

High-Performance Thin Film Pressure Transducer

Imperial and Metric Models

0-5 and 0-10 Vdc Output Models

3 Wire Amplifier

0-15 to 0-10,000 psi-Imperial Models

0-1 to 0-600 bar-Metric Models

1 bar = 14.5 psi

1 kg/cm² = 14.22 psi

1 atmosphere = 14.7 psi = 29.93

inHg = 760.2 mmHg = 1.014 bar

**PX5500/
PXM5500 Series**

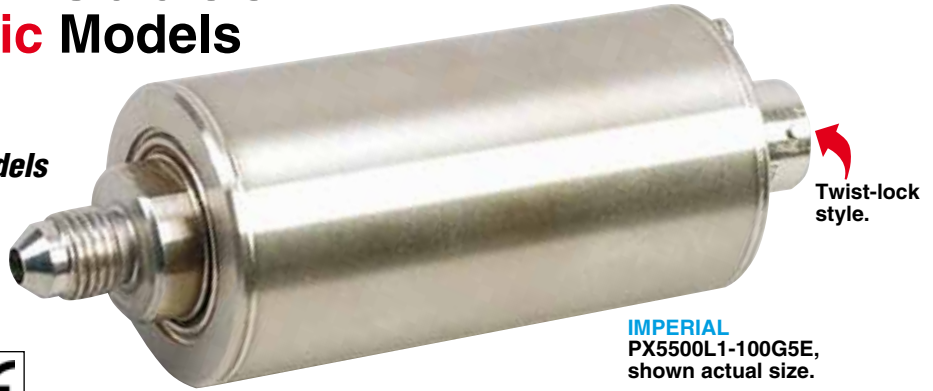


- ✓ **Integral Shunt Calibration**
- ✓ **Low Noise, 5 Vdc and 10 Vdc Output Models**
- ✓ **High 0.1% Accuracy**
- ✓ **Solid State Reliability**
- ✓ **Sputtered Strain Gage Design**
- ✓ **High Shock and Vibration Resistance**
- ✓ **Low Drift**

Applications

- ✓ **R&D/Engineering Test Laboratories**
- ✓ **Functional Test Systems**
- ✓ **Production Testing**
- ✓ **Flight Testing**
- ✓ **Gas Turbine and Engine Test Stands**
- ✓ **Hydraulic Systems**
- ✓ **Custody Transfer Measurements**

OMEGA'S PX5500/PXM5500 transducer series provides high performance in demanding industrial and research applications where accuracy, reliability, and price are important. These transducers have a 10-year MTBF rate and are stable to 0.1% of FSO over an 18-month period. This translates into less downtime, 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 PX5500/PXM5500 Series transducers may be the only cost-effective way to obtain pressure data over the long term. OMEGA's thin-film technology makes this premium performance possible. The strain gages and



associated parts are sputter-deposited directly onto the pressure sensing element, eliminating the need for adhesives. The resulting molecular bond between the sensing element and the strain gage ensures virtually no shifting, drifting, or "creep" in the performance of the transducer. The micro-geometry design of the PX5500/PXM5500 sensing element affords a very small, low-mass sensor that reduces effects of mechanical vibration and shock. The PX5500/PXM5500 gives you accuracy, reliability, and stability at competitive prices.

Specifications

Electrical Connection: See Custom Configurations

Pressure Port: See Custom Configurations

Mating Connector (Style 1): PT06F10-6S (sold separately)

Weight: 225 g (8 oz) max

Excitation: 16 to 38 Vdc unregulated

Output (FS) 5E/5T Models: 5 Vdc ±0.1 Vdc ±10% adj

Output (FS) 10E Models: 10 Vdc ±0.1 Vdc ±10% adj

CE Compliant: Meets industrial emissions and immunity to EN61326

Zero Balance: 0 Vdc ±0.1 Vdc ±5% adj

Input Current: 20 mA max with no load

Output Resistance: 100 Ω max

Insulation Resistance: 100 M Ω @ 45 Vdc between all pins shorted together and case

Electrostatic Discharge: Protected to 15 kV max

Sensing Element: 4-active-arm bridge using sputter-deposited thin-film elements

Accuracy: Combined linearity, hysteresis and repeatability: ±0.10% FS (BFSL) <70 bar (<1000 psi) ±0.15% FS 70 bar (1000 psi) and above

Natural Frequency: 5 kHz for 1 bar (15 psi), increasing logarithmically to 50 kHz for 5000 psi

Operating Temp Range: -54 to 121°C (-65 to 250°F)

Compensated Temp Range: -18 to 82°C (0 to 180°F)

Thermal Effects (Over the Compensated Range):

Span: ±0.015% FS/°F (0.027%/°C)

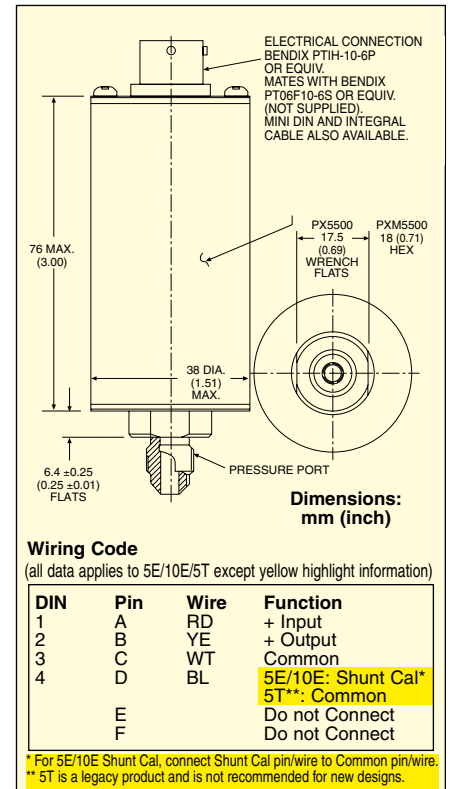
Zero: ±0.015% FS/°F (0.027%/°C)

Proof Pressure: 2 times rated pressure or 1000 bar (15,000 psi), whichever is less, will not cause changes in performance beyond the specified tolerance

Burst Pressure: 3 times rated pressure or 1300 bar (20,000 psi), whichever is less, will not cause rupture of the pressure containment cavity

Wetted Parts:

17-4 PH or 15-5 PH stainless steel



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Imperial Custom Configurations

PX5500 SERIES	PRESSURE PORT [1]	ELECTRICAL CONNECTION [2]	RANGE [3]	UNITS [4]	OUTPUT [5]	OPTIONS [6]
A = 1/8-27 NPT male	B = 1/8-27 NPT female C = 1/4-18 NPT male D = 1/4-18 NPT female L = MS33656-4 M = MS33649-4 0 = 0.6 m (2') cable add cost per/foot over 0.6 m (2') 1 = PTIH-10-6P twist-lock connector (or equal, no charge). Mating connector (sold separately), order PT06F10-6S 6 = mini DIN connector (no charge)		015 psi	S,G,A	5E = 0 to 5 Vdc	CAL11 = 11-point calibration certificate + cost ()ft = Optional cable length in meters
B = 1/8-27 NPT female		025	S,G,A	10E = 0 to 10 Vdc		
C = 1/4-18 NPT male		050	S,G,A	5T* = 0 to 5 Vdc		
D = 1/4-18 NPT female		100	S,G,A	* 5T is a legacy product and is not recommended for new designs.		
L = MS33656-4		250	S,G,A			
M = MS33649-4		500	S,G,A			
		1K	S,G,A			
		1.5K	S,G,A			
		2.5K	S,G,A			
		3K	S,G,A			
	5K	S,G,A				
	10K	S,G,A				

Visit us online for additional options including extended compensated temperatures.

To order a custom configuration:

1. Select a pressure port
2. Select electrical connection
3. Select a pressure range
4. Select pressure units – Sealed Gage, Gage or Absolute
5. Select output
6. Select options

To Order

Popular Imperial Models with 0 to 5 or 0 to 10 Vdc Output Shown Below (See Custom Configurations Section for All Available Versions/Options)

Pressure Range		Model No. (With Output Termination Style)		
Imperial	Metric	0.6 m (2') Cable	PTIH-10-6P Connector	mini DIN Connector
Absolute Pressure (All Ranges Available in Absolute Pressure, See Custom Configurations Section)				
0 to 15 psi	0 to 1.0 bar	PX5500[*]0-015A[**]	PX5500[*]1-015A[**]	PX5500[*]6-015A[**]
0 to 25 psi	0 to 1.7 bar	PX5500[*]0-025A[**]	PX5500[*]1-025A[**]	PX5500[*]6-025A[**]
0 to 50 psi	0 to 3.4 bar	PX5500[*]0-050A[**]	PX5500[*]1-050A[**]	PX5500[*]6-050A[**]
0 to 100 psi	0 to 6.9 bar	PX5500[*]0-100A[**]	PX5500[*]1-100A[**]	PX5500[*]6-100A[**]
Gage Pressure (All Ranges Also Available in Sealed Gage Pressure, See Below)				
0 to 15 psi	0 to 1.0 bar	PX5500[*]0-015G[**]	PX5500[*]1-015G[**]	PX5500[*]6-015G[**]
0 to 25 psi	0 to 1.7 bar	PX5500[*]0-025G[**]	PX5500[*]1-025G[**]	PX5500[*]6-025G[**]
0 to 50 psi	0 to 3.4 bar	PX5500[*]0-050G[**]	PX5500[*]1-050G[**]	PX5500[*]6-050G[**]
0 to 100 psi	0 to 6.9 bar	PX5500[*]0-100G[**]	PX5500[*]1-100G[**]	PX5500[*]6-100G[**]
0 to 250 psi	0 to 17.2 bar	PX5500[*]0-250G[**]	PX5500[*]1-250G[**]	PX5500[*]6-250G[**]
0 to 500 psi	0 to 34.5 bar	PX5500[*]0-500G[**]	PX5500[*]1-500G[**]	PX5500[*]6-500G[**]
0 to 1000 psi	0 to 68.9 bar	PX5500[*]0-1KG[**]	PX5500[*]1-1KG[**]	PX5500[*]6-1KG[**]
0 to 1500 psi	0 to 103 bar	PX5500[*]0-1.5KG[**]	PX5500[*]1-1.5KG[**]	PX5500[*]6-1.5KG[**]
0 to 2500 psi	0 to 172 bar	PX5500[*]0-2.5KG[**]	PX5500[*]1-2.5KG[**]	PX5500[*]6-2.5KG[**]
0 to 3000 psi	0 to 207 bar	PX5500[*]0-3KG[**]	PX5500[*]1-3KG[**]	PX5500[*]6-3KG[**]
0 to 5000 psi	0 to 345 bar	PX5500[*]0-5KG[**]	PX5500[*]1-5KG[**]	PX5500[*]6-5KG[**]
0 to 10,000 psi	0 to 689 bar	PX5500[*]0-10KG[**]	PX5500[*]1-10KG[**]	PX5500[*]6-10KG[**]

Comes complete with 5-point NIST-traceable calibration. Visit us online for compatible meters.

[*] Pressure Port (see Custom Configurations section and enter **A, B, C, D, L, or M**).

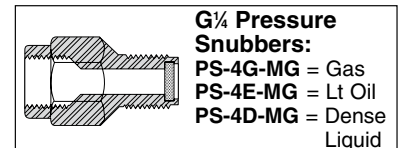
[**] Output Voltage Range: Enter "**5E**" for 0 to 5 Vdc output, or "**10E**" for 0 to 10 Vdc output.

To order absolute pressure transducers, change "**G**" in model number to "**A**" (no extra charge).

To order sealed gage transducers, change "**G**" in model number to "**S**" (no extra charge).

Ordering Examples: **PX5500L1-025A10E**, 25 psi absolute transducer with 0 to 10 Vdc output, PTIH-10-6P electrical connection, and MS33656-4, male pressure port. **PT06F10-6S**, mating connector (sold separately).

PX5500C6-5KG5E, 5000 psi gage pressure transducer with 0 to 5 Vdc output, mini DIN electrical connection, and 1/4-18 NPT male pressure port.



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Metric Custom Configurations

PXM5500 SERIES	PRESSURE PORT [1]	ELECTRICAL CONNECTION [2]	RANGE (BAR) [3]	UNITS [4]	OUTPUT [5]	OPTIONS [6]
MA = G $\frac{1}{8}$ B Male extra charge			001BAR	S,G,A	5E = 0 to 5 Vdc 10E = 0 to 10 Vdc 5T* = 0 to 5 Vdc * 5T is a legacy product and is not recommended for new designs.	CAL11 = 11-point calibration certificate + cost () ft = Optional cable length in meters
MB = G $\frac{1}{8}$ B Female no charge			1.60BAR	S,G,A		
MC = G $\frac{1}{8}$ B Male extra charge			004BAR	S,G,A		
MD = G $\frac{1}{8}$ B Female no charge			006BAR	S,G,A		
0 = 0.6 m (2') cable (std) add cost per/meter over 0.6 m (2')			010BAR	S,G,A		
1 = PTIH-10-6P twist-lock connector (or equal, no charge). Mating connector (sold separately), order PT06F10-6S			016BAR	S,G,A		
			025BAR	S,G,A		
			040BAR	S,G,A		
			060BAR	S,G,A		
			100BAR	S,G,A		
			160BAR	S,G,A		
			250BAR	S,G,A		
			400BAR	S,G,A		
			600BAR	S,G,A		
Visit us online for additional options including extended compensated temperatures.					To order a custom configuration: 1. Select a pressure port 2. Select electrical connection 3. Select a pressure range 4. Select pressure units – Sealed Gage, Gage or Absolute 5. Select output 6. Select options	

Popular Metric Models with 0 to 5 or 0 to 10 Vdc Output Shown Below (See Custom Configurations Section for All Available Versions/Options)				
Pressure Range		Model No. (With Output Termination Style)		
Metric	Imperial	0.6 m (2') Cable	PTIH-10-6P Connector	mini DIN Connector
Gage Pressure (All Ranges Also Available in Absolute and Sealed Gage Pressure, See Below)				
0 to 1 bar	0 to 15 psi	PXM5500M[*]0-001BARG[**]	PXM5500M[*]1-001BARG[**]	PXM5500M[*]6-001BARG[**]
0 to 1.60 bar	0 to 23 psi	PXM5500M[*]0-1.60BARG[**]	PXM5500M[*]1-1.60BARG[**]	PXM5500M[*]6-1.60BARG[**]
0 to 4 bar	0 to 58 psi	PXM5500M[*]0-004BARG[**]	PXM5500M[*]1-004BARG[**]	PXM5500M[*]6-004BARG[**]
0 to 6 bar	0 to 87 psi	PXM5500M[*]0-006BARG[**]	PXM5500M[*]1-006BARG[**]	PXM5500M[*]6-006BARG[**]
0 to 10 bar	0 to 145 psi	PXM5500M[*]0-010BARG[**]	PXM5500M[*]1-010BARG[**]	PXM5500M[*]6-010BARG[**]
0 to 16 bar	0 to 232 psi	PXM5500M[*]0-016BARG[**]	PXM5500M[*]1-016BARG[**]	PXM5500M[*]6-016BARG[**]
0 to 25 bar	0 to 363 psi	PXM5500M[*]0-025BARG[**]	PXM5500M[*]1-025BARG[**]	PXM5500M[*]6-025BARG[**]
0 to 40 bar	0 to 580 psi	PXM5500M[*]0-040BARG[**]	PXM5500M[*]1-040BARG[**]	PXM5500M[*]6-040BARG[**]
0 to 60 bar	0 to 870 psi	PXM5500M[*]0-060BARG[**]	PXM5500M[*]1-060BARG[**]	PXM5500M[*]6-060BARG[**]
0 to 100 bar	0 to 1450 psi	PXM5500M[*]0-100BARG[**]	PXM5500M[*]1-100BARG[**]	PXM5500M[*]6-100BARG[**]
0 to 160 bar	0 to 2321 psi	PXM5500M[*]0-160BARG[**]	PXM5500M[*]1-160BARG[**]	PXM5500M[*]6-160BARG[**]
0 to 250 bar	0 to 3626 psi	PXM5500M[*]0-250BARG[**]	PXM5500M[*]1-250BARG[**]	PXM5500M[*]6-250BARG[**]
0 to 400 bar	0 to 5802 psi	PXM5500M[*]0-400BARG[**]	PXM5500M[*]1-400BARG[**]	PXM5500M[*]6-400BARG[**]
0 to 600 bar	0 to 8702 psi	PXM5500M[*]0-600BARG[**]	PXM5500M[*]1-600BARG[**]	PXM5500M[*]6-600BARG[**]

Comes complete with 5-point NIST-traceable calibration. Visit us online for compatible meters.

[*] Pressure Port (see Custom Configurations section and enter **MA**, **MB**, **MC**, or **MD**).

[**] Output Voltage Range: Enter “**5E**” for 0 to 5 Vdc output, or “**10E**” for 0 to 10 Vdc output.

To order absolute pressure models, replace “**G**” in model number with “**A**” (no extra charge).

To order sealed gage models, replace “**G**” in model number with “**S**” (no extra charge).

Ordering Examples: **PXM5500MC6-060BARS5E**, 60 bar sealed gage transducer with 0 to 5 Vdc output, mini DIN electrical connection and G $\frac{1}{4}$ male pressure port. Mating connector included.

PXM5500MC0-010BARA10E, 10 bar absolute pressure transducer with 0 to 10 Vdc output, 0.6 m (2') cable connection and G $\frac{1}{4}$ male pressure port.

Accessories

Model No.	Description
PT06F10-6S	Mating connector for PX5500/PXM5500 Series units with PTIH-10-6P twist-lock connector