Tactical Flow Meter
22642 Indian Springs Road
Salinas, CA 93908
Dave.Korpi@TacticalFlowMeter.com
(831) 455-0418
www.tacticalflowmeter.com

# Battery Powered MAG meter

- **Overview:**

The battery powered electromagnetic flowmeter, MAG meter, uses a very efficient internal Lithium battery power supply. It is ideally suited where field power is not available. It is especially suitable for monitoring, recording, and measurement of remote and irrigation water supply systems.
The meter features ultra-low-power circuit technology featuring very efficient and reliable excitation signal processing circuitry. The highly efficient system management Technology greatly reduces system power consumption, saving power costs while achieving accurate measurements as well as providing sufficient power for 4-20 mA and ModBUS RTU communication.

- **Main features:**

Displays instantaneous flow, cumulative flow, flow rate, ModBUS RTU and battery capacity.
Featuring an efficient Micro Power consumption design, using five 3.6V lithium batteries, provides for continuous operation for 2 to 3 years. The design features easy battery replacement.
Features 4-20 mA output and RS-485 communication.

| | | |
|---|---|---|
| **Photos** |  |  |
| **Item name** | Battery powered electromagnetic flow meter | |
| **Sensor material** | Carbon Steel | SS304 |
| **Signal O/P** | RS485 and 4-20mA | |
| **Electronics** | Internally Battery powered | |
| **Power supply** | 5 Built-in 3.6 VDC batteries ( batteries can be easily replaced) | |
| **Size** | 3/8'' - 48'' | |
| **Working pressure** | ANSI 150#, 300#, 600# (150# Standard) | |
| **Accuracy** | +/- 0.5% | |
| **Repeatability** | 0.1% | |
| **Electrode material** | SS316L, HC, HB, Ti (SS316L Standard) | |
| **Liner material** | Rubber, Telfon, PTFE, F46, polyurethane (Select) | |
| **Working temperature** | -25 Deg C to +180 Deg C | |
| **Ambient temperature** | -25 Deg C to +60 Deg C | |
| **Conductivity** | ≥20 µs/cm | |
| **Flow speed** | <15 m/s | |
| **Structure** | Integral type or Remote type (can be customized) | |
| **Protection class** | IP68 | |
| **Ex-proof** | Exd IIBT4 | |
| **Connection** | ANSI Flange | |

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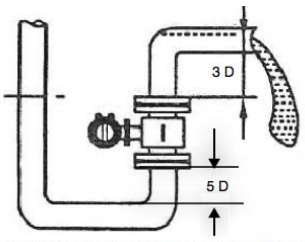
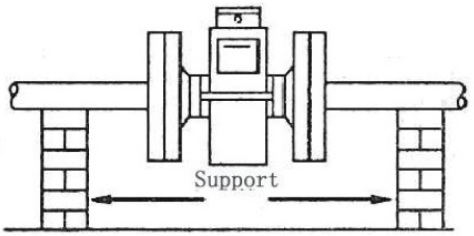
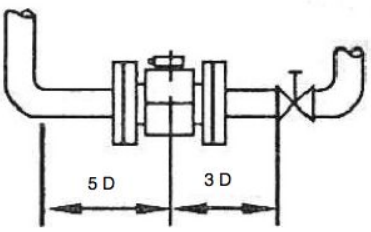
# Flow Inlet/Outlet Installation guidelines.




Install so that the meter is located so the outlet is at least 3 Pipe Diameters from any obstruction or elbow and the inlet is at least 5 Pipe Diameters and the meter is always submerged and there are no air bubbles




Install so that the meter is supported and not causing stress on the flanges.

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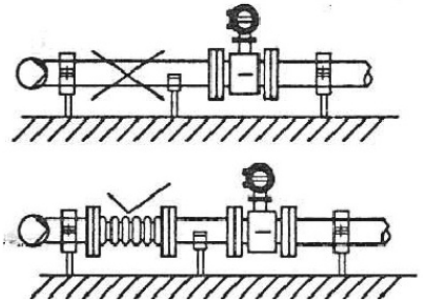
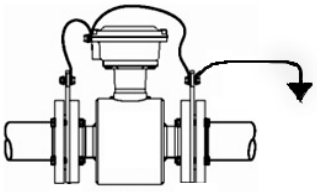
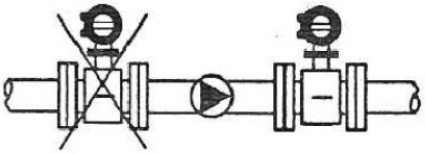


Isolate meter from vibration as shown

VERY IMPORTANT



Install the MAG meter and connect the inlet and outlet to a proper GROUND line. This is the Solution Ground, called SG, and is very important for a stable ZERO FLOW measurement.



Do not install a MAG meter at the INLET of a pump as this will introduce bubbles. Instead, put it on the OUTLET with at least 5 diameters upstream.

**MAIN INSTALLATION REQUIREMENTS: Never let a MAG meter run with no liquid or do not run the meter downstream of a pump that can inject bubbles, or downstream of a valve that can create bubbles in the flow. The BEST installation is shown in the upper left graphic. Grounding is very important for stable Zero Flow measurements.**

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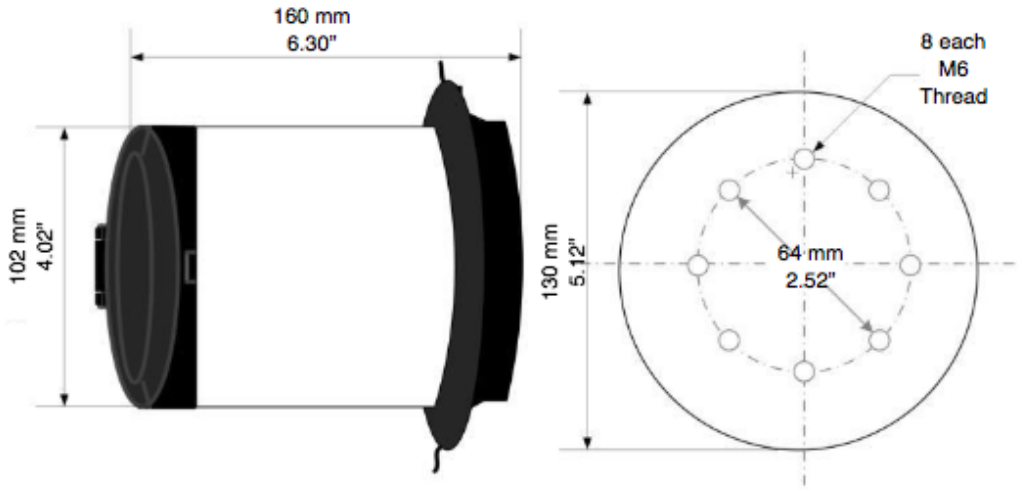
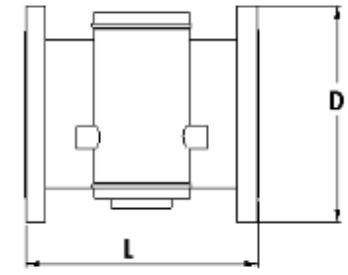
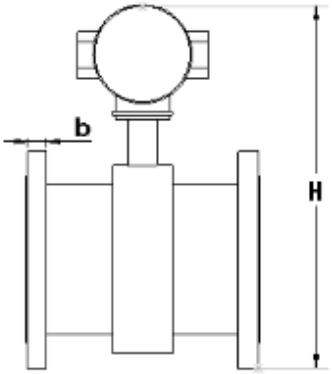
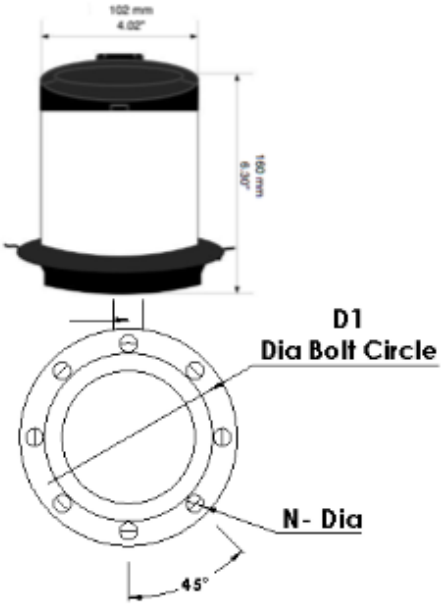
Battery Powered Electronics Dimensions, Note flow bodies are the same dimensions for Battery and DC/AC powered models.




METER DIMENSIONS



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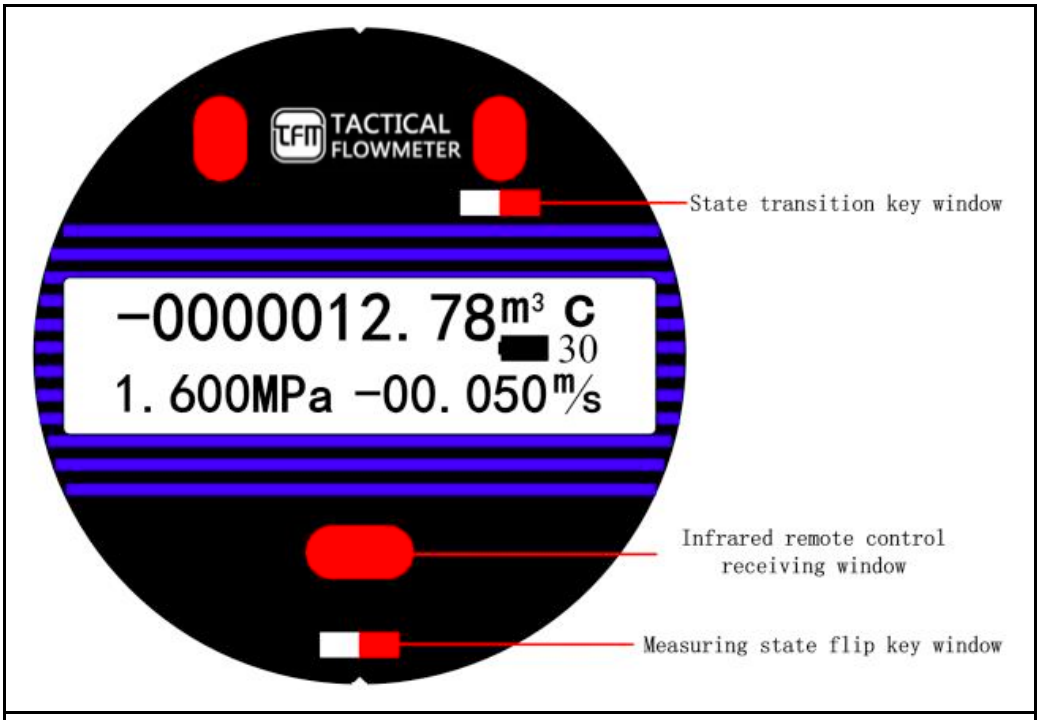
| ANSI Size | DN Size | GPM @ 10 m/s | L | | b | | N-Dia | | N | H | | D | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | L (Pipe length) | | C (flange thick) | | Flange Bolt Dia | | N (# Bolts) | Meter height | | Flange OD | |
| | | | inches | mm | inches | mm | inches | mm | | inches | mm | inches | mm |
| ½" | 15 | 30 | 7.874 | 200 | 0.551 | 14 | 2.559 | 65 | 4@ 0.55" | 10.433 | 265 | 3.740 | 95 |
| ¾" | 20 | 50 | 7.874 | 200 | 0.630 | 16 | 2.953 | 75 | 4@ 0.55" | 10.827 | 275 | 4.134 | 105 |
| 1" | 25 | 80 | 7.874 | 200 | 0.630 | 16 | 3.346 | 85 | 4@ 0.55" | 11.220 | 285 | 4.528 | 115 |
| 1 ¼" | 32 | 130 | 7.874 | 200 | 0.709 | 18 | 3.937 | 100 | 4@ 0.55" | 12.283 | 312 | 5.512 | 140 |
| 1 ½" | 40 | 200 | 7.874 | 200 | 0.709 | 18 | 4.331 | 110 | 4@ 0.55" | 12.598 | 320 | 5.906 | 150 |
| 2" | 50 | 315 | 7.874 | 200 | 0.787 | 20 | 4.921 | 125 | 4@ 0.55" | 13.189 | 335 | 6.496 | 165 |
| 2 ½" | 65 | 530 | 7.874 | 200 | 0.787 | 20 | 5.709 | 145 | 6@ 0.71" | 13.976 | 355 | 7.283 | 185 |
| 3" | 80 | 800 | 7.874 | 200 | 0.787 | 20 | 6.299 | 160 | 6@ 0.71" | 14.567 | 370 | 7.874 | 200 |
| 4" | 100 | 1300 | 9.843 | 250 | 0.866 | 22 | 7.087 | 180 | 6@ 0.71" | 15.354 | 390 | 8.661 | 220 |
| 5" | 125 | 1950 | 9.843 | 250 | 0.866 | 22 | 8.268 | 210 | 6@ 0.71" | 16.535 | 420 | 9.843 | 250 |
| 6" | 150 | 2800 | 11.811 | 300 | 0.945 | 24 | 9.449 | 240 | 8@ 0.87 | 17.717 | 450 | 11.220 | 285 |
| 8" | 200 | 5000 | 13.780 | 350 | 0.945 | 24 | 11.614 | 295 | 8@ 0.88 | 19.882 | 505 | 13.386 | 340 |




Display Screen showing control methods

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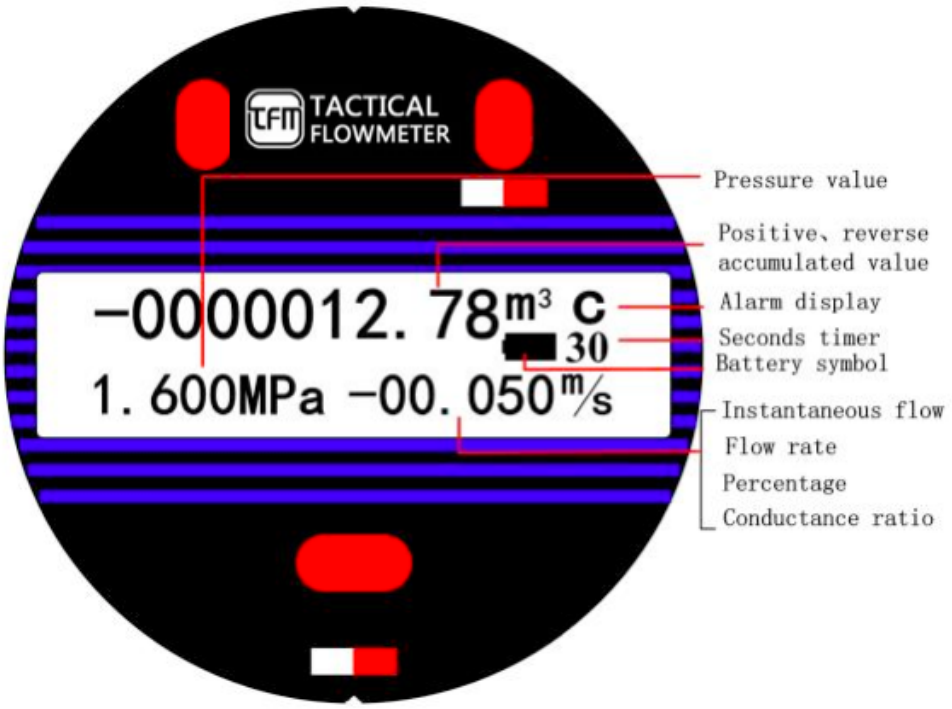
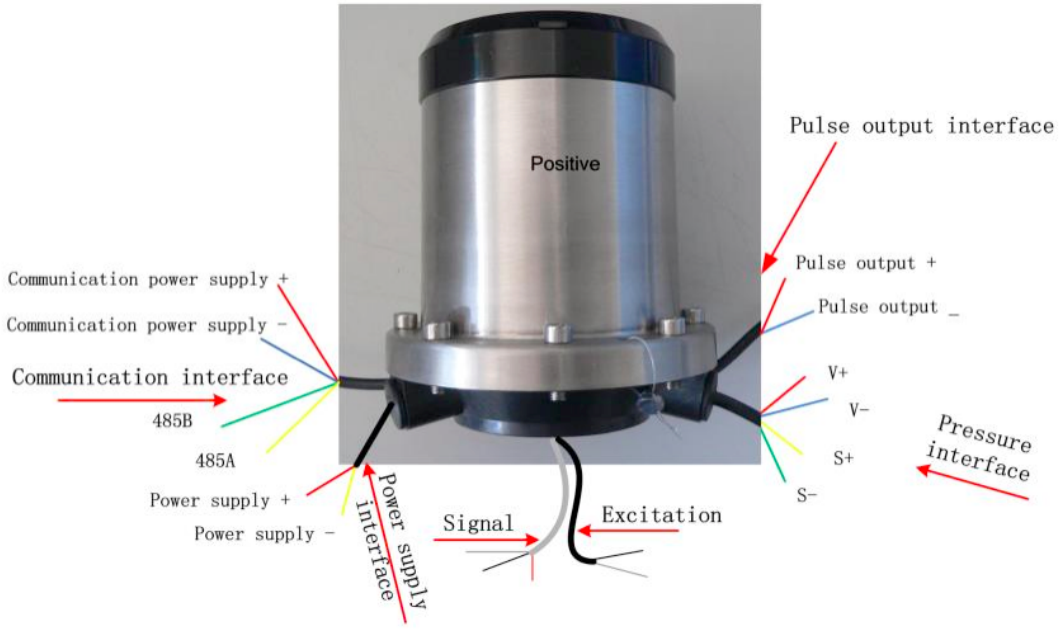



Display Screen showing variables.




Electronics Connection Overview

Flow Units: L/h, L/m, L/s, m /h, m /m, m /s, ukg/h, ukg/m, ukg/s, usg/h, usg/m & usg/s

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| Battery Life VS Sample Time/Excitation Current | | |
|---|---|---|
| Sample Time | 50 mA Excitation | 20 mA Excitation |
| 30S | 74months | 103months |
| 25S | 62months | 87months |
| 20S | 49months | 69months |
| 15S | 37months | 52months |
| 14S | 34months | 48months |
| 13S | 32months | 45months |
| 12S | 30months | 42months |
| 11S | 27months | 38months |
| 10S | 24months | 34months |
| 9S | 21months | 31months |
| 8S | 18months | 27months |
| 7S | 15months | 24months |
| 6S | 13months | 21months |
| 5S | 10months | 17months |
| 3S | 7months | 10months |

Menu Tree