

MAINTENANCE/REPAIR

Regular maintenance of the total system is recommended to assure sustained optimum performance. These devices are not field repairable and should be returned to the factory if recalibration or other service is required. After first obtaining a Returned Goods Authorization (RGA) number, send the unit freight prepaid to the following. Please include a clear description of the problem plus any application information available.

Dwyer Instruments, Inc.
 Attn: Repair Department
 102 Highway 212
 Michigan City, IN 46360

Important Points!

Product must be maintained and installed in strict accordance with the National Electrical Code and Dwyer product catalog and instruction bulletin. Failure to observe this warning could result in serious injuries or damages.	Life expectancy of switch contacts varies with applications. Contact Dwyer if life cycle testing is required.
For hazardous area applications involving such things as (but not limited to) ignitable mixtures, combustible dust and flammable materials, use an appropriate explosion-proof enclosure or intrinsically safe interface device.	Ambient temperature changes do affect switch set points, since the specific gravity of a liquid can vary with temperature.
The pressure and temperature limitations shown on the individual catalog pages and drawings for the specified flow switches must not be exceeded. These pressures and temperatures take into consideration possible system surge pressures/temperatures and their frequencies.	Flow switches have been designed to resist shock and vibration; however, shock and vibration should be minimized.
Selection of materials for compatibility with the media is critical to the life and operation of Dwyer flow switches. Take care in the proper selection of materials of construction, particularly wetted materials.	Filter liquid media containing particulate and/or debris to ensure the proper operation of our products.
	Electrical entries and mounting points in an enclosed tank may require liquid/vapor sealing.
	Flow switches must not be field-repaired.
	Physical damage sustained by the product may render it unserviceable.

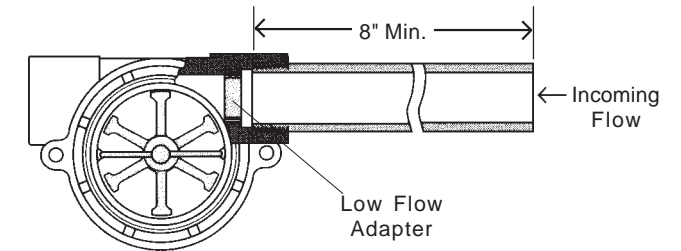


**SF2 Series
Sight Flow Meters**

Instruction Bulletin No. 201917

(For Additional Information, See Dwyer Catalog)

SF2 Sight Flow Meter units monitor dynamic fluid flow. The rotor reacts to turbulence, pulsation, entrained air, and other flow anomalies induced in the flow stream by other process hardware. For optimum performance, install SF2 Sight Flow Meter units where nominal flow conditions exist, with ports located at the top. Incoming flow may be placed to either port. A minimum of 8" of straight pipe on the inlet side is recommended.



Low Flow Applications

A low flow adapter is supplied with all SF2 Sight Flow Meter units. It is used to produce accurate response at low flow rates. Press fit the adapter as shown above, in the port selected for incoming flow. **See Flow Range Chart below.**

Port Size NPT	Input Power	Model Number	Flow Range - GPM	
			Standard Range	Low Flow* Range
.25"	24 VDC	SF2-104	0.5 - 5.0	0.1 to 1.0
	110 VAC	SF2-101		
.50"	24 VDC	SF2-114	4.0 - 20.0	1.5 to 12.0
	110 VAC	SF2-111		
.75"	24 VDC	SF2-124	3.0 - 30.0	N/A
	110 VAC	SF2-121		
1.0"	24 VDC	SF2-134	5.0 - 60.0	N/A
	110 VAC	SF2-131		

* With use of low flow adapter supplied

Installation: SF2 Sight Flow Meters connect to piping via NPT mating thread forms. The following guidelines are provided to assist with installation for a leak-free seal, without damage to the unit: 1) Apply pipe thread sealant to male pipe threads. 2) Thread SF2 Sight Flow Meter unit onto male pipe thread until hand-tight. 3) Tighten pipe 1 to 1-1/2 additional turns. 4) If improper seal results, continue turning pipe into unit in 1/4 turn increments. **Do not exceed one additional turn. Recommended Pipe Sealants: (a) Permatex® "No More Leaks" (b) Teflon® Thread Tape.**

Filtration and Cleaning: 150 micron filtration is recommended. However, should foreign particles enter the SF2 Sight Flow Meters, accumulation is easily cleared by removing the lens from the body. The lens is removed by turning its center rib 45° counter-clockwise and then pulling it out. To reinstall the lens, simply reverse the process. **Pressure must be relieved** from the system prior to sensor clean-out.

Specifications

Wetted Materials	
Body	Brass
Rotor Pin	Ceramic
Rotor	PPS Composite/Teflon/PPS Composite
Lens	Polysulfone
O-Ring	Buna N/Viton
Operating Pressure, Max.	200 PSIG @ 70°F 80 PSIG @ 212°F
Operating Temperature, Max.	
Brass Body	212°F (100°C)
Electronics	150°F (65.5°C)
Viscosity, Max.	200 SSU
Input Power	12 VDC, 24 VDC or 110 VAC
Relay Contact Ratings (SPDT)	1 Amp, 24 VDC Resistive 0.5 Amp, 110 VAC
Repeatability	2% Maximum Deviation
Set Point Accuracy (Factory Set)	±5%
Set Point Differential	15% Maximum
Electrical Termination	22 AWG PVC-Jacketed, 24" Cable. Color codes: Red = +VAC/VDC; Black = Ground; White = N.O. Contact; Brown = N.C. Contact; Green = Common.

Electrical Data

Input power and output are connected via a multi-conductor, PVC-jacketed 24" cable.

Color codes are shown below:

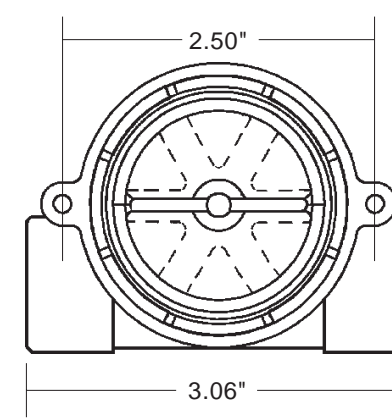
+VAC/VDC	Red
Ground	Black
N.O. Contact	White
N.C. Contact	Brown
Common	Green

WARNING

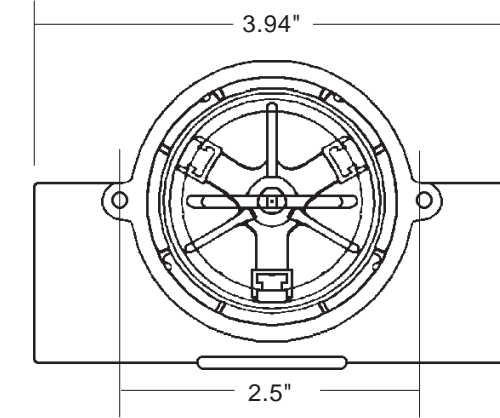
When determining chemical compatibility of materials of construction, the flow media and application-associated environmental conditions should be carefully considered.

Panel Mounting

Any SF-2 sensor may be panel mounted using holes integrated into the bodies: Two (2) mounting holes are provided on the body centerline, as shown below. #8-32UNC-2B screws are required for mounting.



1/4" & 1/2"



3/4" & 1"

Switch Set Point Calibration with LED Signal

With the unit installed in the line and power supplied, complete the following steps to calibrate switch actuation point with proper flow rate. A small flat-blade screwdriver is all that is required.

1. Adjust liquid flow in the line to the rate at which actuation is desired.
2. Insert screwdriver into opening on backside of housing and fit blade into the potentiometer adjustment screw inside.
3. If LED is not illuminated, slowly turn screwdriver counter-clockwise and stop as soon as LED illuminates.
4. If LED is illuminated, turn screwdriver clockwise until LED light goes out. Then, slowly turn screwdriver counter-clockwise and stop as soon as LED illuminates.

