

# DIFFUSED SEMICONDUCTOR PRESSURE TRANSMITTER

**PX6000 Series**  
**4 to 20 mA Output**  
**0-15 to 0-300 psi**  
**0-1 to 0-20 bar**

All Ranges  
**\$550**



- ✓ High Reliability
- ✓ Long-Term Stability
- ✓ All Stainless Steel Case
- ✓ Vacuum Range Available
- ✓ Built-In Temperature Sensor

## Applications

- ✓ Automotive Testing
- ✓ Research and Development
- ✓ Engineering Testing and Evaluation
- ✓ Production Testing
- ✓ Flight Recorders
- ✓ Engine Monitoring
- ✓ Ground Support Equipment

OMEGA's PX6000 Series pressure transducers fit easily into many applications. These low-cost transducers are small and light, and mounting requires no bulky structures. Users can select from 3 electrical terminations and 6 pressure fittings. The sensor is a small [about 2.54 mm (0.1") square] silicon chip, with 4 diffused strain gages mounted in the stainless steel case. Laser-trimmed resistors provide temperature compensation and adjust zero balance and span. The 4 to 20 mA output easily interfaces with most control and data acquisition systems. The PX6000 uses solid state media isolation for improved reliability. Thin films of chemically inert



PX6000L1-100GI, \$550, shown actual size.

materials are deposited or grown on the chip surface to provide electrical isolation between the sensor and pressure medium. The sensor is less sensitive to vibration and more dependable in high-shock environments because the films add no significant mass. Corrosion resistance is outstanding, and the isolation will remain effective because there are no gel or oil columns to deteriorate.

## SPECIFICATIONS

### 4 to 20 mA Models

**Excitation:** 12 to 40 Vdc unregulated

**Output:** 4 to 20 mA adjustable  $\pm 10\%$  FS

**Load Impedance (Max):**  $50 \times (V - 10) \Omega$  where V = supply voltage (40 Vdc max)

**Zero Balance:** 4 mA adjustable  $\pm 10\%$  FS

**Dielectric Isolation Resistance:** 100 M $\Omega$  minimum at 45 Vdc applied between the case or a conductive medium and the bridge circuit

### **MOST POPULAR MODELS HIGHLIGHTED!**

### To Order (Specify Model Number)

Models with 4 to 20 mA Output, 1/4 NPT-M Pressure Connection, Integral Connector

RANGE	MODEL NO.	PRICE	COMPATIBLE METERS*
<b>VACUUM</b>			
30 to 0 inHg    102 to 0 kPa	PX6000L1-30VACI	\$550	DP41-E, DP25B-E, DP24-E
<b>ABSOLUTE PRESSURE</b>			
0 to 15 psi    0 to 1.0 bar	PX6000L1-015AI	\$550	DP41-E, DP25B-E, DP24-E
0 to 20 psi    0 to 1.4 bar	PX6000L1-020AI	550	DP41-E, DP25B-E, DP24-E
0 to 50 psi    0 to 3.4 bar	PX6000L1-050AI	550	DP41-E, DP25B-E, DP24-E
0 to 100 psi    0 to 6.9 bar	PX6000L1-100AI	550	DP41-E, DP25B-E, DP24-E
0 to 200 psi    0 to 13.8 bar	PX6000L1-200AI	550	DP41-E, DP25B-E, DP24-E
0 to 300 psi    0 to 20.7 bar	PX6000L1-300AI	550	DP41-E, DP25B-E, DP24-E
<b>GAGE PRESSURE</b>			
0 to 15 psi    0 to 1.0 bar	PX6000L1-015GI	\$550	DP41-E, DP25B-E, DP24-E
0 to 20 psi    0 to 1.4 bar	PX6000L1-020GI	550	DP41-E, DP25B-E, DP24-E
0 to 50 psi    0 to 3.4 bar	PX6000L1-050GI	550	DP41-E, DP25B-E, DP24-E
0 to 100 psi    0 to 6.9 bar	PX6000L1-100GI	550	DP41-E, DP25B-E, DP24-E
0 to 200 psi    0 to 13.8 bar	PX6000L1-200GI	550	DP41-E, DP25B-E, DP24-E
0 to 300 psi    0 to 20.7 bar	PX6000L1-300GI	550	DP41-E, DP25B-E, DP24-E

Comes with 5-point calibration.

\* See section D for compatible meters.

Metric ranges available – consult Engineering.

**Ordering Examples:** PX6000L1-050GI, 50 psi gage pressure transducer with 4 to 20 mA output, PTIH-10-6P, electrical connector and MS33656-4, male pressure port, \$550.

PTS06A-10-6S, mating connector (not included), \$47. PX6000L1-015AI, 15 psi absolute pressure transducer with 4 to 20 mA output, PTIH-10-6P, electrical connector and MS33656-4, male pressure port, \$550. PTS06A-10-6S, mating connector (not included), \$47.

### ACCESSORY

MODEL NO.	PRICE	DESCRIPTION
EE-2560	\$125	Reference Book: Analog Signal Processing



# DIFFUSED SEMICONDUCTOR PRESSURE TRANSMITTER



CURRENT OUTPUT PRESSURE TRANSDUCERS  
**B**

## Sensing Element:

4-active-arm bridge using a micro-machined diffused silicon diaphragm sensor, thin-film media and dielectric isolation barriers

**Temperature Sensor:** Output resistance @ 24°C (75°F) 900 to 1500

**Temperature Coefficient:** 8% min, 10% max per 55.5°C (100°F)

**Accuracy:** Combined linearity, hysteresis and repeatability  $\leq \pm 0.25\%$  FS for all ranges

**Operating Temp Range:** -29° to 85°C (-20° to 185°F)

**Compensated Temp Range:** -29° to 85°C (-20° to 185°F)

## Thermal Effects:

**Span:**  $\leq \pm 0.02\%$  of FS/°F.

**Zero:**  $\leq \pm 0.02\%$  of FS/°F

**Vibration Sensitivity:** At 20 g peak sinusoidal vibration from 10 Hz to 2000 Hz ( $\frac{1}{2}$ " D.A.), the output shall not exceed 0.04% FS/g for 15 psi range to 0.005% FS/g for 100 psi and above

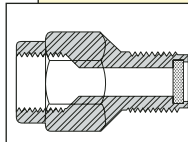
**Natural Frequency:** Greater than 35 kHz for 100 psi and above

**Shock:** 100 g, 11 ms half sine wave without damage

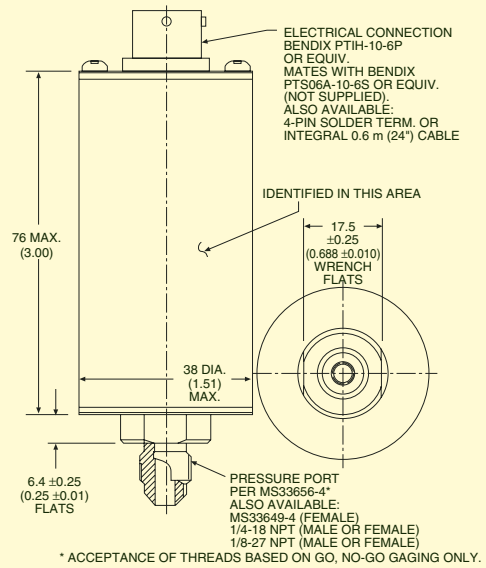
**Proof Pressure:** 2 times rated pressure will not cause changes in performance beyond the specified tolerances

DIN Pin	Wire Code	
1	A	RED = + INPUT
	B	YEL = N/C
	C	BL = N/C
2	D	WT = - INPUT
	E	= Temp Sensor
	F	= Temp Sensor
	Shield	= Case Ground

Dimensions: mm (in)



**1/4 NPT Pressure Snubbers: \$10 ea**  
**PS-4G = Gas**  
**PS-4E = Lt Oil**  
**PS-4D = Dense Lq**



**Burst Pressure:** 3 times rated pressure for pressure ranges below 200 psi, or 2.5 times rated pressure for pressure ranges above 200 psi, will not cause rupture of the pressure sensor

**Wetted Parts:** 316 stainless steel, silicon, Pyrex® glass, epoxy, Kovar®

**Electrical Connection:** PTIH-10-6P (standard), 0.6 m (2') cable or 4-pin solder terminal header (optional)

**Pressure Port:** MS33656-4 male (std)  
**Optional:** MS33649-4 female, 1/4-18 or 1/8-27 NPT male or female

**Weight:** 170 g (6 oz) typical

**Mating Connector:** PTS06A-10-6S (not included)

## CUSTOM CONFIGURATIONS

SERIES PX6000	PRESSURE PORT [ 1 ]	ELECTRICAL CONNECTION [ 2 ]	RANGE (psi) [ 3 ]	UNITS [ 4 ]	OUTPUT [ 5 ]	OPTIONS [ 6 ]
	A = 1/8-27 NPT male		30*	VAC	V = mV/V output \$420 all ranges	<b>CAL11</b> = 11-point NIST calibration <b>+\$150</b> <b>xxFT</b> = Extra length of cable, <b>\$4.50/ft</b> over 0.9 m (3')
	B = 1/8-27 NPT female		015	G,A	5T = 0 to 5 Vdc output \$560 all ranges	
	C = 1/4-18 NPT male		020	G,A	I = 4 to 20 mA output \$550 all ranges	
	D = 1/4-18 NPT female		050	G,A		
	L = MS33656-4 male		100	G,A		
	M = MS33649-4 female		200	G,A		
			300	G,A		

\* Referenced to atmospheric pressure, 30 Vac range is 30 to 0 inHg vacuum, all other ranges are psi

0 = 0.6 m (2') PVC cable (std) **+\$4.50/ft** over 0.6 m (2')

1 = PTIH-10-6P connector (or equal, no charge). Mating connector (not included), order **PT06A-10-6S(SR) \$47.**

3 = 4-pin eyelet header (no charge); temp sensor not available on 4-pin connector

6 = DIN connector

Metric ranges available – consult Engineering.

### To order a custom configuration:

1. Select a pressure port
2. Select electrical connection
3. Select a pressure range
4. Select pressure units
5. Select output
6. Select options and agency approvals

**Ordering Examples:** PX6000M1-100GI, 100 psi vented gage pressure transducer with MS33649-4, female pressure connection, PTIH-10-6P, electrical connector, 4 to 20 mA output, \$550. PTS06A-10-6S, mating connector (not included), \$47.

PX6000A0-30VACV-25FT, 30 to 0 inHg vacuum transducer with 1/8-27 NPT male pressure connection, a reverse-acting (30 inHg vacuum = full scale output) mV/V output, and 7.6 m (25') cable, \$420 + 99 = \$519. PX6000L1-015A5T, 15 psi absolute pressure transducer with MS33656-4, male pressure connection, PTIH-10-6P, electrical connector and 0 to 5 Vdc output, \$560. PTS06A-10-6S, mating connector (not included), \$47.

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