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› DALY 24V Li-ion 7S 60A Standard BMS Instruction Manual

DALY Li-ion 7S

DALY 24V Li-ion 7S 60A Standard BMS Instruction Manual

Brand: DALY | Model: Li-ion 7S 60A Standard BMS

1. PRODUCT OVERVIEW

The DALY 24V Li-ion 7S 60A Standard Battery Management System (BMS) is designed to protect and optimize the performance of 3.7V Lithium-ion battery packs. It provides essential safeguards to ensure the longevity and safe operation of your battery system.

Key protective features include overcurrent, overcharge, overdischarge, short circuit, and temperature protection. This standard BMS model does not include communication functions. For smart BMS features, active balancers, parallel modules, or other accessories, please consult DALY customer service.



Figure 1: DALY 24V Li-ion 7S 60A Standard BMS unit with included accessories.

2. SETUP AND WIRING INSTRUCTIONS

Proper installation and wiring are crucial for the safe and effective operation of your DALY BMS. Please follow these steps carefully.

2.1. Preparing Materials

Before beginning the wiring process, ensure you have all necessary components and tools. This includes the BMS unit, NTC sensor, sampling cable, and appropriate tools for soldering and measurement.

Video 1: Guide on preparing materials before wiring the DALY BMS.

2.2. Wiring the Battery Pack

The wiring diagram below illustrates the connection process. Ensure that the total positive (B+) and total negative (B-) terminals of your battery pack are correctly identified. The black wire of the sampling cable connects to the total negative terminal (B-) of the battery pack. Subsequent red wires connect to the positive terminals of each battery string in sequence (B1, B2, B3, etc.).

	Balance current	30±5		mA
Over discharge protection	Over discharge detect	2.7±0.05		V
	Over discharge detect delay	1		S
	Over discharge release voltage	2.8±0.05		V
Over Charge current protection	Over discharge current detect delay	1		S
	Over discharge current protection	Off load		
	Short Circuit protection condition	Short circuit of external load		
Short Circuit protection	Short circuit detect delay	200~500	The actual results are based on the DALY test sent back by the customer.	uS
	Short circuit protection release	Off load		
	Temperature protection degrees	Charge: -40~65, Discharge: -40~70		°C
Self Consumption	Working current	35		mA
	Sleeping current(over-discharge)	800		uA
Working Temp	Temp range	-20~60		°C
Storing Temp	Temp range	-40~85		°C

Figure 2: General wiring diagram for DALY BMS. Connect the black wire to the overall negative electrode (B-) and red wires sequentially to each positive string terminal.

Important: Always solder the sampling cables to the battery pack in the correct order. Reversing the wiring sequence can damage the BMS. Miswiring protection is limited to 6 strings; connecting more than 6 strings incorrectly will damage your BMS.

Video 2: Detailed instructions for soldering BMS wires to the battery pack.

2.3. Verifying Connections

After soldering the wires, use a multimeter to measure the voltage between adjacent cables to ensure there are no incorrect or missing connections. The voltage difference between adjacent cells should be consistent.

Video 3: Guide on determining sampling points and verifying connections.

Before connecting the BMS to the battery pack, it is critical to test the total battery voltage. Connect the black pin of the multimeter to the negative terminal of the battery and the red pin to the positive terminal to measure the total voltage. Then, connect the black pin to the P- cable port of the BMS (after passing through the BMS) and measure the battery voltage again. If the two measurement results are consistent, the cable connection is correct.

2.4. Final Connection

Connect the B- wire of the BMS to the total negative terminal of the battery pack. Then, plug the sampling cable into the BMS. After activating the BMS, ensure that the voltage (battery voltage) between B+ & B- and the voltage between P+ & P- are consistent.

Seal any unused or excess cables with insulation tape to prevent short circuits.

3. OPERATING THE BMS

The DALY 24V Li-ion 7S 60A Standard BMS provides comprehensive basic protection for your battery pack.

3.1. Basic Protection Functions

- **Overcurrent Protection:** Prevents damage from excessive current draw.
- **Overcharge Protection:** Stops charging when cells reach their maximum safe voltage.
- **Overdischarge Protection:** Disconnects the load when cells reach their minimum safe voltage.
- **Short Circuit Protection:** Immediately cuts off power in case of a short circuit.
- **Temperature Protection:** Monitors battery temperature and intervenes to prevent overheating or extreme cold.

Basic protection, complete functions

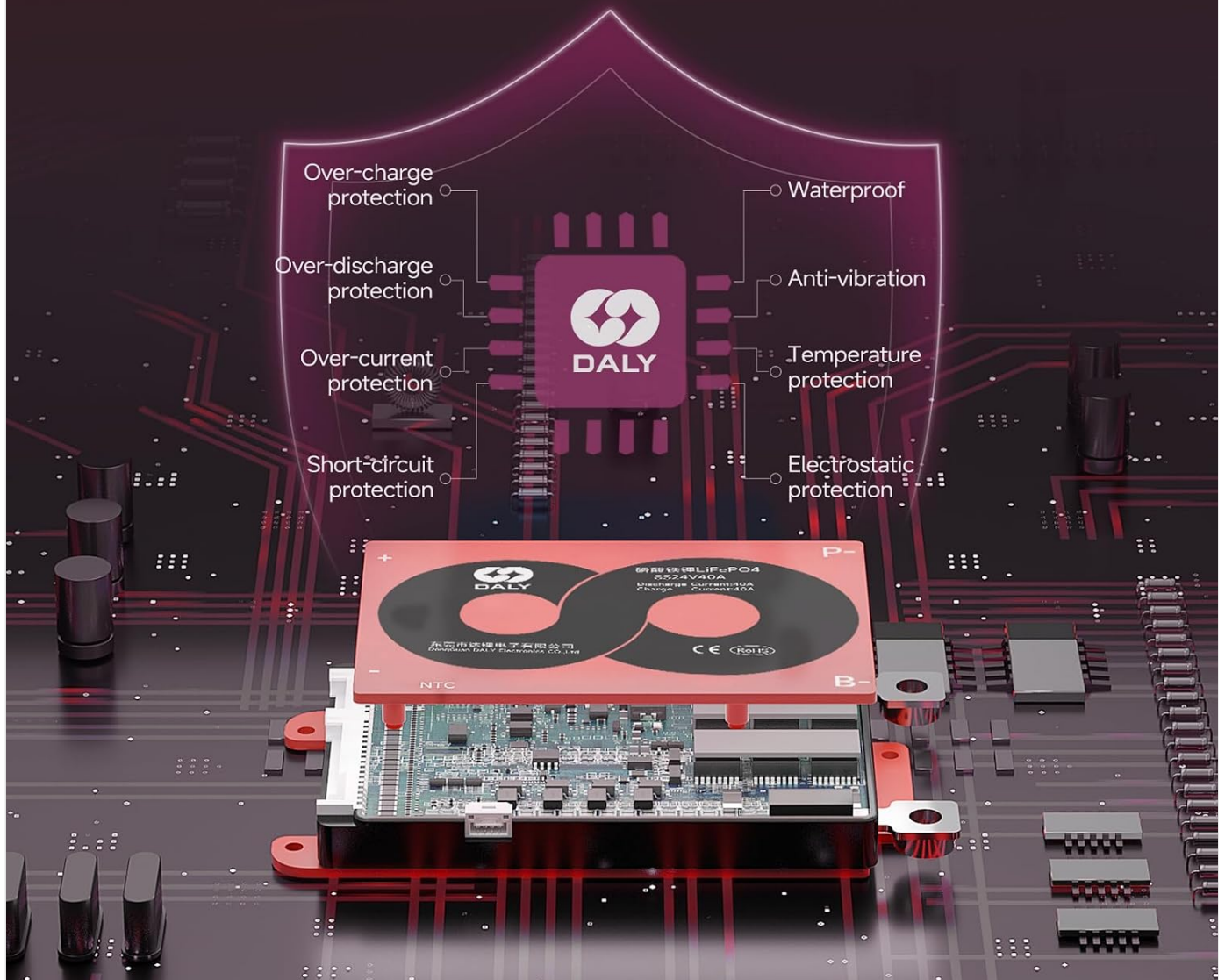


Figure 3: Overview of the basic protection functions integrated into the DALY BMS.

3.2. Physical Characteristics

The DALY BMS features a double protection design utilizing injection patent technology and a patented shell. This construction provides waterproof, dustproof, shockproof, and anti-static properties, enhancing durability and reliability.



Figure 4: DALY BMS design emphasizing moisture-proof, anti-vibration, and anti-oxidation properties.

4. MAINTENANCE

To ensure optimal performance and longevity of your DALY BMS and battery pack, regular maintenance and proper handling are recommended.

- Keep the BMS clean and free from dust and debris.
- Avoid exposing the BMS to extreme temperatures or direct sunlight for prolonged periods.
- Regularly inspect all wiring connections for any signs of wear, corrosion, or looseness.
- Ensure the battery pack is used within its specified operating parameters.

5. TROUBLESHOOTING

If you encounter any issues with your DALY BMS, consider the following basic troubleshooting steps:

- Verify all wiring connections are secure and correctly installed according to the diagram in Section 2.
- Check the battery cell voltages using a multimeter to ensure they are within the normal operating range.
- Confirm that the charger and load devices are functioning correctly.
- If the BMS is not activating or providing power, re-check the activation procedure (if applicable for your specific setup).

For persistent issues or advanced troubleshooting, please contact DALY customer service for assistance. We offer 24-hour one-on-one customer service and lifetime technical support.

6. SPECIFICATIONS

Below are the detailed specifications for the DALY 24V Li-ion 7S 60A Standard BMS.

Product Parameters



Li-ion 7S (BMS)

Description	Description	Specification														Unit
		20A	30A	40A	50A	60A	80A	100A	120A	150A	200A	250A	300A	400A	500A	
Discharge	Continue discharge current	20A	30A	40A	50A	60A	80A	100A	120A	150A	200A	250A	300A	400A	500A	A
	Over discharge current detect	60±10	100±20	160±30	160±30	220±40	360±50	360±50	260±50	260±50	500±100	500±100	500±100	1000±200	1000±200	A
Inner Resistance	Main Circuit Conduct Inner resistance	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	mΩ
Charge	Charge voltage	LifePO4: S*3.65 Li-ion: S*4.2 LTO: S*2.8														V
	Charge current	10	15	20	25	30	40	50	60	75	100	125	150	200	250	A
	Over Charge current detect delay	25±3	40±5	60±10	60±10	80±10	140±20	140±20	100±20	100±20	200±30	200±30	200±30	400±100	400±100	A
Over charge protection	Over charge detect voltage	4.25±0.05														V
	over charge protection delay	1														S
	over charge release voltage	4.15±0.05														V

Figure 5: Detailed product parameters for Li-ion 7S BMS, including discharge, charge, and protection values.

General Product Specifications

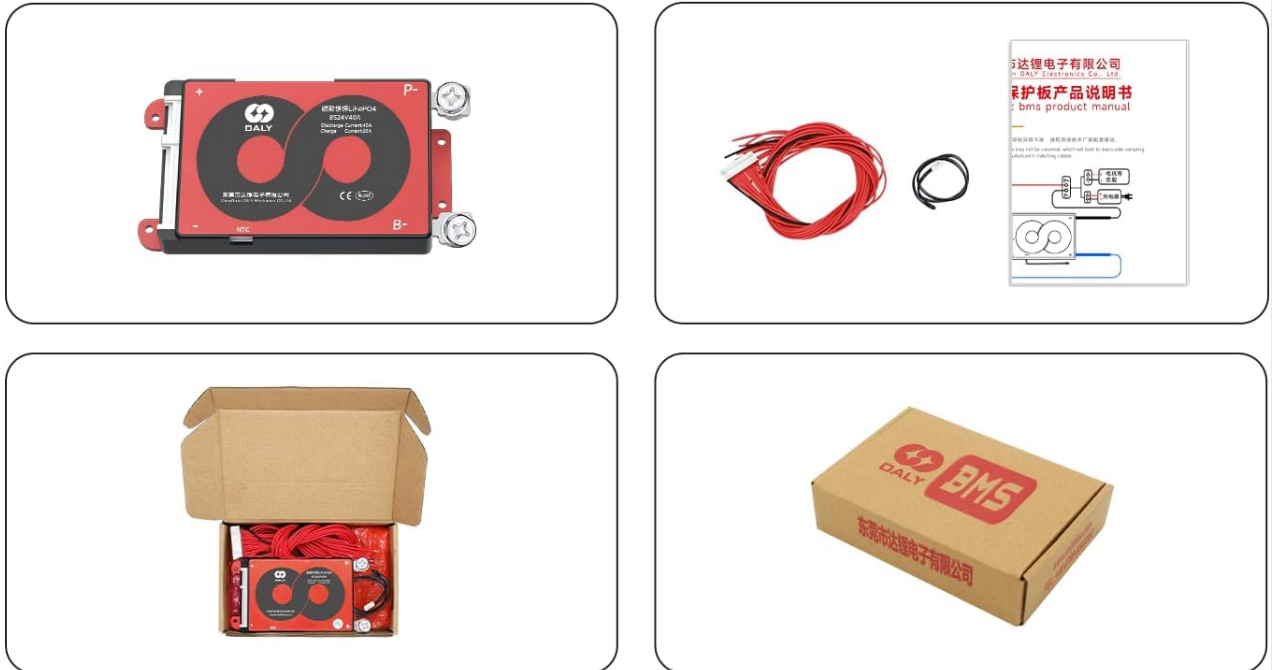
Attribute	Value
Product Dimensions	2.4 x 3.15 x 0.47 inches
Item Weight	5.6 ounces
Item Model Number	Li-ion 7S
Output Voltage	24 Volts (DC)
Input Voltage	24 Volts
Specification Met	CE
Manufacturer	Dongguan Daly Electronics Co., Ltd

6.1. Packing List

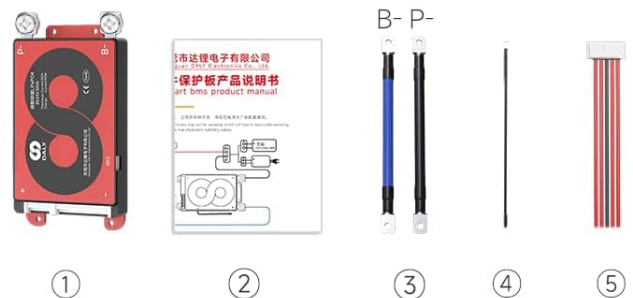
The product package typically includes:

- DALY 3.7V Li-ion BMS (1 unit)
- NTC Sensor (1 unit)
- Sampling Cable (1 unit)
- Instruction Manual (1 unit)

Packing list



Product list	Quantity
① K-BMS	X1
② Manual	X1
③ B-P-Cable(Gift)	X1
④ NTC	X1
⑤ Cable	X1



* Note: The packing list takes 24S 40A BMS as an example.

Figure 6: Contents typically included in the DALY BMS package.

7. WARRANTY AND SUPPORT

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

- **Quality Guarantee:** Our products are ISO/FCC/RoHS/PSE/CE approved.
- **Technical Support:** We offer lifetime technical support for our products.
- **Customer Service:** Enjoy 24-hour one-on-one customer service for any inquiries or assistance.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question

and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question