



LION ENERGY

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**Lion Energy
L-1500 Generator
User Manual**

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ABOUT THE LION ENERGY L-1500 GENERATOR

The Lion Energy L-1500 Generator is a smart and seamless solution that protects you when outages leave you powerless for an extended period of time. The quiet, portable device is all about practicality and endurance, lasting up to 2,500 complete life cycles. Other generators try, but none can match the power of the L-1500 and still offer all of the following:

Safe:

No emissions – none. No dangerous risks, unlike fossil fuels and toxic lead-acid batteries. No carbon footprint, no greenhouse gases and no damage to the environment.

Quiet:

The protected lithium core produces wattage without the loud, continuous, sanity-challenging noises of other generator engines.

Renewable:

Powered and replenished by natural resources such as the sun, wind and water, as well as mechanical devices such as hand cranks (for more information, contact customer service). Unit retains charge for 1 year.

Portable:

The L-1500 is a relatively small device measuring just over a cubic foot and weighing only 34 pounds (15.5 kg). That's small enough to carry or store just about anywhere. Most generators that offer even less power surpass this weight by more than double.



Affordable:

No other generator offers the same quiet power output and device versatility for the same value.

SYMBOLS AND TERMS

Important Symbols

The following symbols are used in this guide:

-  **WARNING** Warnings are conditions and practices that could result in personal injury.
-  **CAUTION** Cautions are conditions and practices that could result in damage to the unit or other equipment.

Important Terms




The following terms are helpful for you to know and are used in this guide.

Term	Definition
A	Ampere or Amp
AC	Alternating Current
DC	Direct Current
kW	Kilowatt; one thousand Watts
LED	Light Emitting Diode
mA	Milliampere; one thousandth of an ampere
PV	Photovoltaic
VAC	Volts AC
VDC	Volts DC
W	Watts

Additional Information

You can find additional information about this product at www.lionenergy.com.

SAFETY INSTRUCTIONS

-  **WARNING** This section provides important safety and operating instructions.
-  **CAUTION** Check with manufacturer of medical devices before powering any life-support systems or other medical devices or equipment to ensure it is compatible with the power supplied by the L-1500.
-  **CAUTION** Check with tool and/or equipment manufacturer before powering any of their products to ensure it is compatible with the power supplied by the L-1500.
- Before using your unit, read ALL instructions and information in this user manual.
 - Although intended for indoor use, the L-1500 can be used outdoors if sheltered. DO NOT expose the unit to rain, snow or extreme environments. To reduce the risk of fire hazard, DO NOT cover or obstruct fan vents located on the bottom of the unit. Provide a minimum of 6 inches of clearance on all sides of the unit when in use; otherwise, overheating could occur.
 - You may simultaneously connect as many as 3 DC loads and 2 AC loads as desired.
 - To reduce the risk of electrical shock, disconnect all sources of AC and DC from the unit before attempting any cleaning or maintenance or before working on any circuits connected to the unit. SWITCHING OFF ALL POWER DISCHARGE PORTS WILL NOT ELIMINATE RISK. TURN OFF MAIN POWER.
 - Inspect all power cords before attempting to charge your unit or connect devices to discharge ports. If cords are frayed, damaged or questionable, DO NOT connect the device to your unit. Using such devices increases the risk of fire and electrical shock.
 - DO NOT use if your unit has been dropped or damaged in any way. If damaged, see Contact Information on page 2.
 - DO NOT attempt to disassemble the unit. There is a high risk of unit shock as well as personal injury. There are NO serviceable parts.
 - Repairs should ONLY be done by a qualified L-1500 repair technician.

GETTING STARTED

- Thank you for your purchase. The 1500-Watt pure sine wave AC inverter output in your Lion Energy L-1500 makes it compatible for use with many of today's high-tech electronic devices. It also allows appliance motors to operate more efficiently and at cooler temperatures.
- In order to get the most from your unit, be sure to carefully read this user manual. Even though your L-1500 unit has many advanced built-in safety features, it is still important to take some time to become familiar with the Safety Instructions on Page 7 of this guide before operation.
- If you still have any questions, please contact our support team. See Contact Information on page 2.

UNIT OVERVIEW

You should have received the following items in your Lion Energy L-1500 kit:

- Unit
- Carrying Strap
- AC wall outlet charging cord

Things to remember:

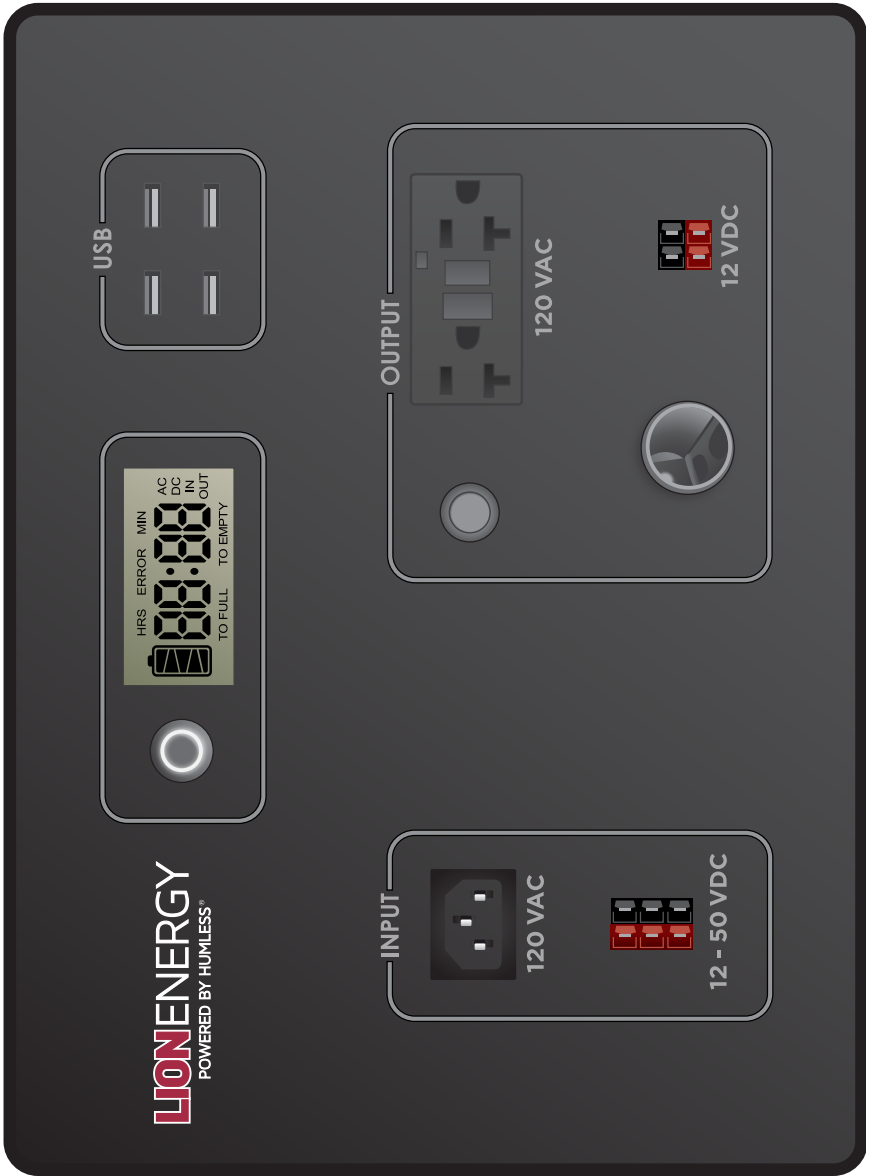
- When not in use, press and hold main power button for 3 seconds to make sure the unit is completely off.
- Store unit fully charged.



Smart LCD Display

- Press and hold main power button for 3 seconds to turn unit fully on.
- Lightly press the main power button when the unit is powered on to turn the back light on and off for use during day or night.
- Press and hold the main power button for 3 seconds to power down the unit and place it in hibernation mode. (Please note: You may still charge your unit via AC or DC sources while in hibernation mode)

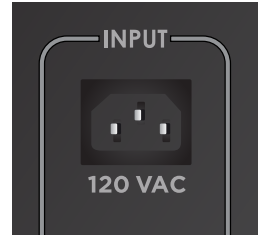
Interface Panel



AC CHARGING

WARNING

Warning: Electrical shock can occur if AC cord is damaged or frayed. Never use a damaged or frayed AC cord. Replace with a new cord before proceeding with AC charging. See Contact Information on page 2.

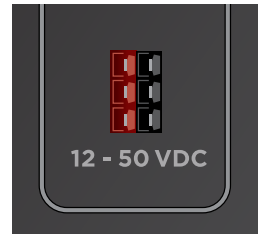


- To charge your unit, plug in the AC cord that is provided. The LCD display will show AC:IN, charge level and remaining charge time. Once the unit is fully charged, the display will read FU:LL (Please note: When the unit is close to fully charged, the display will flash and read 00:01 for 5 to 20 minutes until all the cells in the unit are balanced and fully charged.)
- If the unit is plugged into an AC outlet at the same time it is being used to power an AC device, the display will read PA:SS because the current is being passed through the unit into the AC device. This is called UPS (uninterruptible power supply) mode.
- Please Note: Your unit can be charged via AC and DC at the same time for a shorter charge time.

DC CHARGING

WARNING

Electrical shock can occur if DC cord is damaged or frayed. Never use a damaged or frayed DC cord. Replace with a new cord before proceeding with DC charging. See Contact Information on page 2.

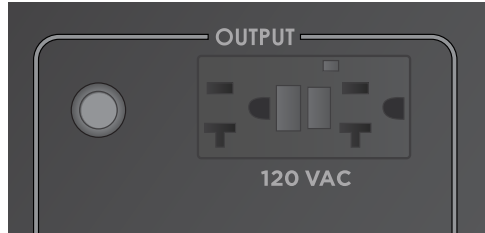


- To charge your unit, insert the DC charging cord that is connected to your charging source (solar panel, hand crank, windmill etc.). The LCD display will show DC:IN, charge level and remaining charge time. Once the unit is fully charged, the display will read FU:LL (Please note: When the unit is close to fully charged, the display will flash and read 00:01 for 5 to 20 minutes until the cells in the unit are balanced and fully charged)

AC USAGE OUTLETS

WARNING

Electrical shock can occur if AC cord is damaged or frayed. Never use a damaged or frayed AC cord. Replace with a new cord before proceeding with AC usage. See Contact Information on page 2.



- To use your AC outlets, first turn on the inverter by depressing the outlet button.
- Once on, the outlets will work like normal AC wall outlets in your home; just plug in the devices you want to run.
- Please note: The outlets are based on a ground-fault circuit interrupter (GFCI) which means that if there is a power surge or short, the outlets will trip an internal safety fuse. To reset the safety fuse, unplug the device you are trying to power, switch off the inverter by depressing the power button, then turn on the inverter by once again depressing the power button. Now press the reset button on the GFCI outlet and wait for the small green light to appear right above the reset button. You can now commence using your outlet again.

DC USAGE OUTLETS

WARNING

Electrical shock can occur if DC cord is damaged or frayed. Never use a damaged or frayed DC cord. Replace with a new cord before proceeding with DC usage. See Contact Information on page 2.



- To use the DC cigarette outlet, simply plug in any 12-volt item that is rated for a maximum of 10 Amps and operate as normal.
- To use the DC Anderson outlets for larger loads up to 15 Amps, simply plug in your devices using the included Anderson to cigarette outlet adapter and operate as normal. For larger Anderson loads of up to 20 Amps, plug Anderson poles directly into Anderson outlets.

Please check with your device manufacturer for proper power requirements and compatibility. See Contact Information on page 2.

DC USB Outlets

- To use your USB outlets simply plug in the device you are trying to power and the unit will automatically configure the amount of power required to charge/run the device up to a maximum of 10 Amps combined.



TROUBLESHOOTING/FAQ

1. My Lion Energy L-1500 won't turn on.

- The L-1500 is ready to give you power by pressing the metal button on the left of the LCD display. When the LED ring in the power button is lit, your L-1500 is on and ready for use.
- The L-1500 may charge with either AC or DC sources while it is turned off, but you may not use it in pass-through mode or use any other output while off.
- For the L-1500 to function to its highest ability, it must be charged after being used and not be abused, misused, or damaged. Please ensure all of these conditions are met.
- Check for Error Code.
- Should you encounter further trouble please contact our customer service department.

2. I left my Lion Energy L-1500 plugged into the wall to trickle charge it and now it won't accept a charge.

- Your L-1500 should not be trickle-charged. Lithium batteries are not treated the same as any other battery. You can leave your L-1500 connected to a wall socket continuously and connected to solar panels for a day or two to charge it, but it is not recommended to leave the solar panels connected constantly unless you are using the unit to continuously power an appliance.
- If you intentionally try to charge your L-1500 beyond the 600W/h capacity, you will damage it and void your warranty.
- Disconnect the solar charging cable from the L-1500.
- Check the battery status for charge. Turn the unit on and connect something that you have used with it before to make sure the battery is supplying power.
- If the L-1500 powers the device, let it continue to run for a while to partially drain the battery.
- Reconnect the solar charging cable to the L-1500 and check the LCD display for a "time until charged" status underneath the timer.
- If the L-1500 has the "time until charged" status and a timer counting down, you have a functioning unit. Let it charge to full, disconnect it and store it.
- Check for Error Code.

- If you are not able to see the LCD status change after following the above steps, please contact our customer service department to further assist you.

3. I used the Lion Energy L-1500 once, and now it won't charge when I plug it into the wall.

- The L-1500 is designed to work for over 2500 full discharge and charge cycles. If it will not charge when using the AC 120V charging cord, follow these steps:
 - Disconnect the power cable from the unit and wall outlet.
 - Inspect the cable for damage to both ends and the cable itself.
 - Inspect the L-1500 and the wall outlet for damaged sockets or disfigurement.
 - After ensuring all connections are clean and free of any debris that may prevent a solid connection, reconnect the L-1500 and check the LCD display for a charging status.
 - Check for Error Code.
 - If the L-1500 will not function after following these steps, contact customer support for further assistance.

4. My Lion Energy L-1500 won't hold a charge.

- The L-1500 will retain 80% of its 600W/h capacity after one year of storage. It will not accept a charge if either of the ports are not connected to a power source with a compatible cable. It will accept a charge from either an AC 120V or DC 12V–50V source in their respective ports.
- The L-1500 has a 12V 50 Amp/h (600W/h) battery and will be able to provide the full 600W/h to any DC device connected to it. If using the AC 120V outlet, a portion of the L-1500 battery capacity will be used to convert the native DC 12V battery power to AC 120V power. Using one of the most efficient processes available, the L-1500 is 89% efficient when using the AC 120V outlet. This means that the unit has 530W/h available while using the AC 120V outlets.
- When comparing the time that different devices will function on the L-1500, remember that all devices consume different amounts of energy. For example, a newer 60" LED television may consume less energy than a 42" LCD television manufactured 5 years ago, and consume much less than a 10" CRT (tube) television manufactured 15 years ago. Always use the actual wattage consumption on the label of the specific device you are using to measure the life of that device on the battery of the L-1500.

- To know the life of a device with the L-1500 as a power source, divide the capacity of the L-1500 (600W/h or 530W/h) by the power consumption of the device (in watts, W) and you will have the time the device will last in hours (h). Capacity / Consumption = Life of the device.
 - Example: 100W light bulb used in the AC 120V port; 530W/h / 100W = 5.3 Hours. If you were to use a 9W LED bulb with a 100W equivalency rating, the result would be 58.8 hours.
- To know how long it will take to fully charge the L-1500, use the same formula arranged: Capacity / Wattage = Hours. (Remember however that with a hand crank, the slower you crank the less power you will get.)
 - Example: DC 12V 30W hand crank used to fully charge an L-1500 is 600W/h / 30W = 20 hours. If two DC 12V 100W solar panels were used, it would only take 3-4 hours to fully charge the L-1500.
- Check for Error Code.
- If the L-1500 will not function after following these steps, contact customer support for further assistance.

5. My Lion Energy L-1500 battery doesn't last as long as I thought it would.

- The L-1500 has a power capacity of 600W/h, or .6kW/h. While the L-1500 has a very large energy capacity, it is not limitless, and after being used will need to be recharged.
- Think of the L-1500 as a glass, and energy as water. When you drink water from the glass, it does not refill itself, but will hold more water if you refill it. Refer to question 4 above for information regarding how long a specific device should stay powered.
- To extend the life of your L-1500 battery, consider using more energy-efficient devices and connecting it to solar panels during use.

6. How do I know when my Lion Energy L-1500 is fully charged?

- To ensure the L-1500 is fully charged while using the AC 120V charger:
 - Turn all other switches and buttons to the off position.
 - Insert the end of the cable with 3 prongs into the AC 120V plug into the wall, and insert the end of the cable with 3 slots into the AC 120V charging port on the L-1500.
 - The LCD display should read AC IN and show time to full.

- Continue charging the L-1500 for at least 3.5–4.5 hours.
- After 3.5–4.5 hours, the L-1500 will be finished charging and the LCD display will read 99:99 or 00:00 for time until empty and time to full, respectively. The battery gauge will also show a full battery.
- If you remove the cable from the L-1500 while it is charging, you may need to wait 30 seconds while the L-1500 recalibrates and is ready to accept a charge again. Charging should resume normally. This behavior is a safety feature to protect the battery from surges of power, harsh disconnections, and over/undercharging.
- To ensure the L-1500 is fully charged when using a DC 12V power source:
 - Ensure all switches and buttons are in the off position.
 - Connect the power source to one of the L-1500's DC 12V input ports (black to black and red to red).
 - Know how much current (in Amps or Watts) is being put into your L-1500 through the 12V port. If you know the Watts, divide 600W/h by that number, and you will know how many hours it should take (with 30% accuracy). If you know the Amps, divide 50 A/h by that number and you will know how many hours it should take the L-1500 to charge (also with 30% accuracy).
 - Let the L-1500 charge for the estimated time. Watch to see the battery charge status update, and it will give you an estimated time to charge as well as the battery charge level. The L-1500 has a cutoff built into it that will stop current from flowing to it after the L-1500 is fully charged.
 - Do not attempt to over-charge the L-1500. You cannot over-charge the L-1500 without damaging the battery and creating an unsafe environment that may lead to serious injury or death.
- Some energy sources are more reliable than others. Know the type of electricity and the current you are putting into your L-1500. For instance, if you have an L-1500 and two DC 12V 100W solar panels, you know that when connected to the L-1500 and in direct sunlight, the panels will give 200 Watts of DC 12V energy to the battery. The battery has a capacity of 600W/h (Watt/hours), and so it will take roughly 3-4 hours of direct sunlight to charge the L-1500.
- It is important to note that the L-1500 can be charged by both AC sources and DC sources at the same time for a faster charge.

7. How do I know when my Lion Energy L-1500 is fully discharged?

- The L-1500 has an LCD faceplate that will display a time until empty, a time to full as well as a battery gauge. These will let you know the status of your battery while charging or discharging. Do not attempt to over-discharge the L-1500. It will cause damage to the unit and will void your warranty.
- If you have a device (such as a laptop computer with AC 120V power cable) connected to the L-1500 while using the device, the battery drain will be more demanding. To prolong the usable life of your devices on the battery, turn the laptop computer off while charging it, and then drain the battery of the laptop computer before connecting to the L-1500 to recharge (again, while the device is turned off). Leaving the device on while charging may give the illusion of less energy used because the battery of your device will show full charge, but you are in fact using almost twice the energy that you would if you were to disconnect it from the L-1500.

8. I can't connect my solar panel to my Lion Energy L-1500.

- If an L-1500 solar panel was included in your order, the connectors are Anderson Power Pole Connectors specifically designed to fit in your L-1500. There are three sets of these connectors to use with any 12V–50V input. These connectors are small and rectangular with one side that is red and another side that is black. **Always connect black to black and red to red.**
- While the ends of the connectors may appear flat and not able to connect to a similar connector, they are specially made to slide together. Simply match up the colors on the input side, and push them together gently to form a solid connection.
- The solar panel connectors that fit your L-1500 are uniquely engineered only for Lion Energy products. They look very similar and fit together easily. If you believe you have a solar panel with a different connector and will not fit your L-1500, we will be happy to send you an adapter at no additional cost to you (once confirmation of a different connector is received).
- If you did not buy your solar panel from us and would like an adapter made, we may be able to help, but you will need to pay for any of the associated costs.

9. My Lion Energy L-1500 won't charge when I connect my solar panels to it.

- Solar panels work best when pointed directly at the sun without obstruction. The solar panel will not produce an adequate charge if it is:
 - Not pointed toward the sun
 - Placed behind a window (30% to 70% less efficient depending on window type)
 - Used indoors
 - Positioned in shade
 - Not connected to the L-1500 directly or with an approved extension cable
 - Used with an unapproved or excessively long extension cable
- The optimum position of the solar panel is slightly angled to the south (if living in the Northern Hemisphere) at noon in an open area. The panel will produce less power at times further from noon, or angles that are not axially tangent to the relative path of the Sun.
- Solar panels will produce little to no power if they are placed in a shaded area, behind a window, or next to a sun-obstructing object. Remember, shadows move, so an object that is next to the solar panel may not create a shadow during one time of the day, but may produce a shadow for some or all of the rest of the day.
- Solar panels will produce little to no power if placed vertically or facing down.

10. I can't connect all three of my solar panels to my Lion Energy L-1500 at the same time.

- The L-1500 is designed to accommodate three solar panels with identical connectors. If using Anderson Power Pole Connectors (rectangular red and black connectors), there may be dust covers that need to be pulled back to connect three panels. If you have different connectors on the panels we have sent you, please contact customer service to have an adapter mailed to you.

11. I left my solar panel connected to a battery (not a Lion Energy L-1500) overnight and now it has less charge than the evening before.

- Batteries will not gain any power from a solar panel at night. It may even deplete the battery if connected poorly, without a solar charge controller or to the wrong connections. Electricity is a two-way street and will flow to and from the source and to and from the destination depending on the current, charge, power draw, as well as a few other factors. Unless electricity is governed and controlled with technology such as a solar charge controller, you cannot be assured of the results when using solar panels, batteries or other electronic components.
- Solar panels only produce electricity with the presence of sunlight. When in the absence of sunlight and connected to a battery without a solar charge controller, the electricity in the battery will flow back to the panel in the form of heat. The panels will become warm, just like an electric blanket (do not use solar panels as heat sources), and may drain the battery connected to it.
- The other peril of ungoverned solar charging batteries is that you may super-charge and damage the battery. This is unsafe and will not give you more energy. In fact, it will most likely give you less charge because of the damage caused to the battery. The battery may swell and become warm. Do not use a swollen battery and carefully dispose of it in a legal and safe manner.
- Disconnect your L-1500 from any charging source when it is not charging. Unlike lead-based batteries, the lithium-based L-1500 does not need to be kept on a trickle-charger, or have the charger plugged in constantly to retain a charge.

12. My Lion Energy L-1500 fans are on after I turned it off. Should I be worried?

- No. The L-1500 may continue to run to cool the internal components to optimal temperatures after being turned off. When the unit is charging, the fans may turn on, even if the L-1500 is turned off.

13. The Lion Energy L-1500 emits a burning odor while operating.

- The L-1500 should not have any odor while functioning or stored. Dust, dirt, or debris should not be allowed to enter the L-1500, but if it does, it may emit a very light odor similar to a clothes dryer when functioning. Use electronics-safe compressed canned air to clear

the vents of your unit (only while the unit is turned off). If you notice an odor that persists, is strong, or smoky, stop use immediately and do not attempt to remove anything from the interior of the L-1500. Do not use the L-1500 again, and contact customer service for repair or replacement. See Contact Information on page 2.

14. The Lion Energy L-1500 will not run my microwave after I used it to watch TV.

- The L-1500 has a battery capacity of 600W/h. After a device has used 500W/h of the battery, another device will not have 600W/h to use, but 100W/h. Remember to calculate the power consumption of the devices you use and ration the time you plan to use your unit accordingly. The LCD display will help you with these calculations.
- To ensure you are able to enjoy the L-1500's full battery charge after being used, charge it fully and turn the power off.
- To extend the battery life, connect the L-1500 to solar panels while in use.

15. My fully discharged Lion Energy L-1500 LCD battery gauge looks like it is fully charged almost immediately after I start charging it. Is it fully charged?

- No. Lithium batteries are known for their durability and long life. When active for charging or discharging, you may notice fluctuations or spikes in voltage because the chemical components of the battery easily and immediately accept charge or discharge. The LCD battery gauge uses the battery voltage to gauge the charge left. This method is effective at rest, but should only be used as an estimate, not as an accurate gauge while in use.
- The best way to know when your L-1500 is charged is to know how much energy is going in from the source you are using and rely on the timer on the LCD display to know how much time you have left until the L-1500 is fully charged. Refer to question 4, above, for a simple equation to help gauge use.
- Be sure to give your L-1500 at least 3.5–4.5 hours of charge time while connected to a steady AC 120V source. When using a DC 12V–50V 100W solar panel, a full day of unobstructed sunlight will charge your L-1500. Use 2 of these panels to charge your unit even faster.

16. The AC 120V outlet turns off when I use two electronic devices at the same time.

- The L-1500 has a number of safety features built in to prevent injury to you or the unit. One of these safety features is an automatic cutoff for devices that use more than 1500W (~15 Amps). When the current passes 1500W or 15A, power will be cut off from both AC 120V output ports and you will need to push the button next to the AC ports twice to reset it and turn it on.
- For example, most hair dryers use 1500 Watts when used on the high setting. Use a lower setting on your hair dryer if using multiple hair dryers. The same lower setting suggestion applies to toasters, microwaves, or electric power tools.
- You may also need to reset the GFCI buttons between the two AC 120V outlets if they were triggered.

17. My Lion Energy L-1500 stops working when I turn up the power on my space heater while using it to power my TV and game console.

- See Question 16 for additional information.
- The L-1500 will accommodate all power draws going out of the AC 120V output up to 1500 Watts. Most space heaters draw more than 1500 Watts at the higher settings. Experiment to find the optimal balance between energy conservation and heat output while enjoying your entertainment.

18. I have 4 tablets charging through my Lion Energy L-1500 USB ports, and one tablet indicates that it is not charging.

- The L-1500 is equipped with 4 USB outputs. All four are capable of a 3 Amp output, but combined can total no more than 8A.
- In this configuration, three of the ports are able to simultaneously charge with 2.1A output, leaving the last port with only 1.7A remaining.
- All tablets are accepting the charge, but will not indicate it is charging unless the amperage is 2.1 or higher. The fourth tablet is receiving 1.7A and will just take a bit longer to charge.

19. My Lion Energy L-1500 got wet and now will not turn on.

- It is possible to damage the L-1500 when used improperly or in harsh conditions. If your L-1500 is submerged in water, do not turn it on or touch it. The L-1500 contains a powerful battery and when it comes into contact with water, or any other conducting equivalent, will create an unsafe environment, void the warranty, and may cause serious injury or death.

- Additionally, the L-1500 is not rated for dropping at any height.

20. Can I daisy chain my Lion Energy L-1500 in series or parallel with other L-1500 units or batteries for a specific application?

- The L-1500 is designed for use as a stand-alone power unit. It should not be connected to other batteries in series or parallel in a battery bank. It may be recharged by a suitable external power source and may charge a suitable external device, but it is not to be used as a normal battery in a battery bank, charging/discharging array, or any other combination of multiple connected batteries. Doing so will void your warranty, damage the unit, and may expose the battery to unsafe charging and discharging conditions, which may lead to serious injury or death.

21. The Lion Energy L-1500 will not function after I charged it with two solar panels, a windmill, and the AC 120V charger simultaneously.

- The L-1500 is a versatile and adaptable product and is able to take a charge from most modern sources. We have designed your L-1500 to accept all charges possible up to 15A through the DC input and 25A through the AC input. If more current is available than the specified limit, the L-1500 will not reject the source as a whole, but will only accept the amperage from that source within the specified limit. If you knowingly attempt to over-charge the battery, it may damage it, voiding the warranty, and creating an unsafe environment with possible serious injury or death.
- The number of charging sources does not matter as much as the amount of charge being put in. If you could theoretically connect 100 Solar panels that have an output of 5 Amps each to the L-1500, it would only accept 15 Amps of that 500 Amps. Attempting to concentrate 500 Amps into an insufficient cable diameter, such as those found in the L-1500, will result in a severe risk of electrical shock and possibly death. The L-1500 can, however, accept all of the charge from three 5 Amp solar panels.
- Always be aware of what you are putting in and taking out of the L-1500. This is a sure way to know you are treating your L-1500 in a way that will prolong the battery life, stay in warranty, and give you many years of extensive use.
- Check for Error Code.
- Should you encounter further trouble please contact our customer service department.

Error Code Reference List

Error code	Specification	Possible Cause	Remedy
E1:01	System over current protection	Total load on system exceeds 1500W constant rating (or short-term surge maximum)	Check current draw of appliances/loads. Retry with smaller load. Switch unit on/off to reset.
E1:02	Battery over temperature protection	Internal battery temperature too high	Check ambient temperature (outside). Place unit in cooler environment (shade, inside). Constant charge/discharge load on unit may need to be reduced.
E1:03	Battery low voltage protection	Battery has been run down	Recharge unit
E2:01	Inverter over current protection	Maximum surge current exceeded for maximum time	Check current draw of appliances/loads. Reduce number of discharge devices.
E2:02	Inverter over temperature protection	Temperature limit exceeded	Switch off inverter. Check loads/appliances. Retry with smaller loads.
E2:03	Inverter low voltage protection	Battery voltage too low to run inverter	Recharge unit
E3:01	DC OUT over current protection	Maximum surge current exceeded for maximum time	Check current draw of appliances/loads. Reduce number of discharge devices.

TECHNICAL SPECIFICATIONS

Dimensions:

LxWxH: 17.75" x 10.125" x 12"

Weight:

34lbs (15.5kg)

Operating Temperatures:

32–194 degrees F (0–50 C)

Battery:

- Lithium Iron Phosphate Based Chemistry (LifePO4)
- 50 Amp/h (600W/h)
- 12V
- Rated for 2500 charge and discharge cycles
- Minimum Charge Time: 3.5 Hours
- Charge Retention: 1 Year (80%)
- Integrated Inverter: 120V AC Pure Sine Wave, 9600W for 300 ms, then 1600W for 5 seconds then 1500W continuous
- Integrated Charge Controller: Maximum of 40A charging current from AC and DC circuitry
- Combined Charge to the internal battery from the AC Charging Circuitry: 25A @ 14.6V DC
- Max DC Output Current: 30A @12V DC
- Max DC Input Current: 15A @ 12V-50V DC
- Prismatic Cell Geometry

Unit Body:

- Aluminum Case
- Cooled by two bottom-mounted 2800RPM 33dB Fans
- Acrylic (PMMA) Faceplate

LCD Display:

- 4-Bar Battery-Shaped Gauge
 - Always on so you always know that your battery is charged
 - Real-time (estimate when charging or discharging)
- Time Until Empty/Full Readout
 - The LCD display has a timer that is activated when the L-1500 is charging or being discharged. The timer will show how much time you have left before the battery is finished charging or is depleted when discharging.
 - The display will say either “Time to Full” or “Time to Empty” depending on the rate of charge and/or discharge.
 - The display will dynamically and automatically change with added or subtracted current when a new device is plugged in or an existing device is unplugged from the L-1500 to display the estimated remaining time.
 - Because the internal components need to recalibrate when a device is plugged in or unplugged from the L-1500, the timer will take a few minutes to display an accurate estimation.

Controls:

- On/Off
 - The L-1500 has an LED-lit master power button next to the LCD display. The LED will be illuminated when the L-1500 is on and will not be illuminated when the L-1500 is off.

Input Ports:

- AC: 110V–120V 50–60Hz
- Anderson Power Pole Connectors: 3 sets of ports, total of 15A limit using 12V–50VDC input

Output Ports:

- AC: 110V–220V 50–60Hz: two outlets share a combined total current limit of 1500W, with 2000W peak for less than 5 milliseconds
- GFCI Protected USB: 4 USB outlets, each capable of 3A at 5VDC, with a shared total current limit of 8A (40W max output)
- Anderson Power Pole Connectors: 2 sets of poles with a total of 20A @ 12VDC shared current limit (240W max output)
- DC: 12V Cigarette Lighter Adapter, capable of 10A output (120W max output)

WARRANTY INFORMATION

0–365 days from the date of delivery:

What is covered?

- Defects in materials or workmanship
- Non-Cosmetic normal wear and tear related damages
- Returns are subject to approval and will be subject to a restocking fee of 15% of the original purchase price. A Returned Merchandise Authorization (RMA) number is required to process a return for refund or repair. Contact customer service for a prompt resolution.
- Returns for repairs are accepted in this period and require an RMA number from our Customer Service Department. At our discretion your unit may be repaired or replaced with a certified reconditioned unit that will continue under the original warranty terms and expiration date.

What is not covered?

- Damage or defect caused willfully or through negligence
- Damage caused through excessive wear and tear
- Cosmetic blemishes, scratches, or dents caused through the course of regular use
- Damage caused by use of the unit with unsafe, unregulated, or inappropriate products, devices, power sources, or power consumption
- Damage resulting from use of the product for anything other than what it is intended for. This warranty does not cover damage caused when the unit is used as a footstool, wheel chock, door jam, or flotation device (It does not float, is not waterproof, and may cause bodily injury or death if abused as such).
- A return to our corporate or manufacturing facilities without an RMA number. These packages will be rejected or restocked without notification to the sending party.
- Refund of extended warranty, if purchased
- Replacement with a new unit

366–730 days from the date of delivery:

- This extended 1-year (2 years from the original date of delivery) warranty may be purchased within the first 90 days of purchase.
- The coverage of the extended warranty is identical to the terms offered in the 0–365 day period above.
- The extended warranty may not be purchased after the original warranty expires.
- Please contact our customer service through email or our toll free numbers.

Additional Terms:

- 1.** Damage caused willfully or by negligence will void the warranty at any point in the 365-day period. Willful or negligent damage is determined upon receipt and inspection of the unit. All refunds/returns will be processed after inspection for willful or negligent damage.
- 2.** Any unit that has been altered or repaired by an unauthorized service is voided of any warranty.
- 3.** All products must be returned with all included attachments and accessories unless specifically otherwise directed when obtaining an RMA number. The customer will be billed/charged for any missing attachments or accessories.
- 4.** If proof of purchase, purchase order, receipt, or record of purchase is not available upon request, we will not be responsible for any warranty service.
- 5.** When returning a unit, it must be packaged safely and labeled clearly. Any damage caused by poor packaging when returning the unit is the responsibility of the customer and may void the warranty.
- 6.** The serial number of the unit must be written clearly on the shipping box of the unit when returned. Units without serial numbers as described above cannot be accepted and will be rejected.
- 7.** Products that are not authorized by the RMA will not be accepted.
- 8.** At our discretion, units will be repaired or replaced.
- 9.** If the customer requests for a unit to be sent in for repair and it is found to be free of defect or damage after inspection, at our discretion, the customer will be responsible for a \$50 service charge, handling, and all actual shipping costs for the unit to and from our facility.



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