

IS Series Pressure Sensing Switches

INSTALLATION INSTRUCTIONS

FEATURES

Standard Features

- Low pressure sensitivity.
- Setpoint range of 0.10 in. wc (2.5 mm wc) to 5.0 in. wc (127 mm wc) [IS2]; 0.04 in. wc (1.0 mm wc) to 5.0 in. wc (127 mm wc)[IS3].
- Integrated sampling line connectors for 1/4 in. inside diameter (ID) tubing.
- Sample line connectors can be positioned at 15-degree increments.
- Color-coded pressure ports.
- Integrated screw bosses for mounting.
- Integrated snap switches.
- Integrated bleed holes.
- Bar-coded labeling.

Optional Features

- Integrated mounting tabs.
- Data Matrix.
- L-shaped or half-strap brackets.
- 1/4 in. or 3/16 in. mixed or dedicated terminals.
- Flow restricting orifices to dampen pressure surges.
- Sample line connectors can be positioned on the flat surface or the standard perimeter locations.
- 3/16 in. fitting (IS2 only).
- Gold contacts for low electrical loads.
- Custom brackets for single (IS) and dual (BA) switch models.



APPLICATION

The IS Series of pressure sensing switches offers the same proven compression spring and precision snap acting electrical switch as the other Honeywell popular and widely used current models.

The IS Series is designed specifically to yield narrow switch differentials (the difference between on and off actuation points) as well as to hold tight setpoint tolerances throughout a wide temperature range.

The IS Series has also added various integrated mounting methods, which, in turn, can be augmented with individualized brackets for applications requiring unique mounting configurations.

The IS Series replaces older Honeywell and Tridelta® PPS10000 and most 4000, 5000, 6000 and 7000 Series switches.

Typical applications include detecting blockage in gas combustion system appliances (furnaces, fireplaces, commercial cooking appliances, water heaters, boilers, process dryers, etc.); detecting condensate drain blockage and fluid buildup; draft inducer verification; proving fan operation; proving a blocked filter with change in differential pressure; monitoring static pressure; sensing increase/decrease in system pressure; proving air across heating elements; detecting ice buildup in cooling coils; managing air in VAV systems; detecting web breaks on printing, coating or other web processes.



SPECIFICATIONS

Electrical Ratings:

Spdt, Spst electrical load:
 1/10 hp @ 120 to 277 Vac.
 28 VA pilot duty @ 24 Vac.
 125 VA pilot duty @ 120 Vac.
 Spst electrical load:
 5A resistive @ 120 to 277 Vac (IS2).

Switching: Spst, spdt.

Electrical Connectors:

1/4 in. x 0.032 or 3/16 in. x 0.032.
 (Optional: 3/16 in. x 0.020.)

Overpressure rating: 3 to 14 in. wc.

Ambient Temperature Range: -40°F to +190°F (-40°C to +88°C).

Sample Line:

Black positive; grey negative. 1/4 in. O.D. for use with 3/16 in. or 1/4 in. I.D. tubing; optional 3/16 in. O.D. (IS2 only.)

Sample Medium: Air.

Dimensions: For typical dimensions, see Fig. 1 through 10.

Mounting Position: Diaphragm must be vertical (horizontal optional).

Materials:

Diaphragm: Post-cured silicone.
 Housing: Glass-filled poly.

Product Life:

Mechanical: 1,000,000 operations.
 Electrical: 250,000 operations.

Approvals:

Underwriters Laboratories Inc. Approved: MP2168.
 Canadian Underwriter Laboratories Inc. Approved: MP2168.
 CE Approval: Pending.

Accessories:

27517BM L-Bracket (IS2).
 27518BM 1/2 Strap Bracket (IS2).
 37507BM L-Bracket (IS3).
 37508BM 1/2 Strap (IS3).

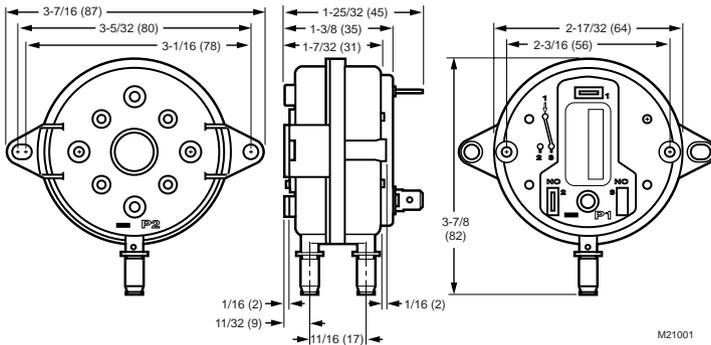


Fig. 1. Dimensions of foot-mounted IS2 Pressure Sensing Switch in in. (mm). Differential model shown.

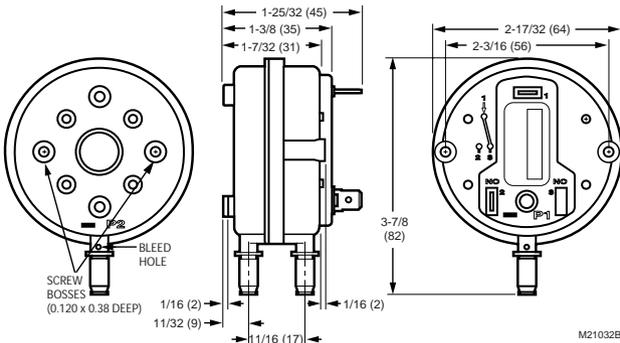


Fig. 2. Dimensions of IS2 Pressure Sensing Switch (without mounting feet or brackets) in in. (mm). Differential model shown.

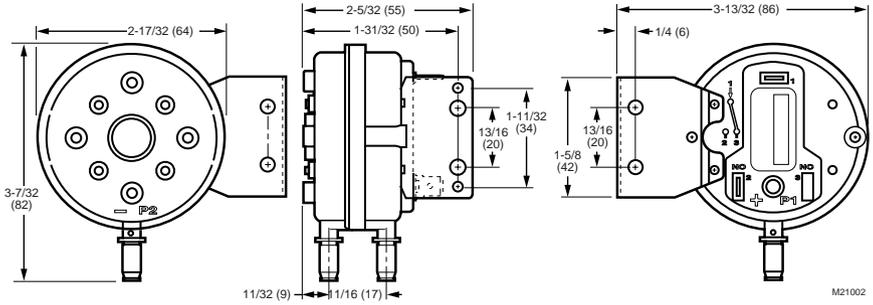


Fig. 3. Dimensions of L-bracket mounted IS2 Pressure Sensing Switch in in. (mm). Differential model shown. (Bracket can be placed on switch pan, as shown, or on mounting pan.)

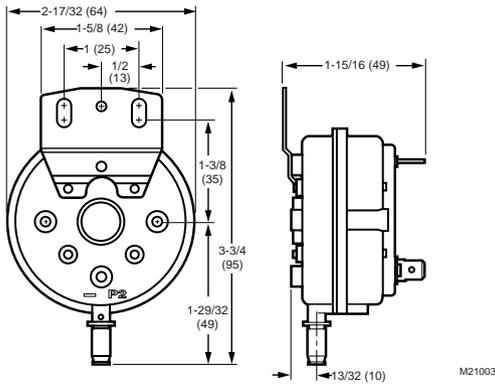


Fig. 4. Dimensions of Half-Strap bracket mounted IS2 Pressure Sensing Switch in in. (mm). Negative pressure model shown.

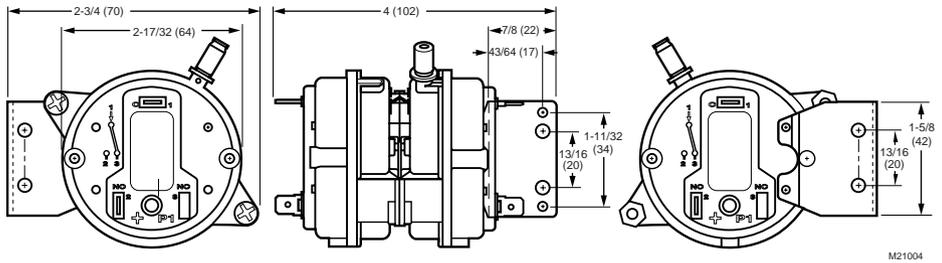


Fig. 5. Dimensions of typical combination-mounting of IS2 Pressure Sensing Switch in in. (mm). BA2 model shown.

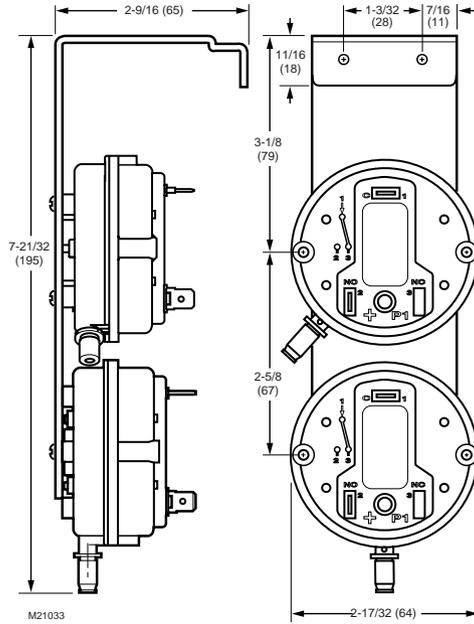


Fig. 6. Dimensions of custom side-by-side IS2 Pressure Sensing Switches in in. (mm). BA2 model shown.

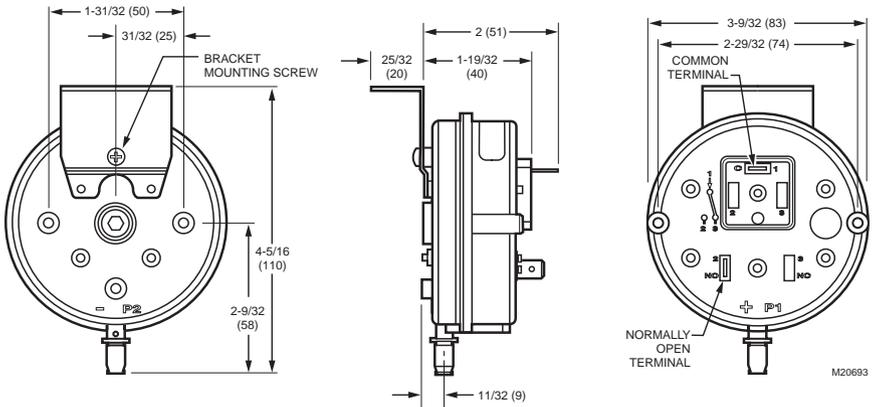


Fig. 7. Dimensions of IS3 Pressure Sensing Switch in in. (mm). L Bracket model shown. Negative pressure model shown.

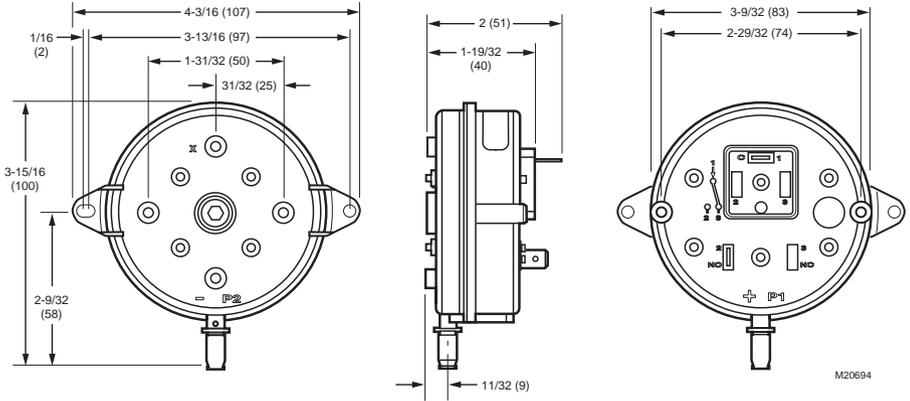


Fig. 8. Dimensions of IS3 Pressure Sensing Switch in in. (mm). Foot-mounted model shown. Negative pressure model shown.

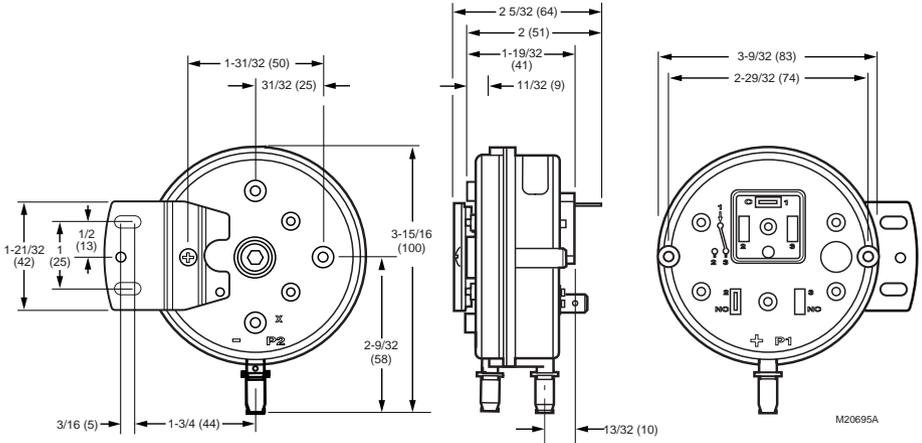


Fig. 9. Dimensions of IS3 Pressure Sensing Switch in in. (mm). Half-strap bracket model shown. Differential model shown.

INSTALLATION

When Installing This Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition. This control must be installed in accordance with the rules in force.
2. Check ratings and descriptions given in the Specifications to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.

4. After installation is completed, check out product operation as provided in the instructions.

WARNING

Electrical Shock Hazard or Explosion Hazard. Can cause severe injury, death or property damage.

1. Disconnect power before installation. More than one disconnect may be involved.
2. Turn off all fuel sources before installation.
3. Follow all installation and checkout procedures for safe installation.

Mounting

To maintain the operating setpoint, the switch must be mounted with the diaphragm in a vertical position. See Fig. 10.

If the device is supplied with inlet orifice diameter less than 0.028 in. (0.7 mm), the installer must protect the orifice against clogging by a suitable means. An external filter capable of removing particulates greater than 0.02 in. (0.5 mm) is acceptable.

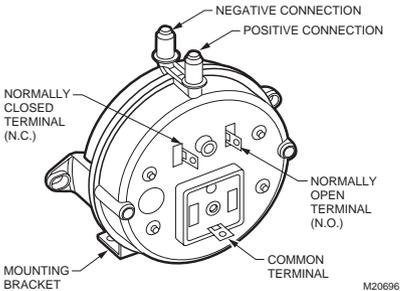


Fig. 10. IS-2/IS-3 Switch, vertically mounted.

NOTE: To mount using the built-in feet (Fig. 10), use No. 8 or No. 10 screws with a maximum torque of 15 in. -lb.

Mounting Recommendations

1. Mount with pressure connectors facing down.
2. Use No. 6-20 x 0.38 Type BT self-tapping screws for mounting of brackets or use of integrated screw bosses (maximum torque of 12 in.-lb).
3. Provide condensate draining by sloping tubing.

IMPORTANT

Do not locate in an area where temperature exceeds the temperature rating of -40°F to +190° (-40°C to +88°C).

Humidity

Install the IS Series Pressure Sensing Switch where the relative humidity does not exceed 95%, noncondensing.

Condensation

Products of combustion generally contain a large quantity of vapor and generate condensation within the device as it cools. Condensate in the tubing or within the body of the IS Series switch can cause pressure control point offset. Condensate can also damage metal parts of the device making replacement necessary.

Weatherproofing

The IS Series Pressure Sensing Switches are not weather proof. To provide weatherproofing, install the switch in a NEMA 4 container.

Pressure Line Connections

Use of flexible or semi-flexible non-silicone tubing is recommended.

IMPORTANT

Do not force terminal connections. See Fig. 11.

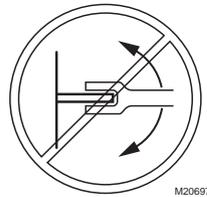


Fig. 11. Forcing terminals may affect the operating point.

CHECKOUT

Adjustment/Calibration

There is no field adjustment or calibration of the IS Series Switches. All switches are calibrated and sealed at the factory.

Honeywell

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