**GENERAL DESCRIPTION**

The OMEGA® PX811 is a rugged solid-state transducer that measures true absolute pressure of fluids and gases. For fast response and high accuracy, the PX811 utilizes a four-arm strain gage embedded in a silicon crystal. The transducer is free from hysteresis with high output at low strain. A stainless steel isolating diaphragm assures compatibility with a wide variety of liquid media.

**FEATURES**

- High Accuracy 0.1% BFSL for Ranges ≤ 900 PSIA
- Excellent Overpressure Rating
- Wide Compensated Range –5° to 175° (–20° to 80°C)

**SPECIFICATIONS**

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<tr>
<td>PX811-005GAV</td>
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<td>PX811-150GAV</td>
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<tr>
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<td>PX811-030GAV</td>
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<td>PX811-050GAV</td>
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<td>PX811-100GAV</td>
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**EXCITATION:**

10 Vdc regulated at 5 mA, 12 Vdc max.

**OUTPUT:**

50 mV for 5 psi range; 100 mV for 10 psi range and above

**OUTPUT IMPEDANCE:**

2000 ohms nominal

**LOAD IMPEDANCE:**

>100 kilohms for rated performance

**PERFORMANCE ACCURACY:**

Combined non-linearity, hysteresis, and repeatability .1% B.S.L

**ZERO BALANCE:**

±3 mV

**SPAN SETTING:**

±10 mV standard; units of the same range are better than ±3 mV from each other.

**COMPENSATED TEMPERATURE RANGE:**

–5° to 175°F (–20° to 80°C)

**TEMPERATURE EFFECTS:**

±0.5% total error 32° to 122°F (0 to 50°C); ±1.5% total error –5° to 175°F (–20° to 80°C)

**OVERPRESSURE:**

The rated pressure can be exceeded by 4X (up to 2000 psi max.) causing negligible calibration change.

**BURST PRESSURE:**

10x (3000 psi max.)

**NATURAL FREQUENCY:**

10.5 kHz for 5 psi range increasing to 210 kHz for 900 psi

**MECHANICAL SHOCK:**

1000 g for 1 ms

**ACCELERATION:**

0.04% FSO/g for 5 psi decreasing to 0.0003% FSO/g for 900 psi
SPECIFICATIONS (Cont’d)

VIBRATION: 0.5% FS/g @ 30g peak 10Hz-2KHz
CONSTRUCTION PRESSURE MEDIA: All media compatible with 316 stainless steel and Hastelloy C276
TRANSDUCTION PRINCIPLE: Integrated silicon gage bridge
PRESSURE PORT: ¼-18 NPT
ELECTRICAL CONNECTIONS: 3 feet 4-wire shielded cable
WEIGHT: 4.2 oz. nominal

WARNING!
READ BEFORE INSTALLATION

Fluid hammer and surges can destroy any pressure transducer and must always be avoided. A pressure snubber should be installed to eliminate the damaging hammer effects.

Fluid hammer occurs when a liquid flow is suddenly stopped, as with quick closing solenoid valves. Surges occur when flow is suddenly begun, as when a pump is turned on at full power or a valve is quickly opened.

Liquid surges are particularly damaging to pressure transducers if the pipe is originally empty. To avoid damaging surges, fluid lines should remain full (if possible), pumps should be brought up to power slowly, and valves opened slowly. To avoid damage from both fluid hammer and surges, a surge chamber should be installed, and a pressure snubber should be installed on every transducer.

Symptoms of fluid hammer and surge’s damaging effects:
a) Pressure transducer exhibits an output at zero pressure (large zero offset). If zero offset is less than 10% FS, user can usually re-zero meter, install proper snubber and continue monitoring pressures.
b) Pressure transducer output remains constant regardless of pressure.
c) In severe cases, there will be no output.

WARRANTY

OMEGA warrants this unit to be free of defects in materials and workmanship and to give satisfactory service for a period of 13 months from date of purchase. OMEGA Warranty adds an additional one (1) month grace period to the normal one (1) year product warranty to cover handling and shipping time. This ensures that our customers receive maximum coverage on each product. If the unit should malfunction, it must be returned to the factory for evaluation. Our Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective it will be repaired or replaced at no charge. However, this WARRANTY IS VOID if the unit shows evidence of having been tampered with or shows evidence of being damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA’s control. Components which wear or which are damaged by misuse are not warranted. These include contact points, fuses, and triacs.

THESE UNITS ARE INHERENTLY DANGEROUS AND ARE INTENDED TO BE INSTALLED AND USED ONLY BY QUALIFIED PERSONNEL. NO WARRANTY EXTENDED HEREIN WILL APPLY IF SUCH UNIT IS INSTALLED OR USED BY UNQUALIFIED PERSONNEL. THERE ARE NO WARRANTIES OTHER THAN THOSE EXPRESSLY STATED IN THIS AGREEMENT. THE BUYER’S SOLE REMEDY FOR ANY BREACH OF THIS AGREEMENT IS LIMITED TO THE REPLACEMENT OF THE NON-CONFORMING PRODUCT. OMEGA WILL NOT BE LIABLE FOR ANY DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES RESULTING FROM THE USE OR INABILITY TO USE THE PRODUCT.

EVERY PRECAUTION FOR ACCURACY HAS BEEN TAKEN IN THE PREPARATION OF THIS MANUAL, HOWEVER, OMEGA ENGINEERING, INC. NEITHER ASSUMES RESPONSIBILITY FOR ANY ERRORS OR INCORRECT INTERNAL OPTIMIZATION THAT RESULT FROM THE USE OF THE PRODUCTS IN ACCORDANCE WITH THE INFORMATION CONTAINED IN THE MANUAL.

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