Thermo-Flo™ FT10

Liquid Thermal Dispersion Flow Switch

FLOWLINE™ LEVEL BEST

Application

The general purpose liquid flow switch provides reliable flow or no-flow detection of relatively clean non-coating liquids with a specific gravity of 0.4 to 1.2 with a 1A relay output. Media examples include drinking water, sulfuric acid and chemical solutions. Available in PP-Ryton® or PVDF, select the short sensor for install in horizontal pipes from 3/4" (DN25) to 1 1/2" (DN40), and the long sensor for install in horizontal pipes from 2" (DN50) and up. The flow switch set point may be adjusted from 0.04 to 3 fps (0.012 to 0.91 mps) with the integral potentiometer and LED flow indicator. The flow switch is best applied in applications with relatively constant liquid temperature.



Features

- Rugged PP-Ryton® or PVDF sensor for corrosive liquids and gases
- Adjustable set point with LED for flow or no-flow status indication
- 60VA relay selectable NO or NC via power supply wiring polarity
- Solid state sensor is not damaged by over-ranging flow velocities

Technology

The liquid thermal dispersion flow switch has two temperature probes on the tip of the sensor. One probe heats the liquid and the other probe measures the liquid temperature. When liquid flows past the sensor tip, it reduces the temperature of the heated probe, which in turn, reduces the temperature differential between the two probes. As the liquid flow slows or stops, the opposite occurs, which the liquid flow switch detects and inverts its relay. The switch point is set with the integral adjustment knob and LED flow indicator.

Compatible Products



LC82-1001

SWITCH-PRO™

Flow Controller



LM92-1202

NEMA BOX

Single Controller



LM92-2202

NEMA BOX

Dual Controller

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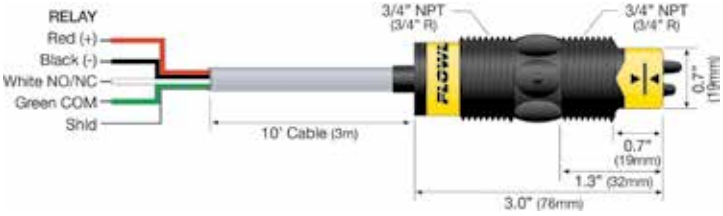
Specifications

Set point range:	0.04 to 3 fps (0.012 to 0.91 mps)
Factory set point:	2 fps (0.06 mps)
Repeatability:	+/- 0.5% of set point @ fixed temperature
Response time:	1-10 seconds
Set point adjust.:	Potentiometer
Viscosity range:	1-200 centipoise
LED indication:	Flow status
Supply voltage:	14-36 VDC
Consumption:	70 mA maximum
Contact type:	(1) SPST relay
Contact rating:	60 VA, 1A maximum
Contact output:	Selectable NO / NC
Process temp.:	F: 32º to 140º, C: 0º to 60º
Ambient temp.:	F: -40º to 140º, C: 0º to 60º
Max. pressure:	150 psi (10 bar) @ 25º C, derated @ 1.667 psi (0.113 bar) per ºC above 25º C
Sensor rating:	NEMA 4X (IP65)
Wetted material:	-1_ _5: PP-Ryton® -5_ _5: PVDF
Cable jack. mat.:	-1_ _5: PP -5_ _5: FEP
Cable type:	4-conductor, shielded #22 AWG
Cable length:	10' (3m)
Process mount:	3/4" NPT (3/4" G/R)
Mount. gasket:	Viton®
Classification:	General purpose
Compliance:	CE, RoHs

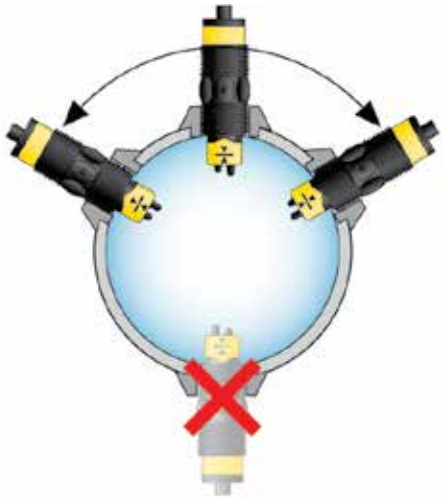
Dimensions





Installation

The flow switch may be installed in horizontal pipe runs using tee or tap fittings. Install the switch vertically in the top half of a horizontal pipe. Do not install the switch upside down or in the bottom half of a pipe. Based on the pipe size, fitting type and switch body length, make sure that the tip of the installed sensor is in the flow path.



Ordering

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SENSOR MATERIAL (1)

- **1** PP-Ryton
- **5** PVDF

SENSOR LENGTH (2)

- **3** Short
- **4** Long

PROCESS MOUNT (3)

- **0** Short
- **2** Long

NOTES

1) To special order a 25' (7.6m) or 50' (15.2 m) flow sensor cable, place the cable length at the end of the part number (ie: FT10-1305-25'). Contact factory for pricing special lengths.
2) Order the short sensor for use with pipe sizes from 3/4"-1 1/2" (DN25-DN40), and the long sensor for 2" and higher (DN50 up).
3) The long metric flow sensor has straight G threads on the sensing side, and conical R threads on the cable side of the wrench flat.

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