



MAG Series Magnetic-Inductive Flow Meter with Temperature Sensing



Unobstructed flow path

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 [**conductivity:** \geq EC 0.02 (12.8 ppm TDS, 20 μ S/cm) / **viscosity:** $<$ 0.1085 in²/s at 104 °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)

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

SPECIFICATIONS

Temperature Measuring Range: -4° to 190°F (0.5° resolution, \pm 1% accuracy)

Flow Measuring Range: up to 160 gpm (see charts on page 3)

Flow Totalizing Max.: 9,999,999,999

Flow Measuring Accuracy: \pm 0.8 %

Flow Measuring Repeatability: \pm 0.2 %

Protection Rating: IP65, IP67

TYPICAL APPLICATIONS

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

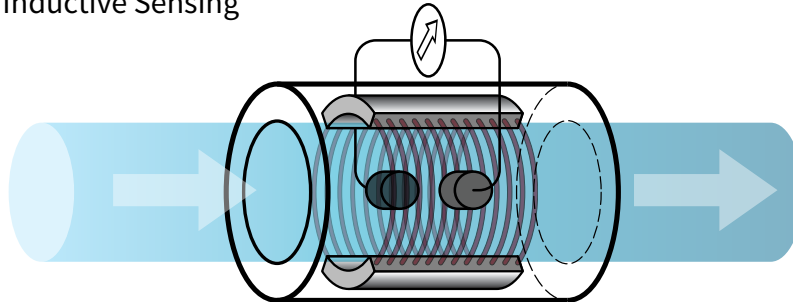


MAG Series



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 realtime 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:

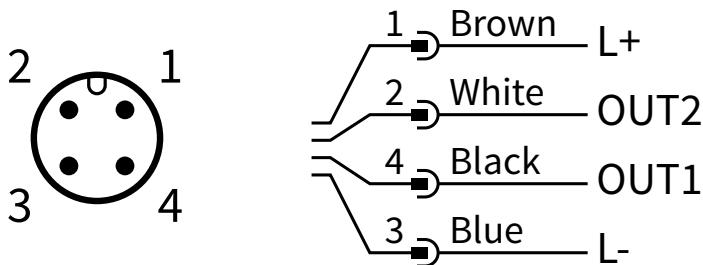
- 4-20mA Analog output of temperature (scalable)

Output 2:

- 4-20mA Analog output of flow rate (scalable)

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

WIRING: M12 connector pin-out



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.



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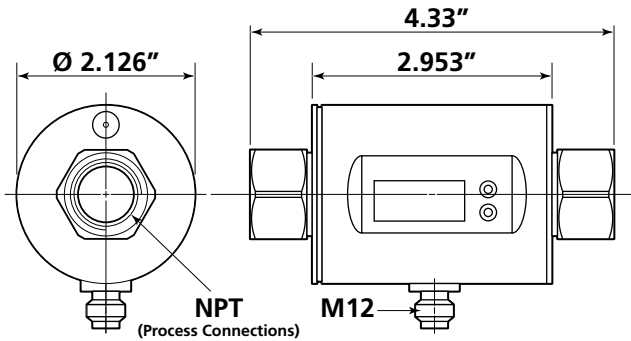


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DIMENSIONS - NPT Connections

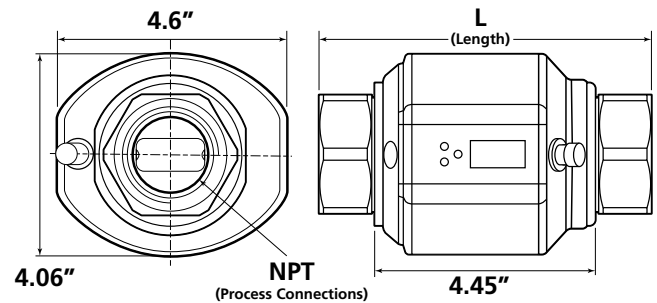
NPT 1/4" to 1"

MAG-0008, MAG-0066, MAG-0132, MAG-0264



NPT 1 1/2" to 2"

MAG-0800, MAG-1600



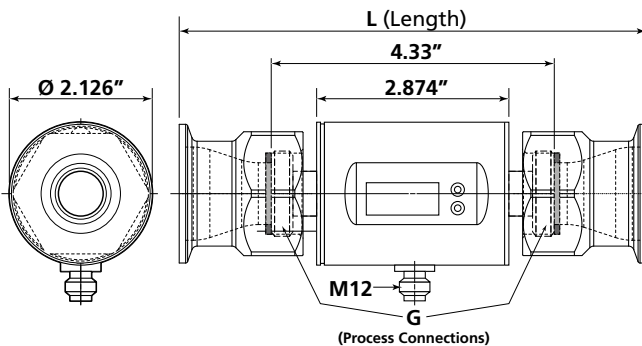
| Model | NPT | L | Max. Flow Rate | Weight |
|-----------------|--------|--------------------|----------------|-----------|
| MAG-0008-N025_* | 1/4" | 5.75" (w/adapters) | 0.8 gpm | 1.5 lbs. |
| MAG-0066-N050_ | 1/2" | 4.33" | 6.6 gpm | 1.25 lbs. |
| MAG-0132-N075_ | 3/4" | 4.33" | 13.2 gpm | 1.25 lbs. |
| MAG-0264-N100_ | 1" | 4.33" | 26.4 gpm | 1.5 lbs. |
| MAG-0800-N150_ | 1 1/2" | 6.69" | 80 gpm | 6 lbs. |
| MAG-1600-N200_ | 2" | 7.09" | 160 gpm | 6 lbs. |

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

DIMENSIONS - G (male) and Tri-Clamp Connections

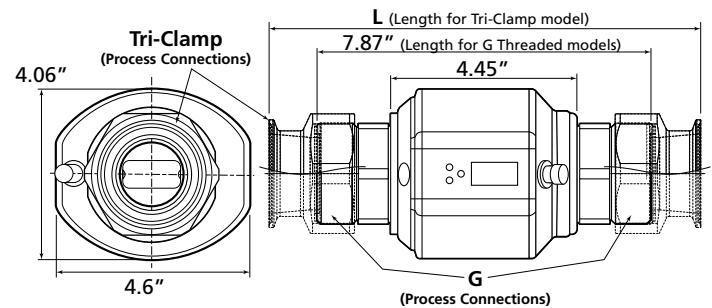
G 1/4" to 1"

MAG-0008, MAG-0066, MAG-0132, MAG-0264



G 2"

MAG-0800, MAG-1600



| Model | G | Tri-Clamp | L | Max. Flow Rate | Weight |
|---------------|------|----------------------------|------|----------------|-----------|
| MAG-0008-G... | 1/4" | 1/2", 3/4", 1" | call | 0.8 gpm | 1.2 lbs. |
| MAG-0066-G... | 1/2" | 1/2", 3/4", 1", 1 1/2" | call | 6.6 gpm | 1.15 lbs. |
| MAG-0132-G... | 3/4" | 1/2", 3/4", 1", 1 1/2", 2" | call | 13.2 gpm | 1.25 lbs. |
| MAG-0264-*... | 1" | 1", 1 1/2", 2" | call | 26.4 gpm | 1.4 lbs. |
| MAG-0800-G... | 2" | 1 1/2", 2" | call | 80 gpm | 7 lbs. |
| MAG-1600-*... | 2" | 1 1/2", 2" | call | 160 gpm | 7 lbs. |

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



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ORDERING INFORMATION

MAG - 0132 N 075 D

Meter Size Conn Type Conn Size Output Signal

Meter Size: _____

| Meter Size | Flow Rate Range | available connections | | |
|------------|-----------------|-----------------------|-----------------------|----------|
| | | NPT | TriClamp (inches) | G (BSPP) |
| 0008 | = 0 to 0.8 gpm | 1/4" (male) | 1/2, 3/4, 1 | 1/4" |
| 0066 | = 0 to 6.6 gpm | 1/2" | 1/2, 3/4, 1, 1 1/2 | 1/2" |
| 0132 | = 0 to 13.2 gpm | 3/4" | 1/2, 3/4, 1, 1 1/2, 2 | 3/4" |
| 0264 | = 0 to 26.4 gpm | 1" | 1, 1 1/2, 2 | 1" |
| 0800 | = 0 to 80 gpm | 1 1/2" | 1 1/2, 2 | 2" |
| 1600 | = 0 to 160 gpm | 2" | 1 1/2, 2 | 2" |

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

- 025 = 1/4"
- 050 = 1/2"
- 075 = 3/4"
- 100 = 1"
- 150 = 1 1/2"
- 200 = 2"

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



Cable for power and I/O switches and analog signals.
Protection ratings: IP 65; IP 67; IP 68; IP 69K.

- 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>

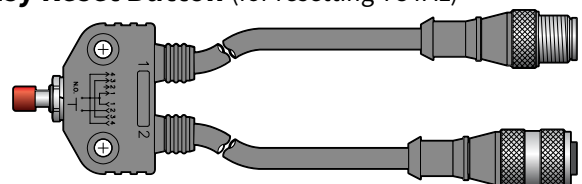
24 VDC Power Supplies/Transformers



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