

The D1S, D2S, D1H, and D2H are diaphragm models. Select a diaphragm model for applications requiring instrument accuracy of +/- 0.5% and where cycles are fewer than 25 per minute. Available as single, dual and triple setting units, pressure to 150 psi.

The D1S and D2S are stripped (no housing) models, well suited for applications with the following requirements: control box installations with adjustments up to 150 psi.

The D1H and D2H are housed models, well suited for applications with the following requirements: NEMA 4 Housing, tamper-proof external adjustment, up to 150 psi.

Features

- Stripped and housed versions available
- High accuracy
- Ideal for pressure or vacuum
- Easy setpoint adjustment
- NEMA 4 (Housed Models)
- Up to 3 setpoints available in one switch

Applications

- Pump & compressor monitoring
- Engine monitoring
- Machine tools
- Hydraulic power units
- Medical equipment
- Waste management
- Food & beverage
- Factory automation
- Metal working



General Specifications*

Accuracy:	± 0.5% of the adjustable range
Switch: Type: Rating:	Single pole double throw (SPDT) Snap Action; single or dual circuit 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: Process Fitting: Diaphragm: Enclosure:	304 stainless steel 17-7 PH stainless steel Anodized aluminum (housed models)
Electrical Connection:	Free leads approximately 18" long, #16 AWG and 1/2" NPT conduit connection for housed models
Enclosure Ratings:	Housed Models: NEMA 4 Stripped Models: NEMA 1
Pressure Connection:	1/4" NPT Female
Approvals: UL (optional):	Stripped (D1S and D2S) models may be ordered as UL Recognized components (UR) on request. Housed (D1H and D2H) models may be ordered as UL Listed on request (UL File No. E42816).

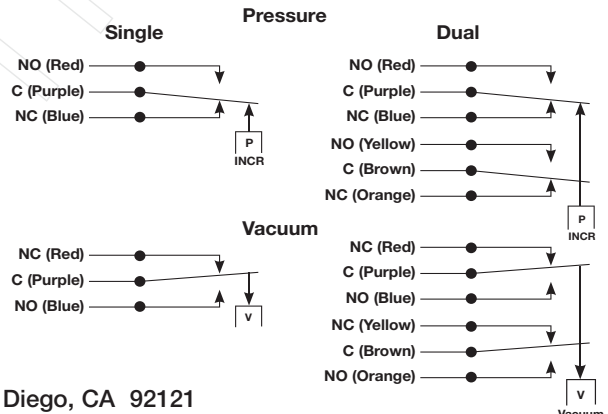
* See product configurator for additional options.

Wiring Code

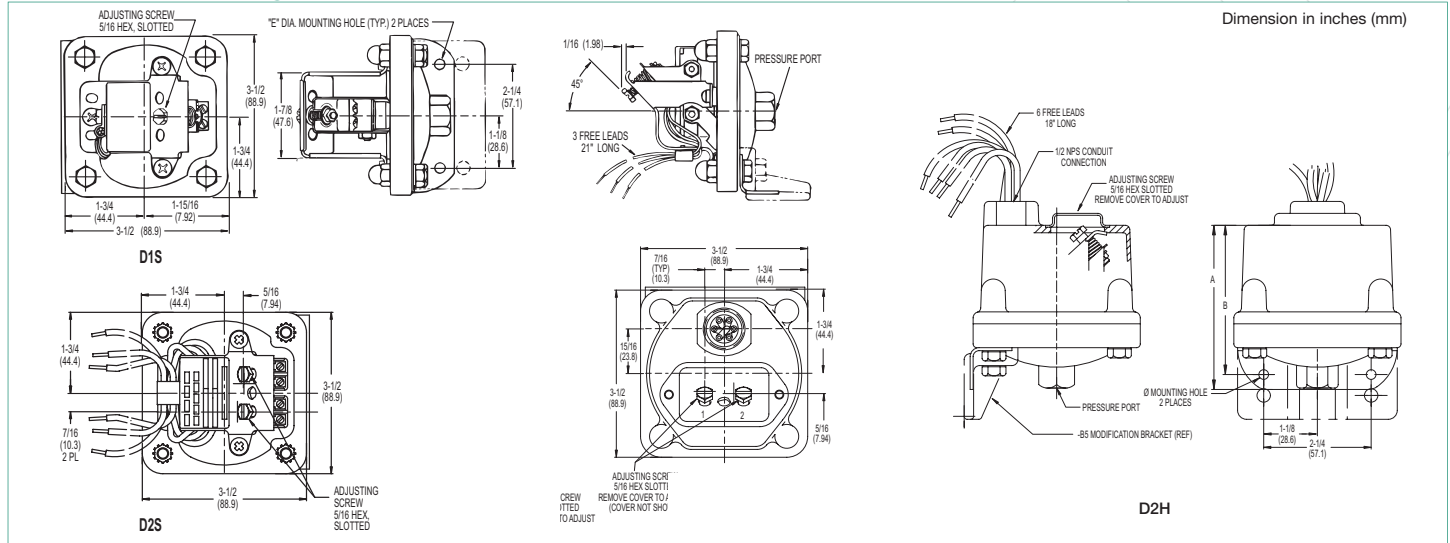
Lead	Circuit #1		Circuit #2	
	Pressure	Vacuum	Pressure	Vacuum
Normally Closed	Blue	Red	Orange	Yellow
Common	Purple	Purple	Brown	Brown
Normally Open	Red	Blue	Yellow	Orange

Approvals (cont.): 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: Operating: Storage:	-65° to +165°F (-54° to +74°C) -65° to +200°F (-54° to 93°C)
Adjustment Instructions: Pressure: Vacuum:	Turn adjustment screw counterclockwise to raise actuation point. Turn adjustment screw clockwise to increase setpoint (higher vacuum).
Options:	- NEMA 4X enclosure (housed models only) - Cleaned for oxygen service - Factory pre-set
Shipping Weight:	Stripped Versions: 1.5 lbs. approximate Housed Versions: 1.75 lbs. approximate

Wiring Diagram



Technical Drawing



Product Configurator

Example **D1H** **-A** **80SS** **-CS**

H Hermetically sealed limit switch option - Class I, Division II (requires AA, CC, GH or HH limit switch, Not available on vacuum models)

Base Configuration

D1H	Single setpoint housed version
D1S	Single setpoint stripped version
D2H	Dual setpoint housed version
D2S	Dual setpoint stripped version
D3H ⁴	Triple setpoint housed version

Limit Switch¹

-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
-C	10 amps @ 125/250/480 VAC; 2 amps @ 600 VAC; 0.1 amps @ 125 VDC; 0.05 amps @ 250 VDC
-H	10 amps @ 125/250 VAC; 3 amps @ 480 VAC; (standard for pressure range 2SS or 18SS)
-J	10 amps @ 125/250 VAC; 3 amps @ 480 VAC; (comes with an elastomer boot, not UL approved)
-M	10 amps @ 125/250 VAC; 3 amps @ 480 VAC; 0.5 amps @ 125 VDC; 0.25 amps @ 250 VDC (not UL approved)
-GH	1 Amp @ 125 VAC; 1 Amp @ 24 VDC with gold contacts (not UL approved)
-AA	Hermetically sealed; 4 amps @ 125/250 VAC (not available on 2SS or vacuum models)
-CC	Hermetically sealed; 10 amps @ 125/250 VAC (not available on 2SS or vacuum models)
-GH	Hermetically sealed; 1 Amp @ 125 VAC with gold contacts (not available on 2SS or vacuum models)
-HH	Hermetically sealed; 5 amps @ 125/250 VAC (not available on 2SS or vacuum models)

Options

-FX	NEMA 4X enclosure
-Z1	Oxygen cleaned
-U	UL Approved (Industrial Control)
-UL	UL Approved
-CS	CSA Approved Model
-Wxxx	Extra wire length (XXX = inches)
-Sxxx	Factory pre-set (consult factory)

Pressure Connection

Blank	Std 1/4" NPT female pressure connection
-P2	1/2" NPT female pressure connection

Adjustable Range

	Adjustable Range (PRESSURE)				Approx. Deadband ² (Actuation Value) psi (bar)	Proof Pressure psi (bar)
	Decreasing - psi (bar)		Increasing - psi (bar)			
	Min	Max	Min	Max		
2SS ³	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	.4 (.03)	17.74 (1.2)	.66 (.05)	18 (1.2)	.12 - .26 (.01 - .02)	60 (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 ² (Actuation Value) In. Hg	Proof Pressure In. Hg
	Decreasing - In. Hg		Increasing - In. Hg			
	Min	Max	Min	Max		
3SS	0.06	5.72	0.34	6	.14 - .28	20
18SS	0.8	29.2	1.6	30	.4 - .8	30

NOTES:

- Consult Supplemental Guide for specific deadband values
- Deadband values indicated when used with the "standard" limit switch
- Not available with hermetically sealed limit switches
- Available only with AA (not hermetically sealed) limit switch

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The D1T and D2T are diaphragm models. Select a diaphragm model for applications requiring instrument accuracy of +/- 0.5% and where cycles are fewer than 25 per minute.

The D1T (single setpoint) and D2T (dual setpoint) are well suited for applications with the following requirements: NEMA 4 housing with terminal strip, tamper-proof external adjustment, up to 150 psi.

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) 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:	
Process Fitting:	304 stainless steel, viton seals
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:	
UL (Optional):	All models may be ordered as UL listed. File No. E42816

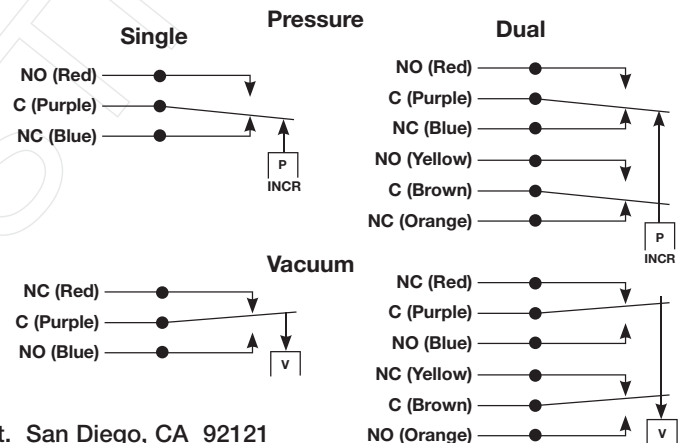
Approvals (cont.):	
CSA (Optional):	All models may be ordered as CSA listed under Class 3231 02, File LR22355 on request.
PED (European):	Compliant to PED 97/23/EC
Temperature Range:	
Operating:	-65° to +165°F (-54° to +74°C)
Storage:	-65° to +200°F (-54° to 93°C)
Adjustment Instructions:	
Pressure: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

* See product configurator for additional options.

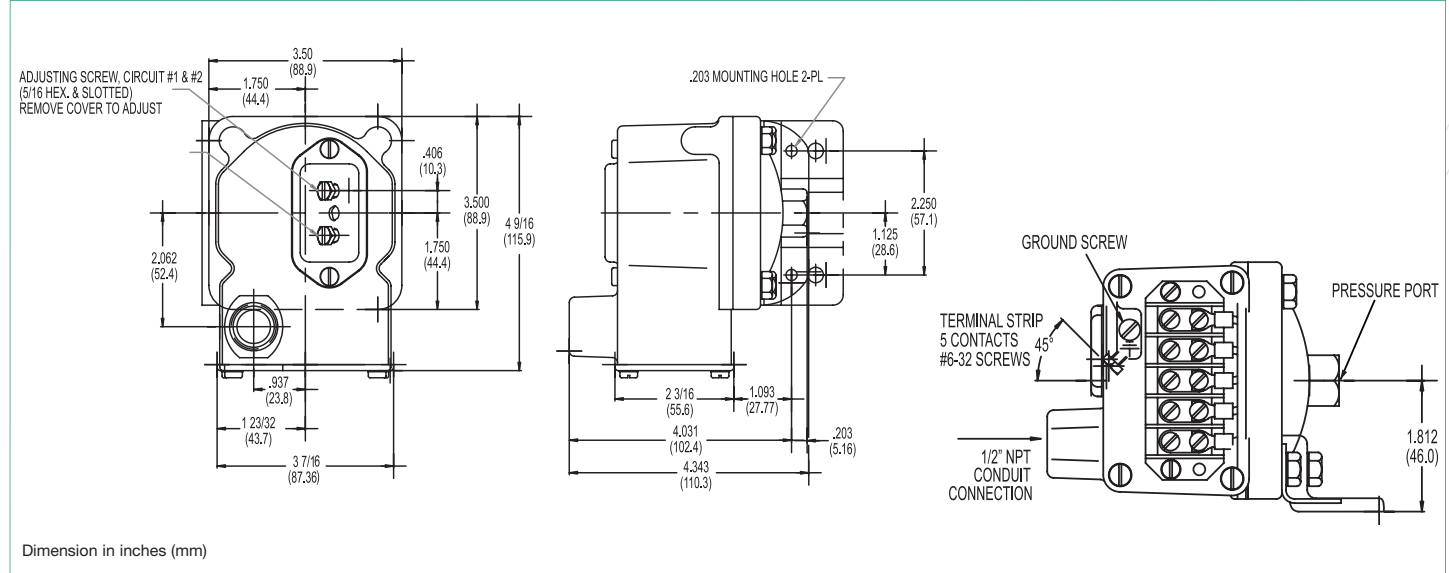
Wiring Code

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



Technical Drawing



Product Configurator

Example	D1T	-A	80SS	UL
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H Hermetically sealed limit switch option - Class I, Division II (requires AA, CC, GH or HH limit switch)

Base Configuration

D1T	Single setpoint housed with terminal block
D2T	Dual setpoint housed with terminal block

Limit Switch¹

-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
-C	10 amps @ 125/250/480 VAC; 2 amps @ 600 VAC; 0.1 amps @ 125 VDC; 0.05 amps @ 250 VDC
-H	10 amps @ 125/250 VAC; 3 amps @ 480 VAC; (standard for pressure range 2SS or 18SS)
-J	10 amps @ 125/250 VAC; 3 amps @ 480 VAC; (comes with an elastomer boot, not -U or -UL approved)
-M	10 amps @ 125/250 VAC; 3 amps @ 480 VAC; 0.5 amps @ 125 VDC; 0.25 amps @ 250 VDC (not -U or -UL approved)
-GH	1 amp @ 125 VAC; 1 amp @ 24 VDC with gold contacts (not -UL approved)
-AA	Hermetically sealed; 4 amps @ 125/250 VAC (not available on 2SS or vacuum models)
-CC	Hermetically sealed; 10 amps @ 125/250 VAC (not available on 2SS or vacuum models)
-GH	Hermetically sealed; 1 amp @ 125 VAC with gold contacts (not available on 2SS or vacuum models)
-HH	Hermetically sealed; 5 amps @ 125/250 VAC (not available on 2SS or vacuum models)

Options

-U	UL Approved
-UL	UL Approved Model*
-CS	CSA Approved Model
-Z1	Oxygen cleaned
-FX	NEMA 4X enclosure
-TC	Temperature stabilization and pre-cycle
-L6	6-Pin Terminal Block (for D2T models only. Non-UL listed)
-Sxxx	Factory pre-set (consult factory)

* For hermetically sealed

Pressure Connection

Blank	Std 1/4" NPT female pressure connection
-P2	1/2" NPT female pressure connection

Adjustable Range

	Adjustable Range (PRESSURE)				Approx. Deadband ² (Actuation Value) psi (bar)	Proof Pressure psi (bar)
	Decreasing - psi (bar)		Increasing - psi (bar)			
	Min	Max	Min	Max		
2SS ³	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	.4 (.03)	17.74 (1.2)	.66 (.05)	18 (1.2)	.12 - .26 (.01 - .02)	60 (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 ² (Actuation Value) In. Hg	Proof Pressure In. Hg
	Decreasing - In. Hg		Increasing - In. Hg			
	Min	Max	Min	Max		
3SS	0.06	5.72	0.34	6	.14 - .28	20
18SS	0.8	29.2	1.6	30	.4 - .8	30

NOTES:

¹ Consult Supplemental Guide for specific deadband values

² Deadband values indicated when used with the "standard" limit switch

³ Not available with hermetically sealed limit switches

The D1X and D2X are diaphragm models. Select a diaphragm model for applications requiring instrument accuracy of +/- 0.5% and where cycles are fewer than 25 per minute.

The D1X (single setpoint) and D2X (dual setpoint) are well suited for applications with the following requirements: explosion-proof, tamper-proof external adjustment (up to 150 psi).

Features

- Hermetically sealed
- Explosion proof housing for hazardous location
- Tamper proof setpoint adjustment
- Ideal for pressure or vacuum

Applications

- Pump & compressor monitoring
- Hydraulic power units
- Oil & gas
- Food & beverage
- Utility & power generation
- Mining



General Specifications*

Accuracy:	± 0.5% of the adjustable range
Switch: Type: Rating:	Single pole double throw (SPDT) Snap Action; single circuit 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: Process Fitting: Diaphragm: Enclosure:	303 stainless steel 17-7 PH stainless steel Die-cast aluminum, anodized and painted
Electrical Connection:	Screw terminals on covered terminal strip via 1/2" NPT (D1X) and 3/4" NPT (D2X) conduit fittings.
Enclosure Ratings:	NEMA 4, 7, 9
Pressure Connection:	1/4" NPT Female
Approvals: UL (standard):	All models are UL approved for use in hazardous locations Class I, Groups B, C, & D; Class II, Groups E, F, & G. UL File No. E37043

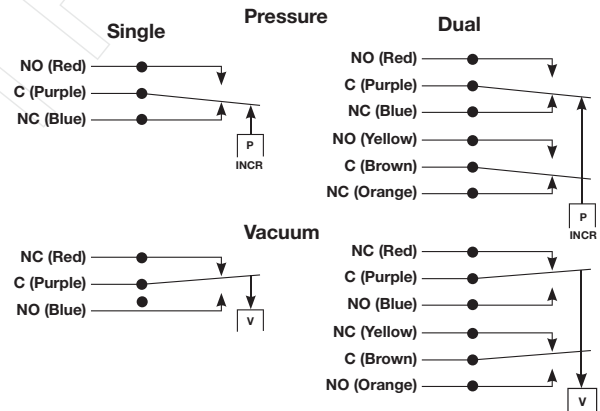
Approvals (cont.): CSA (standard): ATEX (optional):	All models are CSA approved for use in hazardous locations Class I, Groups C & D; Class II, Groups E, F, & G. CSA File No. LR22354 Ex models are ATEX certified per ISSeP 03 ATEX 122X & marked as follows: CE 0081 II2 GD EEx d IITC, T6 T85°C
Temperature Range: Operating: Storage:	-65° to +165°F (-54° to +74°C) -65° to +200°F (-54° to 93°C)
Adjustment Instructions: Pressure: Vacuum:	Turn adjustment screw counterclockwise to raise actuation point. Turn adjustment screw clockwise to increase setpoint (higher vacuum).
Options:	- Cleaned for oxygen service - Factory pre-set
Shipping Weight:	7.0 lbs. approximate

* See product configurator for additional options.

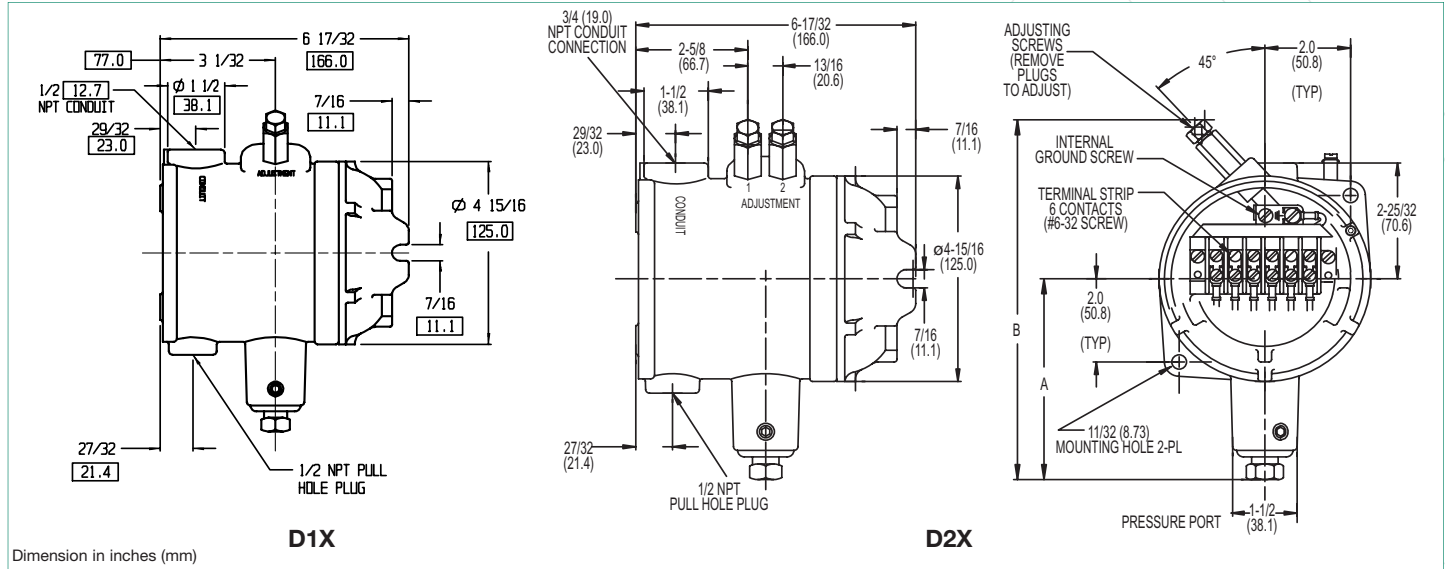
Wiring Code

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



Technical Drawing



Dimension in inches (mm)

Product Configurator

Example	D1X	-A	3SS	-P2	-UL
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H Hermetically sealed limit switch option - Class I, Division II (requires AA, CC, GH or HH limit switch)

Base Configuration

D1X	Single setpoint housed version
D2X	Single setpoint stripped version

Limit Switch¹

-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; 1 amp @ 24 VDC 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

-UL	UL & CSA Approval
-EX	ATEX Certified, -EX in place of UL for ATEX only
-Z1	Oxygen cleaned (not available w/ UL)
-Sxxx	Factory pre-set (consult factory)

Pressure Connection

Blank	Std 1/4" NPT female pressure connection
-P2	1/2" NPT female pressure connection

Adjustable Pressure Range

	Adjustable Range (PRESSURE)				Approx. Deadband ² (Actuation Value) psi-(bar)	Proof Pressure psi (bar)
	Decreasing - psi (bar)		Increasing - psi (bar)			
	Min	Max	Min	Max		
3SS	.03 (.00)	2.85 (.2)	.18 (.01)	3 (.2)	.07 - .15 (0 - .01)	10 (.7)
18SS	.4 (.03)	17.74 (1.2)	.66 (.04)	18 (1.2)	.12 - .26 (.01 - .02)	60 (4.1)
80SS	.5 (.03)	76.6 (5.2)	3.9 (.3)	80 (5.4)	1.6 - 3.4 (.1 - .2)	160 (10.9)
150SS	1.5 (.10)	144 (9.8)	7.5 (.5)	150 (10.2)	2.3 - 6.0 (.2 - .4)	300 (20.4)

	Adjustable Range (VACUUM)				Approx. Deadband ² (Actuation Value) In. Hg	Proof Pressure In. Hg
	Decreasing - In. Hg		Increasing - In. Hg			
	Min	Max	Min	Max		
3SS	0.06	5.72	0.34	6	.14 - .28	6
18SS	0.8	29.2	1.6	30	.4 - .8	30

NOTES:

- Consult Supplemental Guide for specific deadband values
- Deadband values indicated when used with the "standard" limit switch

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