

UniProbe

Flow-No-Flow Switch

Description

The UniProbe Flow-No-Flow Switches, Models UP01 and SP01, are sensitive to the heat dissipation of a fluid. The stainless steel probe houses temperature sensors and a heater element. This combination monitors changes in heat transfer to the fluid. The rate of heat transfer is proportional to the flow rate; therefore, a change from flow to no-flow is detected by the amplifier and causes a relay to switch.

The relay contacts may be connected to operate a warning, shut down equipment, or control a process parameter. Applications include pump shutdown, fan or blower alarms, leak detection and liquid level sensing.

The UniProbe Flow-No-Flow Switch is user-selectable for liquid or gas operation, and comes factory-adjusted for water or air over a fluid temperature range of -40° F to 185° F (-40° C to 85° C). Other fluids may require minor adjustments which are readily accomplished onsite, and once set, the UniProbe provides totally maintenance-free operation.

Features

- Maintenance-free operation; no moving parts
- Operates in corrosive or abrasive liquids and gases
- Constructed of 316 Stainless Steel
- Other probe materials optional
- NEMA 4X or explosion-proof enclosure available
- Omni-directional flow sensing
- SP01 model meets 3A standards
- Clean-in-place



UniProbe

Flow-No-Flow Switch

Specifications

Flow Threshold Switch Point
(See Note 1 below)

0.05–0.5 ft./sec. (Liquid)
(1.5–15.3 cm/sec.)
0.5–5.0 ft./sec. (Gas)
(15.3–153 cm/sec.)

**Maximum No-Damage
Flow Velocity**

50 ft./sec. (15.3 m/sec.)
(Liquid)
500 ft./sec. (153 m/sec.)
(Gas)

Response Time
(See Note 1 below)

3–10 seconds (Liquid)
10–60 seconds (Gas)

Switch Capacity

7.5 Amperes, non-inductive load
28 VDC or 115 VAC

Switch Configuration

DPDT relay contacts

Operating Temperature Range

-40° F to 185° F
(-40° C to 85° C)

Maximum Operating Pressure
(See Note 2 below)

UP01

4000 psig (282 kg/sq. cm)
with NPT fitting

SP01

250 psig (18 kg/sq. cm)
with sanitary clamp

Power Required

115 VAC @ 125 mA
220 VAC @ 60 mA
24 VDC @ 200 mA
12 VDC, ±1 VDC @ 200 mA

Specifications (cont'd)

Enclosures

Probe

Class I, Div. 1, Group D, NEMA 4X
Stainless 316, 3/16" (4.8 mm)
diameter, 2.5" (6.4 cm) long
Special probe lengths and kynar
coating are available.

3A Sanitary Standard Number

37-01 (SP01 only)

Note 1: Precise switching velocity and response time depend upon the characteristics of the fluid, viscosity, density and specific heat. Data given should apply to 95% of applications.

Note 2: Extended pressure ratings available upon special request at extra cost.

Specifications are for reference only and are subject to change without notice.

Model Numbering System



Basic

Model No.

U = Industrial 0.5" NPT
S = 1.5" Sanitary Clamp

Input Power

1 = 115 VAC
2 = 220 VAC
3 = 24 VDC
4 = 12 VDC

Probe Length

0 = Standard (2 1/2")
4 = 4"
6 = 6"
8 = 8"

End Fittings

00 = Standard 0.5" NPT
or 1.5" Sanitary Clamp
*C1 = 1" 150# RFF

Probe Construction

00 = Standard 316 SS
KN = Kynar Coating
HC = Hastelloy C
TI = Titanium
NI = Nickel Plating

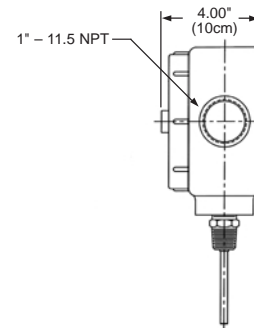
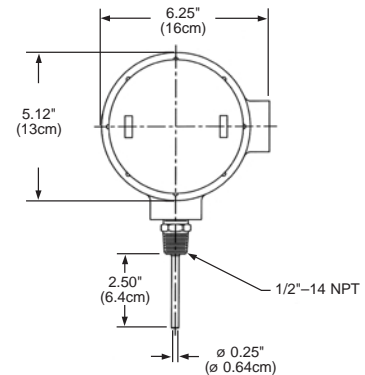
Enclosure Options

B 6 = NEMA 4X
- 8 = Group D
- 9 = Group B

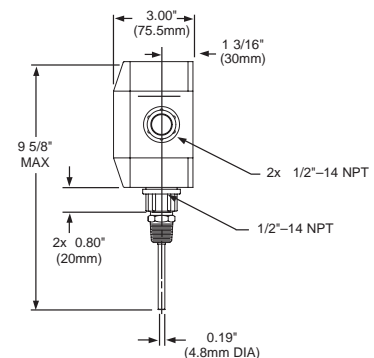
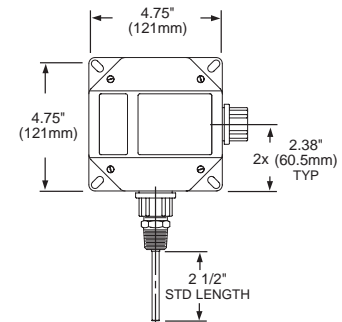
*Not available with titanium

Enclosure Options

- 8 = CLASS I, DIV. 1, GROUP D



B6 = NEMA 4X



Drawings not to scale.

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