

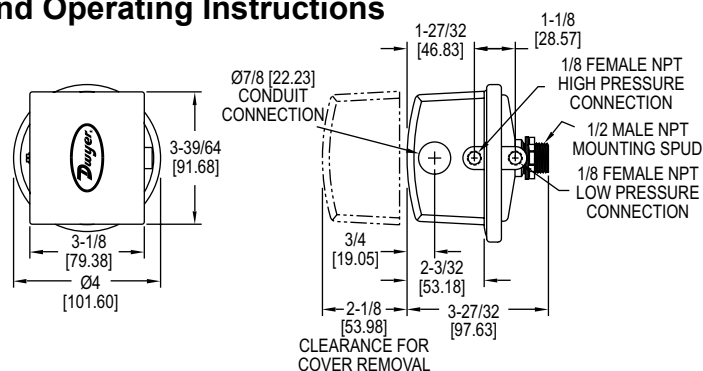


## Series 1800 Low Differential Pressure Switches for General Industrial Service

### Specifications - Installation and Operating Instructions



**Model 1823 pressure switch.**  
UL and CSA Listed, FM and  
CENELEC approved.



Construction and dimensions. Series 1823 pressure switches.

One of our most popular pressure switches. Combines small size and low price with 2% repeatability for enough accuracy for all but the most demanding applications. Set point adjustment inside the mounting switch on one side of a wall or panel with adjustment easily accessible on the opposite side.

\*Model 1823 shown; (1823 replaces 1820, 1821 and 1822 which are similar).

#### Environmental (MIL) Switch

Unlisted Model 1820 can be furnished with special snap switch sealed against the environment for high humidity and/or for government applications. Similar to standard Model 1823 except dead band is slightly greater. Specify Model 1820 (Range No.) "MIL" in ordering.

MODEL CHART			
Model	Operating Range, in w.c.	Approximate Dead Band	
		At Min. Set Point	At Max. Set Point
1823-00	0.07 to 0.22	0.05	0.05
1823-0	0.15 to 0.5	0.06	0.06
1823-1	0.3 to 1.0	0.08	0.08
1823-2	0.5 to 2.0	0.10	0.12
1823-5	1.5 to 5.0	0.14	0.28
1823-10	2.0 to 10	0.18	0.45
1823-20	3 to 22	0.35	0.70
1823-40	5 to 44	0.56	1.10
1823-80	9 to 85	1.30	3.0

#### INSTALLATION

- Select a location free from excessive vibration and where oil or water will not drip upon the switch. See special housings for unusual conditions.
- While not required, positioning the pressure connections down is recommended. Mount the switch with the diaphragm in a vertical plane. Switch with the diaphragm in a vertical plane. Switch must be recalibrated for each change in operating position.
- Connect switch to source of pressure differential. Metal tubing with 1/4" O.D. is recommended but any tubing system which will not restrict the air flow is satisfactory. Note that the low pressure connection may be made to the 1/2" spud at the back of the switch if desired. If so connected, drill 1/16" diameter holes in the Spring Retainer flange and the head of Adjustment Screw to provide opening to the switch interior and plug the other low pressure connection.
- 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 contact open when pressure increases beyond the set point.
- 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 one or more of these factors, the user may find it desirable to limit the switched current to 10 amps or less in the interest of prolonged switch life.

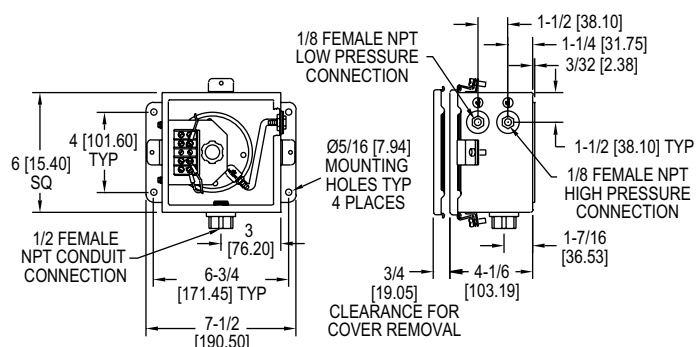
#### ADJUSTMENT

- If the switch has been factory preset, check the set-point before placing in service to assure it has not shifted in transit.
- If switching has not been preset or it is desired to change the point, observe the following procedure:
  - To adjust the set point turn the slotted Adjustment Screw clockwise to increase the set point and counterclockwise to decrease the set point.
  - The following is a recommended procedure for calibrating or checking calibration: 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 a manometer of known accuracy and appropriate range, and apply pressure through the third tube. Make final approach to the set point slowly. Note the manometer and pressure switch will have different response characteristics due to different internal volumes, lengths of tubing, oil drainage, etc. Be certain switch is checked in position it will assume in use, i.e. vertical, horizontal, etc.

#### SPECIFICATIONS

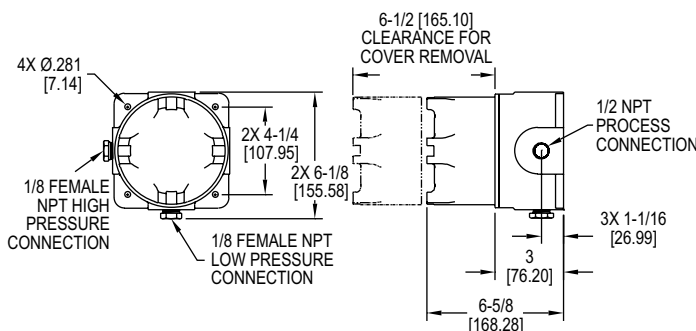
**Service:** Air and non-combustible, compatible gases.  
**Wetted Materials:** Consult factory.  
**Temperature Limits:** -30 to 180°F (-34 to 82.2°C). 1823-00, -20 to 180°F (-28.9 to 82.2°C).  
**Pressure Limits:** 10 psig (68.95 kPa) continuous, 25 psig (172.4 kPa) surge.  
**Switch Type:** Single-pole double-throw (SPDT).  
**Repeatability:** ±2%.  
**Electrical Rating:** 15 A @ 120-480 VAC, 60 Hz. Resistive 1/8 HP @ 125 VAC, 1/4 HP @ 250 VAC, 60 Hz. De-rate to 10 A for operation at high cycle rates.

**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 inside mounting spud.  
**Weight:** 1 lb, 5 oz (595 g).  
**Agency Approvals:** CE, UL, CSA, FM.



#### Weatherproof Enclosure

16 ga. steel enclosure for unusually wet or oily conditions. Withstands 200 hour salt spray test. Gasketed cover. Weight 5-1/2 lb (2.5 kg). 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 7-1/2 lb (3.4 kg). Specify "EXPL" in addition to switch catalog number. Rated Class I, Groups C & D, Div. 1. Class II, Groups E, F, & G, Div. 1.