



## QUICK START GUIDE

### RV Power Converter & Battery Charger



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## Disclaimer

This is the original instruction, please read all manual instructions carefully before operating. WAVLINK reserves a clear interpretation of our user manual. The appearance of the product shall be subject to the product you received. Please forgive us that we won't inform you again if there are any technology or software updates on our product.

	Warning-To reduce the risk of injury, user must read instructions manual carefully.
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
	This product is subject to the provision of European Directive 2012/19/EC. The symbol showing a wheeled bin crossed through indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to a collection point for recycling electrical and electronic devices

## Safety Warnings



FOR YOUR SAFETY, READ ALL INSTRUCTIONS BEFORE INSTALLATION AND OPERATION.

- INSTALLER: PROVIDE THESE INSTRUCTIONS TO THE END USER OR CONSUMER.
- CONSUMER: KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE.
- NOTICE: PRODUCTS ARE NOT TO BE USED NOR ARE WARRANTED IN AEROSPACE, MEDICAL OR LIFE SAFETY APPLICATIONS.



WARNING - AVOID PERSONAL INJURY OR PRODUCT DAMAGE.

- 120 VAC IS PRESENT. THIS CONVERTER/CHARGER IS DESIGNED TO CONVERT 120 VAC TO 12 VDC. IT ALSO PROVIDES LOW VOLTAGE POWER FOR CHARGING ON-BOARD 12 VDC BATTERIES. THE CONVERTER/CHARGER IS A "SWITCH MODE" TYPE AND IS DESIGNED TO BE MAINTENANCE-FREE WITH NO USER SERVICEABLE COMPONENTS. THE CONVERTER/CHARGER POWER OUTPUT "CURRENT LIMITING" BY DESIGN.
- NEVER STORE ELECTRICAL DEVICES IN COMPARTMENTS WHERE FLAMMABLE LIQUIDS (SUCH AS GASOLINE) EXIST. DO NOT MOUNT / INSTALL UNIT IN COMPARTMENTS DESIGNED FOR STORAGE OF BATTERIES OF FLAMMABLE LIQUIDS.

## Installation Instruction

The AC-DC converter / charger has three modes: acid battery, lithium battery charging, and fixed output.

1. Disconnect the battery POS (+) wire at the battery end before connecting this Converter / Charger to any vehicle / device wiring.
2. The installation location can be located on any internal (unaffected by direct weather) surface. The selected location must be accessible after the following hours installation. When installed inside a cabinet, the cabinet must be large enough to dissipate hot air. Make sure there is at least 1 inch (1 inch) of free air space at each end of the unit so that cooling air can pass through the device normally. Avoid contaminants such as peripheral dirt, metal particles, or moisture.
3. Flanges with holes are provided for ease of mounting using standard fasteners. Confirm that the surface that the converter is mounted to is solid and will hold the weight (6 lbs) during vehicle operation.
4. 120 VAC receptacle needs to be located within 36 inches of the Converter / Charger to supply power. Electrical consideration should also be given to mounting near the locations of the batteries and the 12-volt DC distribution panel.

5. Be sure to tighten all connections securely. A loose connection can quickly cause terminals and wires to overheat. Review unit labels for recommended terminal torque values.
6. The fan won't run all the time. The fan is temperature-controlled and operates only when needed.
7. Once plugged in, never leave the device unattended.
8. All products must be installed by a certified electrician.

**WARNING: Avoid Possible Injury or Death.**

- 120 VAC Connection: First confirm that the 120 VAC power source AC circuit breaker(s) are in the off position. DO NOT turn-on AC circuit breakers until installation is complete.
  - Using an 8 AWG minimum size copper wire, attach from the vehicle / device chassis to the Converter / Charger Bonding Lug. Using the attached power cord on the Converter / Charger, connect firmly to the 120V AC receptacle.
  - 12 VDC Wiring - It is important to use the correct wire gauge. Use a minimum of 8 AWG size copper wire.
    - (1) The terminal marked + or POS is for the RV 12VDC positive connection.
    - (2) The terminal marked - or NEG is for the RV 12VDC negative connection.
    - (3) The 12VDC output wiring does not require over-current protection, because the Converter / Charger limits current output. However, all electrical connections need to comply with the appropriate NEC code.
9. Lead-acid battery mode: Enter this mode, LED1 lights up green. This mode provides an automatic charging system through four modes. (Figure 1).
- (1) A fast charge to bring a good, drained battery back up to full voltage rapidly ("Bulk") LED1 orange.
  - (2) A standard charge to bring the battery up to a full charge at a safe rate to prolong the life of the battery and provide power to run 12V lighting and appliances in the vehicle/device ("Absorption"). LED1 orange. The charging voltage is set to 14.6V.

- (3) When the Absorption charging current is less than 15% of the maximum output current or has been charged for 4 hours (whichever comes first), the charger will enter float mode. LED1 green. The charging voltage is set to 13.6V. If the charging current exceeds 50% of the maximum output current for more than 30 seconds, the charger will re-enter the Bulk and start a new charging cycle. If the charger is in Absorption mode for 48 hours, it will enter storage mode.
- (4) A trickle charge to keep the battery fresh during times of load inactivity ("Storage"). The charger automatically changes modes to accommodate changes in conditions. The chart below is for reference only, voltages may vary. LED1 green. The charging voltage is set to 13.2V. If the charging current exceeds 50% of the maximum output current for more than 30 seconds, the charger will re-enter the Bulk and start a new charging cycle.

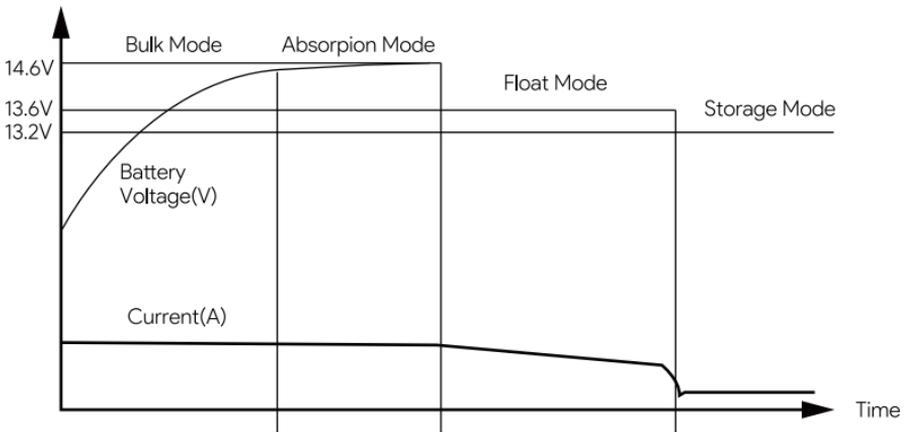


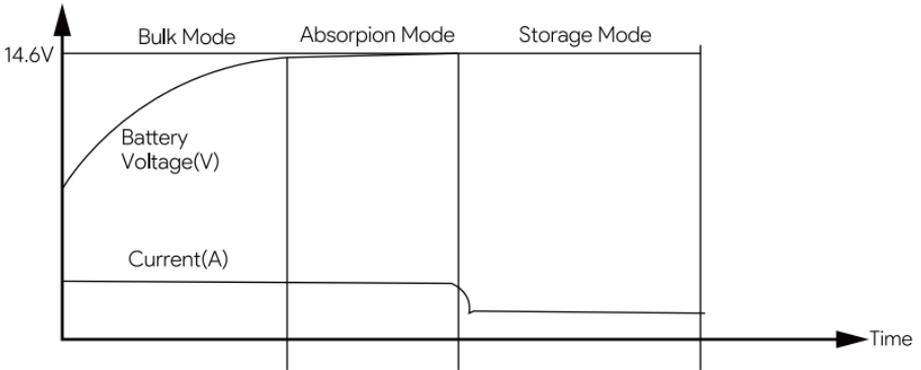
Figure 1

### 10. Lithium battery 3 STAGE CHARGING MODE:

This mode provides an automatic charging system in three steps. (Figure 2)

- (1) A fast charge to bring a good, drained battery back up to full voltage rapidly ("Bulk"). LED1 orange.
- (2) A standard charge to bring the battery up to a full charge at a safe rate to prolong the life of the battery and provide power to run 12V lighting and appliances in the vehicle / device ("Absorption"). LED1 orange. The charging voltage is set to 14.6V.

(3) When the Absorption charging current is less than 15% of the maximum output current, the charger will enter Storage mode. LED1 green. The charging voltage is set to 13.6V. If the charging current exceeds 50% of the maximum output current for more than 30 seconds, the charger will re-enter the Bulk and start a new charging cycle.



**Figure 2**

#### 11. FIXED VOLTAGE Mode.

(1) This mode can be used to directly power 12 Volt equipment and or maintain the battery at that voltage.

(2) Once the device is turned off, move switch A to the right to the "Fixed Voltage" position and plug the device into a 120V power supply. Turn the B switch counterclockwise or clockwise, and you can adjust the voltage between 13~16.5V until you reach the output you need.

Note: Now, every time the device is powered on, the output voltage you set is fixed at this level.

12. Switch A and Switch B: Switch A is a three-segment selector switch that selects Acid Mode/Fixed Output Mode/Lithium Mode from left to right. Switch B is an adjustable potentiometer that adjusts the 13.0V-16.5V output voltage range from clockwise in the fixed output mode state (switch B is not adjustable in acid mode/lithium mode). (Figure 3).

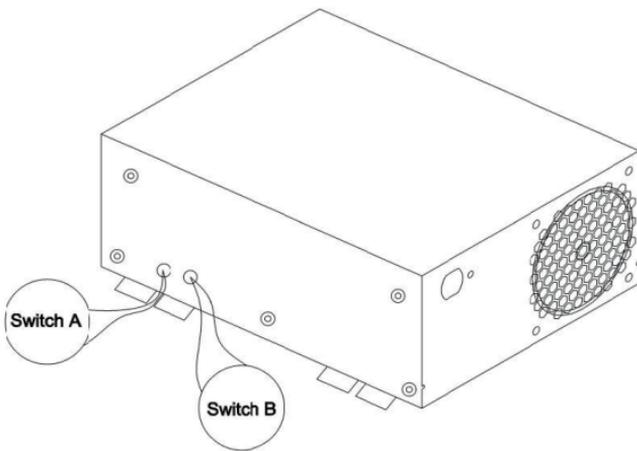


Figure 3

13. The green light on LED1 indicates that the output power is working normally or charging has ended, while the orange light indicates charging is in progress. Flashing indicates a malfunction. LED2 green light indicates working in lead-acid battery charging mode, red light indicates working in fixed output mode, orange light, etc. indicates working in lithium battery mode. (Figure 4)

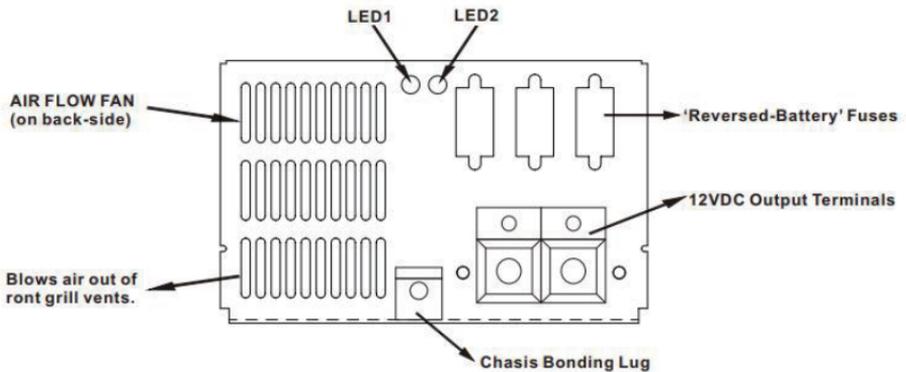


Figure 4

NOTE: Before removing and replacing the Converter / charger, perform the following checks:

- Disconnect the AC power from the vehicle / device.
- Disconnect the wiring from the positive + output connection line of the Converter.
- Re-connect the AC power to energize the Converter.
- Using a voltmeter, measure the voltage at the Converter - and + Output Terminals:
- If the voltage reading is between 13 VDC and 14 VDC (usually 13.6 VDC), the unit is normal. Otherwise, follow the general fault cause and trouble shooting table.

## Trouble Shooting

Fault phenomenon	General solutions
No DC output	120 VAC not connected to coach or the coach AC circuitbreaker is in the off position.
	The reversed battery fuse blows. (Battery polarityreversed)
	If the load is seriously overloaded or short-circuited, remove all loads and then restart the power supply.
Converter cycles On & Off	Fan air flow is inadequate or blocked.(1"minimum freeair space at each end required)
The DC fuse blows	The battery is reversed polarity.
12 VDC output is too low	Defective battery, possible bad cells.
LED light is not on	The battery is fully charged
	The battery voltage is high and the charger maximum output voltage

# Need help?

We're here for you!



**Online support: [wavlink.com](https://www.wavlink.com)**

Available Mon-Fri 8:30 am-5:30pm (UTC+8)



**[support@wavlink.com](mailto:support@wavlink.com)**

Available Mon-Fri 8:30 am-5:30pm (UTC+8)



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