ProSense® MPS25 Series Mechanical Pressure Switches

The ProSense MPS25 series mechanical pressure switches are designed for the toughest applications where conventional pressure switch designs often don't measure up. These cost effective switches, depending on the pressure range, have either an all welded 316 stainless steel sealed diaphragm actuator design or a direct acting 316 stainless steel piston design with a Buna-N O-ring. The rugged 316 stainless steel enclosure provides uncompromising protection and long life in difficult environments. The robust design is resistant to vibration and shock, and provides reliable operation over a wide operating temperature range. Pressure ranges from vacuum to 7500 psig are available along with a ¼ inch NPT male threaded process connection and a precision snap-acting SPDT, 3 Amp, mechanically operated switch output. Choose from either an integral 6-foot (1.5m) cable with ½ inch NPT male conduit connection or a DIN 175301-803C L-connector.

Applications
- Process control & automation
- Pump & compressors
- Hydraulic systems
- Pneumatic systems
- Engine monitoring
- Pressures
- Machine tools

Features
- Compact size
- 316 stainless steel enclosure
- All stainless welded diaphragm or stainless piston and Buna-N O-ring
- Pressure ranges from -15 psig vacuum to 7500 psig
- Tamper resistant field adjustment
- *Integral 6-foot cable with 1/2 inch NPT male conduit connection or DIN form C electrical connections
- 1/4 inch NPT male process connection
- Wide operating temperature range
- Precision snap-acting SPDT, 3 Amp mechanically operated switch
- UL*, CSA, CE and RoHS compliant
- 3-year warranty

Part Number | Description | Actuator Type | Electrical Connection | Pcs/Pkg | Wt(lb) | Price
--- | --- | --- | --- | --- | --- | ---
MPS25-1C-DV15A | Pressure switch, -15 psig vacuum to 15 psig setpoint range, 1/4” NPT male port, 3A SPDT switch output | 316 stainless steel welded diaphragm | 1/2” NPT male conduit connection, integral 6-foot (1.5 meter) 4 conductor cable with 18AWG leads | 1 | 0.9 | $92.00
MPS25-1C-D30A | Pressure switch, 6 to 30 psig setpoint range, 1/4” NPT male port, 3A SPDT switch output | 316 stainless steel piston with Buna-N O-ring | 1/2” NPT male conduit connection, integral 6-foot (1.5 meter) 4 conductor cable with 18AWG leads | 1 | 0.9 | $92.00
MPS25-1C-D60A | Pressure switch, 8 to 60 psig setpoint range, 1/4” NPT male port, 3A SPDT switch output | 316 stainless steel welded diaphragm | 1/2” NPT male conduit connection, integral 6-foot (1.5 meter) 4 conductor cable with 18AWG leads | 1 | 0.9 | $92.00
MPS25-1C-D100A | Pressure switch, 10 to 100 psig setpoint range, 1/4” NPT male port, 3A SPDT switch output | 316 stainless steel welded diaphragm | 1/2” NPT male conduit connection, integral 6-foot (1.5 meter) 4 conductor cable with 18AWG leads | 1 | 0.9 | $92.00
MPS25-1C-P200A | Pressure switch, 40 to 200 psig setpoint range, 1/4” NPT male port, 3A SPDT switch output | 316 stainless steel welded diaphragm | 1/2” NPT male conduit connection, integral 6-foot (1.5 meter) 4 conductor cable with 18AWG leads | 1 | 0.9 | $92.00
MPS25-1C-P500A | Pressure switch, 50 to 500 psig setpoint range, 1/4” NPT male port, 3A SPDT switch output | 316 stainless steel welded diaphragm | 1/2” NPT male conduit connection, integral 6-foot (1.5 meter) 4 conductor cable with 18AWG leads | 1 | 0.9 | $92.00
MPS25-1C-P1000A | Pressure switch, 100 to 1000 psig setpoint range, 1/4” NPT male port, 3A SPDT switch output | 316 stainless steel welded diaphragm | 1/2” NPT male conduit connection, integral 6-foot (1.5 meter) 4 conductor cable with 18AWG leads | 1 | 0.9 | $92.00
MPS25-1C-P2000A | Pressure switch, 200 to 2000 psig setpoint range, 1/4” NPT male port, 3A SPDT switch output | 316 stainless steel welded diaphragm | 1/2” NPT male conduit connection, integral 6-foot (1.5 meter) 4 conductor cable with 18AWG leads | 1 | 0.9 | $92.00
MPS25-1C-P5000A | Pressure switch, 500 to 5000 psig setpoint range, 1/4” NPT male port, 3A SPDT switch output | 316 stainless steel welded diaphragm | 1/2” NPT male conduit connection, integral 6-foot (1.5 meter) 4 conductor cable with 18AWG leads | 1 | 0.9 | $92.00
MPS25-1C-P7500A | Pressure switch, 750 to 7500 psig setpoint range, 1/4” NPT male port, 3A SPDT switch output | 316 stainless steel welded diaphragm | 1/2” NPT male conduit connection, integral 6-foot (1.5 meter) 4 conductor cable with 18AWG leads | 1 | 0.9 | $92.00

For the latest prices, please check AutomationDirect.com.
ProSense MPS25 Series General Specifications

- **Setpoint**: Field adjustable (factory default 50% of full scale)
- **Setpoint Repeatability**: ±2% of range above 100 psig and ±5% for 100 psig and below (Additional setpoint shift of ±2% of range per 40°F from initial setpoint set at 70°F typical)
- **Vibration**: Passed ML-STD-202G
- **Shock**: 75G's 10 milliseconds 3-axis
- **Piston Actuator**: Stainless steel with Buna-N O-ring, 200 to 7500 psig
- **Mechanical Life Piston Design**: > 1,000,000 operations typical
- **Diaphragm Actuator**: 316L SS, up to 100 psig
- **Mechanical Life Diaphragm Design**: > 400,000 operations typical
- **Enclosure Material**: 316L SS
- **Enclosure Rating**: NEMA 6, IP 67
- **Pressure Connection**: 1/4” NPT Male
- **Electrical Output**: SPDT 3A @ 125 VAC / 2A @ 30VDC resistive
- **Electrical Termination**: 1/2” NPT Male conduit connection or Micro DIN 175301-803C with mating connector
- **Agency Approvals**: UL (#E320431) cable version only, CSA, CE, RoHS

### MPS25 Series Mechanical Pressure Switch Performance Characteristics

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Setpoint Adjustability</th>
<th>Setpoint Repeatability</th>
<th>Deadband*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>psig</td>
<td>bar, kg/cm²</td>
<td>kPa</td>
</tr>
<tr>
<td>MPS25-1C-DV15x</td>
<td>-15/15</td>
<td>-1/-1</td>
<td>±0.75</td>
</tr>
<tr>
<td>MPS25-1C-D30x</td>
<td>6-30</td>
<td>0.4-2</td>
<td>±0.25</td>
</tr>
<tr>
<td>MPS25-1C-D60x</td>
<td>8-60</td>
<td>0.5-4</td>
<td>±0.5</td>
</tr>
<tr>
<td>MPS25-1C-D100x</td>
<td>10-100</td>
<td>0.7-7</td>
<td>±1</td>
</tr>
<tr>
<td>MPS25-1C-P200x</td>
<td>40-200</td>
<td>2.8-14</td>
<td>±4</td>
</tr>
<tr>
<td>MPS25-1C-P500x</td>
<td>50-500</td>
<td>3.9-35</td>
<td>±6.5</td>
</tr>
<tr>
<td>MPS25-1C-P1000x</td>
<td>100-1000</td>
<td>7-70</td>
<td>±10</td>
</tr>
<tr>
<td>MPS25-1C-P2000x</td>
<td>200-2000</td>
<td>14-140</td>
<td>±40</td>
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<td>MPS25-1C-P5000x</td>
<td>500-5000</td>
<td>35-350</td>
<td>±100</td>
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<tr>
<td>MPS25-1C-P7500x</td>
<td>750-7500</td>
<td>50-500</td>
<td>±150</td>
</tr>
</tbody>
</table>

*Due to the mechanical design of the MPS25 switch, the actual deadband will vary from one switch to another but will be within the specified deadband range. Generally, the expected deadband for a setpoint at the lower end of the range will trend towards the lower end for the deadband range. The deadband for a setpoint at the upper end of the range will trend towards the upper end for the deadband range.

### Material & Temperature

- **Ranges**: Up to 100#, 200#, 500# to 7500#
- **Wetted Material**: SS, Buna-N
- **Temperature Range**: -40-100°C (-40-212°F)

### Proof Pressure

- **Ranges (listed in psig)**: 1000, 2000, 15000
- **Pressure**: 70, 140, 1000
- **Ranges (listed in kPa)**: 7000, 14000, 70000
- **Pressure**: 700, 1400, 7000

### Burst Pressure

- **Ranges (listed in psig)**: 1000, 2000, 5000, 10000
- **Pressure**: >9500, >20000, >5000, >10000
- **Ranges (listed in kPa)**: >6550, >21000, >3500, >14000

### Electrical Connections

1. **Wire Color / Function**
   - Red: Normally Closed
   - White: Common
   - Blue: Normally Open
   - Green: Ground

1/2” NPT male conduit connector with 6-foot (1.5m) integral cable
MPS25 Series Mechanical Pressure Switches

Actuator Design

The MPS25 series actuator responds to changes in pressure and operates the internal micro switch in response to these changes. The actuator is normally exposed to the process media and must be chemically compatible with it. The MPS25 series is available with a welded stainless steel diaphragm (no O-ring) in pressure ranges up to 100 psig. A stainless steel piston with Buna-N O-ring is available for pressure ranges from 200 to 7500 psig.

Diaphragm Actuator Type
Up to 100 psig

Piston Actuator Type
200 to 7500 psig

Dimensions

inches [mm]

See our website www.AutomationDirect.com for complete Engineering drawings.

MPS25 Cable Units

MPS25 DIN Connector Units

See our website www.AutomationDirect.com for complete Engineering drawings.
Field Adjustable Setpoint

The MPS25 series switches have a field adjustable setpoint. To adjust the setpoint, follow the instructions in the diagram. The pressure switch operates as follows:

The Normally Open contact will close when the pressure is raised from 0 psig to the setpoint. The reset point is then measured from the setpoint, reducing the pressure until the Normally Open contact opens.