

INTRINSICALLY SAFE PRESSURE TRANSMITTERS FOR HAZARDOUS LOCATIONS

STANDARD AND METRIC MODELS

High 0.08% Accuracy

Gage Pressure: 10 inH₂O to 3500 psi (25 mb to 245 bar)

Sealed Gage: 0 to 100 psi to 0 to 3500 psi (0 to 7 bar to 0 to 245 bar)

Absolute Pressure: 5 to 1000 psi (350 mb to 70 bar)

Compound Gage: ±10 inH₂O to ±15 psi (±25 mbar to ±1 bar)

Vacuum (Negative Gage): 0 to -10 inH₂O to 0 to -15 psi (0 to -25 mbar to 0 to -1 bar)

Barometric Ranges: 0, 16 or 26 inHg to 32 inHg (0, 550 or 880 hPa to 1100 hPa)

Please Note:
Not for export,
USA and Canada only

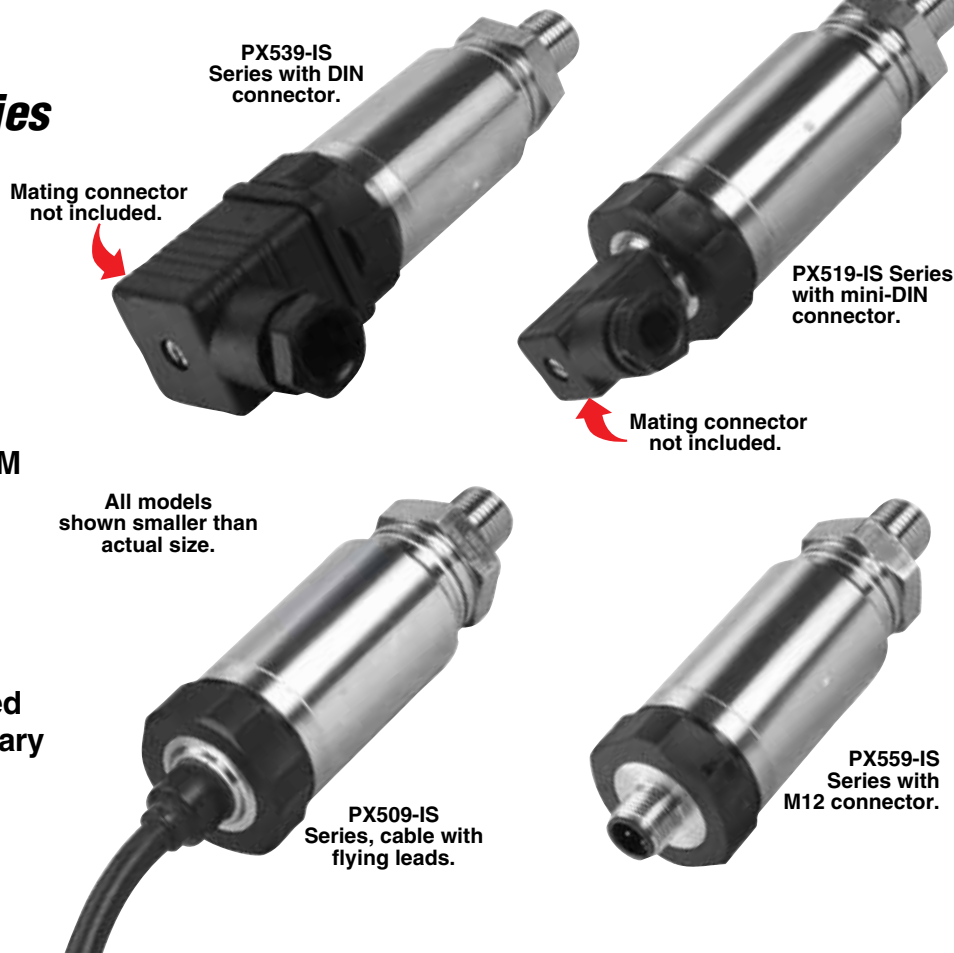
PX509/PXM509-IS Series



- ✓ High 0.08% Accuracy with NIST Traceable Calibration Certificate
- ✓ 4 to 20 mA Output with FM Intrinsically Safe Rating
- ✓ Solid State Sensor for Long Term Stability
- ✓ 316L SS Wetted Parts and Welded Stainless Steel Construction
- ✓ Shock and Vibration Rated
- ✓ Ruggedized with Secondary Containment System
- ✓ Demountable Electrical Termination
- ✓ User Accessible Trim Pots on Most Models

APPLICATIONS

- ✓ Process Control
- ✓ Hydraulic and Pneumatic Systems
- ✓ Natural Gas Compressors
- ✓ Chemical Refineries
- ✓ Oil and Gas
- ✓ Pipeline Measurements
- ✓ Hydrogen (316L SS Wetted Parts Standard)
- ✓ Power Generation



The PX509 intrinsically safe transducers are rugged all stainless steel transducers specifically designed to meet the requirements for use in hazardous locations for all classes and zones.

Features include welded stainless steel construction, user accessible potentiometers, and a demountable electrical termination end. They are designed for rugged industrial applications, and have high shock and vibration ratings and excellent long term stability.

A precision micromachined silicon sensor is at the core, and provides a

very stable reading with exceptional high accuracy of 0.08% and a broad compensated range of -29 to 75°C (-20 to 167°F) on most ranges.

Modular construction allows for fast delivery of most configurations and fittings including agency approved models, plus, customized models also can be delivered quickly to suit your exact needs. Models with ½ NPT conduit fitting (PX509C) do not have a demountable termination and trim pots are an extra cost option.

Intrinsically safe models are available in many ranges and configurations.

INTRINSICALLY SAFE TRANSMITTERS

AGENCY APPROVALS

TYPE	AGENCY	APPROVAL LISTINGS
Intrinsically Safe (US and Canada)	FM	Hazardous (Classified) Location, Rated Intrinsically Safe, Securite Intrinsique Class I, II, III, Division 1 Gr A, B, C, D, E, F, G Class I, Zone 0 Aex ia IIc (US), Class I, Zone 0 Ex ia IIC (Canada), T4, Ta = -40 to 75°C
Non-Incendive	FM	FM Hazardous (Classified) Location, Rated Non-Incendive Class I Division 2 Groups A, B, C, D (US and Canada) T4, Ta = -40 to 75°C, Conduit electrical connections only

NOTE: Please refer to www.omega.com/approvals/ for downloadable copies of FM Approvals Certificate of Compliance and installation control drawings.

SPECIFICATIONS

Compensated Temperature & Thermal Effects:

Compensated Temperature

10 inH₂O to 5 psi: -17 to 75°C

15 to 3500 psi: -29 to 75°C

Zero Temperature Shift

10 inH₂O to 5 psi: ±1.0% span

15 to 3500 psi: ±0.5% span

Span Temperature Shift

10 inH₂O to 5 psi: ±1.0% span

15 to 3500 psi: ±0.5% span

Over Pressure

10 inH₂O: 10 times

1 psi: 6 times

2.5 to 500 psi: 4 times

750 to 3500: 3 times

Containment

10 inH₂O to 5 psi: To 1000 psi

15 to 750 psi: To 3000 psi

1000 psi: To 4000 psi

1500 psi: To 6000 psi

2500 psi: To 8000 psi

3500 psi: To 11,000 psi

Absolute/Barometric Pressure Ranges

Over Pressure

5 psia: 6 times span

15 to 1000 psia: 4 times span

1500 to 5000 psia: 7250 psia maximum

Containment

All Ranges: To 1000 psi

Gauge/Vacuum/Compound Pressure Ranges

Over Pressure

10 inH₂O: 10 times span

1 psi: 6 times span

2.5 to 1000 psi: 4 times span

1500 to 5000 psi: 7250 psi maximum

Minimum Resistance Between Transducer Body and Any Wire: 100MΩ @ 50 Vdc

Accuracy (Combined Linearity, Hysteresis and Repeatability):

±0.08% BSL maximum (other accuracies available)

For conduit (C and CW) zero and span set ±0.5% full scale typical ±1% maximum or set ±1% full scale typical ±2% maximum ranges 2.5 psi and below

Pressure Cycles: 1 million typical

Long Term Stability (1-Year): ±0.1% full scale typical

Excitation Voltage: 10 to 28 Vdc, output 4 to 20 mA

Operating Temperature: -40 to 75°C (-40 to 167°F)

Wetted Material: 316L stainless steel

Bandwidth: DC to 1kHz (typical)

Sensor: Oil filled silicon

EMC Compliant: Up to 30 m (98.4') of cable

EN 61326-1:2006

EN 61326-2-3:2006 Industrial levels

Shock: 50 g, 11 msec half sine shock

Vibration: ±20 g

Response Time: <1 msec

RoHS Compliant

Standard Pressure Port: ¼-18 NPT male

Metric Pressure Port: G1/4B male most popular (other ports available, please contact the Factory)

Weight: 315 g (11 oz) typical depending upon configuration

PX509 also available in industrial models with 5 or 10 Vdc or 4 to 20 mA outputs.

ELECTRICAL TERMINATIONS



INTRINSICALLY SAFE TRANSMITTERS

Gage, Sealed Gage and Absolute Pressure Ranges 4 to 20 mA Output

PRESSURE TRANSDUCERS **B**

To Order			
RANGE/RESOLUTION		STANDARD MODELS	METRIC MODELS
STANDARD	METRIC		
GAGE PRESSURE		SEE TABLE ON PREVIOUS PAGE FOR AGENCY APPROVALS	
0 to 10 inH ₂ O	0 to 25 mb	PX5 ^[**] -10WGC2IS	PXM5 ^[**] -025HGC2IS
0 to 1 psig	0 to 70 mb	PX5 ^[**] -001GC2IS	PXM5 ^[**] -070HGC2IS
0 to 2.5	0 to 170 mb	PX5 ^[**] -2.5GC2IS	PXM5 ^[**] -170HGC2IS
0 to 5	0 to 350 mb	PX5 ^[**] -005GC2IS	PXM5 ^[**] -350HGC2IS
0 to 15	0 to 1 bar	PX5 ^[**] -015GC2IS	PXM5 ^[**] -001BGC2IS
0 to 30	0 to 2	PX5 ^[**] -030GC2IS	PXM5 ^[**] -002BGC2IS
0 to 50	0 to 3.5	PX5 ^[**] -050GC2IS	PXM5 ^[**] -3.5BGC2IS
0 to 100	0 to 7	PX5 ^[**] -100GC2IS	PXM5 ^[**] -007BGC2IS
0 to 150	0 to 10	PX5 ^[**] -150GC2IS	PXM5 ^[**] -010BGC2IS
0 to 250	0 to 17.5	PX5 ^[**] -250GC2IS	PXM5 ^[**] -17.5BGC2IS
0 to 500	0 to 35	PX5 ^[**] -500GC2IS	PXM5 ^[**] -035BGC2IS
0 to 750	0 to 50	PX5 ^[**] -750GC2IS	PXM5 ^[**] -050BGC2IS
0 to 1000	0 to 70	PX5 ^[**] -1.0KGC2IS	PXM5 ^[**] -070BGC2IS
0 to 1500	0 to 100	PX5 ^[**] -1.5KGC2IS	PXM5 ^[**] -100BGC2IS
0 to 2500	0 to 175	PX5 ^[**] -2.5KGC2IS	PXM5 ^[**] -175BGC2IS
0 to 3500	0 to 245	PX5 ^[**] -3.5KGC2IS	PXM5 ^[**] -245BGC2IS
SEALED GAGE		SEE TABLE ON PREVIOUS PAGE FOR AGENCY APPROVALS	
0 to 100 psi	0 to 7 bar	PX5 ^[**] -100SGC2IS	PXM5 ^[**] -7BSGC2IS
0 to 150	0 to 10	PX5 ^[**] -150SGC2IS	PXM5 ^[**] -10BSGC2IS
0 to 250	0 to 17.5	PX5 ^[**] -250SGC2IS	PXM5 ^[**] -17.5BSGC2IS
0 to 500	0 to 35	PX5 ^[**] -500SGC2IS	PXM5 ^[**] -35BSGC2IS
0 to 750	0 to 50	PX5 ^[**] -750SGC2IS	PXM5 ^[**] -50BSGC2IS
0 to 1000	0 to 70	PX5 ^[**] -1.0KSGC2IS	PXM5 ^[**] -70BSGC2IS
0 to 1500	0 to 100	PX5 ^[**] -1.5KSGC2IS	PXM5 ^[**] -100BSGC2IS
0 to 2500	0 to 175	PX5 ^[**] -2.5KSGC2IS	PXM5 ^[**] -175BSGC2IS
0 to 3500	0 to 245	PX5 ^[**] -3.5KSGC2IS	PXM5 ^[**] -245BSGC2IS
ABSOLUTE PRESSURE MODELS		SEE TABLE ON PREVIOUS PAGE FOR AGENCY APPROVALS	
0 to 5 psi	0 to 350 mb	PX5 ^[**] -005AC2IS	PXM5 ^[**] -350HAC2IS
0 to 15	0 to 1 bar	PX5 ^[**] -015AC2IS	PXM5 ^[**] -001BAC2IS
0 to 30	0 to 2	PX5 ^[**] -030AC2IS	PXM5 ^[**] -002BAC2IS
0 to 50	0 to 3.5	PX5 ^[**] -050AC2IS	PXM5 ^[**] -3.5BAC2IS
0 to 100	0 to 7	PX5 ^[**] -100AC2IS	PXM5 ^[**] -007BAC2IS
0 to 150	0 to 10	PX5 ^[**] -150AC2IS	PXM5 ^[**] -010BAC2IS
0 to 250	0 to 17.5	PX5 ^[**] -250AC2IS	PXM5 ^[**] -17.5BAC2IS
0 to 500	0 to 35	PX5 ^[**] -500AC2IS	PXM5 ^[**] -035BAC2IS
0 to 750	0 to 50	PX5 ^[**] -750AC2IS	PXM5 ^[**] -050BAC2IS
0 to 1000	0 to 70	PX5 ^[**] -1.0KAC2IS	PXM5 ^[**] -070BAC2IS
0 to 1500	0 to 100	PX5 ^[**] -1.5KAC2IS	PXM5 ^[**] -100BAC2IS
0 to 2500	0 to 175	PX5 ^[**] -2.5KAC2IS	PXM5 ^[**] -175BAC2IS
0 to 3500	0 to 245	PX5 ^[**] -3.5KAC2IS	PXM5 ^[**] -245BAC2IS

All models come complete with 5-point NIST traceable calibration.

Any cable or connector must meet the requirements of the environment where it is being installed. The safety engineer should specify the cables and connectors.

[**] SELECT	MODEL NO.	ELECTRICAL TERMINATION	ENVIRONMENT RATING
09	PX509	Cable with flying leads, 2 m (6')	IP65
09C	PX509C	Cable with ½ NPT conduit connector (no trim pots, not demountable)	IP65
09CP	PX509CP	Cable with ½ NPT conduit connector and side accessible trim pots	IP65
09CW	PX509CW	Submersible cable with ½ NPT conduit connector (no trim pots, not demountable) 3 m (10')	IP65
09CWP	PX509CWP	Submersible cable with ½ NPT conduit connector and side accessible trim pots (not demountable) 3 m (10')	IP65
19	PX519	mini-DIN connector (mating connector not included)	IP65
29	PX529	Twist-lock 6 pin connector	IP65
39	PX539	DIN connector (mating connector not included)	IP65
49	PX549	Glass to metal sealed solder pins	IP65
59	PX559	M12 connector, M12 cables sold separately	IP65

Ordering Examples: PX509C-100GC2IS, 2 m (6') cable termination with ½ NPT conduit fitting, 100 psig range, 4 to 20 mA output with FM intrinsically safe rating.

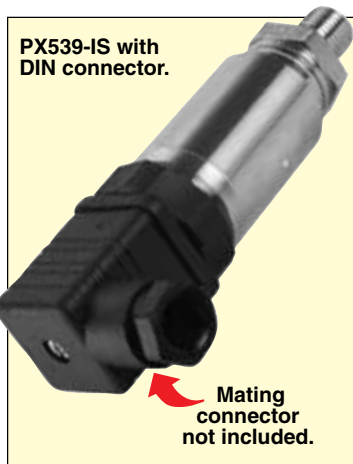
PX509CP-1.0KGC2IS, 2 m (6') cable termination with ½ NPT conduit fitting with side accessible trim pots, 1000 psig range, 4 to 20 mA output with FM intrinsically safe rating.

PX519-005AC2IS, mini-DIN connector (mating connector not included), 0 to 5 psi absolute range, 4 to 20 mA output with FM intrinsically safe rating.

INTRINSICALLY SAFE PRESSURE TRANSMITTERS FOR HAZARDOUS LOCATIONS

STANDARD AND METRIC MODELS

ELECTRICAL TERMINATIONS



Compound Gage, Vacuum and Barometric Pressure Ranges 4 to 20 mA Output

To Order

RANGE		STANDARD MODELS	METRIC MODELS
STANDARD	METRIC		
COMPOUND GAGE RANGES		SEE TABLE FOR AGENCY APPROVALS	
±10 inH ₂ O	±25 mbar	PX5 ^[**] -10WCGBC2IS	PXM5 ^[**] -025HCGBC2IS
±1 psig	±70 mbar	PX5 ^[**] -001CGBC2IS	PXM5 ^[**] -070HCGBC2IS
±2	±170 mbar	PX5 ^[**] -2.5CGBC2IS	PXM5 ^[**] -170HCGBC2IS
±5	±350 mbar	PX5 ^[**] -005CGBC2IS	PXM5 ^[**] -350HCGBC2IS
±15	±1 bar	PX5 ^[**] -015CGBC2IS	PXM5 ^[**] -001BCGBC2IS
VACUUM RANGES (NEGATIVE GAGE)		SEE TABLE FOR AGENCY APPROVALS	
0 to -10 inH ₂ O	0 to -25 mbar	PX5 ^[**] -10WVC2IS	PXM5 ^[**] -025HVC2IS
0 to -1 psig	0 to -70 mbar	PX5 ^[**] -001VC2IS	PXM5 ^[**] -070HVC2IS
0 to -2.5	0 to -170 mbar	PX5 ^[**] -2.5VC2IS	PXM5 ^[**] -170HVC2IS
0 to -5	0 to -350 mbar	PX5 ^[**] -005VC2IS	PXM5 ^[**] -350HVC2IS
0 to -15	0 to -1 bar	PX5 ^[**] -015VC2IS	PXM5 ^[**] -001BVC2IS
BAROMETRIC RANGES (ABSOLUTE PRESSURE)		SEE TABLE FOR AGENCY APPROVALS	
0 to 32 inHg	0 to 1100 hPa	PX5 ^[**] -32BC2IS	PXM5 ^[**] -1100HBC2IS
16 to 32 inHg	550 to 1100 hPa	PX5 ^[**] -16BC2IS	PXM5 ^[**] -550HBC2IS
26 to 32 inHg	880 to 1100 hPa	PX5 ^[**] -26BC2IS	PXM5 ^[**] -880HBC2IS

All models come complete with 5-point NIST traceable calibration.

Any cable or connector must meet the requirements of the environment where it is being installed. The safety engineer should specify the cables and connectors.

[**] SELECT	MODEL NO.	ELECTRICAL TERMINATION	ENVIRONMENT RATING
09	PX509	Cable with flying leads, 2 m (6')	IP65
09C	PX509C	Cable with ½ NPT conduit connector and specify model PX509C (no trim pots, not demountable)	IP65
09CP	PX509CP	Cable with ½ NPT conduit connector and side accessible trim pots specify model PX509CP	IP65
09CW	PX509CW	Submersible cable with ½ NPT conduit connector (no trim pots, not demountable) 3 m (10')	IP65
09CWP	PX509CWP	Submersible cable with ½ NPT conduit connector and side accessible trim pots (not demountable) 3 m (10')	IP65
19	PX519	Mini-DIN connector (mating connector not included)	IP65
29	PX529	Twist-lock 6 pin connector	IP65
39	PX539	DIN connector (mating connector not included)	IP65
49	PX549	Glass to metal sealed solder pins	IP65
59	PX559	M12 connector, M12 cables sold separately	IP65

Custom configurations also available, visit us online for details.

Ordering Examples: PX509C-16BC2IS, 2 m (6') cable termination with ½ NPT conduit fitting, 16 to 32 inHg barometric range, 4 to 20 mA output with FM intrinsically safe rating.

PX529C-2.5VC2IS, twist-lock 6 pin connector, 0 to -2.5 psi vacuum range, 4 to 20 mA output with FM intrinsically safe rating.

PX549-16HBC2IS, glass to metal sealed solder pins, 550 to 1100 hPa barometric range, 4 to 20 mA output with FM intrinsically safe rating.

PX559-001CGBC2IS, M12 connector termination, ±1 psi compound gage range, 12 mA ±8 mA output (zero = 12 mA) with FM intrinsically safe rating.