INSTALLATION

1. **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. Liquid media containing particulate and/or debris should be filtered to ensure proper operation of the V12 Flow Switch.

3. Apply pipe thread sealant tape or pipe thread sealant to the 1" male NPT pipe threads and install the switch into the piping system. Thread the flow switch onto the male pipe thread until hand-tight. Tighten pipe 1 additional turn. If improper seal results, continue turning pipe into unit 1/4-turn increments. **Do Not** Exceed 1 Additional Turn.

4. Connect wiring in accordance with local electrical codes.

5. 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. [1.5 m] 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.

### STANDARD MODELS

<table>
<thead>
<tr>
<th>Model</th>
<th>Switch Activation Set Point on Increasing Flow(water), Vertical up Direction</th>
<th>Gal. per minute</th>
<th>Liters per minute</th>
</tr>
</thead>
<tbody>
<tr>
<td>V12-2</td>
<td>0.5 GPM</td>
<td>1.892</td>
<td></td>
</tr>
<tr>
<td>V12-3</td>
<td>1.0 GPM</td>
<td>3.785</td>
<td></td>
</tr>
<tr>
<td>V12-4</td>
<td>2.5 GPM</td>
<td>9.462</td>
<td></td>
</tr>
<tr>
<td>V12-5</td>
<td>5.0 GPM</td>
<td>18.924</td>
<td></td>
</tr>
</tbody>
</table>

**SPECIFICATIONS**

**Service:** Compatible liquids.

**Wetted Materials (FDA Approved):**
- Spring: 316 SS.
- Retaining Clip: PH 15-7 MO stainless steel.
- Magnet: FEP.

**Temperature Limits:** 0°F (-18°C) to 194°F (90°C)

**Pressure Limit:** 100 psig (6.90 bar) @ 70°F (21°C), 50 psig (3.45 bar) @ 194°F (90°C)

**Switch Type:** SPST normally open hermetically sealed reed switch.

**Electrical Rating:** 1.5A @ 24 VDC resistive, 0.001A @ 200 VDC resistive, 0.5A @ 125 VAC.
**CIRCUIT INFORMATION FOR REED SWITCH PROTECTION**

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.

### 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.
—Placing pull-out force on load wires.

### Possible Circuit Solutions Indicated by Dashed Lines

#### Diode Suppression

#### Varistor Protection

#### RC Suppression

#### Surge Limiter for Capacitance in Series

#### Resistor Protection for Capacitive Load

#### Inductive Protection for Cable Length Capacitance

**MAINTENANCE**

A periodic check to confirm actuation/deactuation is recommended. These units are not field repairable and should be returned to the factory if service is required. After first obtaining a Returned Goods Authorization (RGA) number, send the unit, freight prepaid to the following address. Please include a clear description of the problem plus any application information available.

W.E. Anderson Division  
Dwyer Instruments, Inc.  
Attn: Repair Department  
102 Highway 212  
Michigan City, IN 46360