

# 2WPS Series

## PRESSURE SWITCH - BELLOWS ACTUATED



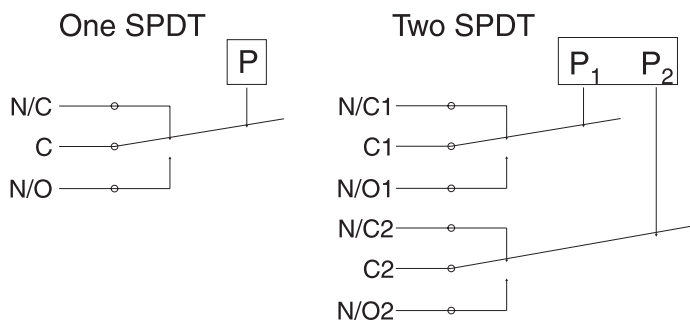
- Ranges from 10 to 3000 PSI
- Rugged NEMA 4X, 12 & 13 Housing
- One or Two SPDT Contacts
- All Metal Sensing Element
- Field Adjustable Set Points

### Description

The Winters' Series 2WPS Pressure Switch (Bellows Sensing) features a rugged, compact, sensitive switching mechanism actuated by a bellows assembly. This mechanism can be supplied with one S.P.D.T. electric switch or two S.P.D.T. electric switches that are independently adjusted. The 2WPS (Bellows Sensing) can be supplied as a basic unit with no housing, or enclosed in a rugged die cast NEMA 4X, 12 and 13 housing. With the cover of the enclosure removed, the terminals of the electric switch/s, and the pressure adjustments are exposed for easy wiring and adjustment of the pressure setting. The die cast cover is equipped with captive stainless steel screws that retain the cover gasket when the cover is removed. The bellows pressure sensing elements are constructed from stainless steel and are sized for a wide variety of pressure ranges. Other useful options can easily be specified with this model.

Common applications include: Tank and compressor level and precision control, hydraulic systems, pump controls and hazardous area lift station controls.

### Wiring Schematic



### INSTALLATION NOTES

**Orientation** - The 2WPS Bellows will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber. Can also be assembled to a diaphragm seal when corrosive media are present.

**Wiring** - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es). Single switch units have screw terminals while dual switch versions use a screw terminal block.

**Pressure Connection** - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

**Adjustment** - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Adjustment setting is available at no charge.

Specifications - 2WPS (Bellows Actuated)	
<b>Housing:</b>	Diecast Aluminum
<b>Pressure Connection:</b>	1/4" NPT
<b>Electrical Connection:</b>	1/2" NPT
<b>Port Material:</b>	Brass
<b>Bellows Material:</b>	Stainless Steel
<b>Deadband:</b>	Fixed
<b>Sensitivity:</b>	1/2% of range (for SPDT)
<b>Drift:</b>	<1% of range (100,000 operations)
<b>Contact Ratings:</b>	15A - 125, 250, 480 VAC
<b>Set Point Adjustment:</b>	Screw type, field adjustable
<b>No. Contacts:</b>	One or Two S.P.D.T.
<b>Contact Listings:</b>	UL Recognized, CSA Certified
<b>Maximum Ambient Temperature:</b>	180°F (82°C)
<b>Minimum Ambient Temperature:</b>	-40°F (-40°C)
<b>Weight:</b>	Approx. 1.8 lbs.



# 2WPS Series

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### How To Order: Specify Product Code

**2WPS W 1 B U 2**

MODEL SERIES

HOUSING \_\_\_\_\_  
 ' ' - NO HOUSING  
 W - WATERTIGHT - NEMA 4, 12 & 13  
 X - Explosion proof NEMA 7+9

NUMBER OF ELECTRIC SWITCHES \_\_\_\_\_  
 1 - ONE S.P.D.T.  
 2 - TWO S.P.D.T. - (SWITCH TYPE "5" ONLY)

SENSING ELEMENT \_\_\_\_\_  
 B - BELLOWS SENSING ELEMENT (STANDARD)

SPECIAL FEATURES \_\_\_\_\_  
 M - 1/2 NPT MALE PIPE MOUNTING  
 Q - DOUBLE SNAP ACTING BELLEVILLE SPRING - TO PROVIDE POSITIVE SETPOINT ACCURACY IN HIGH VIBRATION APPLICATIONS  
 U - ADDITIONAL PAINTING AFTER ASSEMBLY  
 V - HIGH TEMPERATURE SERVICE - INCREASED FROM 180°F TO 250°F AMBIENT

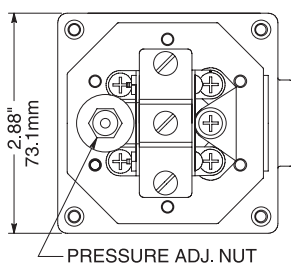
TYPE OF ELECTRIC SWITCHES  
 1 - LOW DEADBAND  
 15A - 125, 250, 480 VAC  
 2 - STANDARD DEADBAND  
 15A - 125, 250, 480 VAC; 0.5A - 125 VDC  
 3 - HIGH DC RATED (MAGNETIC BLOWOUT)  
 10A - 125 VDC; 3A - 250 VDC  
 5 - SUB MINIATURE SWITCH - 2 S.P.D.T.  
 5A - 125, 250 VAC; 0.5A - 125 VDC  
 6 - GOLD CONTACT -  
 1 A - 125 VAC

### Ranges

#### Bellows Actuated

2 W P S [ ] 1 B [ ] [ ] [ ] [ ]

Adjustable Pressure Range	Fixed Switch Dead Bands		Maximum Pressure PSI
	Low Type "1"	STD Type "2"	
0-10 psi	.40	0.80	300
0-20 psi	.45	0.90	300
0-50 psi	.50	1.0	300
0-100 psi	.75	1.5	300
0-250 psi	3.0	6.0	1500
0-500 psi	4.0	8.0	1500
0-750 psi	8.0	16.0	2500
0-1000 psi	9.5	19.0	2500
0-1500 psi	29.0	58.0	5000
0-3000 psi	33.0	66.0	5000



### DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use 1/2 TYPE 2 table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.

