DALY 200A+BT

DALY BMS 48V 16S 200A LiFePO4 Smart Bluetooth Battery Protection Board User Manual

Model: 200A+BT

Brand: DALY

1. Introduction

The DALY BMS (Battery Management System) is designed to protect and optimize the performance of 16S 48V LiFePO4 battery packs. This smart Bluetooth-enabled board ensures the safety and extends the lifespan of your lithium battery systems by providing comprehensive protection and real-time monitoring capabilities. It is suitable for various applications including golf carts, electric outboard motors, and solar energy power systems.

Figure 1: DALY BMS 48V 16S 200A LiFePO4 Smart Bluetooth Battery Protection Board.

2. Key Features

- **Comprehensive Battery Protection:** Provides essential safeguards including low voltage cutoff, high voltage cutoff, short circuit protection, and temperature protection to enhance battery performance and longevity.
- **Smart Bluetooth Connectivity:** Features an integrated Bluetooth module for easy setup and configuration. Allows real-time monitoring, configuration, and optimization of battery parameters such as State of Charge (SOC), voltage, current, and temperature via a dedicated mobile application.
- **Parallel System Support:** The built-in parallel circuit supports connecting 8 or more battery packs, enabling scalable capacity expansion for increased power and extended runtime.
- **Multiple Interface Functions:** Equipped with dual UART communication ports, Bluetooth module, and support for touch display integration. Includes a Bluetooth activation-free function, allowing the BMS to be woken up and connected simply by opening the app.

- **Extended Warranty:** Comes with a 5-year warranty, ensuring reliability and customer confidence.

Figure 2: DALY BMS advantages including parallel support, waterproof design, LED status, small size, stable Bluetooth, dual UART, and extended warranty.

3. Packing List and Components

Upon unboxing, please verify that all components listed below are present and undamaged.

1. 16S 48V 200 Amps Smart BMS (x1)
2. B-P-Output line (x1)
3. BT dongle (x1)
4. Sampling cable (x1)
5. NTC (Temperature Sensor) (x1)
6. Instruction Manual (x1)
7. Screws (quantity as needed)

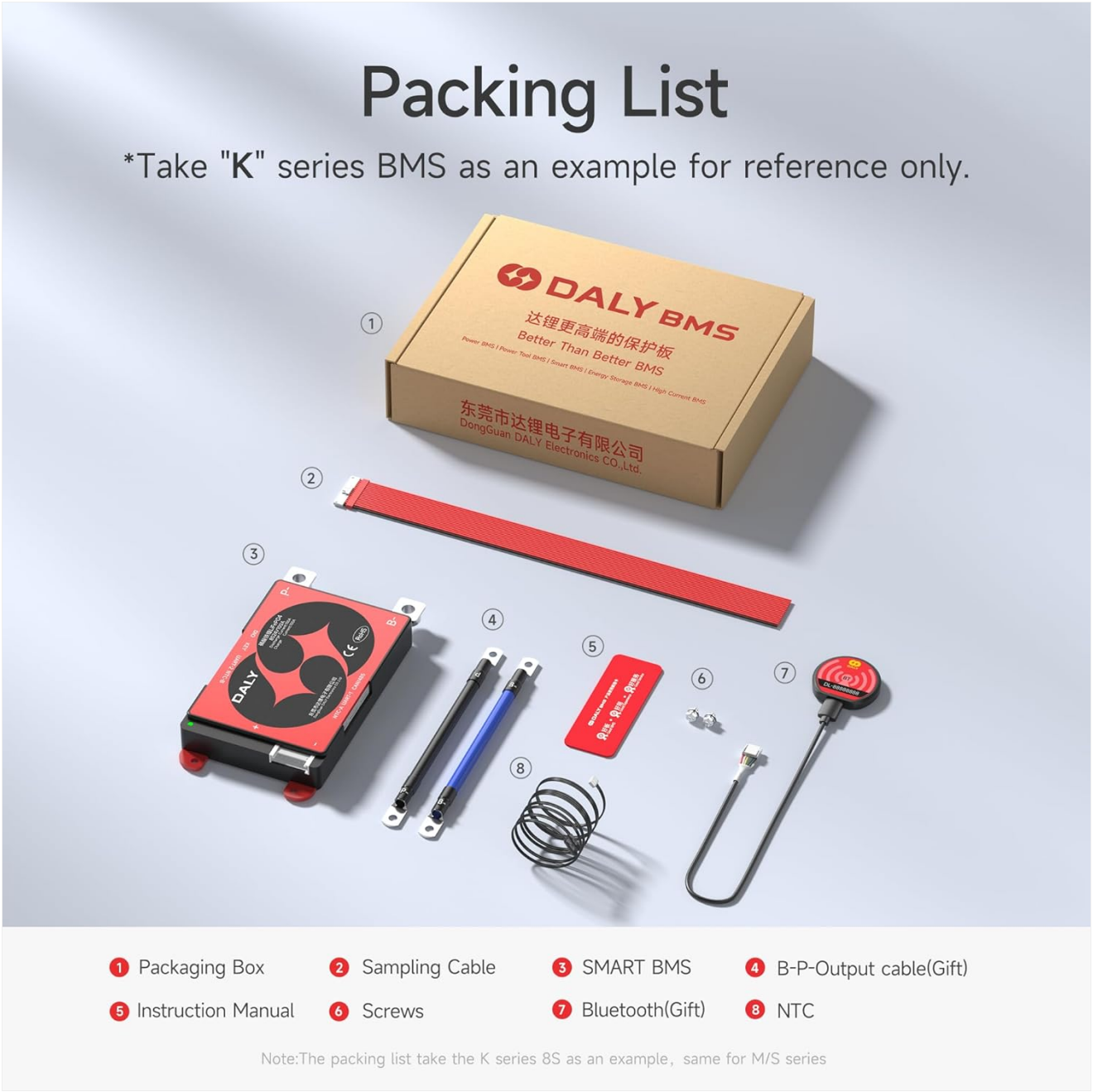


Figure 3: Visual representation of the DALY BMS packing list, including the BMS unit, cables, Bluetooth dongle, and manual.

4. Setup and Installation

Proper installation is crucial for the safe and efficient operation of your DALY BMS. Always ensure the battery pack is disconnected before beginning installation.

4.1 Safety Precautions

- Wear appropriate personal protective equipment (PPE), including insulated gloves and eye protection.
- Ensure all connections are secure and properly insulated to prevent short circuits.
- Verify correct polarity before making any connections.
- Consult a qualified professional if you are unsure about any installation steps.

4.2 Wiring Instructions

1. Connect the B- terminal of the BMS to the negative terminal of the battery pack.
2. Connect the P- terminal of the BMS to the negative terminal of the load/charger.
3. Carefully connect the sampling cable (balance wires) to each cell of the battery pack, starting from the lowest

voltage cell (B0) to the highest (B16). Ensure the order is correct.

4. Connect the NTC temperature sensor to the battery pack, ensuring good thermal contact.
5. Connect the Bluetooth dongle to the designated port on the BMS.
6. Once all connections are verified, connect the positive terminal of the battery pack to the positive terminal of the load/charger.

Figure 4: Example of a DALY BMS integrated into a battery system, demonstrating a quick setup configuration.

Figure 5: Detailed view of the DALY BMS connection terminals, including B-, P-, UART, and NTC ports.

5. Operating the Smart BMS (Bluetooth App)

The DALY Smart BMS features Bluetooth connectivity for convenient monitoring and configuration via a mobile application.

5.1 App Download and Connection

1. Download the official DALY BMS application from your smartphone's app store (iOS/Android).
2. Ensure the Bluetooth dongle is connected to the BMS and powered on.
3. Open the DALY BMS app. The app will automatically search for and connect to the BMS (Bluetooth activation-free function).
4. If prompted, enter any default password (refer to the specific manual for your app version).

5.2 Monitoring Parameters

The app provides real-time data on your battery system:

- **Status Display:** View overall battery status, communication protocol, and device name.
- **Protection Parameters:** Monitor individual cell voltages, total voltage, current (charge/discharge), State of Charge (SOC), and temperature.
- **System Settings:** Access and adjust various protection thresholds and operational parameters.

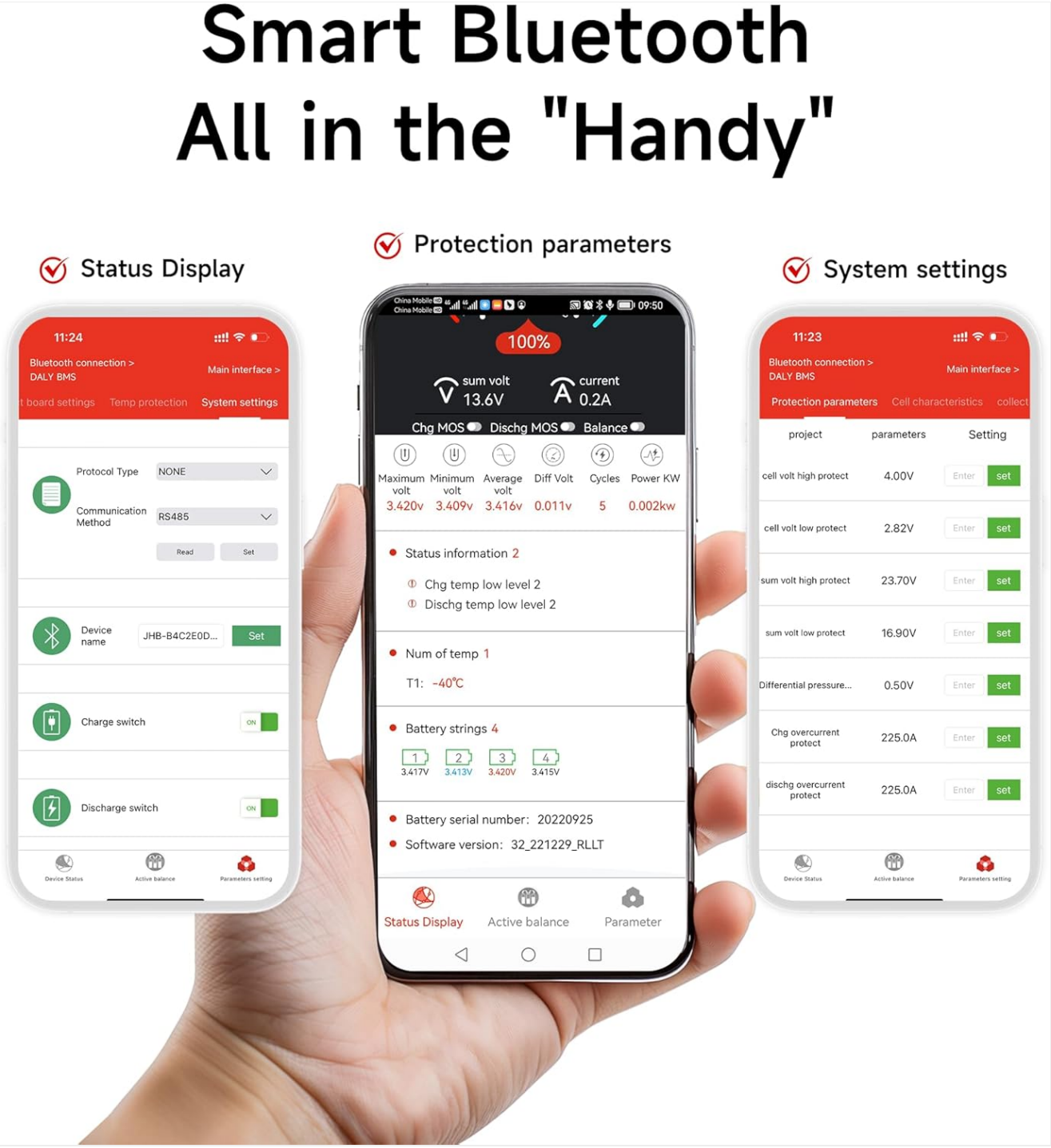


Figure 6: Screenshots of the DALY BMS mobile application, illustrating the status display, protection parameters, and system settings interfaces.

6. Parallel System Configuration

The DALY BMS is designed to support multiple battery packs in parallel, allowing for increased capacity and extended runtime. The built-in current limiting module facilitates the connection of 8 or more battery packs. When connecting multiple battery packs in parallel, ensure that all packs are of the same voltage and State of Charge (SOC) before connecting them. This prevents large current surges between packs. Consult the specific wiring diagrams for parallel connections provided with your battery system or by a qualified technician.

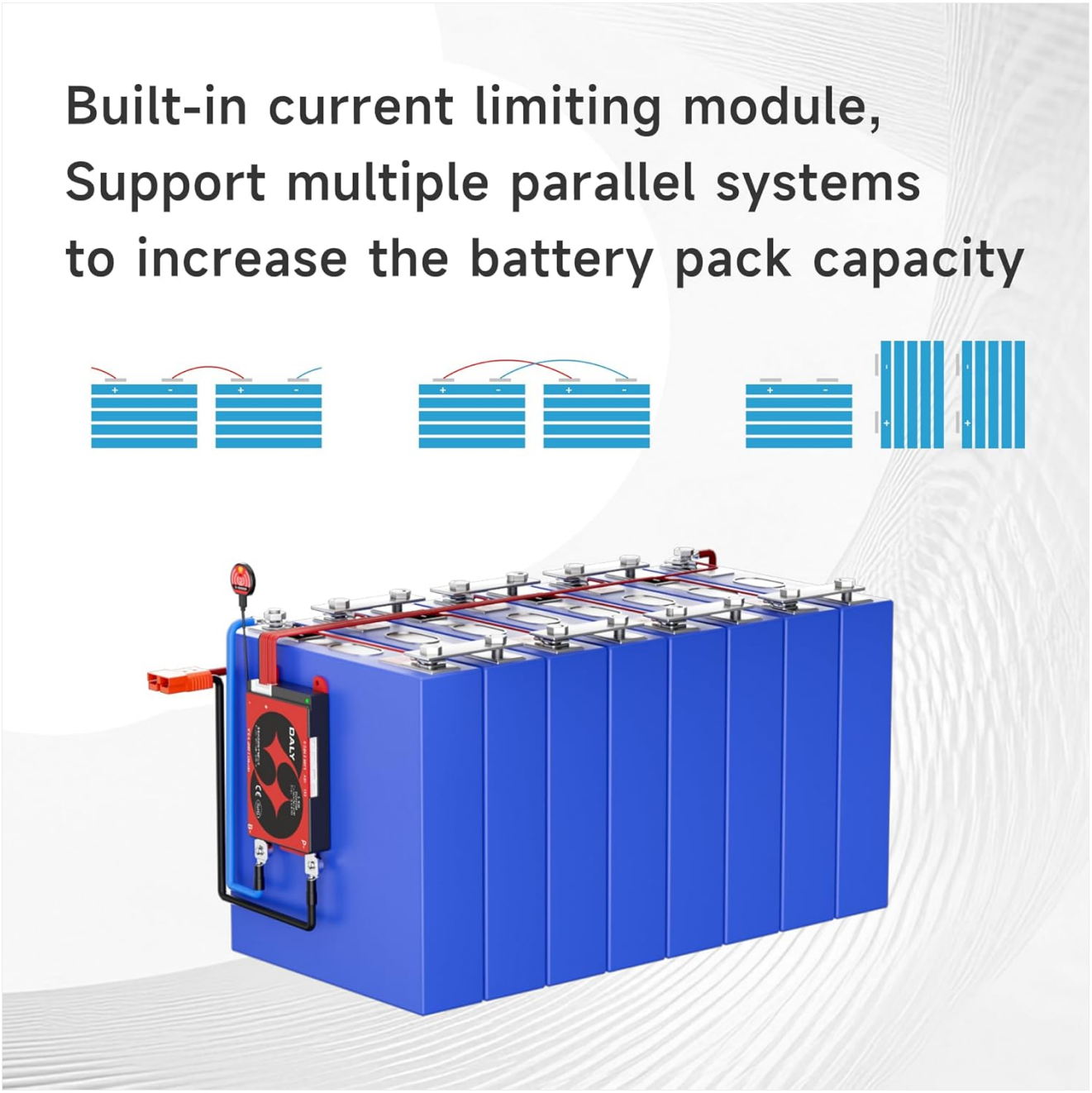


Figure 7: Illustration of how multiple battery packs can be connected in parallel to increase overall system capacity using the DALY BMS.

7. Safety and Protection Features

The DALY BMS provides robust protection mechanisms to safeguard your LiFePO4 battery pack:

- **Overcharging Protection:** Prevents cells from being charged beyond their safe voltage limit, which can lead to damage and reduced lifespan.
- **Overdischarging Protection:** Stops discharge when cell voltages drop below a safe minimum, protecting the battery from irreversible damage.

- **Overcurrent Protection:** Limits the current drawn from or supplied to the battery to prevent damage from excessive loads or charging currents.
- **Short Circuit Protection:** Immediately cuts off power in the event of a short circuit, preventing severe damage to the battery and potential fire hazards.
- **Extreme Temperature Protection:** Monitors battery temperature and disconnects the battery if temperatures exceed safe operating ranges (both high and low), preserving battery health.

Figure 8: Visual representation of the five core safety protections offered by the DALY BMS: overcharging, overdischarging, overcurrent, short circuit, and extreme temperature protection.

8. Maintenance

Regular maintenance helps ensure the longevity and optimal performance of your DALY BMS and battery system.

- **Periodic Visual Inspection:** Regularly check the BMS and all connections for any signs of damage, corrosion, or loose wiring.
- **Software Updates:** Keep the DALY BMS mobile application updated to the latest version to benefit from new

features and bug fixes.

- **Temperature Monitoring:** Ensure the battery system operates within its recommended temperature range. The NTC sensor helps monitor this, and the BMS will protect against extremes.
- **Cleanliness:** Keep the BMS and battery area clean and free from dust and debris to prevent overheating and ensure proper operation.

9. Troubleshooting

This section addresses common questions and issues related to BMS selection and operation.

Q1: How to determine the correct battery cell type and series connection (Strings)?

A1: Identify whether your battery is Li-ion, LiFePO4, or LTO. The number of cells connected in series (e.g., 16S for 48V LiFePO4) is critical for BMS compatibility.

Q2: How much amperage is needed for the BMS?

A2: To ensure proper protection, the BMS's rated current should meet or exceed your controller's maximum operating current. For example, if your controller peaks at 60A, choose a BMS rated for 60A or higher. Using a mismatched BMS can damage your battery and potentially cause a fire.

Q3: Do I need to monitor or customize all important data?

A3: For detailed monitoring and customization, the DALY Smart BMS with Bluetooth dongle is recommended, allowing easy access via the app or PC software. If advanced monitoring is not required, a multimeter can be used for basic checks.

Q4: How to maximize battery lifespan?

A4: For batteries expected to last more than 1 year or 1,000 charge cycles, a Battery Active Balancer (1A or 5A) is recommended. This helps maintain cell balance, which is crucial for the longevity of series-connected batteries. For new or brand-new cells, a standard non-balancing BMS is a good choice, but an active balancer can significantly extend lifecycles.

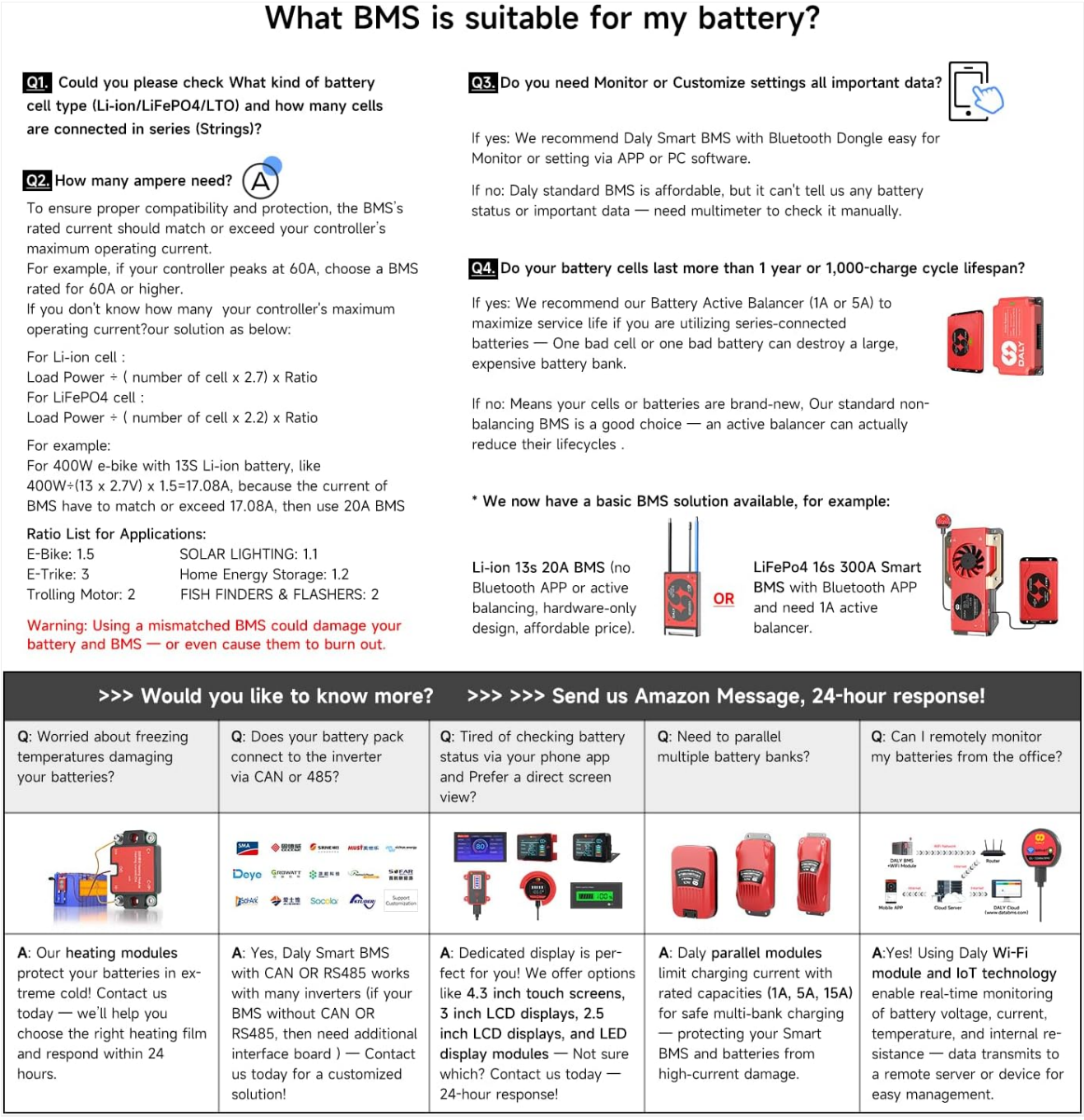


Figure 9: A guide addressing common questions about BMS selection and battery compatibility.

10. Specifications

Feature	Specification
Brand	DALY
Model Name	200A+BT
ASIN	B0F5MN9K9R
Voltage	48 Volts
Current Rating	200 Amps
Battery Type	LiFePO4
Series Configuration	16S

Feature	Specification

Package Dimensions	5 x 5 x 5 inches
Item Weight	1 pounds
Recommended Uses	Solar Devices, Golf Carts, Electric Outboard Motors
UPC	753252853077
Manufacturer	Dongguan Daly Electronics Co., Ltd
Certifications	ISO/FCC/RoHS/PSE/CE approved

Detailed Protection Parameters (Reference)

Figure 10: A table detailing various protection parameters such as passive equalization, overcharge/discharge protection, and temperature protection. Note: Actual test results may vary.

11. Warranty and Support

The DALY BMS 48V 16S 200A LiFePO4 Smart Bluetooth Battery Protection Board comes with a**5-year warranty** from the date of purchase, covering manufacturing defects and malfunctions under normal use conditions.

Figure 11: DALY BMS 5-year extended warranty badge, signifying product reliability.

For technical support, warranty claims, or any inquiries, please contact the seller directly through the Amazon messaging system. DALY BMS aims to provide professional technical support and factory-to-you savings. You can also visit the official DALY Store on Amazon for more information and product resources: DALY Store

12. Product Video

Watch the official DALY promotional video for an overview of the product and its features.

Your browser does not support the video tag.

Video: DALY BMS promotional video showcasing product design, manufacturing, and applications.

Related Documents - 200A+BT

产品规格承认书

Product Specification Approval

[Daly Smart BMS 8-16S 100-200A Product Specification Approval and Manual]

Detailed product specification and user manual for the Daly Smart BMS 8-16S 100-200A, covering technical parameters, protection features, LED indicators, communication protocols, and installation instructions.

Dongguan Daly Electronics Co.,Ltd

www.dalybms.com

Product Specifications

[DALY DL-R32U-F012S200ATJ-MM00-S4RV LiFePO4 BMS Technical Specifications]

Detailed technical specifications, wiring diagrams, and warranty information for the DALY DL-R32U-F012S200ATJ-MM00-S4RV LiFePO4 12S 36V 200A Battery Management System (BMS) with Balance, UART, and Bluetooth.

[DALY LiFePO4 8S24V200A BMS with 4G and GNSS - Datasheet]

Technical datasheet for the DALY LiFePO4 8S24V200A Battery Management System (BMS) featuring 4G connectivity, GNSS, UART, and NTC temperature sensing. Includes specifications, pinout, and LED status information.

东莞市达锂电子有限公司
DALY Dongguan DALY Electronics Co., Ltd.

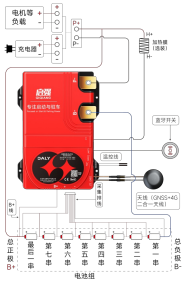
第五代卡车启动保护板 操作使用说明书

一、产品简介

随着锂电池的广泛应用，对电池管理系统也提出了高性能、高可靠性及高性价比等要求。

达锂第五代卡车启动保护板是专门针对货车、船舶启动和驻车空调及卡车启动电源电池组而研发设计的一款智能保护板，可承受 3000A 的瞬间大电流，内置加热模块可以直连加热膜，集成滤波模块吸收卡车电机脉冲高压，且具有一键强启，智能通讯等功能。集成 4G 远程通讯跟高精度北斗定位功能，可通过云平台、APP、小程序实现远程管理、查看实时定位、历史轨迹等智慧功能。

二、操作说明



* 请仔细阅读说明书，更改参数（如修改电池容量，电压，电流等）前请截图保存，方便后期原始数据。

1、保护板连接电池接线顺序：

特别注意：

- 不同厂家的排线不通用，请确保使用达锂配套排线；
  （注意：B- 线内阻在 0.5mR-0.8mR 范围）；
- 切记 !!! 焊接采样排线时，排线不要插入保护板；

1.1 排线从铝黑线连接总负极 B- 开始连接，第 2 根线（红线）连接第 1 串电池正极，后面依次连接每一串电池的正极，直到最后一串总正极，B+ 线单独接入电池总正极；

1.2 排线连接好后插头不要直接插入保护板，先测量插头背面每两个相邻金属端子间的电压，如果是三元聚合物电池电压应该在 3.0-4.15V 之间，铁锂电池应该在2.5-3.6V 之间，钛酸锂电池应该在1.8-2.8V 之间，确保电压无误后再进行下一 步操作 ；

1.3 插入NTC 线束（确保保护板NTC接口插入温控线）；

1.4 将保护板B-线(蓝色粗线)接到电池总负极；

1.5 将排线插入保护板；

1.6 将蓝牙开关模块插入UART接口，查看指示灯是否正常亮起（UART1、UART2 均可）。

1.7 首次上电需要充电、或蓝牙开关按键激活。

2、测量电池B+,B-电压与B+,P-电压是否相等(即：电池组本身电压和经过保护板之后的电压是否相等),相等即保护板正常工作，可以正常使用了。如不相等，请按照上面接线顺序重新检查一遍。

3、接负载和充电器：

3.1 将负载负极和充电器负极与P-连接。

3.2 将负载正极和充电器正极与电池组总正极连接。

4、下载通讯软件(手机端 DALY BMS APP,电脑端上位机)，设置电池组的容量(AH)为正确的容量。

4.1 在手机应用市场搜索DALY BMS,下载并安装。

4.2 打开手机的定位和蓝牙及相关权限功能。

4.3 打开DALY BMS APP 在首界面选择4G设备，注册并绑定设备。

4.4 在界面的右下角有参数设置，点击打开，选择电芯参数,可以看到额定容量，输入自己电池组的实际容量XX, 点击设置，默认密码123456。

4.5 容量设置好，可以对电池组进行充电，充电触发了过充二级保护，SOC会自动校准为100%。

5、天线安装

特别注意：

- 外置天线切勿放置于密闭箱体内，需要将天线外置，注意固定安装，且防水点胶；
- 5.1 箱体合适位置开孔，开孔建议13-13.5 mm，最终需结合天线实物判断。

三、接口定义说明

序号	功能	Pin数	间距	接口描述	工艺方式
1	电压采集1	9	2.0	B0-B8	插件带扣
2	电压采集2	11	2.0	B0-B10	插件带扣
3	NTC	4	2.0	NTC1,GND,GND,NTC2	插件带扣
4	B+	2	/	B+	XT-30
5	H-	2	/	预加热口	XT-30
6	UART1	6	2.0	GND,3.3V,12V,SI,TX,RX	插件带扣
7	UART2	6	2.0	GND,3.3V,12V,SI,TX,RX	插件带扣
8	LTE	1	/	4G通讯天线	MCX直母头
9	GNSS	1	/	北斗定位天线	MCX直公头

四、远程管理、蓝牙开关模块使用说明

1、小程序/DALY APP远程管理

（1）“启动宝”小程序远程管理

*“启动宝”微信小程序功能：可进行数据监控、一键强启、一键加热、预约加热、实时定位、历史轨迹等功能。

*连接方式一：通过扫描随贵二维码，快速连接“启动宝”微信小程序，选择“远程设备”，注册绑定后即可连接保护板实现远程管理。

[DALY Y Series BMS Technical Specifications and Wiring Guide]

Detailed technical specifications, wiring diagrams, and interface descriptions for DALY Y Series Battery Management Systems (BMS), including models YH, YK, and YM. Covers cell counts from 4S to 24S and current ratings up to 200A, with information on the Smart BMS mobile application.

东莞市达锂电子有限公司
DALY Dongguan DALY Electronics Co., Ltd.

Y系列保护板说明书

一、产品简介

随着物联网技术的飞速发展和智能设备的广泛应用，越来越多的设备需要更高效、更便捷的通信和控制方式，同时新国标对动力设备的智能化和兼容性也提出了更高要求。在这种背景下，采用蓝牙主控实现兼串及一线通功能的解决方案逐渐成为行业的热门选择。

产品			
产品型号	YH	YK	YM
产品尺寸 (长度×宽度×厚度)(mm)	101*65.5*14.2mm	130*65.5*14.2mm	180*92.4*17.2mm
串数范围	4-8S 7-17S 7-24S		
持续电流	30A/40A/60A	80A/100A/120A	150A/200A

二、使用指引

1、焊接保护板

(1)焊接采样排线：

从细黑线连接电池B-（总负极）开始，第2根线连接第1串电池正极， 后面依次连接每一串电池的正极；最后将B+ 线也焊接在最后一串（总正极）上（请参考说明书接线示意图）。

*注：焊接采样线时不可插着保护板，请根据电池实际串数进行焊接，多出的采样线无需焊接（多出的采样线请做好绝缘处理）。

(2)检测电压：

使用万能表或线序检测设备测量排线的针孔每串电压是否在正常范围内，如不正常请检查接线是否有错接、虚焊、假焊、漏焊等情况。

(3)焊接输出线：

将B-连接线（蓝色粗线）、P-连接线（黑色粗线）用螺丝锁至保护板对应的B-、P-螺母上，建议扭矩为10N·m(牛米)；并把B-线焊接电池总负极。

*注：焊接采样线时不可插着保护板，请根据电池实际串数进行焊接，多出的采样线无需焊接（多出的采样线请做好绝缘处理）。

(4)接入保护板配件：

如遥控、电量板、GPS、显示屏等，再把采样线插入保护板自动激活。

2、蓝牙APP下载及连接

(1)下载蓝牙APP

①通过扫描保护板上的二维码下载；
②应用商店搜索"Smart BMS"；
③登录达锂官网
(https://www.dalybms.com/)下载；
④联系客服获取下载方式并安装手机APP。

(2)连接蓝牙APP

打开蓝牙和手机位置信息并进入APP，APP会自动搜索蓝牙序列号，核对保护板上的序列号无误后点击序列号进入电池管理界面。

3、设置参数

首次使用时，需在APP或电脑上位机设置电池类型及容量（出厂默认为铁锂参数），电池组的容量是需要按电池组的实际容量进行设置。

首次使用时需充满100%作为标定，其他保护参数可以根据自身需求进行设置，APP修改参数的出厂默认密码为123456，PC上位机修改参数密码为12345678。

*注：在没有充放电的状态下，保护板默认3600秒后休眠，检测到充放电时会自动唤醒。也可通过APP或PC上位机修改休眠时间，如设置65535则代表不休眠。

4、一线通使用说明

在APP或上位机选择对应协议，即可使用。

5、特别说明

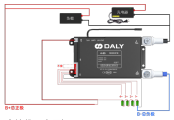
(1) 不同厂家的排线不通用，请确保使用我们公司配套排线；
(2) 在测试、安装、接触和使用保护板时，要做好防静电措施；
(3) 不要使保护板的散热面直接接触电芯，否则热量会传送到电芯，影响电池的安全；
(4) 不可自行拆卸、更改保护板元器件；
(5) 本公司保护板外壳仍会导电，组装作业中避免与电芯、镍带接触，因静电防护设计需要，外壳与主板共地，测量时有电压属正常现象；
(6) 我司产品进行严格的出厂检验测试，但是因为客户使用的环境不同（特别是在高温、超低温、太阳下、潮湿环境等），难免会出现保护板故障，所以客户在选择和使用保护板时，需要在友好的环境下使用，及选择一定冗余量的保护板进行备用。

三、接口定义说明

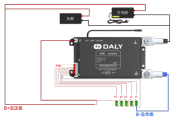
接口名称	Pin脚	标号	定义说明
NTC	1	NTC1	1#温控线
	2	GND	地GND
	3	GND	地GND
	4	NTC2	2#温控线
UART	1	GND	地GND
	2	3.3V	供电电源3.3V
	3	12V	供电电源12V
	4	S1	蓝牙开关
	5	TX	通讯发送端
	6	RX	通讯接受端
一线通/DO	1	12V	12V4500mA
	2	GND	地GND
	3	YXT	一线通接口
	4	C-/GND	
	5	DO	3.3V4200mA DO

四、常见串数接线示意图

（4串接线示意图）



（5串接线示意图）



（6串接线示意图）