

MODEL DFS-460



APPLICATION

Model DFS-460 is a general purpose airflow proving switch designed to require manual operator reset following actuation. It can be used to sense positive, negative, or differential air pressure in any HVAC and Energy Management applications that require operator interface. Set point is fixed to operate on pressure rise at 0.40 ± 0.06 " wc.

DESCRIPTION & OPERATION

The plated housing contains a diaphragm, a calibration spring and a snap-acting SPST-NC switch with manual reset button.

The sample connections located on each side of the diaphragm accept $\frac{1}{4}$ " OD rigid tubing via the integral compression ferrule and nut.

An enclosure cover protects the operator from accidental contact with the live switch terminal screws. The enclosure cover accepts a $\frac{1}{2}$ " conduit connection.

MOUNTING (SEE FIGURE 1)

Select a mounting location that is free from vibration. The DFS-460 must be mounted with the diaphragm in a vertical plane in order to obtain the lowest specified operating set point. Do not mount with the sample line connections directed upward. Surface mount via the two $\frac{3}{16}$ " diameter holes in the integral mounting bracket. The mounting holes are $3-\frac{7}{8}$ " apart.

ELECTRICAL CONNECTIONS (SEE FIGURE 4)

Before pressure is applied to the diaphragm, the switch contacts will be in the normally closed (NC) position.

The snap switch has screw top terminals with cup washers. Wire alarm or control application as shown in Figure 4.



AIR SAMPLING CONNECTION (SEE FIGURE 2)

The DFS-460 is designed to accept firm-wall sample lines of $\frac{1}{4}$ " OD tubing by means of ferrule and nut compression connections. An optional $\frac{1}{4}$ " adapter, suitable for slip-on flexible tubing is available: order part number 18311.

For sample lines of up to 10 feet, $\frac{1}{4}$ " OD tubing is acceptable. For lines up to 20 feet, use $\frac{1}{4}$ " ID tubing. For lines up to 60 feet, use $\frac{1}{2}$ " ID tubing.

Locate the sampling probe a minimum of 1.5 duct diameters downstream from the air source. Install the sampling probe as close to the center of the airstream as possible.

Refer to Figure 2 to identify the high pressure inlet (H) and the low pressure inlet (L).

AIR SAMPLING METHOD (SEE FIGURE 3)

Select one of the five application options below, and connect the sample lines as recommended.

POSITIVE PRESSURE ONLY: Connect the sample line to inlet H; inlet L remains open to the atmosphere.

NEGATIVE PRESSURE ONLY: Connect the sample line to inlet L; inlet H remains open to the atmosphere.

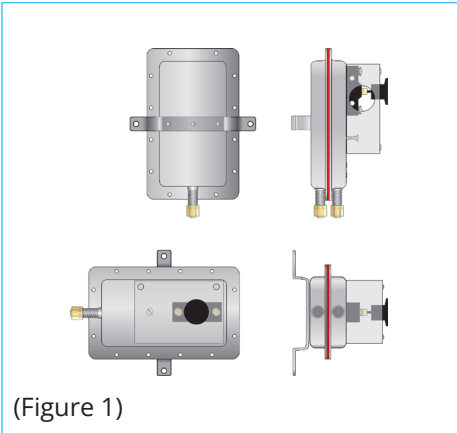
TWO NEGATIVE SAMPLES: Connect the higher negative sample to inlet L. Connect the lower negative sample to inlet H.

TWO POSITIVE SAMPLES: Connect the higher positive sample to inlet H. Connect the lower positive sample to inlet L.

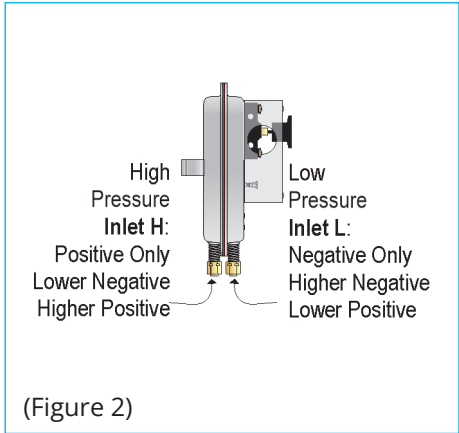
ONE POSITIVE AND ONE NEGATIVE: Connect the positive sample to inlet H. Connect the negative sample to inlet L.



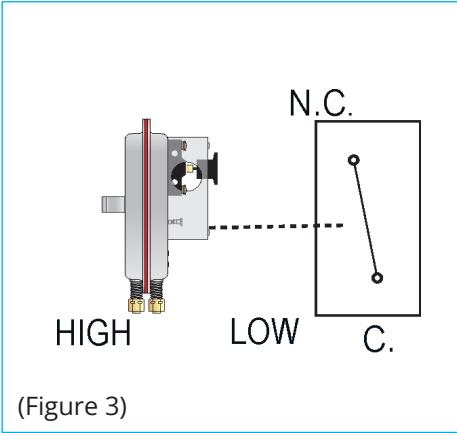
SPECIFICATIONS
Model DFS-460 Air Pressure
Sensing Switch with
Fixed Set Point and Manual Reset



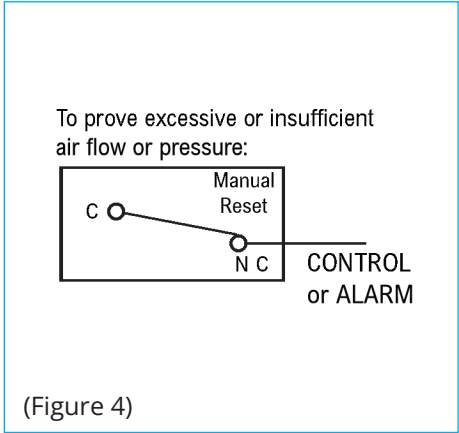
(Figure 1)



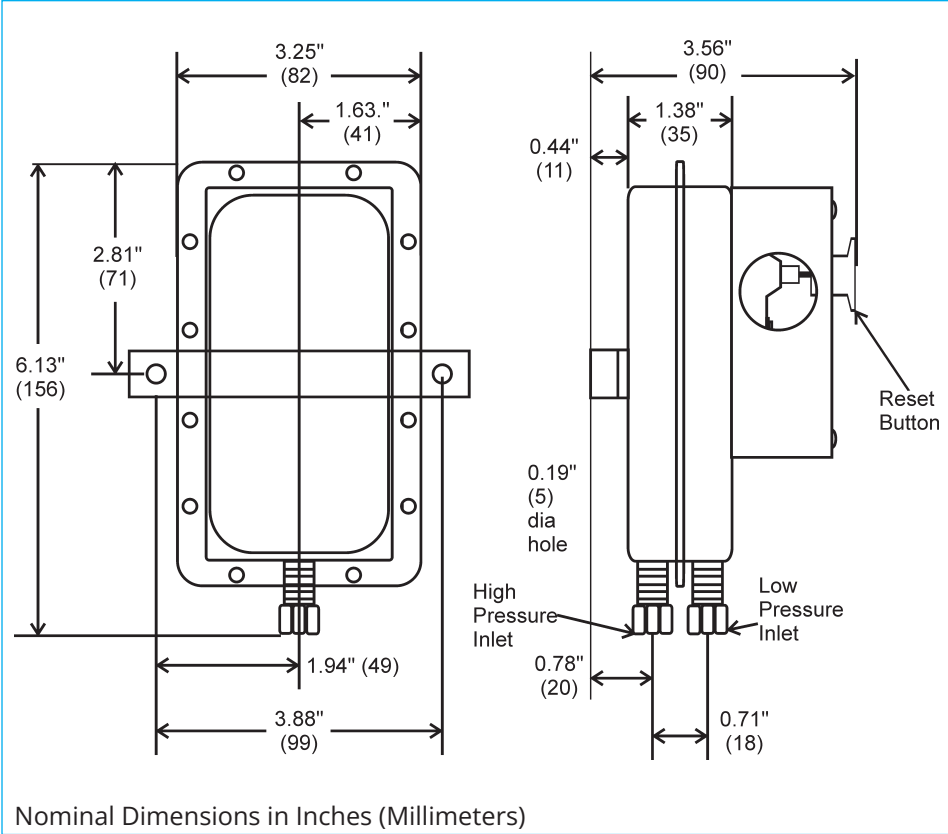
(Figure 2)



(Figure 3)



(Figure 4)



Mounting Position:
 Mount with the diaphragm in any vertical plane to obtain specified operating set point.

Set Point:
 Non-adjustable, set to operate on pressure rise at 0.40±0.06" wc

Measured Media: Air

Maximum Pressure: ½ psi (0.03 bar)

Operating Temperature Range:
 -40 °F to 180 °F (-40 °C to 82 °C)

Life:
 Exceeds UL-recognized mechanical endurance test of 6,000 cycles minimum at ½ psi maximum pressure each cycle and at maximum electrical load

Electrical Rating:
 @ 60 Hz. 15 amp 125, 250, or 277 V ac
 ¼ hp 125 V ac, ½ Hp 250 V ac,
 ½ amp 125 V dc,
 ¼ amp 250 V dc

Contact Arrangement:
 SPST-NC (manual reset)

Electrical Connections:
 8-32 screw top terminals with cup washers

Conduit Opening:
 7/8" diameter opening accepts ½" conduit

Sample Line Connectors:
 Male, externally threaded 7/8" 24 UNS 2A thread, complete with nuts and self-aligning ferrules

Sample Line Connections:
 Connectors will accept ¼" OD rigid or semi-rigid tubing

Approval and Recognition: Pending

Shipping Weight:
 1.2 lbs.

- Accessories:**
- P/N 18311 Slip-on ¼" OD Tubing Adapter, suitable for slipping on flexible plastic tubing
 - Sample line probes
 - Orifice plugs (pulsation dampers)

