DIFFUSED SEMICONDUCTOR PRESSURE TRANSUCER

PX6000 Series
0-5 Vdc Output
0-15 to 0-300 psi
0-1 to 0-20 bar

1 bar = 14.5 psi
1 kg/cm² = 14.22 psi
1 atmosphere = 14.7 psi
inHg = 760.2 mmHg = 1.014 bar

OMEGA’s PX6000 pressure transducer fits easily into your application. This low-cost transducer is small and light, and mounting requires no bulky structures. You select from 3 electrical terminations and 6 pressure fittings. The sensor is a small [about 2.5 mm (0.1") square silicon chip with 4 diffused strain gages, mounted in the stainless steel case. Laser-trimmed resistors provide temperature compensation and adjust zero balance and span. The 0 to 5 Vdc output is compatible with most control and data acquisition systems.

The PX6000 Series uses solid state media isolation for improved reliability. Thin films of chemically inert materials are deposited or grown on the chip surface to provide electrical isolation between the sensor and the pressure medium. The sensor is less sensitive to vibration and more dependable in high-shock environments because the films add no significant mass. Corrosion resistance is outstanding, and the isolation will remain effective because there is no gel or oil column to deteriorate.

SPECIFICATIONS
0 to 5 Vdc Models
Excitation: 12 to 40 Vdc unregulated
Output: 0 to 5 Vdc ±0.1 Vdc adjustable ±10% FSO
Input Current: 15 mA max with no load
Output Resistance: Less than 200 Ω
Zero Balance: 0 V ±0.1 Vdc Adjustable ±5% FSO
Dielectric Isolation Resistance: 100 MΩ minimum at 45 Vdc applied between the case or a conductive medium and the bridge circuit.
Sensing Element: 4-active-arm bridge using a micro-machined diffused silicon diaphragm sensor, thin-film media and dielectric isolation barriers

To Order (Specify Model Number)
Models with 0 to 5 Vdc Output, ¼ NPT-M Pressure Connection

<table>
<thead>
<tr>
<th>RANGE</th>
<th>MODEL NO.</th>
<th>PRICE</th>
<th>COMPATIBLE METERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>VACUUM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 to 0 inHg 102 to 0 kPa</td>
<td>PX6000C[*]-30VAC5T</td>
<td>$560</td>
<td>DP41-E, DP25B-E, DP24-E</td>
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<tr>
<td>ABSOLUTE PRESSURE</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>0 to 15 psi 0 to 1.0 bar</td>
<td>PX6000C[*]-015A5T</td>
<td>$560</td>
<td>DP41-E, DP25B-E, DP24-E</td>
</tr>
<tr>
<td>0 to 20 psi 0 to 1.4 bar</td>
<td>PX6000C[*]-020A5T</td>
<td>560</td>
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<tr>
<td>0 to 50 psi 0 to 3.4 bar</td>
<td>PX6000C[*]-050A5T</td>
<td>560</td>
<td>DP41-E, DP25B-E, DP24-E</td>
</tr>
<tr>
<td>0 to 100 psi 0 to 6.9 bar</td>
<td>PX6000C[*]-100A5T</td>
<td>560</td>
<td>DP41-E, DP25B-E, DP24-E</td>
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<tr>
<td>0 to 200 psi 0 to 13.8 bar</td>
<td>PX6000C[*]-200A5T</td>
<td>560</td>
<td>DP41-E, DP25B-E, DP24-E</td>
</tr>
<tr>
<td>0 to 300 psi 0 to 20.7 bar</td>
<td>PX6000C[*]-300A5T</td>
<td>560</td>
<td>DP41-E, DP25B-E, DP24-E</td>
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<tr>
<td>GAGE PRESSURE</td>
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<tr>
<td>0 to 15 psi 0 to 1.0 bar</td>
<td>PX6000C[*]-015G5T</td>
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COMES WITH 5-POINT CALIBRATION.

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

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<td>CH-5656</td>
<td>$80</td>
<td>Reference Book: Observers in Control Systems</td>
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DIFFUSED SEMICONDUCTOR TRANSDUCER

Temperature Sensor: Output resistance @ 24°C (75°F) 900 to 1500 Ω

Temperature Coefficient: 8% min, 10% max per 55.5°C (100°F)

Accuracy: Combined linearity, hysteresis and repeatability ±0.25% FSO for all ranges

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

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

Thermal Effects:
Span: ±0.03% of FSO/F
Zero: ±0.03% of FSO/F

Vibration Sensitivity: At 20 g peak sinusoidal vibration from 10 Hz to 2000 Hz (¼ D.A.), the output shall not exceed 0.04% FSO/g for 15 psi range to 0.005% FSO/g for 100 psi and above

Natural Frequency: Greater than 35 kHz for 100 psi and above

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

Proof Pressure: 2 times rated pressure will not cause changes in performance beyond the specified tolerances

Burst Pressure: 3 times rated pressure for pressure ranges below 200 psi, or 2.5 times rated pressure for pressure ranges above 200 psi will not cause rupture of the pressure sensor

DIMENSIONS

DIN Pin Wire Code
1 A RED = + Input
3 B YEL = + Output
2 C BL = Common
D WT = Common
E = Temp. Sensor
F = Temp. Sensor
Shield = Case Ground

IDENTIFIED IN THIS AREA

38 DIA. (1.51) MAX.

6.4 ±0.25 (0.25±0.01) FLATS

Pressure Port:
Standard: MS33656-4
¾-27 NPT male
Optional: MS33649-4
¼-18 NPT female

Electrical Connection:
Standard: PTIH-10-6P
Optional: 0.6 m (2') cable or 4-pin solder terminal 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

Ordering Examples:
PX6000M1-100G5T, 100 psi vented gage pressure transducer with MS33649-4, female pressure connection, PTIH-10-6P, electrical connector and 0 to 5 V output, $550. PTS06A-10-6S, mating connector (not included), $47.
PX6000A0-30VACST-25FT, 30 to 0 inHg vacuum transducer with a ¾-27 NPT male pressure connection, a reverse-acting (30 inHg vacuum = full scale output) 0 to 5 output, and 7.6 m (25') cable, $420 + 38 = $519. PX6000L1-015A5T, 15 psi absolute pressure transducer with MS33656-4, male pressure connection, PTIH-10-6P, electrical connector and 0 to 5 Vdc output, $560. PTS06A-10-6S, mating connector (not included), $47.

Weight: 170 g (6 oz) typical

Mating Connector: PTS06A-10-6S ($47)

DIFFUSED SEMICONDUCTOR TRANSDUCER
More than 100,000 Products Available!

- **Temperature**

- **Flow and Level**
  Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

- **pH and Conductivity**
  Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

- **Data Acquisition**
  Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485, Ethernet and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

- **Pressure, Strain and Force**
  Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Pressure Transmitters, Strain Gauges, Torque Transducers, Valves

- **Heaters**