

Lion Energy
Safari UT™ 1300 Power Unit
Manual



Thank you for choosing the Lion Energy Safari UT™ 1300

Welcome to Lion Energy Products

At Lion Energy we provide portable power that is safe, silent and renewable. Our products are used in emergencies and for work and play. Please read the user manual carefully before using the product and always take care when using this product. This product is not intended for use by young or infirm persons without supervision.

Attentions and Warnings:

1. Do not disassemble, resemble, or repair the battery. Incorrect reassembly may cause combustion or electric shock.
2. If the battery is damaged, contact the place you purchased it.
3. Do not short-circuit the battery, use it near heat or water sources, or allow it to become wet.
4. Do not insert nails or other objects into the battery, strike it, or weld directly on the battery.
5. Do not use a badly damaged battery or operate it with damaged cables or charging adapters.
6. Do not operate this product in explosive atmospheres (i.e. flammable liquids, gases, or dust) or set the unit on flammable materials (i.e. carpeting, upholstery, paper, cardboard).
7. Do not permit the battery to freeze. Never charge a frozen battery.
8. In case of skin or eye contact, rinse immediately with clean water and seek medical attention.
9. Do not keep using this product if it is damaged, waterlogged, distorted, or broke.
10. This product contains lithium ion batteries. When it is worn out dispose it properly using local laws and regulations.

Battery Pack Electrical Specification

#	Item	Parameter
1	Nominal Voltage (Works with 12V System)	12.8V
2	Technical Rated Capacity	105Ah
3	Minimum Capacity	≥104.5Ah
4	Internal Resistance	≤5mΩ
5	Standard Charging Current	45A
6	Max Charging Current	100A
7	Max Charging Volt	14.6V
8	Max Continuous Discharge Current	150A
9	Discharge Over Current Protection	>150A @ > 50sec
10	Discharge Protection Voltage of Single Cell	2.5A
11	Operating Temperature	Charge: 32~113°F 45 ~ 85% RH Discharge: -4 ~ 131°F 45~85% RH
12	Storage Temperature	-4 ~ 113°F 45 ~ 85% RH 14 ~ 95°F 45 ~ 85% RH
13	Product Size	10.2L x 6.6W x 8.8H
14	Product Weight	23 pounds

Function Description

1. When battery is ON and not charging, briefly press the button, the correspondence between LED and capacity is as follows:

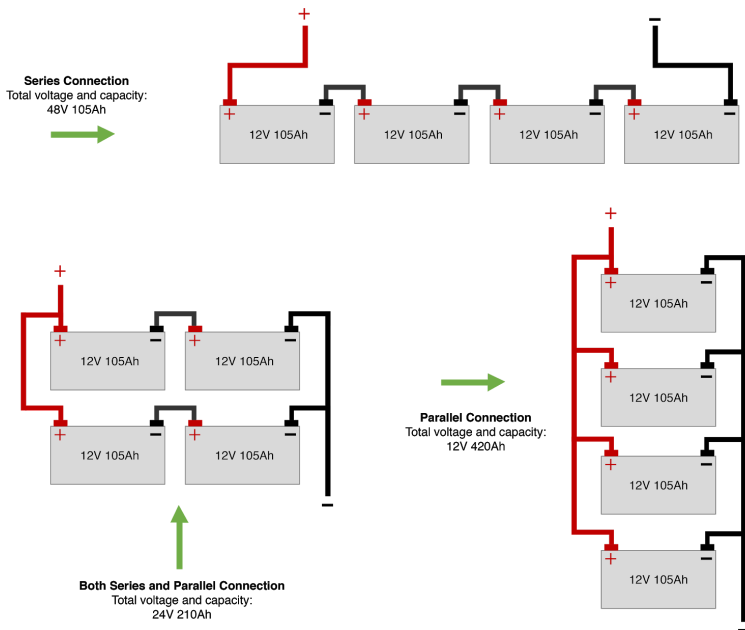
Capacity	LED1	LED2	LED3	LED4	LED5
0	5S-2HZ (FLASH)	OFF	OFF	OFF	OFF
1%-10%	5S (ON)	OFF	OFF	OFF	OFF
11%-30%	5S (ON)	5S (ON)	OFF	OFF	OFF
31%-50%	5S (ON)	5S (ON)	5S (ON)	OFF	OFF
51%-75%	5S (ON)	5S (ON)	5S (ON)	5S (ON)	OFF
76%-100%	5S (ON)	5S (ON)	5S (ON)	5S (ON)	5S (ON)

2. When the product is non-responsive, hold the button on top of the unit for 3 seconds and all LED lights will illuminate indicating the unit has been reset.
3. If the battery is short circuited, remove the cause of the short-circuit and briefly press the button on top of the unit. After one second press the button again and hold for 5 second, then release.

Charging Protection in Different Temperatures

Each single battery can be used independently as well as be used in series. If the batteries are to be used in series, connect with professional tools and make sure the poles are connected correctly. This may lead to battery failure or safety concern. Do not connect more than four (4) batteries in series.

The diagram below is a reference on how to connect batteries in series and parallel in a 12V (12.8V nominal) system. *Before connecting, each battery must be independently fully charged.*



- For series, all batteries must be charged and discharged at the same time for proper functionality.
- The battery must be charged within a specified charging rate and the ceiling voltage of charging should be within the specification limits to avoid over charging. Over charging will lead to poor performance, mechanical instability, and possible safety issues.
- The battery should be used within specified discharge rate and the lowest voltage should be within the specification requirements to avoid over discharging. Over discharging will lead to poor performance, over heat, lead to battery failure, and possible safety issue.
- The battery must be used under required ambient environment according to specification. Too high or too low temperature may affect the performance of the battery.
- Constant charge and discharge rate should not exceed 0.5C to maximize the life span of the cell.
- Use the battery within 80% DOD to extend the service life of the cells.

Maintenance Suggestions

- For storage over one month, place the battery in a cool, dry, ventilated room.
- Do not store near corrosive material, fire, and heat sources.
- Charge and discharge the battery once every six months if not in use during that time.
- In order to avoid over discharge, charge the battery periodically at the suggested battery storage voltage (12.8V 13.24V, 30 ~ 50% SOC) to avoid over discharge

WARRANTY REPAIRS/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 LIFETIME WARRANTY

This warranty for the unit is extended to the original purchaser or user and it covers defects in materials and workmanship. The Safari UT 1300 has a limited lifetime warranty of the battery cells, rated at 80% of the capacity ($105\text{Ah} \times .8 = 84\text{Ah}$).

Under extreme use (maximum charge and discharge rates) the battery cells expected life cycle is 3500. At "normal usage" the expected life cycles will be greater.

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, over charging or loading, or normal wear.
- Extended storage without recharging or repairs done by an unauthorized person or modification.
- Opening or modifying the battery casing

This warranty is in lieu of all 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.

SERVICE ADDRESS

Lion Energy (www.lionenergy.com)

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