

**omega.com**<sup>®</sup>

Ω OMEGA<sup>®</sup>

# PX653, PX654, PX655, PX656, PX657

## PRESSURE TRANSDUCER

INSTRUCTION  
SHEET

M1436-0506

Shop online at: [omega.com](http://omega.com) e-mail: [info@omega.com](mailto:info@omega.com)  
For latest product manuals: [omegamanual.info](http://omegamanual.info)



PX654, PX656



PX653, PX655

### COMMON SPECIFICATIONS FOR ALL UNITS

Accuracy:	±0.50% FS (BFSL)	
(Based on best fit straight line, although NIST cal. sheet is based on terminal point, therefore NIST cal. sheet could report a max. accuracy of 0.5% TP.)		
Linearity:	±0.30% FS (BFSL)	
Hysteresis:	±0.02% FS	
Repeatability:	±0.05% FS	
Operating Temp.:		
PX653, PX655:	-20° to 160°F (-29° to 72°C)	
PX654, PX656:	-20° to 185°F (-29° to 85°C)	
Compensated Temp.:		
PX653, PX655:	35° to 135°F (2° to 57°C)	
PX654, PX656:	0° to 160°F (-18° to 72°C)	
Storage Temp.:		
PX653, PX655:	-40 to 180°F	
PX654, PX656:	-40 to 210°F	
Proof Pressure:	PX653 { 15 PSID	PX654 { 20 PSID
Burst Pressure:	PX655 { 25 PSIS	PX656 { 50 PSIS

Static Pressure:	PX653, PX655	25 PSI
	PX654, PX656	100 PSI
	Procss Media	Clean, dry clean non-corrosive gases
Thermal Effects:		
Zero:	PX653	±0.015% FS/°F
	PX654	±0.02%
Span:	PX655	±0.015% FS/°F
	PX656	±0.02%
Gage Type		Capacitance
Response Time		250 ms
Enclosure:		
PX653, PX655		NEMA 2
PX654, PX656		NEMA 4X
Pressure Port:		
PX653, PX655:		1/4 barbed fittings
PX654, PX656:		1/4 NPTF
Electrical Connection		Screw terminal
PX654, PX656		Two 1/2 NPTF conduit

#### PX653 & PX654 (VOLTAGE OUTPUT)

EXCITATION:	12-36Vdc
OUTPUT:	1-5Vdc
SUPPLY CURRENT:	<5mA
WEIGHT:	
PX653:	14 oz. (397 g)
PX654:	2.1 lb. (955 g)

#### PX655 & PX656 (CURRENT OUTPUT)

EXCITATION:	12-36Vdc
OUTPUT:	4-20mA (2 wire)
MAX. LOOP RES.:	(supply voltage -12) x 50 ohms
WEIGHT:	
PX655:	14 oz. (397 g)
PX656:	2.1 lb. (955 g)

#### HANDLING PRECAUTIONS

This sensor has a high insulation resistance. It can be damaged when exposed to high static discharges. Good instrumentation grounding practices should be used during handling, testing and installation.

#### CALIBRATION REPORT

All models are tested to meet or exceed the published specifications. Calibration testing was performed using NIST traceable instrumentation. all sensors come calibrated. **DO NOT ATTEMPT TO RECALIBRATE SENSOR, UNLESS YOU HAVE A KNOWN PRESSURE SOURCE THAT IS AT LEAST 5 TIMES MORE ACCURATE THAN THE SENSOR.**

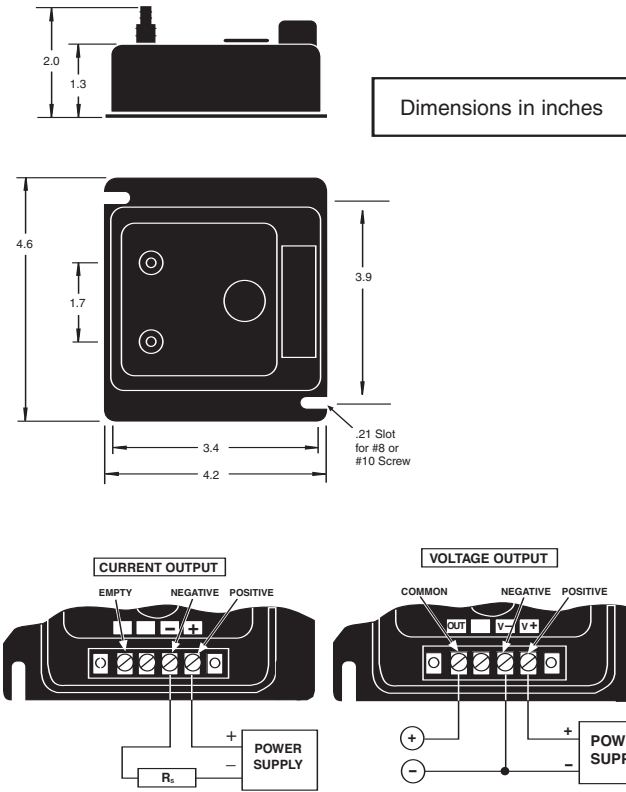
### WARNING! READ BEFORE INSTALLATION

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 pump is turned on to full power or a valve is quickly opened.

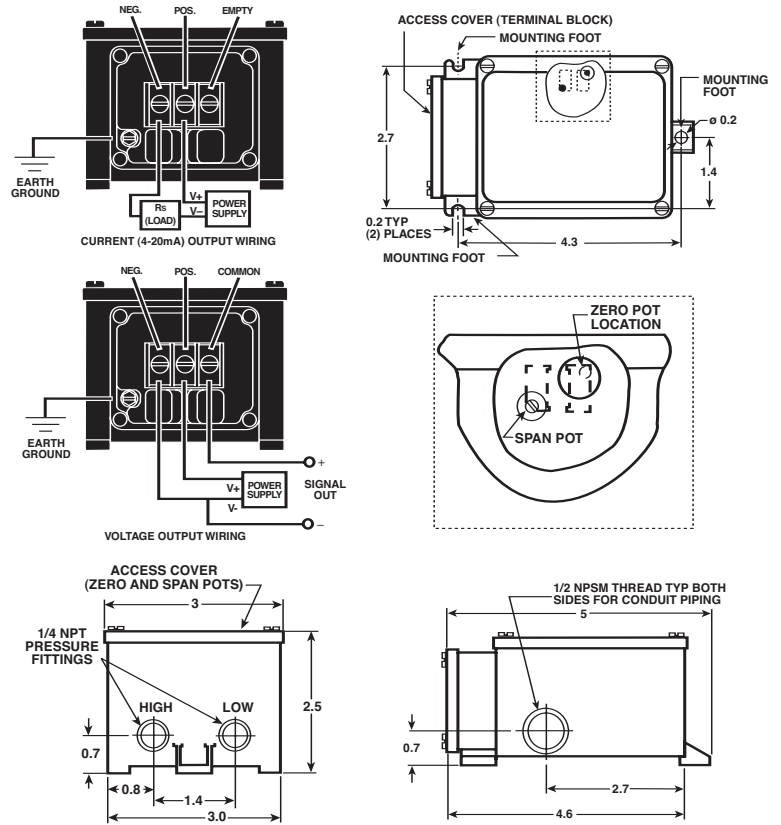
Symptoms of fluid hammer and surge's damaging effects:

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.

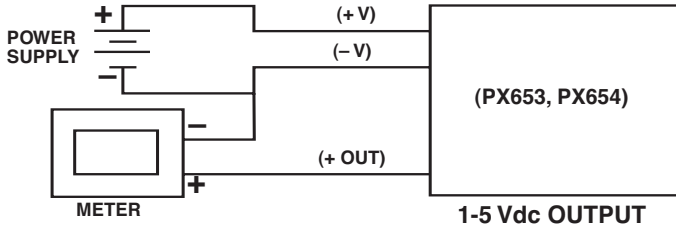
## PX653, PX655



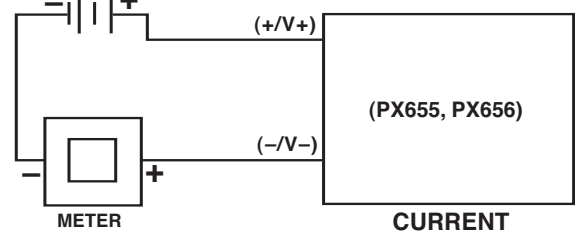
## PX654, PX656



## WIRING



## POWER SUPPLY



OMEGAnet™ On-Line Service  
omega.com

Internet e-mail  
info@omega.com

### Servicing North America:

**U.S.A.:**  
ISO 9001 Certified  
One Omega Drive, Box 4047  
Stamford, CT 06907-0047  
Tel: (203) 359-1660  
FAX: (203) 359-7700  
e-mail: info@omega.com

**Canada:**  
976 Bergar  
Laval (Quebec) H7L 5A1, Canada  
Tel: (514) 856-6928  
FAX: (514) 856-6886  
e-mail: info@omega.ca

### For immediate technical or application assistance:

**U.S.A. and Canada:** Sales Service: 1-800-826-6342/1-800-TC-OMEGA®  
Customer Service: 1-800-622-2378/1-800-622-BEST®  
Engineering Service: 1-800-872-9436/1-800-USA-WHEN®  
**Mexico:** En Español: (001) 203-359-7803  
FAX: (001) 203-359-7807  
e-mail: espanol@omega.com  
info@omega.com.mx

### Servicing Europe:

**Czech Republic:** Frystatska 184, 733 01 Karvina, Czech Republic  
Tel: +420 (0)59 6311899  
FAX: +420 (0)59 6311114  
Toll Free: 0800-1-66342  
e-mail: info@omegashop.cz

**Germany/Austria:** Daimlerstrasse 26, D-75392 Deckenpfronn, Germany  
Tel: +49 (0)7056 9398-0  
FAX: +49 (0)7056 9398-29  
Toll Free in Germany: 0800 639 7678  
e-mail: info@omega.de

**United Kingdom:** One Omega Drive, River Bend Technology Centre  
Northbank, Irlam, Manchester  
M44 5BD United Kingdom  
Tel: +44 (0)161 777 6611  
FAX: +44 (0)161 777 6622  
Toll Free in United Kingdom: 0800-488-488  
e-mail: sales@omega.co.uk

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 Engineering, Inc. 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.

## 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.

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.

OMEGA is a registered trademark of OMEGA ENGINEERING, INC.

© Copyright 2006 OMEGA ENGINEERING, INC. All rights reserved. This document may not be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form, in whole or in part, without the prior written consent of OMEGA ENGINEERING, INC.

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.