

HIGH-PERFORMANCE THIN FILM PRESSURE TRANSDUCER

STANDARD AND METRIC MODELS

0-5 Vdc Output

0-15 to 0-10,000 psi-Standard 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



STANDARD
PX5500L1-100G5T,
shown actual size.

PX5500/PXM5500 Series



- ✓ 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 Standards
- ✓ 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.

Electrical Connection: See Custom Configurations

Pressure Port: See Custom Configurations

Mating Connector (Style 1): PTS06A-10-6S (sold separately)

Weight: 225 g (8 oz) max

SPECIFICATIONS

Excitation: 12 to 40 Vdc unregulated

Output (FS): 5 Vdc ±0.1 Vdc ±10% adj

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

Vibration Sensitivity: At 20 g peak, sinusoidal vibration from 10 Hz to 2000 Hz (½" D.A.), the output shall not exceed 0.04% FS/g for 1 bar (15 psi) range, decreasing to 0.003% FS/g for 70 bar (1000 psi) and above

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

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

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/°C (0.027%/°C)

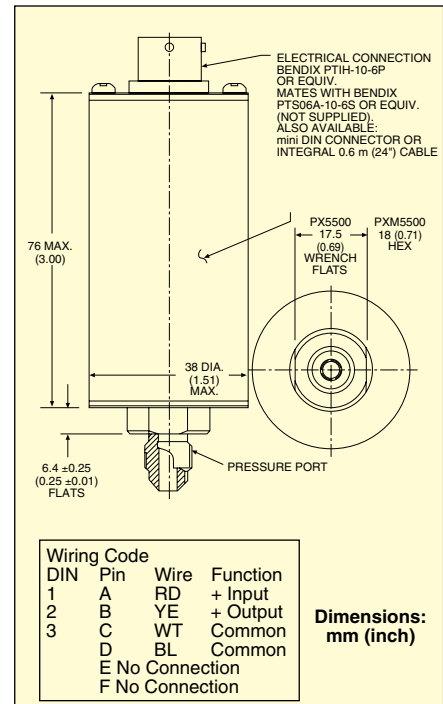
Zero: ±0.015% FS/°F (0.027%/°C)

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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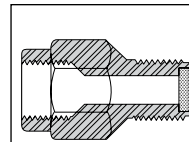
VOLTAGE OUTPUT
PRESSURE TRANSDUCERS
B

STANDARD CUSTOM CONFIGURATIONS

PX5500 SERIES	PRESSURE PORT [1]	ELECTRICAL CONNECTION [2]	RANGE [3]	UNITS [4]	OUTPUT [5]	OPTIONS [6]
A = 1/8-27 NPT male			015 psi	S,G,A	Base price PXM5500 5T = 0 to 5 Vdc	CAL11 = 11-pt cal + cost ()ft = Optional cable length in feet.
B = 1/8-27 NPT female			025	S,G,A		
C = 1/4-18 NPT male			050	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 – Absolute, Gage or Sealed gage 5. Select output 6. Select options and agency approvals
D = 1/4-18 NPT female			100	S,G,A		
L = MS33656-4			250	S,G,A		
M = MS33649-4			500	S,G,A		
	0 = 0.6 m (2') cable		1K	S,G,A		
	add cost per/ft		1.5K	S,G,A		
	over 0.6 m (2')		2.5K	S,G,A		
	1 = PTIH-10-6P connector		3K	S,G,A		
	(or equal, no charge).		5K	S,G,A		
	Mating connector		10K	S,G,A		
	(sold separately), order					
	PTS06A-10-6S					
	6 = mini DIN connector (no charge)					

Ordering Examples: *PX5500A1-015A5T*, 1/8-27 NPT male pressure port, twist-lock style connector, 15 psi absolute pressure range and 0 to 5 V. *PTS06A-10-6S*, mating connector (sold separately).

PX5500M1-10KG5T, MS33649-4 female pressure port, twist-lock style connector, 10,000 psi gage pressure range and 0 to 5 Vdc output. *PTS06A-10-6S*, mating connector (sold separately).



G 1/4 Pressure Snubbers:

PS-4G-MG = Gas

PS-4E-MG = Lt Oil

PS-4D-MG = Dense

Liquid

METRIC CUSTOM CONFIGURATIONS

PXM5500 SERIES	PRESSURE PORT [1]	ELECTRICAL CONNECTION [2]	RANGE (BAR) [3]	UNITS [4]	OUTPUT [5]	OPTIONS [6]
MA = G 1/8 Male			1.0	S,G,A	Base price PXM5500 5T = 0 to 5 Vdc	CAL11 = 11-point calibration certificate ()m = Optional cable length in meters
MB = G 1/8 Female			1.6	S,G,A		
MC = G 1/8 Male			4.0	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 – Absolute, Gage or Sealed gage 5. Select output 6. Select options and agency approvals
MD = G 1/8 Female			6.0	S,G,A		
	0 = 0.6 m (2') cable (std)		10	S,G,A		
	add cost per/m		16	S,G,A		
	over 0.6 m (2')		25	S,G,A		
	1 = PTIH-10-6P connector		40	S,G,A		
	(or equal, no charge).		60	S,G,A		
	Mating connector		100	S,G,A		
	(sold separately), order		160	S,G,A		
	PTS06A-10-6S		250	S,G,A		
	6 = mini DIN connector (no charge)		400	S,G,A		
			600	S,G,A		

Ordering Examples: *PXM5500MB0-010BARS5T*, 10 bar sealed gage pressure transducer with G 1/8 female connection and 0.6 m (2') cable termination.

PXM5500MD1-010BARA5T, 10 bar absolute pressure transducer with G 1/8 female connection and twist-lock connector.

PTS06A-10-6S, mating connector (sold separately).

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STANDARD MODELS

To Order			
MODELS WITH 0 TO 5 VDC OUTPUT, MS33656-4 CONNECTION, INTEGRAL CONNECTOR			
RANGE		MODEL NO.	COMPATIBLE METERS**
ABSOLUTE PRESSURE (ALL RANGES AVAILABLE IN ABSOLUTE PRESSURE)			
0 to 15 psi	0 to 1.0 bar	PX5500L1-015A5T	DP41-E, DP25B-E, DP24-E
0 to 25 psi	0 to 1.7 bar	PX5500L1-025A5T	DP41-E, DP25B-E, DP24-E
0 to 50 psi	0 to 3.4 bar	PX5500L1-050A5T	DP41-E, DP25B-E, DP24-E
0 to 100 psi	0 to 6.9 bar	PX5500L1-100A5T	DP41-E, DP25B-E, DP24-E
GAGE PRESSURE (ALL RANGES ALSO AVAILABLE IN SEALED GAGE PRESSURE)			
0 to 15 psi	0 to 1.0 bar	PX5500L1-015G5T	DP41-E, DP25B-E, DP24-E
0 to 25 psi	0 to 1.7 bar	PX5500L1-025G5T	DP41-E, DP25B-E, DP24-E
0 to 50 psi	0 to 3.4 bar	PX5500L1-050G5T	DP41-E, DP25B-E, DP24-E
0 to 100 psi	0 to 6.9 bar	PX5500L1-100G5T	DP41-E, DP25B-E, DP24-E
0 to 250 psi	0 to 17.2 bar	PX5500L1-250G5T	DP41-E, DP25B-E, DP24-E
0 to 500 psi	0 to 34.5 bar	PX5500L1-500G5T	DP41-E, DP25B-E, DP24-E
0 to 1000 psi	0 to 68.9 bar	PX5500L1-1KG5T	DP41-E, DP25B-E, DP24-E
0 to 1500 psi	0 to 103 bar	PX5500L1-1.5KG5T	DP41-E, DP25B-E, DP24-E
0 to 2500 psi	0 to 172 bar	PX5500L1-2.5KG5T	DP41-E, DP25B-E, DP24-E
0 to 3000 psi	0 to 207 bar	PX5500L1-3KG5T	DP41-E, DP25B-E, DP24-E
0 to 5000 psi	0 to 345 bar	PX5500L1-5KG5T	DP41-E, DP25B-E, DP24-E
0 to 10,000 psi	0 to 689 bar	PX5500L1-10KG5T	DP41-E, DP25B-E, DP24-E

Comes complete with 5-point NIST-traceable calibration.

** Visit us online for compatible meters.

[*] Insert "0" for 0.6 m cable, "1" for twist-lock connector or "6" for mini-DIN connector.

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: PX5500L1-1KS5T, 1000 psi sealed gage transducer with 0 to 5 Vdc output, PTIH-10-6P electrical connection, and MS33656-4, male pressure port. PTS06A-10-6S, mating connector (sold separately).

PX5500L1-100A5T, 100 psi absolute pressure transducer with 0 to 5 Vdc output, PTIH-10-6P electrical connection, and MS33656-4, male pressure port. PTS06A-10-6S, mating connector (sold separately).

METRIC MODELS

MODELS WITH G ¼ MALE PRESSURE CONNECTION, CABLE OR CONNECTOR AND 5 V OUTPUT			
RANGE		MODEL NO.	COMPATIBLE METERS**
GAGE PRESSURE			
0 to 1 bar	0 to 15 psi	PXM5500MC[*]-001BARG5T	DP41-E, DP25B-E, DP24-E
0 to 1.60 bar	0 to 23 psi	PXM5500MC[*]-1.60BARG5T	DP41-E, DP25B-E, DP24-E
0 to 4 bar	0 to 58 psi	PXM5500MC[*]-004BARG5T	DP41-E, DP25B-E, DP24-E
0 to 6 bar	0 to 87 psi	PXM5500MC[*]-006BARG5T	DP41-E, DP25B-E, DP24-E
0 to 10 bar	0 to 145 psi	PXM5500MC[*]-010BARG5T	DP41-E, DP25B-E, DP24-E
0 to 16 bar	0 to 232 psi	PXM5500MC[*]-016BARG5T	DP41-E, DP25B-E, DP24-E
0 to 25 bar	0 to 363 psi	PXM5500MC[*]-025BARG5T	DP41-E, DP25B-E, DP24-E
0 to 40 bar	0 to 580 psi	PXM5500MC[*]-040BARG5T	DP41-E, DP25B-E, DP24-E
0 to 60 bar	0 to 870 psi	PXM5500MC[*]-060BARG5T	DP41-E, DP25B-E, DP24-E
0 to 100 bar	0 to 1450 psi	PXM5500MC[*]-100BARG5T	DP41-E, DP25B-E, DP24-E
0 to 160 bar	0 to 2321 psi	PXM5500MC[*]-160BARG5T	DP41-E, DP25B-E, DP24-E
0 to 250 bar	0 to 3626 psi	PXM5500MC[*]-250BARG5T	DP41-E, DP25B-E, DP24-E
0 to 400 bar	0 to 5802 psi	PXM5500MC[*]-400BARG5T	DP41-E, DP25B-E, DP24-E
0 to 600 bar	0 to 8702 psi	PXM5500MC[*]-600BARG5T	DP41-E, DP25B-E, DP24-E

Comes complete with 5-point NIST-traceable calibration.

** Visit us online for compatible meters.

[*] Insert "0" for 0.6 m cable, "1" for twist-lock connector or "6" for mini-DIN connector.

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: PXM5500MC6-060BARS5T, 60 bar sealed gage transducer with 0 to 5 Vdc output, mini DIN electrical connection and G¼ male pressure port. Mating connector included.

PXM5500MC0-010BARA5T, 10 bar absolute pressure transducer with 0 to 5 Vdc output, 0.6 m (2') cable connection and G¼ male pressure port.

ACCESSORY

MODEL NO.	DESCRIPTION
PTS06A-10-6S	Mating connector for PX5500/PXM5500 Series units with twist-lock connector