

# HIGH ACCURACY TRANSDUCERS

## MICRO-MACHINED SILICON

### COMPOUND PRESSURE RANGES

**Compound Pressure Ranges**  
mV/V, Voltage or Current Outputs

IP67 rated  
PX409-015CGV  
±15 psi range  
shown actual size.

Cable style.

mini DIN  
style.

IP65 rated PX419-001CGI  
±1 psi bi-directional range  
shown actual size.

## PX409 Series



Standard

Metric threads available

Now Available  
with M12  
Connector

B

- ✓ 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
- ✓ All Stainless Steel  
Wetted Parts
- ✓ Fast Response Time
- ✓ Solid State Reliability  
and Stability
- ✓ 400% Proof Pressure  
Minimum

OMEGA's PX409 Series high accuracy transducers bi-directional gage pressure range models have all stainless steel wetted parts and welded construction and premium temperature compensation which makes them suitable for use in tough industrial environments.

Compound range transducers are available in 5 ranges which measure positive and negative gage pressure and give a corresponding bi-directional outputs of ±10 mV/V, ±5 Vdc and 4 to 20 mA with ambient set at 12 mA. Ranges are available from ±10 inH<sub>2</sub>O to ±15 psi.

## SPECIFICATIONS

Output:

**Millivolt:** 0 to 10 mV/V for vacuum,  
±10 mV/V for compound

**Amplified Voltage:** 0 to 5 Vdc for  
vacuum, ±5 Vdc for compound

**Current Loop:** 4 to 20 mA  
(12 mA at 0 psig on compound ranges)

Power Requirements:

**Millivolt:** 5 to 10 Vdc (2 mA @ 10 Vdc)

**Amplified Voltage:**  
10 to 30 Vdc @ 10 mA

**Current Loop:** 9 to 30 Vdc  
[max loop res = [(Vs-9) x 50]  
[9 to 20 Vdc above 105°C (229°F)]

**CE Compliant:** Meets industrial  
emission and immunity standard  
EN61326

**Accuracy (Combined Linearity,  
Hysteresis and Repeatability):**  
±0.08% BSL max, calibrated in  
positive direction only, with electrical  
connector up

**Zero Balance:** ±0.5% FS typical  
1% max (1% typical, 2% max  
for ranges 1 psi and below)

**Span Setting:** ±0.5% FS typical  
1% max (1% typical, 2% max for  
ranges 1 psi and below)

**Operating Temperature Range:**  
-45 to 121°C (-49 to 250°F)  
[-45 to 115°C (-49 to 240°F)  
for voltage or current outputs]

**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 (@ 0 psig  
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

**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

**Response Time:** <1 ms

**Bandwidth:** DC to 1 kHz typical

**Proof Pressure (positive direction):**

**10 inH<sub>2</sub>O:** 10 times full scale

**1 psi:** 6 times full scale

**2.5 psi and Higher:** 4 times full scale  
(Negative direction 4 times or  
1 atmosphere whichever is greater)

**Burst Pressure:**

**10 inH<sub>2</sub>O to 15 psi:** 1000 psi

**Electrical Termination:**

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

**PX419:** mini DIN

**PX429:** Twist-lock

**PX459:** M12

**Mating Connectors:**

**PX419:** CX5302 (included)

**PX429:** PT06F10-6S (sold separately)

**Environmental Protection:**

**PX409:** IP67

**PX419, PX429 and PX459:** IP65

**Wetted Parts:** 316 SS

**Pressure Port:** ¼-18 NPT male

**Calibration:** Comes with 5-point  
calibration certificate (positive  
readings only for compound ranges)

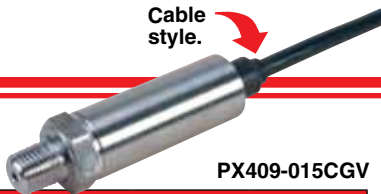
**Weight:** 115 to 200 g (4 to 7 oz)  
depending upon configuration

# HIGH ACCURACY TRANSDUCERS COMPOUND PRESSURE RANGES

All models shown smaller than actual size.

Twist-lock style.

Cable style.



PX409-015CGV

mini DIN style.



PX419-001CGI



PX429-001CGV

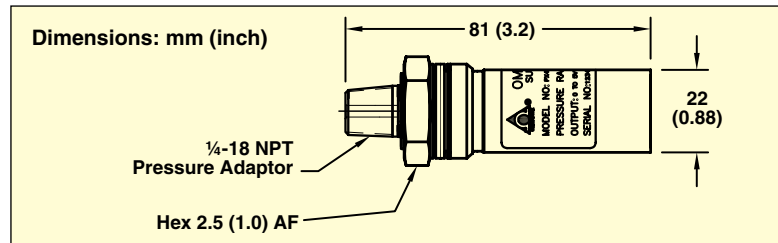
PX409 and PX409C CABLE CONNECTION			
COLOR	mV	5/10V	mA
Black	- EXC	Common	- Supply
White	+ SIG	+ Output	NC
Green	- SIG	NC	NC
Red	+ EXC	+ EXC	+ Supply

PX419 and PX459 PIN OUT			
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

Metric threads available

Custom Models Available!



## To Order

RANGE		2 m (6') CABLE TERMINATION MODEL NO.*	MINI DIN TERMINATION MODEL NO.*	TWIST-LOCK TERMINATION MODEL NO.*	M12 CONN. TERMINATION MODEL NO.*
psi GAGE PRESSURE	mbar GAGE PRESSURE				
<b>±100 mV @ 10 Vdc OUTPUT</b>					
±10 inH <sub>2</sub> O	±25	PX409-10WCGV	PX419-10WCGV	PX429-10WCGV	PX459-10WCGV
±1	±69	PX409-001CGV	PX419-001CGV	PX429-001CGV	PX459-001CGV
±2.5	±172	PX409-2.5CGV	PX419-2.5CGV	PX429-2.5CGV	PX459-2.5CGV
±5	±345	PX409-005CGV	PX419-005CGV	PX429-005CGV	PX459-005CGV
±15	±1034	PX409-015CGV	PX419-015CGV	PX429-015CGV	PX459-015CGV
<b>±5 Vdc, 0 volts @ 0 pressure OUTPUT**</b>					
±10 inH <sub>2</sub> O	±25	PX409-10WCG5V	PX419-10WCG5V	PX429-10WCG5V	PX459-10WCG5V
±1	±69	PX409-001CG5V	PX419-001CG5V	PX429-001CG5V	PX459-001CG5V
±2.5	±172	PX409-2.5CG5V	PX419-2.5CG5V	PX429-2.5CG5V	PX459-2.5CG5V
±5	±345	PX409-005CG5V	PX419-005CG5V	PX429-005CG5V	PX459-005CG5V
±15	±1034	PX409-015CG5V	PX419-015CG5V	PX429-015CG5V	PX459-015CG5V
<b>4 to 20 mA, 12 mA @ 0 pressure OUTPUT</b>					
±10 inH <sub>2</sub> O	±25	PX409-10WCGI	PX419-10WCGI	PX429-10WCGI	PX459-10WCGI
±1	±69	PX409-001CGI	PX419-001CGI	PX429-001CGI	PX459-001CGI
±2.5	±172	PX409-2.5CGI	PX419-2.5CGI	PX429-2.5CGI	PX459-2.5CGI
±5	±345	PX409-005CGI	PX419-005CGI	PX429-005CGI	PX459-005CGI
±15	±1034	PX409-015CGI	PX419-015CGI	PX429-015CGI	PX459-015CGI

## ACCESSORIES

MODEL NO	DESCRIPTION
M12C-PVC-4-S-F-5	PVC cable, straight 4-pin M12 female connector one end, flying leads one end, 5 m (16.4') long, for PX459
M12C-PVC-4-R-F-5	PVC cable, right angled 4-pin M12 female connector one end, flying leads one end, 5 m (16.4') long, for PX459

Comes complete with 5-pt NIST traceable calibration.

\* To order cable version with 1/2 NPT conduit fitting, specify model PX409C, no extra cost.

\*\* To order with 0 to 10 Vdc output change "5V" to "10V" in model number, no extra cost. Metric threads and ranges also available.

Ordering Examples: PX409-015CGV, cable termination, ±15 psig range, ±10 mV/V output.

PX419-001CG5V, mini DIN termination, ±1 psi range, ±5 Vdc, 0 volts @ 0 pressure output.