

AEROSPACE DESIGN PRESSURE TRANSDUCER DIFFUSED SEMICONDUCTOR

PX6000 Series
mV/V Output
0-15 to 0-300 psi
0-1 to 0-20 bar

All Ranges
\$420



- ✓ High Reliability
- ✓ Long-Term Stability
- ✓ All Stainless Steel Case
- ✓ Vacuum Range Available

Applications

- ✓ Automotive Testing
- ✓ Research and Development
- ✓ Engineering Testing and Evaluation
- ✓ Production Testing
- ✓ Flight Recorders
- ✓ Engine Monitoring
- ✓ Ground Support Equipment
- ✓ Built-In Temperature Sensor

OMEGA's PX6000 Series pressure transducers fit easily into your application. These low-cost transducers are 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 2.54 cm (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 30 mV full range output is compatible with most amplifiers and data acquisition systems.



PX6000L1-100GV, \$420, shown actual size.

The PX6000 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 pressure medium. The sensor is less sensitive to vibration and more dependable in high-shock environments. Corrosion resistance is outstanding, and the isolation will remain effective because there is no gel or oil column to deteriorate.

SPECIFICATIONS mV/V MODELS

ELECTRICAL
Excitation: 10 Vdc
Output: 3 mV/V ± 10%
Input Resistance: 2000 Ω minimum
Output Resistance: 1000 Ω minimum, 1500 Ω maximum
Zero Balance: 0 mV ±5% FSO
Dielectric Isolation Resistance: 100 MΩ minimum at 50 Vdc applied between the case or a conductive medium and the bridge circuit

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)					
Models with MS33656-4 Pressure Connection, Integral Connector & mV/V Output					
RANGE			MODEL NO.	PRICE	COMPATIBLE METERS*
	psi	bar			
Vacuum					
30 to 0 (inHg)	-1 to 0		PX6000L1-30VACV	\$420	INFS, INFCS
Absolute Pressure					
0 to 15	0 to 1.0		PX6000L1-015AV	\$420	DP41-S, DP25B-S
0 to 20	0 to 1.4		PX6000L1-020AV	420	DP41-S, DP25B-S
0 to 50	0 to 3.4		PX6000L1-050AV	420	DP41-S, DP25B-S
0 to 100	0 to 6.9		PX6000L1-100AV	420	DP41-S, DP25B-S
0 to 200	0 to 13.8		PX6000L1-200AV	420	DP41-S, DP25B-S
0 to 300	0 to 20.7		PX6000L1-300AV	420	DP41-S, DP25B-S
Gage Pressure					
0 to 15	0 to 1.0		PX6000L1-015GV	\$420	DP41-S, DP25B-S
0 to 20	0 to 1.4		PX6000L1-020GV	420	DP41-S, DP25B-S
0 to 50	0 to 3.4		PX6000L1-050GV	420	DP41-S, DP25B-S
0 to 100	0 to 6.9		PX6000L1-100GV	420	DP41-S, DP25B-S
0 to 200	0 to 13.8		PX6000L1-200GV	420	DP41-S, DP25B-S
0 to 300	0 to 20.7		PX6000L1-300GV	420	DP41-S, DP25B-S

Comes with 5-point calibration.

* See section D for compatible meters.

Metric ranges available – see Metric Section.

Ordering Example: PX6000L1-050GV, 50 psi gage pressure transducer with PTIH-10-6P electrical connection and MS33656-4 male pressure port, \$420. PTS06A-10-6S, mating connector (not Included), \$47.

ACCESSORY

MODEL NO.	PRICE	DESCRIPTION
ES-2062	\$83	Reference Book: Hazardous Gases and Fumes



MIL VOLT OUTPUT
PRESSURE TRANSDUCERS

B



AEROSPACE DESIGN PRESSURE TRANSDUCER

Sensing Element: 4-active-arm bridge using a micro-machined diffused silicon diaphragm sensor, thin-film media and dielectric isolation barriers

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

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

PERFORMANCE

Accuracy: Combined linearity, hysteresis and repeatability $\leq \pm 0.25\%$ FS for all ranges

ENVIRONMENTAL

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: $\leq \pm 0.02\%$ of FS/°F

Zero: $\leq \pm 0.02\%$ of FS/°F

Vibration Sensitivity: At 35g peak sinusoidal vibration from 10 Hz to 2000 Hz ($\frac{1}{2}$ " D.A.), the output shall not exceed 0.04% FS/g for 15 psi range to 0.005% FS/g for 100 psi and above

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

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

PRESSURE

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

MECHANICAL

Wetted Parts: 316 stainless steel, silicon nitride, Pyrex® glass, epoxy, Kovar®

Electrical Connection:

Standard: PTIH-10-6P

Optional: 0.6 m (2') cable or 4-pin solder terminal header

Pressure Port:

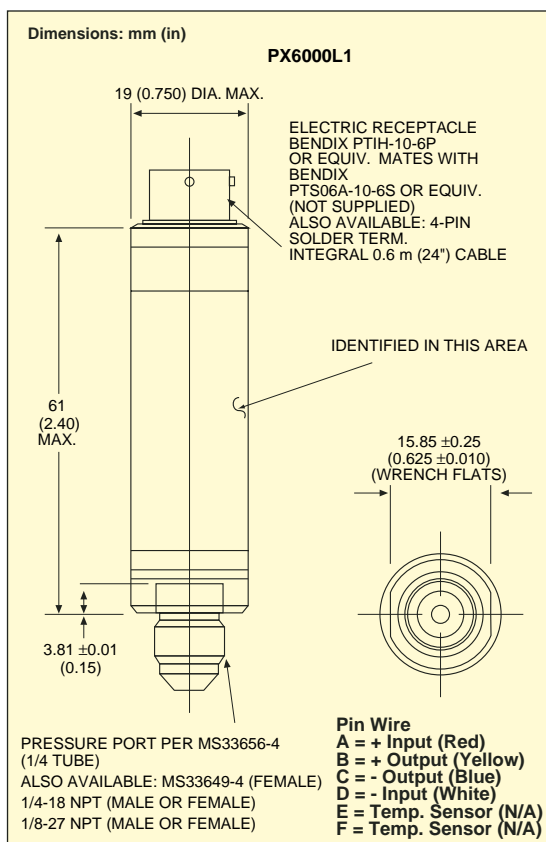
Standard: MS33656-4 male

Optional: MS33649-4 female, $\frac{1}{4}$ -18 or $\frac{1}{8}$ -27 NPT male or female

Weight: 4 oz max, excluding pressure fitting and electrical connection

Mating Connector:

PTS06A-10-6S (not included)



CUSTOM CONFIGURATIONS

SERIES PX6000	PRESSURE PORT	ELECTRICAL CONNECTION	RANGE	UNITS	OUTPUT	OPTIONS	
	[1]	[2]	[3]	[4]	[5]	[6]	
	A = $\frac{1}{8}$ -27 NPT Male		30*	VAC	V = mV/V output	CAL5 = 5-point NIST calibration STD	
	B = $\frac{1}{8}$ -27 NPT Female		015	G,A	\$420 all ranges	CAL11 = 11-point NIST calibration +\$250	
	C = $\frac{1}{4}$ -18 NPT Male		020	G,A	0 to 5 Vdc output	xxFT = Extra length of cable, \$6.50/ft over 3 ft	
	D = $\frac{1}{4}$ -18 NPT Female		050	G,A	\$560 all ranges		
	L = MS33656-4 Male		100	G,A	4 to 20 mA output		
	M = MS33649-4 Female		200	G,A	\$550 all ranges		
			300	G,A			
			* Referenced to atmospheric pressure, 30 Vac range is 30 to 0 inHg vacuum, all other ranges are psi				Note: All mV/V models meet CE requirements.
			0 = 0.6 m (2') cable (std) + \$6.50/ft over 0.6 m (2') 1 = PTIH-10-6P connector or equal (no charge). Mating connector (not included), order PTS06A-10-6S(SR) \$47. 3 = 4-pin eyelet header (no charge). Temp sensor not available on 4-pin 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				

Metric ranges available – consult Engineering.

Ordering Examples: PX6000M1-100GI, 100 psi vented gage pressure transducer with MS33649-4 female pressure connection, PTIH-10-6P electrical connector and 4 to 20 mA output, \$550. PTS06A-10-6S, mating connector (not included), \$47.

PX6000A0-30VACV-25FT, 30 to 0 inHg vacuum transducer with a $\frac{1}{8}$ -27 NPT male pressure connection, a reverse-acting (30 inHg vacuum = full scale output) mV/V output, and a 7.6 m (25') cable, \$420 + 150 = \$570.

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.

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