

Thank you for purchasing the **Bioenno Power** BLP-0490MS 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

- Starter Application

Contents

- 1 - Bioenno Power BLP-0490MS LiFePO4 Battery
- 1 - User Manual
- 1 - Compatible Charger with 2A output (optional)

Specifications (summary)

Dimensions	4.49 in. x 2.76 in. x 4.13 in. (114 mm x 70 mm x 105 mm)
Weight	1.21 lbs. (0.55kg.)
CCA Rating	90 CCA
Charging Voltage	14.6V
Charging Current	2A
Open Circuit Voltage Range	10-14.6VDC
Pb Equivalent Capacity	4-6 Ah
Operating Temperature	- 10°C to 60°C
Protection: PCM/BMS	Overcharge, overdischarge, overcurrent, temperature, balancing
Terminal / connector type	Square Post

For the full specification, please visit 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

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Instructions for Use

Charging

1. Only use **14.6V, LiFePO4 compatible** chargers to charge the battery. The charging current should be **~2A**. 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 6-10 hours.
3. If your battery came with a Bioenno Power charger, please note that the **LED light on the battery does NOT indicate the state of charge**. A red LED light means the battery is under constant current (CC) charging and green LED means constant voltage (CV) charging. Always charge for at least 5 hours to ensure full capacity.
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. This can cause damage to the cells.

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. *Can I buy another of the same LiFePO4 battery to double the voltage or capacity?*
- A. Not recommended. Refer to the series and parallel connection section. You should always get a single battery that meets your voltage and capacity requirement to avoid 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



Bioenno Power

BLP-0490MS LiFePO4 Starter Battery User Manual

Contact Us

Mail: Bioenno Power
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Santa Ana, California 92704

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Warranty

Please see the included warranty pamphlet for warranty information. You can also check www.bioennopower.com for more information.

⚠ THIS IS A **HIGH RATE** DISCHARGE BATTERY
⚠ **NOT** FOR DEEP CYCLE APPLICATIONS

This battery is for starting engines and/or pulsing high amounts of current in short bursts. If this is not your intended application, please contact Bioenno Power for further information!