



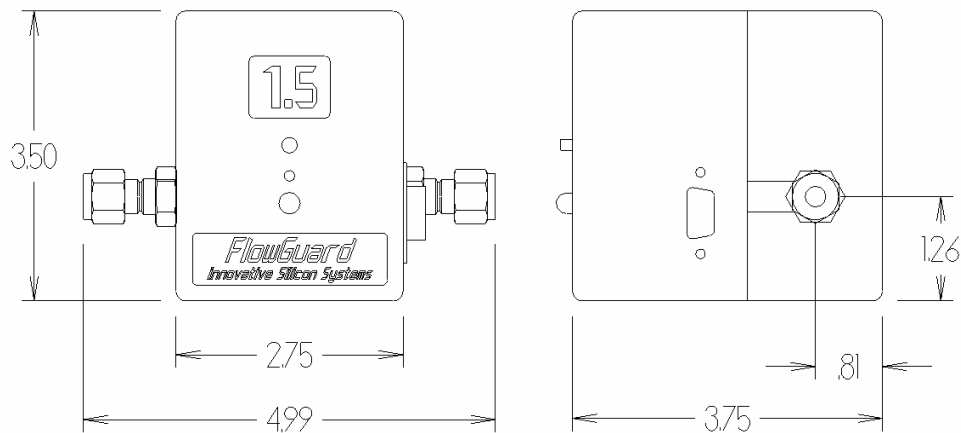
# FlowGuard Flow Monitor

*innovative Silicon Systems* introduces a new line of low-cost cooling water flow monitors with all the features of the more expensive models. The **FlowGuard** is capable of measuring extremely low flow rates from 0.3 gph to 32 gph and provides a two digit LED readout of flow, a user-settable alarm, a 0-5V analog output signal and a digital alarm output signal.

The flow sensor is small and uses a Pelton-type turbine wheel to determine the flow rate of the water. The rotation rate of the turbine wheel is linear over a large dynamic range. Infra-red light is alternatively reflected and absorbed from spokes on the small turbine wheel as it rotates in response to flow. A photo-diode detects the pulses of reflected light and the electronics converts these pulses into a dc voltage that is proportional to the flow. The signal is very stable, repeatable and has no zero drift.

The electronics module provides power to the flow sensor and receives its output signal. It converts the signal, displays it in gph on a 2 digit LED and provides a 0-5 VDC linear output signal for remote monitoring or data logging. The module also features a user-settable alarm level. If the monitored flow falls below that level, a visual alarm comes on (audible alarm optional) and a digital output (contact closure) is provided.

All the components are mounted in a tough PVC enclosure.



## Specifications

<b>Flow Ranges</b>	0.3-3.2 gph (20-200 ml/min) 1.0-16 gph (60-1000 ml/min) 1.6-32 gph (100-2000 ml/min)
<b>Physical</b>	4.99" W x 3.5" H x 3.75" D
<b>Electrical</b>	
Input	Standard: 12 VDC regulated, 200mA Optional: 24 VDC, 120mA
Analog Output	0-5 VDC linear with flow
Digital Output	Contact Closure (open = alarm)
Connection	9 pin Dsub
<b>Wetted Materials:</b>	Stainless steel, 40% glass-filled polyphenylene sulfide, sapphire, Viton,
<b>Connections:</b>	1/4" or 3/8" Swaglok™ compression fittings
<b>Pressure Rating:</b>	100 psi
<b>Temperature Rating:</b>	0-50 C
<b>Linearity:</b>	± 3% full scale
<b>Repeatability:</b>	± 0.2% full scale

The **FlowGuard** is also available as a separate sensor and remote electronics module – please consult factory

*innovative Silicon Systems* offers a range of productivity enhancement tools and consulting services for semiconductor processing. Please contact us for more information