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Power Queen 25.6V100Ah

Power Queen 25.6V 100Ah LiFePO4 Deep Cycle Battery Instruction Manual

Model: 25.6V100Ah

1. INTRODUCTION

This manual provides essential information for the safe and efficient use of your Power Queen 25.6V 100Ah LiFePO4 Deep Cycle Battery. Please read it thoroughly before installation and operation to ensure optimal performance and longevity of the product. This battery is designed for various applications including solar storage systems, marine use, and backup power solutions.



2. KEY FEATURES

- **Integrated 100A BMS:** The Battery Management System protects against overcharge, over-discharge, over-current, and short circuits, ensuring safe operation.
- **High Capacity & Extended Runtime:** Provides 2.56kWh of energy, capable of powering a 200W heater mat for approximately 12.8 hours.
- **Scalable Energy Storage:** Supports up to 2 batteries in series and 4 in parallel (Max 2S4P), allowing for a maximum 51.2V 400Ah battery system with 20.48kWh energy.
- **Space-Saving Design:** Directly replaces two 12V 100Ah lithium batteries in series, reducing footprint and simplifying connections.
- **Long Cycle Life:** Offers 4000 to 15000 cycles, providing a durable and reliable power source.

3. PACKAGE CONTENTS

Upon receiving your Power Queen 25.6V 100Ah LiFePO4 Battery, please verify that all items listed below are included and in good condition:

- 1x 25.6V100Ah LiFePO4 Battery
- M8 Terminal Bolts (2 pieces)
- Insulating Caps for Bolts (2 pieces)
- User Manual

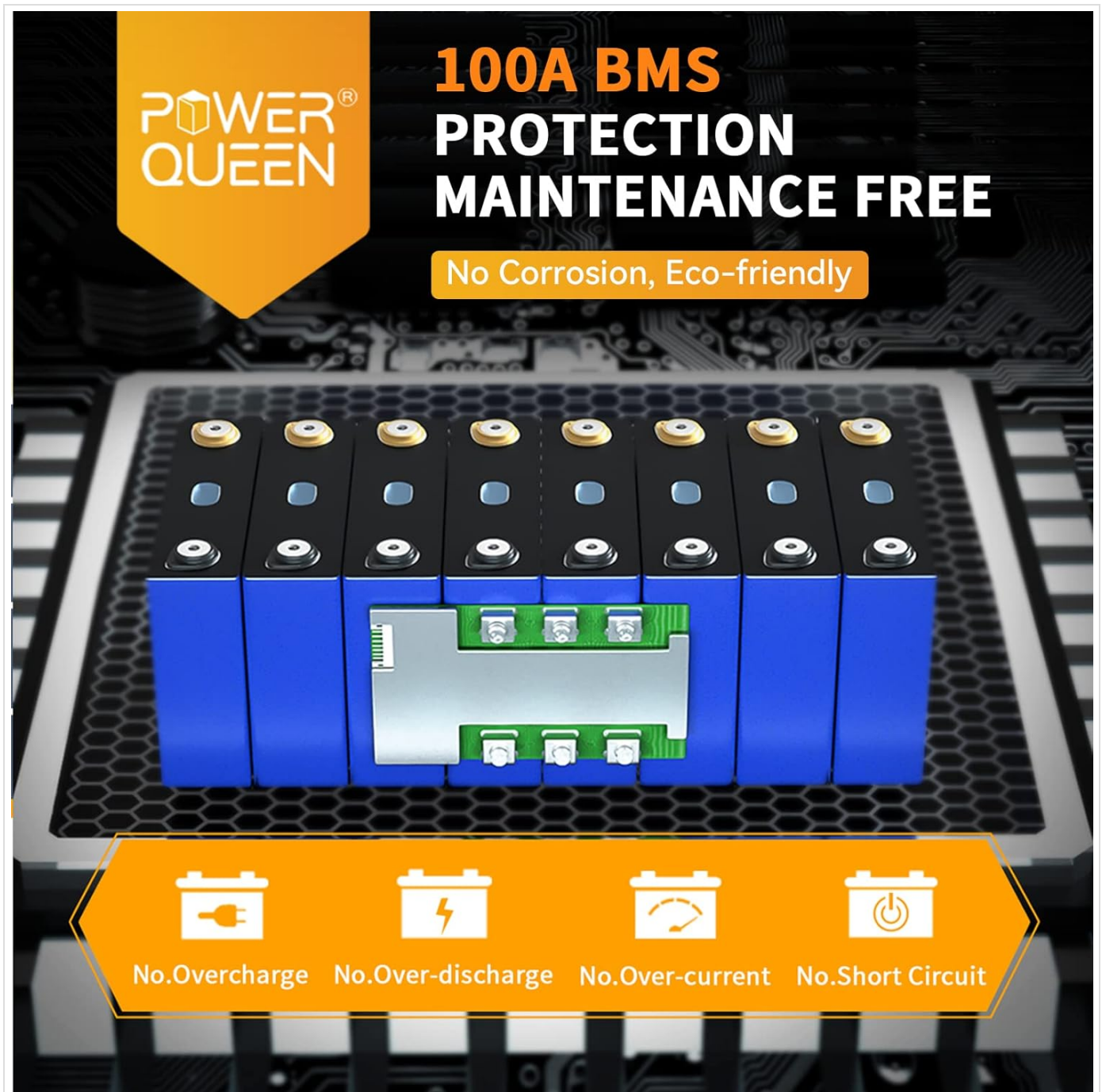


Image 2: Contents of the Power Queen 25.6V 100Ah LiFePO4 Battery package.

Unboxing Video

Video 1: An unboxing video of a Power Queen battery, demonstrating typical packaging and initial inspection.

Video 2: A detailed unboxing video for a Power Queen LiFePO4 battery, showing the contents and initial handling.

4. SETUP & INSTALLATION

4.1 Physical Dimensions

Ensure adequate space for installation and proper ventilation. The battery dimensions are approximately 8.15"D x 20.95"W x 8.5"H, with an item weight of 45.5 pounds.



Image 3: Detailed dimensions of the Power Queen 25.6V 100Ah LiFePO4 Battery.

4.2 Connection Configurations

The Power Queen 25.6V 100Ah battery supports flexible connection options to meet various power requirements:

- **Series Connection:** Up to 2 batteries can be connected in series to achieve higher voltage (e.g., 51.2V).
- **Parallel Connection:** Up to 4 batteries can be connected in parallel to increase capacity (e.g., 400Ah).
- **Combined Series-Parallel:** A maximum of 8 batteries can be configured in a 2S4P setup to create a 51.2V 400Ah system, providing 20.48kWh of energy.

Always use appropriate gauge wiring and ensure all connections are secure using the provided M8 terminal bolts and insulating caps.

POWER
QUEEN®

MAX.20.48KWH EXPANSION SELF-RELIANT POWER

51.2V 400Ah Battery System

(8pcs 25.6V 100Ah batteries connected in 4 parallel connections and 2 series connections)

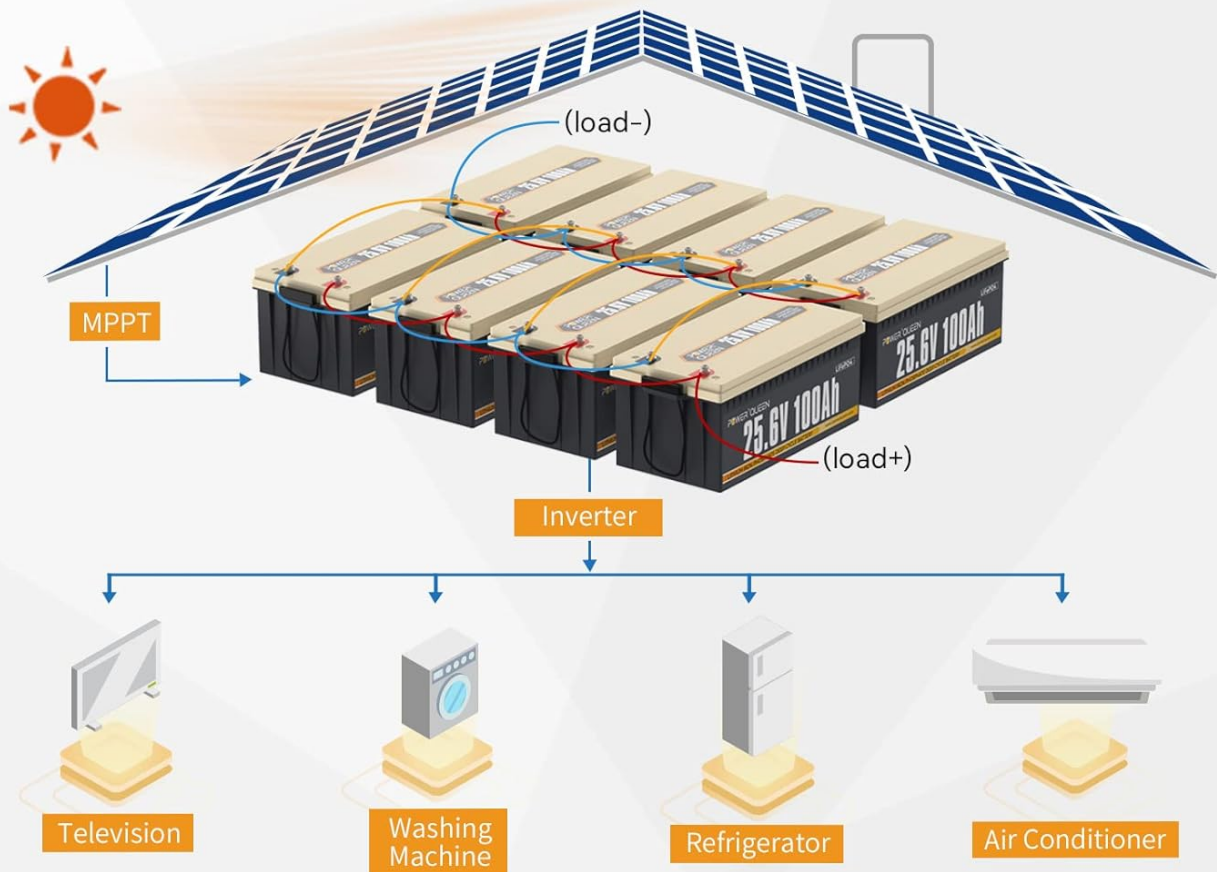


Image 4: Diagram illustrating series and parallel connection options for multiple Power Queen batteries to achieve higher voltage and capacity.

System Setup Video

Video 3: An overview of a Power Queen battery system setup, demonstrating how batteries can be integrated into various power solutions.

5. OPERATING INSTRUCTIONS

The Power Queen LiFePO₄ battery is equipped with an advanced Battery Management System (BMS) to ensure safe and reliable operation. The BMS actively monitors and protects the battery from various conditions:

- **Overcharge Protection:** Prevents the battery from being charged beyond its safe voltage limit.
- **Over-discharge Protection:** Disconnects the battery before it is discharged to a level that could cause damage.
- **Over-current Protection:** Safeguards against excessive current draw that could harm the battery or connected

devices.

- **Short Circuit Protection:** Automatically cuts off power in the event of a short circuit.

Always ensure your charging source is compatible with LiFePO4 batteries and adheres to the recommended charging voltage and current specifications.

POWER QUEEN

**FREE TO MOVE
NO WORRY ABOUT
CONNECTION**

25.6V 100Ah LiFePO4 Battery = 2x12.8V 100Ah LiFePO4 Battery (Connected in series)

VS

25.6V 100Ah LiFePO4 Battery	01	2x12.8V 100Ah LiFePO4 Battery (Connected in series)
Longer Lifespan (Stable cells connection provide best performance)	02	Shorter Lifespan (Voltage difference influence the performance)
Easy to take	03	Not Easy to Move
No Extra Connection Wires		Need to Buy Extra Wires

Image 5: Visual representation of the 100A BMS and its protective functions against common electrical faults.

Application Scenarios

The Power Queen 25.6V 100Ah battery is suitable for a variety of applications:

- Solar Storage Systems
- Marine Applications (e.g., 24V trolling motors within 100lb thrust)
- RV and Camper Power
- Emergency Backup Power

Certified to the Highest Standards

5-Year Garanty & Customer Service 24/7



Image 6: Examples of various environments and applications where the Power Queen battery can be utilized, including home backup, RVs, off-grid cabins, and marine vessels.

Application Videos

Video 4: Demonstrates the Power Queen battery providing reliable power for solar independence in various settings.

Video 5: Showcases the Power Queen battery as an upgraded lithium solution for marine applications.

Video 6: A short video highlighting the Power Queen battery's role in solar backup systems for essential power.

Video 7: A general overview video of the Power Queen Lithium Battery and its broad utility.

Video 8: A concise video showcasing the Power Queen LiFePO4 Battery and its various uses.

6. MAINTENANCE

LiFePO4 batteries require minimal maintenance compared to traditional lead-acid batteries. Follow these guidelines to ensure optimal performance and lifespan:

- **Regular Inspection:** Periodically check battery terminals for corrosion or loose connections. Ensure M8 terminal bolts are tightened securely.
- **Cleanliness:** Keep the battery surface clean and free from dust and debris.
- **Temperature Management:** Operate the battery within its recommended temperature range. Avoid extreme heat or cold, which can impact performance and lifespan.
- **Charging Practices:** Use a compatible LiFePO4 charger. Avoid overcharging or deep discharging the battery, although the built-in BMS provides protection against these conditions.
- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50% state of charge and stored in a cool, dry place.

The battery has an IP65 rating, indicating protection against dust ingress and low-pressure water jets. However, it is not designed for submersion.

7. TROUBLESHOOTING

If you encounter issues with your Power Queen LiFePO4 battery, consider the following common troubleshooting steps:

- **Battery Not Charging:** Verify that the charger is correctly connected and compatible with LiFePO4 batteries. Check for loose connections at the battery terminals. Ensure the charger is receiving power.
- **Low Voltage Output:** Confirm that the battery is adequately charged. Check all connections for tightness and ensure no cables are damaged. The BMS may have activated a protection mode due to over-discharge; try recharging the battery.
- **No Power Output:** This could indicate a short circuit or severe over-discharge, triggering the BMS protection. Disconnect all loads, inspect for faults, and attempt to recharge the battery.
- **Unusual Odor or Swelling:** Immediately disconnect the battery from all loads and charging sources. Do not attempt to use or charge the battery. Contact customer support for assistance.

For persistent issues or concerns, refer to the warranty and support section to contact Power Queen customer service.

8. SPECIFICATIONS

Specification	Value
Brand	Power Queen
Model	25.6V100Ah
Product Dimensions	8.15"D x 20.95"W x 8.5"H
Item Weight	45.5 pounds
Battery Capacity	100 Amp Hours
Number Of Cells	8
Resistance	40 Megaohms
Terminal Type	M8
Max. Load Power	2.56kW

Specification	Value
BMS Amperage	100 Amps
Cycle Life	4000 to 15000 Cycles
Protection Rating	IP65

9. WARRANTY AND SUPPORT

Power Queen stands behind the quality of its products. Your 25.6V 100Ah LiFePO4 battery comes with **5-year warranty** from the date of purchase.

For any questions, technical assistance, or warranty claims, please contact Power Queen customer service. Our support team is available 24 hours a day to assist you.

For more information, visit the official [Power Queen Store](#).



Image 7: Certifications and warranty details for Power Queen products, highlighting adherence to quality standards.

