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

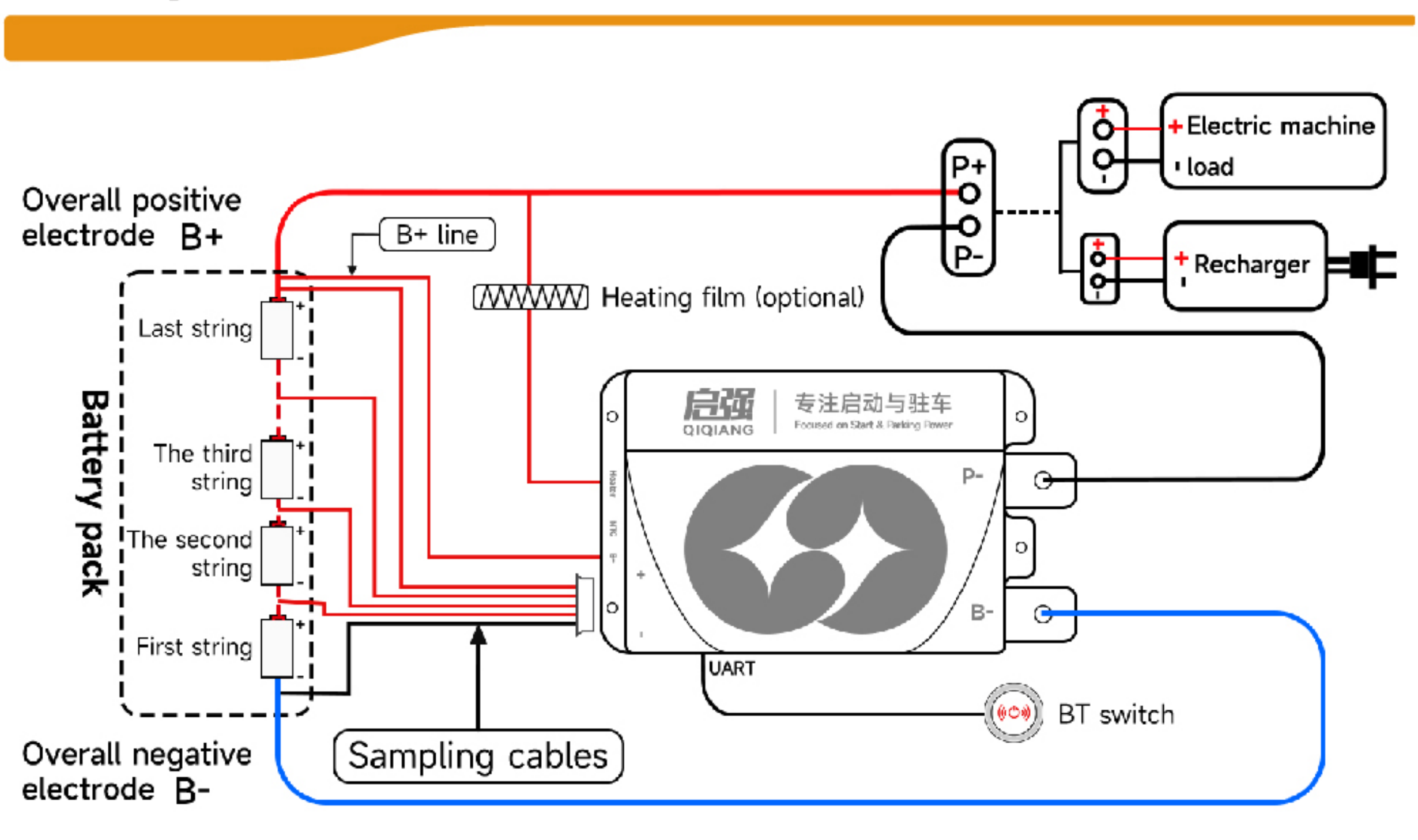
Truck start BMS operation instruction manual

I、Product introduction

With the widespread application of lithium batteries, requirements for battery management systems such as high performance, high reliability and high cost performance have also been put forward.

DALY truck starting BMS is a software BMS specially developed and designed for starting trucks, ships, parking air conditioners and truck starting power battery packs. It can withstand an instant high current of 2000A. The built-in heating module can be directly connected to the heating film and integrates filtering. The module absorbs high voltage pulses from the truck motor. It also has functions such as one-click forced start and intelligent communication.

II、Operation instructions



1、BMS connection battery wiring sequence:

Special note:

Cables from different manufacturers are not universal, please make sure to use DALY matching cables; the B-/P-line is not equipped by default.
(note: the internal resistance of the B-line is in the range of 0.5mR ~ 0.8mR);

Remember! ! ! When welding the sampling cable, do not insert the cable into the BMS;

1.1 The line is connected from the thin black wire to the total negative electrode B-, and the second line (red line) is connected to the first series of battery positive terminals, followed by the positive terminals of each series of batteries until the last series of total positive terminals, and the B+ line is connected to the total positive level of the battery;

1.2 After the cable is connected, do not insert the plug directly into the BMS. First, measure the voltage between every two adjacent metal terminals on the back of the plug.If it is a Li-ion（NMC） battery, the voltage should be between 3.0 and 4.15V, and the LFP battery should be between 2.5 and 3.6V.LTO battery should be between 1.8-2.8V, ensure that the voltage is correct before the next step;

1.3 Insert the NTC (make sure the temperature probe is inserted at the NTC) and insert the Bluetooth switch module;

1.4 Connect the B- wire (thick blue wire) of BMSD to the main negative terminal of the battery;

1.5 Insert the cable into the protection board;

1.6 Insert the Bluetooth switch module into the UART port to check whether the indicator is on normally
(UART1 and UART2 can be used);

2.1 Measure whether the voltage of battery B+, B- is equal to the voltage of B+, P- (that is: whether the voltage of the battery pack itself is equal to the voltage after BMS). If equal, the BMS is working normally and can be used normally. If not, please check again according to the wiring sequence above.

3、load and charger:

3.1 P- line can connect to the negative terminal of the load supply or negative terminal of the charger.

3.2P+line can connect to the positive terminal of the load or the positive terminal of the charger.

4、Download the APP (SMART BMS APP on the mobile phone, host computer on the computer) and set the battery pack capacity (AH) to the correct value.

4.1 Search for SMART BMS in the mobile app market, download and install it.

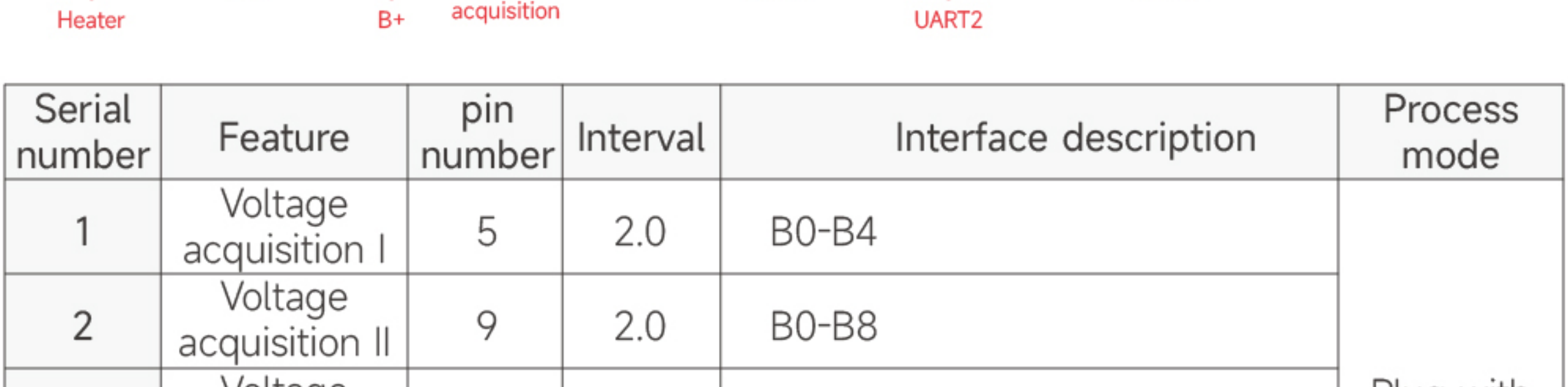
4.2 Enable the location and Bluetooth functions of the mobile phone.

4.3 Opening the SMARTBMS APP On the first screen, you can see the Bluetooth string number (the same as the string number on the Bluetooth object). Tap the Bluetooth string number to enter the APP.

4.4 There is parameter setting in the lower right corner of the interface, click Open, click the second interface "cell characteristics", you can see the rated capacity. Enter the actual capacity of your battery pack XX, click Settings, enter the password 123456, the capacity will be updated to the capacity you just entered.

4.5 When the capacity is set, the battery pack can be charged. The charging triggers the overcharge secondary protection, and the SOC will automatically calibrate to 100%.

III、Interface definition description



Serial number	Feature	pin number	Interval	Interface description	Process mode
1	Voltage acquisition I	5	2.0	B0-B4	Plug with buckle
2	Voltage acquisition II	9	2.0	B0-B8	
3	Voltage acquisition III	11	2.0	B0-B10	
4	NTC	4	2.0	NTC1,GND,GND,NTC2	
5	B+	2	2.0	b+,b+	
6	Heater	1	\	Connect heating port	XT-30
7	UART1	6	1.25	GND,3.3V,12V,S1,TX,RX	Process mode
8	UART2	6	1.25	GND,3.3V,12V,S1,TX,RX	
9	CAN/DO	5	1.25	AGND,CAN-H,CAN-L,DO1,GND	

IV、Bluetooth switch module instructions

1、Lamp instructions

plate shape	Green LED	Red LED	Definition	Description
Starting plate	Blink alternately 3 times for a total of 3s		Power ON	Power-on prompts
	ON 30S	OFF	Standing	Battery power ≥10%, and the protection board is working normally;
	OFF	ON 30S	Fault	Battery level < 10%, or the protection board triggered a strong fault & protection state;
	OFF	OFF	Sleep	The LED light will be turned off directly after the completion of the task, you can click the button to wake up the LED light;
	Flash 60S	OFF	Force start	The car starting BMS activate force starting mode (entry condition: press the button for 3 to 5s)
	OFF	Flash 0.5S 2 times	Shutdown	The car starting BMS shutdown (entry condition: press the button for 10s; Note:press button to wake up)

2、Key description

Button operation	Description	Remark
Click	Light LED light, activate Bluetooth、BMS	/
Short press 3~5S	The car starting BMS enters the forced start mode	60s strong start time (ignore protection to ensure normal start of ignition)
Long press 10S	Shutdown	After entering the key mode, the protection board sleeps. To disable charging and discharging, you need to wake up by pressing a key.

3、Bluetooth function

Through the Bluetooth switch module, the BMS and the mobile phone communicate with each other through Bluetooth.

① Download the app: https://www.databms.com/App
You can use the APP to connect via Bluetooth or 4G for functions like boosting and heating.

V、Reliability technical parameters
(detailed parameters refer to the product specification)

Serial number	Item	Conditions
1	Detection accuracy	Current detection accuracy: ≤(±3%FSR) voltage detection accuracy: ≤±15mV Temperature detection accuracy: ≤2°C (room temperature)
2	Information storage	Store up to 380 pieces of history information, including protection time, current total voltage, current, temperature, SOC, etc.
3	SOC measurement	Current integration method, accuracy≤10% (affected by ambient temperature)
4	Working environment condition	Operating temperature:-40 °C ~85 °C Relative humidity: 5% ~ 90%
5	Storage environment condition	Storage temperature: -40°C~85°C Relative humidity :5% ~ 75%

VI、Precautions

1、Please use it in the temperature and humidity range specified in the Product Specification. If it is outside the range, it may cause the failure of the BMS.

2、Lithium battery must be charged with a lithium battery charger, such as improper charging, it may cause BMS damage.

3、BMS of different voltage platforms cannot be mixed.

4、Different manufacturers of wiring is not same, please make sure to use our company supporting wiring; If the wiring is damaged, please contact our sales staff.

5、Do not make the cooling surface of the BMS directly contact the battery, otherwise the heat will be transferred to the battery, affecting the safety of the battery.

6、When using, do not change the location of the sampling cable without permission.

7、Special statement: BMS is an accessory with high precision. It will be not returned or replaced after welding, and the repair of man-made damage needs to be charged.
Property damage caused by battery failure must be borne by the user. Our company only repairs and provides after-sales service to the BMS.

8、B-p-lock screw recommended torque of 8~10N·m(nm).

9、Bluetooth switch module, the bottom is not waterproof, with waterproof rubber ring and nut, must be locked in the box and it is recommended that the bottom sealant sealed inside the box.

VI、Precautions

Official Website

FaceBook