8411–48 48 VDC (100mA) Power Supply

Complies with UL Standard 1310 Third Edition

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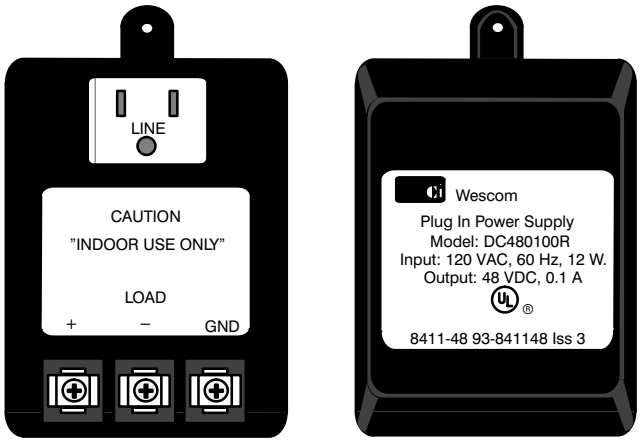

Rear View *Front View*

Figure 1. 8411–48 Power Supply

1. GENERAL

1.1 Document Purpose

This document describes the 8411–48 Power Supply, shown in Figure 1.

1.2 Document Status

This document is reprinted to change the DC output specification from +/– 3% to +/– 5%. It also includes a general editorial update

CAUTION

Field repairs/modifications may void compliance with UL 1310 – Third Edition. Compliance with UL 1310 – Third Edition is restricted to inside plant wiring.

1.3 Equipment Function

The 8411–48 Power Supply unit provides a floating 48 VDC output at 0.10A (maximum) for powering a limited amount of equipment at a subscriber location. The unit is powered from a standard 120Vac, 60Hz power line. Current limiting and current foldback are provided for short circuit protection of the DC supply.

The 8411–48 requires a standard 120Vac, 60Hz power source as provided by a wall-mounted receptacle having a ground plug provision. See danger notes in Part 4. The 8411–48 should be used only in 48 VDC applications that do not exceed a current drain of 0.10A. Either the positive (+48) output or the negative (–48) output can be strapped to ground depending upon the application.

1.4 Equipment Features

Features of the 8411–48 include:

- Plugs into any convenient 120Vac grounding-type receptacle
- Supplies regulated 48 VDC output at 100mA
- Floating output permits grounding either polarity
- Series Regulator maintains constant 48 VDC output from no-load to 100mA
- Foldback current regulation circuit prohibits output current from exceeding 150mA
- Crowbar circuit prohibits output voltage from exceeding 56 VDC
- UL listed and complies with UL Standard 1310 Third Edition

2. INSPECTION

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. INSTALLER CONNECTIONS

Make all installer connections to the screw-type terminals provided on the plug side of the 8411–48 prior to mounting. Observe polarity when connecting to the DC terminals.

Wescom telephony equipment uses negative battery (or positive ground) for proper operation. For –48 VDC, strap the GRD terminal to the + terminal of the 8411–48 and then connect the GRD terminal to the GRD connection of the equipment to be powered. Then connect the – terminal of the 8411–48 to the –48 VDC input of the equipment to be powered.

4. MOUNTING

Make all installer connections before attempting to mount power supply. The power supply is intended for installation in a protected environment and for semipermanent installation in a 3-prong, 120Vac grounded receptacle.

DANGER

To reduce the risk of electrical shock, disconnect power to the receptacle before installing or removing the 8411−48. When removing receptacle cover screw, cover may fall across plug pins or receptacle may become displaced. Use only with duplex receptacle having center screw. Fasten the 8411−48 and the coverplate to the receptacle through the eyelet on the power supply using a mounting screw of appropriate length.

Step	Action
1.	After making all installer connections, remove the mounting screw from the coverplate of the AC duplex receptacle that will receive the 8411–48 unit.
2.	Hold the coverplate firmly in position while plugging the 8411–48 into the receptacle.
3.	Install a mounting screw of appropriate length through the 8411–48 eyelet and into coverplate's center hole to secure unit.

DANGER

If a metal coverplate is used, either shut off the AC power to the receptacle or exercise extreme caution to prevent the coverplate from shorting across the blades of the power supply plug. Fasten the 8411−48 and the coverplate to the receptacle through the eyelet on the power supply using a mounting screw of appropriate length.

5. TESTING

If trouble is encountered with the 8411–48 Power Supply, verify that the voltage at the AC receptacle is between 105 and 129Vac and that the power supply is firmly inserted into the AC receptacle. Verify that the output voltage of the DC power supply is 48 VDC ±3 percent. If there is no output, momentarily interrupt the AC power and measure again.

6. TECHNICAL ASSISTANCE

6.1 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)

6.2 Technical Assistance — Canada

Canadian customers call:

905–821–7673 (Main Office)
905–821–3280 (FAX)

7. WARRANTY & CUSTOMER SERVICE

7.1 Warranty

Charles Industries, Ltd. offers an industry-leading, 5-year warranty on products manufactured by Charles Industries. 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

Telephone: 847–806–6300 (Main Office)
847–806–6231 (FAX)

7.2 Field Repairs (In-Warranty Units)

Field repairs involving the replacement of components within a unit are not recommended and may void the warranty and compatibility with any applicable regulatory or agency requirements. If a unit needs repair, contact Charles Industries, Ltd. for replacement or repair instructions, or follow the *Repair Service Procedure* below.

7.3 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.

7.4 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, depending on the product type and availability of repair parts. 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.

8. SPECIFICATIONS

The specifications of the 8411–48 are as follows:

(a) INPUT VOLTAGE: 105 to 129Vac, 60 ±2Hz, single phase.

(b) DC OUTPUT: 48 VDC, ±5% over the input and load range.

(c) DC OUTPUT CURRENT: 0.10A maximum.

(d) POLARITY: Floating, either side can be grounded.

(e) RIPPLE: 30mV peak-to-peak maximum.

(f) FUSING: Thermal fuse at the input.

(g) DC OUTPUT PROTECTION: Overloaded and short circuit protection.

Table 1. Physical Specifications

Feature	U.S.	Metric
Height (not including eyelet)	3.2 inches	8.13 centimeters
Width	2.2 inches	5.59 centimeters
Depth (not including prongs)	1.9 inches	4.83 centimeters
Weight	14 ounces	397 grams
Temperature	32° to 120°F	0 to 49°C
Material	Black, high-impact-resistant thermoplastic.	