The Assured Automation MAG series are volumetric magnetic induction flow meters that measure flow rate and totals at rates up to 160 gpm, and also measure temperature. The rugged meter body includes electronics, display, user interface, and output signal generation in one compact unit. In addition to being more compact it is also less expensive than comparable meters and sensors.

**Output Signals:** Analog, binary, pulse and frequency outputs offer various options to process the measured data. The meter is designed for the brewing, HVAC, machine tool, solar, and water industries. It is used with conductive liquids \[\text{conductivity: } \geq \text{EC 0.02 (12.8 ppm TDS, 20 } \mu\text{s/cm) / viscosity: } < 0.1085 \text{ in}^2/\text{s at 104 } ^\circ\text{F}\].

**FEATURES**
- One compact sensor provides flow rate, total flow volume, and media temperature
- Large, bright segmented LED digits (4)
- Empty pipe detection alerts when pipe is not full
- Min. and Max. values stored in memory
- Local digital display and user interface
- Large flow ranges (up to 100:1 turndown)
- I/O link output via M12 connector
- 2 outputs for PNP/NPN switching, pulse, frequency, current, or voltage signals
- Analog signals are scalable for best resolution within the actual used range
- Unobstructed flow path is tolerant of particulate and keeps pressure drop low

**MATERIALS**
**Body:** Stainless steel
**Wetted Parts:** Stainless steel, PEEK, FKM (EPDM to replace FKM as special order)

**SPECIFICATIONS**
**Temperature Measuring Range:** -4°C to 190°F (0.5°C resolution, ±1% accuracy)
**Flow Measuring Range:** up to 160 gpm (see charts on page 3)
**Flow Totalizing Max.:** 9,999,999,999
**Flow Measuring Accuracy:** ± 0.8 %
**Flow Measuring Repeatability:** ± 0.2 %
**Protection Rating:** IP65, IP67

**TYPICAL APPLICATIONS**
- Brewing & Distilling, Wort Measurement
- Cooling Circuits
- HVAC
- Machine Tool
- Solar
- Power Generation
- Water

**ACCESSORIES** (see page 3 for details)
- 15' or 30' PVC 4-wire cable with M12 connector and flyind leads
- 120VAC to 24VDC wall plug adapter with M12 connector (power only)
- Easy TOTAL reset button on 8 inch M12 patch cord
MAG Series
Magnetic-Inductive Flow Meter w/ Temperature Sensing

**OPERATION:** Magnetic Inductive Sensing

Operating according to Faraday's law of induction, when a conductive medium flows through a magnetic field, a voltage proportional to the flow velocity/volumetric quantity is generated. The voltage is tapped via electrodes and converted by the electronics to a usable control signal.

**OUTPUT OPTIONS:**

**Digital:**

These units have 2 outputs that can be configured in the field to provide various switching options, frequency signals, or pulse output. Output 2 does have analog signal options. All switching outputs can be set to N.O. or N.C.

**Output 1 Options:**
- Switching output empty pipe detection
- Switching output Volumetric flow quantity monitoring
- Frequency output flow rate
- Pulse output for totalizing
- Signal output preset counter

**Output 2 Options:**
- Switching output empty pipe detection
- Switching output based on flow rate
- Switching output based on temperature
- Analog output of flow rate (4-20mA or 0-10VDC)
- Analog output of temperature (4-20mA or 0-10VDC)
- Use as an input for TOTALIZER reset

**Analog:**

The analog signals provide real-time information on both temperature and flow rate. Output 1 is for temperature and Output 2 is for flow rate. The 4-20mA signals are scalable, meaning you can set the start and end points for better resolution within your actual flow range. These points are programmable in the field.

**Output 1:**
- 4-20mA Analog output of temperature (scalable)

**Output 2:**
- 4-20mA Analog output of flow rate (scalable)

**Note:** For 0-10VDC voltage output signals, use the digital output models.

**WIRING:** M12 connector pin-out

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Brown</td>
</tr>
<tr>
<td>2</td>
<td>White</td>
</tr>
<tr>
<td>3</td>
<td>Blue</td>
</tr>
<tr>
<td>4</td>
<td>Black</td>
</tr>
<tr>
<td>L+</td>
<td>OUT2</td>
</tr>
<tr>
<td>L-</td>
<td>OUT1</td>
</tr>
</tbody>
</table>

**ELECTRICAL INFORMATION:**

- **Operating Voltage:** 18 to 32 VDC
- **Current consumption:** 150 mA
- **Protection class:** III
- **Reverse polarity protection:** Yes
- **Power-on delay time:** 5 sec.

Contact us for the most recent product and technical information. Visit our website assuredautomation.com.
MAG Series

Magnetic-Inductive Flow Meter w/ Temperature Sensing

DIMENSIONS - NPT Connections

NPT 1/4" to 1"
MAG-0008, MAG-0066, MAG-0132, MAG-0264

NPT 1 1/2" to 2"
MAG-0800, MAG-1600

<table>
<thead>
<tr>
<th>Model</th>
<th>NPT</th>
<th>L</th>
<th>Max. Flow Rate</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAG-0008-N025_*</td>
<td>1/4&quot;</td>
<td>5.75&quot; (w/adapters)</td>
<td>0.8 gpm</td>
<td>1.5 lbs.</td>
</tr>
<tr>
<td>MAG-0066-N050_</td>
<td>1/2&quot;</td>
<td>4.33&quot;</td>
<td>6.6 gpm</td>
<td>1.25 lbs.</td>
</tr>
<tr>
<td>MAG-0264-N100_</td>
<td>1&quot;</td>
<td>4.33&quot;</td>
<td>26.4 gpm</td>
<td>1.5 lbs.</td>
</tr>
<tr>
<td>MAG-0800-N150_</td>
<td>1 1/2&quot;</td>
<td>6.69&quot;</td>
<td>80 gpm</td>
<td>6 lbs.</td>
</tr>
<tr>
<td>MAG-1600-N200_</td>
<td>2&quot;</td>
<td>7.09&quot;</td>
<td>160 gpm</td>
<td>6 lbs.</td>
</tr>
</tbody>
</table>

*Uses G 1/4" to NPT MALE 1/4" adapters not shown in drawing

DIMENSIONS - G (male) and Tri-Clamp Connections

G 1/4" to 1"
MAG-0008, MAG-0066, MAG-0132, MAG-0264

G 2"
MAG-0800, MAG-1600

<table>
<thead>
<tr>
<th>Model</th>
<th>G</th>
<th>Tri-Clamp</th>
<th>L</th>
<th>Max. Flow Rate</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAG-0008-G...</td>
<td>1/4&quot;</td>
<td>1/2&quot;, 3/4&quot;, 1&quot;</td>
<td>call</td>
<td>0.8 gpm</td>
<td>1.2 lbs.</td>
</tr>
<tr>
<td>MAG-0066-G...</td>
<td>1/2&quot;</td>
<td>1/2&quot;, 3/4&quot;, 1&quot;, 1 1/2&quot;</td>
<td>call</td>
<td>6.6 gpm</td>
<td>1.15 lbs.</td>
</tr>
<tr>
<td>MAG-0264-*...</td>
<td>1&quot;</td>
<td>1&quot;, 1 1/2&quot;, 2&quot;</td>
<td>call</td>
<td>26.4 gpm</td>
<td>1.4 lbs.</td>
</tr>
<tr>
<td>MAG-0800-G...</td>
<td>2&quot;</td>
<td>1 1/2&quot;, 2&quot;</td>
<td>call</td>
<td>80 gpm</td>
<td>7 lbs.</td>
</tr>
<tr>
<td>MAG-1600-*...</td>
<td>2&quot;</td>
<td>1 1/2&quot;, 2&quot;</td>
<td>call</td>
<td>160 gpm</td>
<td>7 lbs.</td>
</tr>
</tbody>
</table>

*G = G male threaded connection; C = Tri-clamp connection (weights shown are without adapters)
# MAG Series

**Magnetic-Inductive Flow Meter w/ Temperature Sensing**

## ORDERING INFORMATION

**MAG - 0132**

<table>
<thead>
<tr>
<th>Meter Size</th>
<th>Conn Type</th>
<th>Conn Size</th>
<th>Output Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>0132</td>
<td>N</td>
<td>075</td>
<td>D</td>
</tr>
</tbody>
</table>

**Meter Size:**

<table>
<thead>
<tr>
<th>Flow Rate Range</th>
<th>Available Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>0008 = 0 to 0.8 gpm</td>
<td>NPT 1/4&quot; (male) 1/2&quot;, 3/4&quot;, 1/2&quot;</td>
</tr>
<tr>
<td>0066 = 0 to 6.6 gpm</td>
<td>NPT 3/4&quot; 1/2&quot;, 3/4&quot;, 1, 1 1/2, 2</td>
</tr>
<tr>
<td>0132 = 0 to 13.2 gpm</td>
<td>NPT 1&quot; 1, 1 1/2, 2</td>
</tr>
<tr>
<td>0264 = 0 to 26.4 gpm</td>
<td>NPT 1 1/2&quot; 1 1/2, 2</td>
</tr>
<tr>
<td>0800 = 0 to 80 gpm</td>
<td>NPT 2&quot; 1 1/2, 2</td>
</tr>
<tr>
<td>1600 = 0 to 160 gpm</td>
<td>NPT 2&quot; 1 1/2, 2</td>
</tr>
</tbody>
</table>

**Connection Type:**

- **N** = NPT female (1/4" model is male)
- **G** = G (BSPP) male
- **C** = Tri-Clamp (uses adapters from G male to Tri-Clamp)

**Connection Size:**

*Not All Combinations available - see "available connections" from Meter Size above*

**Output Signals:**

- **D** = Digital - 2x configurable: PNP/NPN switching, frequency, pulse. 1 can also be used as scalable analog (4-20mA or 0-10VDC) output 2 can be used as external reset signal (see Easy Reset Button below)
- **A** = Analog - 2x scalable analog: 1 temperature, 1 flow rate (4-20mA only)

## ACCESSORIES

### Cables with M12 Connectors

- **EVC002** 15 ft cable, straight connector
- **EVC003** 30 ft cable, straight connector
- **EVC004** 15 ft cable, right angle connector
- **EVC005** 30 ft cable, right angle connector

For complete details visit: [https://assuredautomation.com/MAG-meter](https://assuredautomation.com/MAG-meter)

### 24 VDC Power Supplies/Transformers

- **PC-24VDC-M12**
  - 5 ft. Wall plug power source (no provisions for using outputs)
- **Easy Reset Button** (for resetting TOTAL)
- **ERB-8IN-M12**
  - 8 inch M12 male x female patch cord with reset button

Contact us for the most recent product and technical information. Visit our website assuredautomation.com.