Orsense 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
- Presses
- Machine tools









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

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



MPS25 Series Mechanical Pressure Switches						
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			1	0.9	\$129.00
MPS25-1C-D30A	Pressure switch, 6 to 30 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output	316 stainless steel welded		1	0.9	\$129.00
MPS25-1C-D60A	Pressure switch, 8 to 60 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output	diaphragm	1/2" NPT male conduit	1	0.9	\$129.00
MPS25-1C-D100A	Pressure switch, 10 to 100 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output		connection,	1	0.9	\$129.00
MPS25-1C-P200A	Pressure switch, 40 to 200 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output		integral 6-foot (1.5	1	0.9	\$130.00
MPS25-1C-P500A	Pressure switch, 50 to 500 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output	steel piston with Buna-N O-ring	meter) 4 conductor	1	0.9	\$129.00
MPS25-1C-P1000A	Pressure switch, 100 to 1000 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output		cable with	1	0.9	\$129.00
MPS25-1C-P2000A	Pressure switch, 200 to 2000 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output		18AWG leads	1	0.9	\$129.00
MPS25-1C-P5000A	Pressure switch, 500 to 5000 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.9	\$129.00
MPS25-1C-P7500A	Pressure switch, 750 to 7500 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.9	\$129.00
MPS25-1C-DV15D	Pressure switch, -15 psig vacuum to 15 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output	316 stainless steel welded	- DIN 175301- 803C L-Connector (8mm)	1	0.5	\$121.00
MPS25-1C-D30D	Pressure switch, 6 to 30 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$121.00
MPS25-1C-D60D	Pressure switch, 8 to 60 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output	diaphragm		1	0.5	\$121.00
MPS25-1C-D100D	Pressure switch, 10 to 100 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output	316 stainless		1	0.5	\$121.00
MPS25-1C-P200D	Pressure switch, 40 to 200 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$121.00
MPS25-1C-P500D	Pressure switch, 50 to 500 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$121.00
MPS25-1C-P1000D	Pressure switch, 100 to 1000 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$121.00
MPS25-1C-P2000D	Pressure switch, 200 to 2000 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$121.00
MPS25-1C-P5000D	Pressure switch, 500 to 5000 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$121.00
MPS25-1C-P7500D	Pressure switch, 750 to 7500 psig setpoint range, 1/4" NPT male port, 3A SPDT switch output			1	0.5	\$121.00

Switches Mechanical Pressure

ProSense MPS25 Series General Specifications				
Setpoint	ield adjustable (factory default 50% of full scale)			
Setpoint Repeatability	$\pm 2\%$ of range above 100 psig and $\pm 5\%$ for 100 psig and below (Additional setpoint shift of $\pm 2\%$ 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 S	eries M	echanica	Pressi	ıre Swi	tch Perfo	rmanc	e Chara	cteristic	S
				Setpoint Repeatability		Deadband*			
Part Number	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

^{*} 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	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



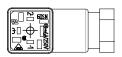
(1.5m) integral cable

	Function			
1ª Marine	Wire Color	Function		
	Red	Normally Closed		
	White	Common		
	Blue	Normally Open		
	Green	Ground		
1/2" NPT male conduit connector with 6-foot				

Wire Color



DIN 175301-803C L-Connector

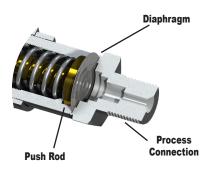


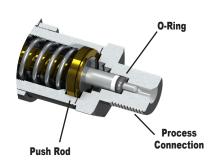
- 1 COMMON
- 2 NORMALLY CLOSED
- 3 NORMALLY OPEN
- 4 GROUND

Orsense 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.



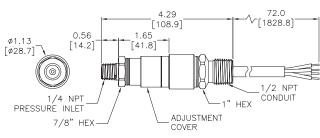


Diaphragm Actuator Type Up to 100 psig

Piston Actuator Type 200 to 7500 psig

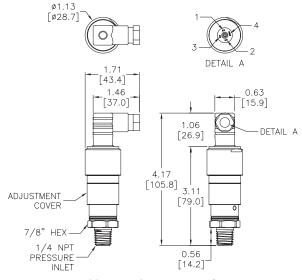
Dimensions

inches [mm]



MPS25 Cable Units

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



MPS25 DIN Connector Units

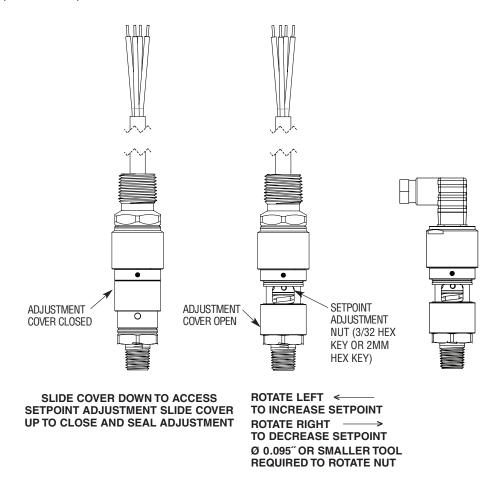
DIN Connector Specifications				
Number of contacts	3 + PE			
Cable glands	PG 7			
Conductor size max.	0.75 mm² / 18AWG			
Type of termination	Screw			
Suitable cables	4.5 mm to 6mm			
Standard DIN	EN 175 301-803-C			

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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.



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.