**Neo-Dyn® Series 142P8 Ultra Low Vacuum/Pressure Switch**

Ultra low pressure and vacuum to pressure crossover switch. Unique construction using efficient Nega-Rate® Belleville disc spring for stable set points and high proof pressure. Wide range of wetted materials makes this series well suited for applications that formerly required the use of diaphragm seals.

**Standard Specifications**

- **Electrical**
  - Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International
- **Electrical Connection**
  - 1/2 NPT female conduit connection with terminal block
- **Pressure Connection**
  - 1/2 NPT Female
- **Temperature Range**
  - Ambient: -40°F to +180°F (-40°C to +82°C)
  - Media: -50°F to +250°F (-46°C to +121°C)
  - *Temperature limits change with O-Ring selection
- **Adjustment**
  - Concealed wrench flat adjustment with range scale
- **Shipping Weight**
  - Approximately 3.5 pounds

Order Miscellaneous Option "D"

**Operating Pressure Data**

<table>
<thead>
<tr>
<th>Adjustable Range Number</th>
<th>Adjustable Set Point Range</th>
<th>Deadband* (approximate)</th>
<th>Maximum Recommended System Pressure</th>
<th>Proof Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1&quot; to 10&quot; H2O</td>
<td>.75&quot; H2O</td>
<td>30&quot; H2O Vacuum to 30&quot; H2O Pressure</td>
<td>30&quot; H2O Vacuum to +5 psig</td>
</tr>
<tr>
<td>1</td>
<td>2&quot; to 40&quot; H2O</td>
<td>1&quot; H2O</td>
<td>30&quot; H2O Vacuum to +5 psig</td>
<td>30&quot; H2O Vacuum to +15 psig</td>
</tr>
<tr>
<td>2</td>
<td>0&quot; to 40&quot; H2O Vacuum to 0&quot; to 40&quot; H2O Pressure</td>
<td>1&quot; H2O</td>
<td>Full Vacuum to +15 psig</td>
<td>Full Vacuum to 100 psig</td>
</tr>
</tbody>
</table>

*Deadband 50% wider with "CC" (DPDT) and "Z" (Double Break) Electrical Forms.

**Ordering Sequence — Select desired option for each category**

**OPTIONS**

- **Adjustable Range**
  0 .25" H2O (1.62 mbar) dec. to 10" (24.9 mbar) H2O inc.
  1 1" H2O (2.49 mbar) dec. to 40" (99.6 mbar) H2O inc.
  2 40" H2O (99.6 mbar) inc. vac. to 40" (99.6 mbar) H2O inc. pressure

- **Electrical Form**
  - C 15 amp at 125 or 250 VAC; 1/8 hp at 125 VAC; .5 amp resistive, .04 amp inductive at 125 VDC
  - CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 VDC; .5 amp resistive at 125 VDC
  - Z 15 amp at 125 or 250 VAC; 1/4 hp at 125 VAC; 1/2 hp at 250 VAC; 1 amp resistive, .5 amp inductive at 125 VDC

- **Enclosure**
  - 3 Meets or exceeds the requirements of NEMA Type 3 3R, 3S, 4, 4X and 13

- **Miscellaneous**
  - A Epoxy paint exterior — extra protection for severe environments
  - D SIL approval and marking, per IEC61508 (includes FMEA report)
  - L Neon light indicator — 115 VAC
  - M Gold electrical contacts for extremely low current applications
  - X CE Mark

- **Port Material**
  - 4 316 Stainless Steel
  - 7 Hastelloy C

- **Diaphragm**
  - 1 Polyimide
  - 4 316 Stainless Steel
  - 6 Tantalum
  - 7 Hastelloy C

- **O-Rings**
  - 2 Kalrez
  - 3 Viton
  - 5 EPR
  - 8 Buna-N

**Special (Consult representative or factory)**

- Non-catalog adjustable range and/or set point and deadband
- Operating temperature capabilities from -65°F to 400°F

**Ordering Procedure**

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

**Example**

```
142P 82 CC3 ___ 463
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Envelope Dimensions

Electrical Form

- **FORM “C” (SPDT)**
  - RED NC
  - BRN C
  - BLU NO
  - GRN SCREW

- **FORM “CC” (DPDT)**
  - RED NC
  - BRN C
  - BLU NO
  - VIO C
  - GRN SCREW

- **FORM “Z” (DOUBLE BREAK)**
  - RED NC
  - BLK NC
  - BLK RED NC
  - NC
  - BLK NO
  - VIO NO
  - GRN SCREW

Basic Principles of Design

- Snap Action Electrical Element
- Actuator
- Reference Port
- Negative Rate Belleville Disc Spring
- Pressure Plate
- Diaphragm
- Pressure Port
- Adjustment
- O-Rings
- Terminal Strip