Thermo-Flo™ AX1X with Compact Flow Controller

Application

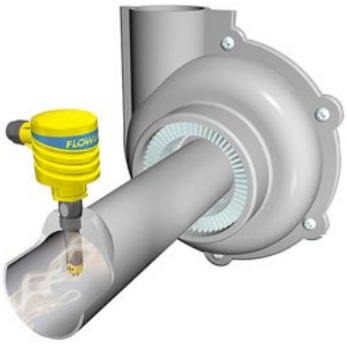
Offered in liquid and gas sensor types, the general purpose flow switch package provides reliable no or low-flow detection of relatively clean non-coating media with a 1A relay output and compact junction box for wiring termination. Liquid examples includes water and acetic acid. Available in PP-Ryton® and PVDF, the short flow sensor is used in pipe or ducting from 1/2" to 1 1/2", and the long flow sensor is used in 2" and up. The flow switch set point may be adjusted from 0.04 to 3 fps in liquids, or 1 to 90 fps in gases as a low-flow alarm. The flow sensor is best applied in applications with relatively constant temperature.

Features

- Rugged Polypropylene-Ryton® or PVDF sensor for corrosive liquids and gases
- Adjustable set point with LED for flow or no-flow status indication
- Polypropylene enclosure rated NEMA 4X with swivel base and terminal strip
- 60VA relay selectable NO or NC via power supply wiring polarity
- Solid state sensor is not damaged by over-ranging flow velocities

Key Benefits

- Ideal for chemical injection monitoring
- Interfaces directly to PLC/SCADA
- Designed for use in corrosive media



Compatible Products

Thermo-Flo™ Flow Switch Fitting

FT50

Application

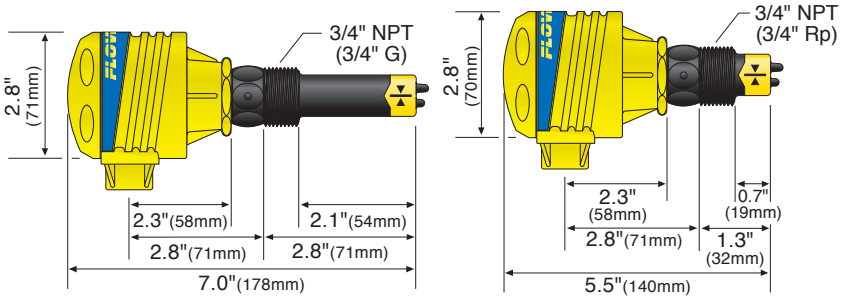
A common problem with metering pumps in flow applications is the characteristic of the output flow. The pulsating flow makes it difficult for flow switches to get an accurate and consistent flow rate. Often flow switches will not work because they are not able to see a reliable flow output. The Flowline Pulse Point fitting is designed to stabilize the pulsing flow for the Thermo-Flo flow switch. The cylindrical chamber creates a mini-vortex that translates to a relatively constant flow. The Thermo-Flo flow switch will be able to read the flow and provide an accurate and low-cost flow switch. The Flowline Pulse Point fitting is ideal for use in metering pump applications.

Thermo-Flo™ AX1X with Compact Junction Box

Specifications

Set point range:	AT1X: 0.04 to 3 fps (0.012 to 0.91 mps) AG1X: 1 to 90 fps (0.3 to 27 mps)
Factory set point:	AT1_: .2 fps (.06 mps) AG1_: 10 fps (3mps)
Repeatability:	±0.5% of set point @ fixed temperature
Response time:	1-10 seconds
Set point adjust.:	Potentiometer
Viscosity range:	AT1_: 1-200 centipoise AG1_: N/A
LED indication:	Flow status
Supply voltage:	12-36 VDC
Consumption:	70 mA maximum
Contact type:	(1) SPST relay
Contact rating:	60 VA, 1A maximum
Contact output:	Selectable NO / NC
Process temp.:	F: 32° to 140° C: 0° to 60°
Ambient temp.:	F: -40° to 140° C: -40° to 60°
Pressure:	150 psi (10 bar) @ 25° C, derated @ 1.667 psi (0.113 bar) per °C above 25° C
Enclosure rating:	NEMA 4X (IP65)
Enclosure mat.:	PP, UL94VO
Terminal strip:	6-pole, socket
Conduit entrance:	1/2" NPT
Wetted material:	-163X: PP-Ryton® -363X: PVDF
Process mount:	3/4" NPT (3/4" G)
Mount gasket:	Viton® (G version only)
Classification:	General purpose
Compliance:	CE

Dimensions



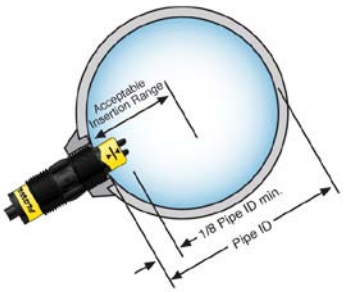
Mounting

AX1X Special Mounting Instructions

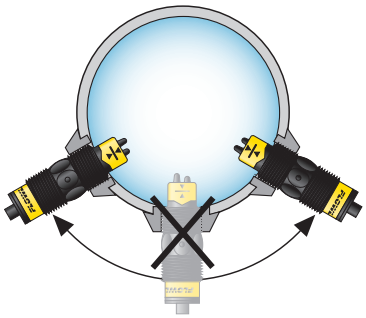
The AT1_ series flow switch when installed must always be in contact with the liquid being measured. The AG1_ series flow switch can only be used in gas apllications. Both flow switches feature a 3/4" NPT threads which will allow it to be used with various types of fittings. Be sure to check the insertion depth of the liquid flow switch in the fitting after it is installed. See the diagram on the top righ for the recommended insertion depth.

When using any type of fitting, the orientation as well as the insertion depth of the flow switch in the pipe is critical. Recommended orientation and depth is represented by the following diagram. For more information reference the AX1X-X63X manual at www.flowline.com/technical_lit.php

Liquid Sensor Insertion



Liquid Sensor Orientation



Ordering

A□1□-□63□

Application media
- ***T*** *Liquid*
- ***G*** *Gas*

Sensor length (1)
- ***7*** *Short*
- ***8*** *Long*

Sensor material
- ***1*** *PP*
- ***3*** *PVDF*

Process mount
- ***0*** *NPT (US)*
- ***4*** *G (Metric)*

Notes

1) Order the short sensor for use with pipe sizes from 3/4"-1 1/2" (D25-D50), and the long sensor for 2" and higher (D63 up).