

# DIFFUSED SEMICONDUCTOR PRESSURE TRANSMITTER

## STANDARD AND METRIC MODELS

### PX6000/PXM6000 Series

4 to 20 mA Output

0-15 to 0-300 psi-Standard Models

0-1 to 0-25 bar-Metric Models

Starts at  
**\$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

PX6000/PXM6000 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/PXM6000 uses solid state media isolation for improved reliability. Thin films of chemically

inert materials are deposited or grown on the chip surface to provide electrical isolation between the sensor and pressure medium. These sensors are 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

**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

**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 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



Twist-lock style.

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

**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

**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

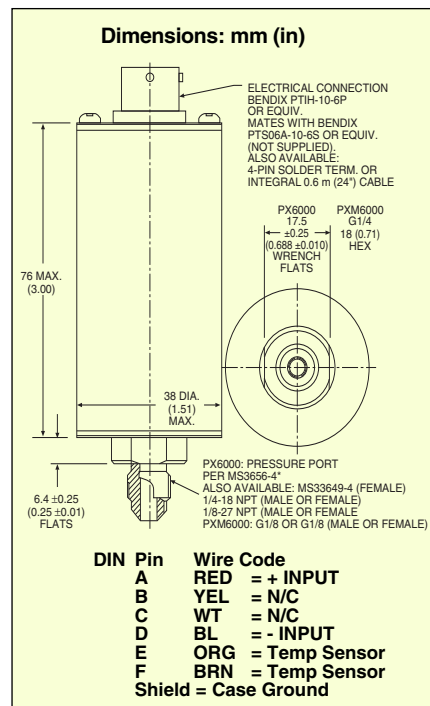
**Wetted Parts:** 316 stainless steel, silicon, Pyrex® glass, epoxy, Kovar®

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

**Pressure Port:** See dimensional drawing below

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

**Mating Connector:** PTS06A-10-6S (sold separately)



CURRENT OUTPUT PRESSURE TRANSDUCERS

B

# DIFFUSED SEMICONDUCTOR PRESSURE TRANSMITTER

## STANDARD CUSTOM CONFIGURATIONS

PX6000 SERIES	PRESSURE PORT [ 1 ]	ELECTRICAL CONNECTION [ 2 ]	RANGE (psi) [ 3 ]	UNITS [ 4 ]	OUTPUT [ 5 ]	OPTIONS [ 6 ]
A = 1/8-27 NPT male			30*	VAC	<b>Base Price PX6000</b> <b>I = 4 to 20 mA output</b> <b>\$550 all ranges</b>	<b>CAL11 = 11-point NIST calibration +\$150</b> <b>( )ft = Optional cable length in feet</b>
B = 1/8-27 NPT female			015	A,G		
C = 1/4-18 NPT male			020	A,G		
D = 1/4-18 NPT female			050	A,G		
L = MS33656-4 male			100	A,G		
M = MS33649-4 female			200	A,G		
			300	A,G		
<b>0 = 0.6 m (2') PVC cable (std)</b> <b>+ \$4.50/ft over 0.6 m (2')</b>			* Referenced to atmospheric pressure, 30 Vac range is 30 to 0 inHg vacuum, all other ranges are psi			
<b>1 = PTIH-10-6P connector</b> (or equal, no charge). Mating connector (sold separately), order <b>PT06A-10-6S(SR) \$18.</b>					<b>To order a custom configuration:</b> <b>1. Select a pressure port</b> <b>2. Select electrical connection</b> <b>3. Select a pressure range</b> <b>4. Select pressure units</b> <b>5. Select output</b> <b>6. Select options and agency approvals</b>	
<b>3 = 4-pin eyelet header (no charge);</b> temp sensor not available on 4-pin connector						
<b>6 = mini DIN connector (no charge)</b> no temp sensor						

**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 (sold separately), **\$47**.

*PX6000L1-015AI*, 15 psi absolute pressure transducer with MS33656-4, male pressure connection, PTIH-10-6P, electrical connector and 4 to 20 mA output, **\$560**. *PTS06A-10-6S*, mating connector (sold separately), **\$47**.

## METRIC CUSTOM CONFIGURATIONS

PXM6000 SERIES	PRESSURE PORT [ 1 ]	ELECTRICAL CONNECTION [ 2 ]	RANGE (BAR) [ 3 ]	UNITS [ 4 ]	OUTPUT [ 5 ]	OPTIONS [ 6 ]		
MA = G1/8 Male +\$20			-1	VAC	<b>Base price</b> <b>PXM6000</b> <b>I= 4 to 20 mA</b> <b>\$560 All Ranges</b>	<b>CAL11 = 11-point calibration certificate +\$150</b> <b>( )m = Optional cable length in meters</b>		
MB = G1/8 Female no charge			1.0	A, G				
MC = G1/8 Male +\$20			1.6	A, G				
MD = G1/8 Female no charge			4.0	A, G				
			6.0	A, G				
			10	A, G				
			16	A, G				
<b>0 = 3 m (10') cable (std)</b> <b>\$15/m over 3 m (10')</b>								
<b>1 = PTIH-10-6P connector</b> (or equal, no charge). Mating connector (sold separately), order <b>PT06A-10-6S(SR) \$18.</b>			<b>See page B-12 for additional options including extended compensated temperatures.</b>		<b>To order a custom configuration:</b> <b>1. Select a pressure port</b> <b>2. Select electrical connection</b> <b>3. Select a pressure range</b> <b>4. Select pressure units – absolute, gage or sealed gage</b> <b>5. Select output</b> <b>6. Select options and agency approvals</b>			
<b>3 = 4-pin eyelet (no charge)</b> no temp sensor								
<b>6 = mini DIN connector (no charge)</b> no temp sensor								

**Ordering Examples:** *PXM6000MB0-010BARGI*, 10 bar gage pressure transducer with G1/8 female connection and 3 m (10') cable termination, **\$560**.

*PXM6000MD1-010BARAI*, 10 bar absolute pressure transducer with G1/8 female connection and twist-lock connector, **\$560**. *PTS06A-10-6S*, mating connector (sold separately), **\$26.50**.



**METRIC**  
PXM6000MC1-010BARAI,  
\$560, shown actual size.

**STANDARD MODELS**   **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	PX6000L[*]-30VACI	\$550	DP41-E, DP25B-E, DP24-E
<b>ABSOLUTE PRESSURE</b>				
0 to 15 psi	0 to 1.0 bar	PX6000L[*]-015AI	\$550	DP41-E, DP25B-E, DP24-E
0 to 20 psi	0 to 1.4 bar	PX6000L[*]-020AI	550	DP41-E, DP25B-E, DP24-E
0 to 50 psi	0 to 3.4 bar	PX6000L[*]-050AI	550	DP41-E, DP25B-E, DP24-E
0 to 100 psi	0 to 6.9 bar	PX6000L[*]-100AI	550	DP41-E, DP25B-E, DP24-E
0 to 200 psi	0 to 13.8 bar	PX6000L[*]-200AI	550	DP41-E, DP25B-E, DP24-E
0 to 300 psi	0 to 20.7 bar	PX6000L[*]-300AI	550	DP41-E, DP25B-E, DP24-E
<b>GAGE PRESSURE</b>				
0 to 15 psi	0 to 1.0 bar	PX6000L[*]-015GI	\$550	DP41-E, DP25B-E, DP24-E
0 to 20 psi	0 to 1.4 bar	PX6000L[*]-020GI	550	DP41-E, DP25B-E, DP24-E
0 to 50 psi	0 to 3.4 bar	PX6000L[*]-050GI	550	DP41-E, DP25B-E, DP24-E
0 to 100 psi	0 to 6.9 bar	PX6000L[*]-100GI	550	DP41-E, DP25B-E, DP24-E
0 to 200 psi	0 to 13.8 bar	PX6000L[*]-200GI	550	DP41-E, DP25B-E, DP24-E
0 to 300 psi	0 to 20.7 bar	PX6000L[*]-300GI	550	DP41-E, DP25B-E, DP24-E

Comes complete with 5-point NIST traceable calibration.

\* See section D for compatible meters.

[\*] = Insert "0" for 0.6 m (2') cable, "1" for twist-lock connector, or "6" for mini DIN connector.

**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 (sold separately), \$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 (sold separately), \$47.

**METRIC MODELS**

Models with G 1/4 Male Pressure Connection, Cable or mini DIN and 4 to 20 mA Output

RANGE		MODEL NO.	PRICE	COMPATIBLE METERS*
<b>ABSOLUTE PRESSURE</b>				
0 to 1 bar	0 to 15 psi	PXM6000MC[*]-001BARAI	\$560	DP41-S, DP25B-S
0 to 1.60 bar	0 to 23 psi	PXM6000MC[*]-1.60BARAI	560	DP41-S, DP25B-S
0 to 4 bar	0 to 58 psi	PXM6000MC[*]-004BARAI	560	DP41-S, DP25B-S
0 to 6 bar	0 to 87 psi	PXM6000MC[*]-006BARAI	560	DP41-S, DP25B-S
0 to 10 bar	0 to 145 psi	PXM6000MC[*]-010BARAI	560	DP41-S, DP25B-S
0 to 16 bar	0 to 232 psi	PXM6000MC[*]-016BARAI	560	DP41-S, DP25B-S
<b>GAGE PRESSURE</b>				
0 to 1 bar	0 to 15 psi	PXM6000MC[*]-001BARGI	\$560	DP41-S, DP25B-S
0 to 1.60 bar	0 to 23 psi	PXM6000MC[*]-1.60BARGI	560	DP41-S, DP25B-S
0 to 4 bar	0 to 58 psi	PXM6000MC[*]-004BARGI	560	DP41-S, DP25B-S
0 to 6 bar	0 to 87 psi	PXM6000MC[*]-006BARGI	560	DP41-S, DP25B-S
0 to 10 bar	0 to 145 psi	PXM6000MC[*]-010BARGI	560	DP41-S, DP25B-S
0 to 16 bar	0 to 232 psi	PXM6000MC[*]-016BARGI	560	DP41-S, DP25B-S
0 to 25 bar	0 to 363 psi	PXM6000MC[*]-025BARGI	560	DP41-S, DP25B-S

Comes complete with 5-point calibration.

\* See section D for compatible meters.

[\*] = Insert "0" for 0.6 m (2') cable, "1" for twist-lock connector, or "6" for mini DIN connector.

**Ordering Example:** PXM6000MC0-004BARGI, 4 bar gage pressure transmitter with 4 to 20 mA output, 0.6 m (2') cable and G 1/4 male pressure port, \$560.

**1/4 NPT Pressure Snubbers: \$12.75**  
PS-4G = Gas  
PS-4E = Lt Oil  
PS-4D = Dense Lq

**G 1/4 Pressure Snubbers: \$12.75**  
PS-4G-MG = Gas  
PS-4E-MG = Lt Oil  
PS-4D-MG = Dense Liquid

**ACCESSORY**

MODEL NO.	PRICE	DESCRIPTION
PTS06A-10-6S	\$47	Mating connector for PX6000 units with PTIH-10-6P electrical connection