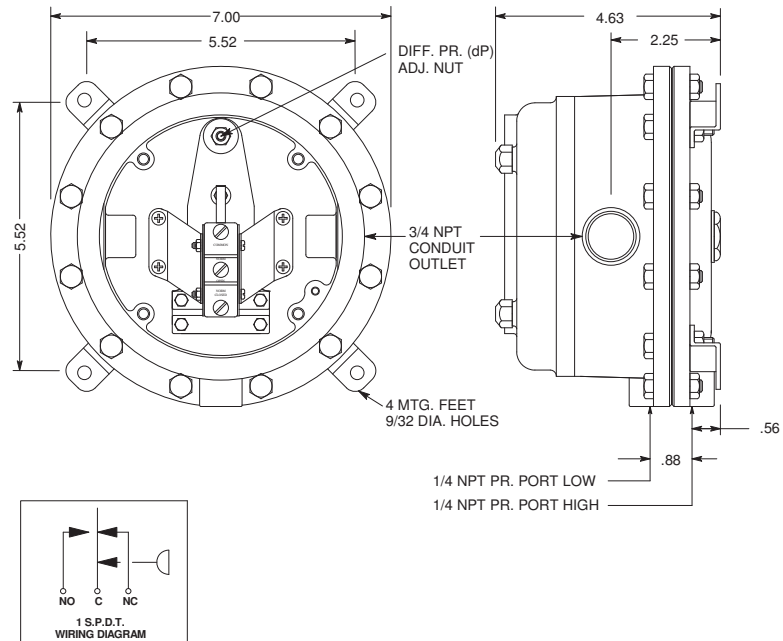




# MODEL SERIES 7PSXD Explosion-Proof Differential Pressure Switch Diaphragm Sensing Element

- Ranges 0-1.5 WC/DP to 0-200 WC/DP
- NEMA 7, 9 housing
- Class I, Div. I, Gr. C & D available
- Up to four SPDT contacts
- Various wetted materials available



## SPECIFICATIONS

**PHYSICAL DATA (Standard)**  
-see page 2 for special features

**Maximum Ambient Temperature:** 180°F  
**Minimum Ambient Temperature:** -20°F  
**Pressure Connection:** 1/4 NPT  
**Electrical Connection:** 3/4 NPT  
**Housing:** Cast Aluminum  
**Deadband:** Fixed  
**Sensitivity:** 1/2% of range (for one SPDT Switch)  
**Drift:** <1% of range (100,000 operations)  
**Weight:** Approx. 6 lbs.  
**Contact Ratings:** 15A - 125, 250, 480 VAC  
**Port Material:** Aluminum  
**Diaphragm Material:** Buna N  
**Set Point Adjustment:** Screw type, field adjustable  
**No. Contacts:** 1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T.  
**Contact Listings:** UL Recognized, CSA Certified

## GENERAL DESCRIPTION

- Designed for low differential pressure applications
- Explosion-proof cast-aluminum housing
- Frictionless switching mechanism, which amplifies the movement of the switching element, resulting in improved life, repeatability, and lower deadbands
- Accommodates up to four full-size SPDT electric switches, which are available in a variety of configurations, including: adjustable deadband, DPDT, high/low operation, & manual reset
- Switch configurations can be supplied with low deadband, high direct current ratings, gold contacts, hermetically-sealed contacts
- Standard differential pressure-sensing element constructed of aluminum alloy using a strong Buna-N elastomer diaphragm (other diaphragm and wetted materials are available)



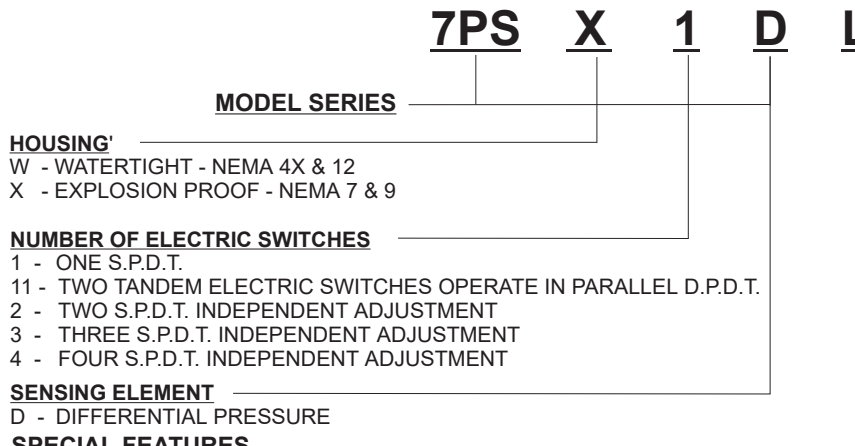
Underwriters Laboratories, Inc. Listed:  
 Industrial Controls Equipment Type 4 & 12, File E130423,  
 Pressure Operated Switch for Hazardous Locations,  
 Class I, Groups C & D; Class II, Groups E, F, & G File E65371.

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**ORDERING A SWITCH**

**Explosion-Proof Differential Pressure Switch  
Diaphragm Sensing Element**

**1. SPECIFY A MODEL NUMBER**



**HOUSING'**

- W - WATERTIGHT - NEMA 4X & 12
- X - EXPLOSION PROOF - NEMA 7 & 9

**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
- 3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
- 4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

**SENSING ELEMENT**

- D - DIFFERENTIAL PRESSURE

**SPECIAL FEATURES**

- NO SPECIAL FEATURES
- A - ADJUSTABLE DEADBAND (ADJ. 25% - 50% OF RANGE)
- E - EXTERNAL PRESSURE ADJUSTMENT
- EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
- G - DOUBLE DIAPHRAGM EXTRA SENSITIVE LOW PR
- L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
- LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
- M - MALE PIPE MOUNTING 1/2 NPT
- P - PANEL MOUNTING
- R> - MANUAL RESET, SWITCH ON INCR. PR.
- R< - MANUAL RESET, SWITCH ON DECR. PR.
- T - PTFE PROTECTED DIAPHRAGM - (MULTIPLY DEADBAND TABLE VALUE BY 1.5)
- U - ADDITIONAL PAINTING AFTER ASSEMBLY
- V - HIGH TEMPERATURE SERVICE - NOT A UL-LISTED FEATURE
- Z - VITON DIAPHRAGM

**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 11 AMP, 125, 250 VAC; 5A-30 VDC (ADDING THIS OPTION REMOVES UL LISTING DESIGNATION)
- 6 - GOLD CONTACT -  
1 A - 125 VAC

\* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; KYNAR, KALREZ, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT FACTORY FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

**2. SPECIFY A RANGE**

ADJUSTABLE PRESSURE RANGE	TYPICAL DEADBANDWC*		MAX. WORKING PRESSURE
	TYPE "1"	TYPE "2"	
0-1.5 WC/DP	.20"WC	-	25 PSI
0-3 WC/DP	.20"WC	-	25 PSI
0-6 WC/DP	.25"WC	.45"WC	25 PSI
0-15 WC/DP	.35"WC	.65"WC	25 PSI
0-30 WC/DP	.6"WC	1.2"WC	25 PSI
0-60 WC/DP	.7"WC	1.4"WC	25 PSI
0-100 WC/DP	.8"WC	1.6"WC	25 PSI
0-150 WC/DP	1.2"WC	2.5"WC	25 PSI
0-200 WC/DP	1.8"WC	3.1"WC	25 PSI

\* Deadband values based on median static pressure. At maximum static pressure, deadband may increase 25%.

**DEADBAND NOTES**

The deadbands listed in the tables are the typical switch differentials when the Type "1" or Type "2" electric switch is 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 TYPE 1 table values.

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

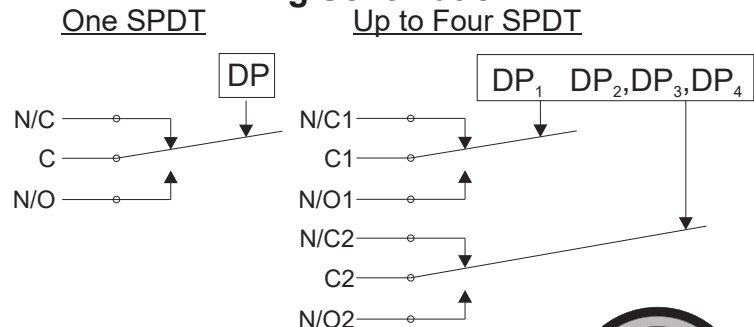
**Type "3"** - High DC Rated - Multiply TYPE 2 table values by two.

**Type "4"** - Hermetically Sealed Switch - Use TYPE 2 table value UL-recognized component, guide WSQ2, File E85076. All stainless steel construction.

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

For D.P.D.T., 2' 3 or 4 S.P.D.T. switches multiply calculated value from above by 1.5 to 2.

**Wiring Schematic**



**INSTALLATION NOTES**

**Orientation** - The 7PS will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

**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.

