

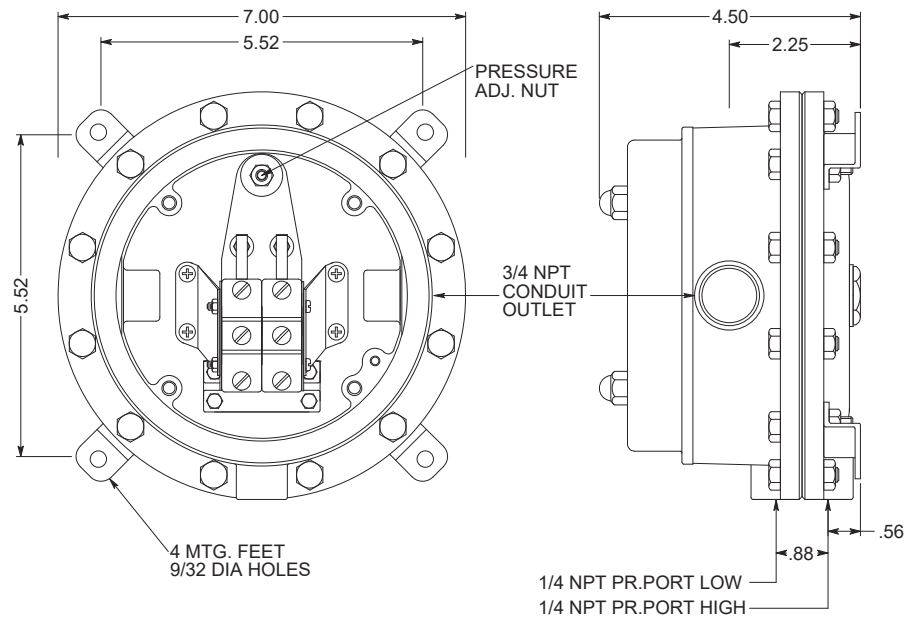


MODEL SERIES 7PSD

Differential Pressure Switch

Diaphragm Sensing Element

- Ranges 0-1.5 WC/DP to 0-200 WC/DP
- NEMA 4X & 12 housing
- Class I, Div. I, Gr. C & D available
- Up to four SPDT contacts
- Various wetted materials available



GENERAL DESCRIPTION

- Designed for low differential pressure applications
- Cast-aluminum housing available in explosion-proof or weather-tight options
- 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)

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



LISTED

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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Differential Pressure Switch Diaphragm Sensing Element

ORDERING A SWITCH

1. SPECIFY A MODEL NUMBER

7PS W 1 D L 2

MODEL 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

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 TEMPERA TURE 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
 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 CAPABILITES AND PRICING FOR ANY FEATURES NOT SHOWN.

2. SPECIFY A RANGE

ADJUSTABLE PRESSURE RANGE	TYPICAL DEADBAND WC		MAX. WORKING PRESSURE
	TYPE "1"	TYPE "2"	
0-1.5 WC/DP	.17"WC	-	25 PSI
0-3 WC/DP	.18"WC	-	25 PSI
0-6 WC/DP	.23"WC	.45"WC	25 PSI
0-15 WC/DP	.33"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

*MAXIMUM DEADBANDS MAY BE 50% GREATER.

INSTALLATION NOTES

Orientation - The 7PSD 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.

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

