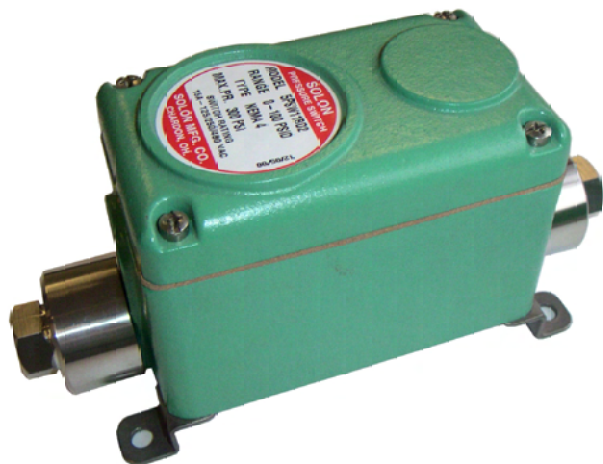
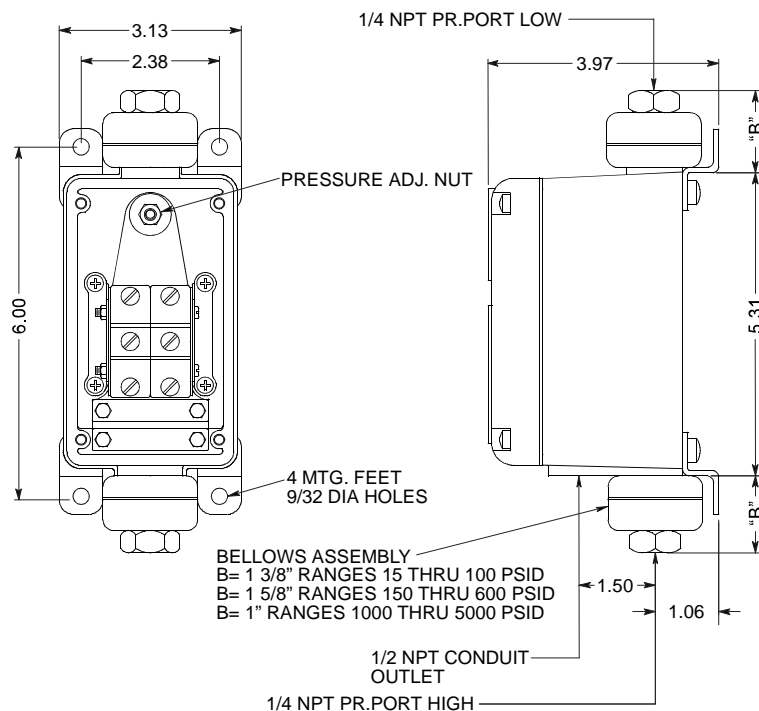




- Ranges from 0-15 PSID To 0-5000 PSID
- Rugged NEMA 4X, 12 & 13 Housing
- One or Two SPDT Contacts
- Versatile Mechanism Design
- Adjustable Deadband Available



## MODEL SERIES 5PSBD Differential Pressure Switch Bellows Sensing Element



### GENERAL DESCRIPTION

The Model Series 5PSWB Differential Pressure Switch features a rugged cast aluminum housing and cover, incorporating Solon's standard "frictionless" switching mechanism, actuated by opposed stainless steel 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 5PSWB model, allow a wide variety of adjustable Differential Pressure Ranges. See the Special Features section on page 2 for other options that are useful for particular applications.

The standard housing is NEMA 4X, 12 and 13.

### SPECIFICATIONS

#### PHYSICAL DATA (Standard)

-see page 2 for special features

**Maximum Ambient Temperature:** 180°F

**Minimum Ambient Temperature:** -40°F

**Pressure Connection:** 1/4 NPT

**Electrical Connection:** 1/2 NPT

**Housing:** Cast Aluminum

**Deadband:** Fixed

**Sensitivity:** 1/2% of range (for one SPDT switch)

**Drift:** <1% of range (100,000 operations)

**Weight:** Approx. 3 lbs.

**Contact Ratings:** 15A - 125, 250, 480 VAC

**Port Material:** Stainless Steel

**Bellows Material:** Stainless Steel

**Set Point Adjustment:** Screw type, field adjustable

**No. Contacts:** 1 or 2 S.P.D.T or 1 D.P.D.T.

**Contact Listings:** UL Recognized, CSA Certified

### Solon Manufacturing Company

425 Center Street, P.O. Box 207, Chardon, Ohio 44024

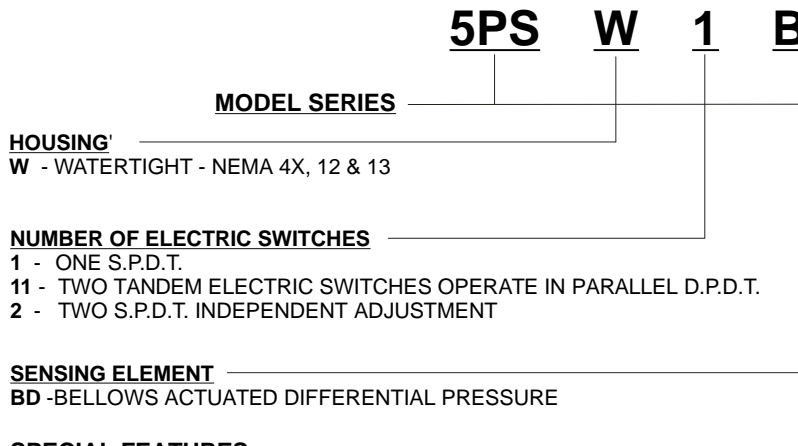
(440) 286-7149 800-323-9717 FAX (440) 286-9047

www.solonmfg.com

# ORDERING A SWITCH

# MODEL SERIES 5PSBD Differential Pressure Switch Bellows Sensing Element

## 1. SPECIFY A MODEL NUMBER



**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 (ADJ. 10% - 50% OF RANGE)  
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.  
U - ADDITIONAL PAINTING AFTER ASSEMBLY  
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 FACTORY FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

## 2. SPECIFY A RANGE

ADJUSTABLE PRESSURE RANGE	MAXIMUM DEADBAND PSI		MAX. WORKING PRESSURE
	TYPE "1"	TYPE "2"	
0-15 PSID	.7	1.3	300 PSI
0-30 PSID	.7	1.4	300 PSI
0-60 PSID	.8	1.6	300 PSI
0-100 PSID	1.0	1.9	300 PSI
0-150 PSID	4.0	7.3	1500 PSI
0-200 PSID	4.0	7.6	1500 PSI
0-300 PSID	4.0	8.2	1500 PSI
0-600 PSID	5.0	10.0	1500 PSI
0-1000 PSID	12.0	25.0	3000 PSI
0-2000 PSID	15.0	30.0	3000 PSI
0-3000 PSID	37.0	75.0	7000 PSI
0-5000 PSID	45.0	90.0	7000 PSI

## DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the Type "1" or Type "2" electric switch are used.

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

**Type "1"** - *Low Deadband* - Use table values.

**Type "2"** - *Std. Deadband* - Use table values.

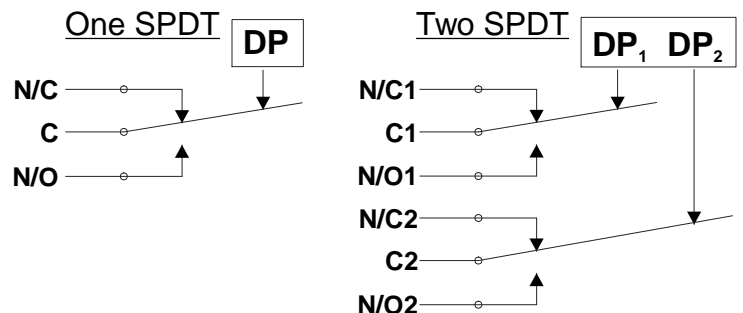
**Type "3"** - *High DC Rated* - Multiply TYPE 2 table values by two.

**Type "4"** - *Hermetically Sealed Switch* - Multiply TYPE 2 table values by six.

**Type "6"** - *Gold Contact* - Use TYPE 2 table values.

For one D.P.D.T. or two S.P.D.T. switches multiply calculated value from above by 1.5 to 2.

## Wiring Schematic



## INSTALLATION NOTES

**Orientation** - The 5PSBD 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. Factory setting is available at no charge.