



**\$ 950**

Model Shown

**PX5000 Series**

mV/V Output

0-15 to 0-10,000 psi

0-1 to 0-700 bar

1 bar = 14.5 psi

1 kg/cm<sup>2</sup> = 14.22 psi

1 Atmosphere = 14.7 psi =

29.93 in-Hg = 760.2 mm-Hg =

1.014 bar

- High Shock and Vibration
- 100,000 Hour MTBF
- 0.1% Stability for 18 months
- High Operating Temperature  
-54° to 150°C (-65° to 300°F)
- Solid State Reliability
- 11 Point Calibration Available

**Applications**

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

For Sales and Service  
In U.S.A. and Canada

**1-800-872-3963<sup>SM</sup>**  
**1-800-USA-DYNE**

International Customers Dial

**(614) 965-9340**

24-Hour FAX (614) 965-9438

**OMEGADYNE<sup>SM</sup> FAX**

OMEGADYNE's 24-Hour  
On-Line Publishing Service

**1-800-344-3963<sup>SM</sup>**  
**1-800-DIG-DYNE**

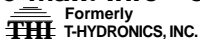
Document # 3602

**OMEGADYNE, Inc.**

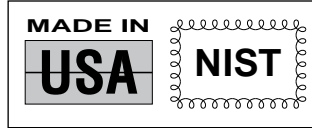
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**SPEC SHEET**

**PX5000**

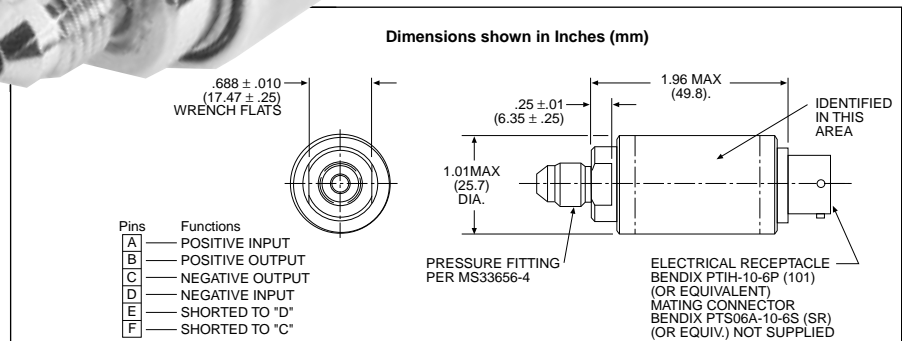
Interchangeable with  
CEC Model 5000-xxxx

# High Performance Pressure Transducer

## Ultra High Long Term Stability



Model PX5000L1-3KGV \$950  
Shown Actual Size



► **Most Popular Models Highlighted** ◀ **Prices Shown in U.S. Dollars**

| <b>To Order: (Specify Model Number)</b>   |                 |       |                   |
|---|-----------------|-------|-------------------|
| <b>Models with mV/V Output, MS33656-4 Fitting and Integral Connector</b>        |                 |       |                   |
| Range (psi)   | Model Number    | Price | Compatible Meters |
| <b>Absolute Pressure: (Note: All Ranges Available in Absolute Pressure)</b>     |                 |       |                   |
| 0-15  | PX5000L1-015AV  | 950   | INFS, INFCS       |
| 0-25  | PX5000L1-025AV  | 950   | INFS, INFCS       |
| 0-50  | PX5000L1-050AV  | 950   | INFS, INFCS       |
| 0-100   | PX5000L1-100AV  | 950   | INFS, INFCS       |
| <b>Gage Pressure: (Note: All Ranges also Available in Sealed Gage Pressure)</b> |                 |       |                   |
| 0-15  | PX5000L1-015GV  | 950   | INFS, INFCS       |
| 0-25  | PX5000L1-025GV  | 950   | INFS, INFCS       |
| 0-50  | PX5000L1-050GV  | 950   | INFS, INFCS       |
| 0-100   | PX5000L1-100GV  | 950   | INFS, INFCS       |
| 0-250   | PX5000L1-250GV  | 950   | INFS, INFCS       |
| 0-500   | PX5000L1-500GV  | 950   | INFS, INFCS       |
| 0-1,000   | PX5000L1-1KGV   | 950   | INFS, INFCS       |
| 0-1,500   | PX5000L1-1.5KGV | 950   | INFS, INFCS       |
| 0-2,500   | PX5000L1-2.5KGV | 950   | INFS, INFCS       |
| 0-3,000   | PX5000L1-3KGV   | 950   | INFS, INFCS       |
| 0-5,000   | PX5000L1-5KGV   | 950   | INFS, INFCS       |
| 0-10,000  | PX5000L1-10KGV  | 950   | INFS, INFCS       |

Interchangeable with CEC Model 5000-xxxx Metric Ranges Available - Consult Engineering  
To order Absolute Pressure, change "G" in the part number to "A". No additional charge.  
To order Sealed Gage Pressure, change "G" in the part number to "S". No additional charge.  
**Ordering Examples:** 1.) **PX5000L1-100AV** is a 100 psi Absolute Pressure transducer, with a male pressure connection per MS33656-4 and an integral electrical connector, **\$950**. Mating Connector, **PTS06A-10-6S**, \$47 ea. 2.) **PX5000L1-5KSV** is a 5,000 psi Sealed Gage Pressure transducer, with a male pressure connection per MS33656-4 and an integral electrical connector, **\$950**. Mating Connector, **PTS06A-10-6S**, \$47 ea.

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

In the sputtering process, gage material is accelerated in a vacuum chamber toward a sensor substrate, molecule by molecule. They impact 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 weakened at higher temperatures.

The PX5000 transducers excel in tough 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 these transducers much less susceptible to vibration and shock failures and errors. Rugged all-welded construction ensures a durable and reliable instrument. And, these transducers now provide Electrostatic Discharge (ESD) protection to 15kV.

You get state-of-the-art thin-film reliability and performance with the PX5000 pressure transducers, yet they are competitively priced. The result is highest value - premium performance without paying a premium price. These transducers are available with an optional 11 point NIST traceable calibration.

**SPECIFICATIONS:**

- Electrical:**
- Excitation:** 10 V ac/dc (15V Max)
- Output:** 3 mV/V typical, 2.6 mV/V minimum
- Input Resistance:** 1000 ohms typical, 800 ohms minimum, 1500 ohms maximum
- Output Resistance:** 1000 ohms ±200 ohms. For 350 ohm bridge see custom configurations
- Insulation Resistance:** 500 megohms minimum @ 45 Vdc over the compensated range
- Sensing Element:** 4 active-arm bridge using sputtered-deposited thin-film elements
- Performance:**
- Accuracy:** Combined Linearity, Hysteresis and Nonrepeatability: ±0.10% FSO 0-15 thru 0-999 psi ±0.15% FSO 1,000 psi and above
- Calibration Stability:** ±0.1% for 18 months
- Reliability:** MTBF = 100,000 hours
- Environmental**
- Operating Temp Range:** -54° to 150°C (-65° to 300°F)
- Compensated Temp Range:** -54° to +121° (-65°to+250°F)

- Thermal Effects:** Span: ±0.005% FSO/°F Zero: ±0.005% FSO/°F
- Vibration Sensitivity:** At 35g peak sinusoidal vibration from 10 Hz to 2000 Hz (1/2" 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 5,000 psi range, decreasing logarithmically to 5kHz for 15 psi range
- Shock:** Qualification level of 100g, 11 msec half sine wave without damage
- Humidity:** Qualified per MIL-STD-810
- Electrostatic Discharge (ESD):** Protected to 15kV
- Pressure:**
- Pressure:** 2.0 times rated pressure or 15,000 psi whichever is less, will no cause changes in performance beyond the specified tolerances
- Burst Pressure:** 3.0 times rated pressure or 20,000 psi whichever is less, will not cause rupture of the pressure containment cavity.
- Mechanical:**
- 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:** (Not Included) PTS06A-10-6S
- Weight:** 5 oz (145g) maximum



**CUSTOM CONFIGURATIONS**

| SERIES        | PRESSURE PORT | ELECTRICAL CONNECTION | RANGE   | UNITS | OUTPUT                       | OPTIONS   |
|---------------|---------------|-----------------------|---------|-------|------------------------------|---|
| PX5000*       | [ 1 ]         | [ 2 ]                 | [ 3 ]   | [ 4 ] | [ 5 ]                        | [ 6 ]   |
| L = MS33656-4 |               |                       | 015 psi | A,G,S | V = mV/V Output <b>\$950</b> | <b>CAL5</b> = 5 point NIST traceable Calibration <b>+\$75</b><br><b>CAL11</b> = 11 point NIST traceable calibration <b>+\$150</b> |
|               |               |                       | 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 |                              |   |

**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

\*For 350 ohm Bridge, Specify Model PX5003

Interchangeable with CEC Model 5000-xxxx

Metric Ranges Available - Consult Engineering

- Ordering Example:** 1.) **PX5000L1-100AV** has a 1000 ohm bridge, MS33656-4 male pressure port, Bendix connector, 100 psi Absolute Pressure Range, and a mV/V output, **\$950**. Mating Connector (not included) **PTS06A-10-6S, \$47.00** ea.  
 2.) **PX5003L1-015SV** has a 350 ohm bridge, MS33656-4 male pressure port, Bendix style connector, 15 psi Sealed Gage Pressure Range, and a mV/V output, **\$950**. Mating Connector (not included) **PTS06A-10-6S, \$47.00** ea.  
 3.) **PX5000L1-5KSV-CAL11** has a 1000 ohm bridge, MS33656-4 male pressure port, Bendix connector, 5,000 psi Sealed Gage Pressure Range, mV/V output and an 11 point NIST traceable calibration, **\$950+150=\$1100**. Mating Connector (not included) **PTS06A-10-6S, \$47.00** ea.  
 4.) **PX5000L1-1KGV-CAL5** has a 1000 ohm bridge, MS33656-4 male pressure port, Bendix connector, 1,000 psi gage, a mV/V output and a 5 point NIST Traceable Calibration, **\$950+75=\$1025**. Mating Connector (not included) **PTS06A-10-6S, \$47.00**.

**Look for OMEGADYNE Products on the World Wide Web!**

**http://www.omegadyne.com**  
**e-mail: info@omegadyne.com**