

# Honeywell

# P7660/P7645 Series Dry Pressure Sensors

## INSTALLATION INSTRUCTIONS



## WARNING

This product can expose you to chemicals including 1,3 Butadiene, which is known to the State of California to cause cancer and reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## APPLICATION

The P7660/P7645 Series Dry Differential Pressure Sensors provide reliable, accurate measurement and control. Applications include measurement of extremely low pressure applications such as: building/room pressure, air flow, variable air volume, filter status, and duct pressure. They are ideal for clean rooms, hospitals, fume hoods, and computer rooms.

The P7660 Pressure Sensors have four selectable ranges and 4 output signal configurations. The P7645 offer a single pressure range and 4–20mA output signal.

### Product Application Limitation:

Honeywell products are not designed to be used as the lone device for life or safety applications. Honeywell products are not intended for use in critical applications such as nuclear facilities, human implantable device or life support. Honeywell believes a systems approach to safety is necessary for these types of applications. Honeywell is not liable, in whole or in part, for any claims or damages arising from such uses.

### Limites de l'application du produit :

Les produits Honeywell ne sont pas conçus pour être utilisés seuls comme appareils pour les applications de sécurité ou de sauvetage. Les produits Honeywell ne sont pas conçus pour les applications critiques, comme les installations nucléaires, les dispositifs implantables dans le corps humain ou d'assistance vitale. Honeywell croit qu'une approche de sécurité globale est nécessaire pour ces types d'applications. Honeywell n'est pas responsable, en tout ou en partie, des réclamations ou dommages découlant d'une telle utilisation.

### IMPORTANT

- Only qualified trade installers should install this product
- This product is not intended for life-safety applications
- Do not install in hazardous or classified locations
- The installer is responsible for all applicable codes
- De-energize power supply prior to installation or service
- Forming a "drip-loop" (allowing tubing to dip below the level of the sensor hose barbs) is recommended to protect the sensor from damage caused by condensation.

### IMPORTANT

- Seuls les installateurs spécialisés sont autorisés à installer ce produit.
- Ce produit n'est pas destiné aux applications de sécurité ou de sauvetage.
- Ne l'installez pas dans des endroits dangereux ou classés comme tels.
- L'installateur doit respecter tous les codes applicables.
- Coupez l'alimentation électrique avant l'installation ou l'entretien.
- Il est recommandé de former une « boucle d'égouttement » (ce qui permet d'acheminer le tube sous les raccords cannelés du capteur) afin de protéger le capteur contre les dommages causés par la condensation.



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## INSTALLATION

1. Screw mount sensor directly to duct, or in panel using self-tapping screws or attach to a DIN rail (2 possible orientations for DIN mounting, BACK and LEFT SIDE).
2. Plumb air lines to sensor hose barbs (Accepts 1/8" & 1/4" ID tubing). High (+) and low (-) ports are labeled on the sensor.
3. Wire sensor for voltage or current output as shown in the wiring diagrams.
4. Recommendation: Apply power to sensor. With no pressure applied, press the ZERO SET button for 2-seconds. (For best results, temporarily connect high and low pressure ports together while zeroing.)

## LED STATUS/INDICATION

LED indicator will flash every 5 seconds for normal operation.

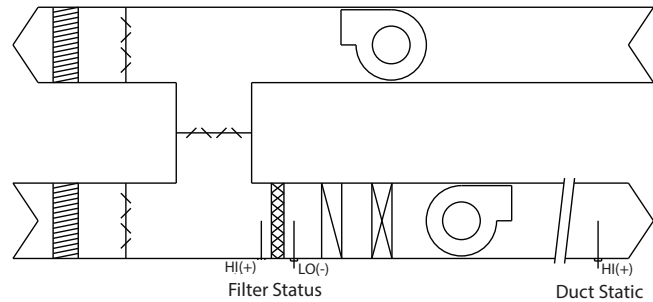
LED indicator will rapidly flash when applied pressure is greater than 110% of selected range.

LED indicator will rapidly flash momentarily when zeroing process is complete.

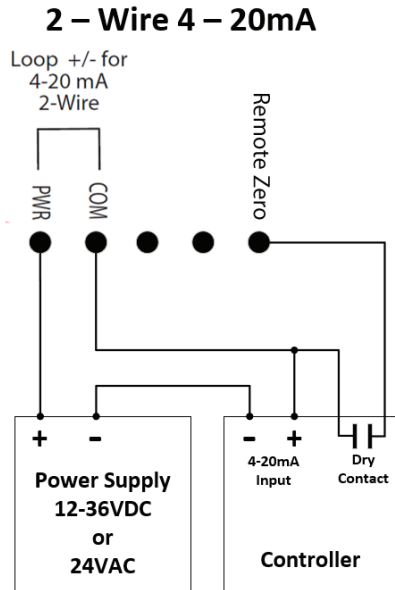
## TYPICAL APPLICATIONS

**Velocity:** Use a Pitot tube and plumb high (+) port to total pressure (Pt) connection and low (-) port to static pressure (Ps) connection to directly read  $P_t - P_s = P_v$ . Apply correction constant provided by Pitot tube manufacturer.

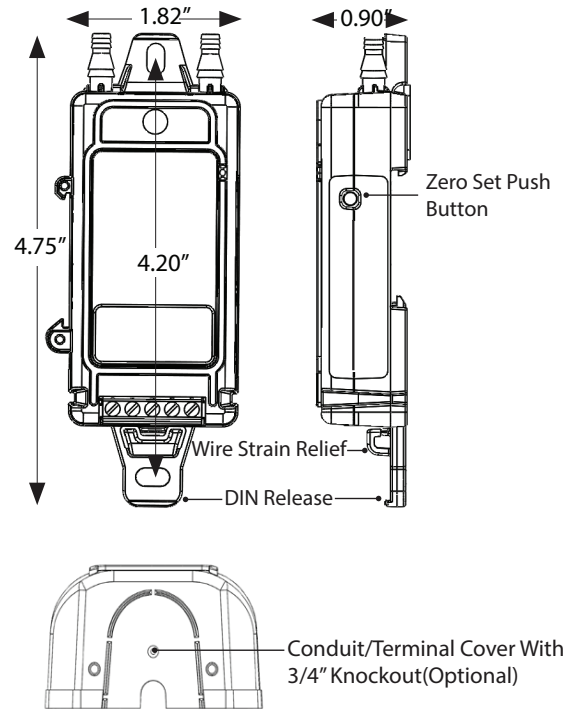
**Duct Static:** Install a static pressure pickup tube approximately 2/3 of the way down the discharge air duct and plumb to high (+) port for positively pressurized ducts.



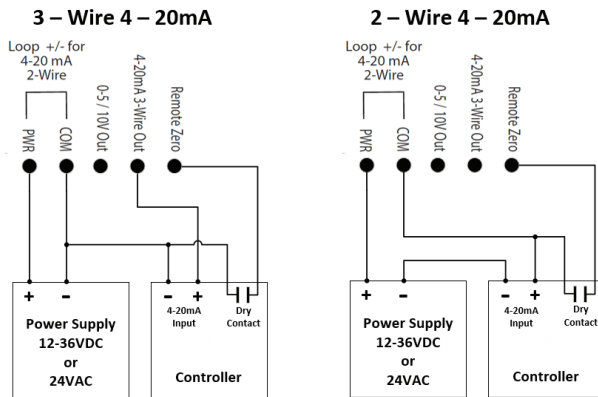
## WIRING P7645



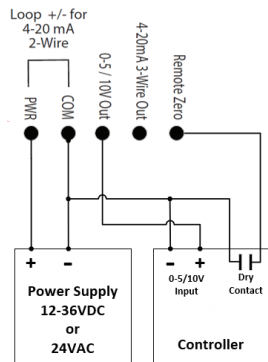
## DIMENSIONS



## WIRING P7660



### Selectable 0-5V and 0-10V



## TROUBLESHOOTING

Table 1.

| Symptom                | Solution                                                                   |
|------------------------|----------------------------------------------------------------------------|
| No output              | Check wiring. Ensure power supply meets requirements.                      |
| Pressure reading error | Verify control panel software is configured for correct output scaling.    |
|                        | Verify switch settings                                                     |
|                        | Verify tubing is not pinched or leaking.                                   |
|                        | Possible contamination. Ensure sensor is used only on dry air or nitrogen. |

## RECYCLING

Product should not be thrown away in regular trash. Instead, it should be recycled according to local municipality.

Table 2. Specification by Product

| Product number | Pressure range         | Output       | LCD display | Probe |
|----------------|------------------------|--------------|-------------|-------|
| P7645C0010X    | 0-0.10 "W.C.           | 4-20 mA Loop | No          | No    |
| P7645C0025X    | 0-0.25 "W.C.           | 4-20 mA Loop | No          | No    |
| P7645C0100X    | 0-1.0 "W.C.            | 4-20 mA Loop | No          | No    |
| P7645C0500X    | 0-5.0 "W.C.            | 4-20 mA Loop | No          | No    |
| P7660P0500D    | 0.1/0.25/2.5/5.0 "W.C. | Universal    | Yes         | No    |
| P7660P0500X    | 0.1/0.25/2.5/5.0 "W.C. | Universal    | No          | No    |
| P7660P1000D    | 1.0/2.5/5.0/10.0 "W.C. | Universal    | Yes         | No    |
| P7660P1000X    | 1.0/2.5/5.0/10.0 "W.C. | Universal    | No          | No    |

Table 2. Specification by Product

| Product number | Pressure range         | Output    | LCD display | Probe |
|----------------|------------------------|-----------|-------------|-------|
| P7660D0500D    | 0.1/0.25/2.5/5.0 "W.C. | Universal | Yes         | Yes   |
| P7660D0500X    | 0.1/0.25/2.5/5.0 "W.C. | Universal | No          | Yes   |
| P7660D1000D    | 1.0/2.5/5.0/10.0 "W.C. | Universal | Yes         | Yes   |
| P7660D1000X    | 1.0/2.5/5.0/10.0 "W.C. | Universal | No          | Yes   |

## SPECIFICATION

**Power supply:** 12-30 VDC/24 VAC<sup>1</sup>, 30 mA max.

**Outputs:**

P7660: 3-wire 0-5 V/10 V, 4-20 mA loop powered, 3-wire 4-20 mA (Selectable)

P7645: 4-20 mA loop powered

**Output Scaling:**

P7660 Selectable Ranges:

0-5" (0.1/0.25/2.5/5.0 "W.C.)

0-10" (1.0/2.5/5.0/10.0 "W.C.)

P7645 Models: 0-0.1" 0-0.25", 0-1.0", 0-5.0"

**Operating Temperature:**

Operating Range: -4°F to 185°F (-20°C to 85°C)

Compensated Range: 32°F to 122°F (0°C to 50°F)

**Media Compatibility:** Dry, oil-free air. Nitrogen.

**Sensor Type:**

Precision calibrated: MEMS silicone piezoresistive

**Accuracy:**

Combined linearity and hysteresis: +/- 1.0% of selected range

BFSL: +/- 0.25% BFSL

Auto-zero input: Push-button and contact closure input

**Enclosure:**

Material: ABS

Dimensions: 4.75"h x 1.82"w x 0.90"d

**Optional Probe:** P7600PROBE

### Honeywell Building Technologies

In the U.S.:

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