

Jilipow Co., Ltd.

Specification of battery pack for household ESS

Prepared by	Checked by	Approved by

Model:JL-HVS-25.0

Customer Confirmation	Customer Name:
	Customer No:
	Customer Approval: Comment:

Tel: +86 18026626446

Email: Frank@jilipow.com

Add: 3/F, Building 2, Leaguer Zhongkai Innovation Park, Huizhou, China

History of Specification

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Acronyms and abbreviations

BMS	Battery Management System
BOL	Begin of Life
SOC	State of Charge
SOE	State of Energy
SOP	State of Power
SOH	State of Health
EOL	End of Life
CC	Constant Current
CCCV	Constant Current Constant Voltage
CP	Constant Power
CPCV	Constant Power Constant Voltage

Definitions of symbols

	<p>Danger</p>
<p>This indicates that there are dangers during operation, and failure to comply with such warnings will directly lead to serious personal injury or accidents.</p>	
	<p>Warning</p>
<p>This indicates that there are potential risks during operation, and failure to comply with such warnings may lead to personal injury or accidents.</p>	
	<p>Caution</p>
<p>This indicates that there are potential risks during operation, and failure to comply with such warnings may lead to personal injury or accidents.</p>	

1. Product Overview

The specification describes the design structure, basic characteristics, test methods and precautions for lithium iron phosphate batteries of the battery system, which is mainly used in household energy storage scenarios. Through capacity expansion and module design, it is easy to install indoor and outdoor. According to customer needs, Jilipow energy storage can provide different product solutions. The standard supply content of this product is the battery system, excluding the positive and negative output lines of the battery system and the battery-inverter communication lines. Refer to the table below for detailed supply list.

Table 1 Standard supply list

No	Component	Model	Quantity
1	System	JL-HVS-25.0	1
2	Product inspection report		1
3	Product certificate		1
4	Product packaging		1

Note: The specific model, specification and quantity are subject to confirmation before delivery.

Table 2 Customer's accessories

No.	Component	Model	Quantity
1	Total positive output wiring	/	1
2	Total negative output wiring	/	1
3			
4			
5			
6			

Note: The specific model, specification and quantity are subject to confirmation before delivery

2. Products Features

- Compact size and easy installation
- Long cycle life and high safety
- Certification: meet the standards of UN38.3, IEC62619, CE
- Communication:RS485&CAN
- IP grade:IP65

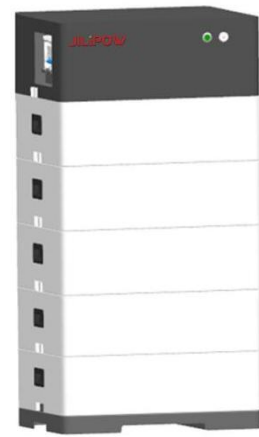


Figure 1 Battery system diagram

3. Technical specifications and performance description

3.1 Cell technical parameters

jilipow uses independently developed and produced prismatic LFP battery cell LF100LA(3.2V,100Ah), with high safety, long cycle, high consistency, superior charge and discharge performance and green pollution-free, the main technical parameters are as follows:

Table 3 Battery cell technical parameters table

No.	Item	Specification	Remark
1	Rated Capacity	100Ah	0.33C, 25°C±2°C, 2.5-3.65V
2	Rated Voltage	3.2V	0~65°C
3	Operating Voltage	2.5V~3.65V	
4	Dimension	T×W×H (50.1±0.5)mm*(160±0.8)mm*(118.5±0.5)mm	
5	Weight	1.985±0.1kg	



Figure 2 Battery cell: LF100LA

3.2 Battery pack technical parameters

Table 4 Technical specifications of battery packs

No.	Item		Specification	Remark
1	Rated Capacity		100Ah	0.5C 25±3°C (116.8V-80V)
2	Rated Voltage		51.2V	1P16S
3	Standard Charging Current		50A(0.5C)	
4	Max Charging Current		100A(1C)	
5	Voltage Range		216V-288V	Cell 2.7 V-3.6 V
6	Standard Discharging Current		50A(0.5C)	25±2°C
7	Max Continuous Discharge Current		100A(1C)	
8	Peak Discharge Current		110A	25±2°C, ≤2s
9	Operating Temperature	Charging	0°C~55°C	
10		Discharging	-20°C~60°C	
11	Storage Temperature	Within 1 month	-20°C~45°C	
12		Within 1 year	0°C~35°C	
13	Internal Resistance of Battery		≤30mΩ	30%SOC, AC 1kHz
14	Size		L×W×H= L550*W380*H160mm	
16	Battery Weight		38±2kg	Net weight (excluding weight of carton and accessories)
15	Operating Humidity Range		< 70%RH, no condensate	
16	Altitude		≤3000m	
17	Charge and Discharge Capacity Efficiency		≥99%	25°C±3°C, 0.5C Charge and discharge current
18	Shipping Status		45%~55%SOC	

3.3 Battery system technical parameters

Table 5 Technical parameters of battery system

No.	Item	Specification	Remark
1	Rated Voltage	256V	5 battery boxes connected in series + 1 high voltage box
2	Rated Capacity	100Ah	25±3°C, 0.5C
3	High Voltage Box Size	L550*W380*1100mm, tolerance ±2mm	
4	High Voltage Box Weight	15kg±3 kg	
5	Standard Charging Current	50A(0.5C)	25±3°C, 0.5C constant current charge to 568V, and then turn to constant voltage charge until the charging current is ≤2A cut-off
6	Max Charging Current	100A(1C)	
7	Charging Cut-off Voltage	288V	Cell:3.6V
8	Standard Discharging Current	50A(0.5C)	
13	Max Disharging Current	100A(1C)	
14	Discharge Cut-off Voltage	216V	Cell: 2.7V
16	Max Pulse Discharge Current	100A	25±3°C, ≤2s
15	Charge Operating Temperature	0°C~60°C	
16	Discharge Operating Temperature	-20°C~60°C	
17	Storage Temperature	-20°C~45°C	Short-term 1 month
		0°C~35°C	Long-term 1 year

4. System Appearance and Structure

4.1 Battery pack dimensions

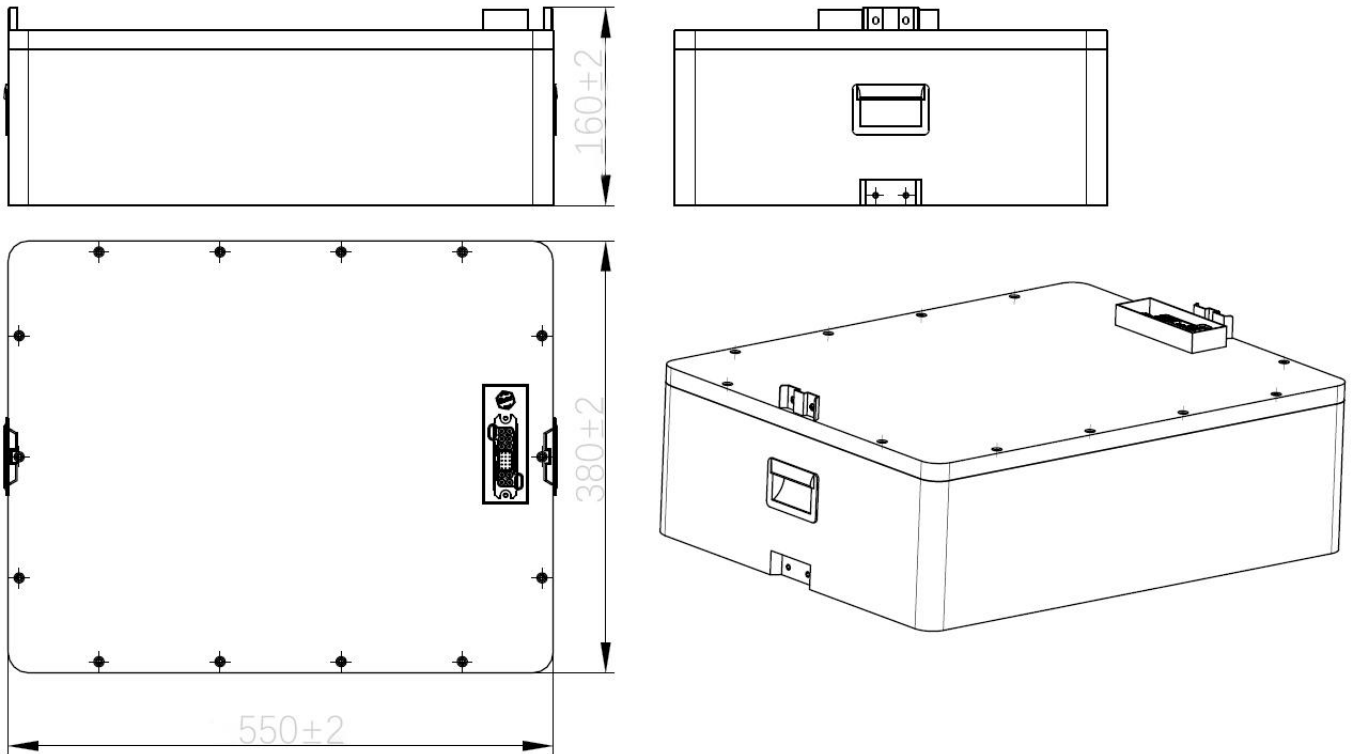


Figure 3 Battery pack dimensions

4.2 Battery pack interface definition

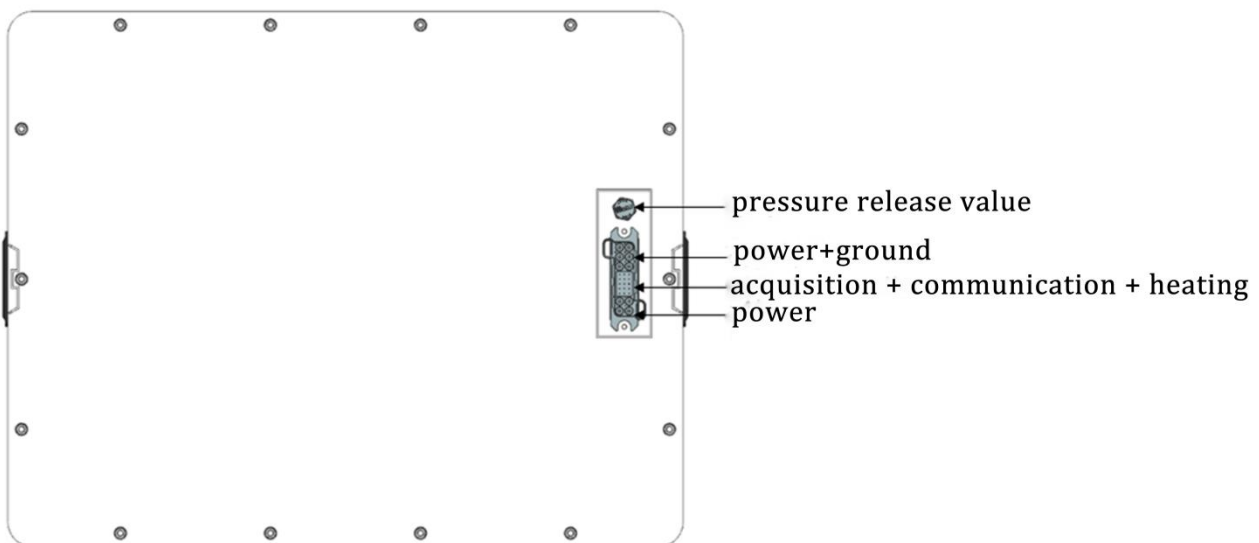


Figure 4 Battery pack interface definition

4.3 Definition of HVDC ports

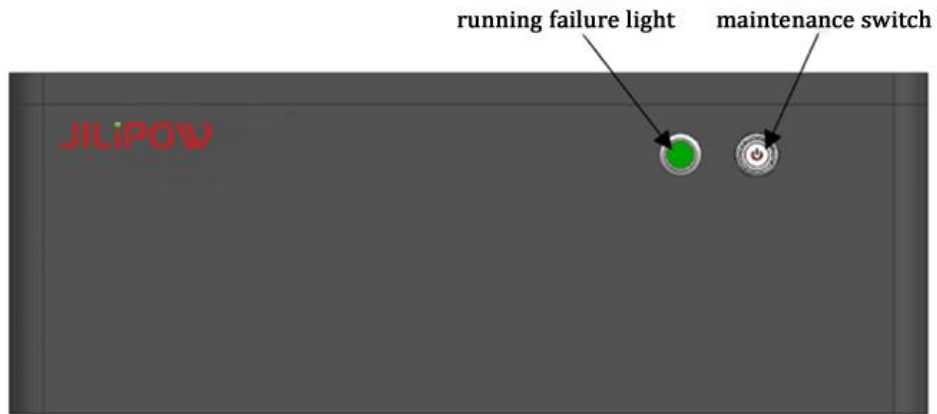


Figure 5 Front interface of high pressure box

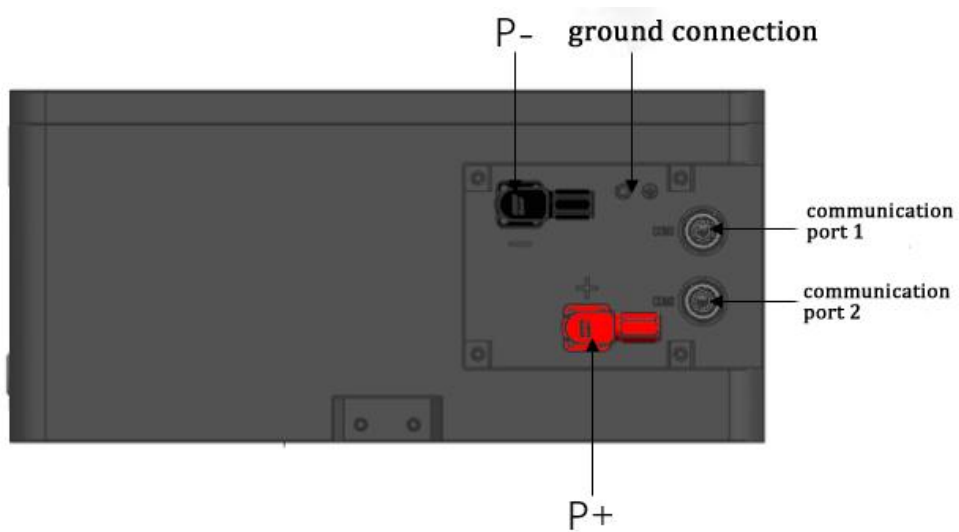
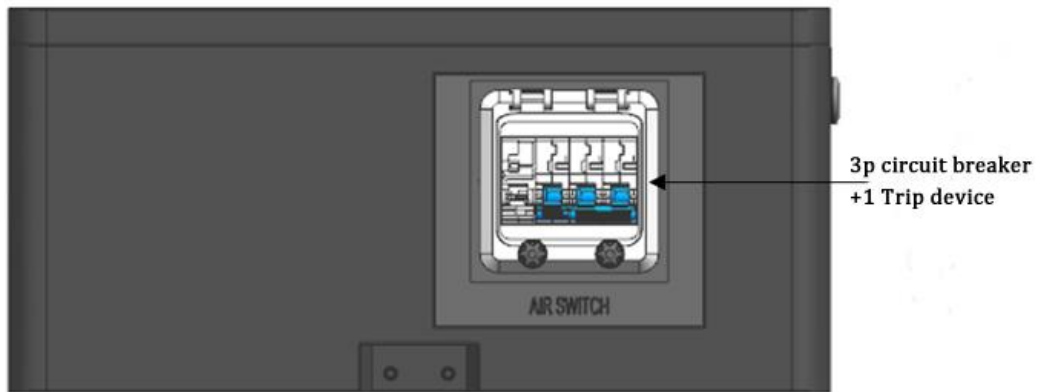


Figure 6 Ports on the left and right sides of the high-voltage box

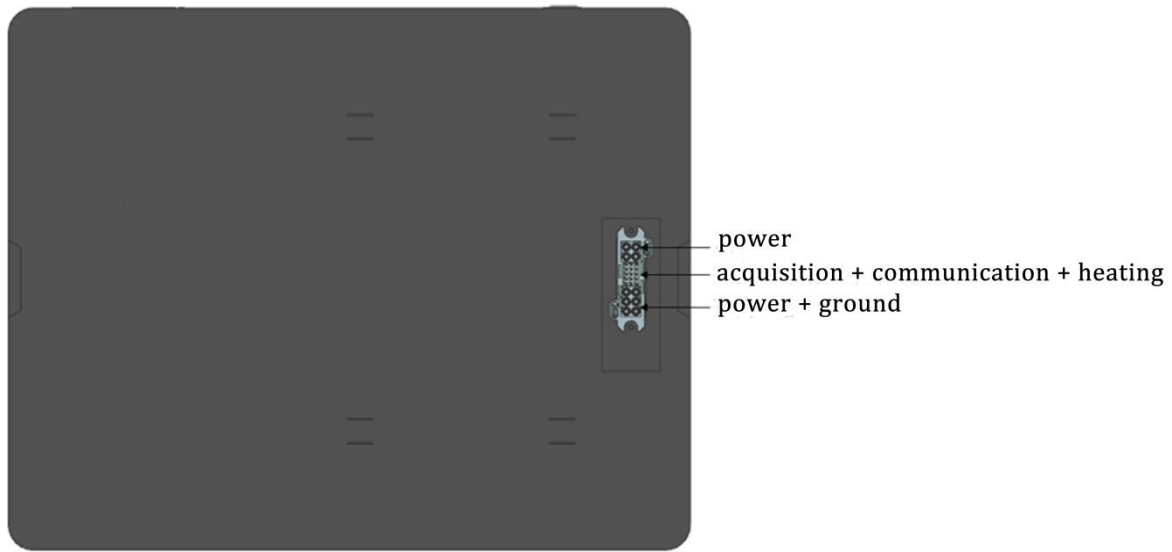


Figure 7 Lower port of HVDC box

The external inverter communicates through the COM interface, and the pins are defined as follows:

COM RJ45 socket (external)			
RJ45 pin	Definition	RJ45 pin	Definition
1	H	5	Dry contact+
2	L	6	Dry contact+
3	485A	7	Dry contact-
4	485B	8	Dry contact-



5. Product Instructions

- a. Please read the product instructions carefully before use, and be sure to use according to the specified charge and discharge parameters.
- b. Do not disassemble or reassemble the battery; Do not knock, throw or step on the product.
- c. Do not short circuit the battery box.
- d. Do not place or work under sunlight, avoid contact with corrosive substances, and stay away from fire and heat sources.
- e. Do not put the battery box into the water.
- f. Do not reverse charge or overdischarge.
- g. The battery box must be used under the specified environmental conditions, too high or too low temperature environment will affect the performance and safety of the battery.
- h. When the battery box is used for the first time, if there is corrosion, unpleasant gas or abnormal phenomenon, do not use it.

i. Battery boxes can be used alone or in series. Battery boxes cannot be used in parallel. The number of battery boxes in series cannot exceed the value specified by both parties.

j. The battery socket must be used under the specified charging rate or power conditions, and the charging upper voltage must not exceed the technical requirements of the product to prevent the battery from overcharging. To avoid affecting the charge and discharge performance, mechanical performance and safety performance of the battery.

k. Do not use or store the battery box in a place with strong static electricity or magnetic field to avoid potential security risks.

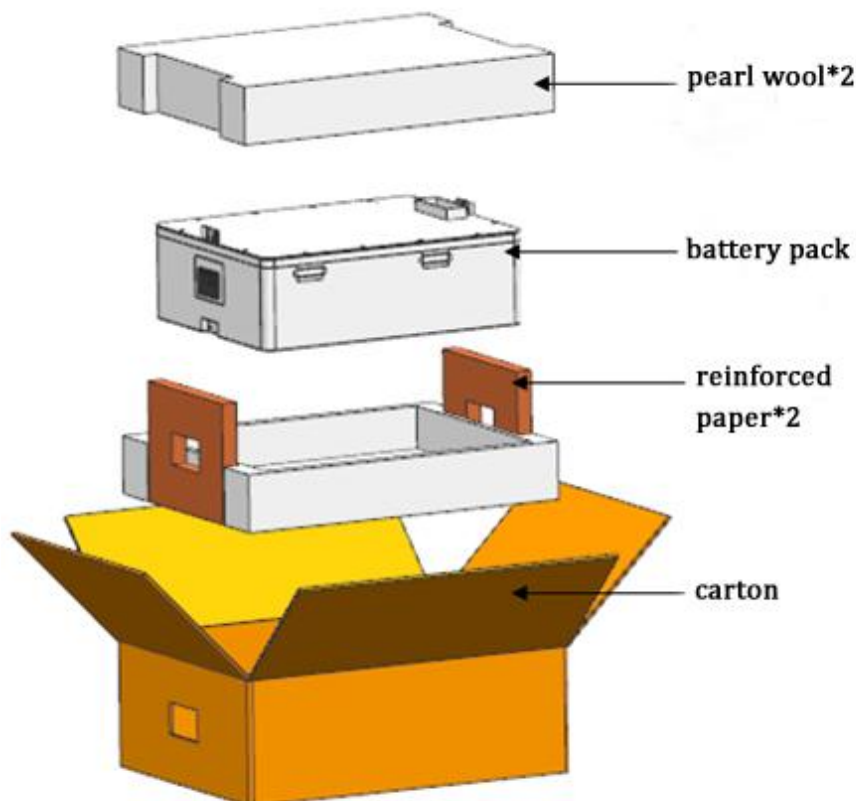
l. Do not disassemble or modify this product without our permission, otherwise the warranty will be terminated, and our company will not be responsible for any safety accident.

m. The battery socket must be installed or stored upright according to the design status. Do not place the battery socket on the side or upside down.

The use of the battery box must strictly comply with the above requirements, otherwise the warranty is terminated, resulting in product performance damage and safety accidents, our company will not be responsible.

6. Packaging and Transportation Requirements

Packing of a single box: The box is packed in a carton, and the carton is filled with pearl cotton. The packing box does not shake and is safe and reliable.



The battery should be packed into boxes under less than 70% of the charged state for transportation, and should be

prevented from violent vibration, impact or extrusion during transportation, to prevent sun and rain, suitable for land and sea transportation.

7. Product Maintenance

- a. When the battery box is shelved or stored for a long time, it should be kept at 30% to 50% SOC.
- b. When the battery pack is shelved or stored for a long time, it is recommended to recharge it every 3-6 months. For details, see the technical agreement.

Disclaimer: The equipment shall be used within the scope specified in this product specification. Due to the improper behavior of the product demand unit in the process of installation, commissioning, maintenance, use, etc., or the non-use of the product outside the scope of use in accordance with the provisions of the product, resulting in loss of personnel, animals or property, the manufacturer shall not be liable for the contract terms and conditions.

Disclaimer: These mentioned products shall be used within the scope specified in product specifications. The manufacturer shall be free from liability for any damages to people, animals or property caused by the improper operations in the process of installation, commissioning, maintenance, use, etc., or uses not in accordance with the terms and conditions specified in product specifications.