**DPDT LOW DIFFERENTIAL PRESSURE SWITCHES**

**Manual Reset, No Power Required**

One of our most popular differential pressure switches is now available with a DPDT switch and manual reset. The **SERIES 1831** combines small size with 4% set point repeatability. Absolutely no power is required to operate the DPDT switch. Set point adjustment on the switch is easily accessible for modifying the set point.

The Series 1831 DPDT Low Differential Pressure Switches with Manual Reset eliminate common problems associated with typical high duct static cutout installations. Since the 1831 requires absolutely no power to drive its outputs, a separate power loop and its associated additional wiring and conduit is alleviated, reducing material and labor installation costs. Both control contacts of the Series 1831 activate at the same time. The potential of the lead switch shutting down the fan preventing the lag switch from sending an alarming signal to the DDC is no longer a probable system liability. One of our most popular differential pressure switches is now available with a DPDT switch and manual reset. The **SERIES 1831** combines small size with 4% set point repeatability. Absolutely no power is required to operate the DPDT switch. Set point adjustment on the switch is easily accessible for modifying the set point.

**APPLICATIONS**

- Large diaphragm provides low range accuracy providing precise control
- Visible set point indicator simplifies operation and trouble shooting
- Floating “null” switch supports applications requiring two set point actions such as the preset level. The “low” circuit will be closed when falling pressure differential reaches the preset level.

**FEATURES/BENEFITS**

- No power to operate DPDT switch means no additional wiring or conduit reduces material and installation labor costs
- Easy access for modifying set point simplifies adjustment
- Both control contacts activate at the same time eliminating system issues where lead switch activities prevent the lagging switch from sending a signal

**APPLICATIONS**

- High duct static cutout applications  • HVAC

**MODEL CHART**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Range (in w.c.)</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1831-1-RA-S</td>
<td>Manual reset DPDT, activate on increase</td>
<td>2.5 to 9</td>
<td>$115.00</td>
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<tr>
<td>1831-2-RA-S</td>
<td>Manual reset DPDT, activate on increase</td>
<td>7.5 to 23</td>
<td>115.00</td>
</tr>
</tbody>
</table>

**SERIES 1831**

The unique electric switch design in the **SERIES 1640** is another Dwyer Instrument, Inc. innovation. The Dwyer® Model 1640 Differential Pressure Switch resembles the high precision large diaphragm Series 1630 switches. However, the Model 1640 is equipped with a single pole, double throw floating contact switch (not snap acting) so it functions as a null switch.

As the diaphragm moves in response to pressure changes, it moves the floating contact to cause switching action at two preset points with no switching action between these points. The “high” circuit will be closed when rising pressure differential reaches the preset level. The “low” circuit will be closed when falling pressure differential reaches the preset level.

**FEATURES/BENEFITS**

- Floating “null” switch supports applications requiring two set point actions such as open and close damper control
- Visible set point indicator simplifies operation and trouble shooting
- Large diaphragm provides low range accuracy providing precise control

**APPLICATIONS**

- Damper positioning
- Duct air control

**SERIES 1640**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Range (in w.c.)</th>
<th>Adjustable Null Span</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1640-0</td>
<td>0 to 0.2</td>
<td>.01</td>
<td>.01</td>
<td>$404.00</td>
</tr>
<tr>
<td>1640-1</td>
<td>0.2 to 1.0</td>
<td>.02</td>
<td>.06</td>
<td>404.00</td>
</tr>
<tr>
<td>1640-2</td>
<td>1.0 to 4.0</td>
<td>.03</td>
<td>1.2</td>
<td>404.00</td>
</tr>
</tbody>
</table>

**SPECIFICATIONS**

- Service: Air and non-combustible, compatible gases.
- Wetted Materials: Consult factory.
- Temperature Limits: -30 to 180°F (-34 to 82.2°C).
- Pressure Limits: 10 psig (68.95 kPa) continuous, 25 psig (172.4 kPa) surge.
- Switch Type: 2 SPDT.
- Actuation Time Difference: 1 millisecond maximum actuation delay between contacts.
- Repeatability: ±4% max.
- Electrostatic Rating: 4 A @ 125/250 VAC.
- Electrical Connections: Screw type terminal block.
- Process Connections: 1/8” female NPT.
- Mounting Orientation: Diaphragm in vertical position. Consult factory for other position orientations.
- Set Point Adjustment: Screw type inside mounting spud.
- Weight: 1 lb 2 oz (522 g).

**ACCESSORIES**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-389</td>
<td>6” straight static pressure tip with flat flange</td>
<td>$6.67</td>
</tr>
<tr>
<td>A-391</td>
<td>6” straight static pressure tip with flange</td>
<td>6.67</td>
</tr>
<tr>
<td>A-493</td>
<td>303 SS static pressure tip with mounting flange, for 3/16” ID rubber or plastic tubing</td>
<td>7.50</td>
</tr>
<tr>
<td>A-302F-A</td>
<td>303 SS static pressure tip with mounting flange, for 3/16” ID rubber or plastic tubing</td>
<td>9.10</td>
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<tr>
<td>A-302F-B</td>
<td>303 SS static pressure tip with mounting flange, for 3/16” ID rubber or plastic tubing</td>
<td>12.50</td>
</tr>
<tr>
<td>A-302F-C</td>
<td>303 SS static pressure tip with mounting flange, for 3/16” ID rubber or plastic tubing</td>
<td>14.25</td>
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</tbody>
</table>

**MODEL CHART**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Range (in w.c.)</th>
<th>Min. Set Point</th>
<th>Max. Set Point</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1640-0</td>
<td>0 to 0.2</td>
<td>.01</td>
<td>.01</td>
<td>$404.00</td>
<td></td>
</tr>
<tr>
<td>1640-1</td>
<td>0.2 to 1.0</td>
<td>.02</td>
<td>.06</td>
<td>404.00</td>
<td></td>
</tr>
<tr>
<td>1640-2</td>
<td>1.0 to 4.0</td>
<td>.03</td>
<td>1.2</td>
<td>404.00</td>
<td></td>
</tr>
</tbody>
</table>

**SPECIFICATIONS**

- Service: Air and non-combustible, compatible gases.
- Wetted Materials: Consult factory.
- Temperature Limits: -30 to 180°F (-34 to 43.3°C).
- Pressure Limits: 10 psig (68.95 kPa) continuous, 25 psig (172.4 kPa) surge.
- Switch Type: SPDT floating contact (not snap action).
- Electrostatic Rating: Non-inductive — 2.5 A @ 110 VAC; 1.5 A @ 220 VAC; 1.0 A @ 24 VDC; 0.5 A @ 110 VAC; Inductive — 4 A @ 110 VAC; 0.5 A @ 220 VAC; 0.5 A @ 24 VDC (de-rate 70-80% for very slow pressure changes).
- Electrical Connections: 3 screw type.
- Process Connections: 1/8” female NPT.
- Mounting Orientation: Diaphragm in vertical position. Consult factory for other position orientations.
- Set Point Adjustment: Screw type.
- Weight: 4 lb 13 oz (2.18 kg).
- Agency Approvals: CE.