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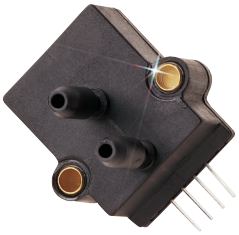
OMEGA®

PX138 Series

Pressure Sensors



INSTRUCTION SHEET

M2002/1008

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For latest product manuals: omegamanual.info

General Description

The OMEGA® PX138 Series uses state-of-the-art micro-machined silicon pressure sensors in conjunction with stress-free packaging techniques to provide highly accurate, temperature-compensated pressure transducers for the most demanding applications. When operated from an 8 Vdc regulated power source, they provide a 1 to 6 Vdc output. Other regulated voltages from 7 to 16 volts can be used, but the output will change in proportion to the excitation.

PX138 pressure transducers are available in absolute and differential models. Differential models can also be used to measure gage pressure or vacuum by simply varying the pressure connections. To measure gage pressure, make the pressure connection to port B and leave port A open to the atmosphere. For vacuum measurement, connect to port A and leave port B open. When using absolute models, connect to port A.

Available Models

Differential Pressure Ranges	Model
±0 to 0.3 psi	PX138-0.3D5V
±0 to 1 psi	PX138-001D5V
±0 to 5 psi	PX138-005D5V
±0 to 15 psi	PX138-015D5V
±0 to 30 psi	PX138-030D5V
±0 to 100 psi	PX138-100D5V

Absolute Pressure Ranges	Model
0 to 15 psia	PX138-015A5V
0 to 30 psia	PX138-030A5V
0 to 100 psia	PX138-100A5V

PX138 Pinouts

1 = + Excitation (Black dot is next to pin 1)
2 = Common
3 = + Signal
4 = No Connection

Unpacking

Remove the Packing List and verify that you have received all equipment, including the following:

PX138 Series Pressure Sensor
Operator's Manual

If you have any questions about the shipment, please call the OMEGA Customer Service Department at:
1-800-622-2378 or 203-359-1660. We can also be reached on the Internet at
omega.com e-mail: info@omega.com

When you receive the shipment, inspect the container and equipment for any signs of damage. Note any evidence of rough handling in transit. Immediately report any damage to the shipping agent.

NOTE

The carrier will not honor any damage claims unless all shipping material is saved for inspection. After examining and removing contents, save packing material and carton in the event reshipment is necessary.

WARNING

Read Before Installation

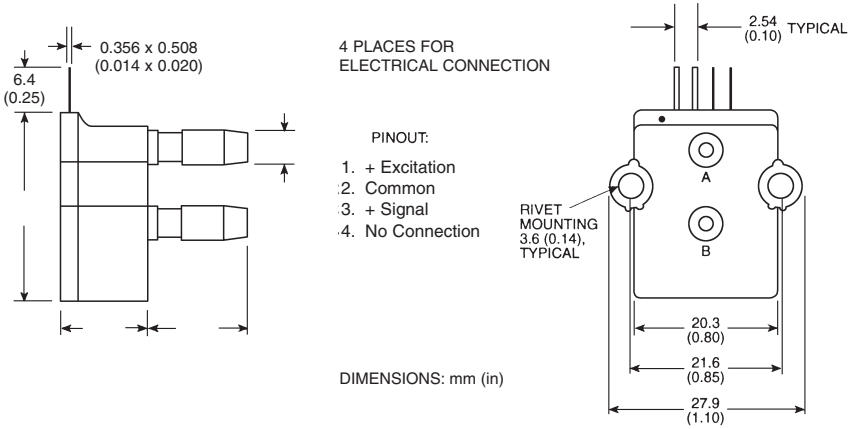
Fluid hammer and surges can destroy any pressure transducer and must always be avoided. A pressure snubber should be installed to eliminate damaging hammer effects. Fluid hammer occurs when a liquid flow is suddenly stopped, as with quick-closing solenoid valves. Surges occur when flow is suddenly begun, 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 should be opened slowly. To avoid damage from both fluid hammer and surges, a surge chamber and a pressure snubber should be installed on every transducer.

Symptoms of fluid hammer and surge's damaging effects:

1. 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.
2. Pressure transducer output remains constant regardless of pressure.
3. In severe cases, there will be no output.

Dimensions



Specifications

Excitation Voltage:	8 Vdc (7 to 16 limits)
Output:	1 to 6 V (@ 8 V excitation)
Linearity and Hysteresis:	±0.1% FS typical, 0.5% max. (0.5% typ., 1% max. for 0.3 psi range)
Repeatability:	±0.1% FS typical, 0.3% max.
Zero Balance Diff:	3.5 Vdc ±0.05 Vdc (@ 8 V excitation)
Abs:	1 Vdc ±0.05 Vdc (@ 8 V excitation)
Storage Temperature:	-40 to 125°C (-40 to 257°F)
Compensated Temp. Range:	0 to 50°C (32 to 122°F)
Zero Temp. Effects:	±0.5% FS (±1% FS for 0.3 psi)
Span Temp. Effects:	±0.5% FS (±1% FS for 0.3 psi)
Proof Pressure:	>3X FS pressure
Burst Pressure:	>5X FS pressure
Common Mode Pressure:	50 psi
Media Compatibility:	For use with clean, dry, non-corrosive gases

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Engineering Service: 1-800-872-9436/1-800-USA-WHEN®

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It is the policy of OMEGA Engineering, Inc. to comply with all worldwide safety and EMC/EMI regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification.

The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.
WARNING: These products are not designed for use in, and should not be used for, human applications.

MADE IN USA

WARRANTY/DISCLAIMER

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 shows 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 in which wear is not warranted, include but are 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 the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED 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, incidental 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.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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