HIGH-PERFORMANCE PRESSURE TRANSDUCER
ULTRA-HIGH LONG-TERM STABILITY

mV/V 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 inHg = 760.2 mmHg = 1.014 bar

PX5000 Series

NIST CE
Standard

- **High Shock and Vibration Resistance**
- **100,000-Hour MTBF**
- **0.1% Stability for 18 Months**
- **High Operating Temperature: -54 to 150°C (-65 to 300°F)**
- **Solid State Reliability**
- **5-Point NIST Calibration Standard**

Applications

- **Automotive Testing**
- **Gas Turbine Engines**
- **Flight Testing**
- **Aircraft**
- **Space Launch Vehicles and Satellites**
- **Weapon Systems**

OMEGA's PX5000 Series pressure transducers have earned a reputation for high performance, reliability, and stability in tough, real-world applications. These outstanding transducers use OMEGA's advanced sputtered thin-film sensor technology.

PX5000L1-3KGV, shown actual size.

In the sputtering process, gage material is accelerated in a vacuum chamber toward a sensor substrate, molecule by molecule. Each molecule interacts with an energy of several thousand electron volts— sufficient to penetrate a few atomic layers and produce the most stable and reliable bond possible. This unique molecular gage bonding provides superior long-term calibration stability and reliability, since the sensors have no cement bonds to degrade with time or weaken at higher temperatures.

The PX5000 transducer excels in adverse operating environments. The photo-etched gage pattern makes the sensing element components very small, with short interconnecting leads. This micro-geometry reduces vibration mass, making this transducer much less susceptible to vibration and shock failures and errors.

To Order

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

RANGE		MODEL NO.	COMPATIBLE METERS*
ABSOLUTE PRESSURE ***(Note: All Ranges Available in Absolute Pressure)***			
0 to 15 psi	0 to 1.0 bar	**PX5000L1-015AV**	DP41-S, DP25B-S
0 to 25 psi	0 to 1.7 bar	**PX5000L1-025AV**	DP41-S, DP25B-S
0 to 50 psi	0 to 3.4 bar	**PX5000L1-050AV**	DP41-S, DP25B-S
0 to 100 psi	0 to 6.9 bar	**PX5000L1-100AV**	DP41-S, DP25B-S
GAGE PRESSURE ***(Note: All Ranges Also Available in Sealed Gage Pressure)***			
0 to 15 psi	0 to 1.0 bar	**PX5000L1-015GV**	DP41-S, DP25B-S
0 to 25 psi	0 to 1.7 bar	**PX5000L1-025GV**	DP41-S, DP25B-S
0 to 50 psi	0 to 3.4 bar	**PX5000L1-050GV**	DP41-S, DP25B-S
0 to 100 psi	0 to 6.9 bar	**PX5000L1-100GV**	DP41-S, DP25B-S
0 to 250 psi	0 to 17.2 bar	**PX5000L1-250GV**	DP41-S, DP25B-S
0 to 500 psi	0 to 34.5 bar	**PX5000L1-500GV**	DP41-S, DP25B-S
0 to 1000 psi	0 to 68.9 bar	**PX5000L1-1KGV**	DP41-S, DP25B-S
0 to 1500 psi	0 to 103 bar	**PX5000L1-1.5KGV**	DP41-S, DP25B-S
0 to 2500 psi	0 to 172 bar	**PX5000L1-2.5KGV**	DP41-S, DP25B-S
0 to 3000 psi	0 to 207 bar	**PX5000L1-3KGV**	DP41-S, DP25B-S
0 to 5000 psi	0 to 345 bar	**PX5000L1-5KGV**	DP41-S, DP25B-S
0 to 10,000 psi	0 to 689 bar	**PX5000L1-10KGV**	DP41-S, DP25B-S

Comes complete with 5-point calibration.

** Visit us online for compatible meters.* *Metric ranges available – Consult Engineering.*

*To order absolute pressure, replace **"G"** in model number with **"A"** (no extra charge).*
*To order sealed gage pressure, replace **"G"** in model number with **"S"** (no extra charge).*

***Ordering Examples: PX5000L1-100AV,** 100 psi absolute pressure transducer, with MS33656-4 male pressure connection and integral electrical connector.*
***PTS06A-10-6S-R,** mating connector.*
***PX5000L1-5KGV,** 5000 psi gage pressure transducer, with MS33656-4 male pressure connection and integral electrical connector. **PTS06A-10-6S-R,** mating connector.*

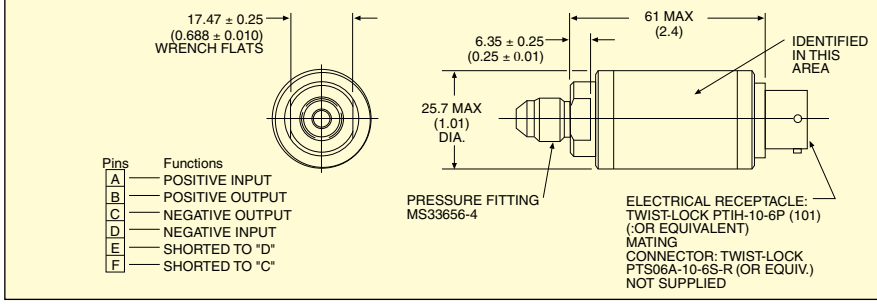
MODEL NO.	DESCRIPTION
PTS06A-10-6S-R	Mating connector for PX5000 units w/PTIH-10-6P electrical connection

HIGH-PERFORMANCE PRESSURE TRANSDUCER

Rugged all-welded construction ensures a durable and reliable instrument. And this transducer now provides electrostatic discharge (ESD) protection to 15 kV.

Users get state-of-the-art thin-film reliability and performance with the PX5000 pressure transducer, yet it is competitively priced. The result is highest value—premium performance without a premium price. This transducer is also available with an optional 11-point NIST-traceable calibration.

Dimensions: mm (inch)



SPECIFICATIONS

Excitation: 10 Vdc

Output: 30 mV typical, 26 mV minimum

Input Resistance:
2500 Ω typical, 800 Ω minimum, 3000 Ω maximum

Output Resistance:
2500 Ω typical, 800 Ω minimum, 3300 Ω maximum; for 350 Ω bridge, see Custom Configurations

Insulation Resistance: 500 MΩ minimum @ 45 Vdc over the compensated range

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

Accuracy: Combined linearity, hysteresis and nonrepeatability: ±0.10% FSO 0 to 15 through 0 to 999 psi; ±0.15% FSO 1000 psi and above

Calibration Stability:
±0.1% for 18 months

Reliability: MTBF = 100,000 hours

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

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

Thermal Effects:
Span: ±0.005% FSO/°F
Zero: ±0.005% FSO/°F

Vibration Sensitivity: At 35 g peak sinusoidal vibration from 10 Hz to 2000 Hz (½" D.A.), the output shall not exceed 0.04% FSO/g for 15 psi range to 0.003% FSO/g for 1000 psi and above

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

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

Humidity: Qualified per MIL-STD-810

Electrostatic Discharge (ESD):
Protected to 15 kV

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

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

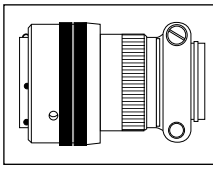
Wetted Parts: 17-4 PH stainless steel or 15-5 PH stainless steel

Pressure Fitting: 7/16-20 male per MS33656-4

Mounting Sensitivity: Less than 0.05% FSO change in zero when mounted by the pressure port to a manifold at a torque of 15 ft-lb on a solid copper gasket

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

Weight: 145 g (5 oz) maximum



Mating Connector
PTS06A-10-6S-R

CUSTOM CONFIGURATIONS

SERIES PX5000*	PRESSURE PORT [1]	ELECTRICAL CONNECTION [2]	RANGE [3]	UNITS [4]	OUTPUT [5]	OPTIONS [6]
	L = MS33656-4		015 psi	A,G,S	**V** = mV/V output	**CAL11 =** 11-point NIST-traceable calibration **+ additional cost**
			025	A,G,S		
			050	A,G,S		
			100	A,G,S		
			250	A,G,S		
			500	A,G,S		
			1K	A,G,S		
			1.5K	A,G,S		
			2.5K	A,G,S		
			3K	A,G,S		
			5K	A,G,S		
			10K	A,G,S		

** For 350 Ω bridge change model to PX5003, no additional charge.*

1 = **PTIH-10-6P** connector (or equal). Mating connector (sold separately), order **PTS06A-10-6S-R**

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

Metric ranges available – Consult Engineering.

Ordering Examples: PX5003L1-100AV, *350 Ω bridge, MS33656-4 male pressure port, PTIH-10-6P connector, 100 psi absolute pressure range and mV/V output,* ***$750. PTS06A-10-6S-R,*** *mating connector (sold separately).*

PX5000L1-5KSV-CAL11, *2500 Ω bridge, MS33656-4 male pressure port, PTIH-10-6P connector, 5000 psi sealed gage pressure range, mV/V output and optional 11-point NIST-traceable calibration.* ***PTS06A-10-6S-R,*** *mating connector (sold separately).*

PX5000L1-1KGV, *2500 Ω bridge, MS33656-4 male pressure port, PTIH-10-6P connector, 1000 psi gage pressure range, mV/V output and standard 5-point NIST-traceable calibration.* ***PTS06A-10-6S-R,*** *mating connector (sold separately).*