

SHICO. THERMAL FLOW SWITCH

MODEL : SIF-100 Series

■ FEATURE

- 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 then 2" diameter



■ GENERAL DESCRIPTION

Here we describe the features of our SIF-100 thermal flow switch with a compact size.

The SIF-100 uses the calorimetric principle to monitor the flow rate 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 set point which is field-adjustable by the user. A transistor switch is activated when the flow set point 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.

■ SPECIFICATIONS

APPLICATIONS	Non-viscous, water-based liquids (Viscosity ≤ 60cP)
SWITCHING RANGE	0.15 to 6.6 Ft/sec
REPEATABILITY	±2%
RESPONSE Time	5.6-12 seconds typical
SWITCH POINT ADJUSTMENT	Via potentiometer, Flashing LED, Indicates set point on 8 LED bar graphic indicator
STATUS INDICATOR	1 dual color LED
MAXIMUM PRESSURE	580 PSIG
OPERATING TEMPERATURE	-4 to 176°F

■ 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.

MAX. CLEAN-IN -PLACE TEMPERATURE	250°F
WET PARTS	SS316L
HOUSING MATERIAL	SS304
POWER REQUIREMENTS	24VDC ±10%
SWITCH TYPE	NPN or PNP open collector normally open or normally closed based on ordering code
SWITCHING RATING	400mA Max.@ 24VDC short circuit protected
ELECTRICAL CONNECTION	Micro DC Plug, 4-pin male
ELECTRICAL PROTECTION	NEMA 4X/IP65



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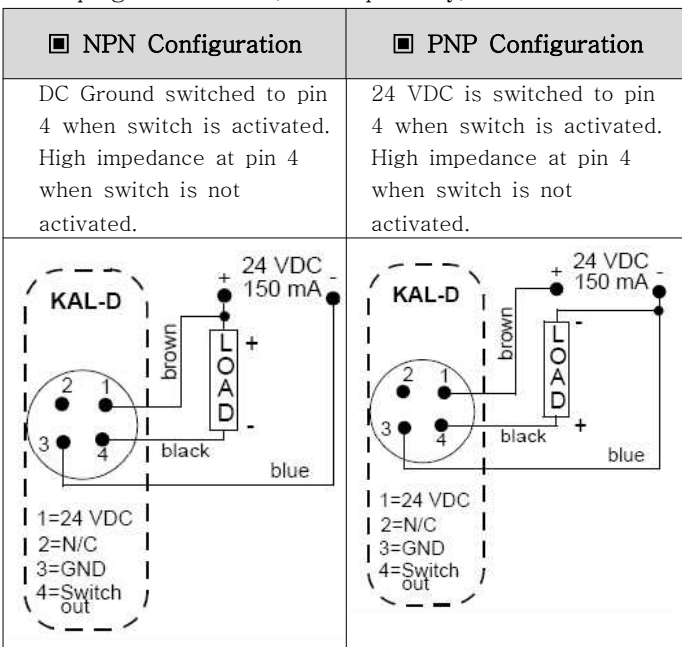
MEASURING / SWITCH RANGE

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

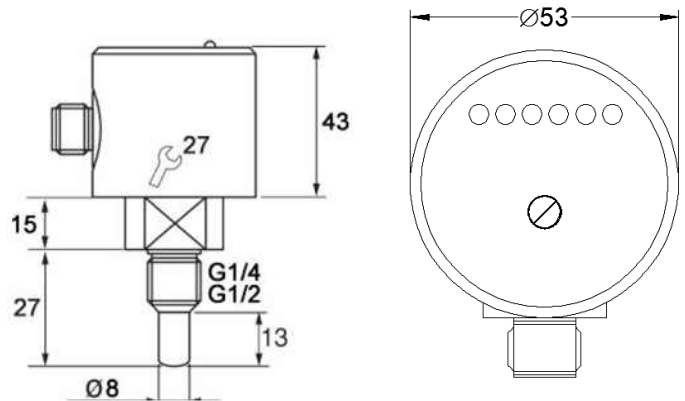
※ Important: The above listed approximate measuring ranges were calculated based on the pipe size and the SIF-100 switching velocity range of 0.15 to 6.6 Ft/Sec. Depending on the pipe size, sensor immersion depth and orientation, large deviations from the above listed ranges occur.

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).



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



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