Dwyer Series 501 Bin Level Switches provide positive consistent response to pressure from nearly any dry media while assuring complete safety thanks to the integrally explosion-proof and weatherproof housing rated for Class I, Groups C & D, Class II, Groups E, F & G, and Class III hazardous locations. Three adjustable models can be set from as low as .07 up to 8.93 lbs. of force. Unique cantilevered diaphragm assembly responds to force from any direction and allows installation in any position. The unique housing has a low-side port to offset pressure in pressurized tanks, allowing accurate switching. UL and CSA approved.

**INSTALLATION**

1. Select a location at the required level, avoiding areas with excess heat and vibration. While the switch will operate in any position, it is recommended that it be installed such that the vent/drain assembly is down to prevent moisture accumulation. Mounting surface must be flat.

2. Cut a 6" diameter hole in the side of the container and drill (4) 1/4" mounting holes on a 7-3/16" diameter circle as shown in the drawing above.

3. Put gasket in place and attach switch using (4) 1/4" bolts of appropriate length.

**PHYSICAL DATA**

- **Temperature Limits:** Min. -20°F (-29°C), Max. 140°F (60°C).
- **Rated Pressure:** 10 psig [69 kPa] maximum applied to both sides of diaphragm simultaneously.
- **CAUTION:** DO NOT PRESSURIZE LOW PRESSURE SIDE ONLY.
- **Pressure Connections:** 1/8" NPT(F) - low pressure only
- **Electrical Rating:** 15 amps, 125, 250, 480 VAC, 60 Hz. A.C. resistive. 1/8 H.P. @ 125 VAC, 1/4 H.P @ 250 VAC, 60 Hz. A.C.
- **Wiring Connections:** 3-screw type; common, normally open and normally closed.
- **Conduit Connection:** 1/2" NPT(F).
- **Set Point Adjustment:** Screw type on top of housing field adjustment
- **Housing:** Anodized cast aluminum
- **Diaphragm:** Neoprene on Nylon
- **Calibration Spring:** Stainless Steel
- **Installation:** Mount in any position with four (4) 1/4" bolts (not included).
- **Weight:** 3 lbs., 14 oz. (1.76 kg).

**Series 501 Switches - Operating Ranges**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Range, Pounds of Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>501-1</td>
<td>.05 - .35</td>
</tr>
<tr>
<td>501-2</td>
<td>.20 - 1.3</td>
</tr>
<tr>
<td>501-7</td>
<td>.80 - 6.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>lbs/ft</th>
<th>kg/meter</th>
</tr>
</thead>
<tbody>
<tr>
<td>.07 - .52</td>
<td>.07 - .52</td>
</tr>
<tr>
<td>.30 - 1.93</td>
<td>.30 - 1.93</td>
</tr>
<tr>
<td>1.19 - 8.93</td>
<td>1.19 - 8.93</td>
</tr>
</tbody>
</table>

**Series 501 (E-61) rev. 7/11/02 8:19 AM Page 1**
Series 501 Bin Level Switches
Explosion-Proof/Weatherproof

Specifications - Installation and Operating Instructions

4. If container is to be under pressure, run tubing from pressurized area to port on switch marked low pressure. This is to “balance” pressure equally on both side of the diaphragm so that switch will “trip” or actuate only when material forces against exposed side. At no time should the pressure differential be allowed to exceed 10 psig (69 kPa) on either side. Damage to switch could result.

5. To make electrical connections, remove the four hex head bolts and lift cover off. Electrical connections to the standard single pole/double throw snap switch are made to screw terminals marked “common,” norm open,” and “norm closed.” The normally-open contacts close, and the normally-closed contacts open, when force applied to the diaphragm exceeds set point. Switch loads for standard models should not exceed maximum rating of 15 amps resistive. Switch load capabilities decrease with an increase in ambient temperature, load inductance, or cycle rate. When an application includes one or more of these factors, the user may find it best to limit switched current to 10 amps or less in the interest of prolonging switch life.

ADJUSTMENT
To change the set point, remove the plastic cap (if included) and turn slotted adjustment screw on top of enclosure. Rotate clockwise to increase set point and counter-clockwise to decrease. After adjustment, replace plastic cap.

MAINTENANCE
The moving parts of these switches need no maintenance or lubrication. The only adjustment is that of the set point. Care should be taken to keep the switch reasonably clean. Periodically rotate the vent drain plug one turn clockwise, then return it to its original position. This will dislodge deposits which can accumulate in applications where there is excess condensation within the switch enclosure.

Frequently inspect the diaphragm for signs of either damage or wear and replace as required. Contact factory for pricing and ordering information. Be sure to give complete model number.