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Bioenno Power BLF-1240A Lithium Iron Phosphate Battery User Manual

Model: BLF-1240A

1. INTRODUCTION

The Bioenno Power Lithium Iron Phosphate (LiFePO₄) Battery Model BLF-1240A is a high-performance 12V 40Ah battery designed for various applications requiring reliable and extended power. This manual provides essential information for the safe and efficient operation, setup, and maintenance of your BLF-1240A battery. Please read this manual thoroughly before using the product.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury or damage to the battery and connected devices.

- Use only a LiFePO₄ compatible charger. Do not use chargers designed for SLA (Sealed Lead Acid) batteries.
- Do not short-circuit the battery terminals.
- Do not disassemble, puncture, or modify the battery.
- Keep the battery away from fire, heat sources, and direct sunlight.
- Do not immerse the battery in water or other liquids.
- Store the battery in a cool, dry place when not in use.
- Ensure proper ventilation when charging or discharging the battery.
- In case of leakage, contact with skin or eyes, rinse immediately with plenty of water and seek medical attention.

3. PRODUCT FEATURES

The Bioenno Power BLF-1240A battery incorporates advanced features for optimal performance and safety:

- **Voltage:** 12V, **Capacity:** 40Ah
- **Case Type:** PVC Pack for durability.
- **Charge/Discharge Connector:** Standard Anderson Powerpole for reliable connections.

- **Maximum Continuous Discharge Current:** 40A (Peak Pulse 80A).
- **Max Power Delivered to Load:** 480 Watts (12V x 40A).
- Integrated PCM (Protection Circuit Module) for internal cell balancing and comprehensive protection.
- No EMI/RFI (Electromagnetic Interference/Radio-Frequency Interference) for quiet operation.

4. SETUP

Before initial use, it is recommended to fully charge the battery.

1. **Unpacking:** Carefully remove the battery from its packaging. Inspect for any visible damage.
2. **Charging:**
 - Connect your LiFePO4 compatible charger (e.g., Bioenno Power BPC-1506DC 6A Charger, sold separately) to a suitable power outlet.
 - Connect the charger's Anderson Powerpole connector to the battery's Anderson Powerpole connector. Ensure correct polarity.
 - Allow the battery to charge until the charger indicates a full charge (refer to your charger's manual for specific indicators).
 - Disconnect the charger once charging is complete.



Figure 4.1: Front view of the Bioenno Power BLF-1240A battery, showing the label with specifications and the Anderson Powerpole connector.

5. OPERATING INSTRUCTIONS

The BLF-1240A battery is designed for various applications, including energy storage, e-bikes, e-scooters, solar, and amateur radio.

1. **Connecting Devices:**
 - Ensure your device is compatible with a 12V power source and its power requirements do not exceed the battery's maximum continuous discharge current (40A) or peak pulse current (80A).
 - Connect your device's power cable, equipped with an Anderson Powerpole connector, to the battery's Anderson Powerpole connector. Ensure a secure and correct polarity connection.
 - Once connected, your device should receive power from the battery.

2. **Monitoring Battery Level:**

While the battery has an integrated PCM, it is advisable to use an external battery monitor or your device's built-in voltage indicator to track the battery's state of charge, especially during prolonged use.

3. **Disconnecting:**

When finished using the battery, disconnect your device by pulling the Anderson Powerpole connectors apart. Store the battery as per maintenance guidelines.



Figure 5.1: The BLF-1240A battery with its integrated power cables and Anderson Powerpole connector, ready for connection.



Figure 5.2: A close-up view of the Anderson Powerpole connector, highlighting its design for secure and reliable power connections.

6. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your LiFePO4 battery.

- **Charging Frequency:** For best results, avoid deep discharges. Recharge the battery after each significant use. LiFePO4 batteries do not suffer from memory effect.
- **Storage:** If storing the battery for an extended period (more than 3 months), charge it to approximately 50-70% of its capacity. Store in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Cleaning:** Use a soft, dry cloth to clean the battery case. Do not use harsh chemicals or abrasive cleaners. Ensure connectors are free of dust and debris.
- **Inspection:** Periodically inspect the battery and its cables for any signs of damage, wear, or corrosion.

7. TROUBLESHOOTING

If you encounter issues with your BLF-1240A battery, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Battery not charging	Incorrect charger type; Loose connection; Charger malfunction; Battery PCM protection activated.	Ensure you are using a LiFePO4 compatible charger. Check all connections. Test charger with another device if possible. Disconnect and reconnect battery to reset PCM.
Battery not providing power	Battery discharged; Loose connection; Device malfunction; Battery PCM protection activated (over-discharge, over-current).	Charge the battery. Check all connections. Test device with another power source. Disconnect and reconnect battery to reset PCM. Reduce load if over-current protection is suspected.
Reduced runtime	Battery not fully charged; High power consumption by device; Battery nearing end of life.	Ensure battery is fully charged before use. Verify device power consumption. If battery is old, consider replacement.

If problems persist after attempting these solutions, please contact Bioenno Power customer support.

8. SPECIFICATIONS

Attribute	Value
Model Number	BLF-1240A
Voltage	12 Volts
Battery Capacity	40 Amp Hours (Ah)
Battery Cell Composition	Lithium Iron Phosphate (LiFePO4)
Case Type	PVC Pack
Charge/Discharge Connector	Anderson Powerpole
Maximum Continuous Discharge Current	40A
Peak Pulse Discharge Current	80A

Attribute	Value
Max Power Delivered to Load	480 Watts
Dimensions (L x W x H)	8.4 in. x 6.3 in. x 3.2 in. (213 mm x 159 mm x 80 mm)
Item Weight	10.4 lbs. (4.7 kg)
Integrated Protection	PCM (Protection Circuit Module) for cell balancing, over-charge, over-discharge, over-current, short-circuit protection.
Manufacturer	Bioenno Power

9. WARRANTY AND SUPPORT

Bioenno Power products are designed for reliability and performance. For specific warranty terms and conditions, please refer to the official Bioenno Power website or contact their customer support directly.

Customer Support: For technical assistance, troubleshooting, or warranty claims, please visit the Bioenno Power official website or contact their customer service department.