

Multi-Channel Flow Monitor

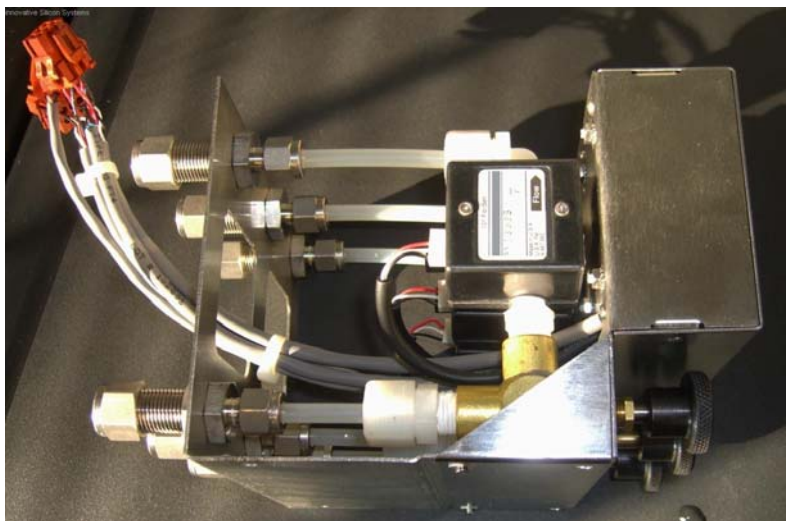
The *ISIS* Multi-Channel Flow Monitor (MFM) is a compact, cost effective unit designed to closely monitor and control multiple cooling water flows to critical equipment components such as LPCVD tube vacuum flanges. The unit is available in configurations for 2-6 cooling water loops, each incorporating a metering valve and a flow rate sensor with digital readout, visual alarm, and both analog and digital outputs.

Each leg of the MFM can be configured for one of three different standard flow rate ranges:

- 0.3-3.2 gph (20-200 ml/min)
- 1.0-16 gph (60-1000 ml/min)
- 3.2-32 gph (200-2000 ml/min)

and with either 1/4" or 3/8" compression fittings.

A right angle metering valve allows the flow to be adjusted to the desired rate. The flow sensors in the MFM use a Pelton-type turbine wheel and electro-optical detection to convert the flow rate into an electrical signal. The signal from each is displayed on separate two-digit LED displays and compared to a user-adjustable setpoint. If the flow rate is below the setpoint, a red Alarm LED lights. The MFM also provides a 0-5 VDC analog output signal and an alarm contact closure for each flow loop to allow remote monitoring and logging.



The MFM is compact, The unit is 5" high x 6-12" wide (2-6 flow legs) x 8.1" deep. Power options include 12, 24 or 48 VDC or 120 VAC.

Innovative Silicon Systems provides a wide range of semiconductor productivity enhancement tools and services. We welcome the opportunity to discuss your specific needs.



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Multi-Channel Flow Monitor

Ordering Information:

Part Number	8-54-00XX-YZ	2 Channel Flow Monitor
	8-54-0XXX-YZ	3 Channel Flow Monitor
	8-54-XXXX-YZ	4 Channel Flow Monitor
	8-54-XXXXX-YZ	5 Channel Flow Monitor
	8-54-XXXXXX-YZ	6 Channel Flow Monitor

X = Flow Rate Range of each leg from left to right;

1 = 0.3-3.2 gph (20-200 ml/min)

2 = 1.0-16 gph (60-1000 ml/min)

3 = 3.2-32 gph (200-2000 ml/min)

Y = Connection Size (same for all legs – contact factory for other options)

1 = 1/4" compression

2 = 3/8" compression

Z = Power Option

0 = 12 VDC

1 = 24 VDC

2 = 48 VDC

3 = 120 VAC

For example, 8-54-3132-21 indicates a four leg MFM configured left to right with flow rate ranges 3, 1, 3, 2 with 3/8" compression fittings and 24 VDC power input option.

System Specifications

Operating Temperature Range: 0-50 °C

Maximum Operating Pressure: 100 psi at 20 °C

Minimum Pressure Drop: 10 psi

Wetted Materials: Stainless Steel / Brass / Nylon /40% Glass-filled polyphenelene sulphide / Glass window / Sapphire bearing / Viton o-rings / Epoxy

Applicable Liquids: Calibrated for water. Other low viscosity liquids may be usable (check material compatibility). Opaque liquids must be tested for suitability.

Power Requirements: 12 VDC Option: 9-18 VDC at 150 mA per sensor
24 VDC Option: 18-30 VDC at 75 mA per sensor
48 VDC Option: 30-66 VDC at 40 mA per sensor
120 VAC Option: 120 VAC, 60 Hz, 25 mA per sensor

Output Signals: (each sensor) 0-5.0 VDC analog signal linear with flow rate (10K ohm min impedance)
Contact Closure where contacts closed = flow rate above setpoint;
contacts open = flow rate below setpoint (alarm). Contacts rated at 250V, 5 amp.

Temperature Sensitivity: +/- 0.2% per °C

Linearity & Accuracy: +/- 3% of Full Scale

Repeatability: +/- 0.5% of Full Scale



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