

406011760166J, 406011760305V

# Terminal Block Diaphragm Switch

**D1T, D2T Series**

## Features

- ▶ High reliability
- ▶ High accuracy
- ▶ NEMA 4
- ▶ Ideal for pressure and vacuum applications
- ▶ Single and dual switching capability
- ▶ Tamper-proof external adjustment

## Applications

- ▶ Machine tools
- ▶ Pneumatics
- ▶ Medical
- ▶ Marine & shipbuilding
- ▶ Pump & compressor monitoring
- ▶ Oil & gas
- ▶ Water equipment
- ▶ Mining
- ▶ Lubrication equipment



## General Specifications\*

|                        |  |
|------------------------|--|
| Accuracy:              | ± 0.5% of the adjustable range   |
| Switch Type:           | Single pole double throw (SPDT)<br>Snap Action; single circuit   |
| Rating:                | 10 amps @ 125/250 VAC; 3 amps @ 480 VAC (Class A or H limit switch). Consult sales drawing for ratings of optional limit switches. |
| Wetted Parts:          | 304 stainless steel, viton seals   |
| Process Fitting:       | 17-7 PH stainless steel  |
| Diaphragm:             | 17-7 PH stainless steel  |
| Enclosure:             | Anodized aluminum  |
| Electrical Connection: | Terminal block through 1/2" NPT conduit connector  |
| Enclosure Rating:      | NEMA 4   |
| Pressure Connection:   | 1/4" NPT Female  |
| Approvals:             | All models may be ordered as UL listed. File No. E42816  |

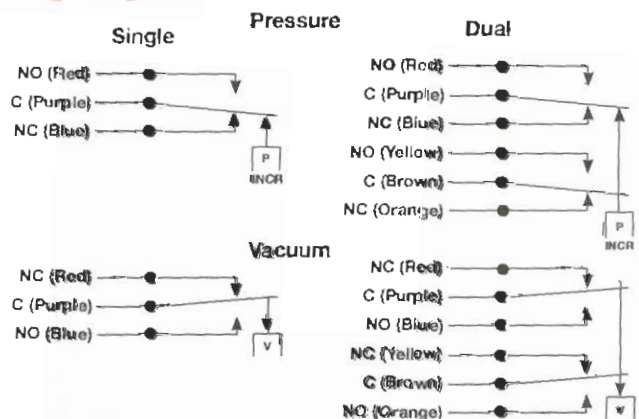
|                                       |  |
|---------------------------------------|--|
| Approvals (cont.):<br>CSA (Optional): | All models may be ordered as CSA listed under Class 3231 02, File LR22355 on request.                |
| PED (European):                       | Compliant to PED 97/23/EC  |
| Temperature Range:<br>Operating:      | -65° to +165°F (-54° to +74°C)   |
| Storage:                              | -65° to +200°F (-54° to 93°C)  |
| Adjustment Instructions:<br>Pressure: | Turn adjustment screw counterclockwise to raise actuation point.                                     |
| Vacuum:                               | Turn adjustment screw clockwise to increase setpoint (higher vacuum).                                |
| Options:                              | - NEMA 4X enclosure<br>- Cleaned for oxygen service<br>- Factory pre-set<br>- Six-pin terminal block |
| Shipping Weight:                      | 2.0 lbs. approximate   |

\* 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 |

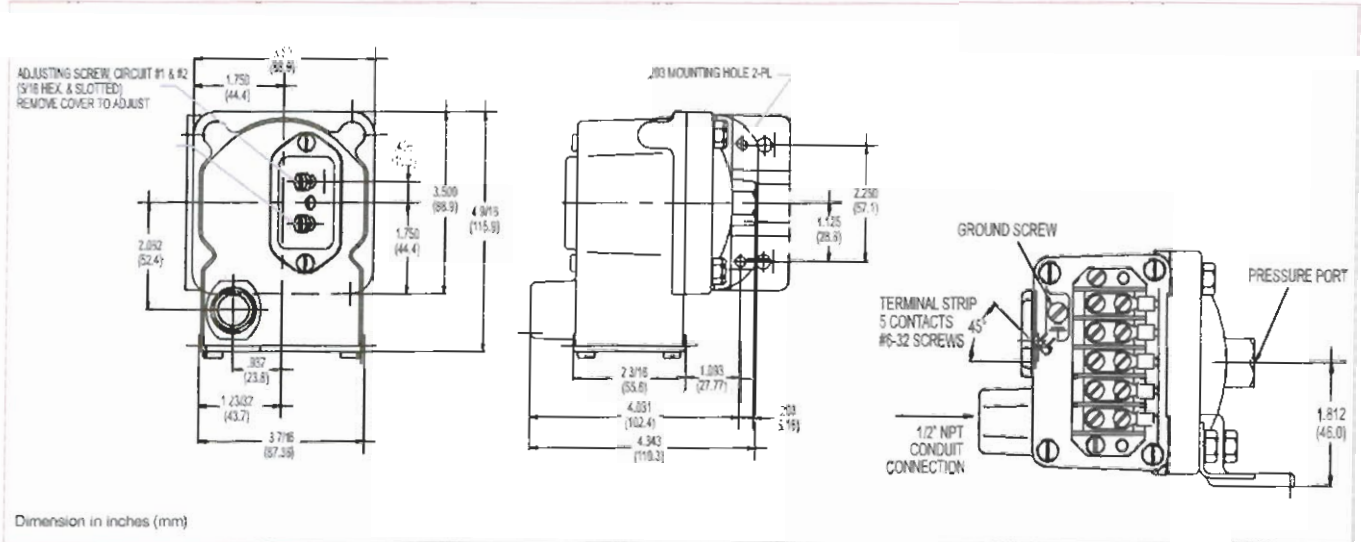
## Wiring Diagram



# Terminal Block Diaphragm Switch

## D1T, D2T Series

### Technical Drawing



### Product Configurator

|         |     |    |      |  |    |
|---------|-----|----|------|--|----|
| Example | D1T | -A | 80SS |  | UL |
|---------|-----|----|------|--|----|

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

#### Base Configuration

|            |  |
|------------|--|
| <b>D1T</b> | Single setpoint housed with terminal block |
| <b>D2T</b> | Dual setpoint housed with terminal block   |

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

|            |   |
|------------|---|
| <b>-A</b>  | 10 amps @ 125/250 VAC; 3 amps @ 480 VAC; (standard for pressure range 3SS, 80SS or 150SS)                 |
| <b>-B</b>  | 10 amps @ 125/250/480 VAC; 2 amps @ 600 VAC; 0.05 amps @ 125 VDC; 0.03 amps @ 250 VDC                     |
| <b>-C</b>  | 10 amps @ 125/250/480 VAC; 2 amps @ 600 VAC; 0.1 amps @ 125 VDC; 0.05 amps @ 250 VDC                      |
| <b>-H</b>  | 10 amps @ 125/250 VAC; 3 amps @ 480 VAC; (standard for pressure range 2SS or 18SS)                        |
| <b>-J</b>  | 10 amps @ 125/250 VAC; 3 amps @ 480 VAC; (comes with an elastomer boot, not -U or -UL approved)           |
| <b>-M</b>  | 10 amps @ 125/250 VAC; 3 amps @ 480 VAC; 3.5 amps @ 125 VDC; 0.25 amps @ 250 VDC (not -U or -UL approved) |
| <b>-GH</b> | 1 amp @ 125 VAC; 1 amp @ 24 VDC with gold contacts (not -UL approved)                                     |
| <b>-AA</b> | Hermetically sealed; 4 amps @ 125/250 VAC (not available on 2SS or vacuum models)                         |
| <b>-CC</b> | Hermetically sealed; 10 amps @ 125/250 VAC (not available on 2SS or vacuum models)                        |
| <b>-GH</b> | Hermetically sealed; 1 amp @ 125 VAC with gold contacts (not available on 2SS or vacuum models)           |
| <b>-HH</b> | Hermetically sealed; 5 amps @ 125/250 VAC (not available on 2SS or vacuum models)                         |

#### Options

|              |   |
|--------------|---|
| <b>-U</b>    | UL Approved   |
| <b>-UL</b>   | UL Approved Model*  |
| <b>-CS</b>   | C&A Approved Model  |
| <b>-Z1</b>   | Oxygen cleaned  |
| <b>-FX</b>   | NEMA 4X enclosure   |
| <b>-TC</b>   | Temperature stabilization and pre-cycle                   |
| <b>-L6</b>   | 6-Pin Terminal Block (for D2T models only, Non-UL listed) |
| <b>-Sxxx</b> | Factory pre-set (consult factory)                         |

\* For hermetically sealed

#### Adjustable Range

|                  | Adjustable Range (PRESSURE) |             |                        |            | Approx. Deadband <sup>2</sup> (Actuation Value) psi (bar) | Proof Pressure psi (bar) |
|------------------|-----------------------------|-------------|------------------------|------------|---|--------------------------|
|                  | Decreasing - psi (bar)      |             | Increasing - psi (bar) |            |   |                          |
|                  | Min                         | Max         | Min                    | Max        |   |                          |
| 2SS <sup>3</sup> | 0.018 (.0)                  | 1.65 (.1)   | 0.068 (.0)             | 1.7 (.1)   | .02 - .05 (.0 - .0)                                       | 3 (.2)                   |
| 3SS              | .03 (.00)                   | 2.85 (.2)   | .18 (.02)              | 3 (.2)     | .07 - .15 (.0 - .01)                                      | 10 (.7)                  |
| 18SS             | 1 (.03)                     | 17.74 (1.2) | .66 (.08)              | 18 (.12)   | .12 - .26 (.01 - .02)                                     | 160 (4.1)                |
| 80SS             | 5 (.03)                     | 76.6 (5.3)  | 3.9 (.3)               | 80 (5.5)   | 1.6 - 3.4 (.1 - .2)                                       | 160 (10.9)               |
| 150SS            | 1.5 (.1)                    | 144 (9.9)   | 7.5 (.5)               | 150 (10.3) | 2.3 - 6 (.2 - .4)   | 300 (20.4)               |

|      | Adjustable Range (VACUUM) |      |                     |     | Approx. Deadband <sup>2</sup> (Actuation Value) in. Hg | Proof Pressure in. Hg |
|------|---------------------------|------|---------------------|-----|--|-----------------------|
|      | Decreasing - in. Hg       |      | Increasing - in. Hg |     |  |                       |
|      | Min                       | Max  | Min                 | Max |  |                       |
| 3SS  | 10.06                     | 5.72 | 0.34                | 6   | .14 - .28  | 20                    |
| 18SS | 0.8                       | 29.2 | 1.6                 | 30  | .4 - .8  | 30                    |

#### Pressure Connection

|       |   |
|-------|---|
| Blank | Std 1/4" NPT female pressure connection |
| -F2   | 1/2" NPT female pressure connection     |

#### NOTES:

<sup>1</sup> Consult Supplemental Guide for specific deadband values

<sup>2</sup> Deadband values indicated when used with the "standard" limit switch

<sup>3</sup> Not available with hermetically sealed limit switches