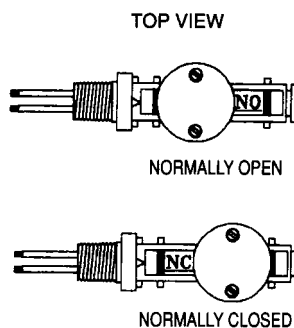


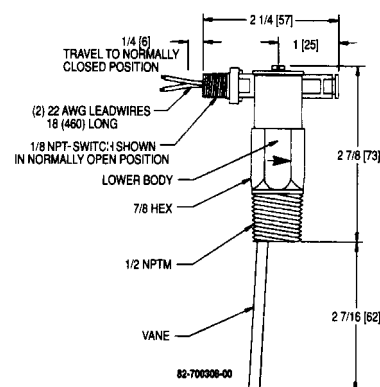


MODEL V10 FLOTECT® MINI-SIZE FLOW SWITCH

Specifications – Installation and Operating Instructions



*United States Patent Number 5,183,983



INSTALLATION

1. Carefully unpack switch and remove any packing material from lower housing. Trim the vane at the appropriate mark for the size of pipe being used. See actuation/deactuation chart. **CAUTION:** Mechanical shock or vibration can cause permanent damage to the reed switch. Take care to avoid dropping the unit on hard surfaces or impacting the switch assembly.

2. Apply Teflon® thread tape or sealant to the 1/2" male NPT mounting threads and install switch in the system piping with the arrow on side pointing in the direction of flow.

3. Connect wiring in accordance with local electrical codes. NOTE: the 1/8" NPT fitting is *not* a conduit connection and any loading on this fitting can adversely affect switch operation. Also, any rigid connection to this fitting will prevent adjustment of switching action between normally open and normally closed.

4. Inductive, capacitive and lamp loads can all create conditions harmful to the reed switch.

A) *Inductive loads* can be caused by electromagnetic relays, electromagnetic solenoids and electromagnetic counters, all with inductive components as the circuit load.

B) *Capacitive loads* can be caused by capacitors connected in series with or parallel to the reed switch. In a closed circuit the cable length (150 ft. or more) to the switch can introduce a capacitance.

C) *Lamp loads* can be caused by switching lamp filaments which have low cold resistance.

In addition to these causes, exceeding any of the maximum electrical ratings can lead to premature or immediate failure. This includes inrush and surge currents greater than the maximum switching current. Use caution when evaluating system loads and current. To accommodate these conditions, see diagrams on the reverse which depict possible solutions.

5. After installation, set the switch action to NO (normally open) or NC (normally closed). Normally closed contacts open and normally open contacts close when increasing flow actuates the reed switch. To change, loosen, but do not remove, the two screws on the top cap. Slide the reed switch assembly to expose the switch action selected. Tighten screws when adjustment is complete.

MAINTENANCE

Following final installation of the Model V10 Flow Switch, no routine maintenance is required. A periodic check to confirm proper actuation/deactuation is recommended. These units are not field repairable and switches in need of service should be returned, freight prepaid, to the address below. Please include an explanation of the problem plus any available application information.

W.E. Anderson Division,
Dwyer Instruments, Inc.
250 Highgrove Road
Grandview, MO 64030

PHYSICAL DATA

Temperature Limit: 200°F (93°C) maximum.

Operating Pressure: Brass body - 1000 psig (69 bar) maximum.

Stainless steel body - 2000 psig (138 bar) maximum.

Piping Connection: 1/2" male NPT.

Switch: Hermetically sealed single pole, single throw reed switch. Field adjustable between normally open and normally closed.

Electrical Ratings: 1.5A @ 24 VDC resistive, 0.001A @ 200 VDC resistive, 0.5A @ 120 VAC.

Wire: 22 AWGx18 inches (460 mm) long.

Switch Body: Choice of standard brass or optional 303 stainless steel.

Reed Switch Housing: Polypropylene.

Vane: 301 stainless steel, 7/16" wide x.020" thick (11x.51 mm).

Wetted Materials: 301, 302 and 316 stainless steel, ceramic 8 magnet, brass or optional 303 stainless steel body.

Installation: Install with index arrow pointing in direction of flow. Can be mounted in any position.

Weight: 4 1/2 ounces (128 grams).

Overall Length: 5.25 inches (133 mm).

Cold Water Flow Rates				Air Flow Rates			
Approximate actuation/deactuation		Approximate actuation/deactuation		Approximate actuation/deactuation		Approximate actuation/deactuation	
GPM upper, LPM lower		SCFM upper, NM ³ /H lower		GPM upper, LPM lower		SCFM upper, NM ³ /H lower	
Pipe	Trim	N.O.	N.C.	Pipe	Trim	N.O.	N.C.
1/2"	L	2.6/2.3 9.8/8.7	2.6/2.5 9.8/9.5	1/2"	L	10.3/8.8 17.5/15	10.2/9.2 17.3/15.6
3/4"	J	3.1/2.7 11.7/10.2	3.1/2.8 11.7/10.6	3/4"	J	13/11.6 22.1/19.7	12.9/11.6 21.9/19.7
1"	H	4.8/4.5 18.2/17	4.8/4.4 18.2/16.7	1"	H	19.2/17.6 32.6/29.9	18.9/17.6 32.1/29.9
1 1/4"	E	6.2/5.6 23.5/21.2	6.1/5.6 23.1/21.2	1 1/4"	E	24.8/22.2 42.1/37.7	24.5/22.5 41.6/38.2
1 1/2"	C	8.2/7.7 31/29.1	8.2/7.7 31/29.1	1 1/2"	C	33.4/31.2 56.8/53	33/30.6 56.1/52
2"	Full	9.5/9.1 36/34.4	9.5/9 36/34.1	2"	Full	50.2/48.4 85.3/82.2	50.2/47.7 85.3/81.1

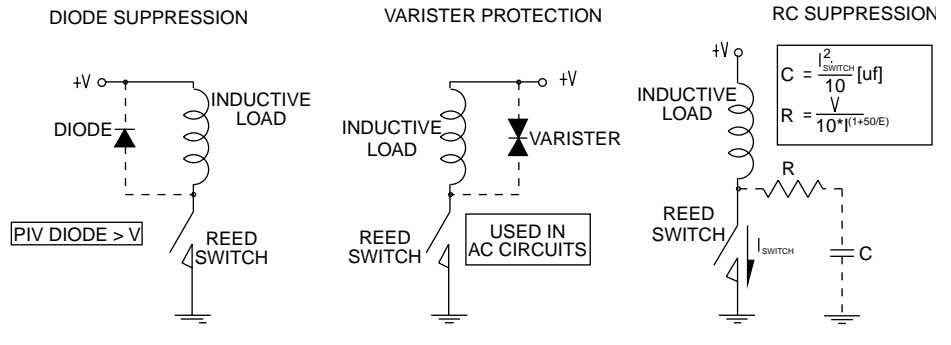
REED SWITCH PROTECTION CIRCUIT INFORMATION BULLETIN
READ INFORMATION BELOW BEFORE INSTALLING YOUR NEW REED SWITCH CONTROL!

Exceeding the current capacity of this Reed Switch control may cause **FAULTY OPERATION!** Be aware of the inductive and capacitive or lamp loads you may be placing on your Reed Switch Control. The circuits below outline possible solutions to preventing overloads due to inrush or surge currents exceeding maximum or when the switch current and product of the inductive back EMF exceed the switch's power rating. Also the circuit for prevention of overload when switching filament lamps (low "cold" resistance) is outlined below. Failure to follow these measures to protect Reed Switch Contacts may cause the contacts to weld together or result in premature wear.

Possible Circuit Solutions Indicated by Dashed Lines

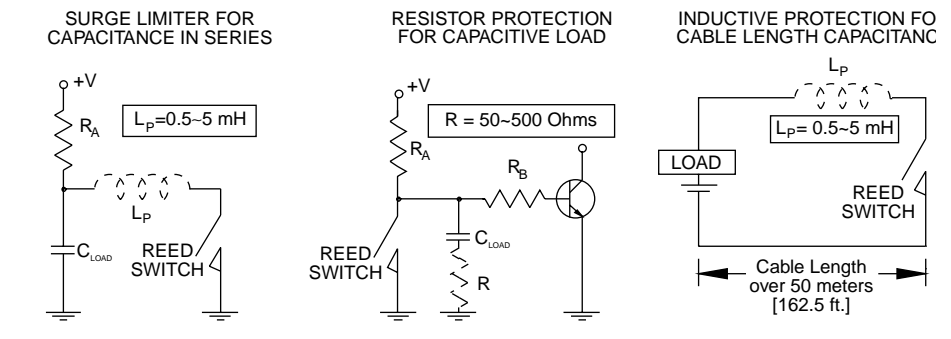
Inductive Loads

Possible causes –
 An electromagnetic relay, electromagnetic solenoid, electromagnetic counter with inductive component as circuit load.



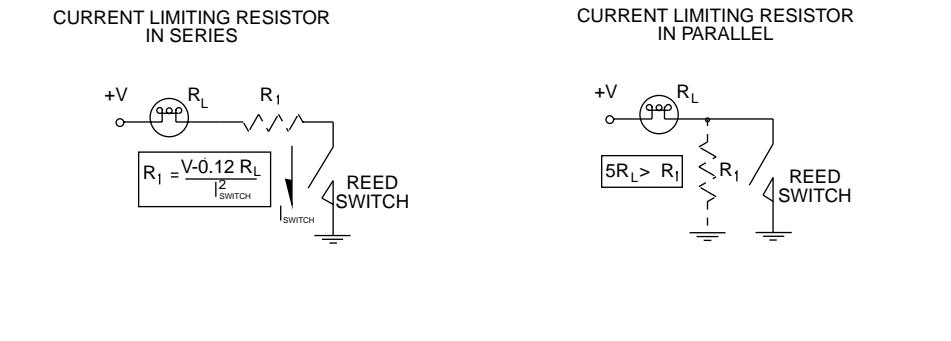
Capacitive Loads

Possible causes –
 A capacitor connected in series or parallel with Reed Switch control. In a closed circuit, a cable length (usually greater than 50m [162.5 ft.]) used to connect reed switch may also introduce static capacitance.



Lamp Loads

Possible causes –
 A tungsten filament lamp load.



Do not subject reed switch control to excessive shock and vibration, including:

- Bending or placing force loads on reed switch housing
- Over-torquing fittings on reed switch housing
- Placing pull-out force on load wires