



LPS-FLOW-1-600

1INCH IN LINE FLOW SWITCH

LPS-600 Series No Moving Part, Thermal Dispersion Flow Switch

Flow Rate Settings: 0.1 GPM to 11 GPM (0.5 LPM to 41 LPM)

Port Size: 1/2" to 1-1/2" (NPT or G thread)

Setting Type: Fixed

BASIS OF OPERATION

The LPS-600 series uses proven thermal dispersion technology to provide a robust no moving part flow switch even without filtration. The solid state sensor is compatible with both conductive and non-conductive fluids. Suitable for fluids with particulates or slurries, and is immune to changes in media viscosity. The straight through switch is designed for a long life and can be mounted in any orientation and can handle a wide range of flow rates. No moving parts means years of reliable service.

Calorimetric Principle/Thermal Dispersion

The operating principle of the LPS-600 flow switch is based on the calorimetric principle. The LPS-600 uses the cooling effect of a flowing fluid or gas to monitor the flow rate. The amount of thermal energy that is removed from the tip determines the local flow rate. This temperature-based operating principle can reliably sense the flow of virtually any liquid or gas.

The sensor tip of the LPS-600 flow sensor houses two transistors and a heater element. One transistor is located in the sensor tip, closest to the flowing fluid. This transistor is used to detect changes in the flow velocity of the liquid. The second transistor is bonded to the cylindrical wall and is a reference for ambient fluid conditions.

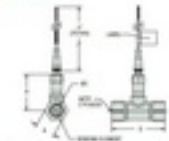
In order to make the sensor sense flow, it is necessary to heat one of the transistors in the probe. When power is applied, the tip of the probe is heated. As the fluid starts to flow, heat will be carried away from the sensor tip. Cooling of the first transistor is a function of how fast heat is conducted away by the flowing liquid. The difference in temperature between the two transistors provides a measurement of fluid velocity past the sensor probe. When fluid velocity is high, the temperature differential is small. As fluid velocity decreases, there is an increase in temperature differential.

[More Information](#)

Specifications

Wetted Materials	303 Stainless Steel
Probe	316 Stainless Steel
Flow Body	316 Stainless Steel
Operating Pressure (Max.)	360 PSIG (25 bar)
Operating Temperature	-122°F to 342°F (-25°C to 173°C)
Power on Delay Time	75 Seconds Max (Output On)
Response Time	10 Seconds Max
Indicator Ports	1/2", 3/4", 1", 1.50" (NPT)
Operating Voltage	24 Vdc or 240Vac at 15%
Current Consumption	Less than 50mA
Switch Contact Rating	50VAC/5A/4, 420VA/10A/10A
Switch Logic	Normally Open
Signal Protection	IP65
Set point Accuracy	±1%
Set point Differential	25% (Min)
Electrical Termination	40' (12.19 M) (1 meter cable included)
Approvals	UL, FM, CE

Dimensions



Tip Size	A	B	C	D	E
1/2"	1.125	1.125	1.125	1.125	1.125
3/4"	1.375	1.375	1.375	1.375	1.375
1"	1.625	1.625	1.625	1.625	1.625
1.50"	2.125	2.125	2.125	2.125	2.125

Notes:
1. Dimensions are in inches unless otherwise specified.
2. All dimensions are nominal.

Wiring Diagram

