



Precision Sensors Division

Inline Flow Switches

For Industrial Applications

For over 30 years, leading companies in technology driven fields have chosen Precision Sensors components for their critical flow switch requirements. The unique by-pass chamber construction of these rugged products assures years of accurate, trouble-free, performance.

Factory set to your specification

**Available in PVC,
or stainless steel**

Only one moving part

Compact inline design

Low pressure drop

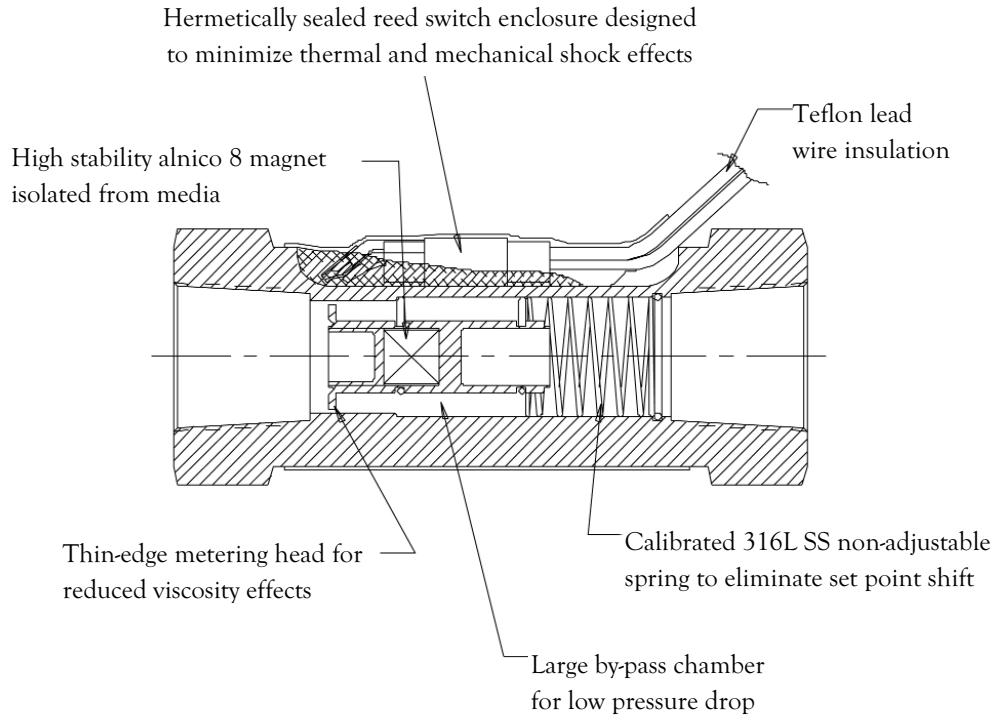
Operates in all attitudes



This series of small and accurate flow switches is based on the proven designs used by Precision Sensors in their extensive military and aerospace lines. These switches are compatible with a wide range of media and feature a simple operating principle. Common uses include pump and heater control, low and high flow warnings, and pump safety shutoff.

All products comply with European safety requirements, bear the CE part mark and are UL recognized under file number E 179859.

Features



Performance	Setting Range	Accuracy @ 75°	Deadband
	0.2 to 1.5 gpm	±0.05 gpm	0.15 gpm max
	1.5 to 3.0 gpm	±0.10 gpm	0.25 gpm max.
	3.0 to 5.0 gpm	±0.15 gpm	0.50 gpm max

Material Selection	Housing Material	Wetted Material	Media	Working Pressure	Burst Pressure	Temperature Range
	PVC	PVC & 316 SS	Tap water DI water	60 psig	250 psig	32 to 140°F
	SS	316 SS	Any gas or liquid Compatible with 316 SS	1000 psig	4000 psig	32 to 200°F

How to Order

- Create a part description by using the system below.
The description will follow this form:

Model - Housing Material - Setting - Port Fitting - Electrical

MODEL	MAT'L	SETTING			END FITTING	ELECTRICAL			
V12F	SS = Stainless steel PVC = PVC	Media W = Water O - Other (see note 1)	Actuation I = Increasing flow D = Decreasing flow	Setting Enter the setting in gpm	6P = 3/8 - 18 Female NPT 8P = 1/2 - 14 Female NPT NS = Non standard (see note 2)	Contact Position NC = Normally closed (0 gpm) NO = Normally open (0 gpm) DT = SPDT (3 wires)	Lead Length Enter the lead length (24" standard)	Electrical Interface L = Free leads C = Crimp type connector; specify manufacturer and P/N [Amp MR 1 - 640507 (or 8) - 0 standard]	
Example	V12F	SS	W	I	1.3	8P	NC	27	L

The above description is for a stainless steel flow switch whose contacts open on increasing flow at 1.3 gpm of water. The switch has 1/4-14 female NPT end fittings and 27" free leads.

A factory part number will be assigned upon completion of a drawing based on the part description. When ordering, use this drawing number as the part number.

Note 1: O - Other. If the operating medium is other than water, a complete description must be provided, such as 60% propylene glycol/water by volume.

Note 2: NS - Non Standard. Most common fittings can be supplied. When a type and size, different than standard, is specified, Precision Sensors will provide an applicable drawing showing unit dimensions.

Specifications**Calibration**

All units are factory set to customer specifications

Operation

Flow causes the float which contains a magnet to displace
The movement of the magnetic field operates the reed switch at a factory set flow rate

Construction

One piece housing with integral port fittings, 316L stainless steel coil spring

Pressure Drop

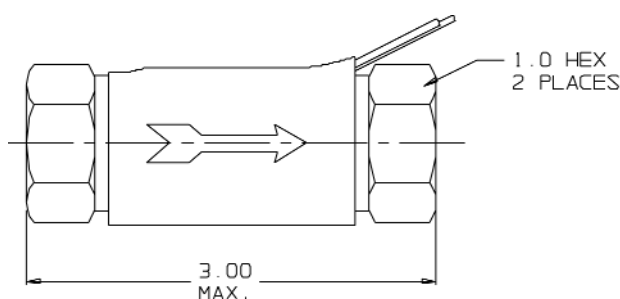
2 psi nominal @ operating flow rate

Electrical

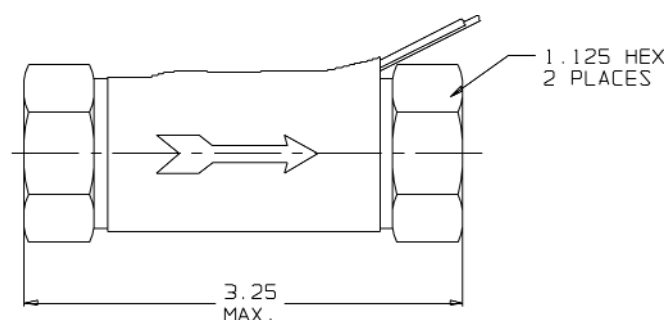
SPST reed switch: 10 watts at 28 Vdc max, 0.5 amp resistive max.
SPDT reed switch: 3 watts at 28 Vdc max, 0.25 amp resistive max.
Mechanical contact life of 1 million cycles or more

Installation

Inline and insensitive to mounting attitude

Dimensions

V12F with 3/8-18 FNPT fittings



V12F with 1/2-14 FNPT fittings

Recommended Practices

United Electric Controls recommends careful consideration of the following factors when specifying and installing UE pressure units. Before installing a unit, the Installation and Maintenance instructions provided with unit must be read and understood.

To avoid damaging unit, proof pressure limits stated in literature and on nameplates must never be exceeded, even by surges in the system. Operation of the unit up to proof pressure is acceptable on a limited basis (i.e.start-up, testing) but continuous operation must be restricted to the designated range. Excessive cycling at proof pressure limits could reduce sensor life.

A back-up unit is necessary for applications where damage to a primary unit could endanger life, limb or property. A high or low limit switch is necessary for applications where dangerous runaway condition could result.

The range must be selected so that incorrect, inadvertent or malicious setting at any range point can not result in an unsafe system condition.

Install unit where shock, vibration and ambient temperature fluctuations will not damage unit or affect operation. Orient unit so that moisture does not enter the enclosure via the electrical connection.

Unit must not be altered or modified after shipment. Consult UE if modification is necessary.

Monitor operation to observe warning signs of possible damage to unit, such as drift in set point. Check unit immediately.

Preventative maintenance and periodic testing is necessary for critical applications where damage to unit could endanger property or personnel.

For all applications, a factory set unit should be tested before use.

Electrical ratings stated in literature and on nameplate must not be exceeded. Overload on a switch can cause damage, possible on the first cycle. Wire unit according to local and national electrical codes, using wire size recommended in installation sheet.

Use only factory authorized replacement parts and procedures.

Do not mount unit in ambient temperature exceeding published limits.

Limited Warranty

UE warrants that the product thereby purchased is, upon delivery, free from defects in material and workmanship and that any such product which is found to be defective in such workmanship or

material will be repaired or replaced by UE (F.O.B. UE); provided, however, that this warranty applies only to equipment found to be so defective within a period of 12 months after installation by buyer but not to exceed 18 months after delivery by the seller. Except for the limited warranty of repair and replacement stated above, UE disclaims all warranties whatsoever with respect to the product, including all implied warranties of merchantability or fitness for any particular purpose.

Liability Limitation

The sole and exclusive remedy of buyer for any liability or seller for any claim, including incurred in connection with (I) breach of any warranty whatsoever expressed or implied, (II) a breach of contract, (III) a negligent act or acts (or negligent failure to act) committed by seller, or (IV) an act for which strict liability will be imputed to seller, is limited to the limited warranty or repair and replacement stated herein. In no event shall the seller be liable for any special, indirect, consequential or other damages or like general nature, including, without limitation, loss of profits or production, or loss or expenses of any nature, incurred by the buyer or any third party.



**UNITED ELECTRIC CONTROLS
PRECISION SENSORS DIVISION**

50 Seeman's Lane, Milford, CT 06460 USA
Telephone 203 877-2795 FAX 203 877-8752