## Dyness DL5.0C

# Dyness 51.2V 100Ah LiFePO4 Battery Instruction Manual (Model DL5.0C)

Comprehensive guide for the Dyness 51.2V 100Ah LiFePO4 Battery, covering setup, operation, maintenance, troubleshooting, and specifications for off-grid, solar, and backup power applications.

## Product Overview


Image: The Dyness 51.2V 100Ah LiFePO4 Battery, a deep cycle lithium iron phosphate battery module.

The Dyness 51.2V 100Ah LiFePO4 Battery (Model DL5.0C) is a high-capacity energy storage solution designed for various applications including off-grid, solar, and backup power systems. This

battery module offers a nominal voltage of 51.2V and a capacity of 100Ah, providing 5.12kWh of energy. It features advanced communication capabilities, automotive-grade cell technology, and a robust Battery Management System (BMS) for enhanced safety and performance.

## Key Features

- **Space-Saving Rack Design:** Standard modular unit (5.12kWh) allows for easy parallel connection of up to 50 batteries for a 256kWh system. Supports wall-mount and floor-standing installations.
- **Smart Communication:** Utilizes industrial-grade CAN bus or RS485 wired communication for compatibility with major inverter brands, ensuring stable data transmission and strong anti-interference capabilities.
- **Automotive-Grade Cell Connection Technology:** Features "Cells Contact System (CCS)" technology for integrated battery cell interconnection, enhancing spatial utilization, consistency, and electrical connection reliability.
- **Real-Time Monitoring:** Equipped with a COM port for Wi-Fi signal booster, external data loggers, or displays supporting RS232 protocol. Monitors voltage, current, temperature, and protection status via smartphone. An LED indicator on the front panel displays State of Charge (SOC), operational status, and fault alarms.
- **Upgraded 100A BMS & Grade-A EV Cells:** Manufactured with premium Lithium Iron Phosphate (LiFePO4) cells for inherent safety and 4000+ long cycle life. The built-in BMS provides multiple protections against overcharge, over-discharge, over-current, and high/low temperatures, including cell balancing.

Image: Illustration of smart communication and real-time monitoring capabilities, including Wi-Fi, inverter/PC connection, and battery-to-battery communication.

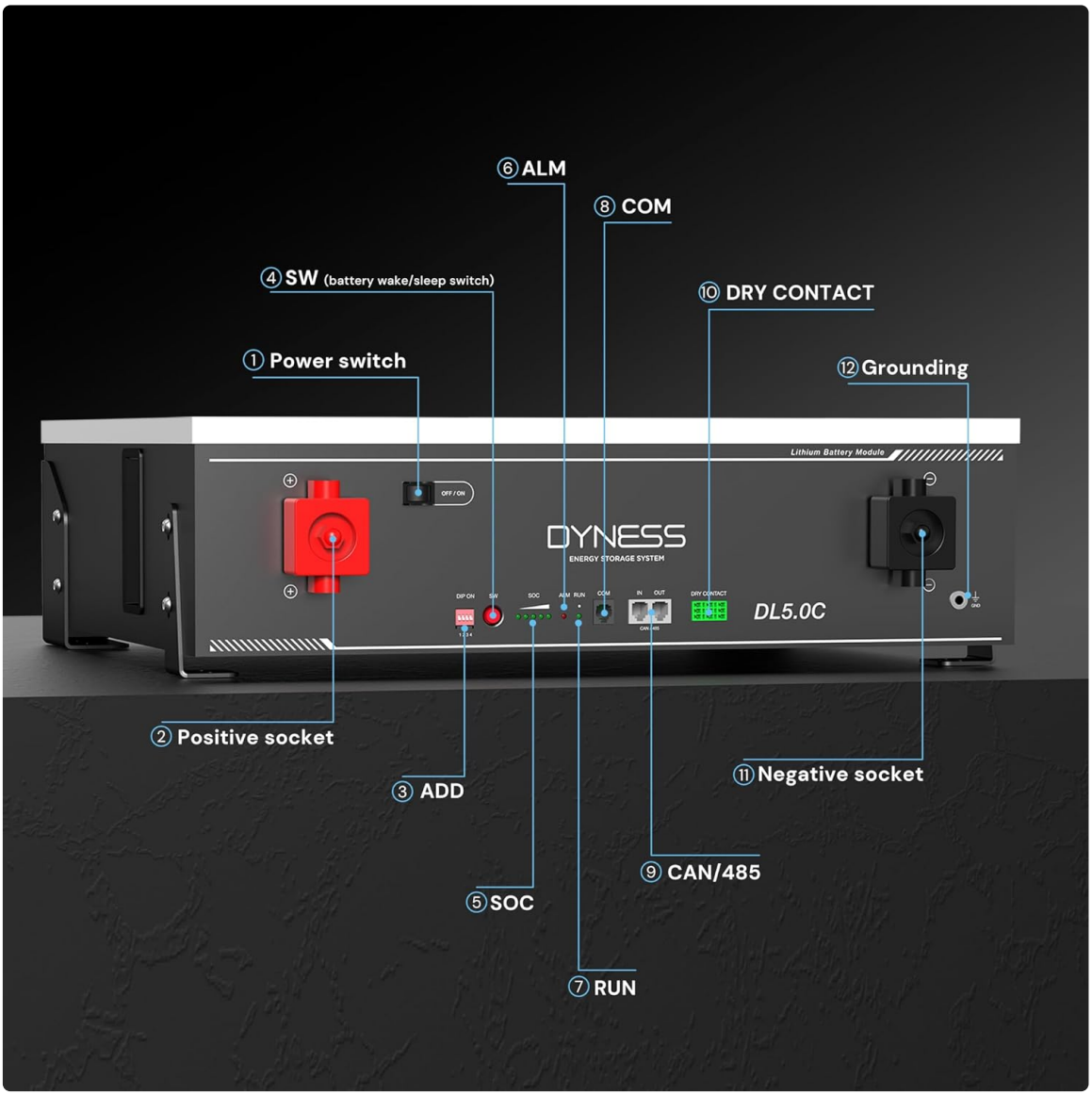


Image: Detailed view of the battery's front panel, highlighting the power switch, positive/negative sockets, ADD dip switches, SOC/RUN/ALM indicators, DRY contact, CAN/RS485/RS232 communication ports, and grounding point.


Image: Close-up of the internal automotive industrial-grade cell contact system (CCS) technology, emphasizing precise monitoring, enhanced battery safety, and space-saving design.


Image: Visual representation of the wall-mounted and floor-mounted installation options for the Dyness 51.2V 100Ah LiFePO4 Battery, highlighting its space-saving design for home energy storage.

## Official Product Video

Video: An official product video from Dyness US providing an overview of the Dyness 51.2V 100Ah LiFePO4 Battery, showcasing its features and design.

## What's in the Box


Image: A visual representation of all items included in the product package.

The Dyness 51.2V 100Ah LiFePO4 Battery package includes the following items:

- Dyness 51.2V 100Ah LiFePO4 Battery Module
- User Manual
- Positive Power Cable (Red)
- Negative Power Cable (Black)
- Communication Parallel Cable
- Communication Cable to Inverter
- Ground Wire
- Battery Brackets (for wall-mount/floor-standing)
- Fixing Brackets
- Expansion Bolts
- Positioning Cardboard

## Setup and Installation

Proper setup and installation are crucial for the safe and efficient operation of your Dyness LiFePO4

battery. Please follow these guidelines carefully.

### Mounting Options

The Dyness battery offers flexible installation options to suit your space requirements:

- **Wall-Mounted:** Securely attach the battery to a sturdy wall using the provided battery brackets and fixing hardware. Ensure the wall can support the battery's weight (approximately 110 pounds).
- **Floor-Standing:** Place the battery on a flat, stable surface. The design allows for stacking multiple units.


Image: An illustration demonstrating how multiple Dyness batteries can be connected in parallel for flexible energy expansion solutions, minimizing wiring complexity.

### Parallel Connection

For increased capacity, multiple Dyness battery modules can be connected in parallel. The system supports up to 50 batteries in parallel, allowing for a total energy storage system of up to 256kWh. Use the provided parallel cables for secure connections.

### Connecting to Inverter

Connect the battery to your inverter using the appropriate communication and power cables. The battery supports industrial-grade CAN bus or RS485 wired communication for compatibility with major inverter brands.

### Grounding

Ensure the battery is properly grounded using the provided ground wire to prevent electrical hazards.

### Initial Power-On and Display Check

After installation, press the power button on the battery. The integrated display will show basic information and allow you to navigate through various settings and statuses.

## Operating Instructions

The Dyness battery features an intuitive interface for monitoring and configuration.

### Display Navigation

Use the MENU, ENTER, NEXT, and ESC buttons on the front panel to navigate the display:

- **Pack Info:** View real-time data such as voltage, current, capacity, and temperature.
- **Pack Status:** Check the battery's operational status, protection count, and MOSFET status.
- **Pack Para:** Access pack parameters (some content may not be settable directly from the display).
- **Pack Set:** Configure communication settings for RS485 and CANBus protocols.

### Communication Settings

To configure communication protocols for your inverter:

1. Navigate to 'Pack Set' on the display.
2. Select either 'RS485' or 'CANBus' depending on your inverter's protocol.
3. Choose the specific inverter brand/model from the list (e.g., PYLON, GROWATT, Voltronic, LXP for RS485; LXP, DEYE, SOFAR, GINLONG, SMA, MUST for CANBus).
4. Press ENTER to confirm your selection. The display will show 'SET OK!'.

### Wi-Fi App Monitoring

The COM port allows connection to a Wi-Fi signal booster or external data loggers/displays supporting the RS232 protocol. This enables remote monitoring of battery health and performance parameters (voltage, current, temperature, protection status) via a smartphone application.

## Maintenance

To ensure optimal performance and longevity of your Dyness LiFePO4 battery, adhere to the following maintenance guidelines:

- **Regular Inspection:** Periodically check all cable connections for tightness and signs of wear or corrosion.
- **Temperature Management:** Operate the battery within its specified working temperature ranges. For charging, the recommended temperature is 0°C to 55°C. For discharging, it is -20°C to 60°C. For storage, maintain temperatures between 10°C and 35°C.
- **Cleaning:** Keep the battery unit clean and free from dust and debris. Use a dry, soft cloth for cleaning.
- **Firmware Updates:** Check the manufacturer's website or app for any available firmware updates to ensure your battery's BMS is running the latest version.

## Troubleshooting

If you encounter issues with your Dyness LiFePO4 battery, consider the following basic troubleshooting steps:

- **No Power/Display Off:** Check the main power switch and ensure all connections are secure. Verify the input voltage from the charging source.
- **Fault Alarm:** Refer to the LED indicator on the front panel for fault alarms. Consult the user manual for specific fault codes and their meanings.
- **Communication Issues:** Ensure communication cables are correctly connected to the appropriate ports (RS485, CAN, RS232) and that the inverter communication protocol is correctly set in the 'Pack Set' menu.
- **Low Capacity/Performance:** Verify that the battery is operating within the recommended

temperature ranges for charging and discharging. Check for any error messages on the display.

- **Parallel System Imbalance:** For multi-module parallel systems, ensure the master battery BMS is aggregating data correctly. Check individual module statuses if an imbalance is suspected.

For persistent issues, please contact Dyness customer support.

## Specifications

| Feature | Value |
|---|---|
| Battery Module | 51.2V 100Ah |
| Rated Energy | 5.12kWh |
| Rated Capacity | 100Ah |
| Rated Voltage | 51.2V |
| Charge Cut-off Voltage | 58.4V |
| Discharge Cut-off Voltage | 41.6V |
| Recommended Charging Current | 20A-50A |
| Max. Discharging Current | 100A |
| Communication | CAN / RS485 / RS232 / Bluetooth |
| Charge Temperature | 0°C ~ 55°C |
| Discharge Temperature | -20°C ~ 60°C |
| Storage Temperature | 10°C ~ 35°C |
| Product Dimensions | 5.9"D x 21.96"W x 21.45"H |
| Item Weight | 110 pounds |
| Terminal | M8 Terminal |

## Warranty and Support

Dyness batteries come with a**10-year warranty**. We are committed to providing excellent customer service and will assist with any issues within 24 hours.

A return or replacement is applicable if there is any verified technical issue within 30 days of purchase, even if the item is marked as non-returnable by the retailer. Please feel free to contact us should you have any questions or require support.

For customer support, please refer to the contact information provided in your product packaging or visit the official Dyness website.

## Related Documents - DL5.0C

| | |
|---|---|
|  | Dyness Wi-Fi Loger Stick for DL5.0C Battery - User Manual<br>User manual for the Dyness Wi-Fi Loger Stick, designed for DL5.0C batteries. Learn about installation, configuration, specifications, and troubleshooting for intelligent monitoring of your power station. |
|  | Dyness DL5.0C User Manual - Lithium Battery Module<br>User manual for the Dyness DL5.0C Lithium Iron Phosphate Battery Energy Storage System. Provides detailed information on product specifications, installation, configuration, usage, maintenance, and troubleshooting. |
|  | Dyness DL5.0C Pro User Manual - Battery Module 51.2V/100Ah<br>User manual for the Dyness DL5.0C Pro Lithium Iron Phosphate Battery Energy Storage System. This document provides detailed information on product specifications, installation procedures, operation, maintenance, troubleshooting, and safety precautions. |
|  | Dyness DL5.0 User Manual: Installation, Operation, and Troubleshooting Guide<br>Comprehensive user manual for the Dyness DL5.0 Lithium Iron Phosphate Battery Module (51.2V/100Ah). Covers product specifications, safety precautions, installation procedures, usage guidelines, maintenance, and troubleshooting for energy storage systems. |
|  | Dyness B4850 Battery Module: User Manual, Specifications, Installation & Troubleshooting<br>Comprehensive user manual for the Dyness B4850 Lithium Iron Phosphate Battery Energy Storage System. Covers specifications, installation, operation, maintenance, and troubleshooting. |
|  | Dyness Junior Box User Manual: Balcony Solar System Guide<br>Comprehensive user manual for the Dyness Junior Box, a balcony solar system. Covers installation, connection, operation, maintenance, and safety information for the 1.6KWh energy storage system. |