



LI^UNENERGY™

FREQUENTLY ASKED QUESTIONS

SAFARI UT™ 1300



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TOP 10 FEATURES AND BENEFITS

1. **The Safari UT 1300 is a Lifetime Battery** – up to 3,500 life cycles (100% discharge to recharge or “Depth of Discharge”) vs only 250 life cycles for lead acid batteries.
2. **Limited Lifetime Warranty** – not a 1-year or pro-rated warranty like lead acid batteries.
3. **Camp 2x longer** – with 2 lithium batteries vs. 2 lead acid batteries.
4. **Maintenance Free and Holds a Charge Over a Year** – Lead acid requires recharge every 3-6 months or dies.
5. **Recharge vs Replace** – recharge lithium vs when lead acid falls below Depth of Discharge it’s dead.
6. **Lighter Weight** – the UT 1300 is only 23 lbs. vs traditional batteries are 45-60 lbs.
7. **Plug-n-Play** – simply remove the lead acid and insert lithium UT 1300; it’s same standard 24 group size.
8. **Charge 15% Faster** – superior properties of lithium allow faster charging times.
9. **Is Green Safe** – no emissions, no carbon footprint during use, no toxic gases, no fluid discharge.
10. **Lift and Dump 6-8x More** – more on a single charge than a traditional lead acid lifts a dump trailer.



BASICS

01. What is the Safari UT 1300?

The Safari UT 1300 is the latest in Lithium battery technology. It replaces traditional deep cycle lead acid batteries with the safest Lithium – Iron Phosphate. It is a “plug and play” – simply remove the deep cycle lead acid battery from your RV or boat and replace it with this superior performing battery. The UT 1300 is for auxiliary power and is not a “starting” battery to start your vehicle.

02. 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.

03. How long will the Safari UT 1300 last?

The life of this Lithium battery is approximately 14 times that of deep cycle lead acid batteries—this is a lifetime battery—thus a Lifetime Warranty. If you used it every single day at 100% DOD (Depth of Discharge), it would take nearly 10 years of everyday use and still have 80% of its capacity left. No one does that so what about every other day use at 100% DOD, then 20 years. What if every three days, then 30 years and so on.

04. What does a “Lifetime Warranty” mean?

The warranty for the Safari UT 1300 is extended to the original purchaser or user and it covers defects in materials and workmanship. The warranty is a limited lifetime warranty of the battery cells, rated at 80% of the capacity (105Ah x .8 = 84Ah), meaning when its capacity is down to 80%. Under extreme use (maximum charge and discharge rates) the battery cells expected life cycle is 3500. That means if you use the battery every day and discharge it nearly 100% it would take approximately 10 years to get the battery cells to 80% capacity. What about using it every other day – 20 years; every three days – 30 years and so on. At “normal usage” the expected life cycles will be greater.

05. Can the Safari UT 1300 be used to store solar power energy?

The Safari UT 1300 is a great energy storage unit for solar power from panels on homes, cabins, and RVs.

06. How long can the Safari UT 1300 hold a charge?

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



BASICS

07. 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.

08. Why should I buy the Safari UT 1300 (over a lead acid battery)?

The Safari UT 1300 is made from a higher quality and longer lasting battery technology – Lithium (specifically Lithium Iron Phosphate). The Safari UT 1300:

- **The Safari UT 1300 is a Lifetime Battery** – up to 3,500 life cycles (100% discharge to recharge or “Depth of Discharge”) and still have 80% of the battery capacity left vs only 250 life cycles for lead acid batteries.
- **Limited Lifetime Warranty** – not a 1-year or pro-rated warranty like lead acid batteries.
- **Camp 2x longer** – with 2 lithium batteries vs 2 lead acid batteries.
- **Maintenance Free and Holds a Charge Over a Year** – lead acid requires recharge every 3-6 months or dies.
- **Recharge vs Replace** – recharge lithium vs when lead acid falls below Depth of Discharge it's dead.
- **Lighter Weight** – the UT 1300 is only 23 lbs. vs traditional batteries are 45-60 lbs.
- **Plug-n-Play** – simply remove the lead acid and insert lithium UT 1300; it's same standard 24 group size.
- **Charge 15% Faster** – superior properties of lithium allow faster charging times.
- **Is Green Safe** – no emissions, no carbon footprint during use, no toxic gases, no fluid discharge.
- **Lift and Dump 6-8x More** – more on a single charge than a traditional lead acid lifts a dump trailer.



BASICS

09. Why should I buy the Safari UT 1300 over other lithium batteries?

The Safari UT 1300 has several benefits over other lithium batteries that vary depending on the competitor. The key benefits of the Safari UT 1300 over the competition are:

- Limited lifetime warranty vs limited prorated warranties between 8-10 years
- More energy storage or Amp Hours (105) vs 100Ah
- More power output at 150A continuous and 900A spike vs 100A and 250A spike
- Smaller footprint and weight at Group 24 Size and 23 lbs vs larger Group 31 and 31+ lbs
- Less expensive at \$750 - \$899 street price vs \$850 - \$999 street price of other batteries

SPECS

01. How big is the Safari UT 1300 (weight and dimensions)?

It weighs in at just 23 pounds and is the same standard 24 Group Size as other batteries. The dimensions are 10.2" L x 6.6" W x 8.6".

02. What is the Safari UT 1300s rated capacity (Volts or V, Amp Hours or Ah, Watt Hours or Wh, Amps or A)?

It is commonly referred to as a 12V, 100Ah (how much energy is stored in it) lithium battery. Technically, the engineering "Nominal Voltage" is 12.8V and 105Ah and 1344Wh (12.8V x 105Ah). It can output nearly 900A for a millisecond (a spike) then approximately 250A for nearly a minute and then 150A continuous (how much power it puts out) capacity.

03. How long will the Safari UT 1300 last?

Lead acid batteries usually last a year or two and often come with a prorated warranty. The Safari UT 1300 has a limited life-time warranty. That means it can completely charge, discharge (use) and recharge 3500 times or cycles before the battery cells are depleted 20% (it still would have 80% of its capacity). This assumes you are charging one UT 1300 at a 1C rate or using a 90A charger for faster charging. If you use a .5C or



SPECS

45A charger, the Safari UT 1300 can have up to 5,000 life cycle capacity. In simple terms – if you used all the energy in it every day and then recharged it using a 45A charger, the Safari UT 1300 will last for nearly 14 years. If you used it every other day, that's 28 years, or every three day that's 42 years and so on. Most people only use it for a few weeks at a time or for a season so the Safari UT 1300 can last a lifetime.

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 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.

06. How does it perform in various weather conditions?

The Safari UT 1300 performs better than lead acid batteries in most weather conditions. It can charge between temps of 32° to 113° and can discharge between -4° to 131° at 100% rate. Outside these ranges it can discharge at a lower rate. If you want to use the Safari UT 1300 in colder weather than this, you can put some appropriate insulation or heating wrap around the UT 1300 to keep it warm enough to use in extreme cold weather.

07. Does the Safari UT 1300 have side posts or top posts?

It has top posts that can be removed for a lower profile.

08. Can you use the Safari UT 1300 in series and/or parallel?

Yes. You can increase the voltage from 12V on a UT 1300 up to 48V total by connecting them in series (4 batteries connected together via + to - posts). You can increase the Amps (A) and Amp Hours (Ah) up to 1500A and nearly 1000Ah by connecting them in parallel (+ to + and - to -).



SPECS

- 09. What are the recommend charge settings for the Safari UT 1300?**
It will take up to 14.6V in charging voltage and settle between 13.9V and 13.6V. Set your charger to its highest setting closest to 14.6V and at least 13.9V. 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.
- 10. 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 some physical retail or RV dealer store locations.
- 11. What is the low voltage disconnect of the Safari UT 1300?**
10V.
- 12. Is there any fluid in the Safari UT 1300?**
There are no fluids in the unit.
- 13. Can you mount the Safari UT 1300 on its side?**
Because it has no fluid in it and cannot be "flooded" it can be mounted on its side or in various positions.
- 14. 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.
- 15. What is the thread size on battery posts?**
M6.



SAFETY AND USE

01. How safe is the Safari UT 1300?

The Lion Safari UT 1300 produces no emissions - none. It has no carbon footprint during use, emits no greenhouse gases and causes no damage to the environment. It's safe enough to use indoors. The Battery Management System (BMS) adds safety controls.

02. Can I take this on an airplane / airport?

No. The Safari UT 1300 needs to be transported on the ground or on a cargo plane.

03. What is a BMS or Battery Management System?

A BMS regulates the energy usage in the battery and protects it from over usage. The Safari UT 1300 has a top-line BMS. Lead Acid batteries do not have a BMS.

04. Is the Safari UT 1300 renewable?

The Lion Safari UT 1300 is part of Lion Energy's pride of products that creates clean, limitless, renewable energy sources to power your life. It's designed to be recharged through traditional AC power or renewable sources—the SUN. Simply use a battery charger or a solar panel(s) with connectors and charge controller and you'll get a virtually unlimited supply of power.

05. How can you charge the Safari UT 1300?

It can be charged from an AC battery charger source or by solar. Most people use it as a "plug and play" by just replacing their old lead acid batteries in the RV and Trailers. Whatever or however the lead acid was being charged, it will also charge the Safari UT 1300. If you use it this way, make sure the charger is set to its highest setting or Voltage (The Safari UT 1300 can take up to 14.6V and will settle between 13.9V and 13.6V). So, you can use a regular lead acid charger. However, if you want optimal performance, you can use a universal or lithium charger that puts in more Amps than a normal lead acid charger and will charge the Safari UT 1300 faster.

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 programable, 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.



SAFETY AND USE

07. Is the Safari UT 1300 noisy?

No, it is silent.

08. Do I have to maintain the Safari UT 1300?

The Safari UT 1300 is virtually maintenance free—no water or fluids to put in it, no messy water or acid to clean up, no need to frequently (3-6 months) charge it, no taking it out of your device to store it. It can even sit without using it for over a year or more. However, we do recommend using it at least annually.

09. 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.

10. Can I connect the Safari UT 1300 in series or parallel?

Yes. Connecting in series allows you to take two 12V Safari UT 1300 and make them a 24V system. If you connect three together in series, it will become a 36V system and four together would be a 48V system. You connect in series by connecting heavy gauge wiring (4 gauge or thicker) from one negative post (-) to the next battery's positive post (+) and repeating that for each battery, negative to positive, so that each battery is connected to the next battery. Similarly, if you want to increase the Ah, then you can connect the batteries in parallel by connecting the positive post to positive post and the negative post to negative post on two batteries. That would make the single 105Ah UT 1300 into a 210Ah system. You can connect more than two batteries together in this way to increase your Ah to 210 (2 batteries) to 315 (3 batteries) to 420 (4 batteries). See the online Safari UT 1300 user manual for a diagram at www.lionenergy.com.



QUESTIONS AND RESPONSES FROM SAFARI UT USERS

Note: Lion Energy thoroughly tests all their products

01. How many trailer dumps do you get a day out of a lead acid battery vs the Safari UT 1300?

Before switching to the Safari UT I used to get about 6-8 dumps a day with my dump trailer. Then I'd have to either swap out batteries, which is a pain, or be done for the day. Now I have the Safari UT and I get over 20 dumps a day in the same trailer. It's amazing!

02. What features do you like about the Safari UT 1300?

I like that it's really light weight, it lasts a really long time and it has a battery charge indicator light on top to let me know how much charge it has. It's also pretty compact and fits into smaller spaces.

03. It costs more up front than lead acid batteries. Do you feel it is worth it?

Oh, for sure! It pays for itself in the first couple of years just on not having to keep replacing my old batteries. And that doesn't even count the savings I have in frustration and headaches by having to do all that maintenance stuff each year with my old batteries. The Lion Safari UT is soooooo much better!

04. What do you use your Safari UT 1300 for?

I have a family travel trailer that we use for camping, on fishing trips and just overall family fun. We replaced the normal batteries in it with two Safari UT and we get twice the camping days out of it. I get to spend more time playing with the family and that makes me smile.

05. What got you interested in Lithium batteries?

I was getting frustrated with always having to replace my lead acid batteries and all the hassle of trying to do the maintenance every year. I wanted something that wouldn't require all that and that would last longer. I'm glad I found Lion Energy and their solutions. Just what the doctor ordered.



QUESTIONS AND RESPONSES FROM SAFARI UT USERS

06. What is it like working with Lion Energy?

Lion Energy is one of the most friendly and helpful companies I've done business with. Whenever I need information, have a question or even a concern, I call their customer service number and get immediate help. And I love that they stand behind all of their products no question.

07. What has been the response to the Safari UT 1300?

Customers are saying this resolves all their battery problems. Dealers love it and are buying it in pairs and in pallets. Manufacturers are thrilled to have a high-quality product that finally matches their manufacturing standards for RVs and Trailers.



PRICING:

MSRP
\$999

Typical Retail
\$899