RHEOTHERM®
FLOW INSTRUMENTS

Liquid and Gas Flow Switches / Monitors

• No moving parts
• Field adjustable
• Maintenance-free
• Easy installation
• Choice of wetted materials
• Long-term reliability

Rheotherm flow switches feature advanced thermal flow sensing technology for highly reliable flow switch protection in liquid or gas service. With no moving parts, Rheotherm’s simplified design is an excellent, maintenance-free alternative to mechanical switches.

• Used with liquids, gases or slurries
• Insertion probes or non-intrusive sensors accommodate virtually all flow rate ranges.
• No mechanical parts to stick, wear or break
• Factory-set switch point is readily adjustable in the field as application requirements change.
• Rugged all-metal wetted surface
• Various process connection options make sensor integration simple.
• Proprietary design uses unstressed components, providing years of reliable operation. The sensor is not harmed when process flow stops or the line empties.

Basic Models
The model descriptions define the electronics to be used with either a TU sensor or insertion probe and your choice of process connections.

Model 100CS
Flow switch (or level sensor) with integral electronics and one SPDT relay, rated 10 A at 120 Vac or 5 A at 24Vdc. CE mark available.

Model 400
Insertion probe with integral electronics, providing two SPDT relays or one relay and a non-linear, uncalibrated 4-20 mA analog flow output signal (calibrated signal is optional).

Model 100FS
Flow switch with separate electronics and one relay, or optional dual switch relays for low and high set points.

Model 500
In-line design with choice of 1/16” O.D. or 1/8” O.D. flow tube connections. Integral electronics with one SPST-N.O. relay rated 0.5 A at 200 Vdc max. Designed and configured for OEM flow switch applications.
**General Specifications**

**Applications:** Liquid, gas and slurries

**Process Connection**

<table>
<thead>
<tr>
<th>TU Sensor: Standard</th>
<th>Optional: Flange, NPT, VCR, Sanitary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probe Sensor: Standard</td>
<td>1” MNPT</td>
</tr>
<tr>
<td>Optional: 1” flange, sanitary, hot tap</td>
<td></td>
</tr>
<tr>
<td>Model 500: 1/16” or 1/8” compression fittings</td>
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</tbody>
</table>

**Set Point Ranges***

<table>
<thead>
<tr>
<th>TU Sensor: Liquids</th>
<th>Gases</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.007 cc/min to 20 GPM</td>
<td>0.0009 to 320 SCFM</td>
</tr>
<tr>
<td>Probe Sensor: Liquids</td>
<td>Gases</td>
</tr>
<tr>
<td>0.5 to 600 FPM</td>
<td>5 to 60,000 SCFM</td>
</tr>
<tr>
<td>Model 500: Liquid (water):</td>
<td>Gas (air):</td>
</tr>
<tr>
<td>1/16”: 0.1 to 100 cc/min</td>
<td>1/8”: 2 to 1000 cc/min</td>
</tr>
<tr>
<td>100 to 5000 SCFM</td>
<td>600 to 50,000 SCFM</td>
</tr>
</tbody>
</table>

**Repeatability** ±0.5% of reading

**Temperature Limits***

| Process: Standard | Optional: -20 - 500°F (-29 - 260°C) |
| Environment: 0-120°F (-18 - 50°C) |

**Wetted Material**

316 SS standard. Other materials and quartz optional.

**Pressure Limits** Per fitting working pressure limits

**Trip Response Time**

Typical range: 2-25 seconds, depending on set point and direction/magnitude of flow change. Model 100CS: optional 6-360 second time delay.

**Input Power**

Standard: 115 Vac, 60 Hz

Options: 230 Vac, 50/60 Hz

24-28 Vac, 60 Hz

24 Vdc

**Output**

Standard: single SPDT relay

Options: 2 SPDT relays, or 1 relay with non-linear 4-20 mA

**Enclosure**

Standard: NEMA 7, NEMA 4 (100FS)

Option: NEMA 4, NEMA 7 (100FS)

**Flow Signal (Model 400)**

Non-linear 4-20 mA over 10:1 range

* Specify requirement

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**Low Flow Meters**

Accurate, repeatable measurement of liquid flows as low as one gallon per year (10cc per day), and gas flows down to 20 sccm.

**Gas Mass Flow Sensors**

One-piece insertion probe installs easily into 1” and larger pipes and ducts for reliable measurement of mass or standard volumetric gas flow rates.

For assistance with any flow application, contact an application engineer at INTEK, the leader in precision thermal flow metering. Call 888-LOW FLOW (569-3569).