

# PX SERIES



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## Digital Pressure Transducer

### Dry Media

#### Installer's Specifications

Media Compatibility	Dry air or inert gas
Input Power	12-30VDC, or 24VAC nominal; 2-wire: 20mA max.; 3-wire: 30mA max.
Output	Field-selectable: 2-wire, loop-powered 4-20mA (DC only, clipped and capped), or 3-wire 0-5V/0-10V*

#### Pressure Ranges:

PX: 01	Unidirectional: 0.1/0.25/0.5/1.0" W.C. F.S., switch selectable Bidirectional: $\pm 0.1/\pm 0.25/\pm 0.5/\pm 1.0$ " W.C. F.S., switch selectable Unidirectional: 25 Pa/50 Pa/100 Pa/250 Pa, F.S., switch selectable Bidirectional: $\pm 25$ Pa/ $\pm 50$ Pa/ $\pm 100$ Pa/ $\pm 250$ Pa, F.S., switch selectable
PX: 02	Unidirectional: 1.0/2.5/5.0/10" W.C. F.S., switch selectable Bidirectional: $\pm 1.0/\pm 2.5/\pm 5.0/\pm 10$ " W.C. F.S., switch selectable Unidirectional: 0.250 kPa/0.500 kPa/1.000 kPa/2.500 kPa, F.S., switch selectable Bidirectional: $\pm 0.250$ kPa/ $\pm 0.500$ kPa/ $\pm 1.000$ kPa/ $\pm 2.500$ kPa, F.S., switch selectable
PXU: 05	Unidirectional: 0.1/0.25/0.5/1.0/2.5/5/10" W.C. F.S., switch selectable Bidirectional: $\pm 0.1/0.25/0.5/1.0/2.5/5/10$ " W.C. F.S., switch selectable Unidirectional: 25Pa/50Pa/100Pa/250Pa/0.5kPa/1kPa/2.5kPa F.S., switch selectable Bidirectional: $\pm 25$ Pa/50Pa/100Pa/250Pa/0.5kPa/1kPa/2.5kPa F.S., switch selectable

Response Time	Standard: T95 in 20 sec, Fast: T95 in 2 sec, jumper selectable
Mode	Unidirectional or bidirectional, jumper selectable
Display (option)	Signed 3-1/2 digit LCD, indicates pressure, overrange indicator
Proof Pressure	3 psid (20.6kPa)
Burst Pressure	5 psid (34.5kPa)
Accuracy	$\pm 1\%$ F.S. of selected range (combined linearity and hysteresis)
Temperature Effect	1" (250Pa) models: 0.05%/°C; 10" (2.5kPa) models: 0.01%/°C (Relative to 25°C) 0° to 50°C (32° to 122°F)
Zero Drift (1-year)	1" (250Pa) models: 2.0% max.; 10" (2.5kPa) models: 0.5% max.
Zero Adjust	Pushbutton auto-zero and digital input (2-pos terminal block)
Operating Environment	0°- 60°C (32° to 140°F); 0 to 90% RH non-condensing
Fittings	Brass barb; 0.24" (6.1mm) o.d.
Physical	UL 94 V-0 Fire Retardant ABS

EMC Conformance: EN 61000-6-3:2007 and A1:2011 Class B, EN 61000-6-1:2007

EMC Special Note: Connect this product to a DC distribution network or an AC/DC power adaptor with proper surge protection (EN 61000-6-1:2007 specification requirements).

\* Minimum input voltage for 4-20 mA operation: 250  $\Omega$  loop = 13 VDC; 500  $\Omega$  loop = 19 VDC

## NOTICE

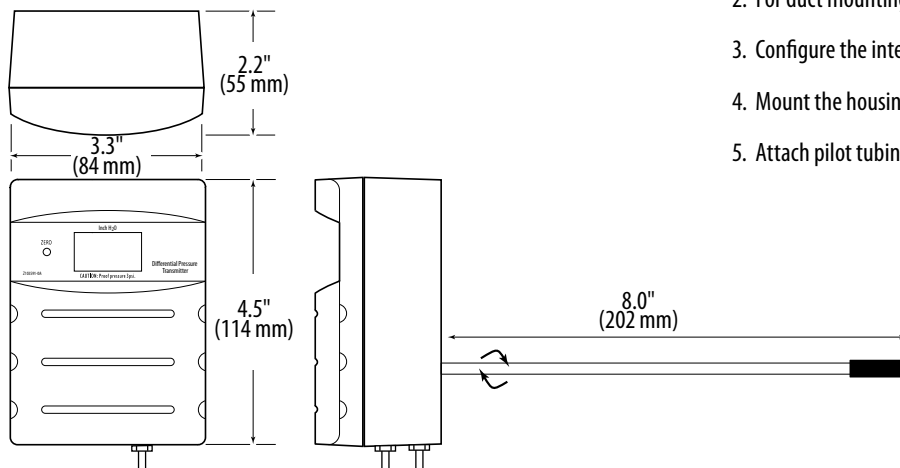
- This product is not intended for life or safety applications.
- Do not install this product in hazardous or classified locations.
- Read and understand the instructions before installing this product.
- Turn off all power supplying equipment before working on it.
- The installer is responsible for conformance to all applicable codes.

## PRODUCT IDENTIFICATION

Enclosure	Local Display	NIST	Range	Response
PX <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D = Duct P = Panel	L = LCD Display X = No Display	N = NIST X = None	01 = 0-1" W.C./0-250Pa 02 = 0-10" W.C./0-2,500kPa	S = Selectable F = Selectable

Local Display	NIST	Range	Response
PXU <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
L = LCD Display X = No Display	N = NIST X = None	05 = 0-10"/0-2,500kPa	= Selectable

## DIMENSIONS

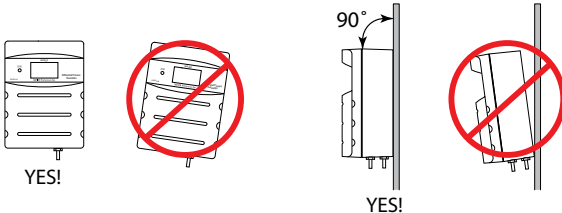
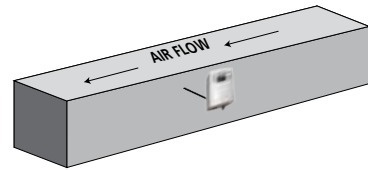
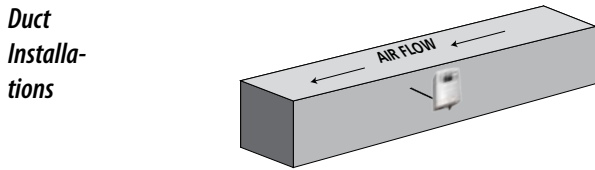
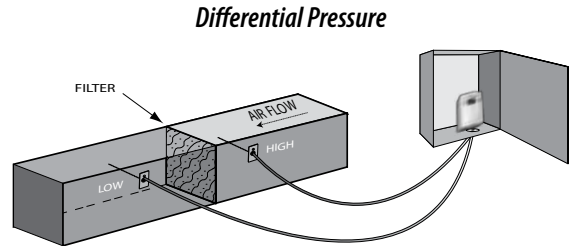
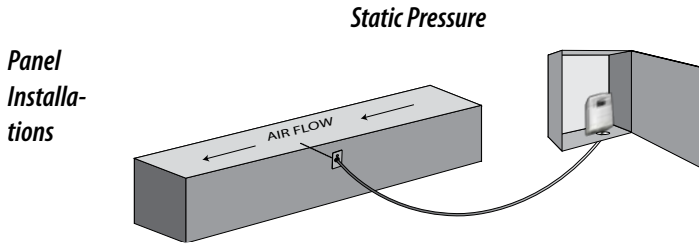


## QUICK INSTALL

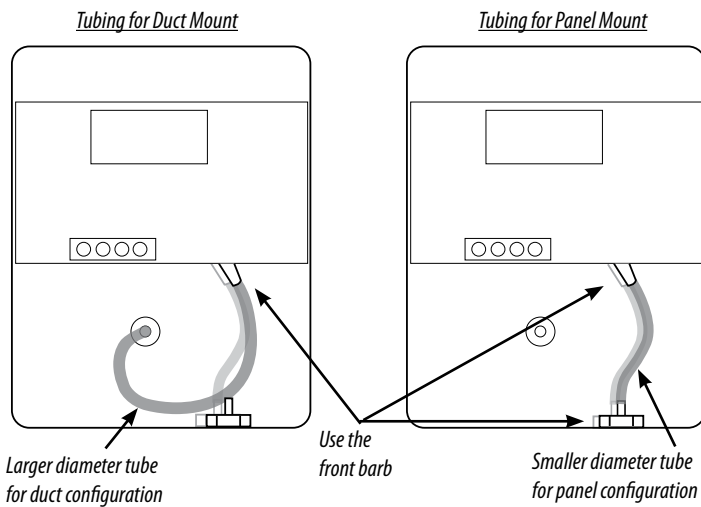
1. Plan the installation. Panel or duct mount?
2. For duct mounting, thread the probe into the rear of the device housing.
3. Configure the internal tubing for the selected installation method.
4. Mount the housing vertically.
5. Attach pilot tubing.

**INSTALLATION**

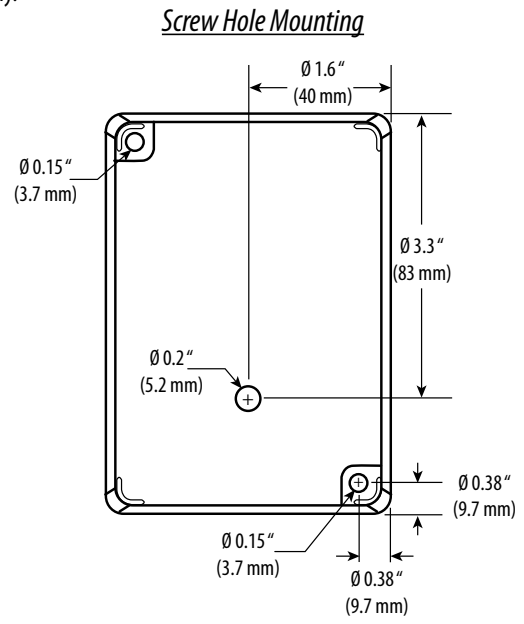
1. Plan the installation. Panel or duct mount?



- For duct mount applications, thread the probe into the back of the device housing.
- Configure the internal tubing for the selected installation method as shown below. Use the larger diameter tubing for the duct mount configuration.



4. Mount the transducer (see the screw hole diagram). Position the transducer vertically.



5. Determine the length of pilot tubing needed.

**WIRING & CONFIGURATION**

Connect the transmitter to the control system and power supply as indicated below.

Optional: Connect the ZERO terminals to the digital output (contact closure) of the control system.

Use the switch to select voltage (V) or current (mA) mode.

Jumper JP4: select 0-10 V or 0-5 V output span (voltage mode only).

Jumper JP5: select bidirectional or unidirectional mode.

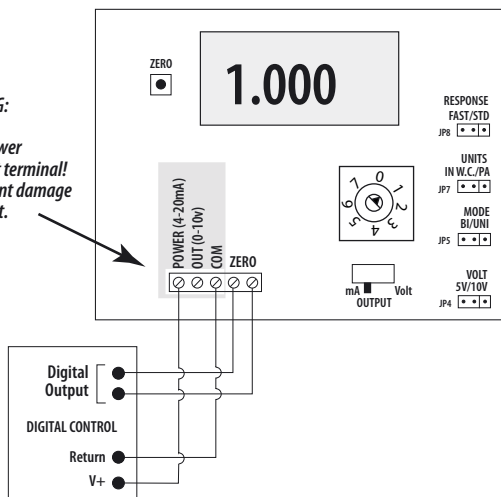
Jumper JP7: select inches W.C. or Pascal scale

Jumper JP8: select fast or standard response time.

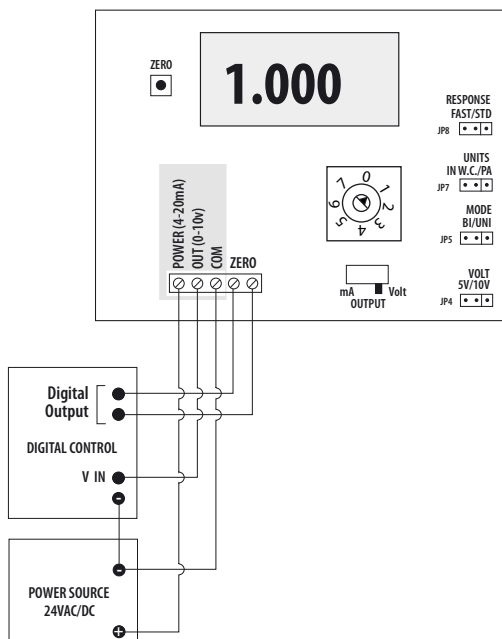
Align the arrow (not the slot) on the rotary switch to the desired full-scale range. LCD models momentarily indicate the selected range.

2-wire, 4-20 mA

**WARNING:**  
Do not apply power to output terminal! Permanent damage will result.



3-wire, 0-5 V/0-10 V



**OPERATION**

PX Series devices employ ceramic capacitive sensors and sophisticated temperature compensation circuitry. The sensor achieves its best accuracy after an initial warm-up period. During the first few minutes of operation, readings at zero pressure and the lowest pressure ranges appear erroneous. Following this initial warm-up period, PX Series maintains its specified accuracy and stability.

**LCD DISPLAY:** The display momentarily indicates range "SET" when selection is made. Pressure is normally indicated on the display. Units are in inches water column (in. W.C.), Pascals (Pa) or kilopascals (kPa) as indicated on the display. The display shows OVER when the pressure is over range.

**ZERO:** Press and hold the ZERO pushbutton for 2 seconds or provide contact closure on 'AUX ZERO' terminal to automatically reset the output and display to zero pressure. To protect the unit from accidental zero, this feature is enabled only when the detected pressure is within about 0.1 in. W.C. (25 Pa) of factory calibration.

**Range Selection Guide**

Rotary Switch Position	PX01		PX02		PX05	
	Inches W.C.	Pascal	Inches W.C.	Pascal	Inches W.C.	Pascal
0	0.1	25	1	250	0.1	25
1	0.25	50	1	250	0.25	50
2	0.5	100	1	250	0.5	100
3	1	250	1	250	1	250
4	1	250	2.5	0.5 kPa	2.5	0.5 kPa
5	1	250	5	1 kPa	5	1 kPa
6	1	250	10	2.5 kPa	10	2.5 kPa
7	1	250	10	2.5 kPa	10	2.5 kPa