



ALMAG SERIES

Magnetic Flowmeter

Magnetic Energy Meter



ALMAG series Magnetic Flow/Energy Meter



■ Standard Magnetic Flow/Energy Meter

- Line size: DN10~DN2000
- Flow Range(Velocity): 0.3~12 m/s
- Accuracy: $\pm 0.5\%$ of reading (Velocity ≥ 0.5 m/s)
 ± 3 mm/s (Velocity < 0.5 m/s)
- Connection: Flange, thread, wafer, sanitary
- Output: Pulse, 4-20mA, Relay, HART, RS485
- Power: AC, DC

■ Mini Magnetic Flow/Energy Meter

- Line size: DN3, DN6, DN8, DN10, DN15
- Flow Range(Velocity): 0.1~10 m/s
- Accuracy: $\pm (0.5\% \text{ of reading} + 1 \text{ mm/s})$
- Connection: Flange, thread
- Output: Pulse, 4-20mA, Relay, HART, RS485
- Power: DC



■ Insertion Magnetic Flow/Energy Meter

- Line size: DN50~DN3000
- Flow Range(Velocity): 0.5~10 m/s
- Accuracy: $\pm 1.5\%$ of reading (Velocity ≥ 0.6 m/s)
 ± 9 mm/s (Velocity < 0.6 m/s)
- Connection: Welded, ball valve
- Output: Pulse, 4-20mA, Relay, HART, RS485
- Power: AC, DC

■ Battery Magnetic Flow Meter

- Line size: DN10~DN600
- Pressure: Up to 0.3~12Mpa
- Flow Range(Velocity): 0.5~8 m/s
- Accuracy: $\pm 0.5\%$ of reading (Velocity ≥ 0.6 m/s)
 ± 3 mm/s (Velocity < 0.6 m/s)
- Connection: Flange, wafer, sanitary
- Output: Pulse, Relay, RS485, GPRS, CDMA
- Power: Battery



PRODUCT PRESENTATION

Model	Feature	Flow Range (Velocity:m/s)	Connection	Liner	Electrode	Transmitter	Output	Communication
ALMAG WP	Standard flow	0.3~12	flange, wafer, sanitary	CR, PU, PTFE, PFA, F46, Ceramic	316L, Nickel, Ti, HC, HB, Tan, Pt, Ceramic	Remote, Integral	Pulse 4-20mA	RS485, HART
ALMAG EG	Standard energy	0.3~12	flange, wafer, sanitary	CR, PU, PTFE, PFA, F46	316L, Nickel, Ti, HC, HB, Tan, Pt	Remote	Pulse 4-20mA	RS485, HART
ALMAG BAT	Battery power	0.5~8	flange, wafer, sanitary	CR, PU, PTFE, PFA, F46	316L, Nickel, Ti, HC, HB, Tan, Pt	Remote, Integral	Pulse	RS485, GPRS, CDMA
ALMAG MN	Mini style	0.1~10	flange,thread	PEEK	316L, HC	Remote, Integral	Pulse 4-20mA	RS485
ALMAG IS	Insertion style	0.5~10	ball vavle, weld	PEEK	316L, Nickel, Ti, HC, HB	Remote, Integral	Pulse 4-20mA	RS485, HART
ALMAG HP	High Pressure	0.5~8	flange	PFA, F46	316L, Nickel, Ti, HC, HB, Tan	Remote, Integral	Pulse 4-20mA	RS485, HART

FUNCTIONAL SPECIFICATIONS:

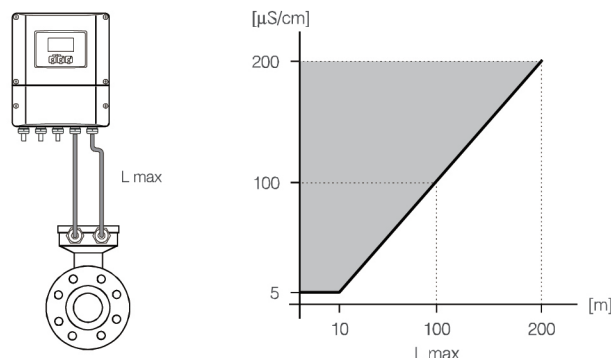
Compatibility: Smartmeasurement transmitters are compatible with Smartmeasurement sensors. Smartmeasurement transmitters compatible with AC and DC powered sensors of other manufacturers. Smartmeasurement sensor compatible with transmitters of some other manufacturers (TBA).

Measuring Direction: Bi-directional measurement

Flow Rate Range: Capable of processing signals from fluids that are traveling between 0.04 and 39 ft/s (0.01 to 12 m/s) for both forward and reverse flow in all sensor sizes. Full scale continuously adjustable between -39 and 39 ft/s (-12 to 12 m/s).

Sensor Coil Resistance: 150 Ω maximum

Conductivity Limits: Process liquid conductivity higher than 5 microsiemens/cm(5 μ S/cm)or demineralized water conductivity higher than 20 μ S/cm. Excludes the effect of interconnecting cable length in remote mount transmitter installations.



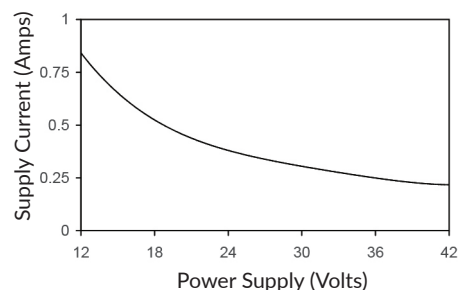
FUNCTIONAL SPECIFICATIONS:

Power Supply:

AC: 85~265VAC, 45~63Hz

DC: 16~30VDC, draw up to 1 amp of current steady state
I_{max}=23mA

FIGURE 1. DC Current Requirements



Power consumption: < 15W with sensor

Switch-on current:

AC: Maximum 26A (< 5 ms) at 250V_{AC}

DC: Maximum 30A (< 5 ms) at 42V_{DC}

Zero Adjustment: Be adjusted to before operating

Damping time: 0.2 to 100s (default 6s)

Grounding Resistance: <10 Ω

Output: Pulse (1-5K Hz) 4~20mA_{DC}

Relay (up to 3A/30V_{DC})

RS485 (up to 2km at 14400bps)

HART - opt GPRS - opt

AMBIENT SPECIFICATIONS:

Ambient Temperature Limits

Operating

-58 to 356°F (-50 to +180°C) without local transmitter

13 to 149°F (-25 to +65°C) with local transmitter

Storage

-40 to 185°F (-40 to +85°C)

-22 to 176°F (-30 to +80°C) with local transmitter

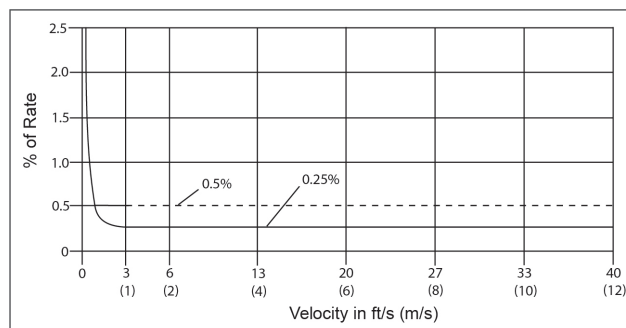
Humidity Limits

0-90% RH to 150°F (+65°C)

Protection: IP65 - std IP68 - opt (only for remote type)

Shock resistance: up to 2g, conforms to IEC60068-2-6

Interference-resistant: conforms to EN61326/A1



Standard Magnetic Flowmeter : ALMAG WP

ALMAG WP-				
Connection				
Flange type	F			
① Ceramic type (DN15~DN200)	C			
② Sanitary (DN15~DN100)	S			
③ Threaded type (DN10~DN50)	T			
④ Wafer type (DN10~DN200)	W			
Line Size				
DN10~DN2000	**			
Electrode				
316 stainless steel	0			
Nickel	1			
Hast C	2			
Tan	3			
Ti	4			
Ceramic ①	C			
Liner material				
Chloroprene Rubber(Neoprene)	3			
PU (polyurathane)	4			
PTFE ②③④	5			
PFA ②③④	6			
F46 ②③④	7			
Hard Rubber	8			
Ceramic ①	C			
Transmitter				
Integral type	IN			
Remote type - with 5m cable	RE			
Pressure				
Max Pressure 2.5Mpa (std up to DN80)	2.5			
Max Pressure 1.6Mpa (std up to DN150)	1.6			
Max Pressure 1.0Mpa (std up to DN900)	1.0			
Max Pressure 0.6Mpa (std up to DN2000)	0.6			
Higher pressure please contact factory	**			
Protection				
Standard - IP65	65			
IP68 flowbody and IP65 transmitter, only for remote type	68			
Grounding electrode/ring				
Not Needed	0			
Grounding electrode	1			
SS # 304 grounding ring	2			
Power supply				
16~30 V _{DC}	DC			
85~265V _{AC} , @45 -63 Hz	AC			
Communication				
Non communication	0			
HART	1			
RS485 - Modbus	2			
RS485 - Profibus DP	3			
Explosion proof				
None	NX			
Explosion Proof - for integral type	EXI			
Explosion Proof - for remote type	EXR			
Materials				
Aluminium enclosure, 304SS flow tube, CS coil housing and process connection	NN			
Aluminium enclosure. 304SS flow tube, CS coil housing and 304SS process connection	C304			
Aluminium enclosure. 304SS flow tube, coil housing and process connection ①②③④	304			
Option				
None	NN			
With CS install flange	IF			



Standard Magnetic Energy Meter : ALMAG EG

ALMAG EG-				
Connection				
Flange type	F			
① Ceramic type (DN15~DN200)	C			
② Sanitary (DN15~DN100)	S			
③ Threaded type (DN10~DN50)	T			
④ Wafer type (DN10~DN200)	W			
Line Size				
DN10~DN2000	**			
Electrode				
316 stainless steel	0			
Nickel	1			
Hast C	2			
Tan	3			
Ti	4			
Ceramic ①	C			
Liner material				
Chloroprene Rubber(Neoprene)	3			
PU (polyurathane)	4			
PTFE ②③④	5			
PFA ②③④	6			
F46 ②③④	7			
Hard Rubber	8			
Ceramic ①	C			
Transmitter				
Remote energy meter - 5m cable	ST			
Integral flow meter and remote flow computer	IN			
Remote flow meter and flow computer - 5m cable	RE			
Pressure				
Max Pressure 2.5Mpa (std up to DN80)	2.5			
Max Pressure 1.6Mpa (std up to DN150)	1.6			
Max Pressure 1.0Mpa (std up to DN900)	1.0			
Max Pressure 0.6Mpa (std up to DN2000)	0.6			
Protection				
Standard - IP65	65			
IP68 flowbody and IP65 transmitter, only for remote type	68			
Grounding electrode/ring				
Not Needed	0			
Grounding electrode	1			
SS # 304 grounding ring	2			
Power supply				
16~30 V _{DC}	DC			
85~265V _{AC} , @45 -63 Hz	AC			
Communication				
Non communication	0			
HART	1			
RS485 - Modbus	2			
RS485 - Profibus DP	3			
Explosion proof				
No Explosion Proof	NX			
Materials				
Aluminium enclosure, 304SS flow tube, CS coil housing and process connection, with RTD	NN			
Aluminium enclosure. 304SS flow tube, CS coil housing and 304SS process connection, with RTD	C304			
Aluminium enclosure. 304SS flow tube, coil housing and process connection, with RTD ①②③④	304			
Option				
None	NN			
With CS install flange	IF			



Battery Power Magnetic Flowmeter : ALMAG BAT

ALMAG BAT-				
Connection				
Flange type	F			
① Ceramic type (DN15~DN200)	C			
② Sanitary (DN15~DN100)	S			
③ Threaded type (DN10~DN50)	T			
④ Wafer type (DN10~DN200)	W			
Line Size				
DN10~DN600	**			
Electrode				
316 stainless steel	0			
Nickel	1			
Hast C	2			
Tan	3			
Ti	4			
Ceramic ①	C			
Liner material				
Chloroprene Rubber(Neoprene)	3			
PU (polyurathane)	4			
PTFE ②③④	5			
PFA ②③④	6			
F46 ②③④	7			
Hard Rubber	8			
Ceramic ①	C			
Transmitter				
Integral type	IN			
Remote type - with standard 5m cable	RE			
Pressure				
Max Pressure 2.5Mpa - up to DN80	2.5			
Max Pressure 1.6Mpa - up to DN150	1.6			
Max Pressure 1.0Mpa - up to DN600	1.0			
Temperature				
Up to +80℃	E			
Up to +150℃	H			
Grounding electrode/ring				
Not Needed	0			
Grounding electrode	1			
SS # 304 grounding ring	2			
Excitation frequency				
Every 15 seconds	15			
Every 30 seconds	30			
Communication				
None	0			
RS485	1			
GPRS	2			
CDMA	3			
Explosion proof				
None	NX			
Materials				
304SS flow tube, CS coil housing and connection	NN			
304SS flow tube, CS coil housing and 304SS connection	C304			
304SS flow tube, coil housing and connection ①②③④	304			
Option				
None	NN			
With CS install flange	IF			
IP68 flowbody	68			



Magnetic Insertion Flowmeter : ALMAG IS

ALMAG IS-				
Connection				
Weld	W			
Ball valve - Welded	BW			
Ball valve - threaded	BT			
Ball valve - Flanged	BF			
Line Size				
DN50~DN3000	**			
Electrode				
316 stainless steel	0			
Nickel	1			
Hast C	2			
Tan	3			
Ti	4			
Probe material				
304 stainless steel	0			
316 stainless steel	1			
Ti	2			
HastalloyC	3			
Transmitter				
Integral type	IN			
Remote type - with 5m cable	RE			
Pressure				
Max Pressure 1.6Mpa	1.6			
Protection				
Standard - IP65	65			
IP68 flowbody and IP65 transmitter, only for remote type	68			
Grounding electrode/ring				
Not Needed	0			
Power supply				
16~30 VDC	DC			
85~265VAC, @45 -63 Hz	AC			
Communication				
Non communication	0			
HART	1			
RS485 - Modbus	2			
RS485 - Profibus DP	3			
Explosion proof				
None	NX			
Explosion Proof - for integral type	EXI			
Explosion Proof - for remote type	EXR			
Materials				
Aluminium enclosure, PEEK liner	NN			
Option				
Energy meter with RTD (only remote)	EG			
With welding installation part	WP			



High Pressure Magnetic Flowmeter : ALMAG HP

ALMAG HP-				
Connection				
ANSI Flanged	AS			
JIS Flanged	JS			
DIN flange	DN			
Other type flange	**			
Size				
DN25~DN200	**			
Electrode				
316 stainless steel	0			
Nickel	1			
Hast C	2			
Tan	3			
Ti	4			
Liner material				
PFA	6			
Transmitter				
Integral type	IN			
Remote type - with 5m cable	RE			
Pressure				
Max Pressure 16 Mpa	16			
Max Pressure 25 Mpa	25			
Max Pressure 32 Mpa	32			
Max Pressure 42 Mpa	42			
Protection				
Standard - IP65	65			
IP68 flowbody and IP65 transmitter, only for remote type	68			
Grounding electrode/ring				
Not Needed	0			
Grounding electrode	1			
304SS grounding ring	2			
Power supply				
16~30 V _{DC}	DC			
85~265V _{AC} , @45-63 Hz	AC			
Communication				
Non communication	0			
HART	1			
RS485 - Modbus	2			
RS485 - Profibus DP	3			
Explosion proof				
None	NX			
Explosion Proof - for integral type	EXI			
Explosion Proof - for remote type	EXR			
Materials				
Aluminium enclosure, 304SS flow tube, CS coil housing and flange	NN			
Aluminium enclosure. 304SS flow tube, CS coil housing and 304SS flange	C304			
Aluminium enclosure. 304SS flow tube, coil housing and flange	304			
Option				
None	NN			
With CS install flange	IF			





Mini Magnetic Flowmeter : ALMAG MN

ALMAG MN-			
Connection			
Thread - ½" NPT Male	N		
Thread - G½" Male	G		
Flange - ANSI 150#	F		
Other connection	**		
Size			
DN3	3		
DN6	6		
DN8	8		
DN10	10		
DN15	15		
Electrode			
316 stainless steel	0		
Hast C	2		
Liner material			
PEEK	3		
PK	4		
Other liner	**		
Transmitter			
Integral type with LED display + 4-20mA	L		
Integral bline type with 4-20mA	B		
Pressure			
Max Pressure 1.0Mpa	1.0		
Other pressure	**		
Protection			
Standard - IP65	65		
Grounding electrode/ring			
Not Needed	0		
Power supply			
24VDC ± 20%, 200mA	DC		
Communication			
Non communication	0		
RS485 - Modbus	2		
Explosion proof			
None	NX		
Materials			
Aluminium enclosure, 304SS flow tube and process connection	NN		
Aluminium enclosure, 316SS flow tube and process connection	316		
Aluminium enclosure, other materials flow tube and process connection	**		
Option			
None	N		
With temperature sensor in flowbody	T		
Relay output - 1 relay 250VAC, 5A / 30VDC, 5A	R		



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