



LIONENERGY™

# SAFARI UT™ 1300

12.8V / 105Ah / 1344Wh  
Lithium Iron Phosphate Battery  
User Manual



## WARRANTY INFO:

Serial number \_\_\_\_\_

Purchase date \_\_\_\_\_

## CUSTOMER SERVICE:



385.375.8191. Monday-Friday / 9:00 AM - 5:00 PM. MST.  
Please call our customer service department before returning  
your Safari UT™ 1300.



LION ENERGY™

Safe. Silent. Renewable.

# WELCOME TO THE PRIDE.

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The Lion Energy™ journey began in 2001. We started this venture to help people prepare for potential emergencies and become self-reliant. We realized we could help in areas of food, water, lights, and *power*. And our passion for portable power ignited. We wanted to provide the safest, most reliable, silent portable power products and we wanted them to be clean and renewable. Our goal is to create products that are good for people and good for our planet! At Lion Energy, that's exactly what we do.

Lion Energy is built upon the principles of unmatched safety, unwavering reliability, and continual renewability advancements. That foundation, coupled with a promise of excellent customer service, has led to a growing brand with an extremely loyal customer base.

As we forge ahead, the foundations of customer experience, safety, reliability, and innovative renewability remain. We are committed to a continued focus on providing the best emergency preparedness power, portable solar power, and home storage power. Lion Energy is committed to providing our customers peace of mind and the freedom to live life on their terms.

*For latest info go to [www.lionenergy.com](http://www.lionenergy.com)*



735 S. Auto Mall Drive Suite 200  
American Fork, UT 84003

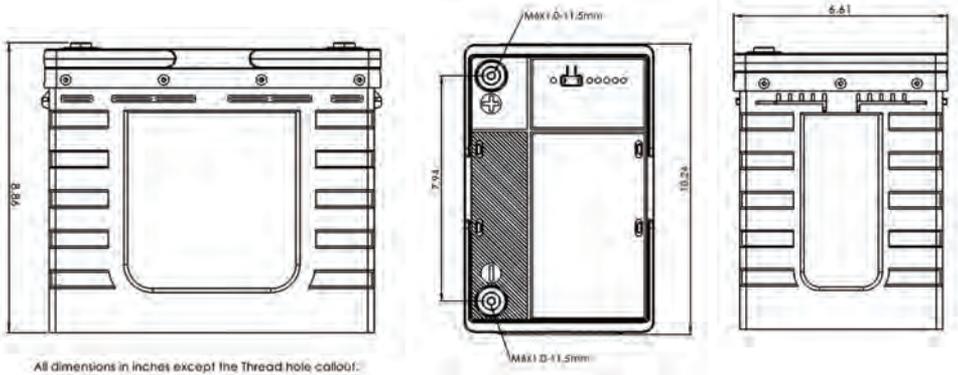


[www.lionenergy.com](http://www.lionenergy.com)  
[info@lionenergy.com](mailto:info@lionenergy.com)



corporate: 801.727.9270  
tech support: 385.375.8191

# 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	Battery Low Voltage Cut-Off	10V
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:

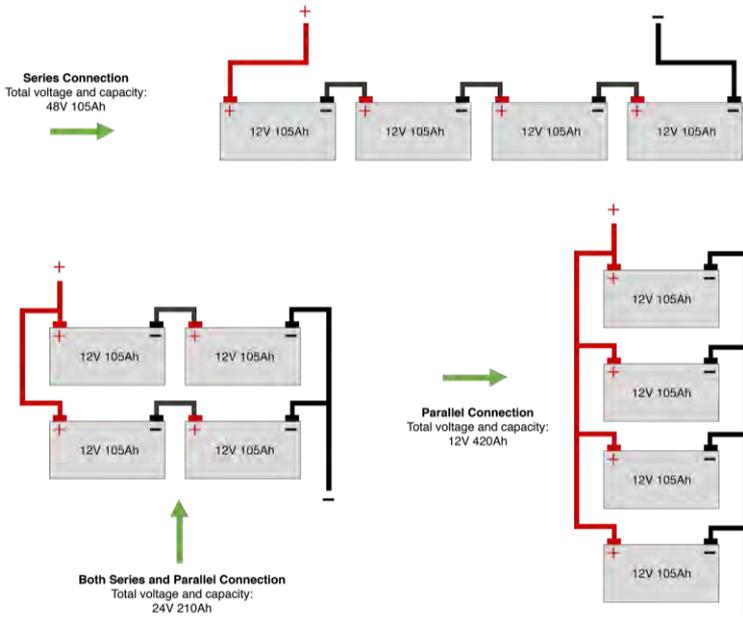
Capacity	LED1	LED2	LED3	LED4	LED5
0	5S-2HZ (FLASH)	OFF	OFF	OFF	OFF
1%-10%	5S (ON)	OFF	OFF	OFF	OFF
11%-30%	5S (ON)	5S (ON)	OFF	OFF	OFF
31%-50%	5S (ON)	5S (ON)	5S (ON)	OFF	OFF
51%-75%	5S (ON)	5S (ON)	5S (ON)	5S (ON)	OFF
76%-100%	5S (ON)	5S (ON)	5S (ON)	5S (ON)	5S (ON)

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 (105Ah x .8 = 84Ah).

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](http://www.lionenergy.com))

Email: [Info@lionenergy.com](mailto:Info@lionenergy.com) and Tel: 1-385-375-8191

Address: 735 S. Auto Mall Drive, Suite 200, American Fork, UTAH 84003

# FREQUENTLY ASKED QUESTIONS

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## **01. What does the Safari UT 1300 power?**

Motorhomes, 5th Wheels RVs, Travel Trailers, Boats, Living Quarter Trailers, Dump Trailers. It also can be used as power storage for your home, cabin, shed or gazebo. It is used for auxiliary power and energy storage, not as a battery to start vehicles.

## **02. How long can the Safari UT 1300 hold a charge?**

It will maintain a charge for up to two years without having to charge it. This is known as shelf life or storage life. We recommend using it more frequently, though.

## **03. Do I have to maintain the Safari UT 1300?**

The Safari UT 1300 is virtually maintenance free, meaning you don't have to use it or even trickle charge it every 3-4 months, deal with fluids since it doesn't have any, or remove it from your vehicle and store it for the next season. It can hold its charge for up to 2 years and can be recharged after that time too.

## **04. What does Depth of Discharge (DoD) mean?**

DoD simply refers to when the output of the energy in the battery stops. For example, if you used a third of the energy, the DoD is 33%. If you used all the energy in the Safari UT 1300, the DoD would be 100%.

## **05. What type of charger do I need to charge the Safari UT 1300?**

You can use a lead acid charger and set it to its highest voltage setting (closest to 14.6V). However, we recommend if you want optimal performance, use a lithium charger. It can be purchased at various online stores or through physical retail or RV dealer store locations.

**06. What are the charge settings I should use for the Safari UT 1300?**

We recommend a lithium charger. You can use a lead acid charger. If the lead acid charger is programmable, use the Lithium setting if it has one. If it doesn't, set the Bulk to 14.6V with no time limit and the absorption, float and equalize to 0 or off. If these have to be set to something, then set all to 14.6V. If the lead acid charger can't be programmed, it will still charge the UT 1300 up to approx. 13.6V and 80% capacity. If you put the UT 1300 in 24V series, we recommend charging at 27.8V. For a series in 36V, 41.7V and for a 48V in series, 55.6V.

**07. What is the low voltage disconnect of the Safari UT 1300?**

10V.

**08. What level of discharge does the Safari UT 1300 have compared to Lead Acid batteries?**

Lead acid batteries are recommended to not go below 50% discharge. If it does, it can become damaged or "dead" and may not be able to recharge. The Safari UT 1300 can be used until it is empty or 100% and still be recharged and used for years.

**09. What is the recommended torque on the battery posts?**

You can connect wiring to the posts, underneath the posts (they unscrew from the battery if needed) or on top of the post using the wing nut. Torque on the posts should be no more than 12 pounds.

**10. What is the thread size on battery posts?**

M6.

**11. How do I "reset" the Safari UT 1300?**

You'll notice on the top of the battery, on the left-hand side, there is a little power button. When you press and release that button, it will show you approximately how much power or energy is in the battery by using 5 indicator lights (20%, 40%, 60%, 80%, 100%). To reset the battery, press and release that power button and when any of the 5 indicator lights come on, press and hold that power button until the indicator light(s) go off, usually about 6 seconds or so. That's it. You've now reset the battery.

# LION SAFARI UT™ 1300

## IT CAN POWER...



\*Run Times Vary

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## MORE POWER TO LOVE...



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*Harness the power of the sun and recharge or power your electronic devices. This 100W Foldable Solar Panel comes with a 6' extension cord and a 20-year life expectancy.*



SAFARI LT™

*This great and little power unit packs a punch and weighs only 11 pounds. Take it camping, tailgating, to the beach or anywhere you need power.*



CUB JC™

*The Cub JC will do a lot more than jump-start your vehicle, RV, UTV, boat engine and other vehicles, it will charge phones, tablets, or anything that can charge from a USB. It also has an air compressor to inflate low tires.*

Check out [www.lionenergy.com](http://www.lionenergy.com) to get these and other great products from Lion Energy!



**Lion Energy, LLC**

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American Fork, Utah 84003

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[info@lionenergy.com](mailto:info@lionenergy.com)

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