

Features

- No Moving Parts
- Switching Range 0.15 to 6.6 Ft/Sec.
- Max. Pressure 580 PSIG
- Max. Operating Temperature 210°F
- Clean-In-Place to 250°F
- 1/4 or 1/2 NPT or BSP connection
- PNP Normally Open or Normally closed
- LCD Trend Indication
- Adjustable Set Point
- Small footprint less than 2" diameter

General Description

The SIF-100 series combines the features of our legendary SIF-100 thermal flow switch with a compact size. The SIF-100 uses the calorimetric principle to monitor the flowrate of non-viscous water-based liquids. The sensor tip is heated to a few degrees above the liquid temperature. As the liquid flows across the tip, it is cooled by the liquid.

The amount of cooling is proportional to liquid velocity. The liquid velocity is compared to the setpoint which is field-adjustable by the user. A transistor switch is activated when the flow setpoint is reached. The SIF-100 series has a smooth measuring probe with no moving parts making it exceptionally reliable and insensitive to dirt and solids. The insertion type probe allows for flow monitoring with minimal system pressure loss.

Microprocessor-Based Temperature Compensation

The SIF-100 series achieves superior compensation for changes in liquid temperature during the measuring cycle by use of a micro controller. This method of temperature compensation allows for very precise correction of flow measurement when liquid temperature changes occur.



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SHICO. THERMAL FLOW SWITCH

MODEL : SIF-100 Series

Specifications

Applications:	Non-viscous, water-based liquids (viscosity ≤ 60 cSt)	Max. Clean-in-Place Temperature:	250°F
Switching Range:	0.15 to 6.6 Ft/Sec.	Wetted Parts:	316L SS
Repeatability:	$\pm 2\%$	Housing Material:	304 SS
Response Time:	5.6-12 seconds typical	Power Requirements:	24 VDC $\pm 10\%$ @150 mA Max.
Switch Point Adjustment:	Via potentiometer. Flashing LED indicates setpoint on 8 LED bargraph indicator	Switch Type:	NPN or PNP open collector normally open or normally closed based on ordering code
Status Indicator:	1 dual color LED	Switch Rating:	400 mA Max. @ 24 VDC, short circuit protected
Maximum Pressure:	580 PSIG	Electrical Connection:	Micro DC plug, 4-pin male
Operating Temperature Range:	-4 to 176°F	Electrical Protection:	NEMA 4X/IP65

Measuring/Switch Ranges

Pipe Diameter	Approximate Switching Range GPM	Pipe Diameter	Approximate Switching Range GPM
1/4"	0.03-1.5	2"	1.3-60
1/2"	0.11-5.8	2-1/2"	2-90
3/4"	0.2-10	3"	4-150
1"	0.3-15.6	4"	5-240
1-1/2"	0.8-40	6"	12-560

Important: The above listed approximate measuring ranges were calculated based on the pipe size and the SIF-100 switching velocity range of 0.15 to 6.6 Ft/Sec. Depending on the pipe size, sensor immersion depth and orientation, large deviations from the above listed ranges occur.



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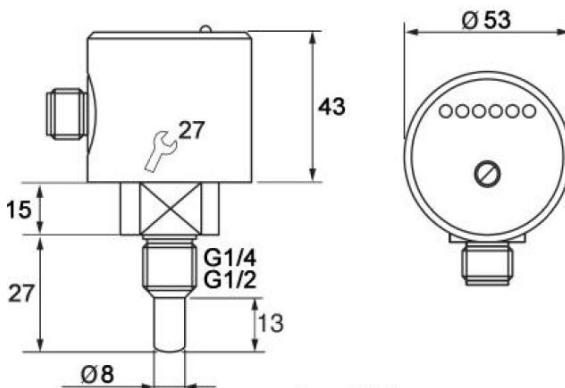
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Dimensions



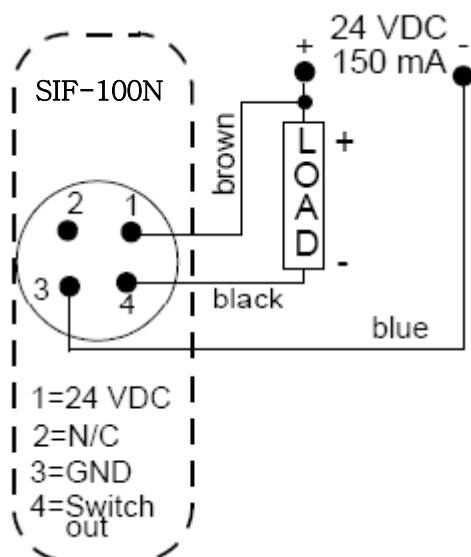
D	L	SW
1/4" NPT	1.6"	19mm
1/2" NPT	2.2"	27mm
M12x1	1.6"	19mm
1/4" BSP	1.6"	19mm
1/2" BSP	2.2"	27mm

Electrical Connections

Diagram shows typical electrical wiring for the SIF-100 configured as either a NPN or PNP transistor switch. The transistor switch output is configured as either an NPN or PNP open collector at the factory, based on the order code. It is not switchable from NPN to PNP or vice versa in the field. The wire colors listed in Diagram 4.2 correspond to the color codes on the mating micro-DC plug with cable (sold separately).

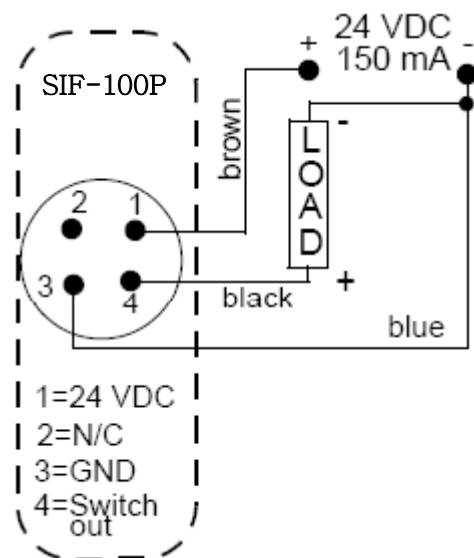
NPN Configuration

DC Ground switched to pin 4 when switch is activated. High impedance at pin 4 when switch is not activated.



PNP Configuration

24 VDC is switched to pin 4 when switch is activated. High impedance at pin 4 when switch is not activated.



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