
Standard Protection NEMA 4 (IP65)						65						Protection
Not needed						0						
24 V _{DC} ± 20 %, 200 mA							DC					Power Supply
Non Digital Communication								0				Communication
RS485 - Modbus								2				
None									NX			Explosion Proof
Aluminum enclosure, SS # 304 flow tube and process connection										NN		Materials
Aluminum enclosure, SS # 316 flow tube and process connection										316		
Aluminum, other materials flow tube and process connection										**		
None											N	Option
With temperature sensor in flow body											T	
Relay output = 1 relay 250 V _{AC} , 5A/30 V _{DC} , 5A											R	

