

DALY LFP24S

DALY LiFePo4 72V Smart BMS 30A 24S Instruction Manual

Model: LFP24S

1. PRODUCT OVERVIEW

The DALY LiFePo4 72V Smart BMS 30A 24S is a Battery Management System designed for 24-series (72V nominal) Lithium Iron Phosphate (LiFePo4) battery packs. It provides essential protection and monitoring functions to optimize battery performance and extend its lifespan. This Smart BMS features UART communication and Bluetooth connectivity for real-time data access and parameter configuration.

Key Features:

- **Comprehensive Protection:** Includes overcurrent, overcharge, overdischarge, short circuit, and temperature protection.
- **Robust Design:** Engineered with injection patent technology and a patent shell, offering waterproof, dustproof, shockproof, and anti-static properties.
- **Smart Monitoring:** Monitor battery status and modify parameters via a Bluetooth application or PC software.
- **High Accuracy:** Utilizes high-quality components for precise data acquisition.

2. SAFETY INFORMATION

Read all instructions carefully before installation and operation. Improper installation or use can lead to serious injury, property damage, or product failure. Always prioritize safety.

- **Professional Installation Recommended:** Installation should be performed by qualified personnel with experience in battery systems.
- **Correct Wiring:** Ensure all wiring connections are correct and secure according to the provided diagrams. Incorrect wiring can damage the BMS and battery.
- **Avoid Short Circuits:** Prevent short circuits during installation and operation.

- **Protective Gear:** Wear appropriate personal protective equipment (PPE), such as safety glasses and insulated gloves, when working with batteries.
- **Heat Management:** Ensure adequate ventilation and keep the BMS cooling surface uncovered to prevent overheating.
- **Disconnect Before Welding:** Always disconnect balance wires from the BMS connection port before welding any black and red balance wires onto the battery pack.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- DALY 3.2V LiFePo4 BMS (LFP24S, 30A) x 1
- Bluetooth Module x 1
- NTC Temperature Sensor x 1
- Sampling Cable (Balance Wires) x 1
- UART Cable x 1
- Instruction Manual x 1

Packing Example



Image: Example of the DALY Smart BMS package contents, showing the BMS unit, cables, and accessories.

4. SETUP AND INSTALLATION

Follow these steps for proper installation of your DALY Smart BMS. Refer to the wiring diagram for visual guidance.

1. **Prepare Battery Pack:** Ensure your 24-series LiFePo4 battery pack is assembled and individual cell voltages are balanced.
2. **Connect Balance Wires:**
 - **Crucial Step:** Before connecting the balance wires to the BMS, ensure the white connector end is disconnected from the BMS.
 - Carefully weld or connect the individual balance wires (sampling cable) to each cell of your battery pack, starting from the negative terminal (B0) and progressing to the positive terminal (B24).
 - Ensure the DALY matching balance wires are used (regular length 450 mm / 17.72 inch) and that

the red cooling surface of the BMS remains uncovered for proper heat dissipation.

3. Connect Main Power Wires:

- Connect the main negative wire from the battery pack to the 'B-' terminal on the BMS.
- Connect the main negative output wire for the load/charger to the 'P-' terminal on the BMS.
- The main positive wire from the battery pack (B+) connects directly to the load/charger, bypassing the BMS.

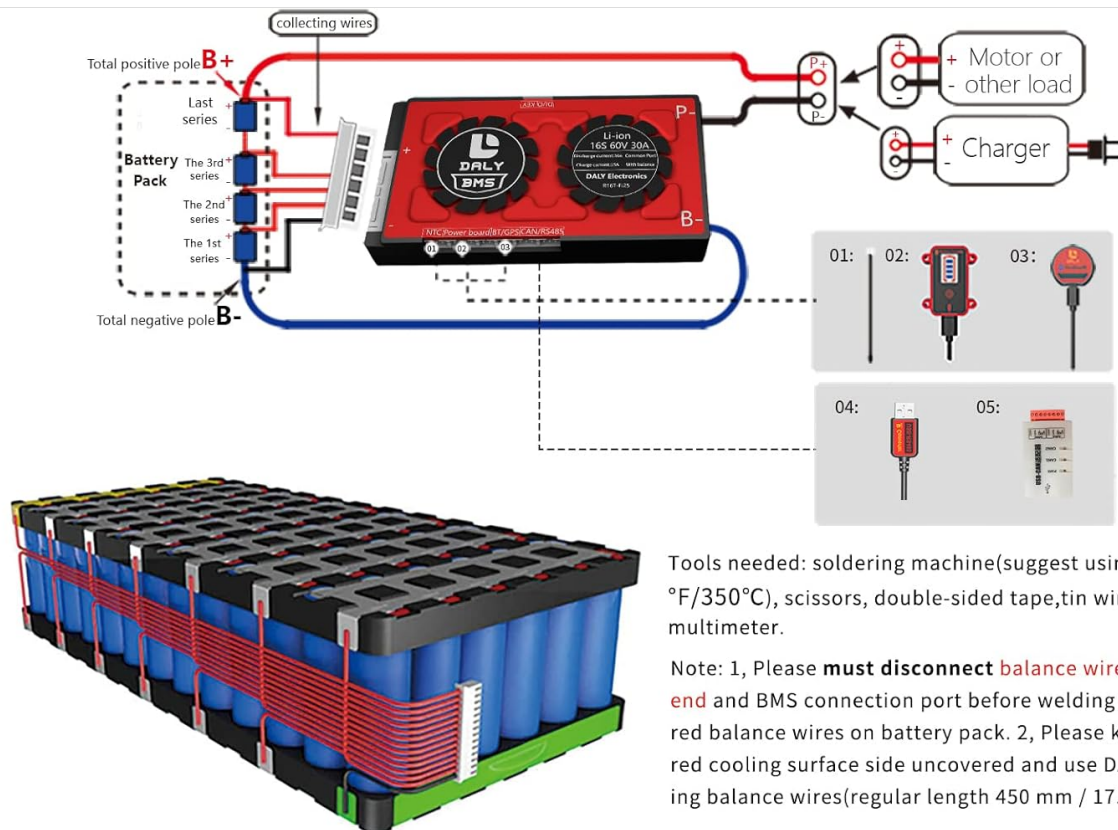
4. Connect Balance Wire Connector: Once all balance wires are securely connected to the battery cells and the main power wires are in place, carefully plug the white connector of the balance wires into the designated port on the BMS.

5. Activate BMS: Press the activation button on the BMS board to power it on for the first time.

6. Connect Communication Modules:

- For Bluetooth communication, plug the Bluetooth module into the dedicated port on the BMS.
- For UART communication with a PC, connect the UART cable to the BMS and your computer.
- If applicable, connect RS485 or CAN communication modules.

7. NTC Sensor: Connect the NTC temperature sensor to the BMS and place it appropriately on the battery pack for accurate temperature monitoring.



Tools needed: soldering machine(suggest using 662 °F/350°C), scissors, double-sided tape, tin wire, multimeter.

Note: 1, Please **must disconnect balance wires white end** and BMS connection port before welding black and red balance wires on battery pack. 2, Please keep BMS red cooling surface side uncovered and use DALY matching balance wires(regular length 450 mm / 17.72 inch).

After confirming that the balance wires are welded correctly and installed the accessories (such as: UART/Bluetooth/ RS485/ CAN on BMS), connect balance wires and BMS connection port. Please refer to daly website link smart bms Tutorial Video <https://www.dalyelec.cn/newsshow.php?cid=25&id=78&lang=1> including:

1. Daly Smart BMS Touch screen Connection Tutorial
2. Daly Smart BMS SOC light board Connection Tutorial
3. Daly Smart BMS PC screen Connection Tutorial
4. Daly Smart BMS CANBUS Connection Tutorial
5. Daly Smart BMS Bluetooth APP Connection Tutorial
6. Daly Smart BMS UART、RS485 Connection Tutorial

Two methods①: press activation button on the battery board ②: by charging to activate BMS for the first use.

The serial number of BMS and the protection parameters(Li-ion, LiFePO4) have default values at the factory, but the capacity of the battery pack needs to be set according to the actual capacity AH of the battery pack. If the capacity AH is not set correctly, The percentage of remaining power will be inaccurate. Other parameters can also be set to your needs.

Initial password of smart board APP to change parameters is: 123456.

Image: Detailed wiring diagram illustrating connections for the DALY Smart BMS with a 24-series LiFePO4 battery pack, motor, and charger.

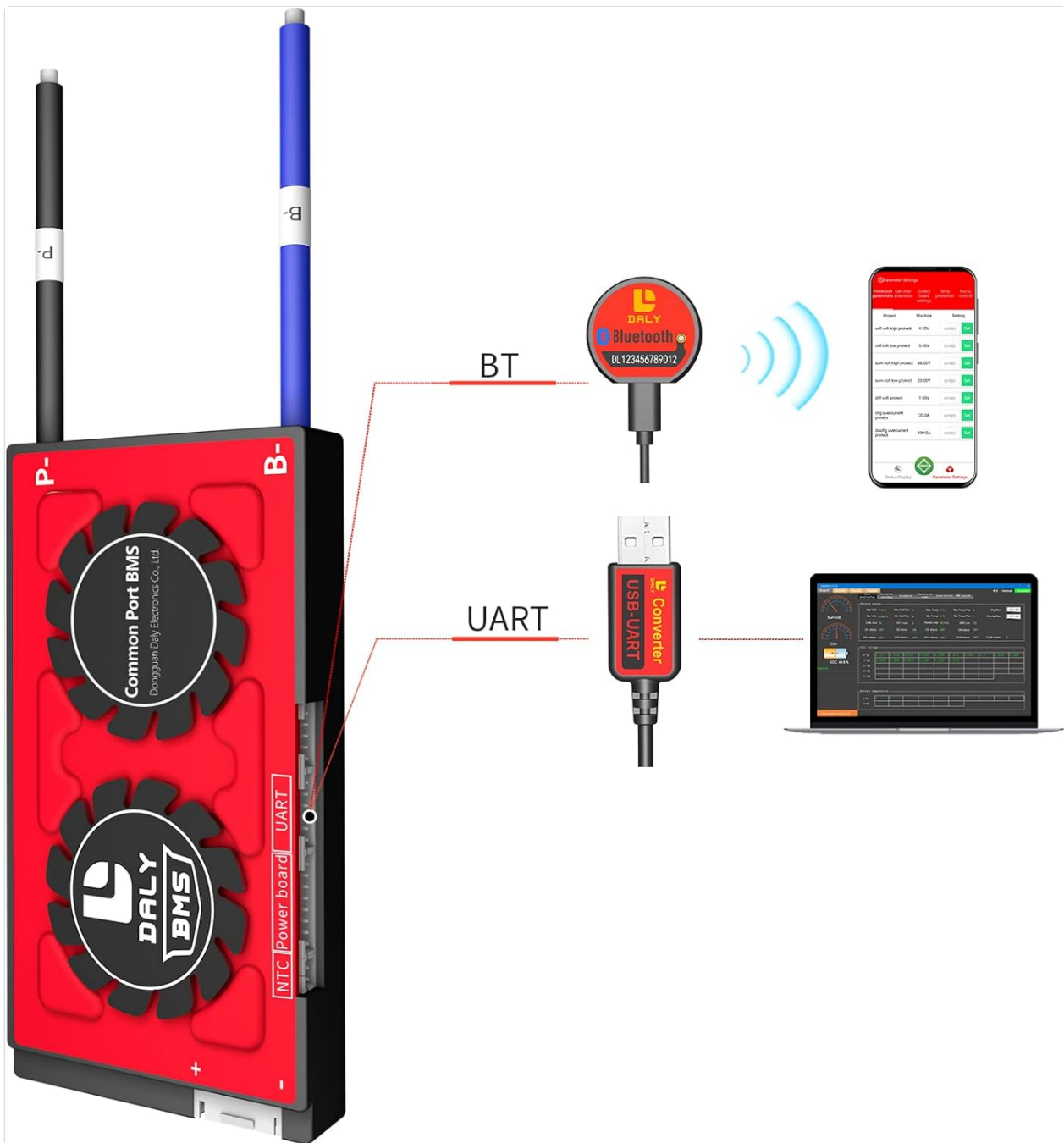


Image: Diagram showing the connection points for the Bluetooth module and UART cable on the DALY Smart BMS.

5. OPERATING INSTRUCTIONS

The DALY Smart BMS allows for advanced monitoring and configuration through its communication interfaces.

5.1 Bluetooth App Operation

1. **Download App:** Search for the DALY BMS app on your smartphone's app store.
2. **Connect via Bluetooth:** Ensure the Bluetooth module is connected to the BMS and Bluetooth is enabled on your smartphone. Open the app and search for the BMS device.
3. **Initial Login:** The initial password for the app is **123456**.
4. **Configure Parameters:**
 - The default parameters in the app may not perfectly match your specific battery pack. It is crucial to verify and adjust these parameters, especially the total battery capacity (AH) and the number of series cells (24S for this model), to ensure accurate readings and optimal protection.

- Incorrect capacity settings will result in inaccurate state of charge (SOC) percentages.

5. **Monitor Battery Status:** The app provides real-time data on cell voltages, total voltage, current, temperature, and protection status.



Image: A DALY Smart BMS unit wirelessly connected to a smartphone displaying battery parameters via the Bluetooth application.

5.2 PC Software Operation (via UART)

For detailed parameter configuration and data logging, connect the BMS to a computer using the UART cable and DALY PC software. Refer to the DALY website for software download and specific PC software tutorial videos.

6. MAINTENANCE

Regular maintenance ensures the longevity and reliable operation of your DALY Smart BMS.

- **Visual Inspection:** Periodically inspect all wiring connections for tightness and signs of corrosion or damage.
- **Cleanliness:** Keep the BMS unit clean and free from dust and debris. Ensure the cooling surface is unobstructed.
- **Software Updates:** Check the DALY official website for any available firmware or software updates for the BMS or its accompanying applications.

- **Parameter Review:** Occasionally review the configured parameters via the app or PC software to ensure they still align with your battery pack's condition and usage requirements.

7. TROUBLESHOOTING

If you encounter issues with your DALY Smart BMS, consider the following common troubleshooting steps:

- **No Power/No Indication:**

- Verify all main power connections (B- and P-).
- Ensure the activation button on the BMS has been pressed.
- Check the voltage of the battery pack.

- **Bluetooth Connection Issues:**

- Ensure the Bluetooth module is correctly plugged into the BMS.
- Confirm Bluetooth is enabled on your smartphone and the app has necessary permissions.
- Try restarting the app or your phone.
- Ensure no other devices are actively connected to the BMS via Bluetooth.

- **Inaccurate State of Charge (SOC) or Voltage Readings:**

- Verify that the balance wires are correctly connected to each cell in sequence.
- Check the battery capacity (AH) setting in the app/PC software; it must match your battery pack's actual capacity.
- Ensure the number of series cells (24S) is correctly configured in the software.

- **BMS Not Allowing Charge/Discharge:**

- Check for active protection alarms (e.g., overcharge, overdischarge, overcurrent, temperature) in the app.
- Review the configured protection parameters in the app/PC software to ensure they are appropriate for your battery.

- **Component Failure:** In rare cases, a component failure on the BMS board may occur. If troubleshooting steps do not resolve the issue, contact DALY customer support for assistance.

For further assistance, refer to the DALY website for additional tutorials or contact customer support.

8. SPECIFICATIONS

Feature	Specification
Model Number	LFP24S
Battery Type Compatibility	LiFePo4 (Lithium Iron Phosphate)
Series Configuration	24S (24 Series Cells)
Nominal System Voltage	72V (for 3.2V nominal cells)
Continuous Discharge Current	30A
Communication Interface	UART, Bluetooth (optional RS485, CAN)

Feature	Specification
Dimensions (L x W x H)	5.03 x 2.6 x 0.51 inches (128 x 66 x 13 mm)
Item Weight	13.4 ounces
Manufacturer	Dongguan Daly Electronics Co., Ltd

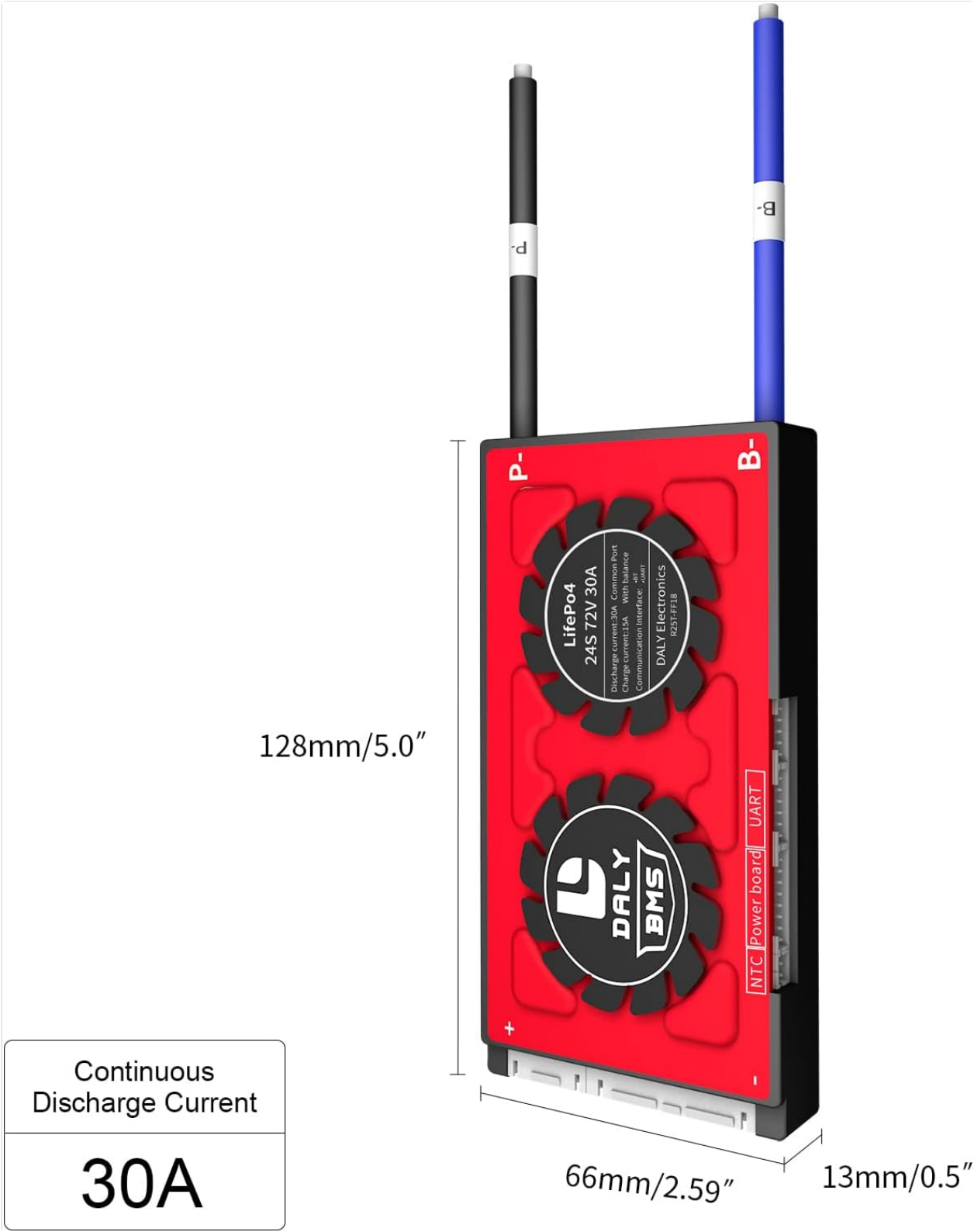


Image: Visual representation of the DALY Smart BMS with its key dimensions labeled.

9. WARRANTY AND SUPPORT

DALY is committed to providing high-quality products and customer satisfaction.

- **Technical Support:** We offer 24-hour one-on-one customer service and lifetime technical support for our products.
- **Contact:** For any technical inquiries, troubleshooting assistance, or warranty claims, please contact DALY customer service through the official website or your purchase platform.

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