**PX409 Series**

Gage or Absolute Pressure  
\( \text{mV/V, 0 to 5 V or 4 to 20 mA Output} \)  
Low Pressure: 10 in\( \text{H}_2\text{O} \)  
5 to 5000 psi—Standard Ranges  
25 mbar to 345 bar—Metric Models

Available at:  
\( \begin{align*}  
\text{PX409-050GV,} & \quad \$475. 
\text{PX419-100GI,} & \quad \$545. 
\text{PX429-015GI,} & \quad \$545. 
\end{align*} \)

**0.08% Accuracy**

- High Accuracy ±0.08% BSL  
  Includes Linearity, Hysteresis, and Repeatability  
- Broad Temperature Compensated  
  Range -29 to 85°C (-20 to 185°F)  
- Premium Temperature Performance  
  Span: ±0.5% over Compensated Range  
- 5-Point NIST Traceable Calibration  
  Included  
- Low Pressure Ranges From 10 in\( \text{H}_2\text{O} \)  
- 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 is included with each transducer. 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 very short lead-time.
High Accuracy Pressure Transducers
Piezoresistive Design with High Temperature Performance

**Common Specifications**

**Gage and Absolute Pressure**
- **Approvals:** RoHS compliant
- **Minimum Isolation Between Case and Output Terminations:** 100 MΩ @ 50 Vdc
- **Pressure Cycles:** 1 million, minimum
- **Long Term Stability (1-Year):** ±0.1% FS typical
- **Shock:** 50 g, 11 ms half sine shock (under test)
- **Vibration:** ±20g (under test)
- **Bandwidth:** DC to 1 kHz typical
- **Response Time:** <1 ms
- **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-in H₂O: 10 times span
  - 1 psi: 6 times span
  - 2.5 psi to 3500 psi: 4 times span
  - 5000 psi: 15,000 psi max
- **Overpressure Absolute Pressure:**
  - 5 psia: 6 times span
  - 2.5 psia to 3500 psia: 4 times span
  - 5000 psia: 15000 psi max
- **Secondary Containment**
  - Gage/Diff/Vac/Compound: 10 in-H₂O to 5 psi: To 1000 psi
  - 15 to 1000 psi: To 3000 psi
  - 1500 to 5000 psi: To 15,000 psi
- **Absolute/Barometric:**
  - 5 to 1000 psi: To 6000 psia
  - 1500 to 5000 psi: To 15,000 psia
- **Wetted Parts:** 316 SS
- **Pressure Port:** ½–18 NPT male
- **Weight:** 115 to 200 gm (4 to 7 oz)
  depending upon configuration

**EXCEPTIONAL PERFORMANCE**
0.08% STATIC ACCURACY

Micro-Machined Silicon

5-Point NIST Traceable Calibration Certificate

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

Span Error: 100 psig

- **High Limit**
- **Other Models**
- **Low Limit**

**Custom Models Available!**

- Use Our Convenient On-Line Transducer Configurator to Choose the Features You Want
- Visit omega.com/pxconfig for Details

RUGGEDIZED DESIGN
For Aerospace, Automotive, Test and Industrial Applications

5-Point NIST Traceable Calibration Certificate

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RUGGEDIZED DESIGN
For Aerospace, Automotive, Test and Industrial Applications
PX409 Series
Gage/Absolute Pressure
0 to 5 Vdc Output
0-10 inH₂O to 0-5000 psi
25 mb to 0-345 bar

<table>
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<th>psi</th>
<th>bar</th>
<th>2 m (6') CABLE TERMINATION</th>
<th>PRICE</th>
<th>MINI DIN TERMINATION</th>
<th>PRICE</th>
<th>TWIST-LOCK TERMINATION</th>
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Note: To order with 0 to 10 Vdc output, change “5V” to “10V” no extra charge. Comes complete with 5-point NIST traceable calibration certificate.

Ordering Examples: PX409-1.0KG5V, 5V output, 1000 psi gage pressure range, 2 m (6') cable termination, $545. PX429-015A5V, 5V output, 15 psi absolute pressure, twist-lock termination, PT06F10-6S, mating twist-lock connector (sold separately), $545 + $26.50 = $571.50.

(See page B-123 for information on compatible meters.)
HIGH ACCURACY PRESSURE TRANSDUCERS
PIEZORESISTIVE DESIGN
WITH HIGH TEMPERATURE PERFORMANCE

CURRENT OUTPUT PRESSURE TRANSDUCERS

PX409 CABLE CONNECTION
COLOR mV 5/10V mA
Black – EXC Common – Supply
White + SIG + Output NC
Green – SIG NC NC
Red + EXC + EXC + Supply

PX419/PX449 PINOUT
PIN mV 5/10V mA
1 + EXC + EXC + Supply
2 – EXC Common – Supply
3 + SIG + Output NC
4 – SIG NC NC

PX429 TWIST-LOCK PINOUT
PIN mV 5/10V mA
A + EXC + EXC + Supply
B – EXC Common – Supply
C + SIG + Output NC
D – SIG NC NC
E NC NC NC
F NC NC NC

COMPATIBLE METERS AND ACCESSORIES

METERS
MODEL NO. PRICE DESCRIPTION PAGE NO.
DP41-E $545 6-digit high accuracy (0.005%) process meter for use with voltage and current output models
DP41-B 595 6-digit high accuracy (0.005%) universal meter for use with voltage and current output models also accepts thermocouple and RTD inputs
DP25B-E 245 4-digit precision process meter for use with voltage and current output models

ACCESSORIES
CX5302 $15.00 Extra mini DIN connector for PX419 Series
PT06F10-6S 26.50 Mating twist lock connector for PX429 Series
PS-4G 12.75 Pressure snubber for air/gaseous media
PS-4E 12.75 Pressure snubber for water or light oils
PS-4D 12.75 Pressure snubber for dense liquids (motor oil)