

# 5WPS Series

## DIFFERENTIAL PRESSURE SWITCH - BELLOWS ACTUATED



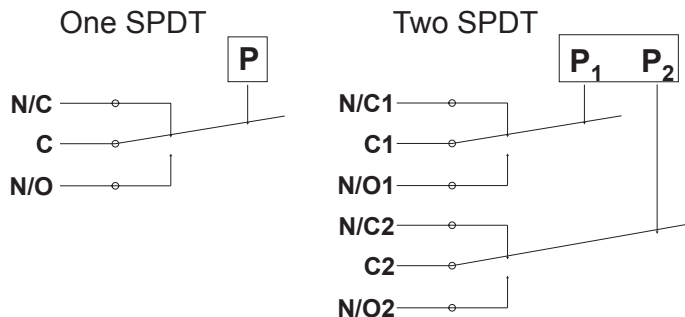
- Ranges from 0-15 PSI To 0-5000 PSI
- Rugged NEMA 4X, 12 & 13 Housing Std.
- One or Two SPDT Contacts
- Versatile Mechanism Design
- Adjustable Deadband Available

### Description

The Winters 5WPS (Bellows Actuated) Differential Pressure Switch features a rugged cast aluminum housing (NEMA 4X, 12 & 13) and cover, incorporating Winters standard accurate switching mechanism, actuated by stainless steel differential pressure bellows assemblies. Either one or two S.P.D.T. electric switch/s are available in a variety of configurations. Some of these configurations are: Tandem settings for D.P.D.T. operation. Independent adjustment for High-Low operation. Adjustable switch differential (dead band). Manual reset on either increasing or decreasing pressure. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts hermetically sealed contacts. Differential Pressure Bellows Assemblies of various areas, when applied to the 5WPS model, allow a wide variety of adjustable Differential Pressure Ranges.

The Winters 5WPS (Differential) can be utilized in applications requiring a differential activation (i.e.filtration).

### Wiring Schematic



### INSTALLATION NOTES

**Orientation** - The 5WPS Bellows Differential will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability.

**Wiring** - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

**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. Setting adjustment is available at no charge.

### Specifications - 5WPS (Bellows Actuated)

<b>Housing:</b>	Cast Aluminum
<b>Pressure Connection:</b>	1/4 NPT
<b>Electrical Connection:</b>	1/2 NPT
<b>Port Material:</b>	Stainless Steel W/ Silver Braze
<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>	1 or 2 S.P.D.T or 1 D.P.D.T.
<b>Contact Listings:</b>	UL Recognized, CSA Certified
<b>Maximum Ambient Temperature:</b>	180°F
<b>Minimum Ambient Temperature:</b>	-40°F
<b>Weight:</b>	Approx. 3 lbs



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# 5WPS Series

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### How to Order: Specify Product Code

**5WPS W 1 BD V 2**

#### SERIES

#### HOUSING'

**W** - WATERTIGHT - NEMA 4X, 12 & 13

#### NUMBER OF ELECTRIC SWITCHES

**1** - ONE S.P.D.T.  
**11** - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.  
**2** - TWO S.P.D.T. INDEPENDENT ADJUSTMENT

#### SENSING ELEMENT

**BD** - BELLOWS ACTUATED DIFFERENTIAL PRESSURE

#### SPECIAL FEATURES

-- NO SPECIAL FEATURES  
**A** - ADJUSTABLE DEADBAND  
**E** - EXTERNAL PRESSURE ADJUSTMENT  
**EE** - TWO EXTERNAL PRESSURE ADJUSTMENTS  
**L** - ONE INDICATOR LIGHT  
**LL** - TWO INDICATOR LIGHTS  
**M** - MALE PIPE MOUNTING 1/2 NPT  
**Q** - DOUBLE SNAP ACTION (BELLEVILLE SPRING)  
**R>** - MANUAL RESET, SWITCH ON INCR. PR.  
**R<** - MANUAL RESET, SWITCH ON DECR. PR.  
**V** - HIGH TEMPERATURE SERVICE

#### 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  
**4** - HERMETICALLY SEALED SWITCH  
 1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR  
 3A.LAMP-28VDC  
**6** - GOLD CONTACT -  
 1 A - 125 VAC

\* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, APPLICATION OF DIAPHRAGM SEALS, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

### Ranges

#### BELLOWS ACTUATED DIFFERENTIAL PRESSURE (DP)

PSI Range	.7#	1.3#	300
0-15 PSI	.7#	1.3#	300
0-30 PSI	.7	1.4	300
0-60 PSI	.8	1.6	300
0-100 PSI	1.0	1.9	300
0-150 PSI	4.0	7.3	1500
0-200 PSI	4.0	7.6	1500
0-300 PSI	4.0	8.2	1500
0-600 PSI	5.0	10.0	1500
0-1000 PSI	12.0	25.0	3000
0-2000 PSI	15.0	30.0	3000
0-3000 PSI	37.0	75.0	7000
0-5000 PSI	45.0	90.0	7000

#### BELLOWS ACTUATED TWO-WAY DIFFERENTIAL PRESSURE

PSI Range	2.6	300
0-15 PSI	2.6	300
0-30 PSI	6.0	300
0-60 PSI	9.7	300
0-100 PSI	18.0	1500
0-150 PSI	30.0	1500
0-200 PSI	32.0	1500
0-300 PSI	48.0	1500
0-600 PSI	92.0	3000
0-1000 PSI	146.0	3000
0-2000 PSI	400.0	7000
0-3000 PSI	425.0	7000

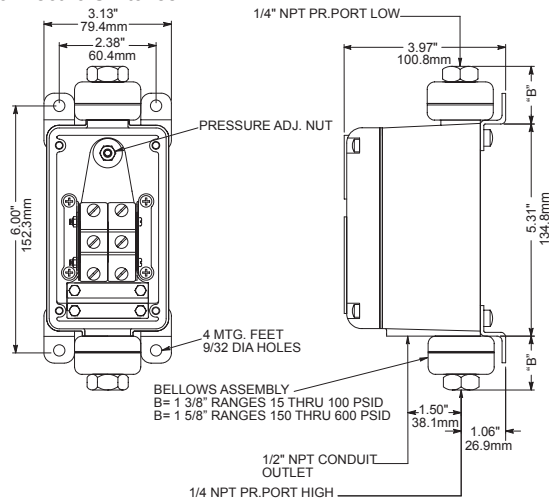
#### DEADBAND NOTES

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.



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