

# HIGH-PERFORMANCE TRANSMITTERS LONG-TERM RELIABILITY

**PXM5500 Series**  
4 to 20 mA, 0 to 5 Vdc or mV/V Output  
0-1 to 0-600 bar

Starts at  
**£369**



- ✓ High Accuracy 0.1%
- ✓ Solid State Reliability
- ✓ Sputtered Strain Gauge Design
- ✓ High Shock and Vibration
- ✓ Low Drift

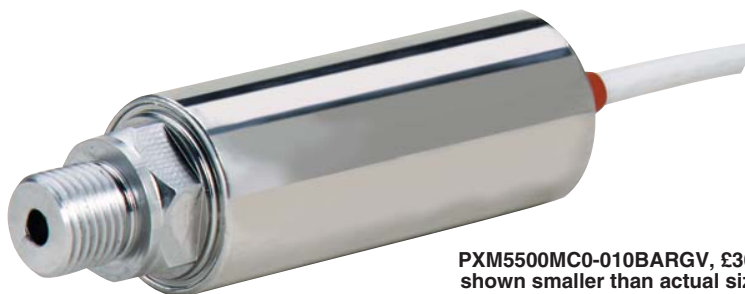
## Applications

- ✓ Testing
- ✓ R&D/Engineering Test Laboratories
- ✓ Functional Test Systems
- ✓ Production Testing
- ✓ Product Quality Assurance
- ✓ Flight Testing
- ✓ Gas Turbine and Engine Test Standards
- ✓ Ground Support Equipment
- ✓ Hydraulic Systems
- ✓ Custody Transfer Measurements

OMEGA's PXM5500 Transducer Series provides high performance in demanding industrial and research applications where accuracy, reliability, and price are important. This transducer has a 10-year MTBF rate and is stable to 0.1% of FS over an 18 month period. This translates into less down time, fewer test reruns, more time between calibrations, and high confidence in your pressure data. When recalibration is impossible, relying on the high stability of the PXM5500 Series transducer may be the only cost-effective way to obtain pressure data over the long term. OMEGA's thin film technology makes this premium in performance possible. The strain



PXM5500MC6-010BARGI, £466, shown smaller than actual size.



PXM5500MC0-010BARGV, £369, shown smaller than actual size.

gauges and associated structures are sputter-deposited directly onto the pressure sensing element thus eliminating the need for adhesives. The resulting molecular bond between the sensing element and the strain gauges ensures virtually no shifting, drifting, or "creep" in the performance of the transducer.

The micro-geometry design of the PXM5500 sensing element results very small, low mass sensor that reduces effects of mechanical vibration and shock. The PXM5500 gives you the accuracy, reliability, and stability at competitive prices.

## MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)			
Models with G 1/4 Male Pressure Connection, Cable or Connector			
RANGE (Bar)	MODEL NO.	PRICE	
Gauge Pressure		5V or mA	mV/V
0 to 1	PXM5500MC[*]-001BARG[**]	£466	£369
0 to 1.6	PXM5500MC[*]-1.60BARG[**]	466	369
0 to 4	PXM5500MC[*]-004BARG[**]	466	369
0 to 6	PXM5500MC[*]-006BARG[**]	466	369
0 to 10	PXM5500MC[*]-010BARG[**]	466	369
0 to 16	PXM5500MC[*]-016BARG[**]	466	369
0 to 25	PXM5500MC[*]-025BARG[**]	466	369
0 to 40	PXM5500MC[*]-040BARG[**]	466	369
0 to 60	PXM5500MC[*]-060BARG[**]	466	369
0 to 100	PXM5500MC[*]-100BARG[**]	466	369
0 to 160	PXM5500MC[*]-160BARG[**]	466	369
0 to 250	PXM5500MC[*]-250BARG[**]	466	369
0 to 400	PXM5500MC[*]-400BARG[**]	466	369
0 to 600	PXM5500MC[*]-600BARG[**]	466	369

[\*] 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 outputs.

\*\* See page 291 for compatible meters.

To order absolute pressure models, change "G" in the part number to "A". No charge. To order sealed gauge models, change "G" in the part number to "S". No charge.

**Ordering Examples:** PXM5500MC0-060BARS1, 60 bar sealed gauge transducer with 4 to 20 mA output, 0.6 M cable connection and G 1/4 male pressure port, £466. PXM5500MC6-1.60BARAI, 1.6 bar absolute pressure transducer with 4 to 20 mA output, micro DIN connection and G 1/4 male pressure port, £466. Mating connector included.

# RUGGED SPUTTERED TECHNOLOGY

## SPECIFICATIONS

### mA MODELS:

**Excitation:** 10 to 40 Vdc unregulated  
Reverse Polarity Protected  
**Output (FS):** 4-20mA  $\pm$ 2mA adj  
**Zero Balance:** 4mA  $\pm$ 0.4mA adj  
**Input Current:** 20mA max with no load  
**Operating Temp Range:**  
-40 to 85°C  
**Compensated Temp Range:**  
-18 to 82°C  
**Thermal Effects:**  
(Over the compensated range)  
**Span:**  $\pm$ 0.036% FS/°C  
**Zero:**  $\pm$ 0.036% FS/°C  
**Load Impedance:** 50 (V-10)  $\nabla$  max  
where V is supply voltage (40 Vdc max)  
**Insulation Resistance:**  
100 M $\nabla$  @ 45 Vdc between all pins  
shorted together and case

### 5 Vdc MODELS:

**Excitation:** 12 to 40 Vdc unregulated  
**Output (FS):**  
5 Vdc  $\pm$ 0.1 Vdc  $\pm$ 10% adj  
**Zero Balance:** 0 V  $\pm$ 0.1Vdc  $\pm$ 5% adj  
**Input Current:** 20mA max with no load  
**Output Resistance:** 100  $\Omega$  max  
**Insulation Resistance:**  
100 M $\nabla$  @ 45 Vdc between all pins  
shorted together and case

**Operating Temp Range:**  
-54 to 121°C  
**Compensated Temp Range:**  
-18 to 82°C  
**Thermal Effects:**  
(Over the compensated range)  
**Span:**  $\pm$ 0.027% FSO/°C  
**Zero:**  $\pm$ 0.027% FSO/°C

### mV/V MODELS:

**Excitation:** 10 Vdc  
**Output FSO:**  
30 mV typical, 26 mV minimum  
**Input Resistance:** 1000  $\Omega$  typical,  
800  $\Omega$  minimum, 1500  $\Omega$  max;  
for 350  $\Omega$  bridge models see custom  
configurations  
**Output Resistance:** 1000  $\Omega$  typical,  
800  $\Omega$  minimum, 1200  $\Omega$  maximum  
**Insulation Resistance:** 500 M $\Omega$  @  
45 Vdc over the compensated range  
**Operating Temp Range:**  
-54 to 150°C  
**Compensated Temp Range:**  
-18 to 82°C  
**Thermal Effects:**  
**Span:**  $\pm$ 0.0045% FSO/°F  
**Zero:**  $\pm$ 0.0045% FSO/°C

### COMMON SPECIFICATIONS:

**Sensing Element:**  
4 active-arm bridge using sputter-  
deposited thin-film elements  
**Accuracy:** Combined Linearity,  
Hysteresis and Repeatability:  
 $\pm$ 0.10% FS (BFSL) 60 bar  
 $\pm$ 0.15% FS 100 bar and above

### Electrostatic Discharge:

Protected to 15kV max

### Vibration Sensitivity:

At 20 g (35 g for mV/V) peak sinusoidal  
vibration from 10 Hz to 2000 Hz  
(13 mm D.A.), the output shall not  
exceed 0.04% FS/g for 1 bar range,  
decreasing to 0.003% FS/g for 70 bar  
and above

### Natural Frequency:

5 kHz for 1 bar, increasing  
logarithmically to 50 kHz for 300 bar

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

**Proof Pressure:** 2.0 times rated  
pressure or 1000 bar, whichever is less,  
will not cause changes in performance  
beyond the specified tolerance

**Burst Pressure:** 3.0 times rated  
pressure or 1,300 bar whichever is less,  
will not cause rupture of the pressure  
containment cavity

**Wetted Parts:** 17-4 PH or 15-5 PH  
stainless steel

**Electrical Connection:** 0.6 m cable or  
microDIN, see custom configurations

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

**5V and mA models:** 76 x 38 mm  $\varnothing$   
**mV/V models:** 74 x 26 mm  $\varnothing$

**Pressure Port:** G  $\frac{1}{4}$  standard,  
see custom configurations

**Optional:** G  $\frac{1}{4}$  Female, G  $\frac{1}{8}$  male/female

### Mating Connector:

Style 1: PTS06A-10-6S (not included)  
Style 6: Included

**Weight:** 225 g maximum

## CUSTOM CONFIGURATIONS

MODEL NUMBER SPECIFICATION:

**PXM5500MC0-006BARAI**

OPTION CODES (add to end of model number)

- CAL11 For 11-point calibration certificate **+\$250**
- [ ]m Optional cable length  
Example: -12m = 12 meters 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

PRESSURE PORT: MA = G  $\frac{1}{8}$  male  
MB = G  $\frac{1}{8}$  female  
MC = G  $\frac{1}{4}$  male (standard)  
MD = G  $\frac{1}{4}$  female

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

**Ordering Examples:** PXM5500MC1-025BARS1, 25 bar sealed gauge pressure range and 4 to 20 mA output with G  $\frac{1}{4}$  male fitting and PTIH-10-6P, electrical connection, £466. PTS06A-10-6S, mating connector (not included), £31.50. PXM5500MD0-001BARAV, 1 bar absolute pressure range and mV/V output with G  $\frac{1}{4}$  female fitting and 0.6 m cable, £369. PXM5500MA6-006BARGI, 6 bar gauge pressure range and 4 to 20 mA output with G  $\frac{1}{8}$  male pressure port and micro DIN electrical connection, £466. Mating connector included.

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