

# DIFFUSED SEMICONDUCTOR PRESSURE TRANSMITTER

**PXM6000 Series**  
**4 to 20 mA, 0 to 5 Vdc or mV/V Outputs**  
**0-1 to 0-25 bar**

Starts at  
**£282**



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

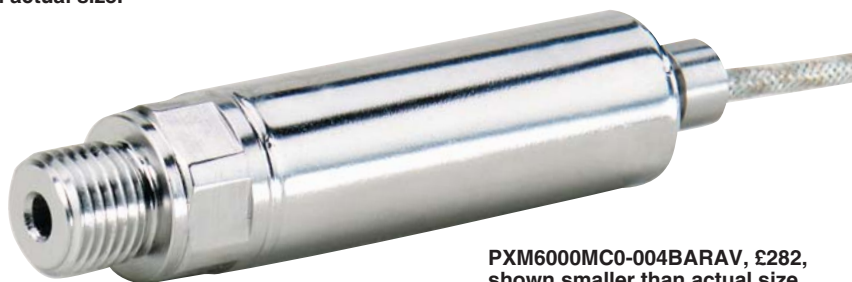
## Applications

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

OMEGA's PXM6000 Series Pressure Transducer fits easily into your application. This low cost transducer is 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 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 because the films add no significant mass. Corrosion resistance is outstanding, and the isolation will remain effective because there is no gel or oil column to deteriorate.



PXM6000MC6-004BARAI, £369, shown smaller than actual size.



PXM6000MC0-004BARAV, £282, shown smaller than actual size.

## SPECIFICATIONS

**4 to 20 mA Models:**  
**Excitation:** 10 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:**  
 4mA Adjustable  $\pm 10\%$  FS  
**Operational Temp Range:**  
 -29 to 85°C  
**Compensated Temp Range:**  
 -29 to 85°C  
**Thermal Effects:**  
**Span:**  $< \pm 0.04\%$  of FS/°C  
**Zero:**  $< \pm 0.04\%$  of FS/°C

**MOST POPULAR MODELS HIGHLIGHTED!**

<b>To Order (Specify Model Number)</b>				
<b>Models with G 1/4 Male Pressure Connection, Cable or micro DIN</b>				
<b>RANGE (Bar)</b>	<b>MODEL NO.</b>			
<b>Absolute Pressure</b>		<b>Current Output</b>	<b>mV Output</b>	<b>5V Output</b>
0 to 1	PXM6000MC[*]-001BARA[**]	£369	£282	£376
0 to 1.6	PXM6000MC[*]-1.60BARA[**]	369	282	376
0 to 4	PXM6000MC[*]-004BARA[**]	369	282	376
0 to 6	PXM6000MC[*]-006BARA[**]	369	282	376
0 to 10	PXM6000MC[*]-010BARA[**]	369	282	376
0 to 16	PXM6000MC[*]-016BARA[**]	369	282	376
0 to 25	PXM6000MC[*]-025BARA[**]	369	282	376
<b>Gauge Pressure</b>				
0 to 1	PXM6000MC[*]-001BARG[**]	£369	£282	£376
0 to 1.6	PXM6000MC[*]-1.60BARG[**]	369	282	376
0 to 4	PXM6000MC[*]-004BARG[**]	369	282	376
0 to 6	PXM6000MC[*]-006BARG[**]	369	282	376
0 to 10	PXM6000MC[*]-010BARG[**]	369	282	376
0 to 16	PXM6000MC[*]-016BARG[**]	369	282	376
0 to 25	PXM6000MC[*]-025BARG[**]	369	282	376

[\*] Insert "0" for 0.6 m cable or "6" for micro DIN connector.

[\*\*] Insert "I" for 4 to 20 mA, "5T" for 0 to 5 Vdc or "V" for mV/V output.

See page 291 for compatible meters.

**Ordering Example:** PXM6000MC0-004BARGI, 4 bar gauge pressure transducer with 4 to 20 mA output, 0.6 m cable and G 1/4 male pressure port, £369.

# DIFFUSED SEMICONDUCTOR PRESSURE TRANSMITTER

## 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  
**Operational Temp Range:** -54 to 150°C  
**Compensated Temp Range:** -54 to 121°C  
**Thermal Effects:**  
**Span:**  $< \pm$  0.04% of FS/°C  
**Zero:**  $< \pm$  0.04% of FS/°C

## 0 to 5 Vdc Models

**Excitation:** 12 to 40 Vdc Unregulated  
**Output:** 0 to 5 Vdc  $\pm$ 0.1 Vdc  
 Adjustable  $\pm$ 10% FSO  
**Input Current:** 15 mA maximum with no load  
**Output Resistance:** Less than 200  $\Omega$   
**Zero Balance:** 0 V  $\pm$ 0.1 Vdc  
 Adjustable  $\pm$ 5% FSO  
**Operational Temp Range:** -54 to 121°C  
**Compensated Temp Range:** -18 to 82°C  
**Thermal Effects:**  
**Span:**  $< \pm$  0.054% of FSO/°C  
**Zero:**  $< \pm$  0.054% of FSO/°C

## COMMON SPECIFICATIONS

**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 900 to 1500  $\Omega$   
**Temperature Coefficient:** 8% min, 10% max per 55°C  
**Accuracy:** Combined linearity, hysteresis and repeatability  $< \pm$  0.25% FS for all ranges  
**Vibration Sensitivity:** At 20 g (35 g for mV/V) 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:** 100 g, 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, pyrex glass, epoxy, Kovar

## Electrical Connection:

0.6 m cable or microDIN connector – see custom configurations

**Dimensions:** Excluding process fitting and electrical connector

4 to 20mA 77 mm X 38.5 mm  $\varnothing$

0 to 5V 60 mm X 38.5 mm  $\varnothing$

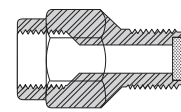
mV/V 61 mm X 19 mm  $\varnothing$

**Pressure Port:** G  $\frac{1}{4}$  male standard; G  $\frac{1}{4}$  female, G  $\frac{1}{8}$  male or female optional

**Weight:** 170 g typical

## Mating Connector:

Included with micro DIN  
 Style 1: PTS06A-10-6S, not included



**G  $\frac{1}{4}$  Pressure Snubbers**  
 £6.70  
 PS-4E-MG

See page 359 for full range

## CUSTOM CONFIGURATIONS

MODEL NUMBER SPECIFICATION:

**PXM6000MC0-006BARAI**

OPTION CODES (add to end of model number)

-CAL11 For 11-point calibration certificate  
 -[ ]m Optional cable length  
 Example: -12m = 12 metres total of cable

OUTPUT: V = 3 mV/V nominal  
 5T = 0 to 5 Vdc  
 I = 4 to 20 mA

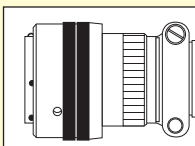
UNITS (A = absolute, S = sealed gauge, G = gauge)

RANGE

ELECTRICAL CONNECTION:

0 = 0.6 m cable  
 1 = PTIH-10-6P connector or equiv.  
 3 = 4-pin eyelet\*  
 6 = micro DIN connector\*  
 \*no temp sensor

PRESSURE PORT: MA = G 1/8 male  
 MB = G 1/8 female  
 MC = G 1/4 male (standard)  
 MD = G 1/4 female



**Style 1 Mating Connector**  
 PTS06A-10-6S,  
 £31.50

**Ordering Examples:** PXM6000MD1-010BARGI, 10 bar vented gauge pressure transducer with a G  $\frac{1}{4}$  female pressure connection, PTIH-10-6P, electrical connector and 4 to 20 mA output, £369. PTS06A-10-6S, mating connector (not included), £31.50.  
 PXM6000MA0-01.6BARAV, 1.6 bar absolute pressure transducer with G  $\frac{1}{4}$  male pressure connection, 0.6 m cable, and mV/V output, £282.  
 PXM6000MC6-006BARAI, 6 bar absolute pressure transducer with a G  $\frac{1}{4}$  male pressure connection, a micro DIN connector and 4 to 20 mA output, £369. Mating connector included.



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