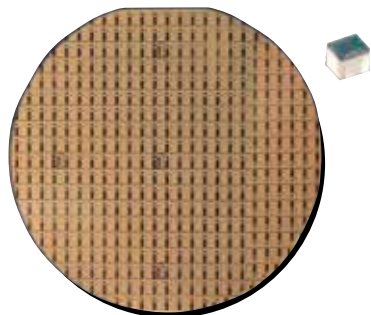


# HIGH ACCURACY PRESSURE TRANSDUCERS

## PIEZORESISTIVE DESIGN WITH HIGH TEMPERATURE PERFORMANCE

**EXCEPTIONAL PERFORMANCE**  
**0.08% STATIC ACCURACY**

**Micro-Machined Silicon**



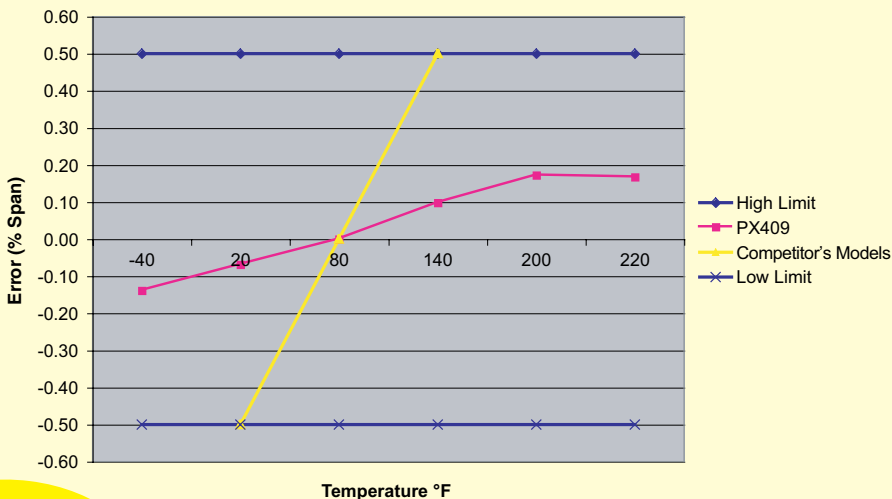
**5-Point NIST Traceable Calibration Certificate**



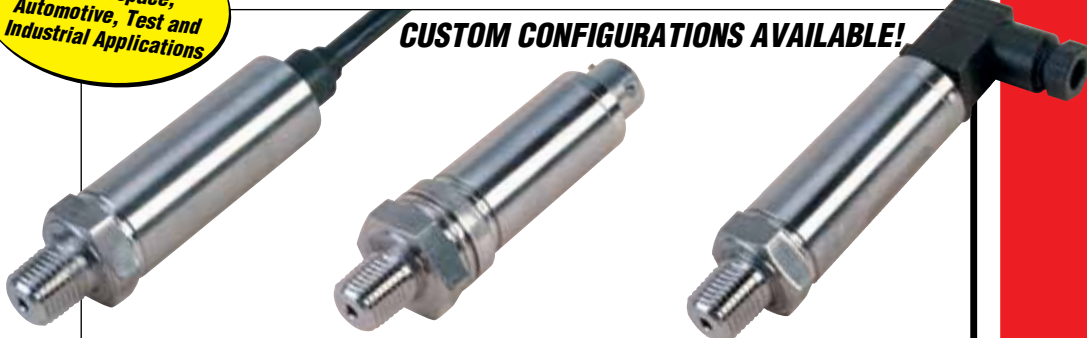
**RUGGEDIZED DESIGN**  
For Aerospace,  
Automotive, Test and  
Industrial Applications

**Thermal Effects -29 to 85°C (-20 to 185°F)**

Span Error: 100 psig



**CUSTOM CONFIGURATIONS AVAILABLE!**



Designed to be quickly customized to meet your exacting specifications, often with fast delivery. Custom variables are available including custom fittings, accuracies, ranges, calibrations, pressure units, thermal specifications, vibration, operating temperature and compensated range. Contact OMEGA Pressure Engineering for more details.

### Common Specifications Gage and Absolute Pressure

**Approvals:** RoHS compliant

**Minimum Isolation Between Case and Output Terminations:**

100M Ω @ 50 Vdc

**Pressure Cycles:** 1 million, minimum

**Long Term Stability (1-Year):** ±0.1% FS typical

**Shock:** 50 g, 11 mS half sine, vertical and horizontal axis

**Vibration:** 5-2000-5 Hz, 30 minute cycle, Curve L, Mil-Spec 810 figure 514-2-2, vertical and horizontal axis

**Bandwidth:** DC to 1 kHz typical

**Response Time:** <1 mS

**CE Compliant:**

**Emissions:** IEC550022 Class B

**Electrostatic Discharge Immunity:** IEC61000-4-2

**EM Field Immunity:** IEC61000-4-3

**EFT Immunity:** IEC61000-4-4

**Surge Immunity:** IEC61000-4-5

**Conducted RF:** IEC61000-4-6

**Rate Power Frequency Magnetic Field:** IEC61000-4-8

**Electrical Termination:**

**PX409:** Integral 2 m (6') cable

**PX409C:** Integral 2 m (6') cable

with ½ NPT conduit fitting

**PX419:** mini-DIN

**PX429:** Twist lock

**Environmental Protection:**

**PX409:** IP67

**PX409C:** IP67

**PX419:** IP65

**PX429:** IP65

**Overpressure Gage Pressure:**

10 inH<sub>2</sub>O: 10 times span

1 psi: 6 times span

2.5 to 1000 psi: 4 times span

1500 to 5000 psi: 7250 psi

maximum

**Overpressure Absolute Pressure:**

5 psia: 6 times span

2.5 psia to 1000 psia: 4 times span

1500 to 5000 psia: 10,000 psi

maximum

**Secondary Containment**

**Gage/Diff/Vac/Compound:**

10 inH<sub>2</sub>O to 5 psi: To 1000 psi

15 to 1000 psi: To 3000 psi

1500 to 5000 psi: To 10,000 psi

**Absolute/Barometric:**

5 to 1000 psi: To 6000 psia

1500 to 5000 psi: To 10,000 psia

**Wetted Parts:** 316 SS

**Pressure Port:** ¼-18 NPT male

**Weight:** 115 to 200 gm (4 to 7 oz)

depending upon configuration

# mV/V OUTPUT

## HIGH PERFORMANCE PRESSURE TRANSDUCERS

### PIEZORESISTIVE DESIGN WITH HIGH TEMPERATURE PERFORMANCE

**100 mV Output**  
**0-10 inH<sub>2</sub>O to 0-5000 psi**  
**25 mb to 345 bar**

PX409-100GV,  
 shown actual size.

### PX409 Series



PX419-015GV,  
 shown actual size.

**Stock Delivery for most Ranges!**



PX429-015GV,  
 shown actual size.

### mV/V Specifications

**Output:** mV/V, 100 mV @ 10 Vdc

(Ratiometric 5 to 10 Vdc)

**Supply Voltage:** 10 Vdc

(5 mA @ 10 Vdc)

**Input/Output Resistance:** 5000 Ω

±20% typical

**Accuracy (Combined Linearity,**

**Hysteresis and Repeatability):**

±0.08% BSL maximum

**Zero Balance:** ±0.5% FS typical

1% max (1% typical, 2% maximum

for 2.5 psi and below)

**Span Setting:** ±0.5% FS typical 1%

maximum (1% typical, 2% maximum for

2.5 psi and below) Calibrated in vertical

direction with fitting down

**Operating Temperature Range:**

-45 to 121°C (-49 to 250°F)

**Compensated Temperature:**

**Ranges >5 psi:** -29 to 85°C

(-20 to 185°F)

**Ranges ≤ 5 psi:** -17 to 85°C

(0 to 185°F)

**Thermal Effects Zero**

**(Over Compensated Range):**

**Ranges >5 psi:** ±0.5% span

**Ranges ≤5 psi:** ±1.0% span

**Thermal Effects Span**

**(Over Compensated Range):**

**Ranges >5 psi:** ±0.5% span

**Ranges ≤5 psi:** ±1.0% span

### To Order

RANGE		2 m (6') CABLE TERMINATION	MINI-DIN TERMINATION	TWIST-LOCK TERMINATION
psi	bar			
<b>mV/V OUTPUT, GAGE PRESSURE RANGES</b>				
10 in-H <sub>2</sub> O	25 mb	PX409-10WGV	PX419-10WGV	PX429-10WGV
1	69 mb	PX409-001GV	PX419-001GV	PX429-001GV
2.5	172 mb	PX409-2.5GV	PX419-2.5GV	PX429-2.5GV
5	345 mb	PX409-005GV	PX419-005GV	PX429-005GV
15	1.0	PX409-015GV	PX419-015GV	PX429-015GV
30	2.1	PX409-030GV	PX419-030GV	PX429-030GV
50	3.4	PX409-050GV	PX419-050GV	PX429-050GV
100	6.9	PX409-100GV	PX419-100GV	PX429-100GV
150	10.3	PX409-150GV	PX419-150GV	PX429-150GV
250	17.2	PX409-250GV	PX419-250GV	PX429-250GV
500	34.5	PX409-500GV	PX419-500GV	PX429-500GV
750	51.7	PX409-750GV	PX419-750GV	PX429-750GV
1000	69	PX409-1.0KGV	PX419-1.0KGV	PX429-1.0KGV
1500	103	PX409-1.5KGV	PX419-1.5KGV	PX429-1.5KGV
2500	172	PX409-2.5KGV	PX419-2.5KGV	PX429-2.5KGV
3500	241	PX409-3.5KGV	PX419-3.5KGV	PX429-3.5KGV
5000	345	PX409-5.0KGV	PX419-5.0KGV	PX429-5.0KGV
<b>mV OUTPUT, ABSOLUTE PRESSURE RANGES</b>				
5	345 mb	PX409-005AV	PX419-005AV	PX429-005AV
15	1.0	PX409-015AV	PX419-015AV	PX429-015AV
30	2.1	PX409-030AV	PX419-030AV	PX429-030AV
50	3.4	PX409-050AV	PX419-050AV	PX429-050AV
100	6.9	PX409-100AV	PX419-100AV	PX429-100AV
150	10.3	PX409-150AV	PX419-150AV	PX429-150AV
250	17.2	PX409-250AV	PX419-250AV	PX429-250AV
500	34.5	PX409-500AV	PX419-500AV	PX429-500AV
750	51.7	PX409-750AV	PX419-750AV	PX429-750AV
1000	69	PX409-1.0KAV	PX419-1.0KAV	PX429-1.0KAV

**Ordering Examples:** PX409-1.0KGV, mV output, 1000 psi gage pressure range, 2 m (6') cable termination. PX429-015AV, mV output, 15 psi absolute pressure, twist lock termination, PT06F10-6S, mating twist lock connector (sold separately), and DP25B-S, 4-digit meter, system with meter.  
 (See page B-25h for information on meters).