

1 YEAR
WARRANTY

Ω OMEGA® **User's Guide**



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ACC-PS3A/4A **Single/Triaxial Accelerometer** **Power Supply**



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Section 1 - Introduction

Thank you for selecting Omega's Model ACC-PS3A/P4A power supply. The Model ACC-PS3A/4A has set the world standard for excellence and should provide you with years of faithful service.

The Model ACC-PS3A/P4A provides the 2.2mA constant current at 24Vdc required for powering most conventional low impedance single or triaxial accelerometers. The unit allows for each axis is to be routed to instrumentation through a common BNC connection. It also includes an LED power status indicator. Please refer to the manual supplied with your accelerometer to verify compatibility with the Model ACC-PS3A/P4A.

Overall Description and Operation

The Model ACC-PS3A/P4A is designed to power either a single or triaxial accelerometer. It is normally supplied with this instruction manual and a calibration sheet. Notice that the serial number and calibration data for each axis is indicated on the calibration sheet.

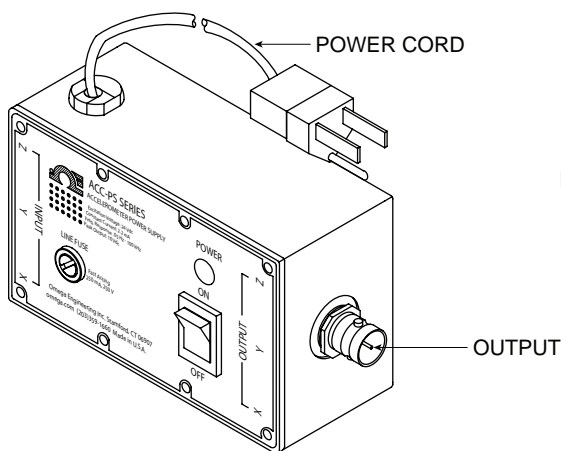


Figure 1A. ACC-PS3A

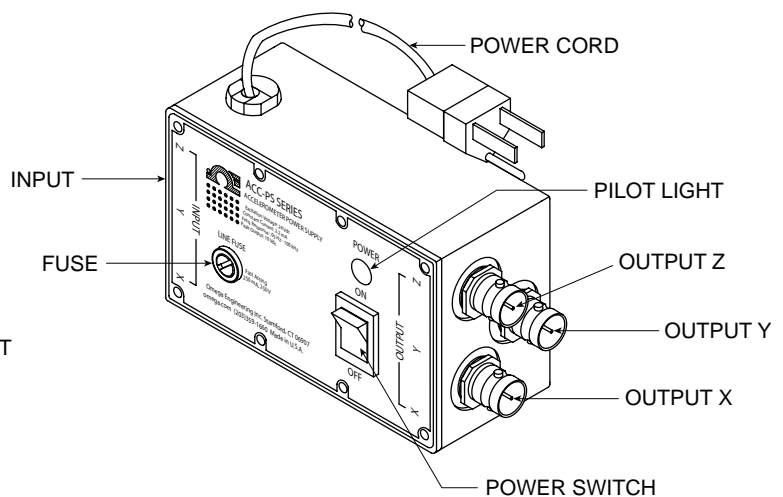


Figure 1B. ACC-PS4A

The Omega power supplies are available in 115 Vac power and 230 Vac power. Below is the complete list of ACC power supplies:

Model No.	Description
ACC-PS3A	Single channel power supply, 115 Vac power
ACC-PS3A-230V	Single channel power supply, 230 Vac power
ACC-PS4A	Triaxial power supply, 115 Vac power
ACC-PS4A-230V	Triaxial power supply, 230 Vac power

Section 2 - Controls & Indicators

- a. Input BNC connector (single) or 4-pin, ¼-28 male connector (triaxial) (INPUT, X, Y, Z)

The low impedance single or triaxial accelerometer to be powered is connected directly to the input connector. 24Vdc is present on this connector with the power switch "ON" and no accelerometer connected. The voltage level will drop to the accelerometer's bias voltage when an accelerometer is connected. Most low impedance accelerometers have a bias voltage between 7 Vdc and 13 Vdc. Refer to the specifications and calibration data supplied with your accelerometer.

- b. Output connector(s) (OUTPUT, X, Y, Z)

The dynamic acceleration signal is present on the connector for each axis. The output may swing a maximum ± 10 VAC. (± 5 VAC with a low bias accelerometer). The output voltage is in direct proportion to acceleration level in real time. A data acquisition system such as a PC A/D card, oscilloscope, Digital Volt Meter (DVM), or spectrum analyzer may be connected directly to the output BNC connectors. Omega recommends an input impedance of 1 megohm or less if bias voltage (DC offset) feed-through from the accelerometer(s) is not desired.

- c. Power Switch

The two-position switch turns the unit on and off. To turn the unit on, push the switch towards the green power LED and the "on" label. To turn the unit off, push the switch away from the green power LED.

NOTE:

Note that some A/D cards already supply ICP accelerometer power - verify your card's functionality before using the ACC-PS3A/4A.

Section 3 - Operation

Under normal conditions, it is acceptable to connect and disconnect signal cables with the power ON. However, if the compatibility of the equipment is in question or if there is high risk of electrostatic discharge, it is recommended that all equipment be turned OFF while signal interconnections are made.

To operate the unit:

- a. Connect a single or triaxial accelerometer to the BNC connector (or 4-pin, $\frac{1}{4}$ -28 male connector) labeled "input"
- b. Turn power switch to the "ON" position (towards the green power LED)
- c. Connect a data acquisition system to the BNC connector(s) labeled "output"
- d. Collect data

Section 4 - Physical & Electrical Specifications

Part Numbers	
Model ACC-PS3A:	Single channel power supply, 115 Vac power
Model ACC-PS3A-230V:	Single channel power supply, 230 Vac power
Model ACC-PS4A:	Triaxial power supply, 115 Vac power
Model ACC-PS4A-230V:	Triaxial power supply, 230 Vac power
Accelerometer Type: (PS4A)	Low-impedance single (PS3A) or triaxial
Accelerometer Excitation:	24 Vdc
Excitation Current:	2.2mA cc
Number of Channels:	1 (PS3A) or 3 (PS4A)
Frequency Response:	0.05 Hz – 100 kHz
Output Signal F.S., Pk:	10 Volts
Noise (rms) (0-10 kHz):	0.002 mV
Power Requirements	
ACC-PS3A, ACC-PS4A:	115 Vac
ACC-PS3A-230V, ACC-PS4A-230V:	230 Vac
Accelerometer Connector:	BNC (PS3A) or 4-pin, 1/8- 28 male (PS4A)
Output Connectors:	BNC
Mounting:	4-hole mount, 44 x 121 mm (1.75 W x 4.75" L) centers
Operating Temperature:	0°C to 60°C (32°F to 140°F)
Relative Humidity:	95% (non-condensing)
Case Dimensions:	6.7 x 13.3 x 4.4 cm (2.65 W x 5.25 L x 1.75" D)
Weight:	624 g (22 oz)

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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- ☑ Signal Conditioners
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