



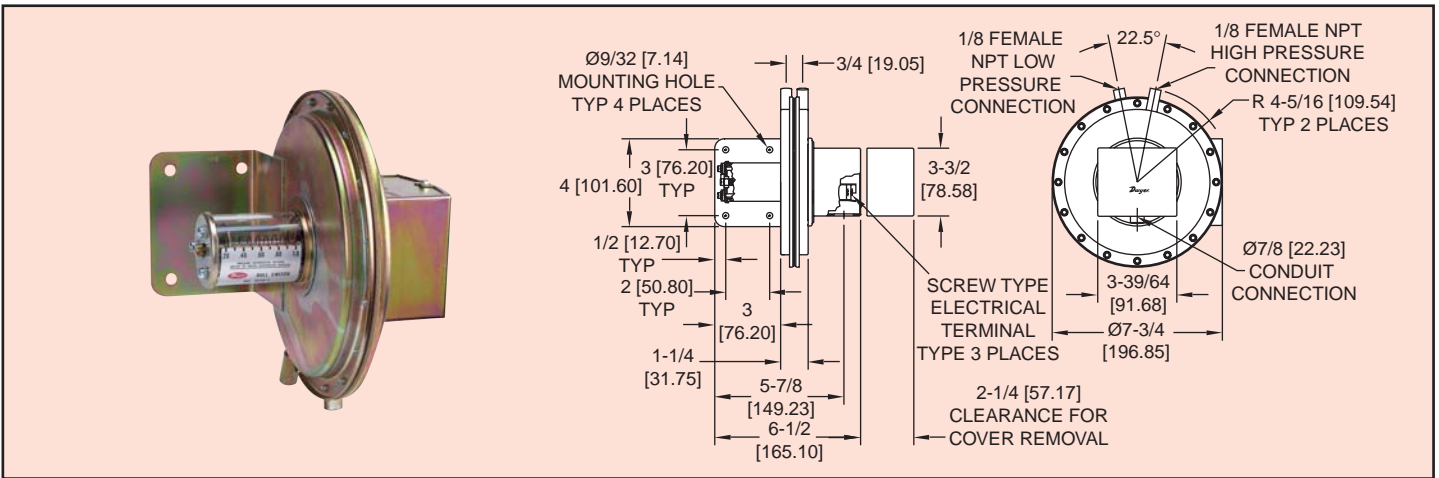
Series
1640

Floating Contact Null Switch for High and Low Actuation

Visual Set Point Adjustment . . . Adjustable Null Zone

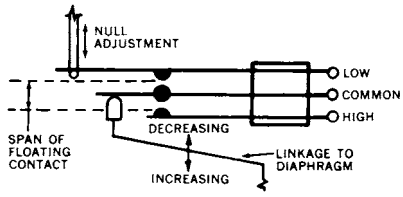


Pressure



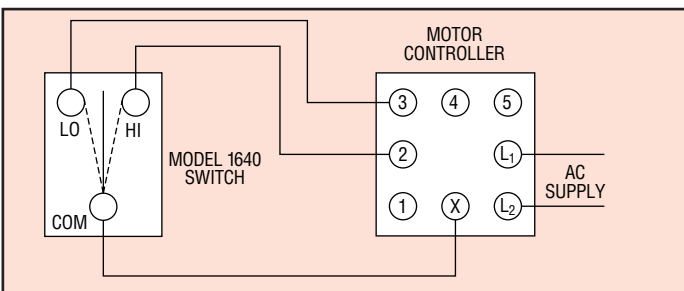
The unique electric switch design in the 1640 is another Dwyer innovation. The Dwyer Model 1640 Differential Pressure Switch resembles the Series 1630 switches described on the previous page. The Model 1640, however, is equipped with a single pole, double throw floating contact switch (not snap acting) so it functions as a null switch. Drawing shows the switching action schematically. As the diaphragm moves in response to pressure changes, it moves the floating contact to cause switching action at two preset points with no switching action between these points. The “high” circuit will be closed when rising pressure differential reaches the preset level. The “low” circuit will be closed when falling pressure differential reaches the preset level. A typical example of usage is to position motorized dampers when static pressure in a duct system reaches a desired maximum and reposition the dampers when the static pressure falls to a pre-established minimum. By using a pitot tube sensing element the Model 1640 switch can serve in the same way to control air velocity and maintain a constant volume of air in a supply duct.

CAUTION: Because of the very low electrical rating, the 1640 switch is almost always used with a relay which has suitable current carrying capability.



Typical Wiring Hook-Up

Rising pressure closes the “high” contact which causes the motor to rotate in a counterclockwise direction. Decreasing pressure closes the “low” contact and causes the motor to rotate in a clockwise direction. When the floating contact is in the null zone there is no switching action and motor is at rest.



Adjustment of the Switch

The “high” actuation point of the Model 1640 switch is indicated on a calibrated scale secured to the transparent range screw enclosure. Re-setting is accomplished simply by turning the adjustment screw with a screwdriver to the desired setting on the scale.

The “low” actuation point is set by adjusting the span of the null by turning the Span Adjusting Screw on top of the switch element inside conduit enclosure (See photo).

SPECIFICATIONS

Service: Air and non-combustible, compatible gases.

Wetted Materials: Consult Factory.

Temperature limits: -30 to 110°F (-34.4 to 43.3°C).

Pressure Limits: 10 psig (68.95 kPa) continuous, 25 psig (172.4 kPa) surge.

Switch Type: Single-pole double-throw (SPDT) floating contact (not snap action).

Electrical Rating: Non-inductive — 2.5 A @ 110 VAC; 1.5 A @ 220 VAC; 1 A @ 24 VDC; 0.5 A @ 110 VAC; Inductive — 1 A @ 110 VAC; 0.5 A @ 220 VAC; 0.5 A @ 24 VDC (De-rate 70-80% for very slow pressure changes).

Electrical Connections: 3 screw type, common, normally open and normally closed.

Process Connections: 1/8” female NPT.

Mounting Orientation: Diaphragm in vertical position. Consult factory for other position orientations.

Set Point Adjustment: Screw type.

Weight: 4 lb, 13 oz (2.18 kg).

Agency Approvals: CE.

CAUTION: FOR USE ONLY WITH AIR OR COMPATIBLE GASES.

STOCKED MODELS in bold

Model Number	Ranges Inches, W.C.	Adjustable Null Span	
		Min. Set	Max. Set
1640-0	.01 to 0.2	.01	.03
1640-1	0.2 to 1.0	.02	.06
1640-2	1.0 to 4.0	.03	.12
1640-5	2.0 to 6.0	.03	.18
1640-10	3.0 to 12.0	.04	.20

1640 (All Models) WP Housing
EXPL Housing

SPECIAL MODELS AVAILABLE (Housing options same as 1630)