



# ALMAG

Electromagnetic Energy Meter  
Model ALMAGEG Series

## 7 GENERAL

The **ALMAGEG** 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 ALMAGEG may be used in many applications that require accurate thermal energy measurement such as chilled water, hot water and condenser water systems. The ALMAGEG magmeter is available in a stand- alone configuration and may also be used with various SMC transmitter and display packages.

## 7 FEATURES

- Available with a wide range of liner 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
- Non-invasive measuring technique provides low pressure loss and excellent particle tolerance
- FEP liner available for vacuum pressure applications
- High accuracy -  $\pm 0.5\%$  of reading standard or  $\pm 0.2\%$  of range
- BI-directional measurement
- Available with PT100 and PT1000 temperature sensors



## 7 SPECIFICATIONS

- |                   |  |                         |                                       |
|-------------------|--|-------------------------|---------------------------------------|
| ● Size            | : ½" ~ 120" (15 ~ 3000mm)  | ● Electrode & Grounding | : Stainless Steel 316L                |
| ● Temperature:    | w/ integral electronics: 15~140 °F (-10~60 °C)                           |                         | Hastelloy B                           |
|                   | w/ remote electronics: 15~300 °F (-10~150 °C)                            |                         | Hastelloy C                           |
| ● Measuring Range | : 0.9 - 32 feet/sec (0.9 - 10 m/s)                                       |                         | Titanium                              |
| ● Material        |  |                         | Tantalum                              |
| Measuring Tube    | : Carbon Steel (standard)  |                         | Tungsten Carbide                      |
|                   | Stainless Steel 304 (optional)   | ● Cable Entry           | : 2 X PG11                            |
|                   | Stainless steel 316 (optional)   | ● Ambient Temperature   | : -15~140 °F (-25~60 °C)              |
| Housing           | : Aluminum (standard)  | ● Process Connection    | : Flange, wafer                       |
| Flange            | : Carbon Steel (standard)  |                         | Flanges type : JIS , ANSI , PN        |
|                   | Stainless Steel #304 (optional)  | ● Grounding Resistance  | : Must be less then 10 Ω              |
|                   | Stainless Steel #316 (optional)  | ● Accuracy              | : $\pm 0.5\%$ of reading              |
| ● Liner           | : Polyurethane   |                         | $\pm 0.2\%$ of FS                     |
|                   | Neoprene   | ● Protection            | : IP 65                               |
|                   | FEP (up to 12")  |                         | IP68 (Submersible, with remote style) |
|                   | PTFE   | ● Conductivity          | : must be $\geq 5 \mu\text{S/cm}$     |
| ● Display         | : Flow rate, flow velocity, percentage,<br>Total flow, total energy flow | ● Power Consumption     | : $\leq 15$ Watts                     |

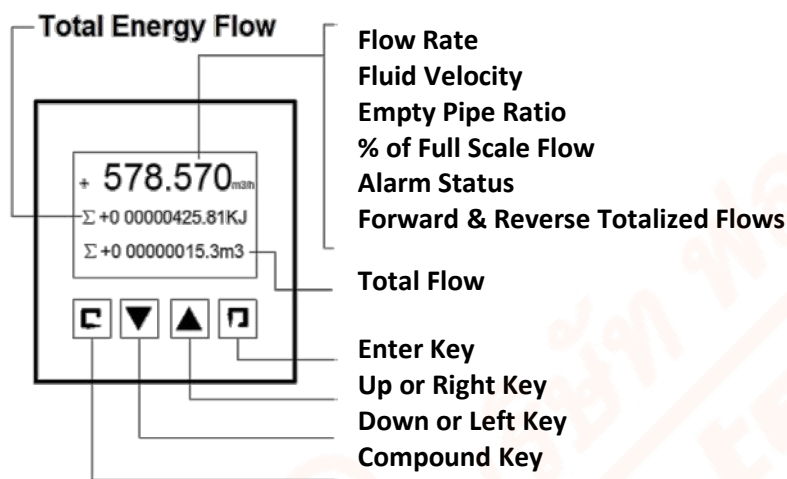
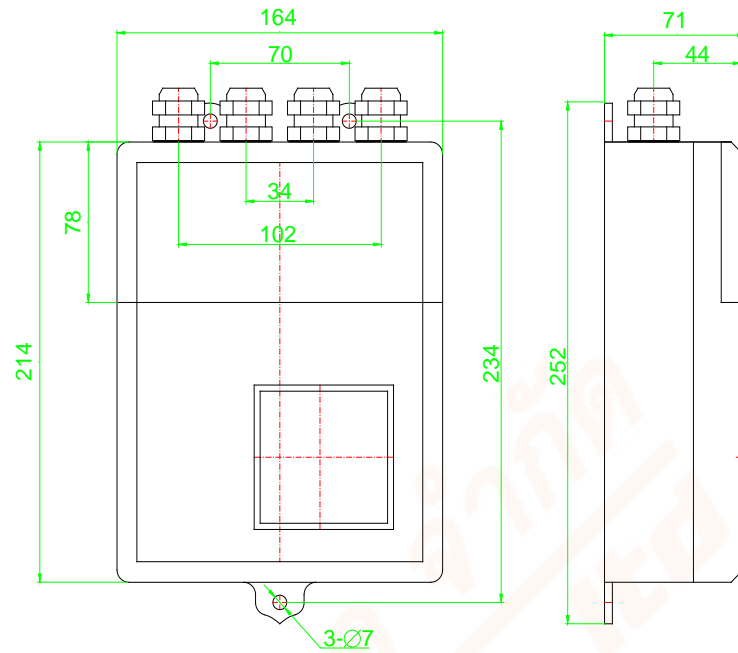


บริษัท ฟลูเทค จำกัด  
FLU - TECH CO., TD

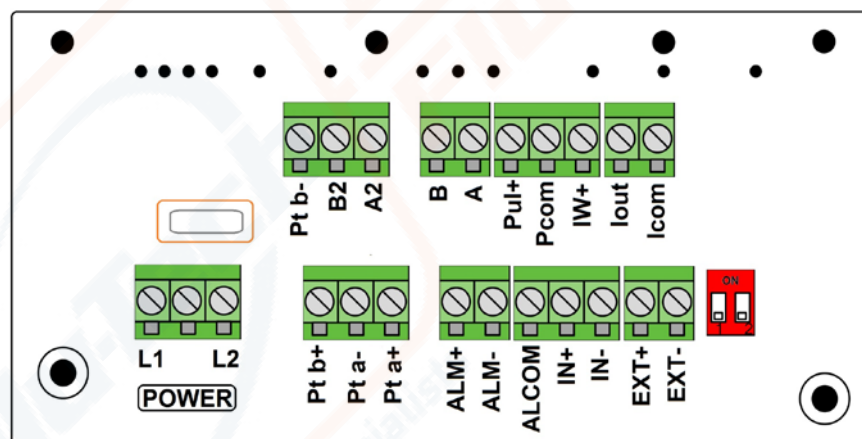
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➤ Mounting drawing

• Display

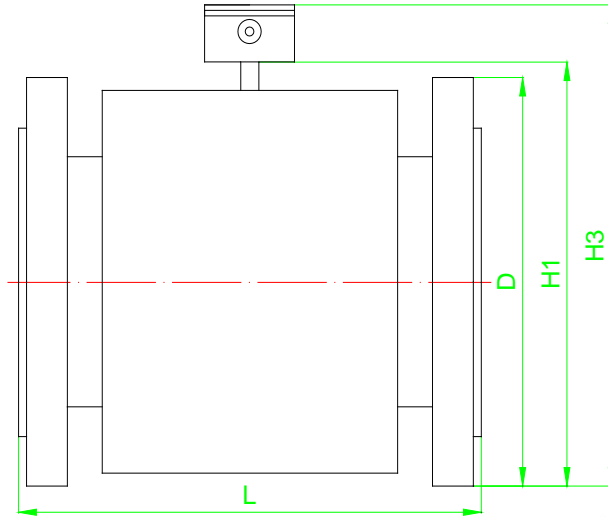


• Wiring



- |       |  |       |   |
|-------|--|-------|---|
| L1    | 110/220V <sub>AC</sub> (24V <sub>DC</sub> +) input |       |   |
| L2    | 110/220V <sub>AC</sub> (24V <sub>DC</sub> -) input |       |   |
| A 2   | RS485 output (+)                                   |       |   |
| B2    | RS485 output -                                     |       |   |
| pt a- | Upstream Temperature Sensor Input (-)              | pt b- | Downstream Temperature Sensor Input (-) |
| pt a+ | Upstream Temperature Sensor Input (+)              | pt b+ | Downstream Temperature Sensor Input (+) |
| B     | Exit Temperature Sensor Input                      | ALM + | High alarm output (+)                   |
| A     | Inlet Temperature Sensor Input                     | ALM-  | Low alarm output (+)                    |
| Pul + | Frequency/pulse output (+)                         | ALCOM | Alarm output                            |
| Pcom  | Frequency/pulse output -                           | IN +  | Input contact (+)                       |
| IW +  | Passive Excitation Current Output (+)              | IN -  | Input contact (-)                       |
| Iout  | Active Excitation Current output (+)               | EXT+  | Coil excitation (+)                     |
| Icom  | Active Excitation Current output (-)               | EXT-  | Coil excitation(-)                      |

➤ DIMENSIONS - DIN flange



DN	Normal pressure (MPa)	Dimension (mm)				Weight (kg)
		L	D	H1	H3	
15	4.0	200	95	155	215	3.5
20		200	105	160	220	4.5
25		200	115	165	225	5
32		200	140	180	240	6.5
40		200	150	190	250	7
50		200	165	200	260	9
65		250	185	220	280	11
80		250	200	240	300	13
100	1.6	250	220	250	310	15
125		250	250	280	340	19
150		300	285	320	380	24
200	1.0	350	340	380	440	32
250		450	395	430	490	47
300		500	445	490	550	57
350		500	505	550	610	68
400		500	565	600	660	85
450		550	615	640	700	100
500		550	670	700	760	120
600		600	780	800	860	160
700	0.6	700	860	860	920	305
800		800	975	975	1035	415
900		900	1075	1075	1135	525
1000		1000	1175	1175	1235	680
1200		1200	1405	1405	1465	745
1400		1400	1630	1630	1690	1105
1600		1600	1830	1830	1890	1425
1800		1800	2045	2045	2105	1955
2000		2000	2265	2265	2325	2480
2200		2200	2475	2475	2535	3080
2400		2400	2685	2685	2745	3780
2600		2600	2905	2905	2965	4150
2800	2800	3115	3115	3175	4870	
3000	3000	3315	3315	3375	5470	



**\*\* 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
Full Scale Flow	Maximum and minimum flow rates, units must be in GPM, LPM or m <sup>3</sup> /hr, etc..
Line Size	Please provide pipe size as well connection type (flanged, threaded, etc..)
Pressure & Temperature	We will calibrate your flowmeter as close to your operating conditions as possible

**Model Selection Guide**

ALMAGWP Series														
Example: ALMAGEG-F100-03-ST-4.0-65-0-DC-0-NX-NN-NN														
ALMAGEG-	*-	**-	*	*-	*	*-	*	*-	*	*-	*	*-	**	Description
Flanged	F													Type
Clamped	C													
Sanitary - FEP liner only	S													
½"-120" (DN15~DN3000)		**												Size
316 stainless steel			0											Electrode
Hast B			1											
Hast C			2											
Ta			3											
Ti			4											
Pt			5											
Chloroprene Rubber(Neoprene)			3											Liner Material
Polyurethane			4											
PTFE			5											
PFA			6											
F46			7											
FEP			8											
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 with flanges up to DN80			2.5											Nominal Pressure (Mpa)
Max Pressure 1.6Mpa with flanges up to DN150			1.6											
Max Pressure 1.0Mpa with flanges up to DN900			1.0											
Max Pressure 0.6Mpa with flanges up to DN2000			0.6											
IP65			65											Protection
IP68 flow body and IP65 transmitter - only for remote			68											
Not Needed			0											Grounding Electrode
Needed			1											
11~40V <sub>DC</sub>				DC										Power supply
85~265V <sub>AC</sub> , 50/60 Hz				AC										
No communication			0											Communication
HART			1											
RS485 - Modbus			2											
RS485 - Profibus DP			3											
Becnet			4											
None													NX	Explosion proof
Aluminum Enclosure, SS# 304 flow tube, carbon steel coil housing and flange, with PT100													NN	Materials
Aluminum Enclosure, SS# 304 flow tube & flanges, carbon steel coil housing, with PT100													C304	
Aluminum Enclosure, SS# 304 flow tube, flanges, & coil housing, with PT100													304	
None													NN	Options
With mating carbon steel installation flange													IF	

