

# RUGGED SOLID STATE TRANSDUCERS

## WITH AMPLIFIED OUTPUTS

### STANDARD AND METRIC MODELS

**EXCLUSIVE!**

**PX209/PXM209 Series**  
**0-15 to 0-300 psi-Standard Units**  
**0-1 to 0-20 bar-Metric Units**  
**Gage, Absolute, and**  
**Compound Ranges**

Starts at  
**\$195**



Standard

- ✓ **Stainless Steel Fitting and Body**
- ✓ **5-Point NIST-Traceable Calibration Included**
- ✓ **Solid State Media Isolation (Suitable for Use with Many Industrial Liquids and Gases)**
- ✓ **Broad Temperature-Compensated Range of -20 to 80°C (-4 to 176°F) Yields High Stability with Changing Temperatures**
- ✓ **Electrical Isolation to 100 MΩ Ensures Long-Term Reliability**
- ✓ **Rugged High Shock and Vibration Design for Tough OEM Applications**
- ✓ **100,000 Hr MTBF Typical**

Based on proprietary sensor technology developed by OMEGA to meet the high reliability and accuracy demanded by aerospace applications, the PX209/PXM209 Series voltage and current output pressure transducer offers superior performance in non-corrosive applications, including: engine/powertrain testing, well monitoring, and ground and race water monitoring. The transducer uses a 4-active-arm bridge sensor



PX209-100G5V,  
\$195, shown  
actual size.

Cable style.

Based on proprietary solid state sensor technology originally used in aerospace applications.



PX219-100G5V,  
\$195, shown  
actual size.

mini DIN style.

with a micro-machined diffused silicon diaphragm and proprietary thin-film media, plus dielectric isolation barriers.

This same core sensing element technology, which includes multiple types of signal conditioning and the ability to survive extremes of shock and vibration, provides a modular building block for OMEGA's revolutionary family of pressure-sensing instruments.

### SPECIFICATIONS

#### Voltage Output

**Excitation:** 24 Vdc @ 15 mA

**5 Vdc Output:** 7 to 35 Vdc

**10 Vdc Output:** 12 to 35 Vdc

**Output:** 0 to 5 Vdc or 0 to 10 Vdc, ±1.5% FSO, 3-wire

**Zero Balance:** 0 Vdc ±2% FSO

#### 4 to 20 mA Output

**Excitation:** 24 Vdc (7 to 35 Vdc) reverse polarity protected

**Output:** 4 to 20 mA (2-wire) ±1% FSO

**Zero Balance:** 4 mA ±2% FSO

#### Max Loop Resistance:

50 x (supply voltage - 10) Ω

### Common Specifications

**Accuracy:** 0.25% FS (including linearity, hysteresis and repeatability)

**Operating Temperature:** -54 to 121°C (-65 to 250°F)

**Compensated Temperature:** -20 to 80°C (-4 to 176°F)

**Thermal Effects:** 0.04% FS/°C (0.02% FS/°F)

**Proof Pressure:** 150%

**Burst Pressure:** 300% range max

**Response Time:** 2 ms typical

**Vibration Sensitivity:** At 20 g peak sinusoidal vibration from 10 Hz to 2000 Hz (½" D.A.), the output shall not exceed 0.04% FS/g for 15 psi range to 0.005% FS/g for 100 psi and above

**Natural Frequency:** >35 kHz for 100 psi range

**Gage Type:** Diffused silicon strain gages

**Wetted Parts:** 316 SS, borosilicate glass, silicon nitride, epoxy

**Pressure Port:** See dimensional drawing on page B-91

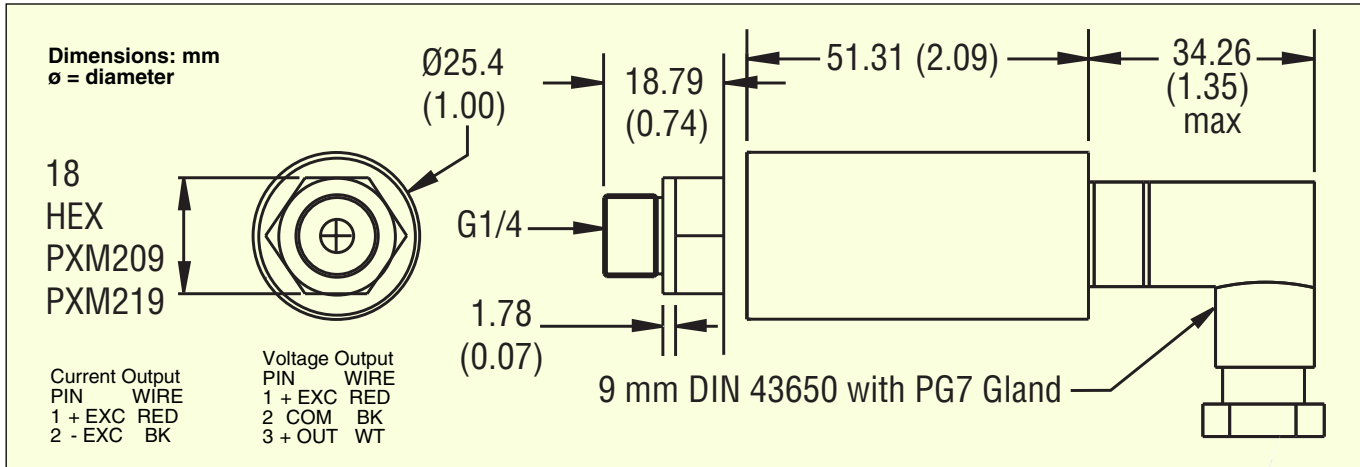
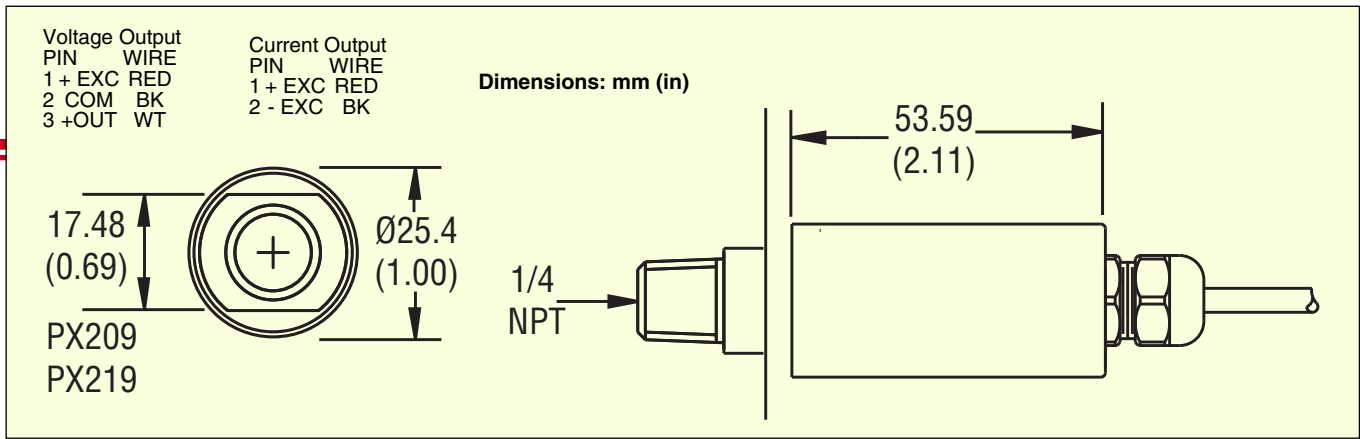
#### Electrical Connections:

**PX209/PXM209:** 1 m (36") shielded 4-conductor cable

**PX219/PXM219:** DIN 43650 plug connector supplied

**Weight:** 128 g (4.5 oz)

VOLTAGE OUTPUT  
 PRESSURE TRANSDUCERS  
**B**



# MAKE IT WIRELESS!

## ADD WIRELESS CAPABILITY TO YOUR PROCESS MEASUREMENT SYSTEM!



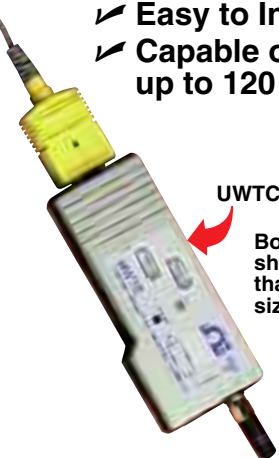
WRS232-USB wireless transmitter, \$159, shown close to actual size.

Wireless Connections From Your Sensor to Your Instrumentation:

- ✓ Thermocouple, RTD, Infrared Temperature, Humidity, pH, as well as Process Voltage/Current
- ✓ Easy to Install and Use
- ✓ Capable of Distances up to 120 m (400')



**For Complete Details See Wireless Section W**



UWTC-1, \$125.

Both models shown smaller than actual size.

UWTC-REC2, \$235, available with 4 to 20 mA, 0 to 5 Vdc, 0 to 10 Vdc and Type K thermocouple output.



Laptop not included.

Wireless Communications From Your Instrument to a PC:

- ✓ Convert the RS232 Signal on Your Meter, Controller or PLC
- ✓ Works with any PC with a USB Port
- ✓ Easy to Install with Seamless Operation
- ✓ Capable of Distances up to 120 m (400')

**To Order (Specify Model Number)**

psi	bar	CABLE STYLE	PRICE	CONN. STYLE	PRICE	COMPATIBLE METERS*
<b>GAGE PRESSURE RANGES (psig) WITH 0 TO 5 Vdc OUTPUT</b>						
0 to 15	0 to 1.0	PX209-015G5V	\$195	PX219-015G5V	\$195	DPI8, DP41-E, DP25B-E
0 to 30	0 to 2.1	PX209-030G5V	195	PX219-030G5V	195	DPI8, DP41-E, DP25B-E
0 to 60	0 to 4.1	PX209-060G5V	195	PX219-060G5V	195	DPI8, DP41-E, DP25B-E
0 to 100	0 to 6.9	PX209-100G5V	195	PX219-100G5V	195	DPI8, DP41-E, DP25B-E
0 to 200	0 to 13.8	PX209-200G5V	195	PX219-200G5V	195	DPI8, DP41-E, DP25B-E
0 to 300	0 to 20.7	PX209-300G5V	195	PX219-300G5V	195	DPI8, DP41-E, DP25B-E
<b>ABSOLUTE PRESSURE RANGES (psia) WITH 0 TO 5 Vdc OUTPUT</b>						
0 to 15	0 to 1.0	PX209-015A5V	\$195	PX219-015A5V	\$195	DPI8, DP41-E, DP25B-E
0 to 30	0 to 2.1	PX209-030A5V	195	PX219-030A5V	195	DPI8, DP41-E, DP25B-E
0 to 60	0 to 4.1	PX209-060A5V	195	PX219-060A5V	195	DPI8, DP41-E, DP25B-E
0 to 100	0 to 6.9	PX209-100A5V	195	PX219-100A5V	195	DPI8, DP41-E, DP25B-E
0 to 200	0 to 13.8	PX209-200A5V	195	PX219-200A5V	195	DPI8, DP41-E, DP25B-E
0 to 300	0 to 20.7	PX209-300A5V	195	PX219-300A5V	195	DPI8, DP41-E, DP25B-E
<b>VACUUM AND COMPOUND RANGES WITH 0 TO 5 Vdc OUTPUT</b>						
-14.7 to 0	-1 to 0	PX209-30VAC5V	\$195	PX219-30VAC5V	\$195	DPI8, DP41-E, DP25B-E
-14.7 to 15	-1 to 1.0	PX209-30V15G5V	195	PX219-30V15G5V	195	DPI8, DP41-E, DP25B-E
-14.7 to 45	-1 to 3.1	PX209-30V45G5V	195	PX219-30V45G5V	195	DPI8, DP41-E, DP25B-E
-14.7 to 85	-1 to 5.9	PX209-30V85G5V	195	PX219-30V85G5V	195	DPI8, DP41-E, DP25B-E
-14.7 to 135	-1 to 9.3	PX209-30V135G5V	195	PX219-30V135G5V	195	DPI8, DP41-E, DP25B-E

Comes complete with 5-point NIST calibration certificate.

\* See section D for compatible meters.

See pages B-149 and B-150 for PX209 units with 4 to 20 mA output.

Note: To order 0 to 10 Vdc output, replace "5V" suffix with "10V" (no extra charge).

Ordering Example: PX219-015A5V, 0 to 5 Vdc output transducer for absolute pressure with a 0 to 15 psia range, PS-4G snubber for gasses and TX4-100 shielded wire, \$195 + 12.75 + 35.00 = \$242.75.

STANDARD ACCESSORIES

MODEL	PRICE	DESCRIPTION
PS-4G	\$12.75	¼ NPT pressure snubber for gaseous media
PS-4E	12.75	¼ NPT pressure snubber for water and light oils
PS-4D	12.75	¼ NPT pressure snubber for dense liquids (motor oil)
TX4-100	35.00	30 m (100') of 4-conductor shielded wire

METRIC ACCESSORIES

MODEL	PRICE	DESCRIPTION
PS-4G-MG	\$12.75	¾ pressure snubber for gaseous media
PS-4E-MG	12.75	¾ pressure snubber for water and light oils
PS-4D-MG	12.75	¾ pressure snubber for dense liquids (motor oil)
TX4-100	35.00	30 m (100') of 4-conductor shielded wire

Order a snubber to protect your pressure transducer!



PS-4G, \$12.75, shown smaller than actual size.

METRIC MODELS

**To Order (Specify PXM209 for Cable or PXM219 for DIN Connector)**

bar	psi	CABLE STYLE	PRICE	CONN. STYLE	PRICE	COMPATIBLE METERS*
<b>GAGE PRESSURE RANGES (bar) WITH 0 to 10 Vdc OUTPUT</b>						
0 to 1.0	0 to 15	PXM209-001G10V	\$195	PXM219-001G10V	\$195	DPI8, DP41-E, DP25B-E
0 to 1.6	0 to 23	PXM209-1.60G10V	195	PXM219-1.60G10V	195	DPI8, DP41-E, DP25B-E
0 to 2.5	0 to 36	PXM209-2.50G10V	195	PXM219-2.50G10V	195	DPI8, DP41-E, DP25B-E
0 to 4.0	0 to 58	PXM209-004G10V	195	PXM219-004G10V	195	DPI8, DP41-E, DP25B-E
0 to 6.0	0 to 87	PXM209-006G10V	195	PXM219-006G10V	195	DPI8, DP41-E, DP25B-E
0 to 10.0	0 to 145	PXM209-010G10V	195	PXM219-010G10V	195	DPI8, DP41-E, DP25B-E
0 to 16.0	0 to 232	PXM209-016G10V	195	PXM219-016G10V	195	DPI8, DP41-E, DP25B-E
0 to 20.0	0 to 290	PXM209-020G10V	195	PXM219-020G10V	195	DPI8, DP41-E, DP25B-E
<b>ABSOLUTE PRESSURE RANGES (bar) WITH 0 to 10 Vdc OUTPUT</b>						
0 to 1.0	0 to 15	PXM209-001A10V	\$195	PXM219-001A10V	\$195	DPI8, DP41-E, DP25B-E
0 to 1.6	0 to 23	PXM209-1.60A10V	195	PXM219-1.60A10V	195	DPI8, DP41-E, DP25B-E
0 to 2.5	0 to 36	PXM209-2.50A10V	195	PXM219-2.50A10V	195	DPI8, DP41-E, DP25B-E
0 to 4.0	0 to 58	PXM209-004A10V	195	PXM219-004A10V	195	DPI8, DP41-E, DP25B-E
0 to 6.0	0 to 87	PXM209-006A10V	195	PXM219-006A10V	195	DPI8, DP41-E, DP25B-E
0 to 10.0	0 to 145	PXM209-010A10V	195	PXM219-010A10V	195	DPI8, DP41-E, DP25B-E
0 to 16.0	0 to 232	PXM209-016A10V	195	PXM219-016A10V	195	DPI8, DP41-E, DP25B-E
0 to 20.0	0 to 290	PXM209-020A10V	195	PXM219-020A10V	195	DPI8, DP41-E, DP25B-E
<b>VACUUM AND COMPOUND RANGES (bar) WITH 0 to 10 Vdc OUTPUT</b>						
VAC to 0	VAC to 0	PXM209-VAC000G10V	\$195	PXM219-VAC000G10V	\$195	DPI8, DP41-E, DP25B-E
VAC to 1	VAC to 15	PXM209-VAC001G10V	195	PXM219-VAC001G10V	195	DPI8, DP41-E, DP25B-E
VAC to 3	VAC to 45	PXM209-VAC003G10V	195	PXM219-VAC003G10V	195	DPI8, DP41-E, DP25B-E
VAC to 6	VAC to 87	PXM209-VAC006G10V	195	PXM219-VAC006G10V	195	DPI8, DP41-E, DP25B-E
VAC to 9	VAC to 131	PXM209-VAC009G10V	195	PXM219-VAC009G10V	195	DPI8, DP41-E, DP25B-E

Comes complete with 5-point calibration.

\* See section D for compatible meters.

Note: The voltage output versions of the vacuum and compound sensors generate 0 Vdc at vacuum and 10 Vdc at full scale.

Ordering Example: PXM219-001A10V, 0 to 10 Vdc output transducer for absolute pressure with a 0 to 1 bar range, PS-4G-MG snubber and TX4-100 shielded wire, \$195 + 12.75 + 35 = \$242.75.



VOLTAGE OUTPUT PRESSURE TRANSDUCERS

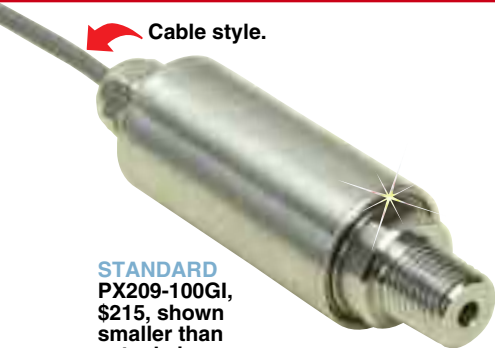
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**STANDARD MODELS**

**AVAILABLE FOR FAST DELIVERY!**

**To Order (Specify PX209 for Cable or PX219 for DIN Connector)**

psi	bar	CABLE STYLE	PRICE	CONN. STYLE	PRICE	COMPATIBLE METERS*
<b>GAGE PRESSURE RANGES (psig) WITH 4 TO 20 mA OUTPUT</b>						
0 to 15	0 to 1.0	PX209-015GI	\$215	PX219-015GI	\$215	DPI8, DP41-E, DP25B-E
0 to 30	0 to 2.1	PX209-030GI	215	PX219-030GI	215	DPI8, DP41-E, DP25B-E
0 to 60	0 to 4.1	PX209-060GI	215	PX219-060GI	215	DPI8, DP41-E, DP25B-E
0 to 100	0 to 6.9	PX209-100GI	215	PX219-100GI	215	DPI8, DP41-E, DP25B-E
0 to 200	0 to 13.8	PX209-200GI	215	PX219-200GI	215	DPI8, DP41-E, DP25B-E
0 to 300	0 to 20.7	PX209-300GI	215	PX219-300GI	215	DPI8, DP41-E, DP25B-E
<b>ABSOLUTE PRESSURE RANGES (psia) WITH 4 TO 20 mA OUTPUT</b>						
0 to 15	0 to 1.0	PX209-015AI	\$215	PX219-015AI	\$215	DPI8, DP41-E, DP25B-E
0 to 30	0 to 2.1	PX209-030AI	215	PX219-030AI	215	DPI8, DP41-E, DP25B-E
0 to 60	0 to 4.1	PX209-060AI	215	PX219-060AI	215	DPI8, DP41-E, DP25B-E
0 to 100	0 to 6.9	PX209-100AI	215	PX219-100AI	215	DPI8, DP41-E, DP25B-E
0 to 200	0 to 13.8	PX209-200AI	215	PX219-200AI	215	DPI8, DP41-E, DP25B-E
0 to 300	0 to 20.7	PX209-300AI	215	PX219-300AI	215	DPI8, DP41-E, DP25B-E
<b>VACUUM AND COMPOUND RANGES WITH 4 TO 20 mA OUTPUT</b>						
-14.7 to 0	-1 to 0	PX209-30VACI	\$215	PX219-30VACI	\$215	DPI8, DP41-E, DP25B-E
-14.7 to 15	-1 to 1.0	PX209-30V15GI	215	PX219-30V15GI	215	DPI8, DP41-E, DP25B-E
-14.7 to 45	-1 to 3.1	PX209-30V45GI	215	PX219-30V45GI	215	DPI8, DP41-E, DP25B-E
-14.7 to 85	-1 to 5.9	PX209-30V85GI	215	PX219-30V85GI	215	DPI8, DP41-E, DP25B-E
-14.7 to 135	-1 to 9.3	PX209-30V135GI	215	PX219-30V135GI	215	DPI8, DP41-E, DP25B-E



**STANDARD PX209-100GI, \$215, shown smaller than actual size.**

**Order a snubber to protect your pressure transducer!**

**PS-4G, \$12.75, shown actual size.**

Comes complete with 5-point NIST traceable calibration.

\* See section D for compatible meters.

**Ordering Example:** PX219-015AI, 4 to 20 mA output transducer for absolute pressure with a 0 to 15 psia range, PS-4G snubber and TX4-100 shielded wire, \$215 + 12.75 + 35 = \$262.75.

**STANDARD ACCESSORIES**

MODEL	PRICE	DESCRIPTION
PS-4G	\$12.75	¼ NPT pressure snubber for gaseous media
PS-4E	12.75	¼ NPT pressure snubber for water and light oils
PS-4D	12.75	¼ NPT pressure snubber for dense liquids (motor oil)
TX4-100	35.00	30 m (100') of 4-conductor shielded wire

**METRIC ACCESSORIES**

MODEL	PRICE	DESCRIPTION
PS-4G-MG	\$12.75	G¼ pressure snubber for gaseous media
PS-4E-MG	12.75	G¼ pressure snubber for water and light oils
PS-4D-MG	12.75	G¼ pressure snubber for dense liquids (motor oil)
TX4-100	35.00	30 m (100') of 4-conductor shielded wire

Recommended Reference Video: Pressure, Industrial Measurement Series, **VT-1005-DVD, \$100.** See Section Y For Additional Books.

**METRIC MODELS**

**AVAILABLE FOR FAST DELIVERY!**

**To Order (Specify PXM209 for Cable or PXM219 for DIN Connector)**

bar	CABLE STYLE	PRICE	CONN. STYLE	PRICE	COMPATIBLE METERS*
<b>GAGE PRESSURE RANGES (bar) WITH 4 to 20 mA OUTPUT</b>					
0 to 1.0	PXM209-001GI	\$215	PXM219-001GI	\$215	DPI8, DP41-E, DP25B-E
0 to 1.6	PXM209-1.60GI	215	PXM219-1.60GI	215	DPI8, DP41-E, DP25B-E
0 to 2.5	PXM209-2.50GI	215	PXM219-2.50GI	215	DPI8, DP41-E, DP25B-E
0 to 4.0	PXM209-004GI	215	PXM219-004GI	215	DPI8, DP41-E, DP25B-E
0 to 6.0	PXM209-006GI	215	PXM219-006GI	215	DPI8, DP41-E, DP25B-E
0 to 10.0	PXM209-010GI	215	PXM219-010GI	215	DPI8, DP41-E, DP25B-E
0 to 16.0	PXM209-016GI	215	PXM219-016GI	215	DPI8, DP41-E, DP25B-E
0 to 20.0	PXM209-020GI	215	PXM219-020GI	215	DPI8, DP41-E, DP25B-E
<b>ABSOLUTE PRESSURE RANGES (bar) WITH 4 to 20 mA OUTPUT</b>					
0 to 1.0	PXM209-001AI	\$215	PXM219-001AI	\$215	DPI8, DP41-E, DP25B-E
0 to 1.6	PXM209-1.60AI	215	PXM219-1.60AI	215	DPI8, DP41-E, DP25B-E
0 to 2.5	PXM209-2.50AI	215	PXM219-2.50AI	215	DPI8, DP41-E, DP25B-E
0 to 4.0	PXM209-004AI	215	PXM219-004AI	215	DPI8, DP41-E, DP25B-E
0 to 6.0	PXM209-006AI	215	PXM219-006AI	215	DPI8, DP41-E, DP25B-E
0 to 10.0	PXM209-010AI	215	PXM219-010AI	215	DPI8, DP41-E, DP25B-E
0 to 16.0	PXM209-016AI	215	PXM219-016AI	215	DPI8, DP41-E, DP25B-E
0 to 20.0	PXM209-020AI	215	PXM219-020AI	215	DPI8, DP41-E, DP25B-E
<b>VACUUM AND COMPOUND RANGES (bar) WITH 4 to 20 mA OUTPUT</b>					
VAC to 0	PXM209-VAC000GI	\$215	PXM219-VAC000GI	\$215	DPI8, DP41-E, DP25B-E
VAC to 1	PXM209-VAC001GI	215	PXM219-VAC001GI	215	DPI8, DP41-E, DP25B-E
VAC to 3	PXM209-VAC003GI	215	PXM219-VAC003GI	215	DPI8, DP41-E, DP25B-E
VAC to 6	PXM209-VAC006GI	215	PXM219-VAC006GI	215	DPI8, DP41-E, DP25B-E
VAC to 9	PXM209-VAC009GI	215	PXM219-VAC009GI	215	DPI8, DP41-E, DP25B-E

Comes complete with 5-point NIST traceable calibration.

\* See section D for compatible meters.

**Note:** The current output versions of the vacuum and compound sensors generate 4 mA at vacuum and 20 mA at full scale.

**Ordering Example:** PXM219-001AI, 4 to 20 mA output transducer for absolute pressure with a 0 to 1 bar range, PS-4G-MG snubber and TX4-100 shielded wire, \$215 + 12.75 + 35 = \$262.75.



#### UNITED STATES

[www.omega.com](http://www.omega.com)  
1-800-TC-OMEGA  
Stamford, CT.

#### CANADA

[www.omega.ca](http://www.omega.ca)  
Laval(Quebec)  
1-800-TC-OMEGA

#### GERMANY

[www.omega.de](http://www.omega.de)  
Deckenpfronn, Germany  
0800-8266342

#### UNITED KINGDOM

[www.omega.co.uk](http://www.omega.co.uk)  
Manchester, England  
0800-488-488

#### FRANCE

[www.omega.fr](http://www.omega.fr)  
Guyancourt, France  
088-466-342

#### CZECH REPUBLIC

[www.omegaeng.cz](http://www.omegaeng.cz)  
Karviná, Czech Republic  
596-311-899

#### BENELUX

[www.omega.nl](http://www.omega.nl)  
Amstelveen, NL  
0800-099-33-44



## More than 100,000 Products Available!

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Calibrators, Connectors, General Test and Measurement Instruments, Glass Bulb Thermometers, Handheld Instruments for Temperature Measurement, Ice Point References, Indicating Labels, Crayons, Cements and Lacquers, Infrared Temperature Measurement Instruments, Recorders Relative Humidity Measurement Instruments, RTD Probes, Elements and Assemblies, Temperature & Process Meters, Timers and Counters, Temperature and Process Controllers and Power Switching Devices, Thermistor Elements, Probes and Assemblies, Thermocouples Thermowells and Head and Well Assemblies, Transmitters, Wire

### • Flow and Level

Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

### • pH and Conductivity

Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

### • Data Acquisition

Auto-Dialers and Alarm Monitoring Systems, Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485 and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

### • Pressure, Strain and Force

Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Strain Gages, Torque Transducers, Valves

### • Heaters

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters