

Thank you for purchasing the **Bioenno Power** BLF-4820A 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

- Solar energy storage
- Electric motor
- Backup power supply (UPS)
- Ham radio
- Portable electronic equipment power (audio, visual, networking, power tools etc.)
- Drop in replacement for lead acid battery
- LED Lighting

Contents

- 1 - Bioenno Power BLF-4820A LiFePO4 Battery
- 1 - User Manual
- 1 - Compatible Charger with 4A output

Specifications (summary)

Dimensions	10.3 in. x 5.7 in. x 5.7 in. (260 mm x 145 mm x 143 mm)
Weight	20.9 lbs. (9.5 kg.)
Battery nominal voltage and capacity	48V, 20Ah
Charging Voltage	58.4V
Charging Current	4A
Open Circuit Voltage Range	58.4VDC
Maximum Continuous Discharge Current	20A
Maximum Peak Pulse Current	40A (5 sec.)
Operating Temperature	- 10°C to 60°C
Protection: PCM/BMS	Overcharge, overdischarge, overcurrent, temperature, balancing
Charge Connector	Anderson Powerpole PP45
Discharge Connector	Anderson Powerpole SB50

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 expose to the environment, this battery is not sealed
- Do not throw in fire or dispose of improperly. Recycle the battery at a facility that accepts lithium battery

Last Revised 04/24/2019

Instructions for Use

Charging

1. Only use **58.4V, LiFePO4 compatible** chargers to charge the battery. The charging current should be about **4A**. 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 3-4 hours.
3. If your battery came with a Bioenno Power charger, when the battery is fully charged, the LED will change from Red to 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. This can cause damage to the cells.

Discharging

1. Make sure your load accepts 48V 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 **20A**.
4. The battery outputs a steady voltage around 51.2V until very little capacity remain, **do NOT** rely on voltage as an indicator of remaining capacity.

Series and Parallel Connection

We do not recommend using our LiFePO4 batteries in series or parallel connection if a single battery of equivalent size can be used instead. The PCM/BMS built into each battery is intended only for operation with a single battery and we do not guarantee the operability of multiple batteries in series or parallel configuration. Please take the information below into consideration if you must use a series or parallel configuration.

Series: **Each battery must be charged separately**, all batteries should be fully charged before connecting in series.

Parallel: **Only connect batteries with equal state of charge in parallel**. Also, measure the internal resistance of each battery and only use batteries with closely matched internal resistance. It is highly recommended that resistors be used to achieve equal internal resistance among multiple batteries. It is also highly recommended to add fuse(s) to the circuit for safety reasons.

Please keep in mind a series or parallel connection can fail with a number of consequences, from early cut off to possibly a fire. Always exercise caution and observe closely at all times. The customer assumes all responsibility in the event of a series or parallel connection or connections.

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.

