



Lion Safari LT™

User Manual

450Wh / 500W





READ THIS MANUAL IN ITS ENTIRETY BEFORE OPERATING THE UNIT.

This portable unit provides safe, silent, and renewable electric power. This power unit is useful in emergencies, and for work and play. It is very important to carefully read this user manual before using the product.

The Safari LT includes excess-voltage, low-voltage, overload, short-circuit, and excess-temperature protections. It also has built-in visual and audio alarms that are meant to alert you to potential problems that may cause damage to the unit. The overload circuitry will protect against damage to the unit and serve as a safety measure for anyone operating the unit.

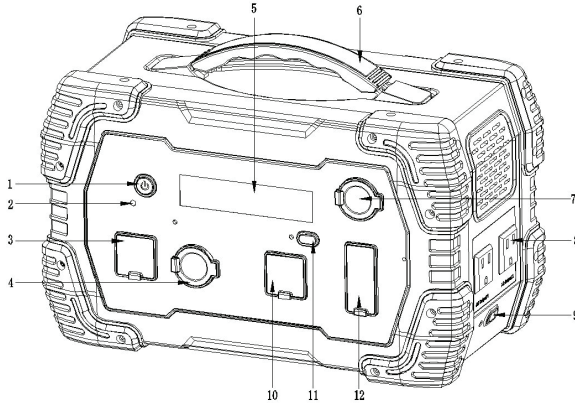
Carefully read and strictly comply with all safety directives:

- For better performance, fully charge the unit before using it.
- Do not use the unit as a toy.
- Do not insert fingers or hands into any of the units outlets.
- Only use recommended accessories.
- Do not operate the unit with cables or charging adapters that exhibit any damage.
- Never attempt to modify or alter the unit, cables, or accessories.
- Do not allow water to contact this unit or immerse it in water.
- Do not operate this unit in the presence of flammable liquids, gases, or dust.
- Do not permit the internal battery of this unit to freeze. Never charge a frozen battery.
- Do not expose or store this unit to excessive heat (>115 ° F).
- Only store the unit at temperatures ranging from 14° to 115° F.
- Charge only at temperatures ranging from 32° to 115° F.

Package Contents

Lion Safari LT: 1 pc
Car Charge Cable: 1 pc
Wall Charger Adapter (60W): 1 pc

Parts Identification



	Part	Description
1	Main Switch	Turns the unit display on or off by pressing and holding for several seconds
2	Reset Button	Resets the battery when necessary
3	Wall Charger	Where the wall charger should be plugged into to charge the unit
4	Solar / Auto Charging Socket	Where the solar and auto charger should be plugged into to charge the unit
5	LCD	Displays charge/discharge time at the interval of each 0.1 hours
6	Carrying Handle	Used to carry the unit
7	Cigarette Lighter Output Socket	Supplies DC output from the socket
8	AC Output Socket	Supplies AC output from the socket
9	AC Output ON / OFF Button	Indicates whether the AC power is on or off
10	DC Output	Supplies DC output from the socket
11	DC Output ON / OFF Button	Indicates whether the DC power is on or off
12	USB, USB-C and USB-PD Output	Charges USB Device

How to Use the Power Unit

Turn the power unit on or off

Follow these steps to turn the power unit on or off:

1. Press the Main Switch for 3 ~ 5 seconds to turn on the unit. The display will light.
2. Press the DC or AC power button to turn on and supply power to the DC or AC output.

When you stopped discharging from DC or AC output socket, remember to turn off the corresponding on/off button to conserve energy in the Safari LT.

How to charge the unit

There are three ways to charge the Safari LT:

- **Charge from a solar panel:** Insert the Anderson side of the solar panel charging cable (red and black end) to the solar socket on the front of the unit (red to red and black to black connection). The other end of the solar panel cable should be connected to the solar panel. Solar panel needs to be in direct sunlight.
- **Charge from the wall outlet:** Insert the Anderson into the solar charging port of the unit. Plug the other end of the wall charger into the wall outlet.
- **Charge from a car cigarette lighter (12V) socket:** Insert the Anderson (red/black) end of the cigarette cable (12V) to the Solar / Auto charger input socket on the unit. Plug the cigarette (12V) end of the cable into the car cigarette lighter socket in the car. The car must be running for the cigarette charger to charge the unit.

Frequently Asked Questions

Q: What can the Safari LT power?

A: The Safari LT can power several different devices like lights, mobile phones, laptops, and many others. Which devices it can power depends on the energy consumption of each device. The energy consumption is measured in watts (W). The Safari LT can power devices that need a total of 500W or less. It can power multiple devices at the same time if the total power needs of all the devices is 500W or less.

Q: How long can the Safari LT power a device?

A: It depends on the energy consumption or watt usage of the device. The lower the watt consumption, the longer the Safari LT can power it. To determine the estimated run time of the device, use this formula: $\text{Watt Hours} / \text{Watts} = \text{Estimated Run Time}$. For example, if the device you want to power uses 36W and the Safari LT has 450Wh then the estimated run time would be $450 / 36 = 12.5$ hours.

Q: What if I forget to turn off the device after I used it?

A: The Safari LT will automatically turn itself off to conserve energy.

Troubleshooting

Q: What if I cannot charge my AC or DC devices when I turned on the Safari LT?

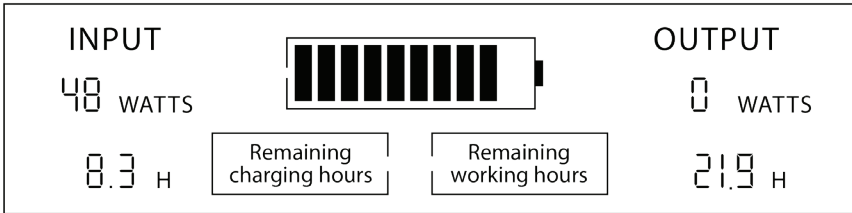
A: Check whether the AC or DC on/off button is turned on or not. Make sure it is turned on. Devices that require more than 500W cannot be charged by the Safari LT.

Q: Why can't I get my Safari LT turned on?

A: If you have not used it for some time, you may need to recharge the Safari LT before you use again. (See section #3 How to Charge the Unit)

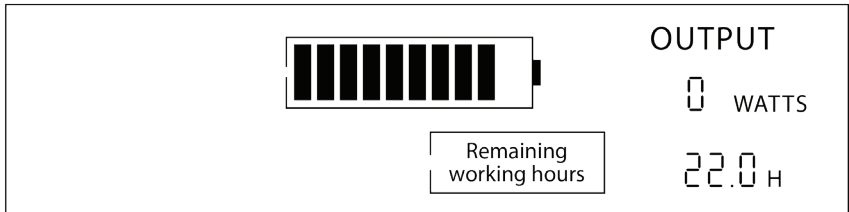
Q: What does the Safari LT Display normally show when charging the LT?

A: When charging the Safari LT under DC or AC or strong sunshine, the display will show information such as:

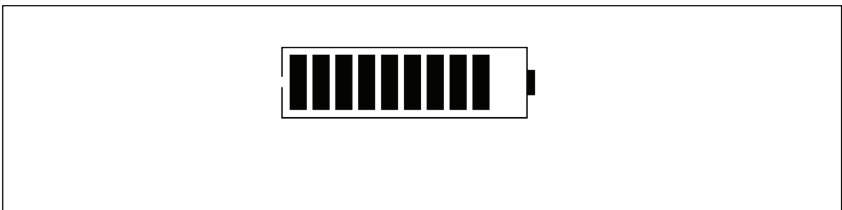


Q: What does the Safari LT Display show while being charged with low or weak sunshine?

A: When you charge the Safari LT with solar panel under very weak sunshine, the display may show:



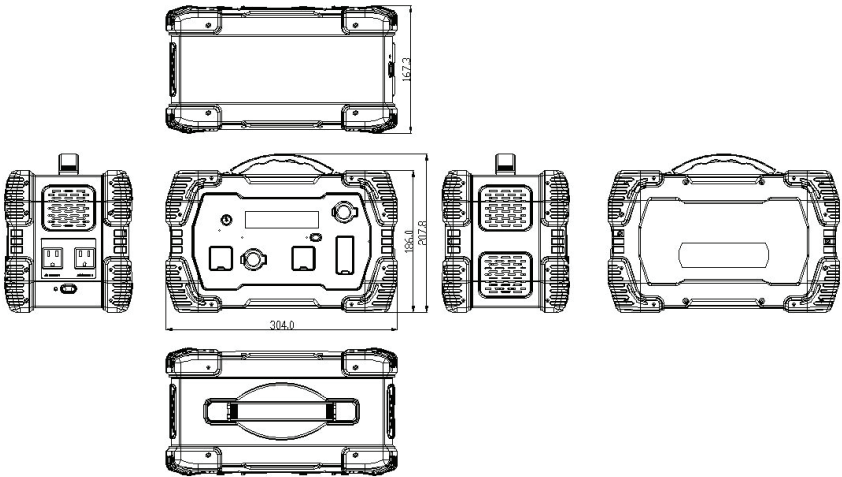
When the power is recognized to be too weak to charge the Safari LT, the display will be shown as below. This is normal, and you only need to charge with stronger sunshine or by AC power.



Battery Safety

Eight-point safety controls system: 1-2 High/Low voltage protection, 3-4 Inverter and battery over temperature protection, 5-6 AC/DC overload protection, 7-8 AC and DC short circuit protection.

Mechanical Design (in MM)



Charging Method	Charging Time
From Solar Panel	Charging time vary according to the intensity of the sunlight
From Wall Charger	6 ~ 10 Hours
From Car Cigarette Socket	3 ~ 5 Hours



Never Charge the Unit Unattended

Use only the charger included with the unit to charge. Using any other charger could damage the unit.

Technical Specifications

AC Charging Input Voltage

1	Input Voltage Range	14.2 ~ 30V
2	Rated Input Voltage	20V
3	Rated Input Current	3A
4	Efficiency	88% Min (@20V DC, Full Load 60W)
5	Overcharge Protection	12.6V

Solar Charging Input Voltage

1	Input Voltage Range	14.2 ~ 30V
2	Rated Input Voltage	18V
3	Rated Input Current	10A (Max)
4	Input Power	110W (140W Max)
5	Overcharge Protection	12.6V

DC Output

1	Input Voltage Range	9V ~ 12.6V
2	Output Current Per Load	5A x 4 (15A Max)
3	Low Voltage Protection	9V
4	Overcurrent Protection	8A x 4
5	Overcharge Protection	12.6V

USB1, USB2, USB3 Output

1	Output Voltage Range	5V
2	Output Current	2.4A (Max)
3	Output Overcurrent Protection	2.7A
4	Output Short Circuit Protection and Disconnection Load Recovery	YES

Type C Output (QC3.0 and PD)

1	Output Voltage Range	5V / 9V / 12V / 15V / 20V
2	Output Current	3A / 3A / 3A / 3A / 2.25A
3	Output Overcurrent Protection	3A
4	Output Short Circuit Protection and Disconnect Load Recovery	YES

Cigarette Lighter Output

1	Max Output	12V, 10A
2	DC Output Short Circuit Protection	Disconnect load recovery
3	DC Output Overcurrent Protection	YES (Disconnect load recovery)

Inverter Power Supply

1	Rated DC Input Voltage	12.0VDC
2	Rated Output Voltage/Frequency	120V AC 60HZ / 230V AC 50HZ
3	Rated Output Power	500W
4	Inverter Efficiency	>88% (Max)
5	Output Wave	Pure sine wave
6	THD	<3% (Full R Load)

Environment

1	Working Temperature	32°F - 104° F
2	Storage Temperature	Room Temperature (14°F - 113° F)
3	Operating Humidity	0 - 90%
4	Storage Humidity	0 - 95%
5	Cooling Method	Wind chill

Maintenance Instructions

- Charge after each use.
- Use a dry cloth to wipe away any dirt or other debris from the battery cords and outer case.
- Do not open the unit. There are no user-serviceable parts. Any servicing should be performed by factory qualified service personnel.

Storage Instructions

- Charge battery to full capacity before storage.
- Store this unit at room temperature.
- Never completely discharge the battery.
- For best results, charge at least once every 3 to 6 months if not in frequent use. This will prevent over-discharge of the battery.

Recycling

Properly dispose of your unwanted electronic products, batteries, and packaging materials at a local collection facility.

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Lion Energy serves all rights to make technical modifications without advance notice, and to improve machine and safety standards.

This manual is for the purpose of providing information, specification, and usage instructions. All statements, information, and suggestions within in this manual do not constitute any express or implied warranty.

Warranty Repairs or Replacements

For repair or replacement, contact customer service at 1-385-375-8191. Do not ship unit until you receive a return merchandise authorization (RMA) number from customer service at Lion Energy. Lion Energy will not be responsible for any shipping or handling damage.

Limited Warranty

This unit comes with one year limited warranty from defects in materials and workmanship. Save proof of purchase, such as a dated receipt, to establish warranty period. Without a dated receipt, we will use the manufacturing dated code. Lion Energy will repair or replace the unit at our discretion upon inspection.

This warranty is invalidated if any of the following occurs, but not limited to:

- Failure to follow the instructions in the User's Manual.
- Accidental or unreasonable use, misuse or mishandling.
- Overcharging or overloading.
- Extended storage without recharging.
- Repairs by an unauthorized person or modification.

This warranty is in lieu of other express warranties. Lion Energy will not be liable for consequential or incidental damages. Changes or modifications not expressly approved by Lion Energy could void the user's authority to operate this device.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to 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. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that of the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

Service Address

Lion Energy
Address: 735 S. Auto Mall Drive
American Fork, UT 84003

Website: www.lionenergy.com
Email: info@lionenergy.com
Telephone: 1-385-375-8191



LIONENERGY™

Warranty Information

Serial Number: _____

Purchase Date: _____



385.375.8191
Monday - Friday
9:00 AM - 5:00 PM



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