



SANITARY PROCESS SENSORS

Sanitary Pressure Transducers and Transmitters

Using Micro-Machined Silicon Technology
10 mV/V, 0 to 5 Vdc, 4 to 20 mA Outputs

Gage or Absolute Pressures
10 inH₂O to 600 psi
(25 mbar to 41 bar)
Gage 5 psi to 500 psi
(344 mb to 34.5 bar) **Absolute**
1½" or 2" Tri-Grip Fitting

PX409S Tri-Grip™
Sanitary Series



- ✓ High, 0.08%, Accuracy
- ✓ Solid State Sensor for Durability
- ✓ Excellent Long Term Stability
- ✓ Welded Stainless Steel Construction
- ✓ 316L SS Wetted Parts
- ✓ Shock and Vibration Rated
- ✓ High Overpressure Rating
- ✓ Ruggedized with Secondary Containment

The PX409S Series micro-machined silicon transducers with 1½ or 2" sanitary fittings are ideal for pressure or level CIP applications in food processing, beverage or bio/pharmaceutical applications as well as industrial applications that require a rugged, high accuracy transducer. The micro-machined silicon sensor provides a very stable transducer with exceptional high accuracy of 0.08% and a broad compensated range of -6.7 to 85°C (20 to 185°F). The modular construction allows for fast delivery of most configurations and fittings.

Specifications

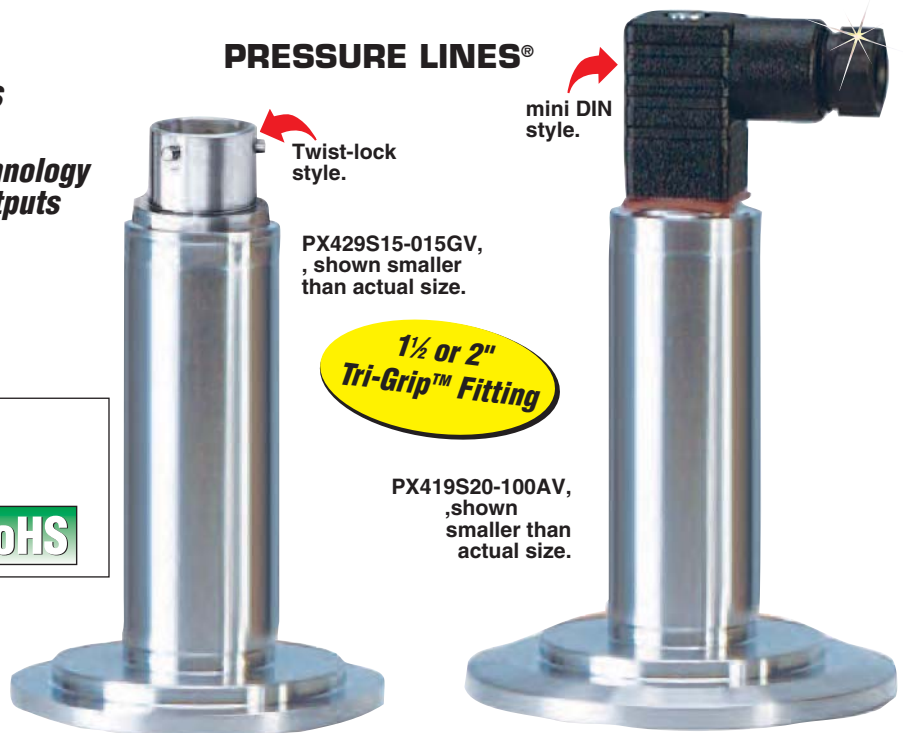
Accuracy: 0.08% Best Straight Line (Linearity, Hysteresis and Repeatability combined)

Operating Temperature Range: -15 to 115°C (-5 to 240°F)

Compensated Temperature Range: -6.7 to 85°C (20 to 185°F)

Temperature Compensation: Zero and span combined

≥ 5 psi: 1% over 55.6°C (100°F) range



≤ 2.5 psi: 2% over 55.6°C (100°F) range

Min Isolation Between Case and Output Terminations: 100 MΩ @ 50 Vdc

Pressure Cycles: 1 million, minimum

Long Term Stability (1-Year): ±0.1% FS typ.

Shock: 50 g, 11 ms half sine shock, (under test)

Vibration: ±20 g (under test)

Bandwidth: DC to 1 kHz typical

Response Time: <1 ms

Fill Fluid: NEOBEE M5 Food grade

Designed to Meet or Exceed 3A Sanitary Specification 74-03

CE Compliant: Meets industrial emissions and immunity standard IEC61326

Environmental Protection: IP65 or IP67 depending upon electrical termination

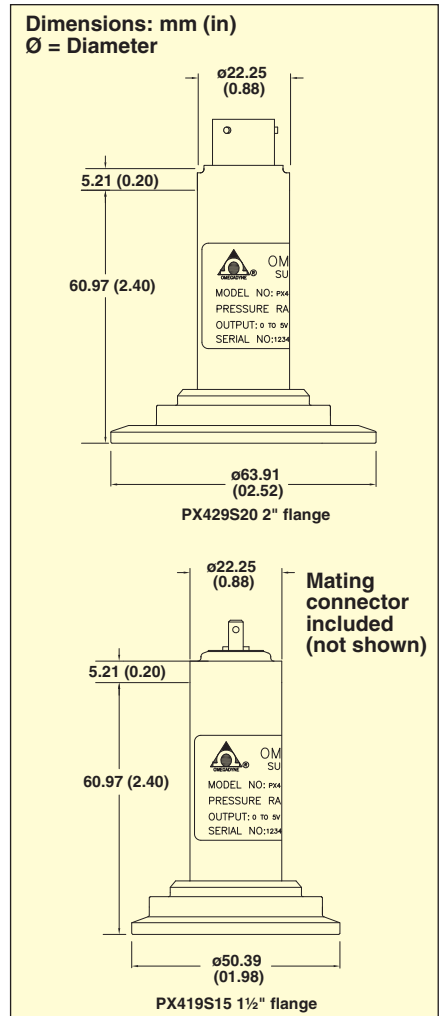
Pressure Rating: 1½" and 2" Tri-Grip™ (Tri-Clamp® compatible) fitting: 600 psi using suitable clamp

Over Pressure: 4 x rated pressure to maximum rated flange pressure

Secondary Containment: 6 x rated pressure to a maximum of 2000 psi (not in clamp)

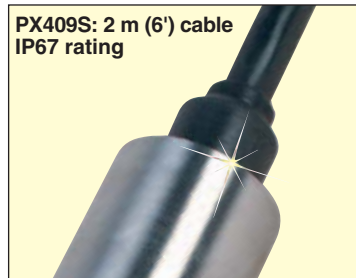
Wetted Parts: 316L SS

Weight: 285 gm (10 oz)



10 mV/V Output

Electrical Terminations



Specifications (10 mV/V Output)

Output/ Supply: 10 mV/V;
Ratiometric 5 to 10 Vdc
Accuracy: ±0.08% BSL (linearity,
hysteresis repeatability combined)

Zero Balance: ±0.5% FS typical
1% max (For ranges ≤2.5 psi
±1% typ ±2% max)

Span Setting: ±0.5% FS typical 1%
max (For ranges ≤2.5 psi ±1% typ
±2% max) Calibrated in horizontal
position

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)				
Range		1½" Tri-Grip™ Fitting	2" Tri-Grip™ Fitting	Price
psi	bar			
Gage Pressure Models, 10 mV/V Output				
0 to 10 inH ₂ O	0 to 25 mb	PX4[*]9S15-10WGV	PX4[*]9S20-10WGV	
0 to 1	0 to 69 mb	PX4[*]9S15-001GV	PX4[*]9S20-001GV	
0 to 2.5	0 to 172 mb	PX4[*]9S15-2.5GV	PX4[*]9S20-2.5GV	
0 to 5	0 to 345 mb	PX4[*]9S15-005GV	PX4[*]9S20-005GV	
0 to 15	0 to 1	PX4[*]9S15-015GV	PX4[*]9S0-015GV	
0 to 30	0 to 2.1	PX4[*]9S15-030GV	PX4[*]9S20-030GV	
0 to 50	0 to 3.4	PX4[*]9S15-050GV	PX4[*]9S20-050GV	
0 to 100	0 to 6.9	PX4[*]9S15-100GV	PX4[*]9S20-100GV	
0 to 150	0 to 10.3	PX4[*]9S15-150GV	PX4[*]9S20-150GV	
0 to 250	0 to 17.2	PX4[*]9S15-250GV	PX4[*]9S20-250GV	
0 to 500	0 to 34.5	PX4[*]9S15-500GV	PX4[*]9S20-500GV	
0 to 600	0 to 41.4	PX4[*]9S15-600GV		
Absolute Pressure Models, 10 mV/V Output				
0 to 5	0 to 345 mb	PX4[*]9S15-005AV	PX4[*]9S20-005AV	
0 to 15	0 to 1	PX4[*]9S15-015AV	PX4[*]9S0-015AV	
0 to 30	0 to 2.1	PX4[*]9S15-030AV	PX4[*]9S20-030AV	
0 to 50	0 to 3.4	PX4[*]9S15-050AV	PX4[*]9S20-050A	
0 to 100	0 to 6.9	PX4[*]9S15-100AV	PX4[*]9S20-100AV	
0 to 150	0 to 10.3	PX4[*]9S15-150AV	PX4[*]9S20-150AV	
0 to 250	0 to 17.2	PX4[*]9S15-250AV	PX4[*]9S20-250AV	
0 to 500	0 to 34.5	PX4[*]9S15-500AV	PX4[*]9S20-500AV	
0 to 600	0 to 41.4	PX4[*]9S15-600AV		

[*] Select Electrical Termination Below

0 (PX409S) = 2 m (6') cable**

1 (PX419S) = mini DIN connector (mating connector supplied)

2 (PX429S) = Twist Lock connector (mating connector PT06F10-6S not included)

5 (PX459S) = M12 connector (mating connector not included)

** To order with a ½ NPT conduit fitting, specify model **PX409CS**.

Ordering Examples: **PX409S15-005GV**, 2 m (6') cable termination, 1.5" Tri-Grip fitting, 5 psig range, 10 mV/V output.

PX419S20-10WGV, mini DIN connector, 2" Tri-Grip fitting, 10 inH₂O range, 10 mV/V output.

PX429S15-050GV, twist-lock connector, 1.5" Tri-Grip fitting, 50 psig range, 10 mV/V output, mating connector sold separately, **PT06F10-6S**.

PX459S15-100GV, M12 connector, 1.5" Tri-Grip fitting, 100 psig range, 10 mV/V output.



Specifications (Amplified Voltage Output)

Output/ Supply:

0 to 5 Vdc: 10 to 30 Vdc @ 10 mA
0 to 10 Vdc: 15 to 30 Vdc @ 10 mA
Accuracy: ±0.08% BSL (linearity, hysteresis repeatability combined)

Zero Balance: ±0.5% FS typical
 ±1% max (For ranges ≤2.5 psi
 ±1% typ ±2% max)

Span Setting: ±0.5% FS typical
 1% max (For ranges ≤2.5 psi
 ±1% typ ±2% max) calibrated in horizontal position

**0 to 5/
0 to 10 Vdc
Output**

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Range		1½" Tri-Grip™ Fitting	2" Tri-Grip™ Fitting
psi	bar		
Gage Pressure Models, 0 to 5 Vdc Output			
0 to 10 inH ₂ O	0 to 25 mb	PX4[*]9S15-10WG5V	PX4[*]9S20-10WG5V
0 to 1	0 to 69 mb	PX4[*]9S15-001G5V	PX4[*]9S20-001G5V
0 to 2.5	0 to 172 mb	PX4[*]9S15-2.5G5V	PX4[*]9S20-2.5G5V
0 to 5	0 to 345 mb	PX4[*]9S15-005G5V	PX4[*]9S20-005G5V
0 to 15	0 to 1	PX4[*]9S15-015G5V	PX4[*]9S0-015G5V
0 to 30	0 to 2.1	PX4[*]9S15-030G5V	PX4[*]9S20-030G5V
0 to 50	0 to 3.4	PX4[*]9S15-050G5V	PX4[*]9S20-050G5V
0 to 100	0 to 6.9	PX4[*]9S15-100G5V	PX4[*]9S20-100G5V
0 to 150	0 to 10.3	PX4[*]9S15-150G5V	PX4[*]9S20-150G5V
0 to 250	0 to 17.2	PX4[*]9S15-250G5V	PX4[*]9S20-250G5V
0 to 500	0 to 34.5	PX4[*]9S15-500G5V	PX4[*]9S20-500G5V
0 to 600	0 to 41.4	PX4[*]9S15-600G5V	
Absolute Pressure Models, 0 to 5 Vdc Output			
0 to 5	0 to 345 mb	PX4[*]9S15-005A5V	PX4[*]9S20-005A5V
0 to 15	0 to 1	PX4[*]9S15-015A5V	PX4[*]9S0-015A5V
0 to 30	0 to 2.1	PX4[*]9S15-030A5V	PX4[*]9S20-030A5V
0 to 50	0 to 3.4	PX4[*]9S15-050A5V	PX4[*]9S20-050A
0 to 100	0 to 6.9	PX4[*]9S15-100A5V	PX4[*]9S20-100A5V
0 to 150	0 to 10.3	PX4[*]9S15-150A5V	PX4[*]9S20-150A5V
0 to 250	0 to 17.2	PX4[*]9S15-250A5V	PX4[*]9S20-250A5V
0 to 500	0 to 34.5	PX4[*]9S15-500A5V	PX4[*]9S20-500A5V
0 to 600	0 to 41.4	PX4[*]9S15-600A5V	



Twist-lock style.

Exploded view showing PX429S15-005GI. Standard Tri-Grip™ fitting works with commercially available sanitary pipes and fittings. Shown smaller than actual size.

[*] Select Electrical Termination

0 (PX409S) = 2 m (6') cable**

1 (PX419S) = mini DIN connector (mating connector supplied)

2 (PX429S) = Twist Lock connector (mating connector PT06F10-6S not included)

5 (PX459S) = M12 connector (mating connector not included)

** To order with a ½ NPT conduit fitting, specify model **PX409CS**.

To order 0 to 10 Vdc output, change "5V" to "10V", no extra charge.

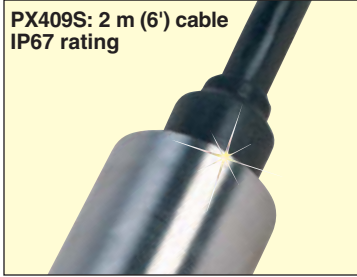
Ordering Examples: PX409S15-005G5V, 2 m (6') cable termination, 1.5" Tri-Grip fitting, 5 psig range, 0 to 5 Vdc output, \$700.

PX419S20-10WG5V, mini DIN connector, 2" Tri-Grip fitting, 10 inH₂O range, 0 to 5 Vdc output.

PX429S15-050G10V, Twist-lock connector, 1.5" Tri-Grip fitting, 50 psig range, 0 to 10 Vdc output, mating connector sold separately, PT06F10-6S.

PX459S15-100G5V, M12 connector, 1.5" Tri-Grip fitting, 100 psig range, 0 to 5 Vdc output.

Electrical Terminations



Specifications (4 to 20 mA Output)

Output: 4 to 20 mA
Supply Voltage: 9 to 30 Vdc
 [9 to 20 Vdc above 105°C (229°F)]
 max loop res $\Omega = (V_s - 90) \times 50$
Accuracy: $\pm 0.08\%$ BSL (linearity,
 hysteresis repeatability combined)
Zero Balance: $\pm 0.5\%$ FS typical 1% max
 (For ranges ≤ 2.5 psi $\pm 1\%$
 typ $\pm 2\%$ max)
Span Setting: $\pm 0.5\%$ FS typical 1% max
 (For ranges ≤ 2.5 psi $\pm 1\%$ typ 2% max)
 Calibrated in horizontal position

**4 to 20 mA
Output**

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)				
Range		1½" Tri-Grip™ Fitting	2" Tri-Grip™ Fitting	
psi	bar			
Gage Pressure Models, 4 to 20 mA Output				
0 to 10 inH ₂ O	0 to 25 mb	PX4[*]9S15-10WGI	PX4[*]9S20-10WGI	
0 to 1	0 to 69 mb	PX4[*]9S15-001GI	PX4[*]9S20-001GI	
0 to 2.5	0 to 172 mb	PX4[*]9S15-2.5GI	PX4[*]9S20-2.5GI	
0 to 5	0 to 345 mb	PX4[*]9S15-005GI	PX4[*]9S20-005GI	
0 to 15	0 to 1	PX4[*]9S15-015GI	PX4[*]9S0-015GI	
0 to 30	0 to 2.1	PX4[*]9S15-030GI	PX4[*]9S20-030GI	
0 to 50	0 to 3.4	PX4[*]9S15-050GI	PX4[*]9S20-050GI	
0 to 100	0 to 6.9	PX4[*]9S15-100GI	PX4[*]9S20-100GI	
0 to 150	0 to 10.3	PX4[*]9S15-150GI	PX4[*]9S20-150GI	
0 to 250	0 to 17.2	PX4[*]9S15-250GI	PX4[*]9S20-250GI	
0 to 500	0 to 34.5	PX4[*]9S15-500GI	PX4[*]9S20-500GI	
0 to 600	0 to 41.4	PX4[*]9S15-600GI		
Absolute Pressure Models, 4 to 20 mA Output				
0 to 5	0 to 345 mb	PX4[*]9S15-005AI	PX4[*]9S20-005AI	
0 to 15	0 to 1	PX4[*]9S15-015AI	PX4[*]9S0-015AI	
0 to 30	0 to 2.1	PX4[*]9S15-030AI	PX4[*]9S20-030AI	
0 to 50	0 to 3.4	PX4[*]9S15-050AI	PX4[*]9S20-050A	
0 to 100	0 to 6.9	PX4[*]9S15-100AI	PX4[*]9S20-100AI	
0 to 150	0 to 10.3	PX4[*]9S15-150AI	PX4[*]9S20-150AI	
0 to 250	0 to 17.2	PX4[*]9S15-250AI	PX4[*]9S20-250AI	
0 to 500	0 to 34.5	PX4[*]9S15-500AI	PX4[*]9S20-500AI	
0 to 600	0 to 41.4	PX4[*]9S15-600AI		

[*] Select Electrical Termination

- 0 (PX409S) = 2 m (6') cable**
- 1 (PX419S) = mini DIN connector (mating connector supplied)
- 2 (PX429S) = Twist Lock connector (mating connector PT06F10-6S not included)
- 5 (PX459S) = M12 connector (mating connector not included)
- ** To order with a ½ NPT conduit fitting, specify model **PX409CS**.

Ordering Examples: **PX409S15-005GI**, 2 m (6') cable termination, 1.5" Tri-Grip fitting, 5 psig range, 4 to 20 mA output.

PX419S20-10WGI, mini DIN connector, 2" Tri-Grip fitting, 10 inH₂O range, 4 to 20 mA output.

PX429S15-050GI, Twist-lock connector, 1.5" Tri-Grip fitting, 50 psig range, 4 to 20 mA output. mating connector sold separately, **PT06F10-6S**.

PX459S15-100GI, M12 connector, 1.5" Tri-Grip fitting, 100 psig range, 4 to 20 mA output.



SANITARY PROCESS SENSORS

High Accuracy Pressure Transducers Piezoresistive Design With High Temperature Performance

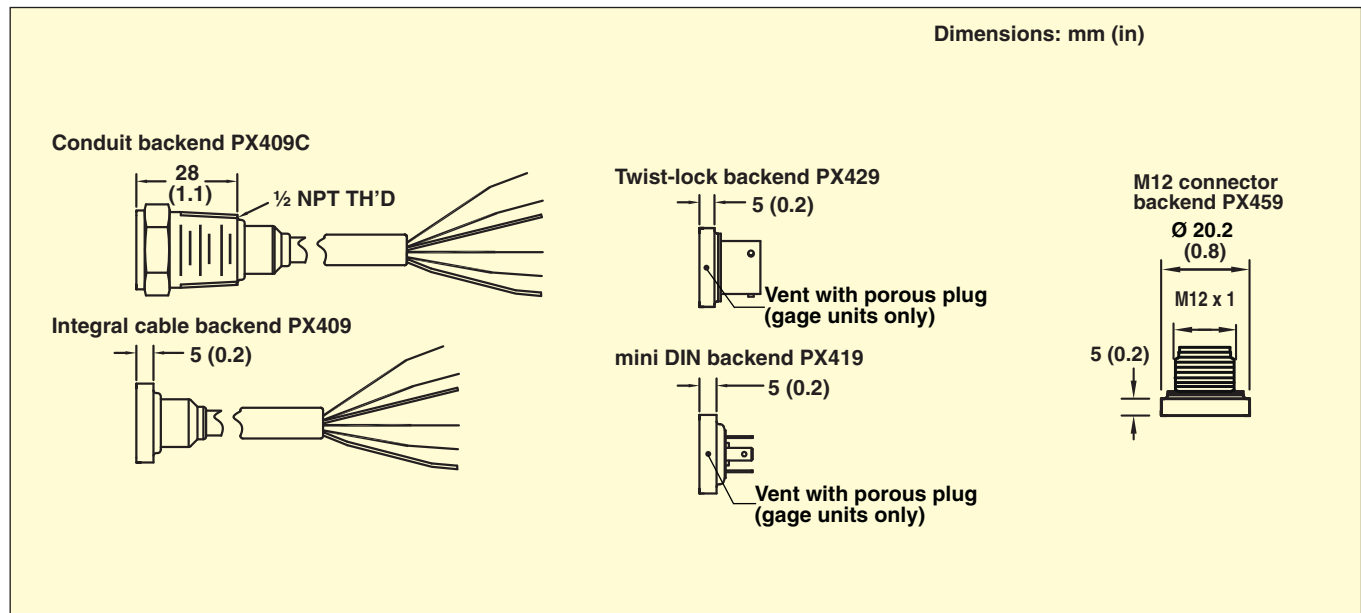
All images shown smaller than actual size.



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/PX459 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.	Description	Page No.
DP41-S	6-digit high accuracy (0.005%) process meter for use with millivolt and strain gage bridge output models	D-29
DP41-B	6-digit high accuracy (0.005%) universal meter for use with voltage and current output models also accepts thermocouple and RTD inputs	D-35
DP25B-E	4-digit precision process meter for use with voltage and current output models	D-23
Accessories		
CX5302	Extra mini DIN connector for PX419 Series	
PT06F10-6S	Mating twist lock connector for PX429 Series	

M12 Cables		
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	
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	

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