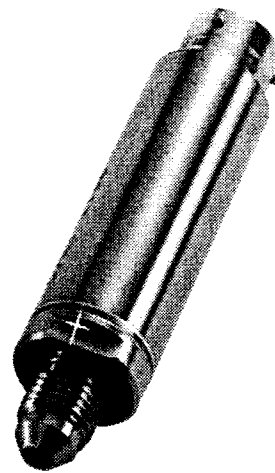
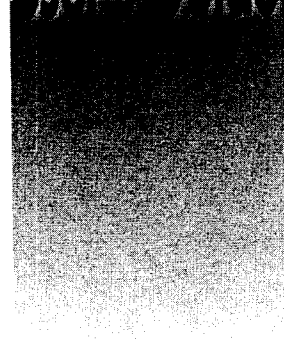




User's Guide

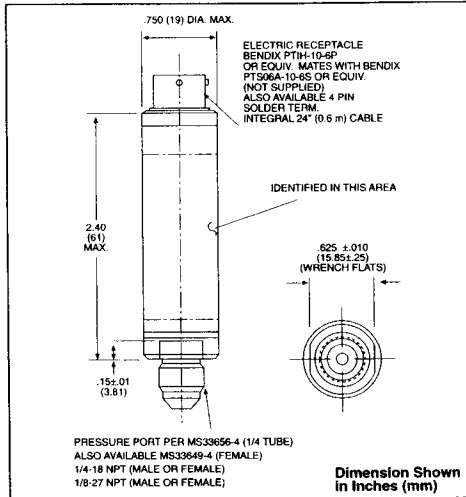


An OMEGA Technologies Company

<http://www.omega.com>
e-mail: info@omega.com

PX6000 Series Diffused Semiconductor Pressure Transmitter/Transducer

MV/V OUTPUT MODELS



SPECIFICATIONS: mV/V Models

Electrical:

Excitation: 10 VDC (15V Max)

Output: 3 mV/V \pm 10% at rated excitation

Input Resistance: 2500 ohms minimum

Output Resistance: 1000 ohms minimum, 1500 ohms maximum

Zero Balance: 0 mV \pm 5% FSO

Dielectric Isolation Resistance: 100 Megohms minimum at 50 Vdc applied between the case or a conductive medium and the bridge circuit

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 ohms

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

Performance:

Accuracy: Combined Linearity, Hysteresis and Repeatability $\leq \pm 0.25\%$ FSO for all ranges

Environmental:

Operational 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 FSO/°F.

Zero: $\leq \pm 0.02\%$ of FSO/°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% FSO/g for 15 PSI range to 0.005% FSO/g for 100 PSI and above

Natural Frequency: Greater than 35 KHz for 100 PSI and above

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

Pressure:

Proof Pressure: 2.0 times rated pressure will not cause changes in performance beyond the specified tolerances

Burst Pressure: 3.0 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

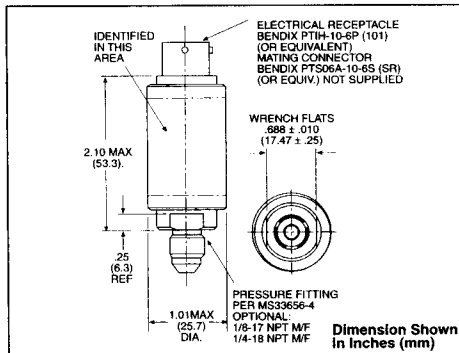
Electrical Connection: PT1H-10-6P (standard) Optional: 2 ft cable or 4-pin solder terminal header

Pressure Port: MS33656-4 Male (std) Optional: MS33649-4 Female, $\frac{1}{4}$ -18 or $\frac{1}{4}$ -27 NPT Male or Female

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

Available Pressure Fittings	Electrical Connections	PIN OUT	WIRE COLOR
$\frac{1}{4}$ -27 NPT Male	+ Input	A	Red
$\frac{1}{4}$ -27 NPT Female	+ Output	B	Yellow
$\frac{1}{4}$ -18 NPT Male	- Output	C	Blue
$\frac{1}{4}$ -18 NPT Female	- Input	D	White
MS33656-4 Male	Temp. Sensor	E	N/A
MS33649-4 Female	Temp. Sensor	F	N/A

4-20MA OUTPUT MODELS



SPECIFICATIONS: 4-20 mA Models

Electrical:

Excitation: 10 to 40Vdc Unregulated

Output: 4-20 mA Adjustable $\pm 10\%$ FSO

Load Impedance (Max): $50x(V-12.5)\Omega$ where V = Supply voltage (40Vdc max)

Zero Balance: 4mA Adjustable $\pm 10\%$ FSO

Dielectric Isolation Resistance: 100 Megohms minimum at 45 Vdc applied between the case or a conductive medium and the bridge circuit

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 ohms

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

The information contained in this document is believed to be correct but OMEGADYNE, 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, patient connected applications.

4-20MA OUTPUT MODELS (continued)

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

Performance:

Accuracy: Combined Linearity, Hysteresis and Repeatability $\leq \pm 0.25\%$ FSO for all ranges

Environmental:

Operational Temp Range: -29° to 85°C (-20° to 185°F)

Compensated Temp Range: -29° to 85°C (-20° to 185°F)

Thermal Effects: Span: $\leq \pm 0.02\%$ of FSO/°F.
Zero: $\leq \pm 0.02\%$ of FSO/°F

Vibration Sensitivity: At 20g peak sinusoidal vibration from 10 Hz to 2000 Hz (1/2" D.A.), the output shall not exceed 0.04% FSO/g for 15 PSI range to 0.005% FSO/g for 100 PSI and above

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

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

Pressure:

Proof Pressure: 2.0 times rated pressure will not cause

changes in performance beyond the specified tolerances

Burst Pressure: 3.0 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, pyrex glass, epoxy, Kovar

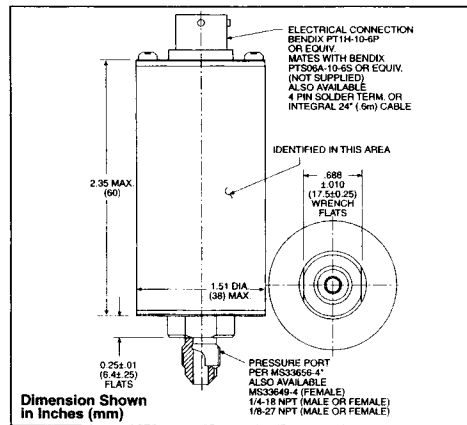
Electrical Connection: PT1H-10-6P (standard)
Optional: 2 ft (0.6m) cable or 4-pin solder terminal header

Pressure Port: MS33656-4 Male (std)
Optional: MS33649-4 Female, 1/4-18 or 1/8-27 NPT Male or Female

Weight: 6 oz (170g) Typical

Available Pressure Fittings	Electrical Connections	PIN OUT	WIRE COLOR
1/8-27 NPT Male	+ Input	A	Red
1/8-27 NPT Female	N/C	B	Yellow
1/4-18 NPT Male	N/C	C	Blue
1/4-18 NPT Female	- Input	D	White
MS33656-4 Male	Temp. Sensor	E	N/A
MS33649-4 Female	Temp. Sensor Shield	F	N/A Case Ground

5VDC OUTPUT MODELS



SPECIFICATIONS: 0-5Vdc Models

Electrical:

Excitation: 12 to 40Vdc Unregulated

Output: 0-5Vdc ± 0.1 Vdc Adjustable $\pm 10\%$ FSO

Input Current: 15mA maximum with no load

Output Resistance: Less than 200 ohms

Zero Balance: 0 V ± 0.1 Vdc Adjustable $\pm 5\%$ FSO

Dielectric Isolation Resistance: 100 Megohms minimum at 45 Vdc applied between the case or a conductive medium and the bridge circuit

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 ohms

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

Performance:

Accuracy: Combined Linearity, Hysteresis and Repeatability $\leq \pm 0.25\%$ FSO for all ranges

Environmental:

Operational Temp Range: -54° to 121°C (-65° to 250°F)

Compensated Temp Range: -18° to 82°C (0° to +180°F)

Thermal Effects: Span: $\leq \pm 0.03\%$ of FSO/°F;
Zero: $\leq \pm 0.03\%$ of FSO/°F

Vibration Sensitivity: At 20g peak sinusoidal vibration from 10 Hz to 2000 Hz (1/2" D.A.), the output shall not exceed 0.04% FSO/g for 15 PSI range to 0.005% FSO/g for 100 PSI and above

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

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

Pressure:

Proof Pressure: 2.0 times rated pressure will not cause changes in performance beyond the specified tolerances

Burst Pressure: 3.0 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, pyrex glass, epoxy, Kovar

Electrical Connection: PT1H-10-6P (standard)
Optional: 2 ft (0.6m) cable or 4-pin solder terminal header

Pressure Port: MS33656-4 Male (std)
Optional: MS33649-4 Female, 1/4-18 or 1/8-27 NPT Male or Female

Weight: 6 oz (170g) Typical

Available Pressure Fittings	Electrical Connections	PIN OUT	WIRE COLOR
1/8-27 NPT Male	+ Input	A	Red
1/8-27 NPT Female	+ Output	B	Yellow
1/4-18 NPT Male	Common	C	Blue
1/4-18 NPT Female	Common	D	White
MS33656-4 Male	Temp. Sensor	E	N/A
MS33649-4 Female	Temp. Sensor Shield	F	N/A Case Ground



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 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 should malfunction, 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 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 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, 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. P.O. 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. P.O. number to cover the COST of the repair,
2. Model and serial number of 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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- ☑ Recorders, Controllers & Process Monitors
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