NO.： **LW-YJY-CN2024042201-03-FXF**

Product Development Agreement

48V200Ah Product Specification

AO Version

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Description of changes to technical documents

Changes to successive versions of this document are set out below:

NO.	Version No.	Description of changes	Changing Time	Modifier
1	A0	Initial version	2024-4-22	Fang Xiaofei

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I. Scope of application

This specification sheet is suitable for the development of 48V100A battery pack by Anhui Lvwo Recycling Energy Technology Co., Ltd. It describes the external dimensions, performance indicators, battery management system parameter settings, appearance identification of the battery pack, conditions for use and storage, as well as usage guidelines.

II. Battery system design reference technical document

GB/T 191 Packaging Storage and Transportation Graphical Symbol

GB/T 2408-2008 Determination of combustion Properties of Plastics Horizontal Method and Vertical Method

GB/T 2829-2002 Periodic Inspection Count Sampling Procedure and Table (Suitable for Inspection of Process Stability)

GB/T 17626.2-2018 Electromagnetic Compatibility Test and Measurement Technology Electrostatic Discharge Immunity test

GB/T 17626.5-2019 Electromagnetic Compatibility Test and Measurement Technology Surge (Shock) Immunity Test

GB/T 20626.1-2006 Specifies General Technical Requirements for High Altitude Electrical and Electronic Products under Special Environmental Conditions.

GB 50689-2011 Communication Station Lightning Protection and Grounding Engineering Design Specification.

YD/T 983 Communication Power Equipment Electromagnetic Compatibility Limits and Measurement Methods

YD/T 1051-2018 General Technical Requirements for Power Supply System of Communication Bureau (Station)

YD/T 1363.3-2014 Communication Bureau (Station) Power Supply, Air Conditioning, and Environmental Centralized Monitoring and Management System Part 3: Front-end Intelligent Device Protocol

YD/T 5040-2010 Engineering Installation and Design Specifications for Communication Power Equipment

III. Supply list

No.	Name	Unit	Quantity	Notes
1	48V100Ah Battery	pcs	1	
2	Product qualification certificate	pcs	1	
3	Mounting screw	set	1	According to customers' demand
4	Matching the relevant harness	pcs	1	According to customers' demand

IV. Battery system usage requirements

1. Battery system operating external ambient temperature requirements: charging and discharging：charging 0℃～45℃, discharging -20℃～60℃；

2. Battery system working external environment humidity requirements: 10%≤humidity≤90%RH;

3. Battery system operation state try to maintain more than 20% SOC;

4. When the battery system is not in use for a short period of time, it is required to maintain more than 60% SOC and be stored in a dry, clean and well-ventilated warehouse at 5℃～45℃.

5. During the loading process of the battery pack, it is required to carry and put it gently, and strictly prevent it from falling, rolling and impacting;

6. The battery pack shall not be placed upside down or lying down in the storage state; it is strictly prohibited to expose the battery pack to sunlight, rain or water for a long time;

7. Ensure that the battery system in the operation or storage state away from flammable and explosive substances, high temperature environment;

8. It is strictly prohibited to force the battery system to operate under the state of short circuit, overcharge and high temperature alarm;

9. Strictly prohibit customers from disassembling the battery system without permission;

V. Battery pack performance technical specifications

5.1 Testing condition

If there is no special requirement, the experiment should be carried out in the environment of temperature: 25℃±2℃, relative humidity: 15~90 %RH, atmospheric pressure: 70kPa~106kPa.

5.2 Basic performance

No.	Items	Parameters	Notes
		Cell parameters	
1	Battery type	Lithium iron phosphate battery	

2	Rated voltage/capacity	3.2V206Ah	IFR206Ah
3	Cell voltage range	2.5V-3.65V	
4	Cell weight	3.9±0.05kg	
5	Dimension	Thickness:54.3±1.0 mm Width : 173.8±0.6 mm Height: 204.8±0.6 mm	
6	Operating temperature	Charging 0°C-45°C Discharging -20°C-60°C	
7	Charging retention capability	94%（25°C,30days）	
8	Cycle times	>4000 cycles (1 C cycle, room temperature, capacity retention rate: 80%)	
Battery pack system parameter			
1	Rated voltage	51.2V	16 series
2	Battery pack voltage range	40～58.4V	Per cell 2.5V-3.65V
3	Rated capacity	200Ah	
4	Total energy	10240Wh	
5	SOC range	10%-100%	
6	Charging and discharging capacity efficiency	≥96%	
7	Standard charging current（A）	≤100	Recommended 0.5C and below
8	Standard discharging current（A）	≤100	Recommended 0.5C and below
9	Continuous discharging current (A)	200	
10	Continuous charging current (A)	200	

11	Total weight	85kg estimation	
12	Ambient relative humidity	10%-90%	
13	Shell material	Sheet metal	
14	Battery pack composition	16S 1P in one pack	
15	Charging and discharging ambient temperature	Charging 0℃～45℃, Discharging-20℃～60℃	
16	Product dimension（mm）	482*450*267mm(MM L*W*H)	Tolerance ±3
17	Input/Output method	Fence terminal	
18	Heating function	BMS detects that the temperature is lower than 0 degrees, and the heating is turned on.	Heating function is optional
		BMS detects that the temperature is below 5 degrees, and the heating is turned on.	

5.3 Environmental characteristics

（Charging according to standards, and after full charge, let stand for 0.5h to do the following tests.）

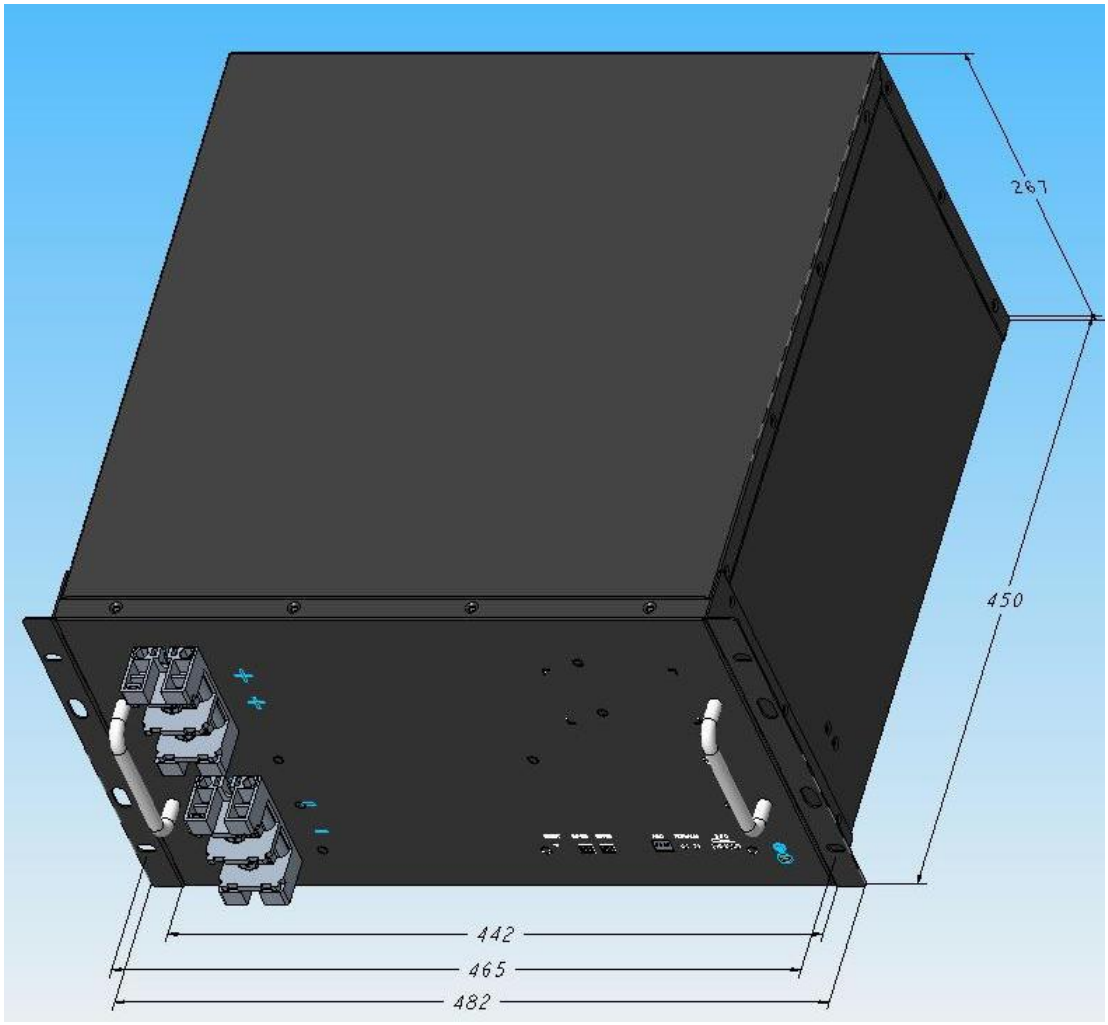
Ambient temperature	Discharge current	Battery capacity requirements
25℃	1.0I1A	The measured discharge capacity of the battery pack is not less than 100% of the nominal capacity, and the appearance is not deformed or burst.
0℃	1.0I1A	The measured discharge capacity of the battery pack is not less than 90% of the nominal capacity, and the appearance is not deformed or burst.
-10℃	1.0I1A	The measured discharge capacity of the battery pack is not less than 75% of the nominal capacity, and the appearance is not deformed or burst
55℃	1.0I1A	The measured discharge capacity of the battery pack is not less than 95% of the nominal capacity, and the appearance is not deformed or burst.

5.4 Safety characteristics

Items	Specification parameters	Notes
Insulated electricity	≥10MΩ	With insulation resistance tester DC 500V test voltage, the battery positive and negative terminal interface (terminal) were tested on the battery pack metal shell, insulation resistance value ≥ 10MΩ.
Insulated strength	No breakdown, no flaring phenomenon	Battery positive and negative terminal interface respectively on the battery pack metal casing can withstand 50Hz, RMS 500V AC voltage (leakage current ≤ 10mA) or 710V DC voltage for 1min, there should be no breakdown, no flaring phenomenon.
Drop-resistant	No obvious damage, no leakage,shell rupture, fire or explosion, and the battery pack and each position have no displacement when shaking up and down.	When the battery pack is fully charged, choose any 6 angles, and drop to the cement floor once from the highest height set (0.8m ~ 1.8m).
Constant humidity	No obvious deformation, rust, smoke or explosion, its capacity should not be less than 90% of the measured base capacity	Once the battery pack is fully charged and equipped with a Battery Management System (BMS), it is placed in a constant temperature and humidity chamber at 60°C ±2°C with a relative humidity of 90% to 95% for 12 hours. Subsequently, it is removed and allowed to stand for 2 hours at an ambient temperature of 25°C ±2°C for visual inspection before discharging with a current of 1.0I1A to the cut-off voltage.
Vibration measurement	No explosion, no fire, no deformation, no parts falling off, no abnormal voltage, no sharp discharge current.	After fully charging the battery pack, it is securely fixed on a vibration table in the horizontal plane. The battery pack is then subjected to vibrations with an amplitude of 5mm and a maximum stroke of 10mm, with vibration frequencies ranging from 10Hz to 55Hz. Vibration tests are conducted in the x, y, and z directions of the battery pack, with each direction undergoing frequency-sweep testing between 10Hz and 55Hz for a duration of 90 minutes ± 5 minutes. After the completion of the test, it is left idle for 1 hour.

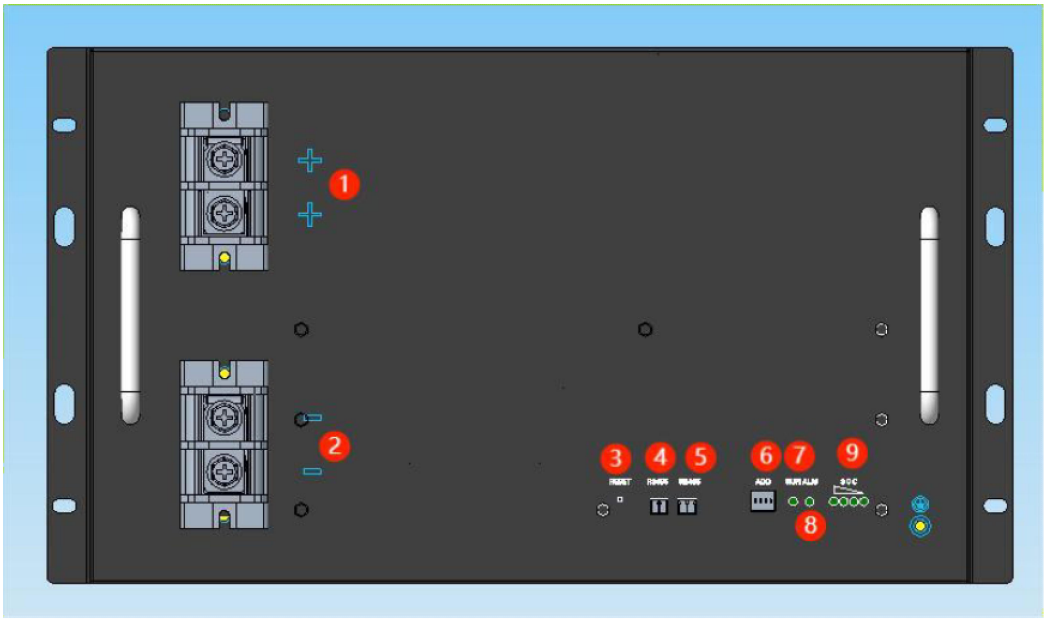
VI. Schematic diagram of product external dimension

6.1 Pack dimension



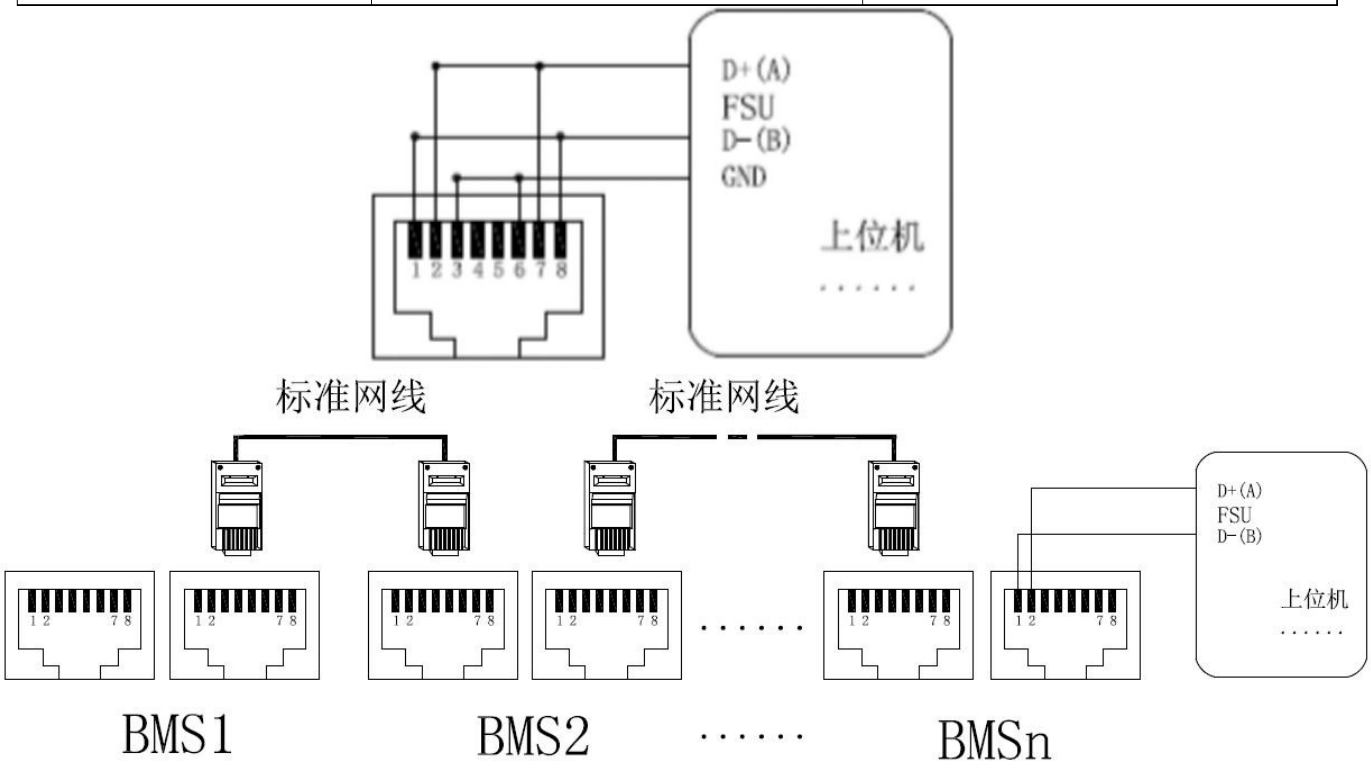
Battery pack structure dimension diagram

6.2 Product panel illustration



NO.	Description	NO.	Description
1	Positive fence terminal - Positive battery terminal	6	ADD- Dip switch
2	Positive fence terminal - Positive battery terminal	7	RUN- Indicates the running indicator
3	RST- Reset switch	8	ALM- Alarm indicator
4	RS485-1-485 communication	9	SOC- Power indicator
5	RS485-2- Parallel communication		

6.3 RS485 Communication interface definition and parallel communication wiring diagram

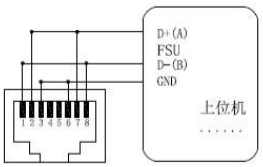


6.4 Installation guide

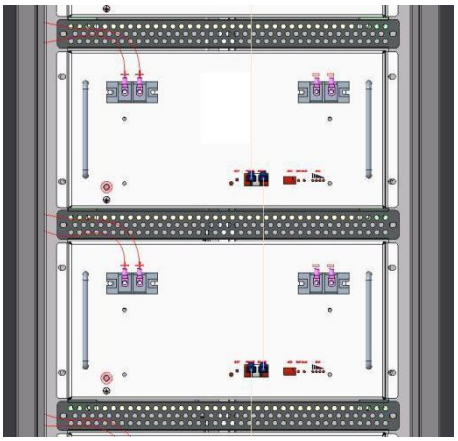
4.1 Open the container and take out the battery pack;

4.2 Installing Battery Strings in the cabinet slot and securing them with cabinet bolts.

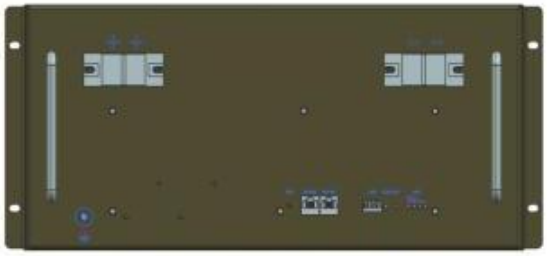
■ 将系统插入 19 英寸标准机柜内，用 4 只螺栓在机箱两侧的安装挂耳处将系统固定在机架上。



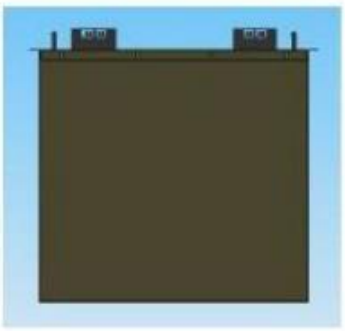
■ 也可以采用壁挂方式安装，用安装挂耳处将系统固定在安装架上。



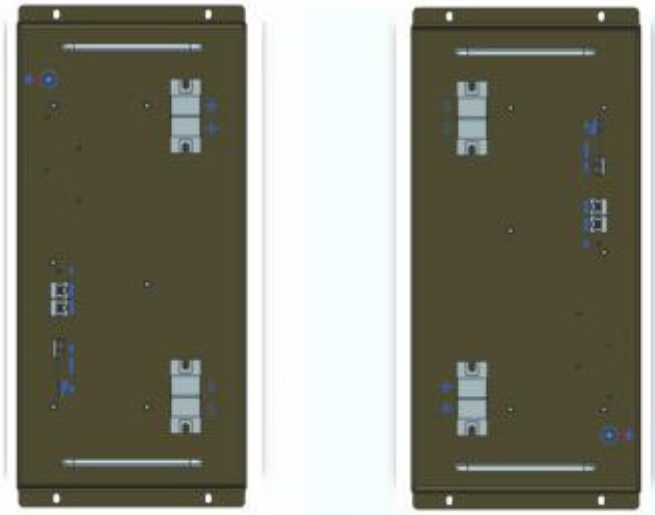
电池模组不当的安装方式会导致安全隐患，因此模组需按正确的安装方式安装：



A）允许的安装方式—电池卧放



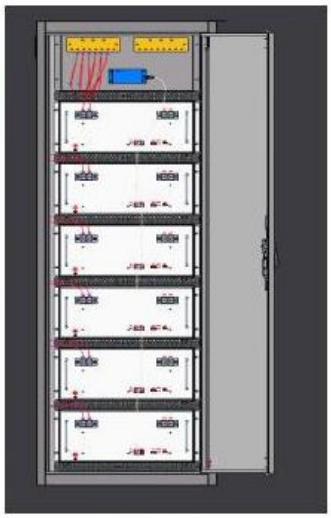
B）允许的安装方式—电池立放



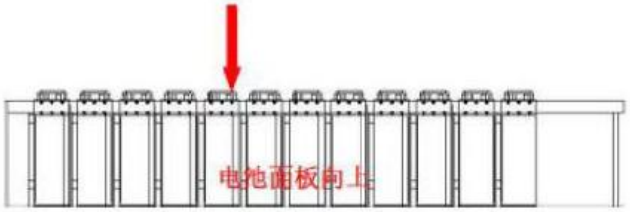
C）禁止的安装方式—电池侧放

4.3 Connect the positive and negative terminals of the battery string to the copper bus bar of the cabinet using a wire harness.

■ 电池机柜或机架式安装时，电池机柜/机架可以选择直立放置或者卧放，卧放 时注意电池控制面板要朝向上方。



a)机柜立放



b)机柜卧放

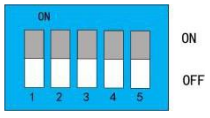
4.4 Connect the cabinet bus bars to external power supplies separately.

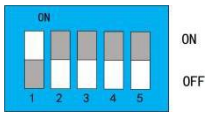
4.5 Connect a moving loop monitoring communication line (if required)

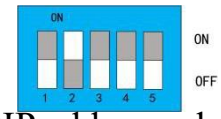
4.6 ADD communication interface connection and communication address setting: (Only professional personnel can operate)

①. Communication interface connection: When multiple machines are in parallel, the RS485 interface serves as both the parallel and upper communication interface. A PC or smart terminal device can read battery data from any parallel PACK through the RS485 interface.

②. Communication Address Setting: When performing multi-machine parallel communication operations, set the communication address through the DIP switch. The DIP switch position is on the left side of the protection board plug, shaped as shown in the figure 

Dip switch control is to control addresses in binary. The definition of address 0 is 

(black dot is OFF state, blank is ON state, and so on), the definition of address 1 is, 

and the definition of address 2 is, 

, with other addresses following the same pattern. After changing the DIP address, please reset the BMS. When the DIP address is 0, the BMS is configured for single-machine operation mode; when the BMS is used for parallel communication, the DIP address should be sequentially switched downwards.

6.5 Routine maintenance

1) Check if the power line is loose, if so, reinforce it in a timely manner; check for any cable wear, if worn, replace it promptly.

2) Regularly check the panel for proper working status, and if any issues arise, contact our company's after-sales service department.

3) When the battery pack is not used for a long time, please charge or discharge the battery system to half capacity, place it in a cool and dry environment, reset the battery pack every three months, and check the battery pack indicator lights. If the indicator light shows the battery level at 1 bar, use a charger to charge the battery to half capacity, stop charging, and place it in a cool and dry environment to prevent the battery pack from reducing its lifespan due to long periods of non-use.

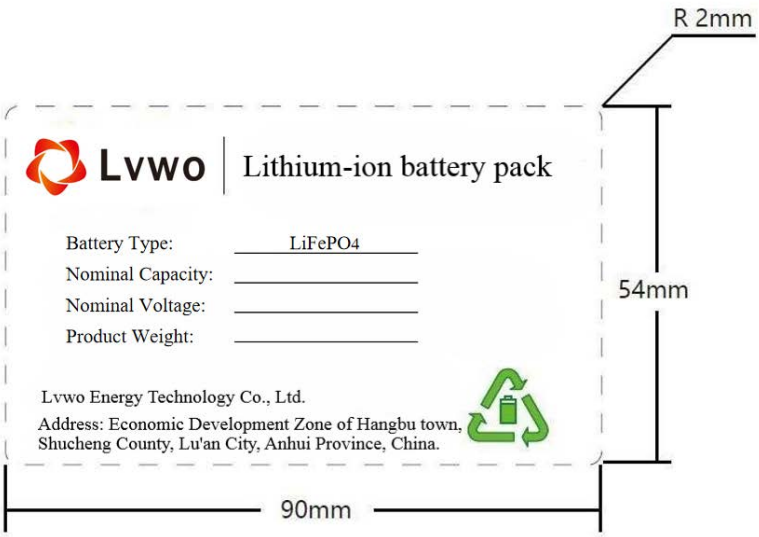
6.6 Common faults and solutions

NO.	Fault phenomenon	Cause analysis	Solution
1	BMS No data uploaded	The RS485 communication cable is not properly connected	Please check the RS485 cable harness
2		The communication address is incorrectly set	Please check whether the DIP address of the dip switch is correct
3		BMS failure	Please contact the after-sales service department for repair

4	No charging	Whether the cable connections are loose	Please check the line
5		The battery voltage is too high.	Check the alarm information and contact after-sales service department
6		Over voltage	Please check the alarm information and switch the floating charger in time
7		The temperature is too low/too high	Please check the alarm information and contact after-sales service department
9		Loss of internal communication	Please check the alarm information and contact after-sales service department
10		Charging back to the passing stream	Please check the alarm information and contact after-sales service department
11	No discharging	The cable is not reliably connected	Please check the line
12		The single-cell battery voltage is too low	Please check the alarm information and contact after-sales service department
13		The total voltage is too low	Check the alarm information and add power in time
14		The temperature is too low/too high	Please check the alarm information and contact after-sales service department
15		Loss of internal communication	Please check the alarm information and contact after-sales service department
16		Discharging back through the current	Please check the alarm information and contact after-sales service department
17	Low discharging capacity	The charging voltage is set improperly	Please check whether the charging voltage is set as required
18		Battery failure	Please check the alarm information and contact after-sales service department

Please promptly send the fault information and related data to the professional technical personnel in the after-sales service department.

VII. Caution label and nameplate

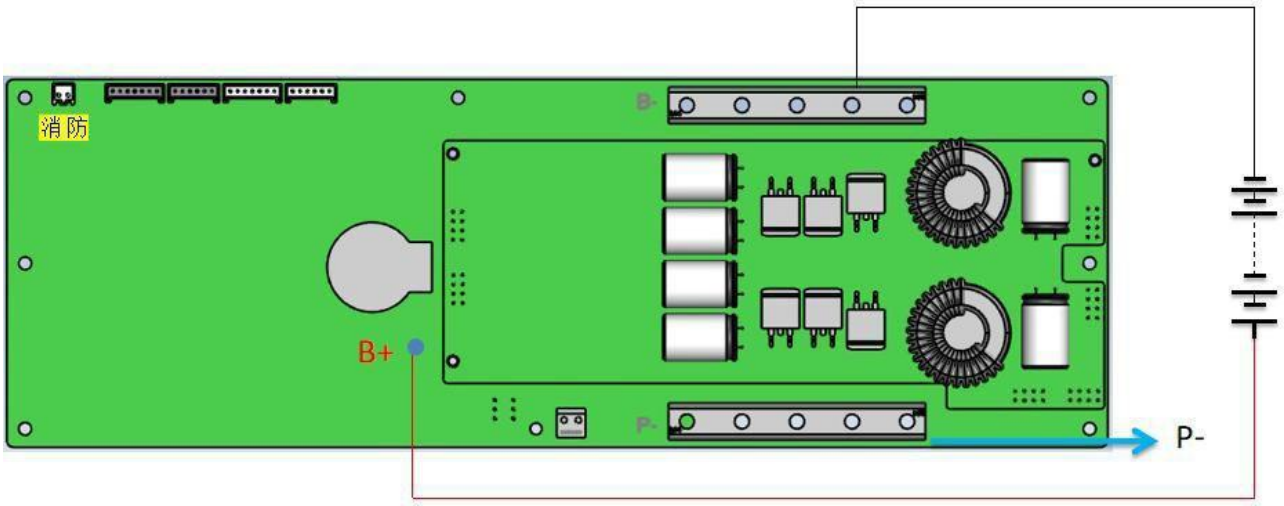


Nameplate

VIII. Specifications and parameters of BMS

8.1 Physical and dimensional drawings of BMS





8.2 Electrical parameter

8.2.1 Electrical property

Item	Min.	Typical value	Max.	Unit
Normal operating voltage	36	48	60	V
Normal charging voltage	-	56.4	60	V
Operating temperature range	-20	25	70	℃
Operating humidity range	10	-	85	%
Continuous charging current		200		A
Continuous discharge current		200		A
Charging current limitation	20±2			A
Internal resistance of discharge output	≤10			mΩ
Uptime power consumption	≤40			mA
Total power consumption at static	≤170			uA

8.2.2 Basic parameters settings

Items	Default	Settings	Detailed content	Default settings	Acceptable range	Notes
Cell over□ voltage	ON	YES	Cell over-voltage protection voltage	3.75V	±0.05V	
	ON	YES	Cell over-voltage	1000ms	500~3000	

protection			protection delay			
	ON	YES	Cell over-voltage protection recovery	3.60V	±0.05V	All below 3.35V and delay
Cell under□ voltage protection	ON	YES	Cell under-voltage protection voltage	2.50V	±0.05V	
	ON	YES	Cell under-voltage protection delay	1000ms	500~3000	
	ON	YES	Cell under-voltage protection recovery	2.90V	±0.05V	
Pack over□ voltage	ON	YES	Pack over-voltage protection voltage	57.6 V	±0.5V	
	ON	YES	Pack over-voltage protection delay	1000ms	500~3000	
	ON	YES	Pack over-voltage protection recovery	56.6V	±0.5V	Lower than the recovery voltage and delay 24H
Pack under voltage	ON	YES	Pack under-voltage protection voltage	43.2V	±0.5V	
	ON	YES	Pack under-voltage protection delay	1000ms	500~3000	
	ON	YES	Pack under-voltage protection recovery	51.2V	±0.5V	
Over current protection	ON	YES	Charging over-current protection current	205A	±4A	
	ON	YES	Charging over-current protection delay	4000 mS	3000~5000	
	ON	YES	Charging over-current protection current	250A	±5A	
	ON	YES	Charging over-current protection delay	500mS	50~1000m	

Items	Default	Settings	Detailed content	Default settings	Acceptable range	Notes
	ON	YES	Discharging over-current protection current	205A	±4A	
	ON	YES	Discharging over-current protection delay	5000 mS	4000~6000	
	ON	YES	Discharge over-current protection current	250A	±5A	
	ON	YES	Discharging over-current protection delay	500 mS	50~1000m	
	ON	NO	Discharging over-current protection and recovery	2min		Check every minute. Enter the discharg-ing over□ current protection on the third time.
Short circuit protection	ON	NO	Short-circuit protection current	660 A	±200A	
	ON	-	Protection condition	Loading short circuit		
	ON	NO	Short circuit protection delay	150us		
	ON	-	Short circuit protection recovery condition	Charging or reload		
Cell temp. protection	ON	YES	Charging high temperature protection	65℃	±2℃	
	ON	YES	Charging high temperature protection recovery	50℃	±2℃	
	ON	YES	Charging high temperature protection delay	1000ms	500~3000	
	ON	YES	Discharging high temperature protection	65℃	±2℃	

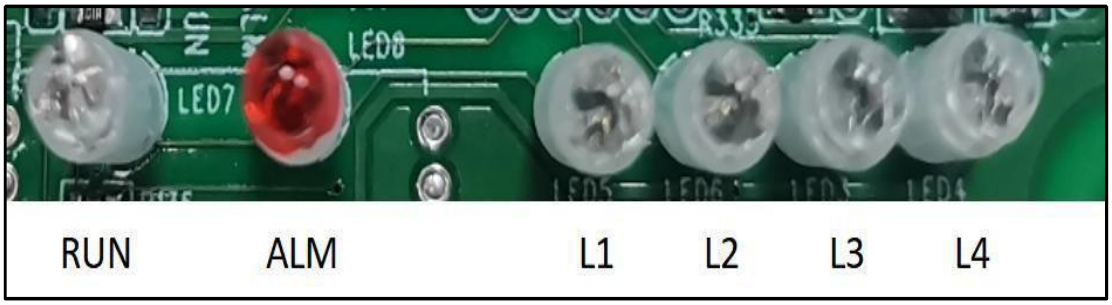
	ON	YES	Discharging high temperature protection and recovery	50℃	±2℃	
	ON	YES	Discharging high□ temperature protection delay	1000ms	500~3000	
	ON	YES	Charging low-temperature protection	0℃	±2℃	
	ON	YES	Charging low-temperature protection recovery	5℃	±2℃	
	ON	YES	Charging low-temperature protection delay	1000ms	500~3000	
	ON	YES	Discharging low□ temperature protection	-10℃	±2℃	
	ON	YES	Discharging low□ temperature protection recovery	0℃	±2℃	
	ON	YES	Discharging low□ temperature protection delay	1000ms	500~3000	
Ambient temp. protection	ON	YES	Ambient high□ temperature protection	65℃	±2℃	
	ON	YES	Ambient high□ temperature protection and recovery	55℃	±2℃	
	ON	YES	Ambient high□ temperature protection delay	1000ms	500~3000	
	ON	YES	Ambient low-temperature protection	-15℃	±2℃	
	ON	YES	Ambient low-temperature Protection recovery	-10℃	±2℃	
	ON	YES	Ambient low temperature protection delay	1000ms	500~3000	
MOS	ON	YES	MOS tube high-temperature protection	110℃	±2℃	

temp. protection	ON	YES	MOS tube high-temperature protection and recovery	100℃	±2℃	
	ON	YES	MOS tube high temperature protection delay	1000ms	500~3000	
Items	**Default**	**Settings**	**Detailed content**	**Default settings**	**Acceptable range**	**Notes**
Cell over voltage	ON	YES	Cell over-voltage alarm voltage	3.80V	±0.05V	
	ON	YES	Cell over-voltage alarm recovery	3.75V	±0.05V	
	ON	NO	Cell over-voltage alarm delay	1000ms	500~3000	
Cell under□ voltage	ON	YES	Cell under-voltage alarm voltage	2.50V	±0.05V	
	ON	YES	Cell under-voltage alarm recovery	2.90V	±0.05V	
	ON	NO	Cell under-voltage alarm delay	1000ms	500~3000	
Pack over voltage alarm	ON	YES	Pack over-voltage alarm voltage	57.0V	±0.5V	
	ON	YES	Pack over-voltage alarm recovery	54.6V	±0.5V	
	ON	NO	Pack over-voltage alarm delay	1000ms	500~3000	
Pack under voltage	ON	YES	Pack under-voltage alarm voltage	43.2V	±0.5V	
	ON	YES	Pack under voltage alarm recovery	45.0V	±0.5V	
	ON	NO	Pack under-voltage alarm delay	1000ms	500~3000	

Over current alarm	ON	YES	Charging over-current alarm	195A	±4A	
	ON	YES	Charging current alarm recovery	190A	±4A	
	ON	NO	Charging over-current alarm delay	1000mS	500~3000	
	ON	YES	Discharging over-current alarm	195 A	±4A	
	ON	YES	Discharging over-current recovery	190A	±4A	
	ON	NO	Discharging over-current alarm delay	1000ms	500~3000	
Cell temp.alarm	ON	YES	Battery charging high-temperature alarm	50℃	±2℃	
	ON	YES	Battery charging high temperature alarm recovery	45℃	±2℃	
	ON	NO	Battery charging high-temperature alarm delay	4000ms	3500~4500	
	ON	YES	Battery charging low-temperature alarm	0℃	±2℃	
	ON	YES	Battery charging low-temperature alarm recovery	5℃	±2℃	
	ON	NO	Battery charging low-temperature alarm delay	4000ms	3500~4500	
	ON	YES	Battery discharging high-temperature alarm	50℃	±2℃	
	ON	YES	Battery discharging high-temperature alarm recovery	45℃	±2℃	
	ON	NO	Battery discharging high-temperature alarm delay	4000ms	3500~4500	
	ON	YES	Battery discharging low-temperature alarm	0℃	±2℃	
	ON	YES	Battery discharging low-temperature alarm recovery	5℃	±2℃	

	ON	NO	Battery discharging low-temperature alarm delay	4000ms	3500~4500	
Ambient temp. alarm	ON	YES	Ambient high-temperature alarm	60℃	±2℃	
	ON	YES	Ambient high-temperature alarm recovery	50℃	±2℃	
	ON	NO	Ambient high temp. alarm delay	4000ms	3500~4500	
	ON	YES	Ambient low temp. alarm	0℃	±2℃	
	ON	YES	Ambient low temp. alarm recovery	5℃	±2℃	
	ON	NO	Ambient low-temperature alarm delay	4000ms	3500~4500	
MOS temp. alarm	ON	YES	MOS high temp alarm	100℃	±2℃	
	ON	YES	MOS high temp. alarm recovery	95℃	±2℃	
	ON	NO	MOS high temp. alarm delay	4000 ms	3500~4500	
Capacity alarm	ON	YES	Low capacity alarm	20 %	-	
	ON	YES	Low capacity alarm recovery	25%	-	
Pressure Difference alarm	ON	YES	Excessive pressure difference alarm	1000mV	±20mV	
	ON	YES	Excessive pressure difference alarm recovery	500mV	±20mV	

8.2.3 LED indicator definition



8.2.4 LED capacity indicator

State		Charging				Discharging			
Capacity indicator light		L1●	L2●	L3●	L4●	L1●	L2●	L3●	L4●
	0～25%	Off	Off	Off	flickering	Off	Off	Off	Steady on
	25～50%	Off	Off	flickering	Steady on	Off	Off	Steady on	Steady on
	50～75%	Off	flickering	Steady on	Steady on	Off	Steady on	Steady on	Steady on
	75～100%	Flickering	Steady on	Steady on	Steady on	Steady on	Steady on	Steady on	Steady on
Running indicator light ●		Steady on				Flickering 3			

8.2.5 LED status indicator

System state	Abnormal event	RUN	ALM	LED Power	Instructions
		●	●	● ● ● ●	
Off	Dormancy	Off	Off	All off	All off
Standby	Normal	Flickering 1	Off	According to battery indicator	Standby mode
	Alerts	Flickering 3	Flickering 3		
	Normal	Steady on	Off	According to	Alarm is not the

Charging	Alerts	Steady on	Flickering 3	battery indicator	overcharge alarm.
	Over voltage protection	Flickering 1	Off	All on	Stop charging
	Over current protection	Steady on	Off	Power indicator highest LED	Entry normal limit
	Over current protection	Off	Steady on	off	The current limiting function is disabled
Dischargi ng	Normal	Flickering 3	Off	According to battery indicator	
	Alerts	Flickering 3	Flickering 3		
	Under voltage protection	Off	Off	Off	Stop discharging
	Over current protection	Off	Steady on	Off	Stop discharging
	Over current protection	Off	Steady on	Off	Stop charging and discharging
Losing effectiven ess	Cell failure、NTC	Off	Steady on	Off	Stop charging and discharging
	Voltage sensor failure				
	Current sensor failure				
	The charging and discharging MOS failed				

IX. Packaging、transportation and storage

9.1 Packaging

9.1.1 Method: ☐ Neutral carton (Domestic) ☐ UN carton (Export) ☐Wood pallet (Bulk container export).

9.1.2 Each battery pack should have outer packaging and should be accompanied by a product manual and a certificate of conformity. The packaged product should be placed in a dry, dust-free, and moisture-proof packaging box. The outer packaging of dangerous goods should indicate the product name, model, voltage, capacity, quantity, gross/net weight, logo, battery serial number, etc. Neutral packaging does not include the above content. There should be necessary signs such as “Handle with care,” “Keep dry,” “This side up,”“Keep away from fire,”and so on.

9.1.3 Shipping documents: Shipping inspection report, product manual, host computer software, communication protocol (electronic file), etc.

9.1.4 Shock and pressure prevention measures: Fill shock-absorbing materials on both external sides (top and bottom) of the battery module.

9.1.5 Waterproofing, anti-scattering, handling: Battery module in nylon bag, tightened with strapping, pallet.

9.2 Transportation

Battery packs should be packaged in boxes for transportation, ensuring protection against severe vibrations, impacts, or compression. They should be shielded from exposure to sunlight and rain, and can be transported using vehicles such as cars, trains, ships, or airplanes.

9.3. Storage

9.3.3. Battery packs are typically stored at a state of charge of 20%-40% in a clean, dry, well-ventilated indoor area with an environment temperature of -5°C to 35°C and a relative humidity not exceeding 75%. The packs should be placed flat with a minimum distance of 100mm from the ground.

9.3.4. Batteries should not be stored together with reactive chemicals or dusty items.

9.3.5. Batteries should not be subjected to any mechanical impact or heavy pressure.

9.3.6. Batteries should be kept away from direct sunlight, heat sources, with a distance from heat sources not less than 2 meters.

9.3.7. Every 3 months from the date of manufacture, a 0.2-0.5C current charge should be applied for 30-60 minutes, at a temperature range of 25°C ± 5°C.

X. User responsibility letter

Users must follow the instructions on the battery label or the Anhui Lvwo Recycling Energy Technology Co., Ltd. battery specification sheet. If improper use by the user leads to damage such as overheating, fire, or explosion in the power system, the company will not be liable.

XI. Dangerous matters

Failure to carefully read the following items may result in battery leakage, explosions, or fires.

(1) Do not submerge the battery in water or get it wet;

(2) Do not use or store the battery near a heat source (such as fire or heater);

(3) Do not reverse the positive and negative poles;

(4) Do not directly connect the battery to a wall outlet or car cigarette lighter socket;

(5) Do not throw the battery into fire or heat it;

(6) Do not short-circuit the positive and negative poles of the battery with wires or other metal objects, and do not transport or store the battery with necklaces,

hairpins, or other metal objects;

(7) Do not strike, throw, or subject the battery to mechanical vibrations;

(8) Do not pierce the battery casing with nails or other sharp objects, and do not hit or step on the battery;

(9) Do not disassemble the battery in any way;

(10) Do not charge the battery in a fire or under extreme heat conditions.

(11) Do not put batteries in microwave ovens or pressure containers

(12) Do not use a primary battery (such as dry cell battery) together with batteries of different capacities, types, or models.

(13) Do not continue using the battery if it emits odors, heat, deforms, changes color, or shows any other abnormalities; immediately remove the battery from the appliance or charging device and stop using it if it is in use or charging.

(14) Batteries should be kept out of reach of children.

(15) If a battery leaks or emits an odor, promptly move it away from open flames; leaked electrolytes may cause fire or explosion.

(16) If battery leakage causes electrolyte to enter the eyes, do not rub; instead, rinse with water and seek medical help immediately to prevent eye damage.

XII. Precautions

- Strictly follow the instructions for using the lithium battery pack. If the battery leaks and the electrolyte comes into contact with the skin or clothes, immediately rinse the affected area with running water to prevent skin inflammation.
- Read the device manual for batteries, and correctly install and remove the batteries.
- If the battery terminal is dirty, wipe it clean with a dry cloth before use. Otherwise, the battery terminals may have poor contact, leading to energy loss or inability to charge.
- No unqualified personnel are not allowed to dismantle or repair the battery system.
- Only use the designated charger for charging the battery system.
- Do not immerse the power system in water or saltwater. Store the battery in a cool, dry environment when not in use.
- If the power system emits odors, heats up, changes color or shape during charging or discharging, or shows any abnormalities, stop operation immediately and seek professional

assistance.

- In case of a battery fire, use dry sand or a nitrogen fire extinguisher.
- Do not dispose of the battery system in fire or heat sources.
- When installing or using the battery, remove metal jewelry or other metal items, handle the battery carefully, especially when placing it in a metal container.