8551-80 Power Supply (48Vdc, 2.5A)

Compliant with UL Standard 60950, Second Edition*

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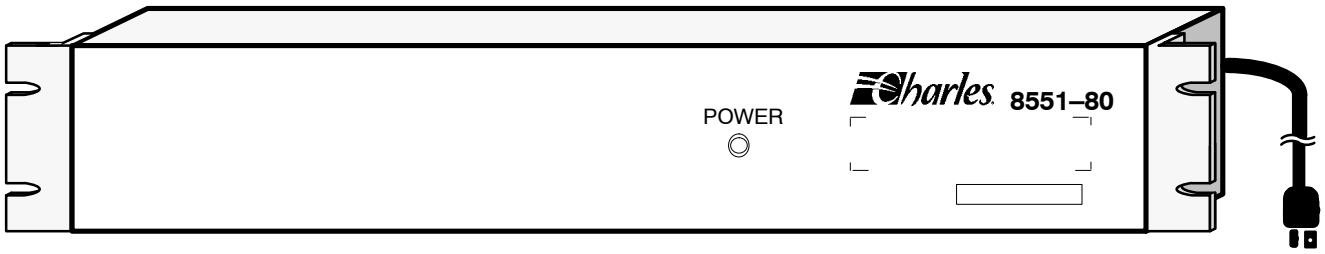

Figure 1. 8551-80 Power Supply

***CAUTION**

Field repairs/modifications may void compliance with UL Standard 60950 — 2nd Edition. Compliance with UL Standard 60950 — Second Edition is restricted to inside plant wiring.

1. GENERAL

1.1 Document Purpose

This document provides general, installation and testing information for the 8551-80 (Issue 1) 48Vdc Power Supply. The 8551-80 is shown in Figure 1.

1.2 Equipment Description

The 8551-80 power supply provides filtered, regulated 48Vdc output. The maximum current output of the 8551-80 is 2.5 amps. This unit is UL recognized.

1.3 Equipment Mounting

Mounts in a19-inch or 23-inch relay rack and occupies one rack unit (1.75 inches of rack space).

1.4 Equipment Features

Features of the 8551-80 power supply includes:

- Regulated, floating 48Vdc output from standard 120/240Vac, 50/60Hz power source
- Either polarity can be grounded
- 6-foot, 3-wire power cord, plugs into any convenient 120Vac, 60Hz grounding-type receptacle
- Self-protecting against overload—a short circuit across the output terminals will not damage the units
- Direct mounting in a 19-inch relay rack; brackets can also be used for 23-inch relay rack mounting
- Power LED

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.

2.2 Equipment Identification

Charles Industries' equipment is identified by a model and issue number imprinted on the front panel or located elsewhere on the equipment. Each time a major engineering design change is made on the equipment, the issue number is advanced by 1 and imprinted on subsequent units manufactured. Therefore, be sure to include both the model number and its issue number when making inquiries about the equipment.

3. APPLICATION GUIDELINES

The power supply can be used in any 48Vdc application that does not exceed its current limitations (2.5A). It is intended to be installed in a protected environment.

The current output and noise of the unit is low enough for the unit to be used as a talk battery. Output is floating and either the negative or the positive terminal can be connected to ground as required.

4. MOUNTING

When received from the factory, the 8551-80 includes side mounting brackets for flush-mounting in a 19-inch relay rack. Each power supply requires approximately 1.75-inches of vertical rack space (1 slot). Rotating brackets permit flush-mounting in a 23-inch relay rack.

Included with the power supply are two mounting kits. The "Power Supply to 360-80" mounting kit is used to attach the power supply to the top of the 360-80 shelf in wall or desk mount installations of the 360-80 channel bank. The screws provided in the mounting kit must be used to mount the brackets to the power supply (see Figure 2).

WARNING

The screws for the power supply and the screws for the 360-80 shelf may have different tread types. Do not mix the screws from the kit with the screws for the power supply side mounting brackets. ***Mixing the screws may damage the mounting holes and may cause a hazardous condition.***

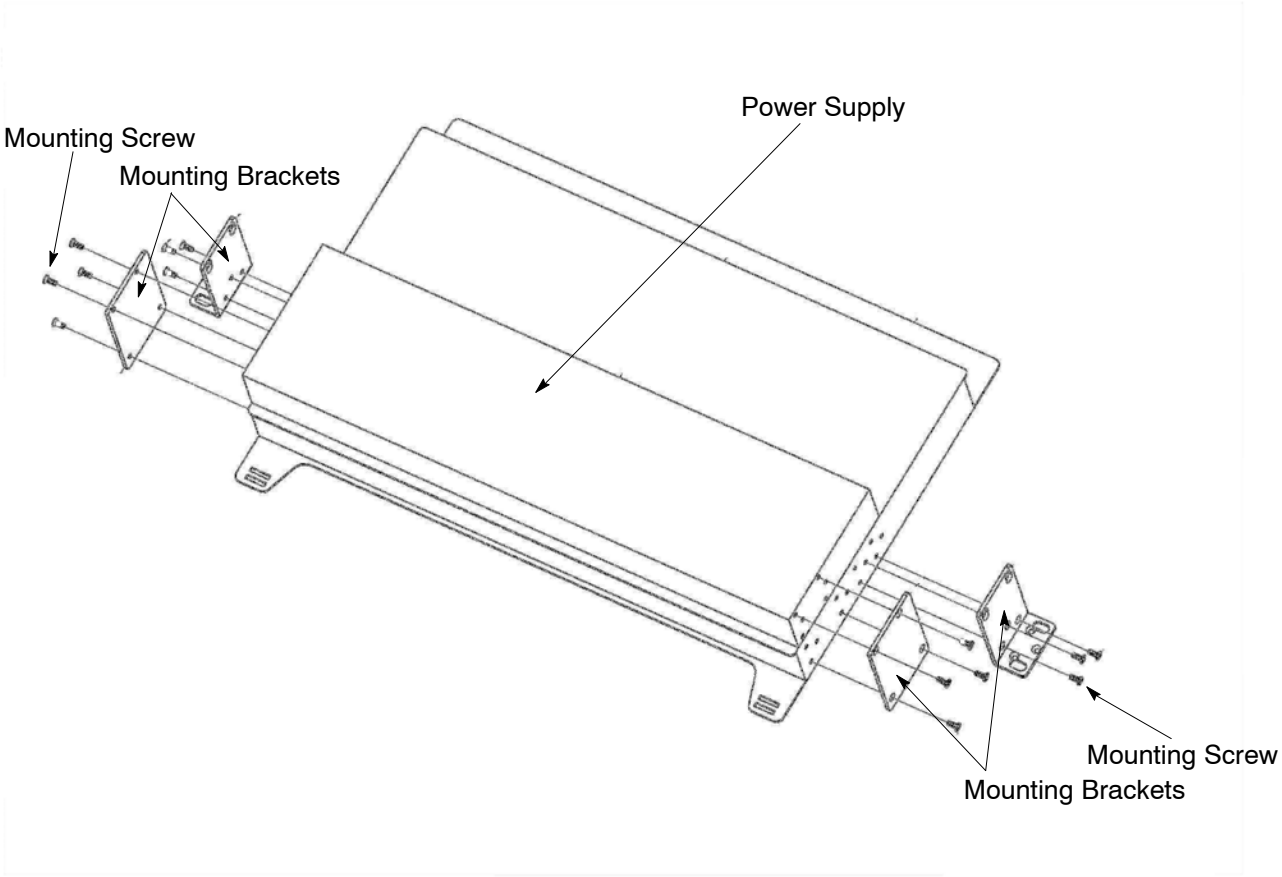

Figure 2. Power Supply to 360–80 ICB Mounting Kit

The wall mounting brackets are used to allow the power supply to be mounted to a wall.

4.1 Wall Mounting

Vertical installation (walls, specially build structures, etc.) require strict adherence to the mounting instructions to assure trouble free operation and to protect the safety of personnel

The shelf should be mounted at a height that will permit convenient access for performing maintenance

The shelf will be mounted with one bracket above the other. The front of the shelf can face either to the right or the left. This will provide front panel access on one side of the shelf and rear panel access on the other side

If the shelf cannot be mounted to a wall stud a plywood mounting board is required.

CAUTION

If using a plywood mounting board, there should be at least two vertical support studs behind the board.

Step	Action
1.	Remove and rotate the bracket 90 degrees so that the flat of the bracket is toward the bottom of the shelf (see Figure 3).
2.	Mount the bracket to the shelf.
3.	Repeat steps 1 and 2 for the bracket on other side of the shelf.
4.	If mounting directly to a wall, locate a stud and mark a spot for the top bracket over the stud.
5.	Drill a pilot hole for the fastener at the marked spot (use whatever fasteners are appropriate per local practice).
6.	Mount the shelf using one of the fasteners through one of the brackets.
7.	Hold a level across the top of the shelf and level the unit.
8.	Mark the mounting surface for all the other holes to be used to mount both brackets.
9.	Drill pilot holes for the remaining fasteners at the marked spots.
10.	Install the remaining fasteners through the mounting brackets.
11.	Tighten the fasteners.

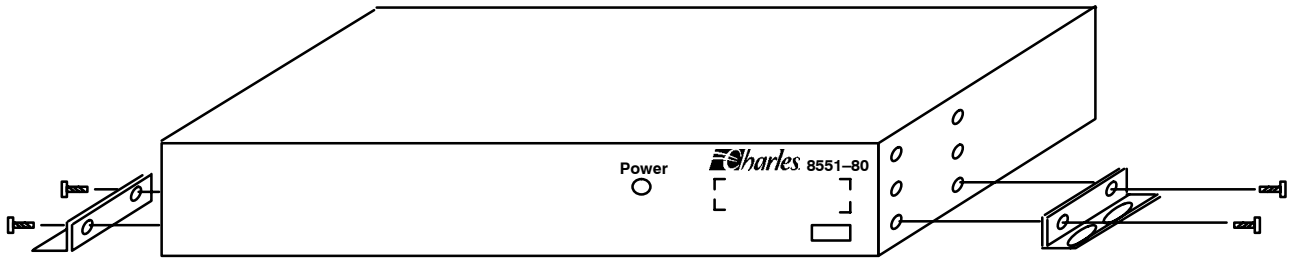

Figure 3. Power Supply with Wall Mounting Bracket

5. INSTALLER CONNECTIONS

The power supply has a 6-foot power cord for connecting to a standard 120Vac, 60Hz power source.

Terminal block has a protective, insulating cover, fastened with screws. Remove the screws to remove the cover.

Connect the positive output lead to the terminal marked with a “+” and the negative output lead to the terminal marked with a “–” on the terminal block (refer to Figure 4). These terminals are floating and either may be connected to ground as required. For protection against accidental shorts, replace the insulating cover upon completion of the power supply installation.

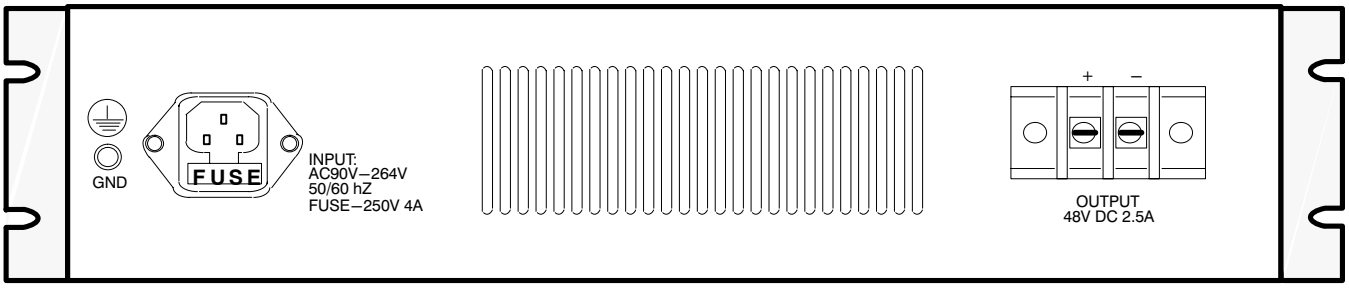

Figure 4. Location of Terminal Block on the 8551-80

6. TESTING

Use the following steps to test the power supply.

Step	Action
1.	Connect the positive lead of a multimeter to the terminal marked "+" and the negative lead to terminal marked "–" on the terminal block. The multimeter should read 48V +/– 0.5V. If the test condition is satisfied, no further testing is required. However, if no voltage indication is obtained, proceed with Step 2. If a low voltage indication is obtained, proceed with Step 4.
2.	Measure the input voltage of the source. The multimeter should indicate 100 to 260V. If this condition is satisfied, proceed with Step 4. Otherwise, check the AC source feeding the power supply.
3.	Check the AC input fuse. *Note: A spare fuse is located in the fuse compartment.*
4.	With the multimeter connected between terminals "+" and "–" on the terminal block, disconnect the load from the power supply. If removing the load restores the operating voltage to normal, the trouble is caused by an overload or short circuit in the external circuit. If removing the load does not cause the output voltage to return to normal, replace the power supply with a similar unit known to be in good operating condition and retest.

7. TECHNICAL ASSISTANCE

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)

8. WARRANTY & CUSTOMER SERVICE

8.1 Warranty

Charles Industries, Ltd. offers a 2-year warranty on this product. 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
U.S.A.
847-806-6300 (Main Office)
847-806-6231 (FAX)

8.2 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.

8.3 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.

8.4 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
   503 N.E. 15th St., P.O. Box 339
   Casey, IL 62420-2054
   U.S.A.

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.

9. SPECIFICATIONS

9.1 Electrical

The electrical characteristics of the 8551-80 Power Supply is as follows:

(a) INPUT VOLTAGE: 95 – 250Vac, 47–63 Hz, single-phase.

(b) INPUT POWER: 270W at 120 Vac, 300W at 230 Vac.

(c) OUTPUT VOLTAGE: 48 +/– 0.5 Vdc.

(d) OUTPUT CURRENT: 2.5A maximum.

(e) OUTPUT POLARITY: Floating; either positive or negative terminal may be grounded.

(f) RIPPLE: Less than 0.5V peak-to-peak.

(g) NOISE: Less than 0.5V peak to peak.

(h) OVERLOAD PROTECTION: Current foldback, protects the power supply from damage if the output is shorted.

(i) AC FUSE: 250VAC, 4A, Slow Blow, 5x20mm'

9.2 Physical

The physical characteristics of the 8551-80 Power Supply are shown in Table 1:

Table 1. Physical Specifications

Feature	U.S.	Metric
Height	1.73 inches	4.4 centimeters
Width (with flanges)	19 or 23 inches	48.26 or 58.42 centimeters
Depth	4.33 inches	24.77 centimeters
Line Cord (nominal, 3 conductors)	6 feet	1.83 meters
Weight	3.9 pounds	1.7 kilograms
Temperature	14 to 140° F	–10 to 60° C
Humidity	To 95% (no condensation)