

HIGH-PERFORMANCE THIN FILM PRESSURE TRANSDUCER

STANDARD AND METRIC UNITS

PX5500/PXM5500 Series

mV/V Output

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

0-1 to 0-600 bar Metric Models

All Ranges
\$550



Standard

- ✓ High Accuracy: 0.1%
- ✓ Solid State Reliability
- ✓ Sputtered Strain Gage Design
- ✓ High Shock and Vibration Resistance
- ✓ Low Drift
- ✓ 5-Point NIST Calibration Standard

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

PX5500/PXM5500 Series transducers provide high performance in demanding industrial and research applications in which 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 pressure data. When

recalibration is impossible, relying on the high stability of a PX5500/PXM5500 Series transducers may be the only cost-effective way to obtain pressure data over the long term. NEWPORT's thin-film technology makes this premium performance possible. The strain gages 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 gages ensures virtually no shifting, drifting, or "creep" in the performance of the transducer. The micro-geometry design of the PX5500/PXM5500 sensing elements results in 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

mV/V MODELS

Excitation: 10 Vdc

Output FSO: 30 mV typ, 26 mV min

Input Resistance: 2500 Ω typical, 800 Ω min, 3000 Ω max.

For 350 Ω bridge models see Custom Configurations.

Output Resistance: 2500 Ω typical, 800 Ω minimum, 3300 Ω maximum

Insulation Resistance: 500 M Ω @ 45 Vdc over the compensated range

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

Accuracy: Combined linearity, hysteresis and nonrepeatability: $\pm 0.10\%$ FSO (BFSL) <1000 psi $\pm 0.15\%$ FSO 1000 psi and above

Calibration Stability: $\pm 0.1\%$ for 18 months

Vibration Sensitivity: At 35 g peak sinusoidal vibration from 10 Hz to 2000 Hz ($\frac{1}{2}$ " D.A.), the output shall not exceed 0.04% FSO/g for 15 psi range, decreasing to 0.003% FSO/g for 1000 psi and above

Natural Frequency: 5 kHz for 15 psi, increasing logarithmically to 50 kHz for 5000 psi



PX5500L1-100GV, \$550, shown actual size.

Twist-lock style.

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

Electrostatic Discharge (ESD): Protected to 15 kV

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

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

Thermal Effects:

Span: $\pm 0.0025\%$ FSO/°F

Zero: $\pm 0.0025\%$ FSO/°F

Proof Pressure:

2 times rated pressure or 15,000 psi, whichever is less, will not cause changes in performance beyond the specified tolerance

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

Wetted Parts:

17-4 PH or 15-5 PH SS

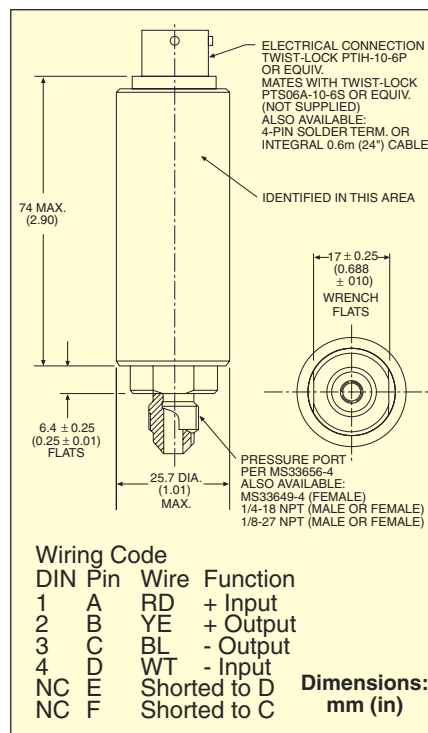
Electrical Connection: PTIH-10-6P standard – see custom configurations

Pressure Port: See drawing below

Mating Connector:

PTS06A-10-6S (sold separately)

Weight: 200 g (7 oz) maximum



MILLIVOLT OUTPUT
PRESSURE TRANSDUCERS

B

HIGH-PERFORMANCE THIN FILM PRESSURE TRANSDUCER

STANDARD CUSTOM CONFIGURATIONS

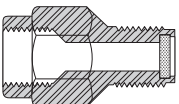
PX5500* SERIES	PRESSURE PORT [1]	ELECTRICAL CONNECTION [2]	RANGE [3]	UNITS [4]	OUTPUT [5]	OPTIONS [6]
A = 1/8-27 NPT Male B = 1/8-27 NPT Female C = 1/4-18 NPT Male D = 1/4-18 NPT Female L = MS33656-4 M = MS33649-4			015 psi 025 050 100 250 500 1K 1.5K 2.5K 3K 5K 10K	A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S	Base Price PX5500 V = mV/V \$550 5T = 0 to 5V \$695 I = 4 to 20mA \$695	CAL11 = 11-pt cal +\$250
*For a 350 Ω bridge change model number to PX5503. No additional charge.		0 = 0.6 m (2') cable \$4.50/ft over 0.6 m (2') 1 = PTIH-10-6P connector (or equal). Mating connector (sold separately), order PTS06A-10-6S \$47. 3 = 4-pin eyelet header 6 = DIN connector			To order a custom configuration: 1. Select a pressure port 2. Select electrical connection 3. Select a pressure range 4. Select pressure units 5. Select output 6. Select options and agency approvals	

Comes complete with 5-point calibration.

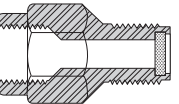
Ordering Examples: PX5503A1-015AV, 350 Ω bridge, 1/8-27 NPT male pressure port, PTIH-10-6P style connector, 15 psi absolute pressure range and mV/V output, \$550.

PTS06A-10-6S, mating connector (sold separately), \$47. PX5500M1-10KG5T, MS33649-4 female pressure port, PTIH-10-6P style connector, 10,000 psi gage pressure range and 0 to 5 Vdc output, \$695. PTS06A-10-6S, mating connector (sold separately), \$47.

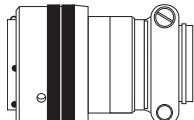
PX5500L0-015A1-25FT, MS33656-4 male pressure port, 8 m (25') lead wire, 15 psi absolute pressure range and 4 to 20 mA output, \$695 + (25 - 2) (4.50) = \$798.50.



1/4 NPT Pressure Snubbers: \$12.75
 PS-4G = Gas
 PS-4E = Lt Oil
 PS-4D = Dense Lq



1/2 NPT Pressure Snubbers: \$12.75
 PS-4G-MG = Gas
 PS-4E-MG = Lt Oil
 PS-4D-MG = Dense Liquid



Mating Connector PTS06A-10-6S \$47

METRIC PSI RANGE CUSTOM CONFIGURATIONS

PXM5500 SERIES	PRESSURE PORT [1]	ELECTRICAL CONNECTION [2]	RANGE (BAR) [3]	UNITS [4]	OUTPUT [5]	OPTIONS [6]
MA = G1/8B Male +\$20 MB = G1/8B Female no charge MC = G1/4B Male +\$20 MD = G1/4B Female no charge			1.0 1.6 4.0 6.0 10 16 25 40 60 100 160 250 400 600	A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S	I = 4 to 20 mA Base price PXM5500 \$695	CAL11 = 11-point calibration certificate ()m = Optional cable length in meters
		0 = 0.6 m (2') cable (std) \$15/m over 0.2 m (2') 1 = PTIH-10-6P connector (or equal, no charge) 3 = 4-pin eyelet 6 = mini DIN connector			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	

See page B-12 for additional options including extended compensated temperatures.

Ordering Examples: PXM5500MB0-010BARS5T, 10 bar sealed gage pressure transducer with G1/8B female connection and 0.6 m (2') cable termination, \$695.

PXM5500MD1-010BARA5T, 10 bar absolute pressure transducer with G1/4B female connection and twist-lock connector, \$695.

PTS06A-10-6S, mating connector (sold separately), \$26.50.

STANDARD MODELS

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Models with mV/V Output, MS33656-4 Connection, Integral Connector

RANGE		MODEL NO.	PRICE	COMPATIBLE METERS*
ABSOLUTE PRESSURE (All Ranges Available in Absolute Pressure)				
0 to 15 psi	0 to 1.0 bar	PX5500L1-015AV	\$550	DP41-S, DP25B-S
0 to 25 psi	0 to 1.7 bar	PX5500L1-025AV	550	DP41-S, DP25B-S
0 to 50 psi	0 to 3.4 bar	PX5500L1-050AV	550	DP41-S, DP25B-S
0 to 100 psi	0 to 6.9 bar	PX5500L1-100AV	550	DP41-S, DP25B-S
GAGE PRESSURE (All Ranges also Available in Sealed Gage Pressure)				
0 to 15 psi	0 to 1.0 bar	PX5500L1-015GV	\$550	DP41-S, DP25B-S
0 to 25 psi	0 to 1.7 bar	PX5500L1-025GV	550	DP41-S, DP25B-S
0 to 50 psi	0 to 3.4 bar	PX5500L1-050GV	550	DP41-S, DP25B-S
0 to 100 psi	0 to 6.9 bar	PX5500L1-100GV	550	DP41-S, DP25B-S
0 to 250 psi	0 to 17.2 bar	PX5500L1-250GV	550	DP41-S, DP25B-S
0 to 500 psi	0 to 34.5 bar	PX5500L1-500GV	550	DP41-S, DP25B-S
0 to 1000 psi	0 to 68.9 bar	PX5500L1-1KGV	550	DP41-S, DP25B-S
0 to 1500 psi	0 to 103 bar	PX5500L1-1.5KGV	550	DP41-S, DP25B-S
0 to 2500 psi	0 to 172 bar	PX5500L1-2.5KGV	550	DP41-S, DP25B-S
0 to 3000 psi	0 to 207 bar	PX5500L1-3KGV	550	DP41-S, DP25B-S
0 to 5000 psi	0 to 345 bar	PX5500L1-5KGV	550	DP41-S, DP25B-S
0 to 10,000 psi	0 to 689 bar	PX5500L1-10KGV	550	DP41-S, DP25B-S

Comes complete with 5-point calibration.

* See section D for compatible meters.

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: PX5500L1-1KSV, 1000 psi sealed gage transducer with PTIH-10-6P electrical connection and MS33656-4 male pressure port, \$550. PTS06A-10-6S, mating connector (sold separately), \$47.

PX5500L1-100AV, 100 psi absolute pressure transducer with PTIH-10-6P electrical connection and MS33656-4 male pressure port, \$550. PTS06A-10-6S, mating connector (sold separately), \$47.

METRIC MODELS

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

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

RANGE		MODEL NO.	PRICE	COMPATIBLE METERS*
GAGE PRESSURE				
0 to 1 bar	0 to 15 psi	PXM5500MC[*]-001BARGV	\$550	DP41-S, DP25B-S
0 to 1.60 bar	0 to 23 psi	PXM5500MC[*]-1.60BARGV	550	DP41-S, DP25B-S
0 to 4 bar	0 to 58 psi	PXM5500MC[*]-004BARGV	550	DP41-S, DP25B-S
0 to 6 bar	0 to 87 psi	PXM5500MC[*]-006BARGV	550	DP41-S, DP25B-S
0 to 10 bar	0 to 145 psi	PXM5500MC[*]-010BARGV	550	DP41-S, DP25B-S
0 to 16 bar	0 to 232 psi	PXM5500MC[*]-016BARGV	550	DP41-S, DP25B-S
0 to 25 bar	0 to 363 psi	PXM5500MC[*]-025BARGV	550	DP41-S, DP25B-S
0 to 40 bar	0 to 580 psi	PXM5500MC[*]-040BARGV	550	DP41-S, DP25B-S
0 to 60 bar	0 to 870 psi	PXM5500MC[*]-060BARGV	550	DP41-S, DP25B-S
0 to 100 bar	0 to 1450 psi	PXM5500MC[*]-100BARGV	550	DP41-S, DP25B-S
0 to 160 bar	0 to 2321 psi	PXM5500MC[*]-160BARGV	550	DP41-S, DP25B-S
0 to 250 bar	0 to 3626 psi	PXM5500MC[*]-250BARGV	550	DP41-S, DP25B-S
0 to 400 bar	0 to 5802 psi	PXM5500MC[*]-400BARGV	550	DP41-S, DP25B-S
0 to 600 bar	0 to 8702 psi	PXM5500MC[*]-600BARGV	550	DP41-S, DP25B-S

Comes complete with 5-point NIST-traceable calibration.

* See section D for compatible meters.

[*] = Insert "0" for 0.6 m (2') cable "1" for twist-lock connector for "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 Example: PXM5500MC6-60BARSV, mV/V output, 60 bar sealed gage transducer with mini DIN connector and G 1/4 male pressure port, \$550. Mating connector included.



STANDARD
PX5500L1-100GV,
\$550, shown
actual size.



METRIC
PXM5500MC6-010BARGV,
\$550, shown actual size.

ACCESSORY

MODEL NO.	PRICE	DESCRIPTION
PTS06A-10-6S	\$47	Mating connector for PX5500/PXM5500 units with PTIH-10-6P electrical connection



MILLIVOLT OUTPUT
PRESSURE TRANSDUCERS

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