SM Series Compact Magmeter
Accurate • Reliable • Great value

Flow sensing technology
up to 160 gpm
1/2” to 2” pipe sizes
Continuous monitoring of conductive media

ifm’s SM Series Magmeter is designed to reliably detect the flow rate of conductive media up to 160 gallons per minute. The stainless steel, mechanically-robust design mounts directly in-line providing a compact, low-profile installation for process control. A 4-digit numeric display with pushbutton setup simultaneously indicates flow rate, fluid temperature and total volume. Simple to setup and easy to install, the SM is a reliable alternative to traditional flow meters and mechanical flow switches. ifm’s SM is the new benchmark for price / performance for your flow sensing applications.

Monitors all conductive media up to 160 gallons per minute.

Compact, in-line stainless steel housing fits up to 2” pipe diameter.

4-digit numeric display indicates flow rate, total volume and temperature.

Simple pushbutton setup allows outputs to be parameterized in less than 5 minutes.

Adapter system simplifies installation.

Quick disconnect wiring for plug-and-play connection.

Now it’s possible to use ifm magmeters for the majority of your flow applications!

High performance magmeter at a great price.

ifm electronic magmeter
• compact and easy to install
• high accuracy
• reliable
• excellent value

Traditional magmeter
• bulky and difficult to install
• high accuracy
• expensive

Mechanical flow switches
• moving parts that can wear
• unreliable
• low cost
The next generation of magmeters from ifm – Smaller in size at a great price / performance

✓ Compact, lightweight stainless steel housing
✓ High precision magnetic inductive flow technology
✓ Indicates flow rate, total volume and temperature
✓ 4-digit display
✓ Configurable outputs

To get a “First Look” of the SM Magmeter, visit www.ifm.com/us/sm

Starting List Price $498

The SM magmeter product line is available in multiple size housings to cover your flow rate and pipe size.

<table>
<thead>
<tr>
<th>Magmeter type</th>
<th>Process connection</th>
<th>Flow rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM6 Series</td>
<td>1/2” NPT</td>
<td>0...6.6 gpm</td>
</tr>
<tr>
<td>SM7 Series</td>
<td>1/2” NPT</td>
<td>0...13.2 gpm</td>
</tr>
<tr>
<td>SM8 Series</td>
<td>1/2”, 3/4” and 1” NPT</td>
<td>0...26.4 gpm</td>
</tr>
<tr>
<td>SM9 Series</td>
<td>1 1/2” or 2” NPT</td>
<td>0...80 gpm</td>
</tr>
<tr>
<td>SM2 Series</td>
<td>1 1/2” or 2” NPT</td>
<td>0...160 gpm</td>
</tr>
</tbody>
</table>
Flow rates up to 160 gpm
1/2” to 2” pipe sizes

The SM Magmeter is used in induction hardening applications and features high accuracy with a response time of less than 0.15 seconds and a repeatability of ± 0.2%.

In cooling water applications the compact SM can be setup to monitor flow rate, fluid temperature, and provide a totalizer function.

Monitors conductive liquids > 20 µS/cm

The volumetric flow meter monitors a variety of conductive media > 20 µS/cm including:
- industrial water
- drinking water
- water-based coolants
- water glycol mixtures
- sea water (salt)

Conductivity

Types of medium with electrical conductivity

Magnetic-inductive flow technology provides high-precision measurement

The SM Series Flow Meter’s principle of operation is based on Faraday’s law of electromagnetic induction. The conductive medium flowing through a pipe in a magnetic field generates a voltage that is proportional to the flow velocity or volumetric flow quantity.

Easily configurable for application flexibility

<table>
<thead>
<tr>
<th>Output 1</th>
<th>Output 2</th>
<th>Typical applications</th>
<th>Output configurations</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>Flow and temperature monitoring through induction furnaces</td>
<td>Models are available with two analog outputs – one for flow and the other for temperature</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>Guard welding equipment against loss of cooling water</td>
<td>Two switching outputs can be configured as a flow rate switch and a temperature switch</td>
</tr>
<tr>
<td>1</td>
<td>-</td>
<td>Batching / totalizing flow of process water</td>
<td>A pulse output can provide resolution up to 100 pulses per gallon</td>
</tr>
<tr>
<td>-</td>
<td>1</td>
<td>Pump run-dry protection</td>
<td>A simple switching output can signal low flow condition</td>
</tr>
</tbody>
</table>
**Technical specs**

- **Fluid conductivity**: ≥ 20 µS/cm
- **Fluid viscosity**: ≤ 70 cSt at 104 °F
- **Supply voltage**: 19...30 VDC (20...30 VDC SMxxx4)
- **Accuracy (flow)**: ± (2% measured value + 0.5% of full range)
- **Repeatability (flow)**: ± 0.2% of full range
- **Response time (flow)**: < 150 msec
- **Accuracy (temperature)**: ± 4.5 °F (2.5 °C)
- **Response time (temperature)**: T09 = 30 sec
- **Pressure rating**: 232 psi (16 bar)
- **Wetted parts**: 316L stainless steel, PEEK™, Viton™
- **Current consumption**: 120 mA (150 mA SM2 and SM9)
- **Protection rating**: IP67

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**Product selection guide**

<table>
<thead>
<tr>
<th>Sensor Type</th>
<th>Measuring Range (Flow)</th>
<th>Output 1</th>
<th>Output 2</th>
<th>Measuring Range (Temperature)</th>
<th>Display Units</th>
<th>Empty Pipe Detection</th>
<th>Part No.</th>
<th>List Price</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0…6.6 gpm</td>
<td>Switching / pulse (flow)</td>
<td>Switching / scaleable analog (flow or temperature)</td>
<td>-4…176 °F</td>
<td>gpm, gph, gal, °F</td>
<td>no</td>
<td>SM6001</td>
<td>$498.00</td>
</tr>
<tr>
<td></td>
<td>0…13.2 gpm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SM7001</td>
<td>$591.00</td>
</tr>
<tr>
<td></td>
<td>0…26.4 gpm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SM8001</td>
<td>$699.00</td>
</tr>
<tr>
<td></td>
<td>0…25 lpm</td>
<td>Switching / pulse (flow)</td>
<td>Switching / scaleable analog (flow or temperature)</td>
<td>-20…80 °C</td>
<td>lpm, m³, h, L, °C</td>
<td>no</td>
<td>SM6004</td>
<td>$498.00</td>
</tr>
<tr>
<td></td>
<td>0…50 lpm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SM7004</td>
<td>$591.00</td>
</tr>
<tr>
<td></td>
<td>0…100 lpm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SM8004</td>
<td>$699.00</td>
</tr>
<tr>
<td></td>
<td>0…6.6 gpm</td>
<td>Scaleable analog (temperature)</td>
<td>Scaleable analog (flow)</td>
<td>-20…80 °C</td>
<td>lpm, m³, h, gpm, gph, °F, °C</td>
<td>no</td>
<td>SM6004</td>
<td>$498.00</td>
</tr>
<tr>
<td></td>
<td>0…13.2 gpm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SM7004</td>
<td>$591.00</td>
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<td></td>
<td>0…26.4 gpm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SM8004</td>
<td>$699.00</td>
</tr>
<tr>
<td></td>
<td>0…80 gpm</td>
<td>Switching / pulse / frequency (flow)</td>
<td>Switching / scaleable analog (flow or temperature)</td>
<td>-4…176 °F</td>
<td>gpm, gph, gal, °F</td>
<td>yes</td>
<td>SM9001</td>
<td>$925.00</td>
</tr>
<tr>
<td></td>
<td>0…160 gpm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SM2001</td>
<td>$990.00</td>
</tr>
<tr>
<td></td>
<td>0…300 lpm</td>
<td>Switching / pulse / frequency (flow)</td>
<td>Switching / scaleable analog (flow or temperature)</td>
<td>-20…80 °C</td>
<td>lpm, m³, h, L, °C</td>
<td>yes</td>
<td>SM9000</td>
<td>$925.00</td>
</tr>
<tr>
<td></td>
<td>0…600 lpm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SM2000</td>
<td>$990.00</td>
</tr>
</tbody>
</table>

**Required accessories**

(3 pieces per package)

<table>
<thead>
<tr>
<th>Description</th>
<th>Use with Meter</th>
<th>Part No.</th>
<th>Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2” NPT adapter 316 stainless steel</td>
<td>SM6</td>
<td>E40200</td>
<td>$54.00</td>
</tr>
<tr>
<td>1/2” NPT adapter 316 stainless steel</td>
<td>SM7</td>
<td>E40191</td>
<td>$54.00</td>
</tr>
<tr>
<td>1/2” NPT adapter 316 stainless steel</td>
<td>SM8</td>
<td>E40192</td>
<td>$54.00</td>
</tr>
<tr>
<td>3/4” NPT adapter 316 stainless steel</td>
<td>SM8</td>
<td>E40193</td>
<td>$54.00</td>
</tr>
<tr>
<td>1” NPT female adapter 316 stainless steel</td>
<td>SM8</td>
<td>U50041</td>
<td>$54.00</td>
</tr>
<tr>
<td>1-1/2” NPT adapter 316 stainless steel</td>
<td>SM2 and SM9</td>
<td>E40229</td>
<td>$120.00</td>
</tr>
<tr>
<td>2” NPT adapter 316 stainless steel</td>
<td>SM2 and SM9</td>
<td>E40228</td>
<td>$120.00</td>
</tr>
</tbody>
</table>

**Cordsets**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part No.</th>
<th>Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>M12 Micro DC Cordset (4-pin) 2 m, PUR</td>
<td>EVC001</td>
<td>$9.95</td>
</tr>
<tr>
<td>M12 Micro DC Cordset (4-pin) 5 m, PUR</td>
<td>EVC002</td>
<td>$13.50</td>
</tr>
<tr>
<td>M12 Micro DC Cordset (4-pin) 2 m, PUR</td>
<td>EVC004</td>
<td>$9.95</td>
</tr>
<tr>
<td>M12 Micro DC Cordset (4-pin) 5 m, PUR</td>
<td>EVC005</td>
<td>$13.50</td>
</tr>
</tbody>
</table>

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Wetted parts: 316L stainless steel, PEEK™, Viton™
Current consumption: 120 mA (150 mA SM2 and SM9)
Protection rating: IP67
Why select ifm for your sensors and controls needs?

ifm people. The ifm team of employees is committed to helping you succeed in your business. We directly service and work with over 20,000 customers in the US.

ifm products. For over 40 years, ifm has developed, manufactured, and marketed sensors to industries that include assembly and robotics, automotive, material handling, packaging, metal forming, plastics, and food and beverage. We offer a complete family of position sensors, fluid sensors, diagnostic systems, networking products, and wiring solutions.

Quality. There can be no compromise in the quality and reliability of sensors that are applied in your production facility. The ifm new product development process incorporates specific testing for sensors and controls to withstand environments with shock and vibration, electrical noise and temperature fluctuations.

Investment in R&D. Developing new products that increase uptime and productivity is a core belief of our company. We apply practical innovation to simplify technology and develop products that can have a positive impact on your production process.

Application know-how. We have over 40 years of experience in working with industrial automation applications. Our knowledgeable team of technical support engineers will work with you to recommend the right solution, the first time.

ifm business philosophy. ifm provides a knowledgeable and courteous service center team to assist with order placement and technical support. We offer an efficient distribution center for accurate and on-time delivery of products. ifm publishes list prices in literature and on our website, and we always stand behind the quality and performance of our products.

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