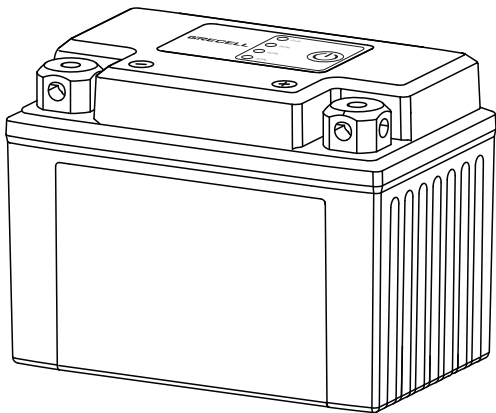


GRECELL

12V LiFePO4 Powersports Battery



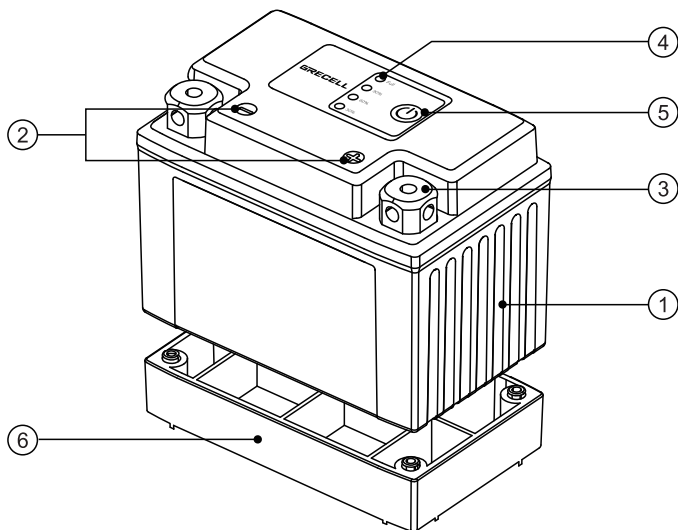
USER MANUAL

Thank you for purchasing GRECELL 12V LiFePO4 powersports battery. To make sure your personal safety, property security and user experience, please read this manual carefully before operating and retain it for future reference.

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■ FEATURE DETAILS



① PC+ABS plastic material (Fire protection level VO)	② +Positive terminal -Negative terminal
③ Positive and negative terminals	④ Power display
⑤ Button (ON/OFF)	⑥ Universal spacer

■ PRODUCT SPECIFICATIONS

Battery Parameters	Model	MLI12-ST025A	MLI12-ST035B	MLI12-ST040A	MLI12-ST050A	
	Nominal Voltage	12.8V	12.8V	12.8V	12.8V	
	Nominal Capacity	2.5Ah	3.5Ah	4Ah	5Ah	
	Watt-hour	30Wh	42Wh	48Wh	60Wh	
	Cranking Ampere	150A	210A	240A	300A	
	Cold Cranking Ampere	75A	105A	120A	150A	
	Max.Constant Discharge Current	50A 20C	70A 20C	80A 20C	100A 20C	
	Charging Cut-off Voltage	12.5A 5C	17.5A 5C	20A 5C	25A 5C	
	Charging Cut-off Voltage	14.6V	14.6V	14.6V	14.6V	
	Discharge Cut-off Voltage	8.0V	8.0V	8.0V	8.0V	
	Range Of Operating Temperature	Charge	0-55°C	0-55°C	0-55°C	0-55°C
		Discharge	-20-60°C	-20-60°C	-20-60°C	-20-60°C
	Weight	0.62KG	0.63KG	0.9KG	0.8KG	
Packing List	Battery	1	1	1	1	
	Spacer	20mm*1	20mm*2	12mm*1	12mm*1	
	Product Manual	1	1	1	1	
	Spacer Manual	1	1	1	1	
	Top Cover Screws	2	2	4	2	
	Spacer Screws	4	8	4	4	
	Screwdriver	1	1	1	1	
Size	Standard Size(mm)	113*70*85	113*70*85	150*65*93	150*87*93	
	Extended Size 1(mm)	113*70*105	113*70*105	150*65*105	150*87*105	
	Extended Size 2(mm)		113*70*130	150*65*130		

Battery Parameters	Model	MLI12-ST060B	MLI12-ST080B	MLI12-ST120B	MLI12-ST180B	
	Nominal Voltage	12.8V	12.8V	12.8V	12.8V	
	Nominal Capacity	6Ah	8Ah	12Ah	18Ah	
	Watt-hour	72Wh	96Wh	144Wh	216Wh	
	Cranking Ampere	360A	480A	720A	1080A	
	Cold Cranking Ampere	180A	240A	360A	540A	
	Max.Constant Discharge Current	120A 20C	160A 20C	240A 20C	360A 20C	
	Charging Cut-off Voltage	30A 5C	40A 5C	60A 5C	90A 5C	
	Charging Cut-off Voltage	14.6V	14.6V	14.6V	14.6V	
	Discharge Cut-off Voltage	8.0V	8.0V	8.0V	8.0V	
	Range Of Operating Temperature	Charge	0~55°C	0~55°C	0~55°C	0~55°C
		Discharge	-20~60°C	-20~60°C	-20~60°C	-20~60°C
	Weight	0.9KG	1.4KG	2.0KG	2.8KG	
Packing List	Battery	1	1	1	1	
	Spacer	12mm*3	12mm*2	0	0	
	Product Manual	1	1	1	1	
	Spacer Manual	1	1	1	1	
	Top Cover Screws	2	2	4	4	
	Spacer Screws	12	8	0	0	
	Screwdriver	1	1	0	0	
	Foam		12mm*2			
Size	Standard Size(mm)	150*87*93	150*87*130	175*87*155	165*125*175	
	Extended Size 1(mm)	150*87*105	150*87*145	205*87*162		
	Extended Size 2(mm)	150*87*120	175*87*130			
	Extended Size 3(mm)	150*87*130	175*87*145			

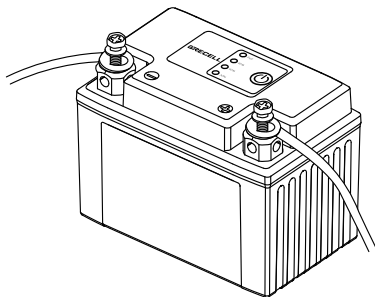
■ PRODUCT INTRODUCTION

About Lithium Batteries

Advantages of LiFePO₄ batteries over lead-acid batteries:

- High C-rate: GRECELL lithium battery adopts stacked lithium iron phosphate cell, features stable voltage, low internal resistance, good high and low temperature performance, can achieve high C-rate and high current discharge, can easily start vehicle equipment under -20°C to 60°C conditions.
- Light weight: The discharge rate of lithium iron phosphate battery is 10 times that of lead-acid batteries, and the volume and weight are only 1/3 of lead-acid batteries.
- Long life: The service life of lithium iron phosphate batteries is 2-3 times that of lead-acid batteries, and the number of deep cycle discharges is as high as 2000-3000 times.
- Intelligent BMS: The built-in intelligent management system (BMS) protects the battery from overcharge, over discharge, overload, overheating and short circuit.
- Safety: Lithium iron phosphate battery has good chemical stability, low self-discharge, no memory effect, and higher safety performance when it is charged.
- Environmental protection: Lithium iron phosphate battery is non-toxic (SGS certified), does not contain lead, mercury and other toxic substances, no pollution, in line with European RoHS regulations.
- Versatility: This product has been designed and added with universal gaskets that allow you to easily install on a variety of vehicles and replace more lead-acid battery models.
- Application: This product is compatible with motorcycles, all-terrain vehicles, snowmobiles, scooters, four-wheeled vehicles, off-road vehicles, UTVs, go-karts, water scooters, lawn mowers, generators and other models.

■ INSTRUCTIONS FOR USE

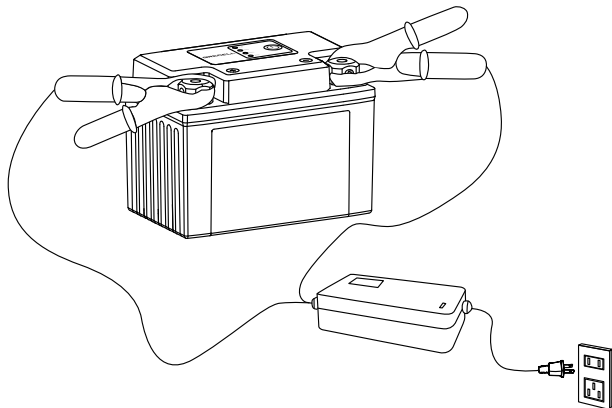


1. Before installation, check whether the battery is damaged and leaking, and clean the surface of the battery with a dry cloth, if the battery shell is found to be cracked and leaking, the battery should be replaced immediately to avoid acid corrosion, check whether the position of the battery is smooth and neat, and avoid foreign objects such as solder joints from damaging the battery.
2. First remove the battery packaging box, do not install it with the box, and it is strictly forbidden to wrap the appearance of the battery with tape, plastic film, etc. The battery should be installed upright, not upside down, the distance between adjacent batteries is greater than 2mm, and at the same time it should be shockproof, pressure-proof, firmly installed, and should not shake and impact, rub against each other, and cannot enter water.
3. In order to ensure safe use, the upper part of the battery box where the battery is installed and the related components outside the battery box must ensure that there are ventilation holes of not less than 8 mm from the inside to the outside, and must not be blocked, so as to prevent the gas accidentally generated when the battery is charged from being discharged in time into the battery box and

related component space, especially the space similar to the avoidance of sealing under the footrest.

4. Choose qualified connecting wires, determine the maximum bearing current of the wires according to the whole vehicle supporting parameters, and the wires are free from corrosion and oxidation, rust, bifurcation and connection.
5. Devices that are prone to electrical sparks must be isolated from the battery.
6. The battery is generally precharged at the factory by about 50%, usually the user can directly load the car for use, such as a long shelving time (e.g. more than 2 months). please drain the battery and then immediately fully charge it before use.
7. Use chargers that meet the requirements, overcharge and over discharge are strictly prohibited; It is strongly recommended to use intelligent lithium iron phosphate charger.the output voltage of the selected charger should be 12V, if the battery is not use for a long time, the battery needs to be stored after full charge, and it is strictly forbidden to store it for a long time in a low power state.
8. If the battery is continuously charged for more than 10 hours, the charger still does not turn green or the battery heats up significantly, and the charging should be stopped immediately and handed over to the local after-sales service point for processing. If you ride in the high temperature season, it is recommended to park for about half an hour and wait for the battery to cool down to normal temperature before charging.
9. The battery should not be close to the fire source and heat source, and the battery should be avoided from violent vibration, collision and short circuit of positive and negative poles; It is strictly forbidden to charge the battery directly under sun exposure in the hot season, and it is forbidden to charge directly after riding in summer when the battery temperature is relatively high.
10. After a period of charge and discharge cycle of the battery, the battery capacity will gradually decrease, resulting in a decrease in

the mileage of the electric vehicle, which is a normal phenomenon, but during the warranty period, when the battery capacity drops to less than 60% of the rated capacity, it is regarded as a battery failure, please contact us in time, after the warranty period the battery capacity drops to less than 60% of the standard value, it is regarded as normal loss and is not covered by the warranty.



■ WARNING NOTES AND SAFE REGULATIONS

CAUTIONS!

- Do not use or leave the battery at very high temperatures (for example, in strong direct sunlight or in a vehicle in extremely hot weather). Otherwise, it can overheat or fire, or its performance will degenerate and its service life will be shortened.
- Do not use it in a location where static electricity is rich, otherwise, the safety devices may be damaged, causing a harmful situation.
- In case the electrolyte gets into the eyes due to the leakage of the battery, do not rub the eyes! Rinse the eyes with clean running water, and seek medical attention immediately. Otherwise, it may injure the eyes or cause a loss of sight.
- If the battery gives off an odor, generates heat, becomes discolored or deformed, or in any way appears abnormal during use, recharging or storage, immediately remove it from the device or cell charger and place it in a contained vessel such as a metal box.
- In case the battery terminals are contaminated, clean the terminals with a dry cloth before use. Otherwise, power failure or charge failure may occur due to the poor connection between the cell and the electronic circuitry of the instrument.
- Be aware that discarded batteries may cause fire, 100% discharged the battery and tape the battery terminals to insulate them before disposal.



WARNING!

The battery will fire, explode or leak if not strictly observing this item described below.

- Do not immerse the battery in water or seawater, and keep the battery in a cool dry environment during stands by period.
- Do not mix using the battery with a one-off cell (such as a dry cell) or a different-performance battery together.
- Keep all batteries out of the reach of little children. Consult a doctor immediately if a cell is swallowed.
- Do not use or leave the battery near a heat source such as a fire or heater when re-charging, use the battery charger specifically for that purpose.
- Do not reverse the positive (+) and negative (-) terminals.
- Do not dispose of the battery in fire or heat.
- Do not short-circuit the battery by directly connecting the positive (+) and negative (-) terminals with metal objects such as a wire.
- Do not transport or store the battery together with metal objects such as necklaces, hairpins, etc.
- Do not strike or throw the battery against a hard surface.
- Do not directly solder the battery.
- Do not pierce the battery with a nail or other sharp object.

WARNING!

GRECELL does not assume any responsibility for problems caused by misoperation beyond the scope of the manual.

- Statement 1: During the long period of non-use of the battery, it may be in some over-discharge state due to its self-discharge characteristics. To prevent the occurrence of over-discharge, the battery should be charged regularly (at least once every three months) to maintain its voltage between 12.8V and 13.2V.
- Statement 2: In case of problems caused by improper matching and use of a charger, GRECELL will not bear any responsibility.
- Statement 3: GRECELL will not assume any responsibility for products beyond the shelf life.

■ STORAGE CONDITION

The battery capacity is based on the ambient temperature of 25°C, and the battery capacity decreases by about 1% for every 1°C drop in temperature, and the influencing factors of ambient temperature should be considered in use. The battery should be avoided in a low temperature environment below -10°C.

■ FCC STATEMENT

This device complies with 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. Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

■ DISCLAIMERS

Please using the item under the guide of the caution/note.

Do not use the item in situations or with equipment that requires extremely high reliability or safety.

We expressly disclaims any express or implied warranty of fitness for high-risk activities.

We does not authorize use of any product in any high-risk activities. Any such use is improper and is a misuse of the product.

■ PRODUCT WARRANTY

Thanks for purchasing our LiFePO4 powersports battery.

If you have any questions about it, please feel free to contact us.

E-mail: support@greccell.com

All GRECELL products come with a full 2-year limited warranty from the date of purchase (accessories excluded).

It will be out of guarantee if damaged due to incorrect or force majeure.