

# 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 1/4 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 1/2 inch NPT male conduit connection or a DIN 175301-803C L-connector.

## Applications

- Process control & automation
- Pump & compressors
- Hydraulic systems
- Pneumatic systems
- Engine monitoring
- Presses
- 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



#E320431

\* UL only applies to the MPS25 series units with integral cable



MPS25 Series Mechanical Pressure Switches						
Part Number	Description	Actuator Type	Electrical Connection	Pcs/Pkg	Wt(lb)	Price
<b>MPS25-1C-DV15A</b>	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	\$91.00
<b>MPS25-1C-D30A</b>	Pressure switch, 6 to 30 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.9	\$91.00
<b>MPS25-1C-D60A</b>	Pressure switch, 8 to 60 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.9	\$91.00
<b>MPS25-1C-D100A</b>	Pressure switch, 10 to 100 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.9	\$91.00
<b>MPS25-1C-P200A</b>	Pressure switch, 40 to 200 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.9	\$91.00
<b>MPS25-1C-P500A</b>	Pressure switch, 50 to 500 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.9	\$91.00
<b>MPS25-1C-P1000A</b>	Pressure switch, 100 to 1000 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.9	\$91.00
<b>MPS25-1C-P2000A</b>	Pressure switch, 200 to 2000 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.9	\$91.00
<b>MPS25-1C-P5000A</b>	Pressure switch, 500 to 5000 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.9	\$91.00
<b>MPS25-1C-P7500A</b>	Pressure switch, 750 to 7500 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.9	\$91.00
<b>MPS25-1C-DV15D</b>	Pressure switch, -15 psig vacuum to 15 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output	316 stainless steel welded diaphragm	DIN 175301-803C L-Connector (8mm)	1	0.5	\$84.25
<b>MPS25-1C-D30D</b>	Pressure switch, 6 to 30 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$84.25
<b>MPS25-1C-D60D</b>	Pressure switch, 8 to 60 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$84.25
<b>MPS25-1C-D100D</b>	Pressure switch, 10 to 100 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$84.25
<b>MPS25-1C-P200D</b>	Pressure switch, 40 to 200 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$84.25
<b>MPS25-1C-P500D</b>	Pressure switch, 50 to 500 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$84.25
<b>MPS25-1C-P1000D</b>	Pressure switch, 100 to 1000 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$84.25
<b>MPS25-1C-P2000D</b>	Pressure switch, 200 to 2000 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$84.25
<b>MPS25-1C-P5000D</b>	Pressure switch, 500 to 5000 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$84.25
<b>MPS25-1C-P7500D</b>	Pressure switch, 750 to 7500 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$84.25

# proSense® MPS25 Series Mechanical Pressure Switches

ProSense MPS25 Series General Specifications	
<b>Setpoint</b>	Field adjustable (factory default 50% of full scale)
<b>Setpoint Repeatability</b>	±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)
<b>Vibration</b>	Passed ML-STD-202G
<b>Shock</b>	75G's 10 milliseconds 3-axis
<b>Piston Actuator</b>	Stainless steel with Buna-N O-ring, 200 to 7500 psig
<b>Mechanical Life Piston Design</b>	> 1,000,000 operations typical
<b>Diaphragm Actuator</b>	316L SS, up to 100 psig
<b>Mechanical Life Diaphragm Design</b>	> 400,000 operations typical
<b>Enclosure Material</b>	316L SS
<b>Enclosure Rating</b>	NEMA 6, IP 67
<b>Pressure Connection</b>	1/4" NPT Male
<b>Electrical Output</b>	SPDT 3A @ 125 VAC / 2A @ 30VDC resistive
<b>Electrical Termination</b>	1/2" NPT Male conduit connection or Micro DIN 175301-803C with mating connector
<b>Agency Approvals</b>	UL (#E320431) cable version only, CSA, CE, RoHS

MPS25 Series Mechanical Pressure Switch Performance Characteristics									
Part Number	Setpoint Adjustability			Setpoint Repeatability			Deadband*		
	psig	bar, kg/cm2	kPa	psig	bar, kg/cm2	kPa	psig	bar, kg/cm2	kPa
MPS25-1C-DV15x	-15/15	-1/1	-100/100	±1.5	±0.1	±10	1-5	0.07-0.35	7-35
MPS25-1C-D30x	6-30	0.4-2	4-200	±1.5	±0.1	±10	1-5	0.07-0.35	7-35
MPS25-1C-D60x	8-60	0.6-4	60-400	±3	±0.2	±20	2-10	0.14-0.70	14-70
MPS25-1C-D100x	10-100	0.7-7	70-700	±5	±0.35	±35	3-15	0.2-1.0	20-100
MPS25-1C-P200x	40-200	2.8-14	280-1400	±4	±0.28	±28	3-30	0.2-2.0	20-200
MPS25-1C-P500x	50-500	3.5-35	350-3500	±10	±0.70	±70	20-100	1.4-7.0	140-700
MPS25-1C-P1000x	100-1000	7-70	700-7000	±20	±1.40	±140	25-150	1.7-10	170-1000
MPS25-1C-P2000x	200-2000	14-140	1400-14000	±40	±2.8	±280	30-300	2-20	200-2000
MPS25-1C-P5000x	500-5000	35-350	3500-35000	±100	±7.0	±700	75-750	5-50	500-5000
MPS25-1C-P7500x	750-7500	50-500	5000-50000	±150	±10.0	±1000	110-1100	7.5-75	750-7500

\* Linear over setpoint (For example, a 30 psig switch has a range of 6-30 psig, so the deadband at 6 psig setpoint is 1psig and at a 30 psig setpoint it is 5 psig., additionally the MPS25-1C-DV15x psig switch has a range of -15 to +15 psig for this switch the deadband at -15 psig setpoint is 1 psig and at +15 psig setpoint it is 5 psig.)

Material & Temperature		
Ranges	Wetted Material	Temperature Range
Up to 100#	SS	-40-100°C (-40-212°F)
200#	SS, BUNA	-28-100°C (-18.4-212°F)
500# to 7500#	SS, BUNA	-40-100°C (-40-212°F)

Proof Pressure			
Ranges (listed in psig)	psig	bar, kg/cm2	kPa
Up to 100#	1000	70	7000
200#	2000	140	14000
500 to 2000#	8000	500	55000
5000 to 75000#	15000	1000	100000

Burst Pressure			
Ranges (listed in psig)	psig	bar, kg/cm2	kPa
Up to 100#	>9500	>655	>65500
200#	>10000	>700	>70000
500 to 2000#	>30000	>2100	>210000
5000 to 7500#	>50000	>3500	>350000

## Electrical Connections

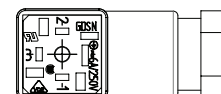


1/2" NPT male conduit connector with 6-foot (1.5m) integral cable

Wire Color / Function	
Wire Color	Function
Red	Normally Closed
White	Common
Blue	Normally Open
Green	Ground



DIN 175301-803C L-Connector

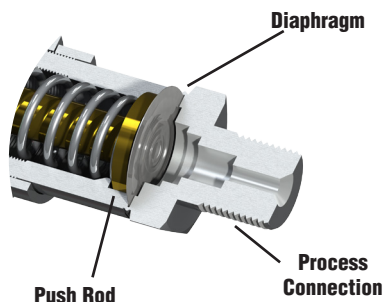


- 1 – COMMON
- 2 – NORMALLY CLOSED
- 3 – NORMALLY OPEN
- 4 – GROUND

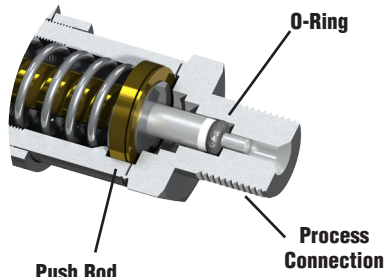
# proense® MPS25 Series Mechanical Pressure Switches

## 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.



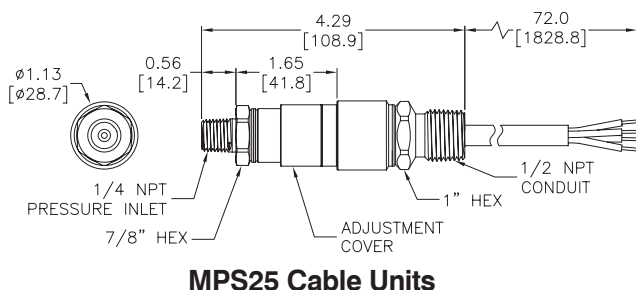
**Diaphragm Actuator Type**  
Up to 100 psig



**Piston Actuator Type**  
200 to 7500 psig

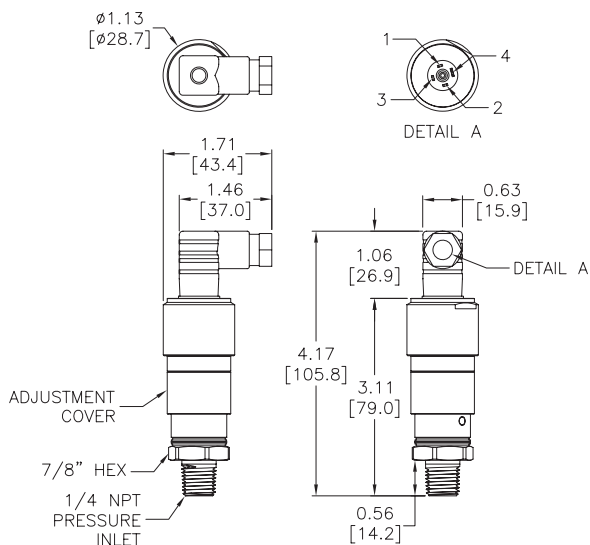
## Dimensions

inches [mm]



**MPS25 Cable Units**

See our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.



**MPS25 DIN Connector Units**

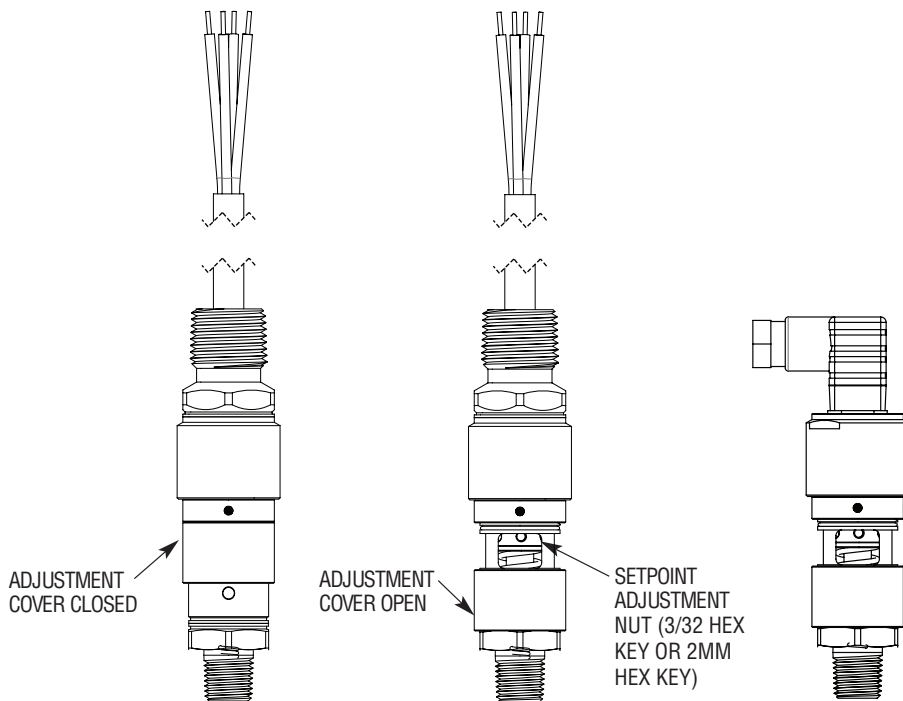
DIN Connector Specifications	
<b>Number of contacts</b>	3 + PE
<b>Cable glands</b>	PG 7
<b>Conductor size max.</b>	0.75 mm <sup>2</sup> / 18AWG
<b>Type of termination</b>	Screw
<b>Suitable cables</b>	4.5 mm to 6mm
<b>Standard DIN</b>	EN 175 301-803-C

# pro<sup>sense</sup>® MPS25 Series Mechanical Pressure Switches

## 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:

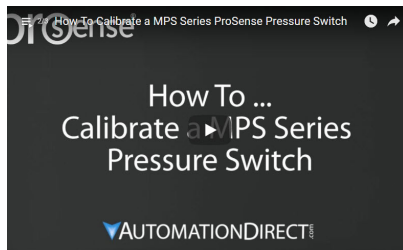
The Normally Open contact will close when the pressure is raised from 0 psig to the setpoint. The reset point is then measured from the setpoint, reducing the pressure until the Normally Open contact opens.



SLIDE COVER DOWN TO ACCESS SETPOINT ADJUSTMENT SLIDE COVER UP TO CLOSE AND SEAL ADJUSTMENT

ROTATE LEFT ← TO INCREASE SETPOINT  
 ROTATE RIGHT → TO DECREASE SETPOINT  
 Ø 0.095" OR SMALLER TOOL REQUIRED TO ROTATE NUT

Click on the thumbnail or go to <https://www.automationdirect.com/VID-PR-0005> for a short video on How to Calibrate a MPS Series ProSense Pressure Switch



**Note:** As with any instrument, it is recommended that regular inspections of operation and set points are performed.