DALY BMS

Smart Active Balancing BMS Instruction Manual

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小蓝板说明书(均衡宝系列)

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TH Series	TK Series	TM Series	TM Series	TS Series
				
125*66*15.8mm	167.5*65.5*15mm	176.7*66*16mm	176.7*66*21mm	195.8*109.8*26mm
4-24S 40A/60A	4-24S 80A/100A	4-24S 150A	4-24S 200A	4-24S 250-500A
177g	210g	320g	375g	660g

I User Manual

1、Welding

(1) Welding sampling cable: Start with the thin black wire connecting battery B- (total negative electrode), the second wire connects the positive electrode of the first string of batteries, and then connects the positive electrode of each string of batteries in turn; finally, weld the B+ wire on the last string (total positive pole).
(Please refer to the wiring diagram on the back of the manual).
Note: Do not insert the bms when welding the sampling cable. Please weld according to the actual number of battery strings. The extra sampling cable do not need to be welded.Please insulate them.

(2) Detection voltage: Use a multimeter or line sequence detection equipment to measure whether the voltage of each string of pinholes in the cable is within the normal range. If not, please check whether there are misconnections, false soldering, missing soldering, etc. in the wiring.

(3) Welding P- & B- cable: Screw the B- cable (blue one) and P- cable (black one) to the corresponding B- and P- nuts of the BMS; recommended torque 10N-m.And weld the B- cable to the total negative terminal of the battery.
Note: Please insulate the P- cable when welding the B- cable, and then remove it when connecting the output terminal.

(4) Connect the BMS accessories:such as temperature control, power board, GPS, LCD display, etc., and then insert the sampling cable into the BMS to activate automatically.

2、Download and Install APP method

(1) Scan the QR code on the BMS.

(2)Search APP "DALY BMS" in the iOS store or Google store.

Scan the code to download APP

Scan the code to download PC Mater

3、Set parameters

When using BMS for the first time,the battery type and capacity need to be set in the APP or PC (the factory default is LFP parameters). The capacity of the battery pack needs to be set according to the actual capacity of the battery pack. The battery needs to be filled to 100% for calibration at the frist time use. Other protection parameters can be set according to your own needs. The factory default password for modifying parameters on the APP is 123456, and the password for modifying parameters on the PC host is 20211115.

Note: When there is no charging or discharging, the BMS will sleep after 3600 seconds by default, and will wake up automatically when charging and discharging are detected. The sleep time can also be modified through the APP or PC. If set to 65535, it means no sleep.

4、Special instructions

(1) Cables from different manufacturers are not universal, please make sure to use our company's sampling cables;

(2) When testing, installing, contacting and using the BMS, anti-static measures must be taken;

(3) Do not let the heat dissipation surface of the BMS directly contact the battery cell, Otherwise the heat will be transmitted to the battery cell and affect the safety of the battery;

(4) Do not disassemble or change the components of the BMS by yourself;

(5) The outer shell of BMS will still conduct electricity. Pls avoid contact with the battery cell and nickel strip during assembly operations due to the need for electrostatic protection design. The shell and the motherboard share the same ground, and it is normal to appear voltage during measurement;

(6) All our products have undergone strict ex-factory inspection and testing to provide customers with the best quality products. Please make sure to use the BMS according to the parameter instructions, and avoid to use it in high temperature, ultra-low temperature environments (normal applicable temperature -40°C ~ 85°C) to prevent the failure of BMS.

II Interface definition description

Interface	Pin	Label	Definition description
NTC-A	1	GND	GND
	2	NTC-3	3#Temperature cable
	3	GND	GND
	4	NTC-4	4#Temperature cable
DO/DI port	1	DO	12V
	2	GND	GND
	3	DI	/
	4	GND	GND
	5	DO	3.3V
KEY port	1	KEY+	Key switch positive
	2	/	/
	3	/	/
	4	KEY-	Key switch negative
UART	1	GND	GND
	2	3.3V	Power supply is 3.3V
	3	12V	Power supply is 8-12V
	4	S1	Activate button
	5	RXD1	Communication sending end
	6	TXD1	Communication receiving end
CAN/485	1	485B	485 communication sender
	2	485A	485 communication receiver
	3	GND	Isolation ground GND
	4	CanH	CAN communication high
	5	CanL	CAN communication low

*1.BMS V1.2: Add Do2 port. NTC-1 & NTC -2 change to NTC-A & NTC-B

III Balance on condition

	Test content		Factory default parameters	Unit	Remark
	Active balance	Balance On Voltage	3	V	Defaults
		Balance On Voltage difference	10	mV	Defaults
		Balance ON conditions	1. Reach the set opening voltage 2. Reach the set opening voltage difference(The above two conditions must be meet at the same time. if one of condition is not meet, balance will be closed)		
		Balance current	900±200	mA	Remark

IV Wiring Diagram

Battery pack wiring precautions:

1. Please pay attention to the position of B- and P- of the BMS, and connect the wires in strict accordance with B- to the negative terminal of the battery and P- to the negative terminal of the load or charger.
2. When soldering the wires, please make sure the wires are soldered in the correct order before plug into the BMS. (Miswiring protection is limited to 6 strings of miswiring interval, more than 6 strings will damage the BMS.)
3. Power-on sequence:
   ① install B-
   ② insert the collection line
   ③ connect the B+ line
   ④ install P-
4. Power-off sequence:
   ①remove B+ cable
   ②remove collection cable
   ③remove P-
   ④remove B-.
5. NTC cable need to plug into NTC-1 or NTC-A port first.
6. Weld the sampling calbes to the battery pack spec and seal the other excess sampling lines with insulation tape. For example, if you buy an 8-17S bms for the 10S battery pack, you can just seal the remaining 7 blue sampling cable with insulation tape.Please follow the wiring sequence strictly, if the wiring sequence is reversed, it will lead to the damage of the BMS.

Battery pack parallel connection precautions:

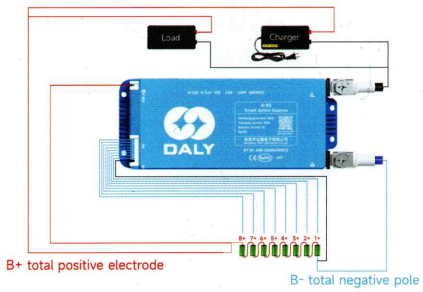
1. parallel connection of lithium battery packs to ensure that the battery pack voltage is the same, each group of battery packs, the total pressure difference <1V, to prevent the parallel connection of different battery packs, the high voltage battery pack to the low voltage battery pack high-current charging, triggering the BMS short-circuit protection function.
2. When paralleling lithium battery packs, manually disconnect the discharging MOS in the Bluetooth APP control center interface and then paralleling, preventing the battery packs from firing when paralleling.

BMS application environment:

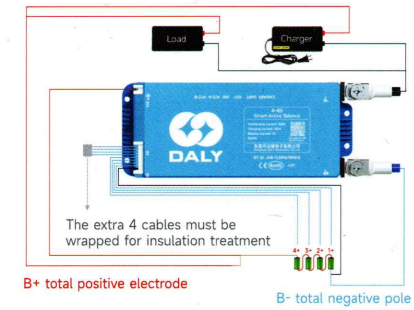
1. Ensure the accuracy of wiring.
2. BMS collection harness, B + harness, B- and P- harness must be fixed firmly to prevent vibration and other environmental factors affect the reliability of the connection.
3. BMS use working temperature: -40°C ~ 85°C.
4. Attention to waterproof, moisture-proof, insulation.
5. battery pack, total positive or negative and shell insulation resistance ⩾ 10MΩ.

The following wiring diagram uses a 4-8S BMS as an example. In the case of an incomplete string configuration (e.g., when using a 4-string battery), the extra 4 cables must be wrapped for insulation treatment.

4~8S BMS 8S wiring diagram



(4S wiring diagram)



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