



Presco[®]-Switch Pressure Control Switch Product Catalogue



Application -

The Presco-Switch is a dual-seal pressure-responsive device that opens or closes one or more integral electrical switches at predetermined setpoints in order to:

- Start or stop motors for pump jacks and electric submersible pump systems
- Stop gas engines
- Control valve operations
- High-pressure & low-pressure alarms or callouts

Switch Features -

- Versatile switching arrangements with convenient microswitch adjustments make field adjustment easy
- Explosion-proof aluminum switch housing design is available in both single and dual microswitch options
- Dual-Seal design certified to meet ANSI/ISA-12.27.01-2003 requirements for process sealing between the electrical system and combustible process fluids with weep holes for pressure seal failure indication
- Component wetted parts meeting the requirements of NACE MR0175 are available on select models

Accessories -

Isolation Valves:

- Standard 2" NPT (MxF), 4000WOG with 1/2" NPT instrument ports
- 3-piece construction with Low temp A350-LF2 body and internals meeting NACE
- Custom units to fit specific piping requirements including flanged ends, 316SS body, 6000WOG, etc.



Cables:

- 3C #14AWG 600V service cable
- SOOW Weather, water and oil resistant
- Poured seal for Class 1 Div.1 areas
- Available in 40ft and 60ft lengths from stock



Gauges and Valves:

- 4" dial industrial gauges with stainless steel wetted parts, liquid filled and dual scales
- High quality needle valves, hard or soft seat, stainless steel with PTFE stem packing



General Specifications -

Electrical Rating	5A – 125/250/480 VAC; 0.5A – 125VDC; 0.25A – 250VDC; SPDT
Electrical Classification	CSA c/us Approved per C22.2/UL1203/UL508; Class 1, Group D Hazardous Locations; Dual Seal Compliant per ANSI/ISA-12.27.01 requirements
Electrical Temperature Rating	-50°C...82°C (-58°F...180°F)
Electrical Housing	Cast Aluminum; 90mm (3-1/2") OD with 21.3mm (1/2") NPT(f) connection
Repeatability	1% to 2% of adjustable range
Service	Standard corrosion resistant trim and H ₂ S NACE MR0175 on Select Models
Pressure Connection	60.3mm (2") NPT(m); Zinc Electroplated High Strength Carbon Steel
Pressure Ratings (MWP)	Type D (1.25" piston): 1,379kPag @ -50°C...82°C; (200psig @ -58°F...180°F) Type D (0.63" piston): 20,684kPag @ -50°C...82°C; (3,000psig @ -58°F...180°F) Type S (all sizes): 34,474kPag @ -50°C...82°C; (5,000psig @ -58°F...180°F)
Canadian Registration Number	OF20302.213
ABSA Quality Program	AQP-5164

Dimensions -

Base	Microswitch Housing Style	Overall Height	Weight
D	Auto Reset (Style F, FF, FV, V, VV)	225 mm (8.8")	3.4 kg (7.6 lbs)
	Manual Reset (Style M)	272 mm (10.7")	3.5 kg (7.8 lbs)
S	Auto Reset (Style F, FF, FV, V, VV)	236 mm (9.3")	3.9 kg (8.6 lbs)
	Manual Reset (Style M)	283 mm (11.2")	4.0 kg (8.8 lbs)

Pressure Sensing Base Features -

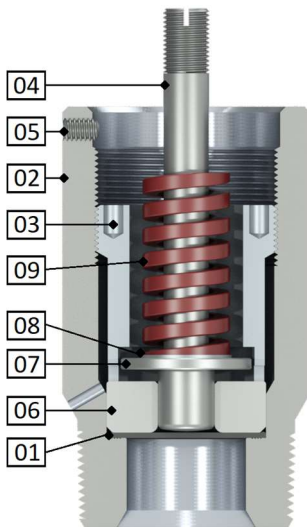
- Pressure sensing bases use either a diaphragm or plunger w/ energized seal to register pressure
- Interchangeable springs enable each base unit to be used for a variety of pressure ranges
- Accurate operation and repeatability are provided by smooth plunger movement and precision manufacturing
- Long life is ensured by a guided plunger, resulting in a useful life that exceeds other types of pressure switch mechanisms
- High proof pressure is provided by a positive plunger stop allowing the Presco-Switch will withstand overpressure and surges without recalibration
- Rugged design enables the Presco-Switch to withstand severe operating conditions including shock, vibration and corrosion
- Standard 2" male NPT pressure sensing connection provides a solid mount that will not plug off or freeze readily

Pressure Sensing Base Housing Models -

Base	Design	Operating Conditions	Maximum Working Pressure
D	NBR Diaphragm pressure sensor with backup plunger	Standard oilfield and mildly sour / corrosive gas, crude oil and water service	20,684kPag (3,000psig) *
S	Lapped plunger pressure sensor with energized PTFE / Elgiloy® seal	Sour / corrosive gas, crude oil, water and other liquids for higher pressure service	34,474kPag (5,000psig)

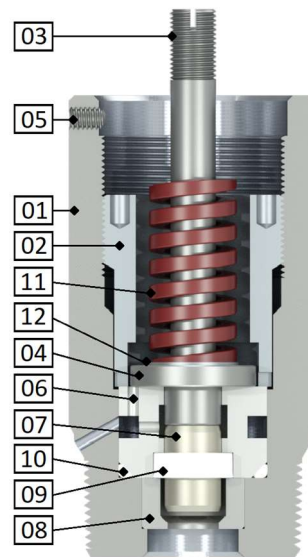
* Models with 1-1/4" piston limited to 1379kPag (200psig). See range chart on back page.

D Base -



Item No.	Description
01	Diaphragm, 65 Duro NBR
02	Type D Base (NACE)
03	Piston Guide Sleeve
04	Piston, 0.625" or 1.25" dia.
05	Set Screw
06	Piston Guide, 0.625" or 1.25" dia.
07	Spring Base Plate
08	Spring Spacers (as required)
09	Spring (refer to range chart on back)

S Base -



Item No.	Description
01	Type S Base (NACE)
02	Piston Guide Sleeve
03	Piston Extension
04	Spring Base Plate
05	Set Screw
06	Plunger Guide, 3/8", 5/8" or 7/8" dia.
07	Plunger, 3/8", 5/8" or 7/8" dia.
08	Plunger Retainer, 3/8", 5/8" or 7/8" dia.
09	Plunger Seal, PTFE / Elgiloy®
10	O-Ring, PTFE
11	Spring (refer to range chart on back)
12	Spring Spacers (as required)

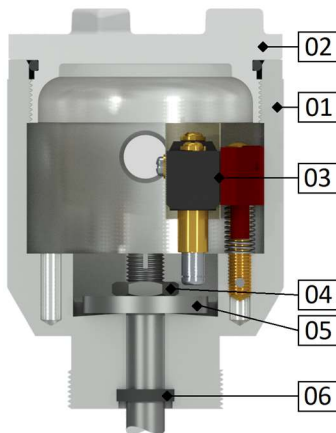
Microswitch Housing Features -

- Cast aluminum housing providing weather resistance and durability
- Ample room for single and dual switch arrangements allowing for multiple set points and applications with a single Presco-Switch
- Interchangeable microswitches for easy field replacement
- Precision machined parts providing reliable set point repeatability

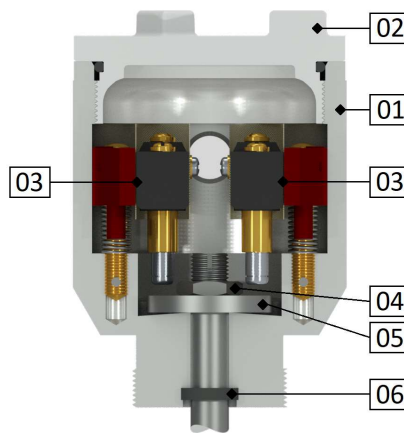
Microswitch Housing Arrangement Types -

Housing	Switch Function	Description
F	Auto reset with a fixed dead band	One adjustable microswitch for applications that require a single switching point. Differential is approximately 4%.
FF	Dual auto reset with a fixed dead band	Two independently adjustable microswitches for applications that require two different switching points or dual circuits. Differential is approximately 4%.
FV	Auto reset with a fixed & variable dead band	Two independently adjustable microswitches provide separate circuits; one with a fixed differential and one with a variable differential.

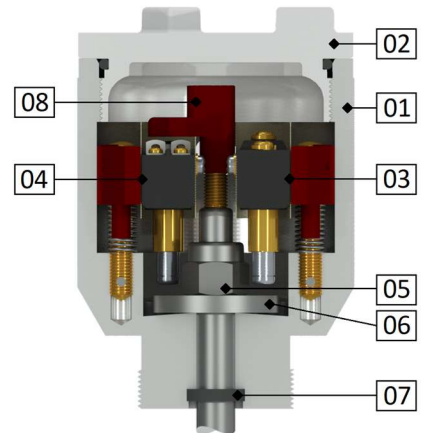
F Switch Housing -



FF Switch Housing -



FV Switch Housing -



Item No.	Description
01	Switch Housing
02	Standard Cover
03	Fixed Microswitch Assy.
04	Locknut
05	Trip Plate
06	U-Cup Seal
*	Nameplate, Ground Screw, Drain Screw, Roll Pin

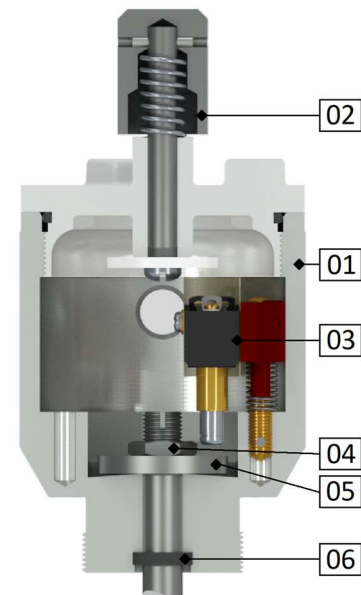
Item No.	Description
01	Switch Housing
02	Standard Cover
03	Fixed Microswitch Assy.
04	Locknut
05	Trip Plate
06	U-Cup Seal
*	Nameplate, Ground Screw, Drain Screw, Roll Pin

Item No.	Description
01	Switch Housing
02	Standard Cover
03	Fixed Microswitch Assy.
04	Variable Microswitch Assy.
05	Extension Nut
06	Trip Plate
07	U-Cup Seal
08	Reset Tripper Assembly
*	Nameplate, Ground Screw, Drain Screw, Roll Pin

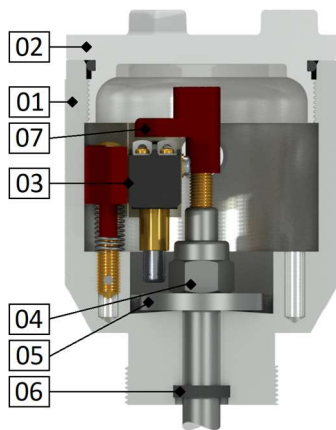
* Not Shown

Housing	Switch Function	Description
V	Auto reset with a variable dead band	One adjustable microswitch with an adjustable dead band for applications that require a high/low switch. Minimum differential is approximately 8% - 12%.
VV	Dual auto reset with a variable dead band	Two independently adjustable microswitches provide separate circuits with an adjustable dead band for applications that require dual high/low switches. Minimum differential is approximately 8% - 12%.
M	Manual reset	One adjustable microswitch trips on increasing pressure. After the pressure decreases, and the manual reset knob is pushed, the microswitch will reset.

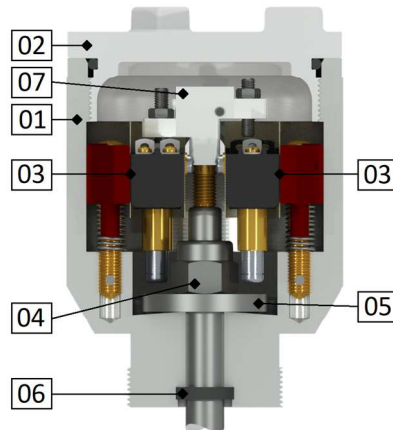
M Switch Housing -



V Switch Housing -



VV Switch Housing -



Item No.	Description
01	Switch Housing
02	Standard Cover
03	Variable Microswitch Assy.
04	Extension Nut
05	Trip Plate
06	U-Cup Seal
07	Reset Tripper Assembly
*	Nameplate, Ground Screw, Drain Screw, Roll Pin

Item No.	Description
01	Switch Housing
02	Standard Cover
03	Variable Microswitch Assy.
04	Extension Nut
05	Trip Plate
06	U-Cup Seal
07	Dual Tripper Assembly
*	Nameplate, Ground Screw, Drain Screw, Roll Pin

Item No.	Description
01	Switch Housing
02	Manual Reset Cover
03	Manual Microswitch Assy.
04	Locknut
05	Trip Plate
06	U-Cup Seal
*	Nameplate, Ground Screw, Drain Screw, Roll Pin

* Not Shown

Presco-Switch Model Number Selection -

Base Arrangement:

- D** – Diaphragm pressure sensor for mildly sour and corrosive gas, crude oil and water service
- S** – Lapped plunger pressure sensor for sour and corrosive gas, crude oil and water service

Microswitch Housing Arrangement:

- F** – Single Fixed Differential Switch, approximately +/- 4% differential
- FF** – Dual Fixed Differential Switch, with independent circuits, approximately +/- 4% differential
- FV** – One Fixed Differential Switch, One Variable Differential Switch
- V** – Single Variable Differential Switch, for high / low setting differential
- VV** – Dual Variable Differential Switch, with independent circuits for high / low setting differential
- M** – Manually reset after trip, single switch

Spring Range Number:

Select spring range from the chart below.

SFF – 100*

Table 1 – Presco-Switch Spring Range Chart -

Range No.	Type D Base			Type S Base		
	Piston dia.	Switch Pressure Range		Plunger dia.	Switch Pressure Range	
		kPa	psi		kPa	psi
7	1.25"	69 – 483	10 – 70	-	-	-
15	1.25"	103 – 621	15 – 90	-	-	-
20	1.25"	138 – 1,379	20 – 200	-	-	-
30	-	-	-	0.87"	276 – 2,068	40 – 300
40	0.63"	276 – 2,758	40 – 400	0.87"	345 – 2,758	50 – 400
50	-	-	-	0.87"	414 – 3,447	60 – 500
60	0.63"	414 – 4,137	60 – 600	0.87"	483 – 4,137	70 – 600
70	-	-	-	0.87"	621 – 4,826	90 – 700
80	-	-	-	0.63"	689 – 5,516	100 – 800
100	0.63"	689 – 6,895	100 – 1,000	0.63"	862 – 6,895	125 – 1,000
125	0.63"	1,034 – 8,618	150 – 1,250	0.63"	1,103 – 8,618	160 – 1,250
150	0.63"	2,068 – 10,342	300 – 1,500	0.63"	1,379 – 10,342	200 – 1,500
200	0.63"	2,758 – 13,789	400 – 2,000	0.38"	1,896 – 13,790	275 – 2,000
250	0.63"	3,447 – 17,237	500 – 2,500	0.38"	2,413 – 17,237	350 – 2,500
300	0.63"	4,137 – 20,684	600 – 3,000	0.38"	2,930 – 20,684	425 – 3,000

Component wetted parts meeting the requirements of NACE MR0175 are available on select models.

* Additional letters may be used to designate different trim or material options. Assigned by Pembina Controls.

Head Office and Distribution Center:

9511 – 28th Avenue NW | Edmonton, Alberta | T6N 0A3
 Phone: 780.432.6821 | Fax: 780.432.6867 | Email: sales@pem-controls.com
 Toll Free (USA & Canada): 1.877.736.2462 | International: +01 780.432.6821

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