

	Specification	Versions	A0
		Date	August 5, 2023
		DOC No:	WBY-YJY-CN2024111901-08-ZZJ
Address: Economic Development Zone of Hangbu town, Shucheng County, Lu'an City, Anhui Province, China.			
Tel:+86-18055169245	Post Code: 231323	Web: www.lvwo-energy.com	

NO. : WBY-YJY-CN2024111901-08-ZZJ

Specification Approval Sheet

Specification

Model:192V100Ah
Capacity: 100Ah
Date: 2024-11-19

Prepared By	Checked By	Approved By

Customer Approved	Signature:
	Date:
	Company Name: （Company Stamp）

Specification

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I. Scope of Application

The product specification applies to LiFePO₄ battery packs produced by Anhui Lvwo Energy Technology Co., Ltd. It specifies the model, specification, dimensions, performance and maintenance of the product.

II. Product Type and Model

Product type: lithium iron phosphate battery pack, using certified lithium iron phosphate ion cell, and BMS.

Model No.: 192V-100Ah(64v100A*3 boxes of battery packs connected in series, 20 series and 1 parallel per box.)

Lithium iron phosphate battery : 192V 100AH

Cell type : 3.2V 100Ah

III. Technical Performance

3.1 Introduction of Functions

- (1) Reliable charging and discharging. Highly efficient charging and discharging via LiFePO₄ batteries for long life and high reliability.
- (2) Automatic protection function. Quick response, high precision data sampling, with perfect and reliable protection function :
 - ◇ Over-voltage and under-voltage protection for the battery pack and over-voltage and under-voltage protection for a cell;
 - ◇ Charging and discharging over current protection ;
 - ◇ Charging and discharging over temperature protection ;
 - ◇ Short-circuit protection ;
- (3) Protection release mode. Battery pack or single unit in the overcharge protection, the voltage returns to the value of overcharge reset voltage, automatically releasing the alarm.
- (4) Battery equalization function. Equalization controls according to each battery voltage and equalization method of energy transfer type (reserved).

(5) Charging and discharging with the same port, support charging and discharging 0.5C, with 485/CAN communication function.

(6) With aerosol firefighting, the safety is guaranteed.

3.2 Technical Specification Indicators

Parameters of Battery Box		
Item	Parameter	Notes
Model	64V100AH	
Rated voltage(V)	64	
Rated capacity(Ah)	100	
Rated energy (KW)	6.4	
Rated charging voltage(V)	64	
Rated charging current(A)	50	
Rated discharging current(A)	100	
Max. Continuous discharging current(A)	100	
Pack over charge protection voltage(V)	73	3.65±0.025V
Pack over discharge protection voltage(V)	50	2.5±0.025V
Quiescent current of BMS module (μA)	≤200	
Charging temp. range(°C)	0~55	
Discharging temp. range(°C)	-20~55	When the temperature is greater than 55°C, please pay attention to the ventilation and heat dissipation.
Dimensions(mm)	440*402.5*221.5mm	Dimensions of Pack
Weight(kg)	52	For reference

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Cycle life

 4000 times (20~
95%SOC, 20±5℃)

Parameters of Energy Storage System

Item	Parameter	Notes
Type	192V100AH	
Rated voltage(V)	192	
Rated capacity(Ah)	100	0.2C discharge at 25℃
Rated energy (KW)	19.2	0.2C discharge at 25℃
Rated charging voltage(V)	192	
Rated charging current(A)	50	
Rated discharging current(A)	100	
Max. continuous discharge current(A)	100	
Battery pack overcharge protection voltage(V)	219	3.65±0.025V
Battery pack over-discharge protection voltage(V)	150	2.5±0.025V
Quiescent Current of BMS Module (μA)	≤200	
Charging temperature range(℃)	0~55	
Discharging temperature range(℃)	-20~55	When the temperature is higher than 55℃, please pay attention to the ventilation and heat dissipation.
Dimensions(mm)	600*600*1200mm	Dimensions of battery Pack (with case)
Weight(kg)	240	Weight for reference
Cycle life	4000 times (20~ 95%SOC, 20±5℃)	

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3.3 Components

Item	Specification	Notes
LiFePO4 cell	3.2V100Ah	
BMS	1pcs of master module, and 2pcs of slave module (with 485/CAN communication)	
Shell color	Black	
High voltage control box	192V High voltage control box	
Fire-fighting	Thermal aerosol fire extinguishing equipment	Hubei Fire Control Security

3.4 Hot aerosol fire extinguishers in battery boxes (Replacements based on actual use of firefighting species on order)

Aerosol fire extinguishing technology combination of fixed S-type aerosol fire extinguishing device, with fully automatic, multi-directional, point and line combination of fire detection, its fast response, high fire extinguishing efficiency, flexible and diverse start-up, compact size, can be applied locally and can be realized in the full flooding extinguishing and other characteristics, especially suitable for use in the interior of the confined site, after the extinguishing of fire, no secondary damage to the electrical equipment, etc., which are widely recognized.

According to the environmental requirements, the design follows the following fire extinguishing system design guidelines:

A. Zone management: According to the specific structure of each battery box, it is necessary to set up an independent fire extinguishing system in each battery box;

B. High-efficiency fire extinguishing performance: Using effective, rapid fire extinguishing mechanism of the fire extinguishing device, to control the fire immediately;

C. Storage mode: Due to the complexity of environmental factors, maintenance is inconvenient. In order to prevent environmental changes on the impact of product storage pressure, it is necessary to use non-pressurized storage of fire extinguishing equipment;

D. Secondary pollution: non-toxic and non-corrosive, in line with environmental requirements of the extinguishing medium, to avoid pollution of the environment and to bring secondary damage

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to the equipment;

E. Installation and maintenance: The simple equipment, easy to install and maintain should be used to avoid laying pipe network.

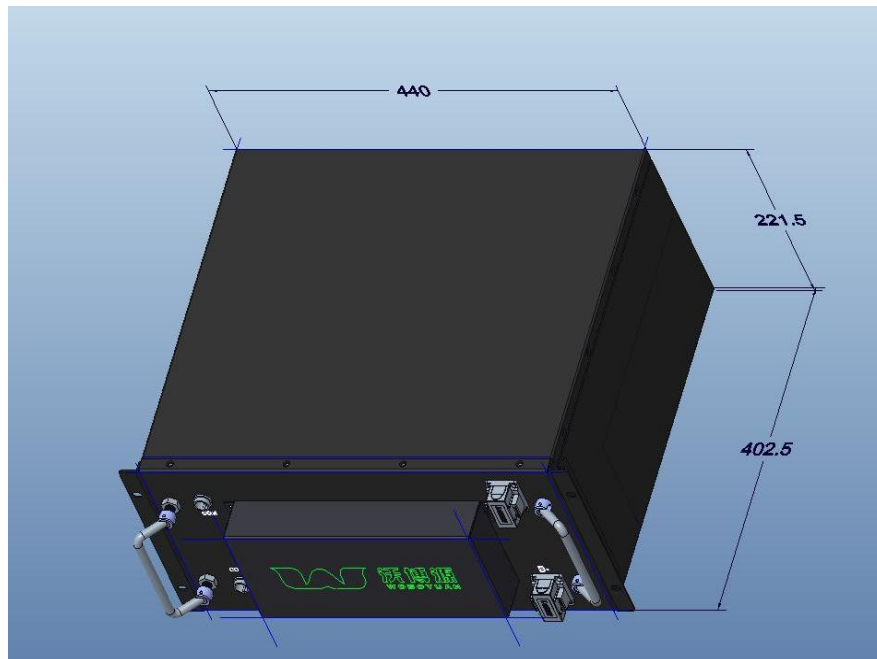
IV. Product Appearance Diagram

4.1 Introduction of battery pack

This lithium iron phosphate battery pack 192V100Ah system consists of 3 boxes of 64V100A battery packs connected in series and each battery pack is composed of 20 series and 1 parallel module, each battery box with BMS, with 485/ CAN communication display interface, fault indicator function.

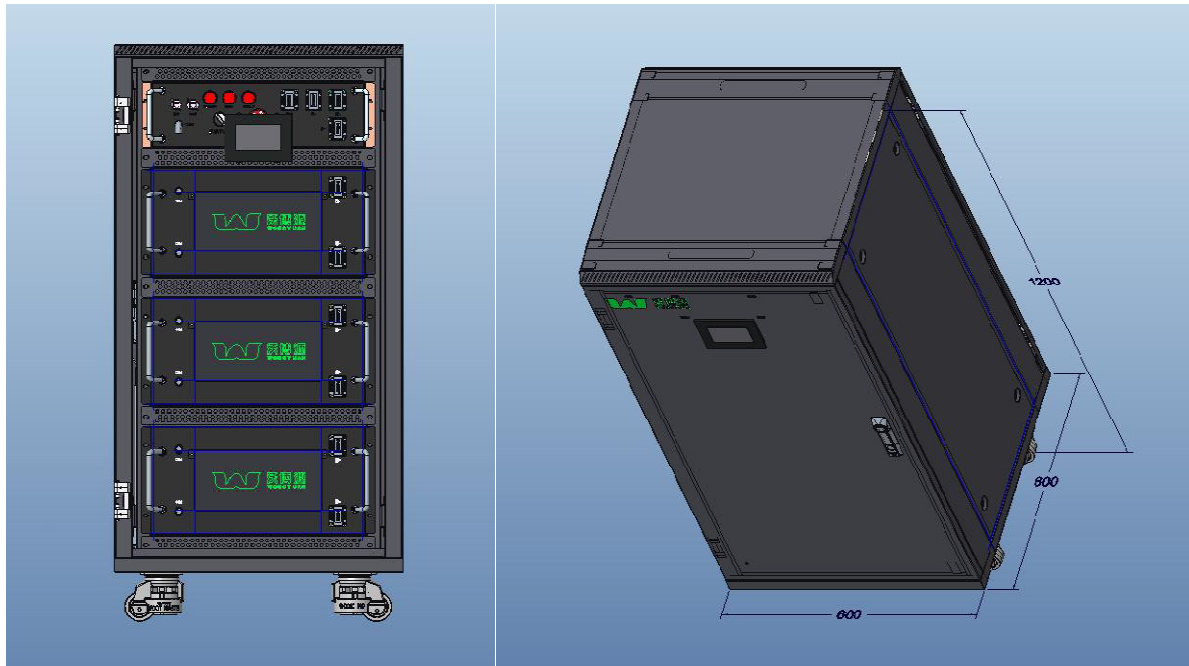
3PCS battery packs and 1pcs high voltage box.

4.2 Schematic of battery box appearance (The following figure is shown for reference only. Please refer to the actual design.)

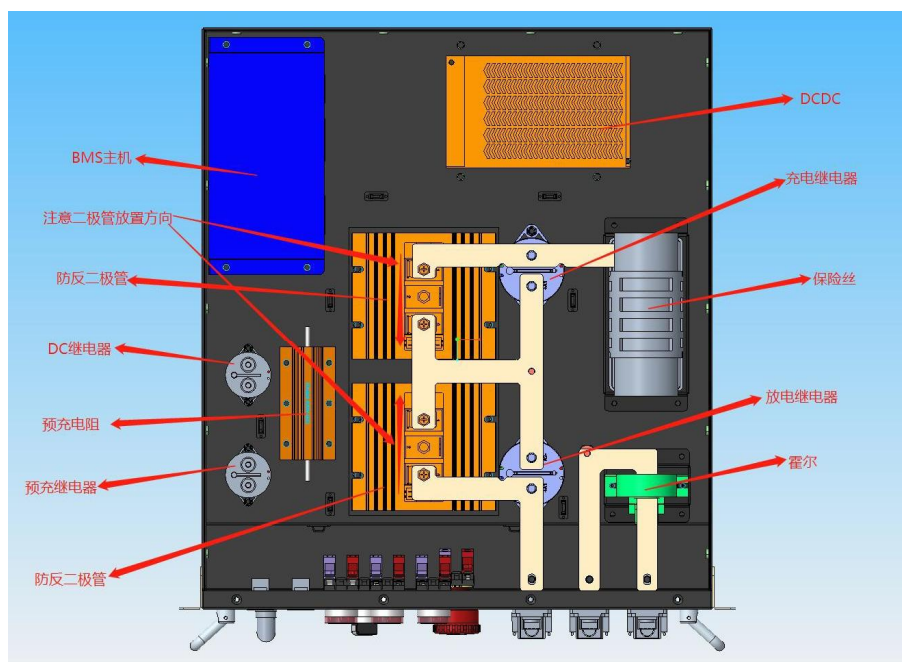


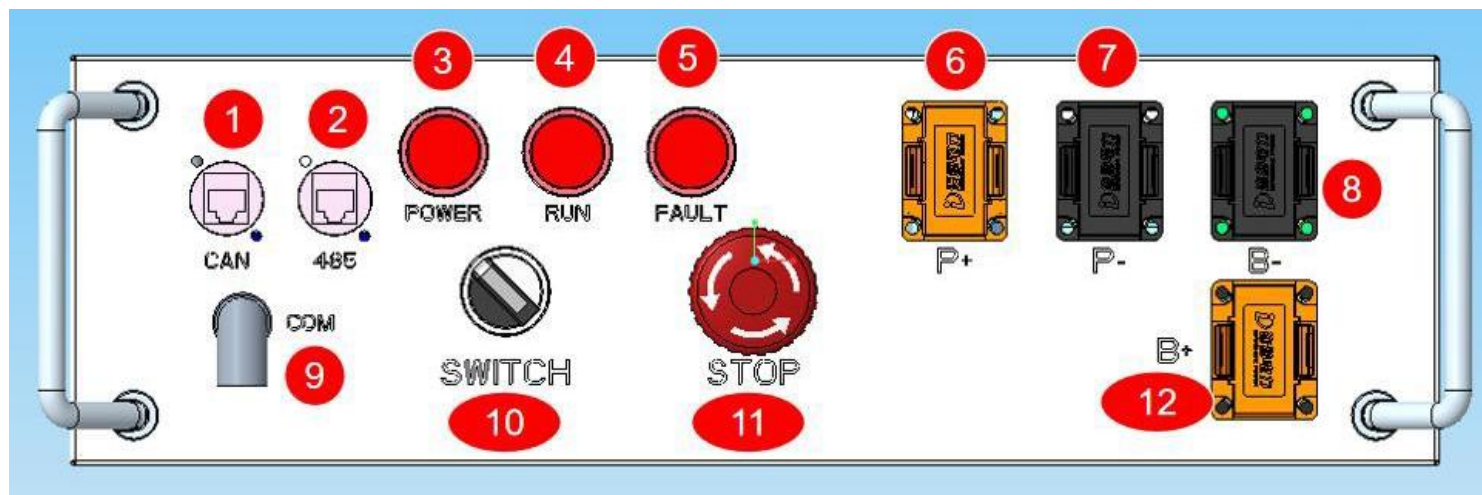
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4.3 Schematic of cabinet appearance (The following figure is shown for reference only. Please refer to the actual design.)



4.4 Schematic of high voltage box appearance (The following figure is shown for reference only. Please refer to the actual design.)





NO.	Description	Notes
1	Main control box CAN communication interface	Reserved
2	Main control box 485 communication interface	Reserved
3	Battery power indicator	
4	Battery running indicator	
5	Battery alarm indicator	
6	Main control box P+	Positive discharge
7	Main control box P-	Discharge negative
8	Main control box B-	PACK Total negative
9	Main control box COM communication interface	Reserved
10	Main control box SWITSH	Rotary switch
11	Main control box STOP	Emergency stop button
12	Main control box B+	PACK Total Positive

4.5 LiFePO4 Cell

The LiFePO4 cell adopts the mature standard A-grade 100Ah Lithium Iron Phosphate (LFP) prismatic cell produced by fully automated production line. This cell has high continuous power, high cycle life, high storage life and high safety. (Figure 4-1)

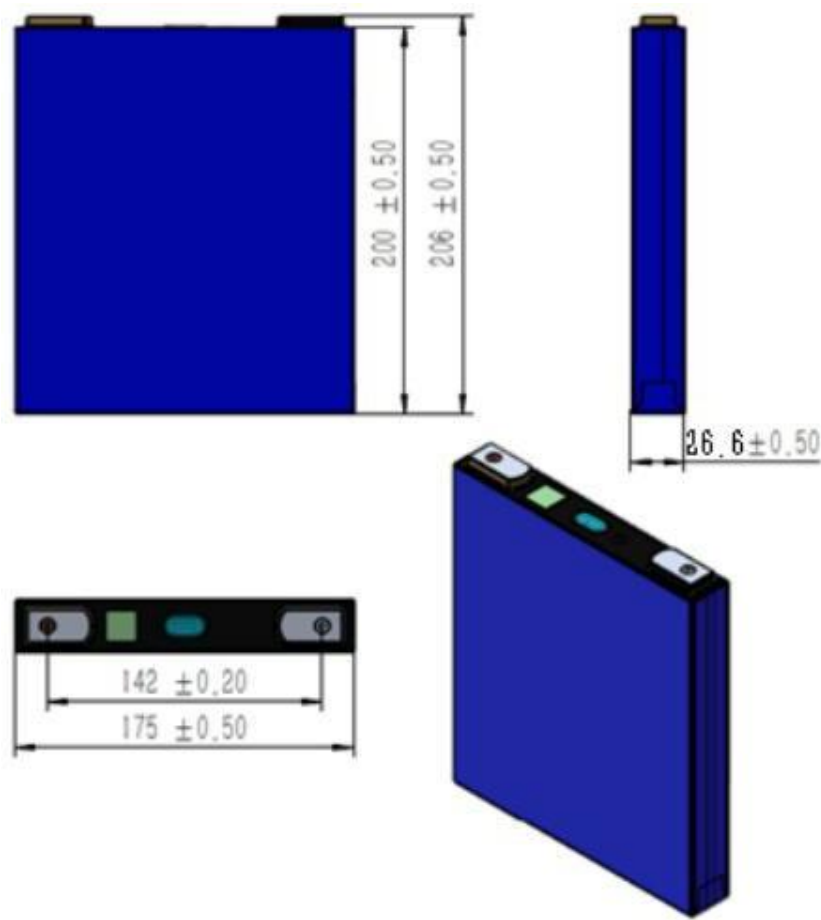
Table 4-1 Cell Technical Parameters

No.	Item	Parameter	Notes
1	Battery type	LFP	

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2	Rated voltage (V)	3.2	
3	Rated capacity(Ah)	100	
4	Rated energy(Wh)	320	
5	Min. voltage (V)	2.5	
	Max. voltage (V)	3.65	
6	Dimensions (T×W×H)	26.6×206×175mm	
7	Weight	1975±50g	
8	Operating temp. range (°C)	0~55 (Charging) -20~55 (Discharging)	
9	Storage temp. range(°C)	-10~45	

Figure 4-2 Battery External Dimensions

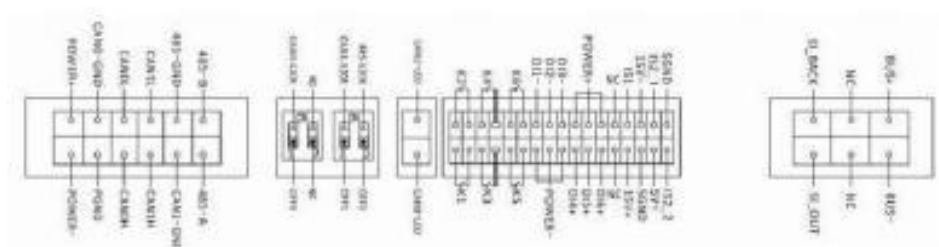
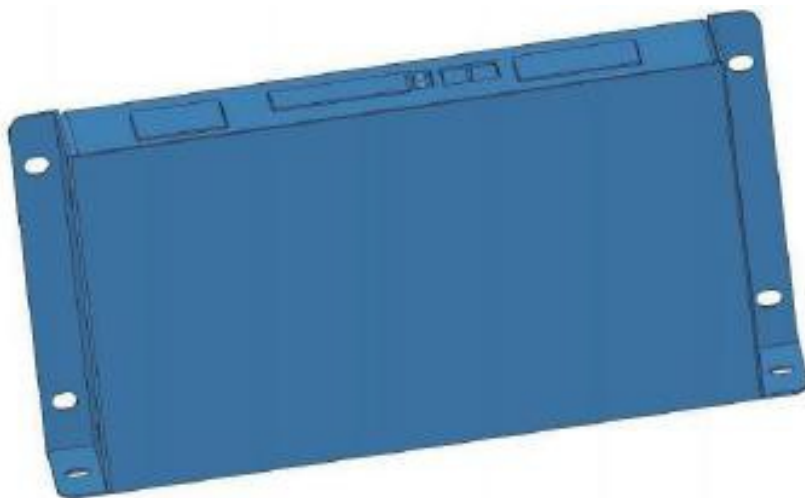


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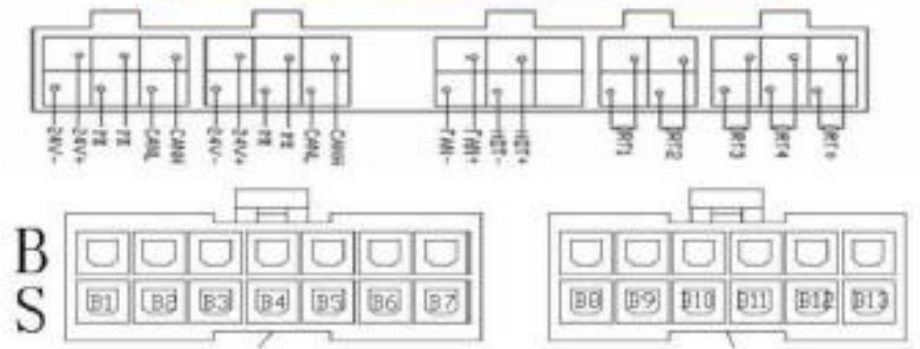
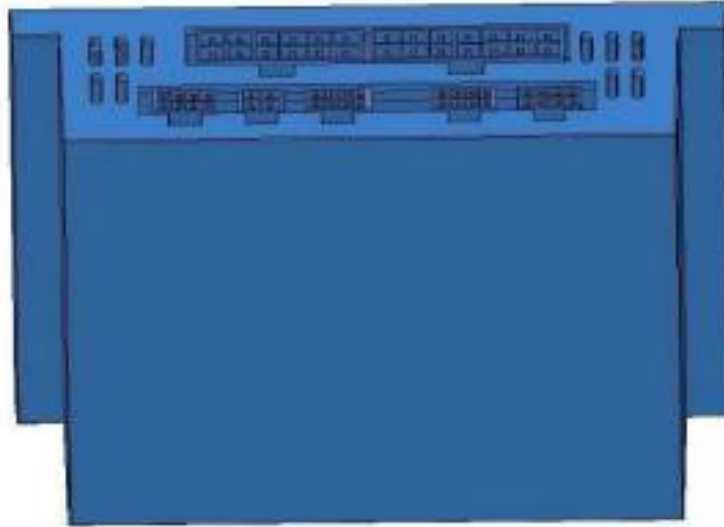
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VII. Slave cell management unit

- (1) Thermal management
- (2) Battery equalization in the PACK
- (3) Information uploading
- (4) Measurement of cell power



VIII. Display functions

(1) The display interface supports bilingual switching function.



(2) When entering the main interface of the display, you can see the main parameters such as battery voltage, temperature and power.

实时参数



总电压	V	总电流	A
最高电压	V	最高温度	℃
最低电压	V	最低温度	℃
绝缘电阻	KΩ	SOC	%
当前告警	继电器		

[电芯电压](#)
[电芯温度](#)
[告警](#)
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IX. Conditions of use

Use the battery only under the following conditions, otherwise the performance of the battery will be degraded or the service life of the battery will be shortened. Use of the battery outside this temperature range may cause overheating, explosion or fire.

- (1) Charging: 0℃~45℃, relative humidity 45%~85%;
- (2) Discharging: -10℃~55℃, relative humidity 45%~85%;
- (3) Average daily relative humidity not greater than 80%, average monthly relative humidity not greater than 80%;
- (4) Installation and use of the location without strong vibration and shock, no strong electromagnetic interference, the external magnetic field induction intensity shall not exceed 0.5mT;
- (5) Installation of vertical inclination of not more than 5%;
- (6) The use of the location shall not have explosive hazardous media, the surrounding medium does not contain corrosive metals and damage to the insulation of harmful gases and conductive media, do not allow the presence of mold.

X. User responsibility letter

Users must follow the instructions on the battery label or the Anhui Lvwo 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.