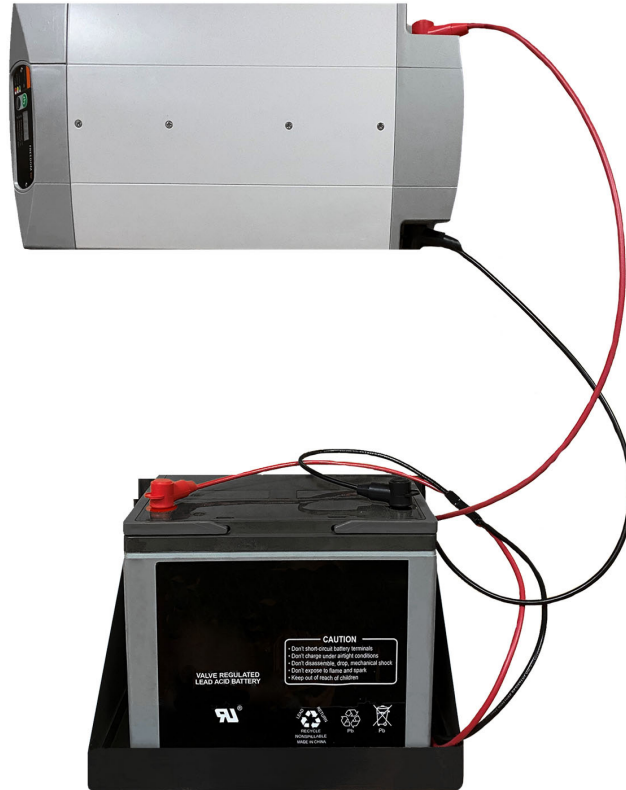




Installation & Specifications Manual



1000
Power Supply

2YEAR
WARRANTY

N56W24720 N. Corporate Circle • Sussex, WI 53089
800-451-1460 • www.rathcommunications.com

RP8500229
Ver. 1
08/21



Thank you for purchasing RATH's Power Supply. We are the largest Emergency Communication Manufacturer in North America and have been in business for over 35 years.

We take great pride in our products, service, and support. Our Emergency Products are of the highest quality. Our experienced customer support teams are available to remotely assist with site preparation, installation, and maintenance. It is our sincere hope that your experience with us has and will continue to surpass your expectations.

Thank you for your business,

The RATH® Team

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ELECTRICAL SHOCK HAZARD

- Do not expose to rain, snow, spray, or bilge water. The inverter/charger is designed for indoor use only in certain orientations (see Appendix 1).
- Do not operate the inverter/charger if it has received a sharp blow, has been dropped, has cracks or openings in the enclosure including if the fuse cover has been lost, damaged, or will not close, or otherwise damaged in any other way.
- Do not disassemble the inverter/charger. Internal capacitors remain charged after all power is disconnected.
- Disconnect both AC and DC power from the inverter/charger before attempting any maintenance or cleaning or working on any circuits connected to the inverter/charger.
- Only use RATH® approved wiring harness. Do not operate the inverter/charger with damaged or substandard wiring. Make sure that all wiring is in good condition and is not undersized.

EXPLOSION HAZARD

- Charge only RATH® approved battery RP7701000B.
- The inverter/charger contains components which tend to produce arcs or sparks.
- Do not install and/or operate in compartments containing flammable materials or in locations that require ignition-protected equipment. Locations include any space containing gasoline-powered machinery, fuel tanks, as well as joints, fittings, or other connections between components of the fuel system.

Failure to follow these instructions will result in death or serious injury.

Pre-Installation Requirements

Included:

- AC/DC power inverter
- Supervision relays (for Command Center Systems)
- 82Ah battery
- Battery wall bracket
- Battery cables
- Terminal insulators

Not Included/Sold Separately:

- Mounting screws or bolts
- Adjustable wrench
- Multimeter

Note: Must be installed with battery supplied by RATH®. Use of unapproved batteries will void warranty.

Note: Battery should be replaced every 3-5 years.



Installation

1. Ensure that AC and DC power are both OFF.
2. Mount the inverter securely and permanently in one of the acceptable orientations.
 - a. Use hardware appropriate for your installation type, orientation, and location.
 - b. Reference Appendix 1 for orientations.
3. Connect the equipment grounding terminal to the equipment ground bus.
4. AC power cable is pre-wired, verify connections are secure.
 - a. Reference Color Codes in Figure 1.
5. Mount the battery securely and permanently using the included wall bracket.
6. Plug in the device that requires power into the AC plug connector on the front of the inverter.
7. Connect the pre-wired quick connectors for the battery and inverter together, matching black to black and red to red.

Note: Battery must be mounted within 4 feet of inverter.

8. Plug inverter into AC power source.

Note: Allow up to 12 hours for the battery to fully charge after installation.

Operations & Testing

If necessary, perform system test calls when on primary power and battery power.

To test primary AC power loss:

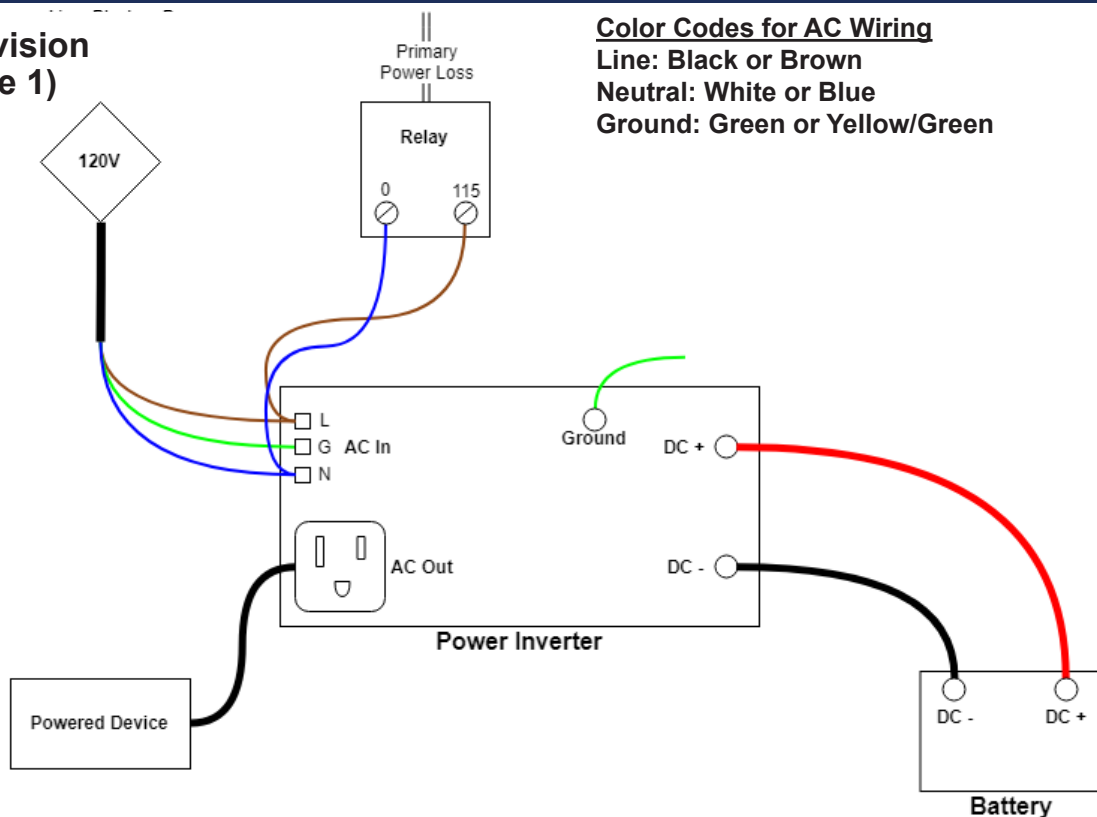
1. Unplug from 120vac power source.
2. Non-supervised system will show battery voltage on status screen.
3. Supervised systems will trip the attached relay.

To test secondary power loss:

1. Unplug battery from power supply.
2. Power supply will sound with a tone and display code E01, E05, or E12.

Typical System Layouts

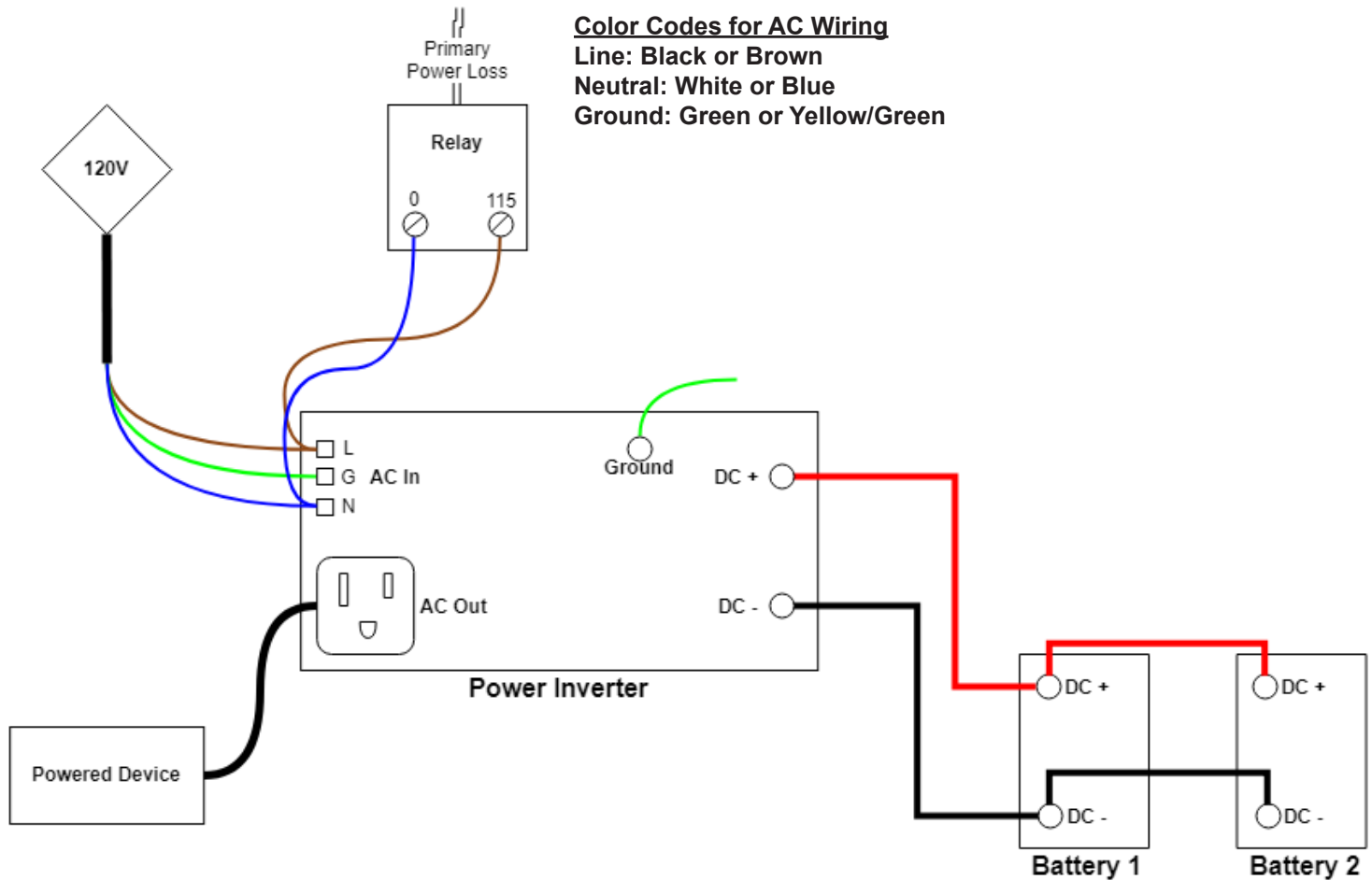
**Layout with Supervision
(NFPA 2019) (Figure 1)**



For runtimes that require more than 82Ah, follow the steps below:

1. Connect positive cables in parallel.
 - a. Connect the positive connector from battery 1 to the positive terminal on battery 2.
 - b. Connect the positive connector from battery 1 to the positive terminal on the power supply.
2. Connect negative cables in parallel.
 - a. Connect the negative connector from battery 1 to the negative terminal on battery 2.
 - b. Connect the negative connector from battery 1 to the negative terminal on the power supply.
3. Use Figure 2 as a guide.

Extended Battery Layout of Long Runtime Applications (Figure 2)



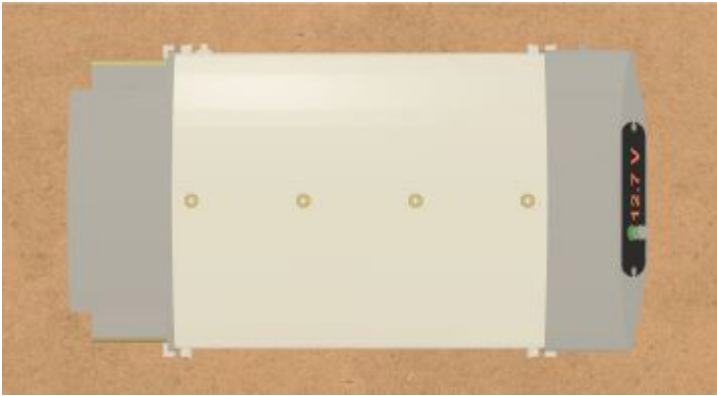
Appendix 1

Acceptable Orientations (Mounting Template Included):

1. Under a horizontal surface.



2. In a horizontal position on a vertical surface.



3. On a horizontal surface.



Appendix 2

Specifications:

Dimensions (H x W x L)

- **Inverter:** 4.2" x 9.5 x 15.5
- **Battery:** 8.3" x 6.6" x 10.2"
- **Optional Relay Enclosure:** 2" x 9" x 9"

Electrical Ratings

- **Inverter:** Input 90-130vac, 60Hz | AC Output 115vac, 60Hz | DC Output 12vdc, 5A | Simulated Sine Wave
- **Battery:** Output 12.5vdc | 82 Amp Hours
- **Transfer Time:** 20ms (milliseconds)

Operating Temperature

- **Inverter:** 32° F - 104° F | UL94 Flame Retardant
- **Battery:** -10° F - 140° F (Recommended 68° F - 77° F) | UL94 Flame Retardant

Protection: Short Circuit | Overvoltage | Overload | Ground Fault

Regulatory Approval

- CSA 22.2 NO 107.1 (Power Conversion Equipment)
- UL 458

Appendix 3

Error Code:

Error Code	Condition	Action
E01	Low battery voltage shutdown	• Check battery status and recharge if necessary • Check for proper DC cable size • Check for loose connections and tighten if necessary
E02	High battery voltage shutdown	• Check for external charging sources and disconnect if necessary
E03	AC output overload shutdown	• Reduce the loads connected to the AC outlet
E04	Over temperature shutdown	• Reduce the loads connected to the AC outlet • Check that the ventilation grille is not blocked • Check ambient temperature and move unit if necessary
E05	Low battery voltage detected	• Check battery status and recharge if necessary • Check for proper DC cable sizing • Check for loose connections and tighten if necessary
E06	AC output overload warning	• Reduce the load connected to the AC outlet
E07	Over temperature warning	• Check that the ventilation grille is not blocked
E11	Over temperature on AC transfer relay	• Check that the ventilation grille is not blocked
E12	Battery bad or DC load connected to battery	• Check battery, battery should rise above 10vdc after 15 minutes