RLH Industries, Inc.

USER GUIDE

The leader in rugged fiber optic technology.

✓ *Unconditional Lifetime Warranty*

2011A-0107

AC/DC Hi-Density 48V Power Supply

Wall Mount, NEBS Level 3 Approved

P/N 8806-1214-01

Key Features

- Isolated 48VDC power source
- Power terminals for up to 12 devices
- Battery backup provides 3 to 10 hours of un-interruptible power
- Operates off standard 115VAC power
- Convenient LED indicators provide rectifier status
- Ideal for powering telco equipment
- Wide operating temperature range
- Batteries are field replaceable
- Compact, wall mount form factor
- Includes all hardware and wiring for installation

Description

The AC/DC Hi-Density Power Supply (P/N 8806-1214-01) is an isolated 48 VDC power source. The power supply consists of an AC/DC rectifier and a 48 V, 7.0 AH backup battery pack. The AC/DC rectifier is contained in a modified Keptel housing.

The Power Supply requires a 115 VAC main supply for operation. A 3 Amp fuse on the main input and a 6Amp fuse on the DC output protect the power supply. A blue LED on the housing indicates normal operation of the AC/DC rectifier. A yellow LED indicates DC output on the plus and minus wiring terminals.

The 7.2 Amp/hr. battery backup provides uninterruptible power for 3-10 hours, depending on the load. The Power Supply will operate between –40 C and +50 C.

Contents

Compliance Information

The RLH AC/DC 48V Hi-Density Power Supply System is compliant with the following industry standards:

- **NEBS Level 3**
- **GR-1089**
- **GR-63**

Specifications subject to change without notice.

General Safety Practices

The equipment discussed in this document may require tools designed for the activity being described. RLH recommends that service personnel be familiar with the correct handling and use of any installation equipment used, and follow all safety precautions including the use of protective personal equipment as required.

Caution - Severe Shock Hazard

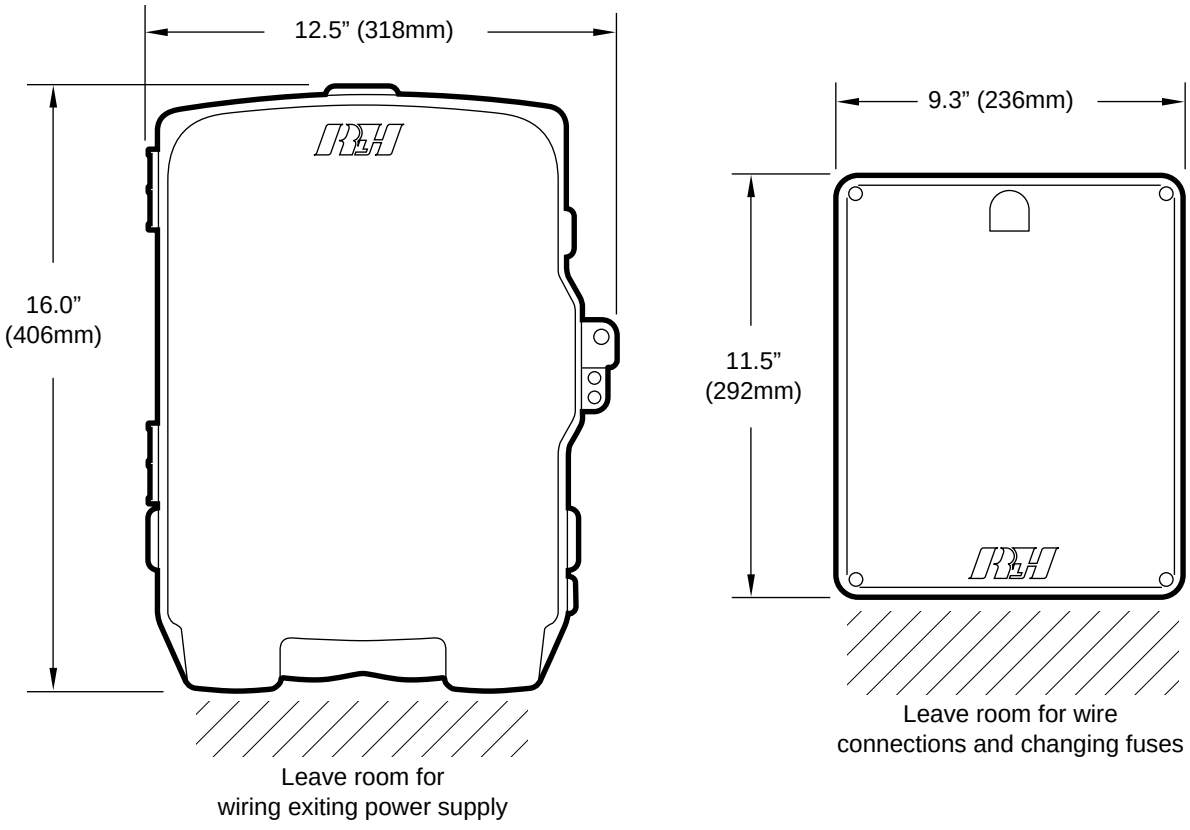
- Never install during a lightning storm or where unsafe high voltages are present.
- This power supply uses 115VAC line power and high DC voltages may be present on the interior components.
- Do not touch circuit boards or transformers when power is applied.
- Use caution when handling copper wiring and follow appropriate safety regulations.
- An external Surge Protective Device (SPD) is not required.

Mounting Information

Both the power supply and the backup battery are intended to be wall mounted using the supplied hardware. The power supply housing is not weatherproof, and must be mounted indoors or in a weather proof enclosure if used outdoors.

- The power supply unit weighs approximately 11 lbs. (5kg).
- The backup battery pack weighs approximately 26 lbs. (12kg).

Mounting dimensions



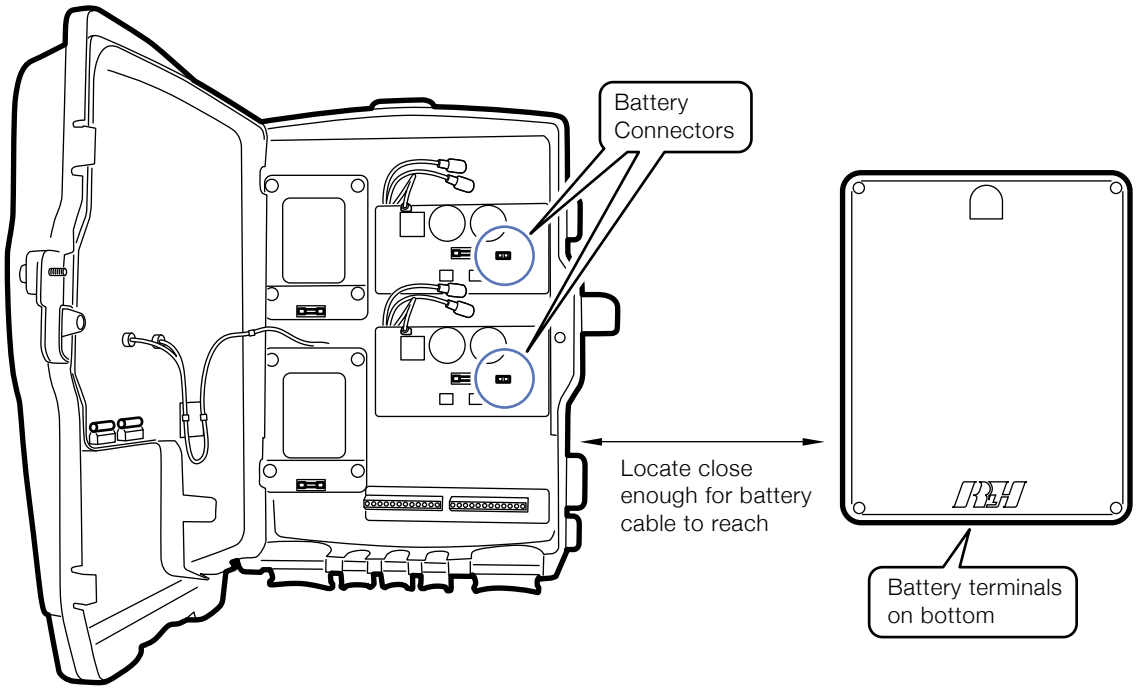
Installation

Locate the power supply unit within 6 feet of an AC power outlet. Do not plug the power supply into AC outlet yet. Mount the Power Supply to a plywood backplane using the wood screws provided. If mounting to another type of backplane be sure to have the correct hardware.

After attaching housing to the backplane, use a screwdriver to open the box. Locate battery backup within reach of the 30-inch battery cable and use the four (4) wood screws provided to attach housing to the backplane.

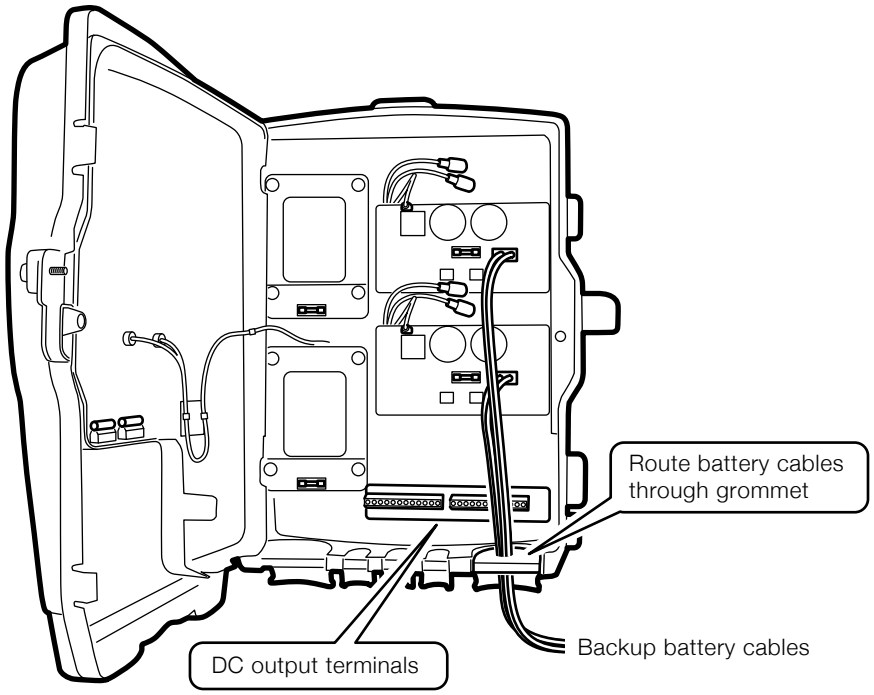
CAUTION

- Connecting the battery backup to the rectifier unit will apply battery output of 48 VDC across the DC output terminals



Battery connection

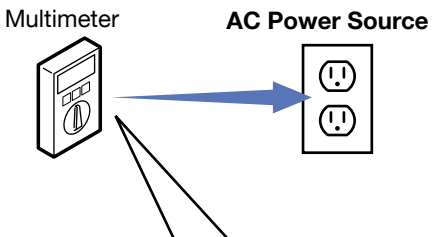
Connect the battery cable to the battery backup using the spade lugs (red to + and black to -).



Route the battery cable through the grommet at the bottom of the rectifier unit. Note that the rubber grommet can be removed for this process. Attach the battery cables to the 2 battery connectors and replace the grommet.

Set transformer secondary output

Measure the AC RMS voltage at the wall socket. Use the connection chart to select the corresponding leads from each transformer.

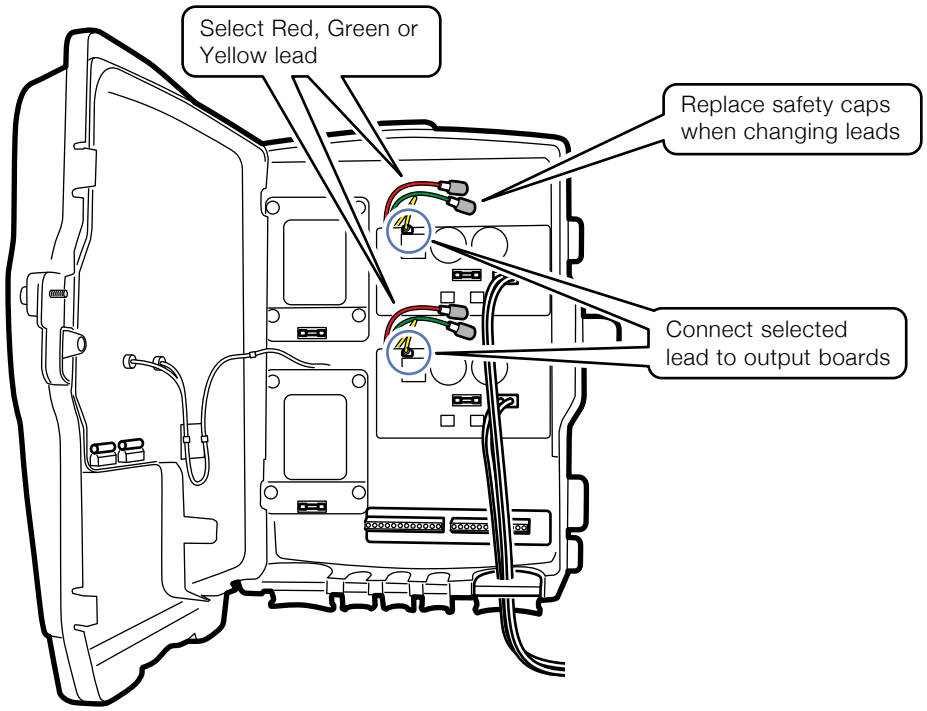


Measurement	Lead Color
108 VAC to 113 VAC	Green Lead
113 VAC to 119 VAC	Yellow Lead
119 VAC to 125 VAC	Red Lead

CAUTION

- Power supply must be removed from AC power source when setting the transformer output
- Replace protective caps on unused leads

If necessary, remove the protective caps from the leads as indicated and connect them to the power supply circuit boards as shown. Replace the protective caps onto the unused leads.



After connecting the transformer leads, close the access door and secure using a nut driver.

Connect AC power

Connect rectifier AC power cord to the AC main outlet. Power supply is now in operation.

- The blue LED indicates normal operation of the AC/DC rectifier
- The yellow LED indicates DC output on the plus and minus wiring terminals

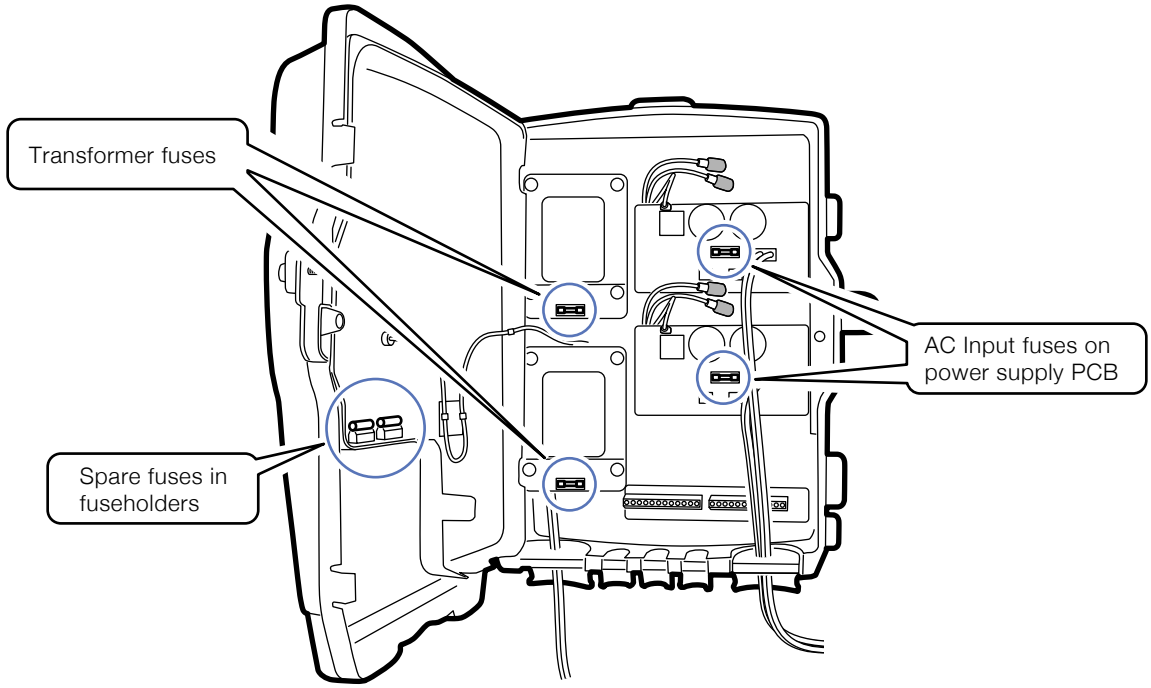
Connecting equipment

To connect equipment, carefully make a hole in the rubber grommets membrane with a screwdriver and pass connecting wires through. Connect positive (+) and negative (–) wires to the screw down terminal.

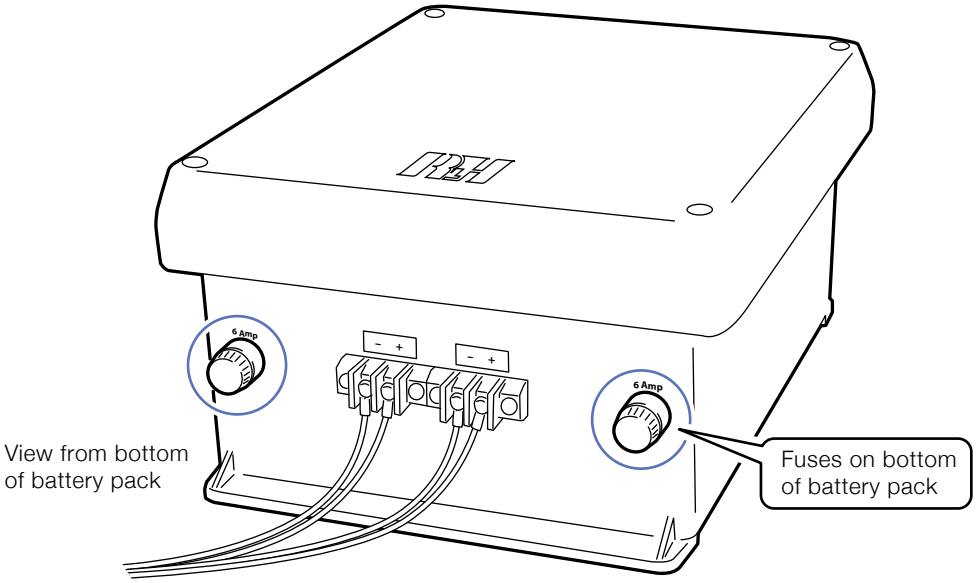
Troubleshooting

Troubleshooting the AC/DC Power Supply always begins with the observation of the two (2) LEDS on the face of the housing. Remember, the Blue LED indicates AC INPUT and RECTIFIER output. The yellow LED indicates DC OUTPUT on (+) and (-) terminals.

Blue LED	Yellow LED	Description
ON	ON	Normal Operation. Note that these LEDS will be ON even if the Battery Backup is discharged or disconnected from the system.
OFF	ON	Loss of AC Input or Rectifier output.. Power Supply is operating on Battery Backup. Check main supply. Check AC input fuse 3 Amp (fast blow) (5x20mm) on power pupply PCB. Replace if blown.
ON	OFF	Output voltage less than 48 VDC. Check load on power supply. Disconnect all cards/equipment from the DC output terminal. If yellow LED comes on, a defective card or unit is indicated. Reconnect cards one at a time to pinpoint trouble. Check that the Yellow LED is not shorted or disconnected.
OFF	OFF	Power Supply inoperative. Batteries discharged or disconnected Check battery fuse (F1) 6 Amp (fast blow). Replace if blown Check main AC supply. If main supply is OK, check fuse on transformers. Replace with 3 Amp (fast blow) (5x20mm). If still no output, power supply must be repaired. Replace with spare and return inoperative power supply to RLH Industries, Inc.



Power supply fuse locations



Battery pack fuse locations

If trouble is encountered, verify all connections. Double check the secondary transformer wiring and ensure that it corresponds to the incoming AC voltage. Batteries may require 24 hours to charge fully before using. If trouble persists, replace the unit and retest. If technical assistance is required, contact the RLH Industries, inc. technical support department:

800-877-1672 (6 am to 6 pm- PST),
or call our 24/7 Technical/Customer Service: (714) 366-2503 or (714) 457-5740

Specifications

Input Voltage	108VAC ~ 120VAC (Range set on transformer)	
Output Voltage	(Without batteries) 55.2 VDC +/– 0.1VDC from 0 to 2.1 Amp load	
Battery Backup	48V from (4) 12-volt batteries wired in series	
Battery Capacity	7.0 Amp/hr	
Battery Type	Rechargeable Gel Cell	
Temperature Limits	-40F to +140F (-40C to +60C)	
Humidity	0-100% non-condensing	
Housing Dimensions	Power Supply:	H16” x W12.5” x D5.5” (H406mm x W318mm x D140mm)
	Battery Pack:	H11.5” x W9.3” x D6.25” (H292mm x W236mm x D159mm)
Weight	Power Supply: 11.0 lbs (5kg)	
	Battery Pack: 26 lbs. (12kg)	

Warranty

RLH is recognized throughout the world and offers the only **UNCONDITIONAL LIFETIME WARRANTY** in the industry. We are very proud of our warranty which simply states that the product is warranted to be free of defects in material and workmanship for the **LIFE OF THE PRODUCT**. The power supply unit and the battery pack are covered under this warranty. The batteries themselves carry a 5 year warranty.

RLH will replace or repair covered products if failure occurs FOR ANY REASON, provided the defective part is returned to RLH Freight prepaid. RLH will repair and return the unit at no charge to the customer. If an out-of-service condition exists, advance replacement units can be obtained.

This warranty is UNCONDITIONAL and valid even when this product has been damaged as a result of a natural disaster. This warranty will reduce your costs and simplify your maintenance activities. Not all RLH products are covered by this warranty, batteries are warranted for 5 years.

To make a warranty claim, or schedule repair or replacement of your RLH product, please contact us for an RMA number. You will be promptly assisted by one of our warranty specialists. All returns must have an RMA number before we can receive any items.

Technical Support

Normal technical support: (Mon - Fri 6am - 6pm PST)	Local (714) 532-1672 Toll Free (800) 877-1672 Toll Free (866) DO-FIBER
24/7 Technical support:	(714) 366-2503 (714) 457-5740

Contact Information

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Please contact your RLH sales representative for pricing and delivery information.

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