

# HIGH ACCURACY PRESSURE TRANSDUCERS



## PX409 Series

PX409-100GV,  
shown actual size.

- ✓ 0.08% BSL Includes Linearity Hysteresis and Repeatability
- ✓ Broad Temperature Compensation Range -29 to 85°C (-20 to 185°F)
- ✓ 5-Point NIST Traceable Calibration Included
- ✓ Outputs:
  - mV/V
  - 0 to 5 V or 0 to 10 V
  - 4 to 20 mA
- ✓ 10 in-H<sub>2</sub>O to 5000 psi Ranges

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



PX419-015GV,  
shown actual size.



PX429-030GV,  
shown actual size.



**Differential  
Pressure Models**



**Most Popular  
Models in Stock for  
Fast Delivery**

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# SOLID STATE PIEZORESISTIVE DESIGN WITH HIGH TEMP. PERFORMANCE FOR INDUSTRY, AUTOMOTIVE, TEST, AND AEROSPACE APPLICATIONS

*mV/V, 0 to 5 Vdc, 0 to 10 Vdc, 4 to 20 mA Outputs*  
**Low Pressure: 10 inH<sub>2</sub>O and**  
**Standard Ranges: 5 to 5000 psi**  
**Metric Ranges: 25 mbar to 345 bars**  
**Gage or Absolute Pressure**

## PX409 Series



- ✓ High Accuracy  $\pm 0.08\%$  BSL Includes Linearity, Hysteresis, and Repeatability
- ✓ Broad Temperature Compensated Range  $-29$  to  $85^{\circ}\text{C}$  ( $-20$  to  $185^{\circ}\text{F}$ )
- ✓ Premium Temperature Performance Span:  $\pm 0.5\%$  Over Compensated Range
- ✓ 5-Point NIST Traceable Calibration Included
- ✓ Digital Dynamic Thermal Compensation Across Temperature and Pressure Range
- ✓ Low Pressure Ranges from 10 inH<sub>2</sub>O
- ✓ All Stainless Steel Wetted Parts
- ✓ Fast Response Time
- ✓ Solid State Reliability and Stability
- ✓ Gage and Absolute Pressures
- ✓ 300% Proof Pressure Minimum

OMEGA piezoresistive pressure transducers have a proven record in high performance commercial and aerospace applications for over 25 years. The piezoresistive process uses strain gages molecularly embedded into a highly stable silicon wafer. The silicon wafer is diced into individual die which each contain a full strain gage bridge. The die is mounted in a sealed chamber protected from the environment by glass to metal seals and a stainless steel diaphragm.

A small volume of silicone oil transfers the pressure from the diaphragm to the strain bridge. The construction provides a very rugged transducer with exceptional accuracy, stability and thermal effects. A unique design ruggedizes the transducers by providing secondary fluid containment in the event of a diaphragm rupture.

At our state-of-the-art facilities, automated test equipment performs pressure and temperature cycling on 100% of the PX409 transducers. The transducers are then calibrated using extremely high accuracy equipment and a 5-point NIST traceable calibration certificate that is included with each transducer. To obtain their high accuracy and stability, the PX409 Series use state-of-the-art digital mapping of the temperature, pressure and output performance of the silicon sensor in conjunction with a custom ASIC to provide dynamic thermal compensation across the

All models shown actual size.

PX409-050GV, features cable termination.

**0.08% Accuracy**

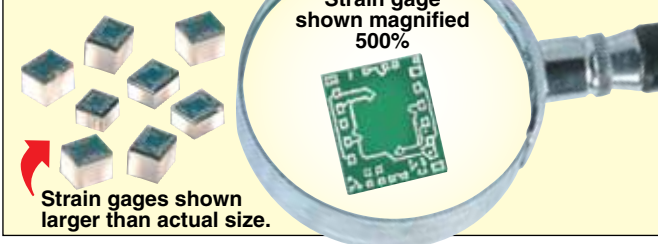
PX419-100GI, features mini-DIN termination.

PX429-015GI, features twist-lock termination.

**Stock Delivery for most Ranges!**

### PX409 SERIES SILICON WAFER TECHNOLOGY

PX409 Series uses a highly stable silicon wafer which is micro-machined to precision tolerances and then has strain gages molecularly embedded into it.



temperature and pressure parameters. The inherent stability of the piezoresistive core provides excellent long term stability, repeatability and very low thermal effects at the price of much lower performance transducers. Standard features of the PX409 Series also include protective features built into the electronics and the pressure element. Reverse polarity, EMC, and power supply fluctuation protection are standard on all models. Intrinsically Safe and CSA ratings are optional.

The most popular ranges and configurations are stocked for immediate delivery. All others typically have a very short lead-time.