

PX3 SERIES

Differential Pressure/Air Velocity Transducer



PX3

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 options: 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.

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 k Ω

PRESSURE RANGES

01 Pressure Range	Pressure Mode: Unidirectional: 0.1/0.25/0.5/1 in. WC, switch selectable Bidirectional: $\pm 0.1/\pm 0.25/\pm 0.5/\pm 1$ in. WC, switch selectable Unidirectional: 25/50/100/250 Pa, switch selectable Bidirectional: $\pm 25/\pm 50/\pm 100/\pm 250$ Pa, switch selectable Velocity Mode: 500/1,000/2,000/3,000 ft/min 2.5/5/10/15 m/s
02 Pressure Range	Pressure Mode: Unidirectional: 1.0/2.5/5/10 in. WC, switch selectable Bidirectional: $\pm 1.0/\pm 2.5/\pm 5/\pm 10$ in. WC, switch selectable Unidirectional: 250/500/1,000/2,500 Pa, switch selectable Bidirectional: $\pm 250/\pm 500/\pm 1,000/\pm 2,500$ 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 & vibration reduces field failures

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

Reduce setup

Selectable ranges and scales reduce setup time and number of models to stock

Water-resistant housing

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

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)

05 Pressure Range

Pressure Mode:
Unidirectional: 0.1/0.25/0.5/1/2.5/5/10 in. WC, switch selectable
Bidirectional: $\pm 0.1/\pm 0.25/\pm 0.5/\pm 1/\pm 2.5/\pm 5/\pm 10$ in. WC, switch selectable
Unidirectional: 25/50/100/250/500/1,000/2,500 Pa, switch selectable
Bidirectional: $\pm 25/\pm 50/\pm 100/\pm 250/\pm 500/\pm 1,000/\pm 2,500$ 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	$\pm 1\%$ FS (combined linearity and hysteresis)
Velocity Mode Accuracy	± 90 ft/min (± 0.45 m/s) plus 5% of measured value**
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" (250 Pa) models: 2.0% max.; 10" (2,500 Pa) models: 0.5% max.



SPECIFICATIONS (CONT.)

Zero Adjust	Pushbutton auto-zero and digital input (2-pos terminal block)
Operating Environment	0 to 60 °C (32 to 140 °F)
Altitude of Operation	0 to 3,000 m
Pollution Deg.	2
Humidity Range	100% RH, non-condensing
Mounting Location	For indoor use only.
Fittings	Brass barb; 0.24" (6.1 mm) o.d.
Suggested Cable	Shielded: Belden #9939 (22 AWG) 3-wire multi-conductor (or similar) Belden #9940 (22 AWG) 4-wire multi-conductor (or similar) Belden #9939 (22 AWG) 5-wire multi-conductor (or similar) Unshielded: Belden #8443 (22 AWG) 3-wire multi-conductor (or similar) Belden #8444 (22 AWG) 4-wire multi-conductor (or similar) Belden #8445 (22 AWG) 5-wire multi-conductor (or similar)
Environmental Rating	IP65, NEMA 4
Flammability Rating	UL 94 5VA fire retardant ABS, plenum rated
WARRANTY	
Limited Warranty	5 years

AGENCY APPROVALS



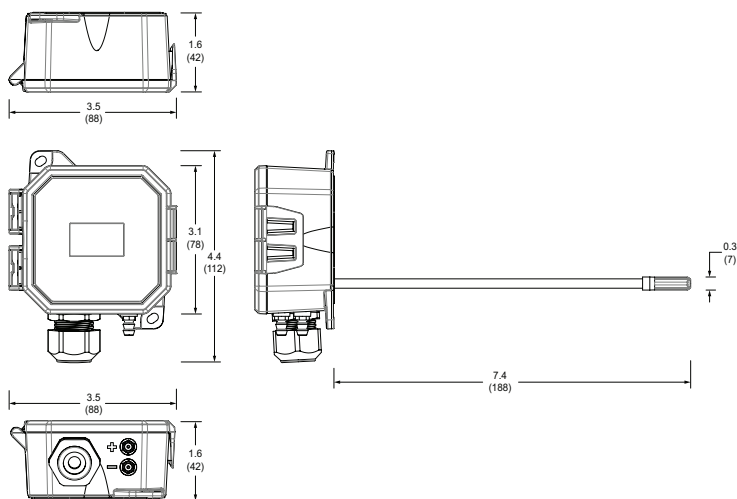
EMC Conformance: EN 61000-6-3 and A1, Class B, EN 61000-6-1, EN61326-1 and EN61326-2-3.

* Class 2/II power source.

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

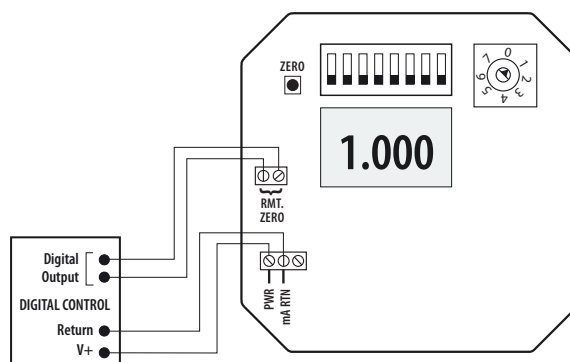
DIMENSIONAL DRAWING

in. (mm)



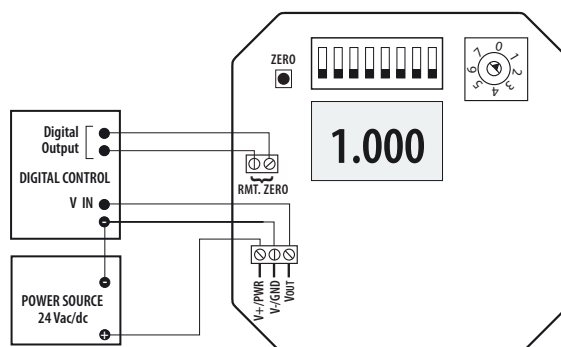
WIRING DIAGRAM

2-wire, 4-20 mA Current Loop Output



WIRING DIAGRAM

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



ACCESSORIES

For velocity applications, use the VFXP Series air velocity/measurement probe or AA18, AA19 or AA20 velocity pitot tubes. For use with the PX3P (panel) and PX3U (universal) models in Velocity mode only. Sold separately.



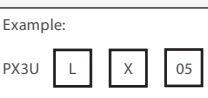
ORDERING INFORMATION

Enclosure	Local Display	NIST Certificate*	Range
PX3			
D = Duct P = Panel	L = LCD Display X = No Display	N = NIST X = None	01 = Pressure: 0 to 1 in. WC / 0 to 250 Pa Velocity: 0 to 3,000 ft/min / 0 to 15 m/s 02 = Pressure: 1 to 10 in. WC/250 to 2500 Pa Velocity: 0 to 6,000 ft/min / 0 to 30 m/s



*8-point calibration

Local Display	NIST Certificate*	Range
PX3U		
L = LCD Display X = No Display	N = NIST X = None	05 = Pressure: 0 to 10 in. WC / 0 to 2,500 Pa Velocity: 0 to 7,000 ft/min / 0 to 35 m/s



*16-point calibration