

# DIFFUSED SEMICONDUCTOR PRESSURE TRANSDUCER

## PXM6000 Series mV/V Output 0-1 to 0-25 bar

PXM6000  
All Ranges

**\$420**



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

### Applications

- ✓ Automotive Test
- ✓ Research & Development
- ✓ Engineering Test & Evaluation
- ✓ Production Testing
- ✓ Flight Recorders
- ✓ Engine Monitoring

OMEGA's PXM6000 Series pressure transducers fit easily into your application. These low cost transducers are small and light, and mounting requires no bulky structures. The sensor is a small, about 2.5 mm, square silicon chip with four diffused strain gauges, mounted in the stainless steel case. Laser trimmed resistors provide temperature compensation and adjust zero balance and span. The 30 mV full range output is compatible with most amplifiers and data acquisition systems.

The 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. The sensor is less sensitive to vibration and more dependable in high shock environments. Corrosion resistance is outstanding, and the isolation will remain effective because there is no gel or oil column to deteriorate.



PXM6000MC0-004BARAV  
Shown smaller than  
actual size

PXM6000MC6-004BARAV  
Shown installed,  
smaller than  
actual size

### SPECIFICATIONS:

#### mV/V Models

**Excitation:** 10 Vdc

**Output:** 3 mV/V  $\pm$  10%

**Input Resistance:** 2500  $\Omega$  minimum

**Output Resistance:** 1000  $\Omega$  minimum,  
1500  $\Omega$  maximum

**Zero Balance:** 0 mV  $\pm$  5% FSO

#### Dielectric Isolation Resistance:

100 M $\Omega$  minimum at 50 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  $\Omega$

#### Temperature Coefficient:

8% min., 10% max. per 55.5°C (100°F)

### MOST POPULAR MODELS HIGHLIGHTED

#### To Order: (Specify Model Number)

Models with G 1/4 Male Pressure Connection, Cable or micro DIN & mV/V Output

RANGE (Bar)	MODEL NUMBER	PRICE	COMPATIBLE METERS**
<b>Absolute Pressure:</b>			
0 to 1	PXM6000MC[*]-001BARAV	\$420	DP41-S, DP25B-S
0 to 1.6	PXM6000MC[*]-1.60BARAV	420	DP41-S, DP25B-S
0 to 4	PXM6000MC[*]-004BARAV	420	DP41-S, DP25B-S
0 to 6	PXM6000MC[*]-006BARAV	420	DP41-S, DP25B-S
0 to 10	PXM6000MC[*]-010BARAV	420	DP41-S, DP25B-S
0 to 16	PXM6000MC[*]-016BARAV	420	DP41-S, DP25B-S
0 to 25	PXM6000MC[*]-025BARAV	420	DP41-S, DP25B-S
<b>Gauge Pressure:</b>			
0 to 1	PXM6000MC[*]-001BARGV	420	DP41-S, DP25B-S
0 to 1.6	PXM6000MC[*]-1.60BARGV	420	DP41-S, DP25B-S
0 to 4	PXM6000MC[*]-004BARGV	420	DP41-S, DP25B-S
0 to 6	PXM6000MC[*]-006BARGV	420	DP41-S, DP25B-S
0 to 10	PXM6000MC[*]-010BARGV	420	DP41-S, DP25B-S
0 to 16	PXM6000MC[*]-016BARGV	420	DP41-S, DP25B-S
0 to 25	PXM6000MC[*]-025BARGV	420	DP41-S, DP25B-S

[\*] = insert "0" for 0.6 m Cable or "6" for micro DIN connector

\*\*See Section D for compatible Meters

**Ordering Example:** 1.) PXM6000MC0-004BARGV is a 4 bar Gauge Pressure transducer with 0.6 m cable and G 1/4 Male Pressure Port, \$420 ea.

# DIFFUSED SEMICONDUCTOR PRESSURE TRANSDUCER RUGGED, DEPENDABLE PERFORMANCE

## SPECIFICATIONS (cont)

**Accuracy:** Combined Linearity, Hysteresis and Repeatability  $\leq \pm 0.25\%$  FS for all ranges

**Operational Temp Range:** -54° to 150°C (-65° to 300°F)

**Compensated Temp Range:** -54° to 121°C (-65° to +250°F)

**Thermal Effects:** Span:  $\leq \pm 0.04\%$  of FS/°C. Zero:  $\leq \pm 0.04\%$  of FS/°C

**Vibration Sensitivity:** At 35g peak sinusoidal vibration from 10 Hz to 2000 Hz ( $\frac{1}{2}$ " D.A.), the output shall not exceed 0.04% FS/g for 1 bar range to 0.005% FS/g for 7 bar and above

**Natural Frequency:** Greater than 35 KHz for 7 bar and above

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

**Proof Pressure:** 2.0 times rated pressure will not cause changes in performance beyond the specified tolerances

**Burst Pressure:** 3.0 times rated pressure for pressure ranges below 14 bar, or 2.5 times rated pressure for pressure ranges above 14 bar will not cause rupture of the pressure sensor

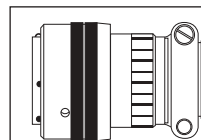
**Wetted Parts:** 316 Stainless Steel, Silicon Nitride, pyrex glass, epoxy, Kovar

**Electrical Connection:** 0.6 m (2 ft) cable or microDIN Connector standard – see Custom Configurations

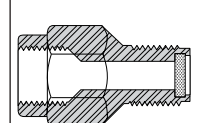
**Pressure Port:** G 1/4 Male (std)  
Optional: G 1/4 Female, G 1/8 Male or Female

**Weight:** 15 g (4 oz) maximum, excluding pressure fitting and electrical connection

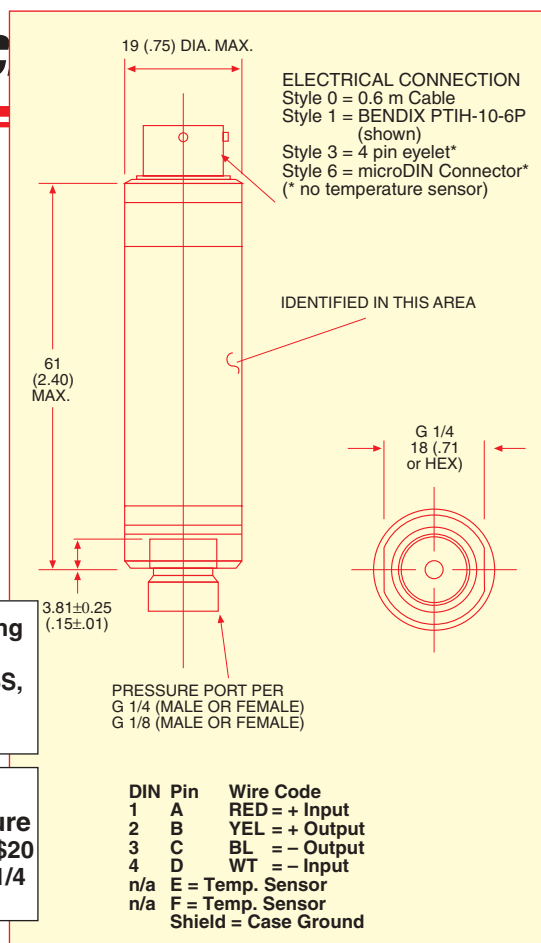
**Mating Connector:** Included with MicroDIN Connector; Style 1 PTS06A-10-6S Not Included



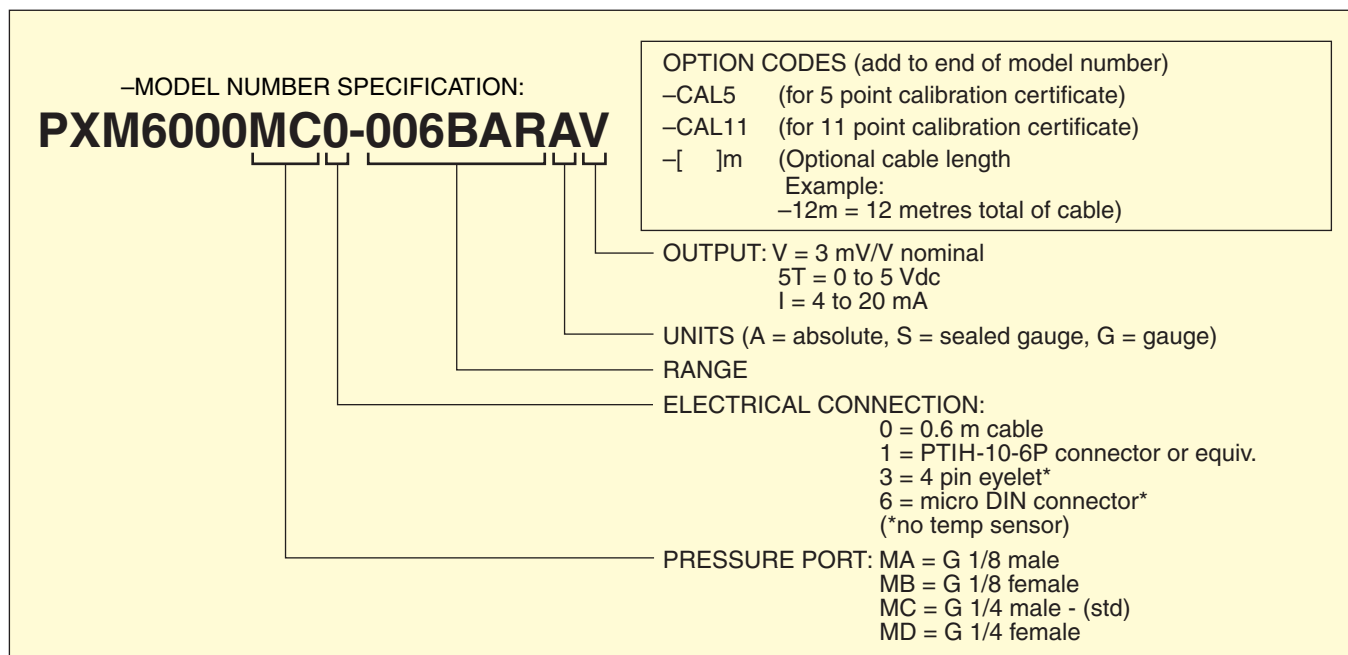
**Style 1 Mating Connector**  
PTS06A-10-6S,  
\$26.50



**G 1/4 Pressure Snubbers** \$20  
PSM-4 = G 1/4



## CUSTOM CONFIGURATIONS



**ORDERING EXAMPLES:** 1.) PXM6000MA1-01.6BARGV is a 1.6 bar Gauge pressure transducer with a G 1/8 male pressure connection, a PTIH-10-6P Electrical Connector and a mV/V output, \$420. Mating Connector (not included) PTS06A-10-6S, \$26.50.  
2.) PXM6000MC0-006BARGV is a 6 bar gauge pressure transducer with a G 1/4 male pressure connection, a 0.6 m cable and a mV/V output, \$420  
3.) PXM6000MD6-004BARAV is a 4 bar Absolute Pressure transducer with an G 1/4 female pressure connection, a microDIN Connector and mV/V output, \$420. Mating Connector included.