93−659611−A Power Supply

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Figure 1. 93−659611−A 48VDC (225mA) Power Supply

1. GENERAL

1.1 Document Purpose

This document includes a circuit description, installation and basic testing information for the Charles Industries 93−659611−A Power Supply, shown in Figure 1.

1.2 Equipment Function

The 93−659611−A Power Supply unit will supply power to any equipment requiring the voltage and current available from the 93−659611−A.

This unit is intended for indoor use only.

1.3 Equipment Location/Mounting

The unit plugs directly into a grounding-type (3-prong) AC duplex receptacle in a location convenient to the equipment to be powered.

1.4 Equipment Features

Features of the 93−659611−A include:

- Plugs into any convenient 120VAC grounding-type receptacle
- Linear regulated output of 48VDC at 225mA
- Overload and short circuit protection via a non−resettable thermal fuse
- UL listed Standard 206Y

2. INSPECTION

2.1 Inspect for Damages

Inspect the equipment thoroughly upon delivery. If the equipment has been damaged in transit, immediately report the extent of damage to the transportation company.

3. APPLICATION GUIDELINES

The 93−659611−A requires a 120VAC, 60Hz power source through a duplex receptacle having a ground plug provision.

The 93−659611−A provides a linear regulated 48VDC output.

4. CIRCUIT DESCRIPTION

The AC line is connected across the primary winding of a step-down power transformer.

A silicon diode bridge rectifier and filter capacitor are connected across the secondary winding of the step−down transformer which rectifies the AC voltage to a DC voltage with less than 3V peak-to-peak ripple. This DC voltage is then passed thru a thermal fuse to a linear regulator.

5. INSTALLER CONNECTIONS

Make all installer connections to the screw-type terminals provided on the plug side of the 93−659611−A prior to mounting. Refer to Figure 1 for proper polarity and termination of the 48VDC output.

6. MOUNTING

Make all installer connections before attempting to mount power supply. The power supply is intended for installation in an indoor protected environment.

7. TESTING

Verify proper mounting into the AC receptacle and verify that all installer connections are properly made. Then check for the required receptacle voltage (108 to 132VAC). Check for the proper output voltage on the appropriate terminals. If the output voltage is zero, the non−resettable thermal fuse may have tripped due to an overload or short circuit on the unit's output. The unit must be replaced if this occurs as there are no field replaceable parts.

CAUTION

To prevent damage to the unit, ensure that the equipment being powered from the 93−659611−A is less than 300mA.

8. TECHNICAL ASSISTANCE

8.1 Technical Assistance — U.S.

If technical assistance is required, contact Charles Industries' Technical Services Center at:

847−806−8500
847−806−8556 (FAX)
800−607−8500
techserv@charlesindustries.com (e-mail)

9. WARRANTY & CUSTOMER SERVICE

9.1 Warranty

Charles Industries, Ltd. offers a 1-year warranty on products. Contact your local Sales Representative at the address or telephone numbers below for warranty details. The warranty provisions are subject to change without notice. The terms and conditions applicable to any specific sale of product shall be defined in the resulting sales contract.

Charles Industries, Ltd.
5600 Apollo Drive
Rolling Meadows, Illinois 60008−4049
847−806−6300 (Main Office)
847−806−6231 (FAX)

9.2 Advanced Replacement Service (In-Warranty Units)

Charles Industries, Ltd. offers an "advanced replacement" service if a replacement unit is required as soon as possible. With this service, the unit will be shipped in the fastest manner consistent with the urgency of the situation. In most cases, there are no charges for in-warranty repairs, except for the transportation charges of the unit and for a testing and handling charge for units returned with no trouble found. Upon receipt of the advanced replacement unit, return the out-of-service unit in the carton in which the replacement was shipped, using the preaddressed shipping label provided. Call your customer service representative at the telephone number above for more details.

9.3 Standard Repair and Replacement Service (Both In-Warranty and Out-Of-Warranty Units)

Charles Industries, Ltd. offers a standard repair or exchange service for units either in- or out-of-warranty. With this service, units may be shipped to Charles Industries for either repair and quality testing or exchanged for a replacement unit, as determined by Charles Industries. Follow the *Repair Service Procedure* below to return units and to secure a repair or replacement. A handling charge applies for equipment returned with no trouble found. To

obtain more details of this service and a schedule of prices, contact the CI Service Center at 217−932−5288 (FAX 217−932−2943).

Repair Service Procedure

1. Prepare, complete, and enclose a purchase order in the box with the equipment to be returned.

2. Include the following information:

   − Company name and address
   − Contact name and phone number
   − Inventory of equipment being shipped
   − Particulars as to the nature of the failure
   − Return shipping address

3. Ship the equipment, purchase order, and above-listed information, transportation prepaid, to the service center address shown below.

   CI Service Center
   Route 40 East
   Casey, IL 62420−2054

4. Most repaired or replaced units will be returned within 30 or 45 days. Repaired units are warranted for either 90 days from the date of repair or for the remaining unexpired portion of the original warranty, whichever is longer.

10. SPECIFICATIONS

10.1 Electrical

The electrical characteristics of the 93−659611−A are as follows:

(a) INPUT VOLTAGE: 108 to 132VAC, 60Hz ±2Hz, single phase.

(b) DC OUTPUT: No load: 60VDC (max)/ Full load: 48VDC +/−5% at 120VAC

(c) DC CURRENT: 0 to 225mA.

(d) DC OUTPUT PROTECTION: Thermal fuse.

(e) DC OUTPUT RIPPLE: Less than 3V peak-to-peak.

10.2 Physical

The physical characteristics of the 93−659611−A are shown in Table 1.

Table 1. Physical Specifications

Feature	U.S.	Metric
Height	3.0 inches	76 millimeters
Width	2.5 inches	65 millimeters
Depth	1.9 inches	48 millimeters
Weight	1.0 pounds	455 grams
Temperature	32° to 120°F	0 to 50° C
Material	High-impact-resistant thermoplastic.	