

PX3 SERIES

Differential Pressure/Air Velocity Transducers



The PX3 transducer can measure either air pressure or velocity with the flip of a switch. The PX3 is available in three installation configurations: duct, panel or universal. Duct and panel models have two pressure and velocity ranges: 0-1 in. WC / 0-3,000 ft/min or 1-10 in. WC / 3,000-6,000 ft/min with four field-selectable sub-ranges. The universal model comes in one pressure/velocity range: 0-10 in. WC / 0-7,000 ft/min with seven field-selectable sub-ranges for pressure and eight for velocity. All variants are available with and without display. The PX3 has an IP65/ NEMA 4 environmental rating and a 5-year limited warranty.

Note: This product is intended for use in HVAC and building environmental control applications. It is not intended for direct medical monitoring of patients.

SPECIFICATIONS

GENERAL	
Media Compatibility	Dry air or inert gas
Input Power	Three-wire Volt mode: 24 Vac or 12-30 Vdc* Two-wire mA mode: 12-30 Vdc*
Output Power	Field-selectable: 2-wire, loop-powered 4-20 mA Minimum input voltage for 4 to 20 mA operation: 250 Ω loop = 12 Vdc; 500 Ω loop = 19 Vdc (DC only, clipped and capped), 24 Vac/dc or 3-wire 0-5V/0-10V Minimum load resistance for Volt operation: 5 kΩ

PRESSURE RANGES	
Pressure Range 1	Pressure Mode: Unidirectional: 0.1/0.25/0.5/1 in. WC, switch selectable Bidirectional: ±0.1/±0.25/±0.5/±1 in. WC, switch selectable Unidirectional: 25/50/100/250 Pa, switch selectable Bidirectional: ±25/±50/±100/±250 Pa, switch selectable Velocity Mode: 500/1,000/2,000/3,000 ft/min 2.5/5/10/15 m/s
Pressure Range 2	Pressure Mode: Unidirectional: 1.0/2.5/5/10 in. WC, switch selectable Bidirectional: ±1.0/±2.5/±5/±10 in. WC, switch selectable Unidirectional: 250/500/1,000/2,500 Pa, switch selectable Bidirectional: ±250/±500/±1,000/±2,500 Pa, switch selectable Velocity Mode: 3,000/4,000/5,000/6,000 ft/min 15/20/25/30 m/s

Reduce field failures

Excellent tolerance to overpressure and vibration reduces field failures

Water-resistant housing

IP65/NEMA 4 housing allows for mounting in wash-down locations

High accuracy

High accuracy digital sensor with seven selectable pressure and eight velocity sub-ranges, maintains calibration and reduces callbacks

Maintenance free

High reliability sensor technology for long-term, maintenance-free operation

Circuit protection

Circuit protection avoids damage due to incorrect input wiring

APPLICATIONS

- Duct static pressure (Pressure mode)
- Building or room pressure (Pressure mode)
- Filter status (Pressure mode)
- Air flow measurement (Velocity mode)

Pressure Range 5	Pressure Mode: Unidirectional: 0.1/0.25/0.5/1/2.5/5/10 in. WC, switch selectable Bidirectional: ±0.1/±0.25/±0.5/±1/±2.5/±5/±10 in. WC, switch selectable Unidirectional: 25/50/100/250/500/1,000/2,500 Pa, switch selectable Bidirectional: ±25/±50/±100/±250/±500/±1,000/±2,500 Pa, switch selectable Velocity Mode: 500/1,000/2,000/3,000/4,000/5,000/6,000/7,000 ft/min 2.5/5/10/15/20/25/30/35 m/s
SENSOR	
Response Time	Standard: T95 in 20 sec, Fast: T95 in 2 sec, DIP switch selectable
Mode	Unidirectional or bidirectional, DIP switch selectable
Display (option)	Pressure mode: Signed 3-1/2 digit LCD, indicates pressure, overrange indicator Velocity mode: Signed 4-1/2 digit LCD, indicates velocity, overrange indicator
Proof Pressure	3 psid (20,600 Pa)
Burst Pressure	5 psid (34,500 Pa)
Pressure Mode Accuracy	±1% FS (combined linearity and hysteresis)
Velocity Mode Accuracy	±90 ft/min (±0.45 m/s) plus 5% of measured value**
TEMPERATURE EFFECT	
Temperature Effect	1" (250 Pa) models: 0.05%/°C; 10" (2,500 Pa) models: 0.01%/°C (Relative to 25 °C) 0 to 50 °C (32 to 122 °F)
Zero Drift (1-year)	1 in. WC (250 Pa) models: 2.5% FS typ.; 10 in. WC (2,500 Pa) models: 0.25% FS typ.
Zero Adjust	Pushbutton auto-zero and digital input (2-pos terminal block)

SPECIFICATIONS (CONT.)

Operating Env.	-20 to 60 °C (-4 to 140 °F)***
Altitude of Operation	0 to 3,000 m
Humidity Range	100% RH, non-condensing
Mounting Location	For indoor or outdoor use (display will not function below 0 °C (32 °F))
Fittings	Brass barb; 0.24" (6.1 mm) o.d.
Environmental Rating	IP65, NEMA 4
Flammability Rating	UL 94 5VA fire retardant polycarbonate, plenum rated

WARRANTY

Limited Warranty	5 years
------------------	---------

AGENCY APPROVALS



EMC Conformance: EN 61000-6-3 and A1, Class B, EN 61000-6-1, EN61326-1 and EN61326-2-3.

* Class 2/II power source.

** For measured values between 200 and 7,000 ft/min (1 and 35 m/s).

*** Display will not function below 0 °C (32 °F).

ORDERING INFORMATION

	Enclosure	Local Display	NIST Cert*	Accuracy	Range	Wireless Technology
PX3	☐	☐	☐	☐	☐	☐
	D = Duct P = Panel	L = LCD Display X = No Display	N = NIST X = None	0 = 1%	1 = Pressure: 0 to 1 in. WC/ 0 to 250 Pa Velocity: 0 to 3,000 ft/min/ 0 to 15 m/s 2 = Pressure: 1 to 10 in. WC/ 250 to 2500 Pa Velocity: 3,000 to 6,000 ft/min/ 15 to 30 m/s	S = Standard, no wireless technology

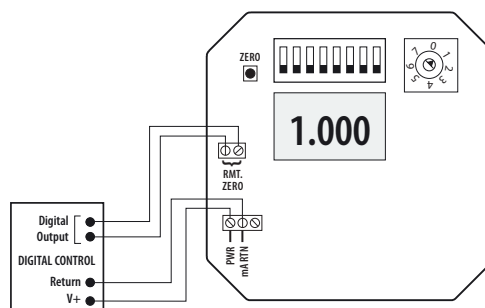
Example: PX3 ☐ D ☐ X ☐ N ☐ 0 ☐ 1 ☐ S *8-point calibration

	Enclosure	Local Display	NIST Cert*	Accuracy	Range	Wireless Technology
PX3	☐	☐	☐	☐	☐	☐
	U = Universal	L = LCD Display X = No Display	N = NIST X = None	0 = 1%	5 = Pressure: 0 to 10 in. WC/ 0 to 2,500 Pa Velocity: 0 to 7,000 ft/min/ 0 to 35 m/s	S = Standard, no wireless technology

Example: PX3 ☐ U ☐ X ☐ N ☐ 0 ☐ 5 ☐ S *16-point calibration

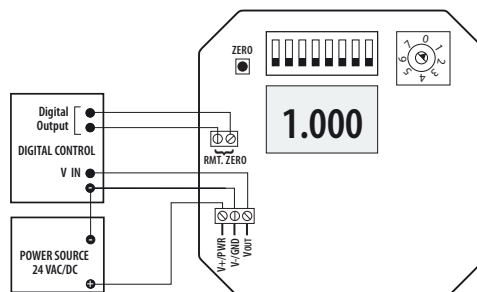
WIRING DIAGRAM

2-wire, 4-20 mA Current Loop Output



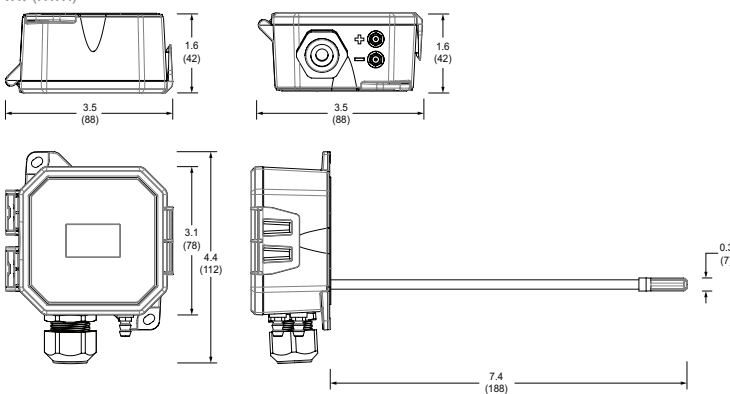
WIRING DIAGRAM

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



DIMENSIONAL DRAWING

in. (mm)



ACCESSORIES

VFXP Series Air Velocity Measurement Probe*
Velocity Pitot Tubes, 8-5/8", 12-5/8", 18-5/8" (AA18, AA19, AA20)*
Static-04 Pick-up - 4" Duct Static Pickup Probe (AA06)
Static-08 Pick-up - 8" Duct Static Pickup Probe (AA07)
Wall Plate Remote Pickup (AA56)

*For use with the PX3P (panel) and PX3U (universal) models in Velocity mode only.

