

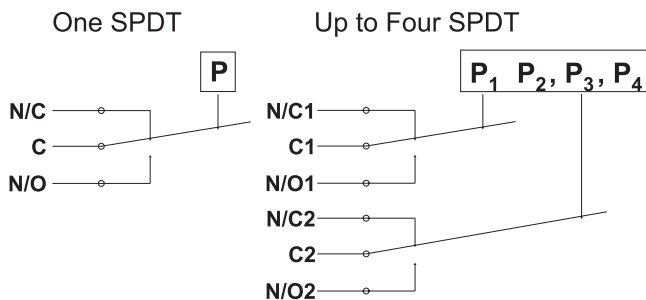
# 7WPSDO Series

## DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED



- Ranges 0-6 WC/DP TO 0-200 WC/DP
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- Up to Four SPDT Contacts
- Various Wetted Materials Available

### Wiring Schematic



### INSTALLATION NOTES

**Orientation** - The 7WPSDO 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. Setting adjustment is available at no charge.

### Description

The Winters 7WPSDO Differential Pressure Switch is designed to sense low differential pressures between high pressure sources. The high pressure seals are opposed stainless steel bellows assemblies, while the differential pressure is sensed by a diaphragm clamped between these bellows assemblies. The diaphragm has a large area to accurately sense Low Differential Pressure, and during an over-pressure the diaphragm is fully supported. The design is symmetric such that both the HIGH or LOW pressure sides of the element can withstand the maximum pressure with the opposite side at atmospheric pressure. The rugged cast aluminum housing incorporates Winters standard accurate switching mechanism, and can be specified watertight or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. The standard differential pressure-sensing element is constructed of a strong aluminum alloy using a Buna N elastomer diaphragm. Other diaphragm and wetted area materials are available. See the Special Features section on the opposite side for other materials and other options that are useful for particular applications.

### Specifications - 7WPSDO (Diaphragm Actuated)

<b>Housing:</b>	Cast Aluminum
<b>Pressure Connection:</b>	1/4 NPT
<b>Electrical Connection:</b>	3/4 NPT
<b>Port Material:</b>	Aluminum
<b>Diaphragm Material:</b>	Buna N
<b>Deadband:</b>	Fixed
<b>Sensitivity:</b>	1/2% of range (for one SPDT Switch)
<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, 2, 3 or 4 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 (82°C)
<b>Minimum Ambient Temperature:</b>	-20°F (-20°C)
<b>Weight:</b>	Approx. 6 lbs.



# 7WPSDO Series

## DIFFERENTIAL PRESSURE SWITCH DIAPHRAGM ACTUATED

### How to Order: Specify Product Code

**7WPS W 1 DO E 2**

#### SERIES

#### 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

#### SPECIAL FEATURES

-- NO SPECIAL FEATURES  
**A** - ADJUSTABLE DEADBAND  
**E** - EXTERNAL PRESSURE ADJUSTMENT  
**EE** - TWO EXTERNAL PRESSURE ADJUSTMENTS  
**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.  
**SS** - SPECIAL TRIM BASE 316 STAINLESS STEEL  
**T** - TEFLON PROTECTED DIAPHRAGM  
**U** - ADDITIONAL PAINTING AFTER ASSEMBLY  
**V** - HIGH TEMPERATURE SERVICE  
**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 SWITCH  
 1.A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR  
 3A.LAMP-28VDC  
**6** - GOLD CONTACT -  
 1 A - 125 VAC

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

#### DEADBAND NOTES

The deadbands listed in the tables are the maximum 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 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.

### Ranges

#### LOW DIFF. PR. (DP) HIGH MAX. (7WPSDO)

Adjustable Pressure Range	Maximum DEADBAND		Maximum Working Pressure
	Type "2"	Type "5"	
0-6 WC / DP	1.1"	2.2"	1500
0-15 WC / DP	1.2	2.3	1500
0-30 WC / DP	1.2	2.3	1500
0-60 WC / DP	1.3	2.5	1500
0-100 WC / DP	1.5	2.9	1500
0-150 WC / DP	1.7	3.4	1500
0-200 WC / DP	1.9	3.8	1500

