SEPLOS MASON-314L-O 51.2V 314AH

BATTERY PACK SPECIFICATION

DONGGUAN SEPLOS TECHNOLOGY CO., LTD

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1. Introduction

This battery pack System is applicable both for residential and commercial energy storage system,which is assembled with 3.2V 314Ah lithium iron phosphate cell in 16S1P configuration.And intelligent BMS form 51.2V314Ah lithium battery system.Each pack support 16packs in parallel to easily expand capacity.Do not mix parallel the battery packs of different brands or models.

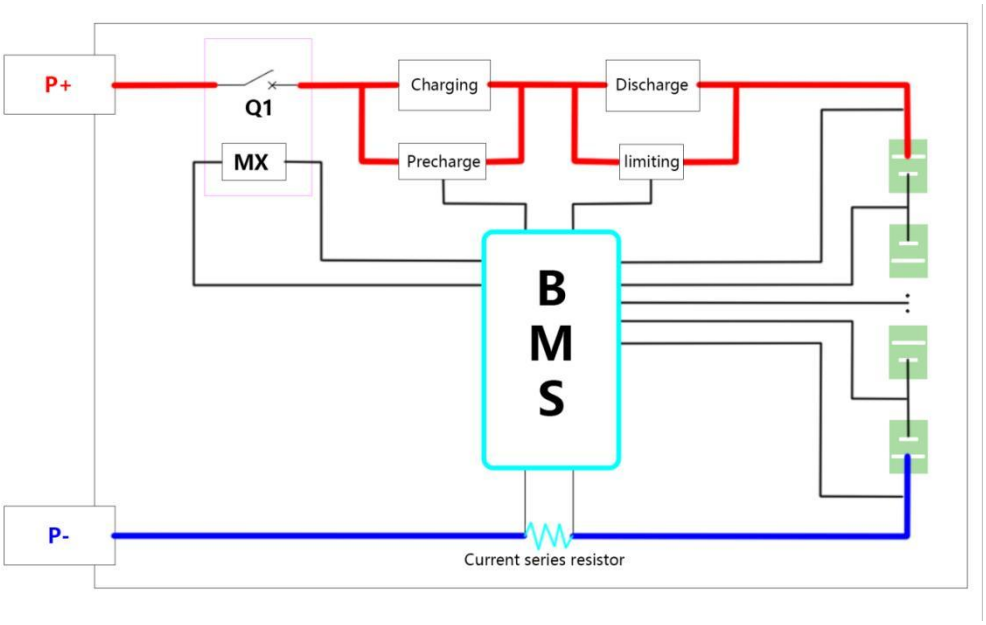
2. Functions

- Battery voltage calculation:16 battery voltage sampling test,deviation ± 20mV.
- Battery and ambient temperature detection:4 battery temperature sensors,1 ambient temperature sensor,1 MOS temperature sensor, deviation ± 2 ℃.
- Battery capacity and cycle times:complete a complete charging,discharging cycle to set the actual capacity.Monitor the remaining capacity of the battery with the capacity estimation accuracy within 5% deviation.In addition,the charging and discharging cycle time and the complete charging and discharging cycle time can be configured.
- Smart cell balance:charging and static balance strategies can be flexibly set to effectively extend the service life.
- Communication interface:PC or intelligent front-end can monitor battery data,control operation and set parameters through telemetry,remote signaling,remote adjustment,remote control and other commands.The communication protocol meets the requirements of YD/T 1363.3 and realizes cascade communication
- Historical data recording,saving and reading:when the battery is abnormal,record and save real-time battery status and alarm information. At present, up to 500 historical fault data can be stored.
- Battery management system parameter setting:battery management system parameters,including cell battery over voltage/under voltage,battery total voltage over voltage/under voltage,charge and discharge over current,battery high/low temperature,battery capacity,working mode,charge and discharge limit current, can be set in the battery monitoring system.
- Working mode: charging and discharging current limiting, constant voltage output, direct output and other working modes can be set in the monitoring system
- Multiple protection functions:hardware protection,battery protection, high and low temperature protection, output short circuit protection, etc.

3. Specifications

3.1 Appearance and interface

3.2 Electrical schematic diagram



3.3 Parameters

NO	Items	Specifications
1	Cell power(kWh)	16.076KWh
2	Configuration	1P16S
3	Nominal Voltage(V)	51.2V
4	Working Voltage(V)	41.6V~57.6V
5	Cell Capacity(Ah)	314Ah
6	Rated charge/discharge Current(A)	157A@25± 2℃(Recommended)
7	Maximum charging current	200A@25± 2℃
8	Maximum discharge current	157A@25± 2℃(Recommended)
9	Working Temperature	0～60℃(Charge) -30～60℃(Discharge)
10	Humidity(%)	5~80%
11	Altitude Limited(m)	0-3000m
12	Dimension(mm)	893×444×278mm
13	Storage temperature and humidity	-10℃~35℃ (Within one month of storage) 25±2℃ (Within three months of storage) 65%±20% RH
14	weight	121kg± 3kg
15	cycle life	8000 cycles ,70%SOH
16	IP grade	IP10
17	Communication mode	CAN&RS485

3.4 Protection parameters

3.4.1cell over voltage parameters

cell over voltage parameter				
Functions	Status	Item	Default	Configurable Range
Over voltage warning	ON	Over voltage warning	3500mV	Over voltage warning recovery - over voltage protection
		Over voltage warning recovery	3400mV	3000mV - over voltage warning
		Under voltage warning	2900mV	Under voltage protection - under voltage warning recovery
		Under voltage warning recovery	3000mV	Under voltage warning -3300mV
Over voltage protection	ON	Over voltage protection	3650mV	Over voltage warning - 4500mV
		Over voltage protection recovery	3400mV	Over voltage warning recovery- over voltage protection
		Over voltage recovery condition	1. Individual cell voltage decrease to over voltage recovery threshold. 2. The remaining capacity lower than 96% of the intermittent power supply. Both conditions should be satisfied	
			Output current ≥1A	

3.4.2 cell low voltage parameters

cell low voltage parameter				
Functions	Status	Item	Default	Configurable Range
under voltage protection	ON	Under voltage protection	2700mV	1500mV - under voltage protection recovery
		Under voltage protection recovery	2900mV	Under voltage protection - under voltage warning
		Under voltage protection condition	When an individual cell gets under voltage protection threshold, BMS maintain communication with inverter for 1 minutes and powered off.	
		Under voltage protection recovery	Input current≥1A	

3.4.3 Pack over voltage parameters

Pack over voltage parameter				
Functions	Status	Item	Default	Configurable Range
Over voltage warning	ON	Over voltage warning	56.0V	Over voltage warning recovery - over voltage protection
		Over Warning recovery voltage	54.0V	53.0V - over voltage warning
		Under voltage warning	46.4V	Under voltage protection - under voltage warning recovery
		Under Warning recovery voltage	48.0V	Under voltage warning - 55.0V
Over voltage protection	ON	Over voltage protection	57.6V	Over voltage warning - 60.0V
		Over voltage protection recovery	54.0V	Over voltage warning recovery - over voltage protection
		Over voltage protection recovery conditions	1. Individual cell voltage decrease to over voltage recovery threshold. 2. The remaining capacity is lower than 96% of the intermittent power supply. Both conditions should be satisfied.	
			Output current≥1A	

3.4.4 Pack low voltage parameters

Pack low voltage parameter				
Functions	Status	Item	Default	Configurable Range
Under voltage protection	ON	Under voltage protection	41.6V	36.0V - under voltage warning recovery
		Under voltage protection recovery	46.0V	Under voltage protection - under voltage warning
		Under voltage protection condition	When the total voltage gets under voltage protection threshold, BMS maintain communication with inverter for 1 minutes and powered off.	
		Recovery conditions	Input current≥1A	

3.4.5 Cell high/low temperature(charging) parameters

Cell high/low temperature (charging) parameters				
Functions	Status	Item	Default	Configurable Range
Cell temperature (Forbid Charging)	ON	High temperature warning	50℃	High temperature warning recovery - high temperature protection
		High temperature warning recovery	47℃	35℃ - high temperature warning
		High temperature protection (charging)	55℃	High temperature protection recovery - 80℃
		High temperature protection recovery	50℃	High temperature warning recovery - high temperature protection
		Low temperature warning	2℃	Low temperature protection - low temperature warning recovery
		Low temperature warning recovery (charging)	5℃	Low temperature warning - 10℃
		Low temperature protection	- 10℃	-20℃- low temperature protection recovery
		Low temperature protection recovery	0℃	Low temperature protection - low temperature warning recovery

3.4.6 Cell high/low temperature(charging) parameters

Cell high/low temperature (discharging) parameters				
Functions	Status	Item	Default	Configurable Range
Cell temperature (Forbid discharging)	ON	High temperature warning	52℃	High temperature warning recovery - Over temperature protection
		High temperature warning recovery	47℃	35℃ ~discharge high temperature alarm
		High temperature protection	55℃	Discharge over-temperature recovery~80℃
		High temperature protection recovery	50℃	Discharge high temperature recovery~discharge over-temperature protection
		Low temperature warning	- 10℃	Under temperature protection - low temperature warning recovery
		Low temperature warning recovery	3℃	Low temperature warning - 10℃
		Low temperature protection	- 15℃	-30℃ - Under temperature protection Recovery
		Under temperature recovery	0℃	Under temperature protection - low temperature warning recovery

3.4.7 Ambient high/low temperature parameters

Ambient high/low temperature parameters				
Functions	Status	Item	Default	Configurable Range
Ambient temperature protection	ON	High temperature warning	50℃	High temperature warning recovery - high temperature protection
		High temperature Warning recovery	47℃	-20℃ - high temperature warning recovery
		High temperature protection	60℃	High temperature protection recovery -80℃
		High temperature protection recovery	55℃	High temperature warning recovery - high temperature protection
		Low temperature warning	0℃	Low temperature protection - low temperature warning recovery
		Low temperature warning recovery	3℃	Low temperature warning - 60℃
		Low temperature protection	- 10℃	-30℃ - low temperature protection recovery
		Low temperature protection recovery	0℃	Low temperature protection - low temperature warning recovery

3.4.8 MOSFET high/low temperature parameters

MOSFET high/low temperature parameters				
Functions	Status	Item	Default	Configurable Range
MOSFET temperature	ON	High temperature warning	90℃	High temperature warning recovery - high temperature protection
		High temperature warning recovery	85℃	60℃ - high temperature warning
		High temperature	100℃	High temperature warning - 120℃

		protection		
		High temperature protection recovery	85℃	High temperature warning recovery - high temperature protection

3.4.9 Charging current limiting parameters

Charging current limiting parameters				
Functions	Status	Item	Default	Configurable Range
Current limiting (charging)	OFF	Active current limiting	10A	When the charger current＞10A, current limiting activated.
	ON	Passive current limiting		When the charger current＞charging over current warning (configurable), current limiting activated.
		Charging current limiting time delay	5 min	After the current limiting being activated,BMS re-check the current to judge whether to maintain current limiting.

3.4.10 Charging over limiting parameters

Charging current limiting parameters				
Functions	Status	Item	Default	Configurable Range
Over current warning (charging)	ON	Over current warning	200A	Charging over current warning recovery - charging over current protection
		Over current warning recovery	195A	0A - charging over current warning
Over current protection (charging)	ON	Over current protection	210A	0A~150A
		Over current protection time delay	10S	Configurable
		Over current protection recovery conditions	BMS detects any output discharge current. After 60 seconds, the protection recovers automatically.	
Effective Charging current	Charging current (in)		1000mA	
	Charging current (out)		700mA	

3.4.11 Discharging over limiting parameters

Discharging over current parameters				
Functions	Status	Item	Default	Configurable Range
Over current warning	ON	Over current warning	- 205A	Over current protection - over current warning recovery
		Over current warning recovery	- 203A	Over current warning -0A
Over current protection	ON	Over current protection	- 210A	Transient over current protection - 0A
		Over current protection time delay	10S	Configurable
		Over current protection recovery conditions	BMS detects any input charge current. After 60 seconds, the protection recovers automatically.	

3.4.12 Transient over limiting parameters

Transient over current parameters				
Functions	Status	Item	Default	Configurable Range
Over current protection (Transient)	ON	Over current protection	-300A	Discharge over current protection - 300A
		Over current protection time delay	30mS	Configurable
		Over current protection recovery	BMS detects any input charge current. After 60 seconds, the protection recovers automatically.	
	OFF	Over current lock	Continuously over current for 2 times. The over current lock times exceeded.	
		Over current lock times	5 times	
		Over current lock release	Connected with charger	

3.4.13 Short circuit parameters

Short circuit parameters				
Functions	Status	Item	Default	Configurable Range
Short circuit protection	ON	Short circuit protection current value and time delay	Programmed into the software (can not be edited) Cannot be turned off	
		Short circuit protection recovery	BMS detects any input charge current. After 60 seconds, the protection recovers automatically.	
	ON	Short circuit protection lock	Continuously short in the output circuit.The over current protection lock times exceeded.	
		Short circuit protection lock times	5 times	
		Short circuit protection lock release	Connected with charger	
Effective discharging current	Discharge current (in)		-1000mA	
	Discharge current (out)		-700mA	

3.4.14 Cell balance parameters

Short circuit parameters				
Functions	Status	Item	Default	Configurable Range
Cell balance	ON	Standby balance	When there is no charging and discharging current flow,the standby balance will be activated.	
		Standby time	10 hours	configurable
	ON	Charging balance	When at the charging or float charging status, the charging balance will be activated.	
	Balance condition	Activate voltage	3350mV	Configurable
		Activate voltage difference	30mV	
		End voltage	20mV	
	ON	Temperature	According to the temperature range of no balance(ambient temperature)	
		No balance high temperature	50℃	

		No balance low temperature	0℃	Configurable
Cell failure	ON	Voltage difference	500mV	Configurable
		Voltage difference recovery	300mV	

3.4.15 Cell balance parameters

Capacity parameters				
Capacity	Nominal capacity		200AH	5- 200Ah
	Remaining capacity	Calculated accordingly to the cell voltage		Configurable
	Cycle life accumulated capacity	20%	Cycle life (configurable)	
	ON	Remaining capacity warning	15%	
	ON	Remaining capacity protection	8%	Output current flow will be cut off.
Reset button	Power on/activation		When the BMS is in the sleep state, press the 1S reset button, the BMS will be activated, and the LED indicators will turn on in turn, then the BMS will turn into the normal working state	
	Shut down/hibernate		When the BMS is in standby or working state (except charging), press the 3S reset button, the BMS will be hibernated, and the LED indicator lights will turn on in turn, and then the BMS will go into hibernation state;	

3.4.16 Other parameters

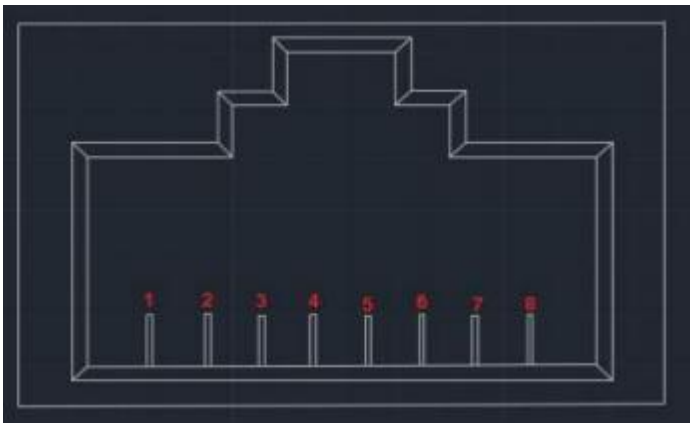
Pre-charging	2000ms	0-5000ms	The pre-charging function will be activated once the BMS powered on.	
BMS power consumption	ON	Longest standby time	48 hours (Do not connected with charger, and no effective charging current.)	
Heating	ON	Start heating temperature	0℃	Configurable
		Stop heating temperature	10℃	
		Heating function activation	When connected with charger, and the cell temperature reaches the setting value, the heating function activated.Heating function disabled when at standby and discharge status.	
External switch	OFF	When at the standby status, the BMS can be powered on/off through external switches.		
LCD screen	ON	Monitoring software to check the cell voltage, temperature and current.		
Charging activating	ON	1 minutes	The BMS powered off after under voltage protection.	Configurable
			Press the button for recovering from protection status and activate output current.	
Compensating impedance	Connection fault impedance	10mΩ	Default between 8 and 9	Battery connection line impedance compensation
	Compensation 1	0m Ω	9	Configurable
	Compensation 2	0m Ω	13	

4. Communication

4.1 CAN communication

BMS transmit information through CAN interface.Buad rate 500KBITS/S.CAN interface applies 8P8C connectors.And CAN connector communicates with inverter or CAN TEST. RS485 collect the information.Then CAN transmit the battery pack information to PCS.

CAN connector definition:

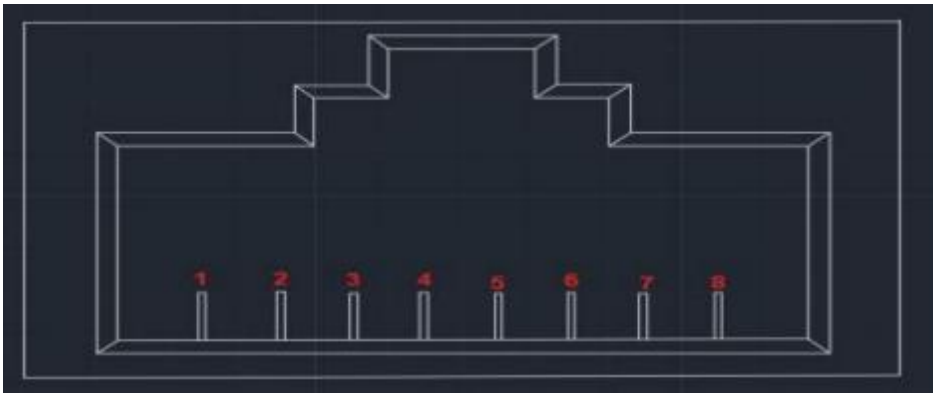


1、2、7、8	NC
4	CAN-L
5	CAN-H
3、 6	GND

4.2 RS485

BMS could collect battery pack information through RS485 communication. Baud rate: 19200bps. RS485 interface applies 8p8c connectors.

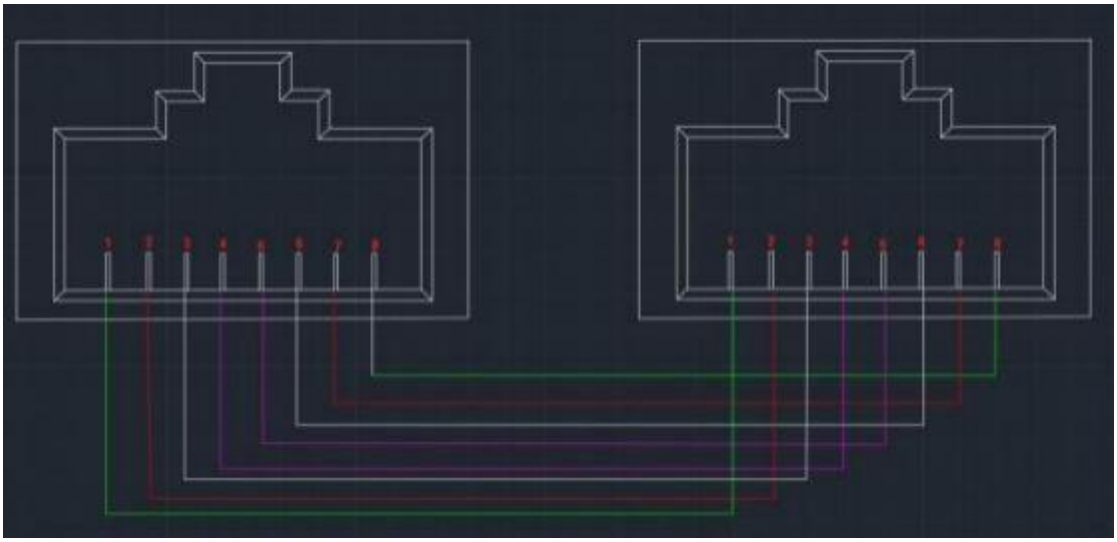
RS485 connectors definition:



PINS	DEFINITION
1/8	RS485-B
2/7	RS485-A
3/6	GROUND
4/5	Internal communication(NC)

4.3 Parallel

When connected in parallel with RS485 connectors. CAN connectors act as upper communication interface. End devices could get the collected battery information through CAN interface.
RS485 connector connection:



5. Working mode

5.1 Charging mode

When a charger was detected, and the charger voltage is 0.5V+ more than the battery voltage,BMS will turn on the charging MOSFET.And when the charging current reaches the effective charging current value,enters charging mode.

5.2 Discharging mode

When a loads was detected, and the discharging current reaches the effective discharging current value, BMS enters discharging mode.

5.3 Standby mode

When the BMS not in charging mode, nor discharging mode, it enters standby mode.

5.4 Power off mode

The BMS enters the shutdown mode after 48 hours of normal standby, battery triggering under voltage protection, key shutdown or external switch shutdown.
Wake-up conditions of shutdown mode:
1) Charge activation.
2) 48V voltage active.
3) Press key to start

6. LED indicator

6.1 LED lights

One running indicator (Green)
One warning indicator (Red)
And four capacity indicator (Green)

●	●	●	●	●	●
SOC				ALARM	RUN

6.2 Capacity indicators

Status	Charging				Discharging			
Capacity	L4●	L3●	L2●	L1●	L4●	L3●	L2●	L1●
0-25%	OFF	OFF	OFF	Blink	OFF	OFF	OFF	Green
25%-50%	OFF	OFF	Blink	Green	OFF	OFF	Green	Green
50%-75%	OFF	Blink	Green	Green	OFF	Green	Green	Green
≥75%	Blink	Green	Green	Green	Green	Green	Green	Green
Running	Green				Blink			

6.3 Lights blinking explanation A

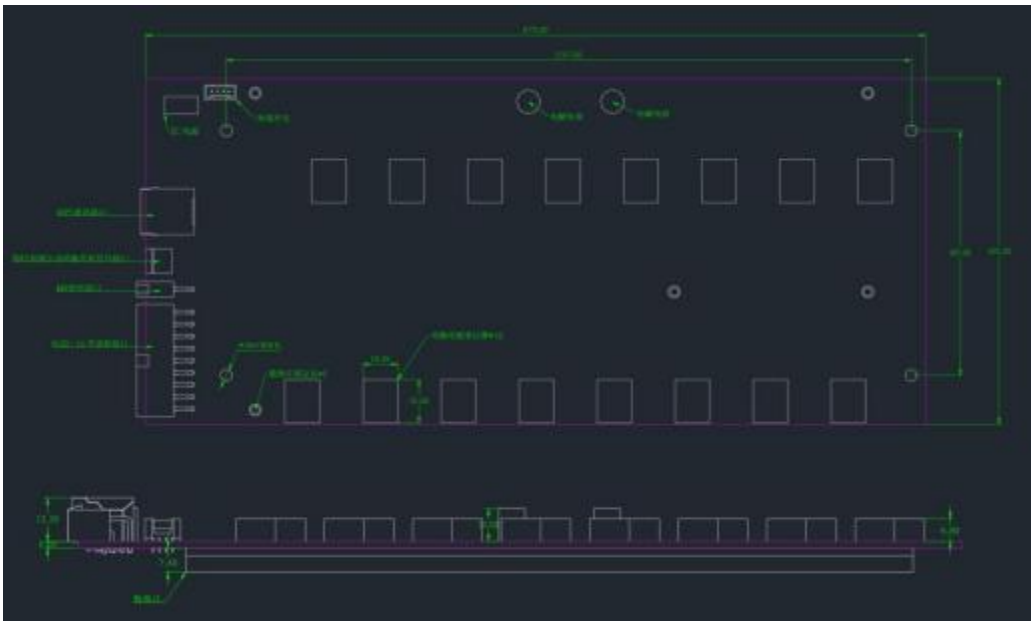
Blink Type	Lighten TIEM	OFF TIME
Blink A	0.25S	3.75S
Blink B	0.5S	0.5S
Blink C	0.5S	1.5S

6.4 Running status indicators

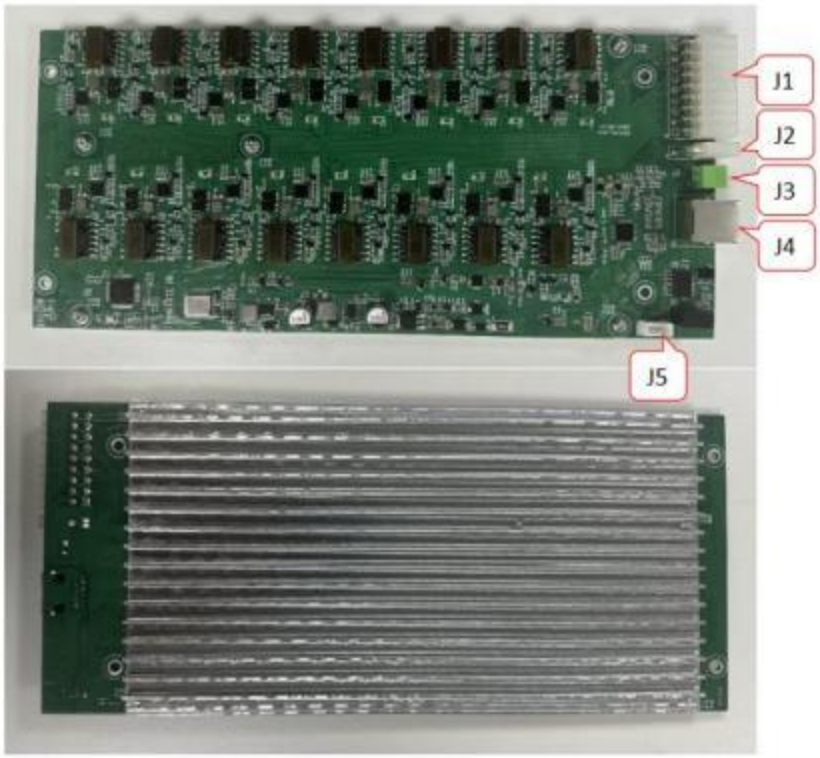
SYSTEM	Running	RUN	ALM	SOC				REMARK
		●	●	●	●	●	●	
OFF	Sleeping	OFF	OFF	OFF	OFF	OFF	OFF	OFF
STANDBY	Running	Blink A	OFF	OFF	OFF	OFF	OFF	Standby
CHARGE	Running	Green	OFF	According to the remaining capacity				LED Blink B
	Over current warning	Green	Blink B	According to the remaining capacity				LED Blink B
	Over voltage protection	Blink A	OFF	OFF	OFF	OFF	OFF	
	Temp And over current protection	Blink A	OFF	OFF	OFF	OFF	OFF	
DISCHARGE	Running	Blink C	OFF	According to the remaining capacity				
	warning	Blink C	Blink C					
	Temp Over current, short circuit protection	OFF	RED	OFF	OFF	OFF	OFF	Stop discharging, and there is no action to force sleep after 48h when the mains power is offline
	Under voltage protection	OFF	OFF	OFF	OFF	OFF	OFF	No discharge

6.5 Active balance board

6.5.1 Dimension



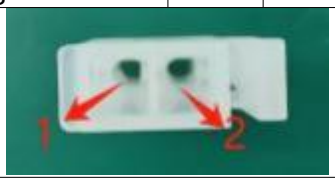
6.5.2、Installation method



6.5.3、Harness definition

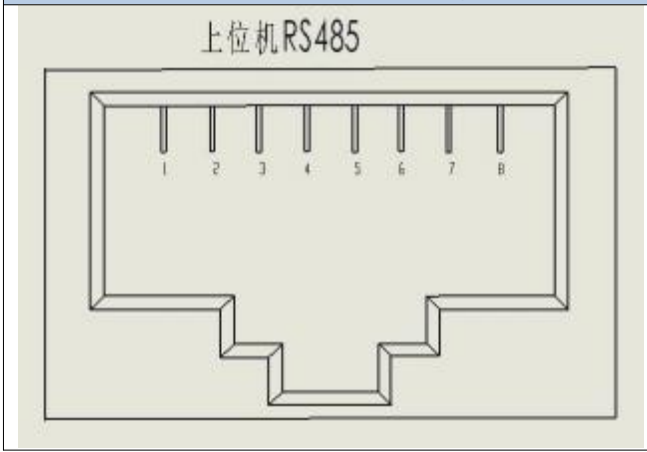
J1（Cell sampling line definition）					
NO	PIN	illustrate	NO	PIN	illustrate
9	B16+	The positive terminal of the sixteenth battery	18	B15+	The positive terminal of the fifteenth battery
8	B14+	The positive terminal of the fourteenth battery	17	B13+	The positive terminal of the thirteenth battery
7	B12+	The positive terminal of the twelfth battery	16	B11+	The positive terminal of the eleventh battery
6	B10+	The positive terminal of the tenth battery	15	B9+	The positive terminal of the ninth battery
5	B9-	The negative terminal of the ninth battery	14	B8+	The positive terminal of the eighth battery
4	B7+	The positive terminal of the seventh battery	13	B6+	The positive terminal of the sixth battery
3	B5+	The positive terminal of the fifth battery	12	B4+	The positive terminal of the fourth battery
2	B3+	The positive terminal of the third battery	11	B2+	The positive terminal of the second battery
1	B1+	The positive terminal of the first battery	10	B1-	The negative terminal of the first battery

J2（Power cord definition）					
NO	PIN	illustrate	NO	PIN	illustrate
1	BAT-	Battery negative or power supply negative	2	BAT+	Battery positive or power positive



J3（BMS control active balanced start signal definition）					
NO	PIN	illustrate	NO	PIN	illustrate
1	DRY-	BMS control balanced power-on signal	2	DRY+	BMS control balanced power-on signal

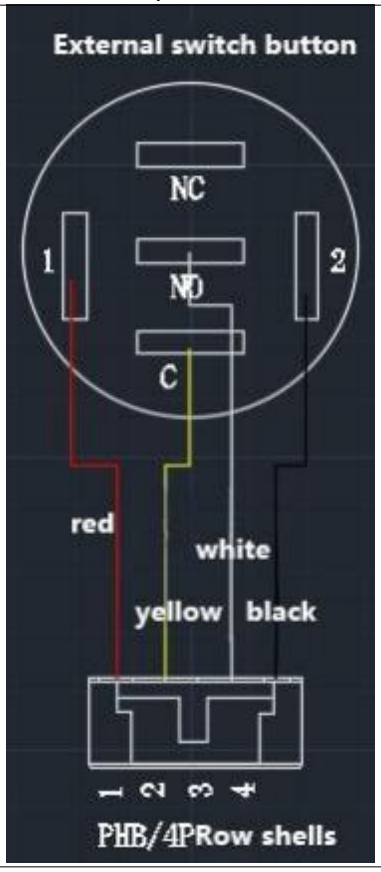
J4（Active balancing connection host computer definition）



Pin	Definition description
1、8	RS485-B
2、7	RS485-A
4	NC
5	NC
3、6	GND

J5（Manual control BMS startup definition）

The active balancing board uses a self-reset switch, please do not use a self-locking switch; the external switch is equipped with a separate 12V to power the LED light; press the self-reset switch for more than 1S to turn on the active balancing board, and press it for more than 6S to turn off the active balancing board. The external switch harness defines red +12V, black -12V; yellow and white are the power on and off control lines.



6.5.4The difference between active and passive balancing

Passive balancing： The battery with higher voltage is discharged by means of resistance discharge, releasing electricity in the form of heat. The advantages are low cost and simple circuit design; the disadvantages are that the balancing is based on the lowest battery residual amount, which cannot increase the capacity of the battery with less residual amount, and 100% of the balancing electricity is wasted in the form of heat. If the balancing current is small, the efficiency of the electricity balancing effect in a large-capacity battery pack with large electricity differences is very low, and it takes a long time to achieve balance, which feels like scratching an itch in the application.

Active balancing： Balancing is done by transferring electricity, which is highly efficient and has low losses. Regardless of whether the battery is charging, discharging, or static, as long as the voltage difference is greater than the set value, balancing will begin. Therefore, as long as there is a voltage difference, active balancing should be done 24 hours a day until the voltage difference is less than the set range. Since active balancing is not limited by charging time, the balancing time is longer and the balancing current is larger, so it is more suitable for use in large-capacity battery packs.

6.5.5 Software internal setting parameters

NO	Item	Setting	illustrate
1	Cell overvoltage protection	3650mV	If any cell reaches the overvoltage protection value, only a prompt will be given without stopping the balancing.
2	Cell undervoltage protection	2800mV	If any cell reaches the undervoltage protection value, the balancing board will shut down after 1 minute.
3	Balanced minimum starting voltage	3000mV	In order to balance the cells in all states, such as standby, charging and discharging, a minimum start-up balancing voltage is set to prohibit balancing when the cells are low in energy and lack of energy.
4	Minimum balanced voltage	2900mV	
5	Balanced start voltage difference	50mV	Active balancing is enabled when the cell voltage difference is greater than 50mV
6	Balanced close voltage difference	30mV	After balancing, the voltage difference is less than 30mV and the active balance is stopped.
7	Balance duration	60S	Active balancing starts and charges the corresponding battery cell for 60 seconds. The balancing starts for 3 seconds. The battery cell voltage is monitored in real
8	Balance interval	3S	

			time to see if it meets the start-up conditions.
9	Sleep time	10H	The balancing board is in standby mode and will shut down after 600 minutes.
10	Balance timeout	24H	After the continuous balancing time exceeds 1440 minutes, the balancing will be turned off.
11	Balanced over-temperature release	70℃	The balancing board detects that the temperature has reached the protection value and turns off the balancing. The balancing board can only be turned on when the temperature reaches the recovery value.
12	Balanced over-temperature protection	90℃	
13	Balance overvoltage	3900mV	When the highest voltage of the battery reaches the balanced overvoltage value, the balance stops and the power is turned off after 1 minute.
14	Balance module settings	4	The default balancing mode is 4-way balancing, and up to 6-way balancing can be set simultaneously
15	Balance current	2.5A	The balancing board can achieve a balancing current of 2.5A.
16	Power consumption	15mA	Power consumption in standby mode<15mA

Note: If the customer needs to modify the parameters, they only need to modify item 22 of standby and dormancy, item 25 and 26 of balanced start-up voltage difference, item 29 of balanced duration,and item 33 of balanced module settings;other parameters are not recommended to be changed

6.5.6 Reset button LED indicator

State	Function description
Standby	The LED light of the active balance board flashes in standby mode
Turn on balance	The LED light of the active balancing board is always on in the balancing state.
Turn on	Press the reset button and the LED light flashes once to turn on the balance board
Shut down	Press the reset button, the LED light flashes 6 times, then the LED light goes out and the machine shuts down.
Stop balance	In the balancing state, press the reset button and the LED light flashes 4 times to stop balancing. Press the reset button and the LED light flashes 4 times to start balancing.

6.5.7 Active balance logic

Dynamic balancing takes the total power of the battery (if the customer takes power from an external power supply, it is best to use a separate 220V to 48V DC power supply). After turning on balancing, the total power of the battery is converted into a charging voltage to charge the battery cell; the balancing board can simultaneously open up to 6 channels to charge and balance the battery cells, monitor in real time which battery cell has the lowest current, and charge the lowest battery cell with 2.5A current.

6.6、Bluetooth

NO	Function	illustrate
1	Bluetooth APP	Check the active balance board data through the APP. The name of the Bluetooth corresponds to SN, and the name starts with ZDJH003

7 Installation and debugging

7.1 list

NO.	Item	Quantity	Photo
1	Battery Box	1 PCS	

7.2 Installation instructions

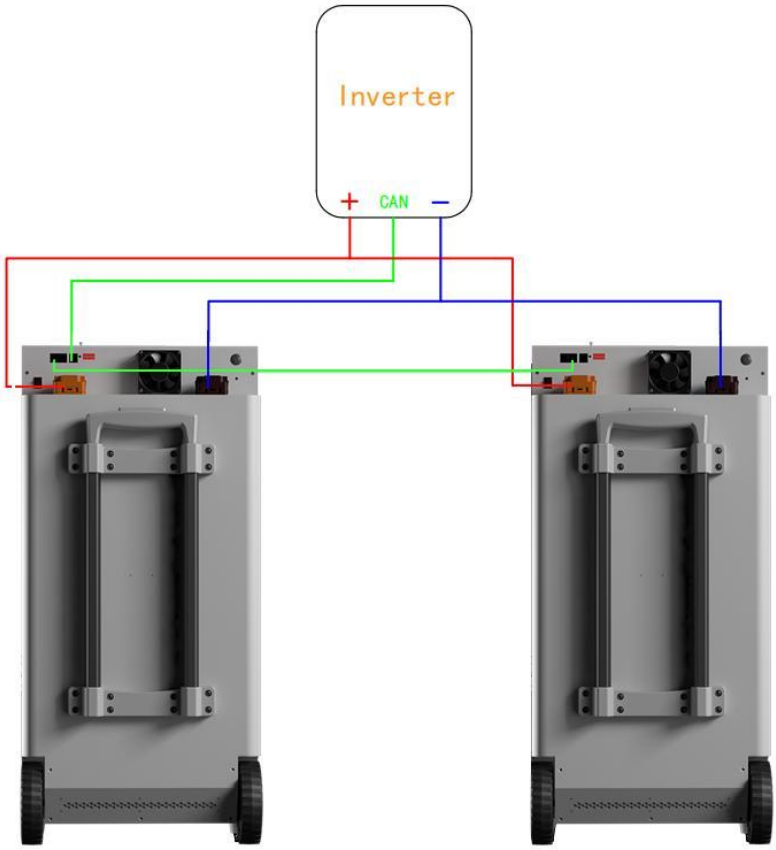
Check battery status before installation

8. Safety precautions

◆Do not place the battery on flammable building materials.
◆Recommended to place the battery in the cabinet .
◆The temperature should be between 10℃and 30 ℃ to maintain the best operating state .
◆The installation site should be some free space around the battery to dissipate heat (as shown in the figure below), which is suitable for installation on the concrete surface or other non-flammable surfaces.

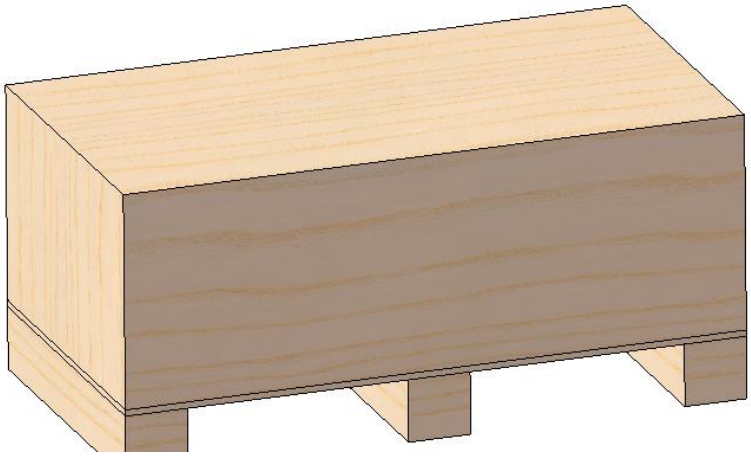
8.1 Harness connection

The battery should be turned off before connecting.



9. Package

Packed in a dry, dust proof and moisture-proof packaging box.
The products shall be packed with plastic film/EPE and packed in cartons.
Specification: L 99.5cm * W52.5cm * H 45.3cm Weight: 138.8kg
Package quantity: 1 set



10. Safety precaution

- Do not use the pack if there's any deformation.
- Do not stack up the battery.
- Please be notice the polarity of the battery and port.
- Make sure the insulation of equipment, use the tool and instrument correctly.
- The installation site should stay away from fire and Inflammable,keep ventilating and dry.
- Do not disconnect the battery terminals when its running.
- Not allow non-technology staff to open all of function module.
- Please fully charge a new battery pack, or a long-time-no-use battery pack with a designed charger.
- Do not uninstall,open, extrude, bend, impale or break the battery.
- Do not refit the battery or connect to other object,do not immerse the battery into any water,sea water,or drinks and other liquids.stay away from fire,explosive material or other dangerous item.
- Do not allow the battery short circuit, do not any metal or conductor contact the terminal.
- Do not let the battery fall.If does,especially on the solid surface, please contact the service center.
- If there is any signs of Electrolyte leakage,do not let it get any direct contact with your bare skin or eyes.If it happened,use plenty of water to clean up or ask doctor for help.
- Do not uninstall the battery cell,or there will cause internal short even fire disaster or other issue.
- Do not burn the battery or throw it to the fire, otherwise, there will be cause the fire of the battery.