

Series 142P8 Ultra Low Vacuum/Pressure Switch

Ultra low pressure and vacuum to pressure crossover switch. Unique construction using efficient Nega-Rate® Belleville disc spring for stable set points and high proof pressure. Wide range of wetted materials makes this series well suited for applications that formerly required the use of diaphragm seals.

Operating Pressure Data					
Adjustable Range Number	Adjustable Set Point Range		Deadband * (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
0	1" to 10" H ₂ O	0.25" to 9.25" H ₂ O	.75" H ₂ O (1.13" MAX)	30" H ₂ O Vacuum to 30" H ₂ O Pressure	30" H ₂ O Vacuum to +5 psig
1	2" to 40" H ₂ O	1" to 39" H ₂ O	1" H ₂ O (1.5" MAX)	30" H ₂ O Vacuum to +5 psig	30" H ₂ O Vacuum to +15 psig
2	1.5" to 40" H ₂ O Vacuum 1.5" to 40" H ₂ O Pressure (1.5" vacuum to 1.5" H ₂ O pressure**)	1" to 39" H ₂ O Vacuum 1" to 39" H ₂ O Pressure (1" vacuum to 1" H ₂ O pressure**)	1" H ₂ O (1.5" MAX)	Full Vacuum to +15 psig	Full Vacuum to 100 psig

*Deadband 50% wider with "CC" (DPDT) and "Z" (Double Break) Electrical Forms. **Deadband may be wider than set point.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT female conduit connection with terminal block

Pressure Connection

1/2 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)
Media: -50°F to +250°F
(-46°C to +121°C)

*Temperature limits change with O-Ring selection

Adjustment

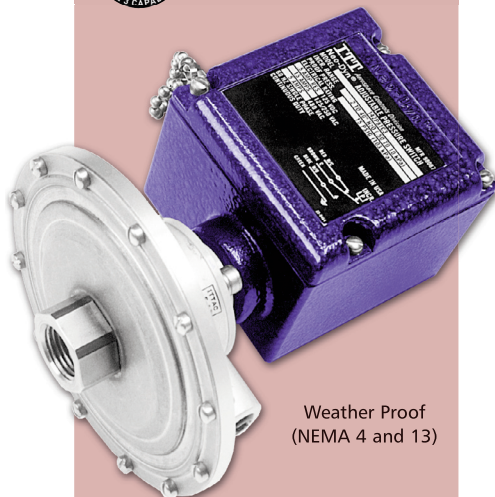
Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3.5 pounds



Order Miscellaneous Option "D"



Weather Proof (NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Adjustable Range

- 0 .25" H₂O (.62 mbar) dec. to 10" (24.9 mbar) H₂O inc.
- 1 1" H₂O (2.49 mbar) dec. to 40" (99.6 mbar) H₂O inc.
- 2 40" H₂O (99.6 mbar) inc. vac. to 40" (99.6 mbar) H₂O inc. pressure

Electrical Form

- C 15 amp at 125 or 250 VAC; 1/8 hp at 125 VAC; 1/4 hp at 250 VAC; .5 amp resistive, .04 amp inductive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 VDC; .5 amp resistive at 125 VDC
- Z 15 amp at 125 or 250 VAC; 1/4 hp at 125 VAC; 1/2 hp at 250 VAC; 1 amp resistive, .5 amp inductive at 125 VDC

Enclosure

- 3 Meets or exceeds the requirements of NEMA Type 3 3R, 3S, 4, 4X and 13, IP65

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- L Neon light indicator — 115 VAC
- M Gold electrical contacts for extremely low current applications (Not with Z Form)
- U M20 x 1.5 Electrical Conduit Adapter
- X CE Mark

Port Material

- 4 316 Stainless Steel
- 7 Hastelloy C

Diaphragm

- 1 Polyimide
- 4 316 Stainless Steel
- 6 Tantalum
- 7 Hastelloy C

O-Rings

- 2 Kalrez
- 3 Viton
- 5 EPR
- 8 Buna-N

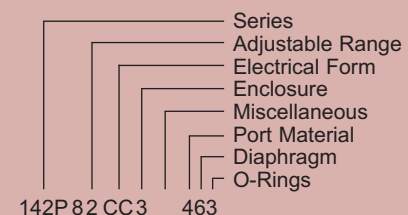
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point and deadband
- Operating temperature capabilities from -65°F to 400°F

Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

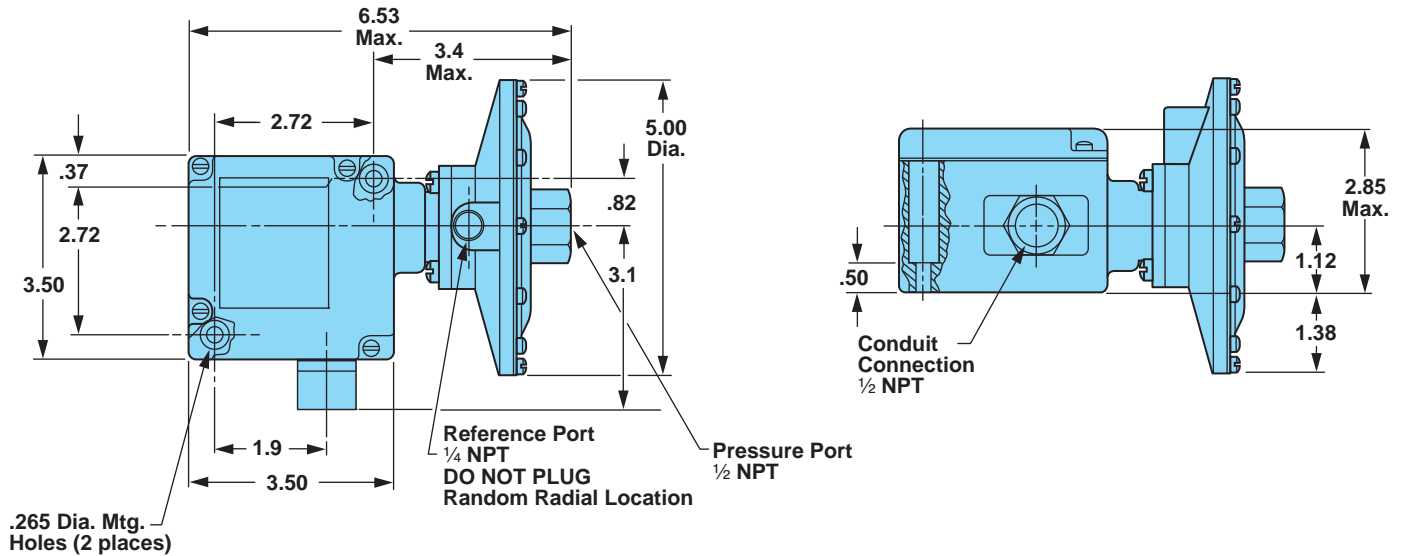
Example



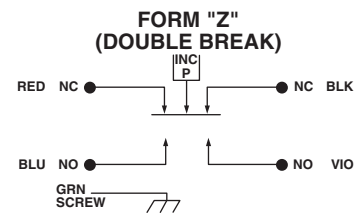
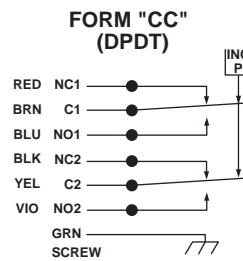
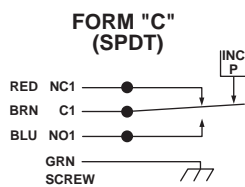
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Field Adjustable
40" H₂O vac. to 40" H₂O

Envelope Dimensions



Electrical Form



Basic Principles of Design

