

HIGH PERFORMANCE PRESSURE TRANSDUCER

LONG TERM RELIABILITY



PX5500
\$695
 Model Shown

PX5500 Series

0-5Vdc Output

0-15 to 0-10,000 psi

0-1 to 0-700 bar

1 bar = 14.5 psi

1 kg/cm² = 14.22 psi

1 Atmosphere = 14.7 psi = 29.93

in-Hg = 760.2 mm-Hg = 1.014 bar

- ✓ High Accuracy 0.1%
- ✓ Solid State Reliability
- ✓ Sputtered Strain Gage 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 PX5500 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 FSO over an 18 month period. This translates into less down time, fewer test reruns, more

Model PX5500L1-100G5T
 Shown Smaller
 Than Actual Size

time between calibrations, and high confidence in your pressure data. When recalibration is impossible, relying on the high stability of the PX5500 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 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 sensing element results in



a very small, low mass sensor that reduces effects of mechanical vibration and shock. The PX5500 gives you the accuracy, reliability, and stability at competitive prices.

To Order (Specify Model Number)

Models with 0-5Vdc Output, MS33656-4 Connection, Integral Connector

RANGE (psi)	MODEL NUMBER	PRICE	COMPATIBLE METERS
Absolute Pressure (All Ranges Available in Absolute Pressure)			
0 to 15	PX5500L1-015A5T	\$695	DP41-E, DP25-E, DP24-E
0 to 25	PX5500L1-025A5T	695	DP41-E, DP25-E, DP24-E
0 to 50	PX5500L1-050A5T	695	DP41-E, DP25-E, DP24-E
0 to 100	PX5500L1-100A5T	695	DP41-E, DP25-E, DP24-E
Gage Pressure (All Ranges also Available in Sealed Gage Pressure)			
0 to 15	PX5500L1-015G5T	695	DP41-E, DP25-E, DP24-E
0 to 25	PX5500L1-025G5T	695	DP41-E, DP25-E, DP24-E
0 to 50	PX5500L1-050G5T	695	DP41-E, DP25-E, DP24-E
0 to 100	PX5500L1-100G5T	695	DP41-E, DP25-E, DP24-E
0 to 250	PX5500L1-250G5T	695	DP41-E, DP25-E, DP24-E
0 to 500	PX5500L1-500G5T	695	DP41-E, DP25-E, DP24-E
0 to 1,000	PX5500L1-1KG5T	695	DP41-E, DP25-E, DP24-E
0 to 1,500	PX5500L1-1.5KG5T	695	DP41-E, DP25-E, DP24-E
0 to 2,500	PX5500L1-2.5KG5T	695	DP41-E, DP25-E, DP24-E
0 to 3,000	PX5500L1-3KG5T	695	DP41-E, DP25-E, DP24-E
0 to 5,000	PX5500L1-5KG5T	695	DP41-E, DP25-E, DP24-E
0 to 10,000	PX5500L1-10KG5T	695	DP41-E, DP25-E, DP24-E

Metric Ranges Available - Consult Engineering

To order Absolute Pressure models, change "G" in the part number to "A". No charge. To order Sealed Gage models, change "G" in the part number to "S". No charge.

Ordering Examples: 1.) **PX5500L1-1KS5T** is a 1,000 psi Sealed Gage transducer with 0-5Vdc output, PT1H-10-6P electrical connection and MS33656-4 Male Pressure Port, \$695. Mating Connector (not included) **PTS06A-10-6S, \$47.00.**

2.) **PX5500L1-100A5T** is a 100 psi Absolute Pressure transducer with 0-5Vdc output, PT1H-10-6P electrical connection and MS33656-4 Male Pressure Port, \$695. Mating Connector (not included) **PTS06A-10-6S, \$47.00.**



VOLTAGE OUTPUT PRESSURE TRANSDUCERS

B

**SPECIFICATIONS:
(5Vdc MODELS)**

Excitation: 12 to 40 Vdc unregulated
Output (FS): 5 Vdc ±0.1 Vdc ±10% adj
Zero Balance: 0 V ±0.1Vdc ±5% adj
Input Current: 20 mA max. with no load
Output Resistance: 100 max
Insulation Resistance:
 100 MΩ @ 45 Vdc between all pins shorted together and case
Electrostatic Discharge:
 Protected to 15kV max.

Sensing Element:
 4 active-arm bridge using sputter-deposited thin-film elements
Accuracy: Combined Linearity, Hysteresis and Repeatability:
 ±0.10% FS (BFSL) <1000 psi
 ±0.15% FS 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 15 psi range, decreasing to 0.003% FS/g for 1000 psi and above

Natural Frequency:
 5 kHz for 15 psi, increasing logarithmically to 50 kHz for 5,000 psi
Shock: Qualification level of 100 g, 11 milliseconds half sine wave without damage

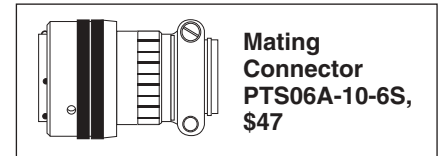
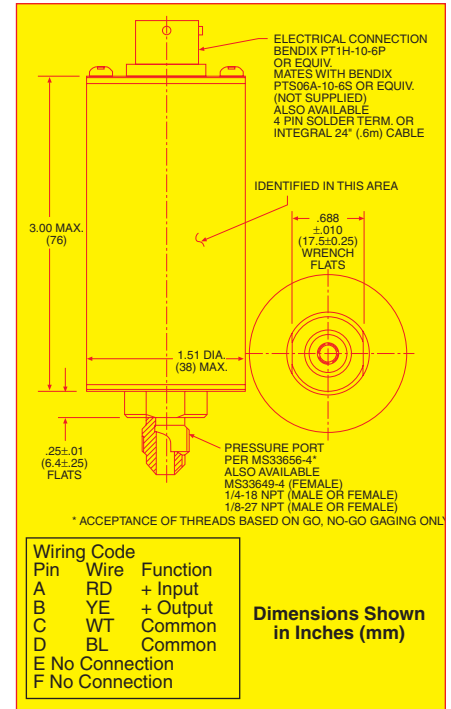
Operating Temp Range:
 -54 to +121°C (-65 to +250°F)
Compensated Temp Range:
 -18 to +82° C (0 to +180°F)
Thermal Effects:
 (Over the compensated range)
Span: ±0.015% FS/°F
Zero: ±0.015% FS/°F

Proof Pressure:
 2.0 times rated pressure or 15,000 psi, whichever is less, will not cause changes in performance beyond the specified tolerance
Burst Pressure:
 3.0 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 Stainless Steel
Electrical Connection:
 PT1H-10-6P standard see custom configurations

Pressure Port:
 MS33656-4 (Male) standard see custom configurations
Optional:
 MS33649-4, ¼"-18 NPT Male/Female, ⅜"-27 NPT Male/Female

Mating Connector:
 PTS06A-10-6S Not Included
Weight: 8 oz (225g) maximum



CUSTOM CONFIGURATIONS

SERIES	PRESSURE PORT	ELECTRICAL CONNECTION	RANGE	UNITS	OUTPUT	OPTIONS
PX5500*	[1]	[2]	[3]	[4]	[5]	[6]
A = ⅜"-27 NPT Male			015 psi	A, G, S	V = mV/V \$550	CAL11 = 11pt Cal
B = ⅜"-27 NPT Female			025	A, G, S	5T = 0-5V \$695	+ \$150
C = ¼"-18 NPT Male			050	A, G, S	I = 4-20mA \$695	
D = ¼"-18 NPT Female			100	A, G, S		
L = MS33656-4			250	A, G, S		
M = MS33649-4			500	A, G, S		
	0 = 2 ft (.6m) cable		1K	A, G, S		
	\$2/ft over 2 ft		1.5K	A, G, S		
	1 = PT1H-10-6P Connector		2.5K	A, G, S		
	(or Equal)		3K	A, G, S		
	Mating Connector (not included) PTS06A-10-6S		5K	A, G, S		
	\$47		10K	A, G, S		
	3 = 4 - Pin Eyelet Header					

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

Metric Ranges Available - Consult Engineering

Ordering Examples:

- 1.) **PX5500A1-015A5T** has a 1000 ohm bridge, ⅜"-27 NPT male pressure port, Bendix style connector, 15 psi Absolute Pressure range and 0-5 Volt, \$695. Mating connector (not included) **PTS06A-10-6S, \$47.00.**
- 3.) **PX5500M1-10KG5T** has a 1000 ohm bridge, MS33649-4 female pressure port, Bendix style connector, 10,000 psi Gage Pressure range and 0-5 Vdc output, \$695. Mating connector (not included) **PTS06A-10-6S, \$47.00.**
- 4.) **PX5500L0-015A1-25FT** has a 1000 ohm bridge, MS33656-4 male pressure port, 25 ft (8m) lead wire, 15 psi Absolute Pressure range and 4-20 mA output, \$695+46= **\$741.**