Reduced Size
Ultrasonic Flow Meter

The Parker CFM1 is a compact ultrasonic flow meter. The accuracy is greatly increased as compared to a vortex flow meter. The CFM1 ultrasonic meter’s accuracy is relative to the set point at 2%. In addition it has higher turndown ratio, handles higher concentration acids and higher viscosity fluids.

Standard flow range is 0-8 slpm. The CFM1 can be used with high concentration acids, slurries, plating chemicals and other typical semiconductor process fluids.

Product Features:

- Used for acids, ultrapure water, plating chemicals and slurries for Semiconductor processing
- Ideal for semiconductor and pharmaceutical process control applications
- Broad flow ranges up to 8 L/min
- High accuracy: ±2% of reading
- Operates in high fluid kinematic viscosities up to 40.0 mm²/s (in comparison, 95-100% Sulfuric Acid at 20C is 14.5 mm²/s)
- No obstructions in flow path (compare to Vortex)
- One cable per sensor, reduces installation time & space

Contact Information:

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aerospace climate control electromechanical filtration fluid & gas handling hydraulics pneumatics process control sealing & shielding
CFM1 Series
Dimensional Drawing

Converter (6 Channel)

Output Connector

<table>
<thead>
<tr>
<th>Channel</th>
<th>Pin</th>
<th>Polarity</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/2</td>
<td>+/-</td>
<td>Analog Output</td>
</tr>
<tr>
<td>2</td>
<td>3/4</td>
<td>+/-</td>
<td>Analog Output</td>
</tr>
<tr>
<td>3</td>
<td>5/6</td>
<td>+/-</td>
<td>Analog Output</td>
</tr>
<tr>
<td>4</td>
<td>7/8</td>
<td>+/-</td>
<td>Analog Output</td>
</tr>
<tr>
<td>5</td>
<td>9/10</td>
<td>+/-</td>
<td>Analog Output</td>
</tr>
<tr>
<td>6</td>
<td>11/12</td>
<td>+/-</td>
<td>Analog Output</td>
</tr>
<tr>
<td>1</td>
<td>13/14</td>
<td>+/-</td>
<td>Pulse Output</td>
</tr>
<tr>
<td>2</td>
<td>15/16</td>
<td>+/-</td>
<td>Pulse Output</td>
</tr>
<tr>
<td>3</td>
<td>17/18</td>
<td>+/-</td>
<td>Pulse Output</td>
</tr>
<tr>
<td>4</td>
<td>19/20</td>
<td>+/-</td>
<td>Pulse Output</td>
</tr>
<tr>
<td>5</td>
<td>21/22</td>
<td>+/-</td>
<td>Pulse Output</td>
</tr>
<tr>
<td>6</td>
<td>23/24</td>
<td>+/-</td>
<td>Pulse Output</td>
</tr>
</tbody>
</table>
### CFM1 Series

#### Converter 6 Channel

<table>
<thead>
<tr>
<th>Output</th>
<th>4-20 mA (load &lt; 500Ω)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulse Open Collector</td>
<td>DC30V, 10 MA, 0-1000Hz</td>
</tr>
</tbody>
</table>

**Display**

- Display Digits: 4 Digit
- Content: Current Flow

**Power**

- Supply: DC24V±10%
- Rush in Current: <1.66A
- Consumption: 28-59mA/Channel (max 355mA)

**Other**

- Parameter Settings: RS485 Modbus Protocol
- Linearizer: Automated per Kinematic viscosity parameter
- Ambient Temp: 0-50°C
- Ambient Humidity: 30-85%RH (no condensation)
- Time Constant: 0.5-25S
- Low-cut: 0-25%FS
- Display: 4-digit
- Display-Content: Flow (current)
- Parameter Settings: RS485 Modbus Protocol
- Adress Switch: 1...32
- Mounting: DIN-rail
- Enclosure Classification: IP20 (indoor)
- Material: ABS
- Weight: 225g

#### Flow Sensor/Detector

**Materials of Construction**

- Wetted: PFA
- Non-wetted: Wire Sheathing -PVC Enclosure PP, Screw Peek

**Pressure Ranges**

- Operating: 0-72 Psig (0.5MPa)

**Temperature Ranges**

- Storage: 32° - 140° F (0° - 60° C)
- Fluid: 50 - 140° F (10° - 60° C)

**Accuracy**

- >1.7mL/min (turbulent): ±2%Reading
- <1.7mL/min (laminar): ±34mL/min (at 20°C with water)

**Flow Range**

- Standard Range: 100-8,000 mL/min

**Cable**

- Type: Coaxial
- Connector: 3.5mm stereo plug
- Length: 3 M (16.4 ft)

* Standard unit is calibrated to 20°C and with DIW. Accuracy will vary when temperature and viscosity deviates from the calibration parameters.
CFM1 Series
Ordering Information

Build a CFM1 Series Compact Ultrasonic Flow Meter by replacing the numbered symbols with an option from the corresponding tables below.

Sample: 1 2 3 4 5 6 7 8
Finished Order: CFM106064ZD016

1 Basic Series
CFM1 = Base Product

2 Body Size
06 = 3/8 inch Tube

3 Connection Size
06 = 3/8 inch Tube

4 Connection Type
4 = 3/8 inch Tube

5 Configuration
Z = Z Shape

6 Converter Type
D = 6 Channel

7 Output
01 = 4-20mA

8 Number of Detectors
“X” 1 to 6 = Enter number of detectors

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The items described in this document are hereby offered for sale by Parker-Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the detailed “Offer of Sale” elsewhere in this document or available at www.parker.com/veriflo

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