

## Diaphragm Differential Switch

## Series DPD1T, DPD2T

### Features

- ▶ High reliability
- ▶ Dual switching capability
- ▶ High accuracy
- ▶ Tamper-proof external adjustment
- ▶ NEMA 4

### Applications

- ▶ Pump & compressor monitoring
- ▶ HVAC systems
- ▶ Engine monitoring
- ▶ Machine tools
- ▶ Hydraulic power units
- ▶ Filtration systems
- ▶ Metal working
- ▶ Utility & power generation



### General Specifications\*

<b>Electrical Characteristics:</b>	All models incorporate Underwriters Laboratories, Inc. and CSA Listed single pole double throw snap-action switching elements.
<b>Accuracy:</b>	± 0.5% of the adjustable range
<b>Switch Type:</b>	SPDT snap action; single or dual circuit
<b>Rating:</b>	10 amps @ 125/250 VAC; 3 amps @ 480 VAC (Class A or H limit switch). Consult product configurator for ratings of optional limit switches.
<b>Wetted Parts:</b>	
Diaphragm:	17-7 PH stainless steel
Seals:	Viton®
Enclosure:	Die-cast aluminum anodized
Other Parts:	Nickel plated aluminum 300 series stainless steel
<b>Electrical Connection:</b>	Screw terminals on covered terminal strip through 1/2" NPT conduit fitting
<b>Enclosure Ratings:</b>	NEMA 4
<b>Pressure Connection:</b>	1/8" NPT female high + low

<b>Approvals/Listings:</b>	
PED (European):	Compliant to PED 97/23/EC
<b>Temperature Range:</b>	
Operating:	-65°F to +165°F (-54°C to +74°C)
<b>Adjustment Instructions:</b>	
Pressure:	Turn adjustment screw clockwise to decrease pressure difference; counterclockwise to increase pressure difference
Vacuum Differential:	Turn adjustment screw counterclockwise to decrease vacuum difference; clockwise to increase vacuum difference
<b>Options:</b>	-Factory pre-set -NEMA 4X enclosure
<b>Shipping Weight:</b>	Single & dual - approximate 3.50 lbs.

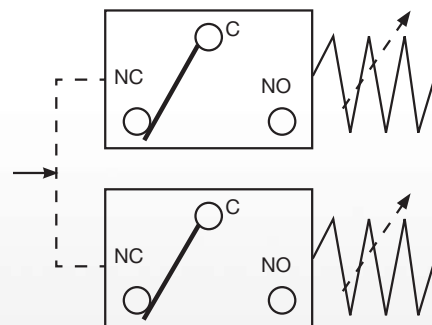
\* See product configurator for additional options.

### Wiring Code

Lead	Circuit #1		Circuit #2	
	Pressure	Vacuum	Pressure	Vacuum
Normally Closed	Blue	Red	Orange	Yellow
Common	Purple	Purple	Brown	Brown
Normally Open	Red	Blue	Yellow	Orange

### Wiring Diagram

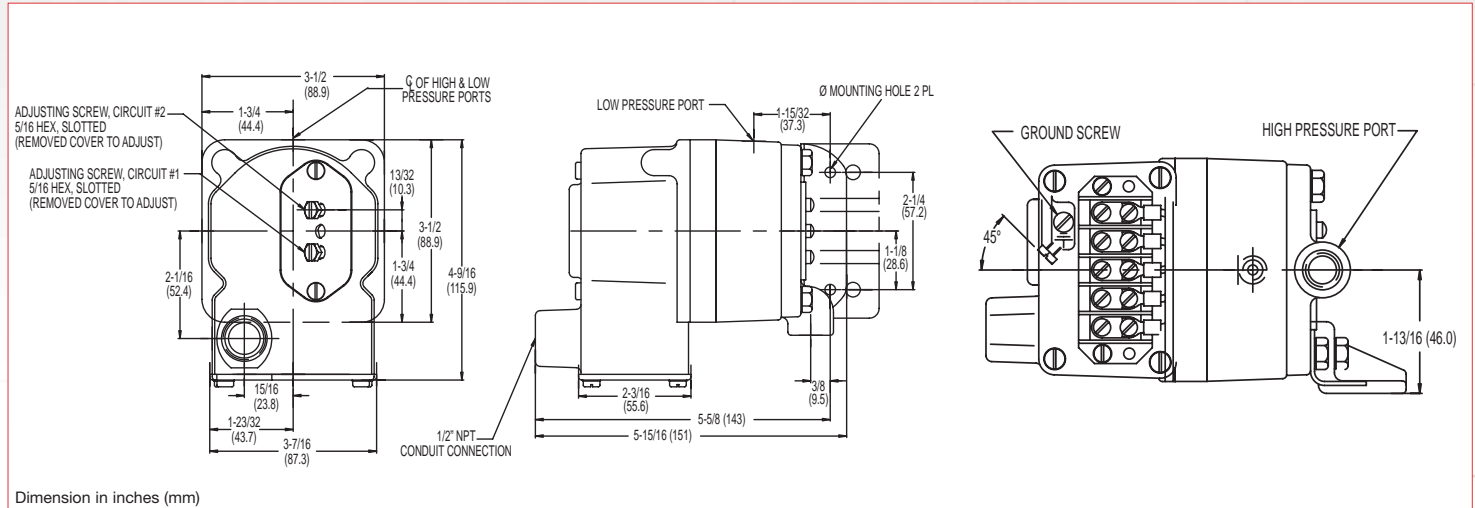
(contact status at atmospheric pressure)



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## Technical Drawing



## Product Configurator

Example      DPD1T    -A    3SS

**H** Hermetically sealed limit switch option - Class I, Division II (requires AA, CC or HH limit switch)

**Base Configuration**

DPD1T	Single setpoint housed
DPD2T	Dual setpoint housed

### Limit Switch<sup>1</sup>

-A	10 amps @ 125/250 VAC; 3 amps @ 480 VAC; (standard for pressure range 3SS, 80SS or 150SS)
-B	10 amps @ 125/250/480 VAC; 2 amps @ 600 VAC; 0.05 amps @ 125 VDC; 0.03 amps @ 250 VDC
-H	10 amps @ 125/250 VAC; 3 amps @ 480 VAC; (standard for pressure range 18SS)
-J	10 amps @ 125/250 VAC; 3 amps @ 480 VAC; (comes with an elastomer boot)
-M	10 amps @ 125/250 VAC; 3 amps @ 480 VAC; 0.5 amps @ 125 VDC; 0.25 amps @ 250 VDC
-GH	1 amp @ 125 VAC; with gold contacts
-AA	Hermetically sealed; 4 amps @ 125/250 VAC (not available on vacuum models)
-CC	Hermetically sealed; 10 amps @ 125/250 VAC (not available on vacuum models)
-GH	Hermetically sealed; 1 amp @ 125 VAC with gold contacts (not available on vacuum models)
-HH	Hermetically sealed; 5 amps @ 125/250 VAC (not available on vacuum models)

### Options

-FX	NEMA 4X enclosure
-L6	6-contact terminal block (DPD2T only)
-CS	CSA approved
-Sxxx	Factory preset (consult factory)

### Adjustable Range

Working Range	Adjustable Range (PRESSURE) <sup>3</sup>				Approx. Deadband <sup>2</sup> (Actuation Value)	Max. Diff. Pressure (Proof)	
	Decreasing - psi (bar)		Increasing - psi (bar)				
	psi (bar)	Min	Max	Min			Max
3SS	.03-10	.03 (.00)	2.76 (.2)	.27 (.02)	3 (.2)	.09 - .24 (.01 - .02)	10 (.7)
18SS	.4-60	.4 (.03)	17.68 (1.2)	.72 (.05)	18 (1.2)	.18 - .32 (.01 - .02)	60 (4.1)
80SS	.5-160	.5 (.03)	75.3 (5.2)	5.2 (.4)	80 (5.4)	2.2 - 4.7 (.1 - .3)	160 (10.9)
150SS	1.5-300	1.5 (.10)	141.3 (9.7)	10.2 (.7)	150 (10.2)	3.5 - 8.7 (.2 - .6)	300 (20.4)

Working Range	Adjustable Range (VACUUM) <sup>4</sup>				Approx. Deadband <sup>2</sup> (Actuation Value)	Max. Diff. Pressure (Proof)	
	Decreasing (In. Hg)		Increasing (In. Hg)				
	In. Hg	Min	Max	Min			Max
3SS	.06-20	0.06	5.49	0.57	6	.17 - .51	20
18SS	.8-30	0.8	29	1.8	30	.44 - 1.00	30

### NOTES:

- <sup>1</sup> Consult supplementary guide for specific deadband values
- <sup>2</sup> Deadband values indicated when used with the "standard" limit switch
- <sup>3</sup> Working range may be extended to 400 psi provided the maximum differential pressure (proof) is not exceeded
- <sup>4</sup> Working range may be extended to 30 in.Hg provided the maximum differential pressure (proof) is not exceeded