Terminal Block Diaphragm Switch

**Features**
- High reliability
- High accuracy
- NEMA 4
- Ideal for pressure and vacuum applications
- Single and dual switching capability
- Tamper-proof external adjustment

**Applications**
- Machine tools
- Pneumatics
- Medical
- Marine & shipbuilding
- Pump & compressor monitoring
- Oil & gas
- Water equipment
- Mining
- Lubrication equipment

**General Specifications**

- **Accuracy:** ± 0.5% of the adjustable range
- **Switch:** Single pole double throw (SPDT) Snap Action; single circuit
- **Rating:** 10 amps @ 125/250 VAC; 3 amps @ 480 VAC (Class A or H limit switch). Consult sales drawing for ratings of optional limit switches.
- **Wetted Parts:**
  - **Process Fitting:** 304 stainless steel
  - **Diaphragm:** 17-7 PH stainless steel
  - **Enclosure:** Anodized aluminum
- **Electrical Connection:** Terminal block through 1/2” NPT conduit connector
- **Enclosure Rating:** NEMA 4
- **Pressure Connection:** 1/4” NPT Female
- **Approvals:**
  - **UL (Optional):** D1T models may be ordered as UL listed on request. D2T models may be ordered as UL Recognized components on request. File No. E42816
  - **CSA (Optional):** All models may be ordered as CSA listed under Class 3231 02, File LR22355 on request.
- **Adjustment Instructions:**
  - Pressure: Turn adjustment screw counterclockwise to raise actuation point.
  - Vacuum: Turn adjustment screw clockwise to increase setpoint (higher vacuum).
- **Options:**
  - NEMA 4X enclosure
  - Cleaned for oxygen service
  - Factory pre-set
  - Six-pin terminal block

**Approvals (cont.):**
- **PED (European):** Compliant to PED 97/23/EC
- **Temperature Range:**
  - Operating: -40° to +165°F (-40° to +74°C)
  - Hermetic Div. 2 models: -4° to +140°F (-20° to +60 °C)
- **Storage:** -65° to +200°F (-54° to +93°C)

**Shipping Weight:** 2.0 lbs. approximate

**Wiring Code**

<table>
<thead>
<tr>
<th>Lead</th>
<th>Circuit #1 Pressure</th>
<th>Circuit #1 Vacuum</th>
<th>Circuit #2 Pressure</th>
<th>Circuit #2 Vacuum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normally Closed</td>
<td>Blue</td>
<td>Red</td>
<td>Orange</td>
<td>Yellow</td>
</tr>
<tr>
<td>Common</td>
<td>Purple</td>
<td>Purple</td>
<td>Brown</td>
<td>Brown</td>
</tr>
<tr>
<td>Normally Open</td>
<td>Red</td>
<td>Blue</td>
<td>Yellow</td>
<td>Orange</td>
</tr>
</tbody>
</table>

**Wiring Diagram**
Technical Drawing

Product Configurator

Example | D1T | -A | 80SS | -U
---|---|---|---|---

Base Configuration

D1T | Single setpoint housed with terminal block
D2T | Dual setpoint housed with terminal block

Limit Switch

- **A**: 10 amps @ 125/250 VAC; 3 amps @ 480 VAC; (standard for pressure range 3SS, 80SS or 150SS)
- **B**: 10 amps @ 125/250/480 VAC; 2 amps @ 600 VAC; 0.05 amps @ 125 VDC; 0.03 amps @ 250 VDC
- **C**: 10 amps @ 125/250/480 VAC; 2 amps @ 600 VAC; 0.1 amps @ 125 VDC; 0.05 amps @ 250 VDC
- **H**: 10 amps @ 125/250 VAC; 3 amps @ 480 VAC; (standard for pressure range 2SS or 18SS)
- **M**: 10 amps @ 125/250 VAC; 3 amps @ 480 VAC; 0.5 amps @ 125 VDC; 0.25 amps @ 250 VDC (not -U or -UL approved)
- **GH**: 1 amp @ 125 VAC; 1 amp @ 24 VDC with gold contacts
- **AA**: Hermetically sealed; 4 amps @ 125/250 VAC (not available on 2SS or vacuum models)
- **CC**: Hermetically sealed; 10 amps @ 125/250 VAC (not available on 2SS or vacuum models)
- **GH**: Hermetically sealed; 1 amp @ 125 VAC with gold contacts (not available on 2SS or vacuum models)
- **HH**: Hermetically sealed; 5 amps @ 125/250 VAC (not available on 2SS or vacuum models)

Adjustable Range

**Adjustable Range (PRESSURE)**

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>2SS</td>
<td>0.018 (.0)</td>
<td>1.65 (.1)</td>
<td>0.068 (.0)</td>
<td>1.7 (.1)</td>
</tr>
<tr>
<td>3SS</td>
<td>.03 (.00)</td>
<td>2.85 (.2)</td>
<td>.18 (.02)</td>
<td>3 (.2)</td>
</tr>
<tr>
<td>18SS</td>
<td>.4 (.03)</td>
<td>17.74 (1.2)</td>
<td>.66 (.05)</td>
<td>18 (1.2)</td>
</tr>
<tr>
<td>80SS</td>
<td>.5 (.03)</td>
<td>76.6 (5.3)</td>
<td>3.9 (.3)</td>
<td>80 (5.5)</td>
</tr>
<tr>
<td>150SS</td>
<td>1.5 (1)</td>
<td>144 (9.9)</td>
<td>7.5 (5)</td>
<td>150 (10.3)</td>
</tr>
</tbody>
</table>

**Approx. Deadband**

<table>
<thead>
<tr>
<th></th>
<th>psi (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2SS</td>
<td>.02 - .05 (.0 - .0)</td>
</tr>
<tr>
<td>3SS</td>
<td>.07 - .15 (.0 - .01)</td>
</tr>
<tr>
<td>18SS</td>
<td>.12 - .26 (.01 - .02)</td>
</tr>
<tr>
<td>80SS</td>
<td>1.6 - 3.4 (1.1 - .2)</td>
</tr>
<tr>
<td>150SS</td>
<td>2.3 - 6.4 (2 - .4)</td>
</tr>
</tbody>
</table>

**Proof Pressure**

psi (bar)

3 (2)
10 (7)
60 (4.1)
160 (10.9)
300 (20.4)

**Adjustable Range (VACUUM)**

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>3SS</td>
<td>.06</td>
<td>5.3</td>
<td>.34</td>
<td>6</td>
</tr>
<tr>
<td>18SS</td>
<td>29.2</td>
<td>30</td>
<td>.4</td>
<td>30</td>
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</table>

**Approx. Deadband**

<table>
<thead>
<tr>
<th></th>
<th>psi (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3SS</td>
<td>.14 - .28</td>
</tr>
<tr>
<td>18SS</td>
<td>.4 - 30</td>
</tr>
</tbody>
</table>

**Proof Pressure**

In. Hg

6
30

**NOTES**

1 Consult Supplemental Guide for specific deadband values

2 Deadband values indicated when used with the standard “H” limit switch

3 Not available with hermetically sealed limit switches (no CSA)