

Thank you for purchasing the **Bioenno Power** BLF-2450AS LiFePO4 Battery

## Introduction

LiFePO4 chemistry is an evolution in rechargeable battery technology. It is safer, non-toxic, higher performing, and longer lasting compared to lead-acid batteries. Bioenno Power provides the highest quality LiFePO4 battery from our ISO9001 certified production facility that guarantees maximum performance. Please carefully review the information below as they are vital to the safety and performance of the battery.

## Typical Applications

Energy Storage, E-Bike, E-Scooter, Motors, etc.

## Contents

- 1 - Bioenno Power BLF-2450AS LiFePO4 Battery
- 1 - User Manual
- 1 - Compatible Charger with 10A Output

## Specifications (summary)

<b>Dimensions</b>	12.9 in. x 6.6 in. x 8.5 in. (330 mm x 168 mm x 216 mm)
<b>Weight</b>	28.9 lbs. (13.1 kg.)
<b>Battery nominal voltage and capacity</b>	24V, 50Ah
<b>Charging Voltage</b>	29.2VDC
<b>Charging Current</b>	10A
<b>Open Circuit Voltage Range</b>	29.2VDC
<b>Maximum Continuous Discharge Current</b>	50A
<b>Maximum Peak Discharge Current</b>	100A (5sec)
<b>Operating Temperature</b>	- 10°C to 60°C
<b>Charging Temperature</b>	>0 deg C (32 deg F)
<b>Protection: PCM/BMS</b>	Overcharge, overdischarge, overcurrent, temperature, balancing
<b>Charge connector</b>	Screw Terminal
<b>Discharge Connector</b>	Screw Terminal

For the full specification, please visit [www.bioennopower.com](http://www.bioennopower.com)

## Caution

- Do not disassemble.
- Do not short circuit positive and negative terminals.
- Use only LiFePO4 compatible chargers. Do not use Lead Acid battery chargers, especially ones with “anti-sulfation” features
- Do not submerge in water, the seal on the battery is not intended to withstand water pressure
- Do not throw in fire or dispose of improperly. Recycle the battery at a facility that accepts lithium battery

## Instructions for Use

### Charging

1. Only use **29.2V, LiFePO4 compatible** chargers to charge the battery. The charging current should be **10A**. If you need a charger, please contact us.
2. Fully charge the battery **before first use**. This depends on the output of the charger but is typically between 3-5 hours.
3. If your battery came with a Bioenno Power charger, there are two LED lights on the charger, LED 1 and 2. LED 1 should turn red whenever a load is connected or when the charger is plugged into the wall. During charging both LED 1 and 2 are red. When the battery is fully charged, LED 1 will be red and LED 2 will be green.
4. LiFePO4 does not suffer “memory effect” so please keep the battery fully charged for daily use. Cell balancing only occurs when the battery is fully charged (top-end balancing).
5. **Do NOT** charge the battery in temperatures below 0°C (< 32 deg F). This can cause damage to the cells and may cause fire.

### Discharging

1. Make sure your load accepts 24V nominal voltage.
2. Ensure the connection between the battery and the load can handle the current draw. Please consult references for the appropriate wire type.
3. The maximum continuous discharge current is **50A**.
4. The battery outputs a steady voltage around 25.6V until very little capacity remain, **do NOT** rely on voltage as an indicator of remaining capacity.

### Series and Parallel Connection

A 24V battery cannot be put in series with another 24V battery. Parallel connection is okay up to 4 pcs of the same model with a serial number starting with “20”

### Maintenance and Storage

The battery requires no manual maintenance due to the included PCM/BMS. However, please follow the below guideline for best life cycle.

1. Even though the LiFePO4 chemistry is relatively stable, protect the battery from shocks and drops to prevent internal short circuit.
2. For long term storage, fully charge the battery and then discharge to 50% of the full capacity. **Do NOT** leave the battery unattended for more than 6 months.
3. For the best life cycle, avoid using the battery in extreme temperatures and avoid highly variable pulsing loads.

## Troubleshooting

Since the battery can be used in many different configurations and equipment, we cannot provide a general troubleshooting guide. Please contact us so a technician can provide you with individualized support.

## FAQ

*Q. The terminals/connectors on the battery do not fit my application, what do I do?*

A. You can change the terminal/connector to whatever type you need without voiding the warranty so long as you do not open the battery or modify the casing.

*Q. I have a universal lead acid charger with high charging current, can I use it instead?*

A. Not recommended. Lead acid battery charges at 2.30V to 2.45V per cell whereas LiFePO4 needs 3.60V per cell. Your battery would be undercharged so you won't get full capacity nor will balancing be triggered, both of which are not desired. Furthermore, the floating charge of the lead acid charger is not expected by the battery and can cause problems.

*Q. How come the battery stops working a few seconds after a high current draw?*

A. Make sure the load is not exceeding the rated continuous output current else the PCM shuts off the battery after 2 sec. To reset, disconnect the load and attach the charger for a few seconds. If you need more current output, please contact us for an exchange or a custom solution.

*Q. I need more help with the battery I bought?*

A. Please contact us using the information below.

## Contact Us

**Mail:** Bioenno Power  
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Santa Ana, California 92704

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## Warranty

Please see the warranty section on [www.bioennopower.com](http://www.bioennopower.com)



# Bioenno Power

## BLF-2450AS LiFePO4 Battery User Manual