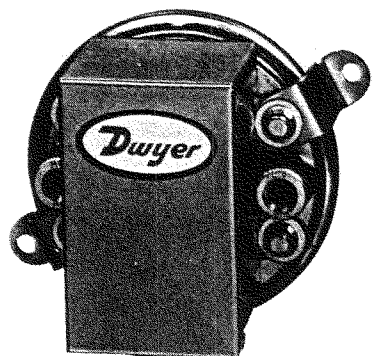


SERIES 1900 PRESSURE SWITCH

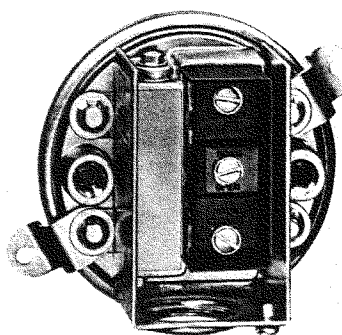
Installation and Operating Instructions



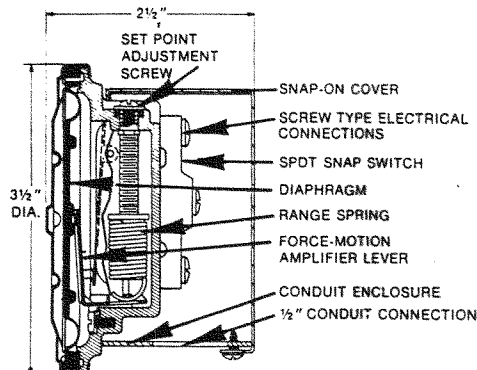
Set points from 0.07" to 20" W.C. Repetitive accuracy within 3%, U.L. and C.S.A. listed, F.M. approved.



Series 1910 pressure switch. All pressure and electrical connections and set point adjustments are on one side for easy installation.



Series 1910 switch with conduit enclosure off. Shows electric switch and set point adjustment screw.



The Dwyer-engineered force-motion amplifier increases the leverage of diaphragm movement and results in a switch with excellent sensitivity and repeatability.

Advanced design and precision construction permit these switches to perform many of the tasks of larger, costlier units. Designed for air conditioning service, they also serve many fluidics, refrigeration, oven and dryer applications. For use with air and non-combustible gases. Series 1900 switches are available with set points of 0.07 to 20 inches water column. Set point adjustment can be made easily — before or after installation. Range screw is inside conduit enclosure to help prevent tampering. For easy mounting and access, pressure and electrical connections and set point adjustment are located on one side. This permits installation in corners or spaces too small for other switches.

PHYSICAL DATA

Temperature limits: 32°F (-30° for dry air), to 180°F
 Maximum surge pressure: 10 psig.
 Rated pressure: 45" H₂O.
 Pressure connections: 1/8" NPT.
 Electrical rating: 15 amps, 120-480 volts, 60 Hz. A.C.
 Resistive 1/8 H.P. @ 125 volts, 1/4 H.P. @ 250 volts, 60 Hz. A.C. See INSTALLATION for de-rating information.
 Wiring connections: 3 screw

type, common, normally open and normally closed.
 Set point adjustment: Screw type inside conduit enclosure.
 Housing: Aluminum die casting with chemical conversion coating for corrosion protection; zinc plated steel stamping.
 Diaphragm: Molded Silicone rubber.
 Calibration spring: Stainless steel
 Weight: 1 lb.

SPECIAL MODELS AND ACCESSORIES

Dwyer Accessory Part No. A-329

Special close coupled street elbow for right angle pressure connections. Can be installed on switch anytime. Zinc plated aluminum.

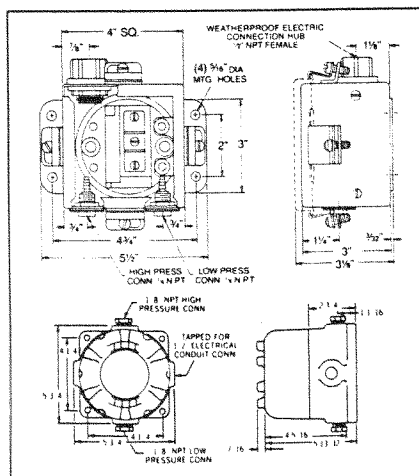


Weatherproof Enclosure:

16 ga. steel enclosure for unusually wet or oily conditions. Withstands 200 hour salt spray test. Gasketed cover. Weight 5 lbs. Switch must be installed at factory. Specify "WP" in addition to switch catalog number.

Explosion-Proof Housing:

Cast iron base and aluminum dome cover. Approximate weight 7 lbs. Specify "EXPL" in addition to switch catalog number.



MODEL 1910 SWITCHES: OPERATING RANGES AND DEAD BANDS.

To order specify Model Number	Operating Range Inches, W.C.	Approximate Dead Band	
		At Min. Set Point	At Max. Set Point
1910-00	0.07 to 0.15	.04	.05
1910-0	0.15 to 0.5	0.10	0.15
1910-1	0.4 to 1.6	0.15	0.20
1910-5	1.4 to 5.5	0.3	0.4
1910-10	3.0 to 11.0	0.4	0.5
1910-20	4.0 to 20.0	0.4	0.6

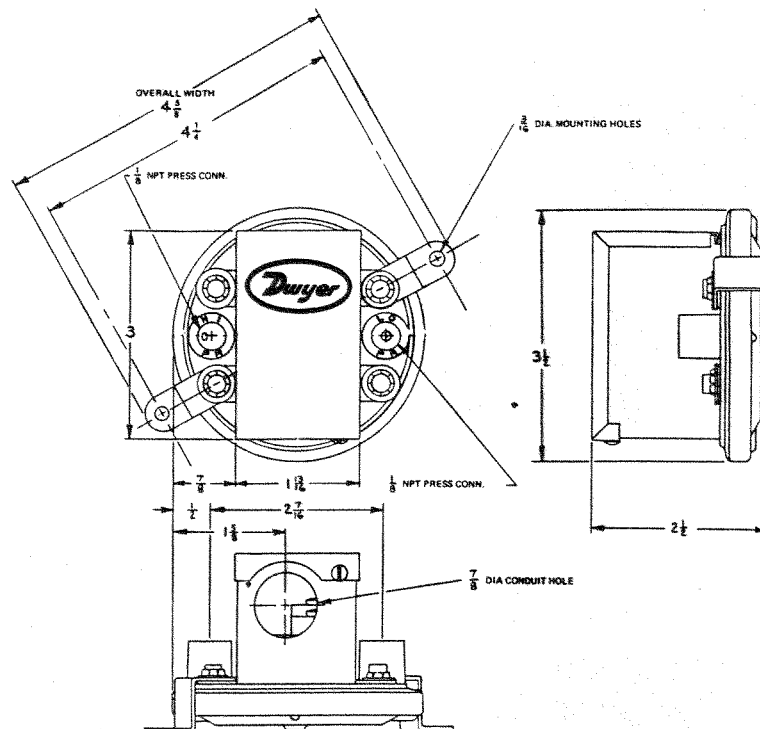
Suggested Specification

Differential pressure switches shall be diaphragm operated with 3 1/2" diaphragm to actuate a single pole double throw snap switch. Motion of the diaphragm shall be restrained by a calibrated spring that can be adjusted to set the exact pressure differential at which the electrical switch will be actuated. Motion of the diaphragm shall be transmitted to the switch button by means of a direct mechanical linkage. Switches shall be Dwyer Instruments, Inc. Catalog No. 1910-_____ for the required operating ranges.

How to Order: See price list, Bulletin S-26.

SERIES 1900 PRESSURE SWITCH

Installation and Operating Instructions



1900 SWITCH OUTLINE DIMENSIONS

INSTALLATION

1. Select a location that is free from excessive vibration, corrosive atmosphere and where the ambient temperature is within the limits for these switches.

2. Mount standard switches with the diaphragm in a vertical plane and with switch lettering and Dwyer nameplate in an upright position. Some switches are position sensitive and may not reset properly unless they are mounted with the diaphragm vertical. (Special units can be furnished for other than vertical mounting arrangements if required.)

3. Connect switch to source of pressure, vacuum or differential pressure. Metal tubing with 1/4" O.D. is recommended, but any tubing which will not restrict the air flow can be used. Connect to the two 1/8" NPT female pressure ports as noted below:

A. Differential pressures — connect pipes or tubes from source of greater pressure to high pressure port marked HI-PR and from source of lower pressure to low pressure port marked LO-PR.

B. Pressure only (above atmospheric) — connect tube from source of pressure to high pressure port. The low pressure port is left open to atmosphere.

C. Vacuum only (below atmospheric pressure) — connect tube from source of vacuum to low pressure port. The high pressure port is left open to atmosphere.

4. Electrical connections to the standard single pole, double throw snap switch are provided by means of screw terminals marked "common", "norm open", and "norm closed". The normally open contacts close and the normally closed contacts open when pressure increases beyond the set point.

5. Switch loads should not exceed the maximum specified current rating of 15 amps resistive. Switch capabilities decrease with high load inductance or rapid cycle rates. Whenever an application involves either of these factors, the user may find it desirable to limit the switched current to 10 amps or less in the interest of prolonging switch life.

OPERATION

Pressure acting on the power diaphragm rotates the amplifying lever, which in turn extends the range spring and rotates the snap switch input lever. When the set point is reached, the snap switch is actuated and the electrical contacts make or break.

ADJUSTMENT

To change the set point, proceed as follows:

A. Remove the snap-on cover from the conduit enclosure by loosening its retaining screw and pulling firmly at its bottom end. Turn the slotted Adjustment Screw at the top of range spring housing clockwise to raise the set point pressure and counter-clockwise to lower the set point.

B. The recommended procedure for calibrating or checking calibration is to use a "T" assembly with three rubber tubing leads, all as short as possible and the entire assembly offering minimum flow restriction. Run one lead to the pressure switch, another to the manometer of known accuracy and appropriate range, and apply pressure through the third tube. Make final approach to the set point very slowly. Note that manometer and pressure switch will have different response times due to different internal volumes, lengths of tubing, fluid drainage, etc. Be certain the switch is checked in the position it will assume in use, i.e. with diaphragm in a vertical plane and switch lettering and Dwyer nameplate in an upright position.

C. For highly critical applications it is a good idea to check the set point adjustment and reset it as necessary once or twice in the first few months of operation. This will compensate for any change in initial tension which may occur in the spring and diaphragm. For most applications this change will not be significant and no resetting will be required.

MAINTENANCE

Moving parts of these switches are sealed in and are permanently tamper proof. The single adjustment is that of the set point. Care should be taken to keep the switch reasonably dry and free from dust or dirt. No lubrication or unusual precautions are required for normal use.