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WARNING: These products are not designed for use in, and should not be used for, patient-connected applications.

Where Do I Find Everything I Need for Process Measurement and Control? OMEGA... Of Course!

TEMPERATURE
- Thermocouple, RTD & Thermistor Probes, Connectors, Panels & Assemblies
- Wire: Thermocouple, RTD & Thermistor
- Calibrators & Ice Point References
- Recorders, Controllers & Process Monitors
- Infrared Pyrometers

PRESSURE, STRAIN AND FORCE
- Transducers & Strain Gages
- Load Cells & Pressure Gages
- Displacement Transducers
- Instrumentation & Accessories

FLOW/LEVEL
- Rotameters, Gas Mass Flowmeters & Flow Computers
- Air Velocity Indicators
- Turbine/Paddlewheel Systems
- Totalizers & Batch Controllers

pH/CONDUCTIVITY
- pH Electrodes, Testers & Accessories
- Benchtop/Laboratory Meters
- Controllers, Calibrators, Simulators & Pumps
- Industrial pH & Conductivity Equipment

DATA ACQUISITION
- Data Acquisition & Engineering Software
- Communications-Based Acquisition Systems
- Plug-in Cards for Apple, IBM & Compatibles
- Datalogging Systems
- Recorders, Printers & Plotters

HEATERS
- Heating Cable
- Cartridge & Strip Heaters
- Immersion & Band Heaters
- Flexible Heaters
- Laboratory Heaters

ENVIRONMENTAL MONITORING AND CONTROL
- Metering & Control Instrumentation
- Refractometers
- Pumps & Tubing
- Air, Soil & Water Monitors
- Industrial Water & Wastewater Treatment
- pH, Conductivity & Dissolved Oxygen Instruments
WARRANTY

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's 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 OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA’s 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. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or evidence of having been 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 are not warranted, including but not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by it will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, indirect, or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a “Basic Component” under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY / DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA’S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence. The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR WARRANTY RETURNS, please have the following information available BEFORE contacting OMEGA:
1. Purchase Order number under which the product was PURCHASED.
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR NON-WARRANTY REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:
1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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**Adjustments**

The following equipment is required to carry out the adjustments:
- Power supply
- Voltmeter or Milli-ammeter
- Pressure standard

- Connect the sensor as shown in Installation. The sensor should be put in its normal operating position (vertical or horizontal). Remove the cover to gain access to the zero and span adjustment potentiometers.

**Zero adjustment**

- Depending on the model, set the zero adjustment to: 0.00V, 4.00 mA or 12.00 mA.
- Span adjustment is carried out with the required span pressure applied to the +
- Depending on the model, set the span adjustment to: 5.00V, 10.00V or 20.00 mA.
- Release the pressure.

**Completion**

Check the output at zero pressure and if necessary, repeat the zero and span adjustments.
- Release the pressure and disconnect the equipment.
- Refit the cover.

**Specification**

**Pressure range:**
- 0.000 to ±2 inH₂O - 0 to ±150 psid

**Pressure media:**
- All fluids, gases and vapors compatible with anodized AU4G, beryllium copper, tin and brazing solder and Loctite Master J oint 510

**Accuracy:**
- ±0.25% FS BSL (including linearity, hysteresis and repeatability)

**Long term stability:**
- ±0.3% over 12 months

**Weight (approximate):**
- 2.1 lbs

**Electrical Specification**

**Power supply**
- LPX 5000..................10 to 30V d.c.
- LPM 5000....................18 to 30V d.c.
- LPM 5000 (±5V d.c. output)........±12V d.c.

**Dimensions**

[Dimensions diagram]

- [List of dimensions]
- [List of components and their sizes]
Installation

CAUTION:
1. Incorrect electrical connections can, in certain circumstances, destroy the electronic output circuit.
2. Before applying electrical power, make sure the supply voltage is to the correct rating.
3. This is a very sensitive sensor, only apply pressure within the pressure range.

Mounting

Two M5 threaded holes in the base of the sensor provide mounting points.

Note: The screws must not enter the holes more than 0.4" into the sensor body.

The installed position of the sensor should be away from sudden temperature variations, shocks and vibrations and should not be close to strong electromagnetic fields (transformers, motors etc.). The sensor can be mounted in any position, but mounting at an angle may require zero adjustment. For very low pressure sensors (less than 2.0 inH2O) the recommended mounting is horizontal.

Electromagnetic Interference

To avoid electrical interference, use shielded cable with the shield connected to the earth ground at both ends. The ground of the sensor can be the casing or the ground terminal screw.

Electrical connections

PX548 Series (current output)

The maximum allowable load resistance is calculated to formula:

\[ R_{\text{Max}} = 0.05 \times (V_{\text{supply}} - 10) \text{ kW} \]

Where: \( R_{\text{Max}} \) in kW and \( V \) in Volts

PX548 Series (Unidirectional voltage output)

Minimum load 2 kΩ

Note: Connections 5 and 6 are common

If the output cable passes through an area of electrical disturbance, use a recommended load impedance of between 2 kΩ and 10 kΩ. Connect the load resistance between the wires corresponding to signal and - terminal at a point furthest from the sensor.

PX548 Series bidirectional operation using bipolar power supply (±12 Vdc) with bidirectional output (0±5 Vdc or 0±2.5 Vdc)

Connect the power supply to + for positive, - for negative, and 0 for neutral; connect the output to signal for positive and 0 for negative signal.

Pressure connections

The high pressure connector is marked + and the low pressure connector is marked -.

Purging or de-gasing the sensor

Two 5 mm hexagonal socket bleed screws are located on the outer casing and can be loosened to bleed the two pressure connectors. Make sure that these screws are tightened after this operation.

Note: It is possible to changeover the bleed screws and pressure connectors enabling easier access or permitting installation in a difficult position.

Square root output option

This option only applies to the LPX 5000 sensor with 4 to 20 mA two wire connection and the square root electronics assembly fitted. A switch next to the terminal block selects the output mode.

Filter response time

The filter response time of the sensor, additional to the built-in response time of 10 milliseconds (approximately), can be set using the three switches next to the terminal connector. Using combinations of the switches can set different times.

<table>
<thead>
<tr>
<th>Switch</th>
<th>Filter response time</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>200 milliseconds</td>
</tr>
<tr>
<td>B</td>
<td>400 milliseconds</td>
</tr>
<tr>
<td>C</td>
<td>1 second</td>
</tr>
</tbody>
</table>

Example: Switch A+B = 600 milliseconds

Note: A hollow point is visible when a switch is in the 'on' position.