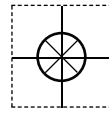


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PSW12 SERIES Pressure Switches



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PSW12 Series Explosion-Proof Pressure Switch

Part Numbers: PSW12T- AS to HS
PSW12T- AD to HD
PSW12V- AS to HS
PSW12V- AD to HD

Please read all instructional literature carefully and thoroughly before starting.

GENERAL



MISUSE OF THIS PRODUCT MAY CAUSE EXPLOSION AND PERSONAL INJURY. THESE INSTRUCTIONS MUST BE THOROUGHLY READ AND UNDERSTOOD BEFORE UNIT IS INSTALLED.



THIS EQUIPMENT IS SUITABLE FOR USE IN CLASS I, DIVISIONS 1 & 2, GROUPS A, B, C AND D; CLASS II, DIVISIONS 1 & 2, GROUPS E, F AND G; CLASS III; OR NON-HAZARDOUS LOCATIONS ONLY. $-50\text{ }^{\circ}\text{C}$ ($-58\text{ }^{\circ}\text{F}$) $\leq T_{amb.} \leq 80\text{ }^{\circ}\text{C}$ ($176\text{ }^{\circ}\text{F}$), ENCLOSURE TYPE 4X.

Class I, Division 1 and 2, Groups A, B, C & D
Class II, Division 1 and 2, Groups E, F & G
Class III

Class I, Zone 1, Group IIC

Enclosure Type 4X

Pressure: UL 508 & 1203; CSA C22.2 No. 14, 25 & 30 -

File # E106732

Dual Seal certified to ISA 12.27.01 (meets CEC secondary seal requirements)



PRIOR TO INSTALLATION, CHECK THE WETTED PARTS MATERIAL FOR COMPATIBILITY TO THE PROCESS MEDIA.



THE DUAL SEAL DEVICE METHOD OF PRIMARY SEAL FAILURE ANNUNCIATION IS VISABLE LEAKAGE FROM THE ENCLOSURE. DEPENDING UPON MEDIA SENSED, ADDITIONAL METHODS OF LEAK DETECTION MAY BE REQUIRED.



PROOF PRESSURE* LIMITS STATED WITHIN THE LITERATURE AND PRINTED ONTO THE PRODUCT HOUSING MUST NEVER BE EXCEEDED, EVEN BY SURGES IN THE SYSTEM. OCCASIONAL OPERATION OF THE PRODUCT UP TO PROOF PRESSURE IS ACCEPTABLE (E.G., START-UP, TESTING). CONTINUOUS OPERATION SHOULD NOT EXCEED THE DESIGNATED OVER RANGE PRESSURE**

*Proof Pressure - the maximum pressure to which a pressure sensor may be occasionally subjected, which causes no permanent damage (e.g., start-up testing). (May require set-point adjustment).

**Over Range Pressure - the maximum pressure to which a pressure sensor may be continuously subjected without causing damage maintaining set point repeatability.



THE EPOXY RESIN SHALL NOT BE SUBJECTED TO A TEMPERATURE GREATER THAN $125\text{ }^{\circ}\text{C}$.



THIS PRODUCT DOES NOT HAVE ANY FIELD REPLACEABLE PARTS. ANY SUBSTITUTION OF COMPONENTS WILL INVALIDATE THIRD-PARTY ISSUED APPROVALS AND CERTIFICATIONS, AND MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 1 LOCATION.

The PSW-12 Series switch utilizes a diaphragm sensor to detect a pressure change. The response, at a predetermined set point, actuates a SPDT or DPDT snap-acting switch, converting a pressure signal into an electrical signal. Control set point may be varied by turning the internal slotted adjustment screw according to procedures outlined in Part II-Adjustments.

Date code format on enclosure is "YYWW" for year and week.

Part I - Installation

Tools Needed

1-1/8" Open end wrench

MOUNTING



ALWAYS LOCATE UNITS WHERE SHOCK, VIBRATION AND AMBIENT TEMPERATURE FLUCTUATIONS ARE MINIMAL. DO NOT MOUNT IN AMBIENT TEMPERATURE AREAS EXCEEDING $176\text{ }^{\circ}\text{F}$.



IF SEVERE PRESSURE SURGES ARE EXPECTED, CONSIDER THE USE OF A PRESSURE SNUBBER.



FOR PRESSURE MODELS, MOUNT USING PRESSURE CONNECTION: ALWAYS USE A WRENCH ON PRESSURE CONNECTION WRENCH FLAT. (SEE FIGURE 1)

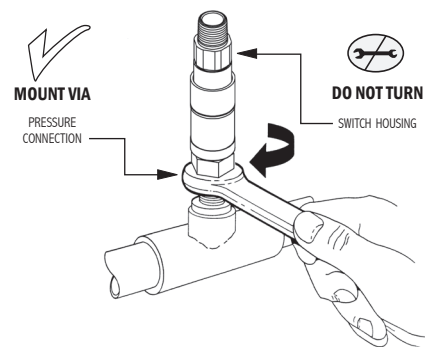


Figure 1



THE PRODUCT MAY BE MOUNTED IN ANY POSITION. HOWEVER, IF INSTALLATION LOCATION RESULTS IN FREQUENT EXPOSURE TO LIQUID IT IS RECOMMENDED THAT THE PRODUCT BE MOUNTED VERTICALLY WITH THE PRESSURE CONNECTION DOWN. IF PRODUCT IS TO BE SET AFTER MOUNTING, VERIFY THAT ADJUSTMENT OPENING IS ACCESSIBLE, "FRONT" MARKING ON NAMEPLATE MUST FACE THE OPERATOR.

Panel Mounting via 1/2" NPTM Electrical Connection

When panel mounting, mount through 7/8" clearance hole in panel. Use 1/2" conduit nut to secure in place. Always support the product by holding a wrench on the hex.



TO ATTACH CONDUIT CONNECTION, HOLD ELECTRICAL CONNECTION STEADY WITH WRENCH ON HEX, THEN THREAD ON CONDUIT.

WIRING



DISCONNECT ALL SUPPLY CIRCUITS BEFORE WIRING THE PRODUCT. WIRE IN ACCORDANCE WITH LOCAL AND NATIONAL ELECTRICAL CODES. THE WIRES SHOULD BE PROTECTED AGAINST MECHANICAL DAMAGE BY USE OF A CONDUIT OR OTHER SUITABLE MEANS.



EXTERNAL GROUNDING SCREW (ADD -GND TO OMEGA PART NUMBER) IS REQUIRED FOR NON-METALLIC CONDUIT SYSTEMS. (SEE FIGURE 2)



ELECTRICAL RATINGS STATED IN THE LITERATURE AND PRINTED ONTO THE PRODUCT HOUSING MUST NOT BE EXCEEDED. OVERLOAD ON A SWITCH CAN CAUSE FAILURE ON THE FIRST CYCLE.

1/2" NPT (male) conduit connection is provided on top of the product with 72" long, 18 AWG leadwires. The product is available with SPDT or DPDT operation. External grounding screw and clamp is provided with option GND (see figure 2).

Factory sealed leadwires are color coded:

TERMINALS	SPDT	DPDT	
		Circuit 1	Circuit 2
Common	Brown	Brown	Yellow
Normally Closed	Red	Red	Black
Normally Open	Blue	Blue	Violet
Ground	Green	Green	

Option GND (External Grounding Screw)

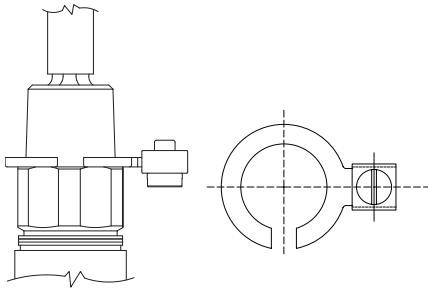


Figure 2

Part II - Adjustments

Tools Needed

Flathead screwdriver with 3/16" or 1/4" wide blade

1. Connect control to pressure source.
2. With power disconnected, slide cover toward electrical terminations while twisting it to overcome friction.
3. Connect power to terminals or leads.
4. Insert screwdriver into adjustment slot and turn clockwise to **increase** setting or counterclock-wise to **decrease** setting. (See Figure 3)

For setting on RISE, apply desired pressure and turn adjustment clockwise until switch actuates (circuit across N.O. and COM terminals closes).

For setting on FALL, apply pressure equal to normal system operating pressure. Reduce source pressure to setpoint value. Turn adjustment counterclockwise until switch actuates (circuit across N.C. and COM terminals closes).

Dimensions

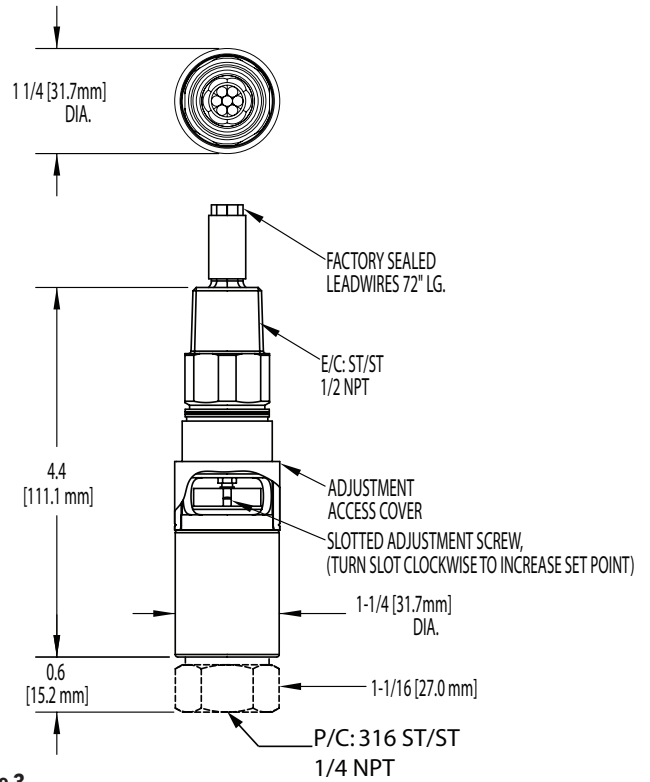


Figure 3

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **37 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **three (3) 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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