Soluna(Shanghai)Co.,Ltd

User manual

LV Parallel Box II(NA)

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About this manual

This manual describes how to install the Soluna Pack LV Parallel Box II(NA). Please read this manual carefully before you start to install the product, and follow the instructions throughout the installation process. If you are not sure about any of the requirements, recommendations, or safety procedures described in this manual, please contact Soluna immediately for advice and clarification. The information included in this manual is accurate at the time of publication. However, with regards to the product design and technical specification updates, our company reserves the right to make changes at any time without prior notice. In addition, the illustrations in this manual are meant to help explain system configuration concepts and installation instructions. The illustrated items maybe different from the actual items at the installation location.

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1. Product Introduction

1.1 Scope of Application

This product is only applicable to low-voltage battery connection in parallel.

1.2 Applicable Personnel

This document is intended for only professional and technical personnel who are familiar with local regulations, standards, and electrical systems, and have professional training and knowledge about this product

2. Equipment inspection and storage

2.1 Check before signing

Before signing for the product, please check the following:

- Check the outer packing for holes, distortions, cracks, or other signs that may cause damage to the equipment in the packing case. If so, do not open the packing and contact your distributor.

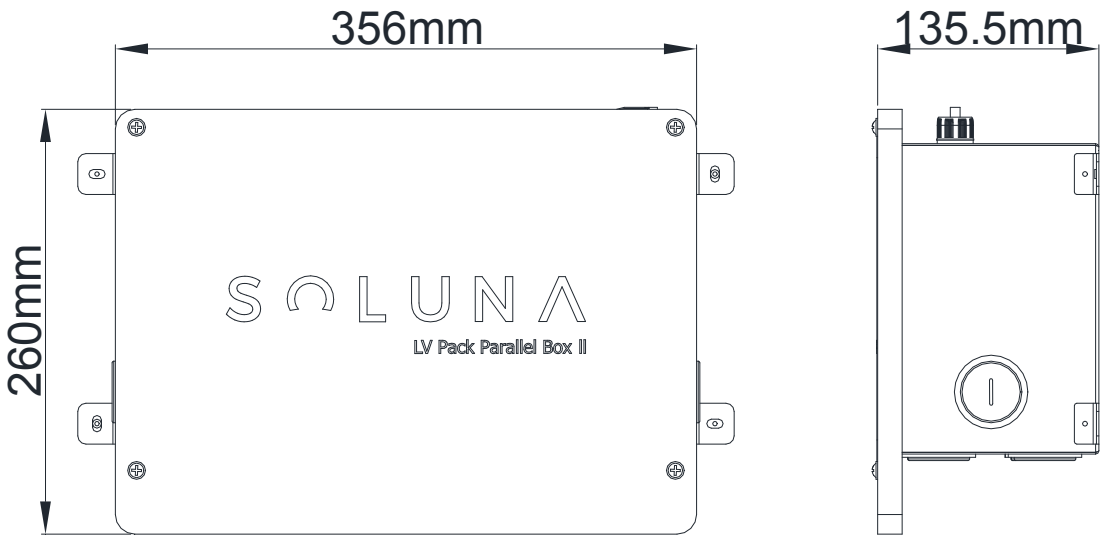
2.2 Equipment Storage

If not immediately put into use, please store according to the following requirements:

- Ensure that the outer packing case is not removed and the desiccant is not lost.
- Ensure that the storage environment is clean. within appropriate temperature and humidity ranges.

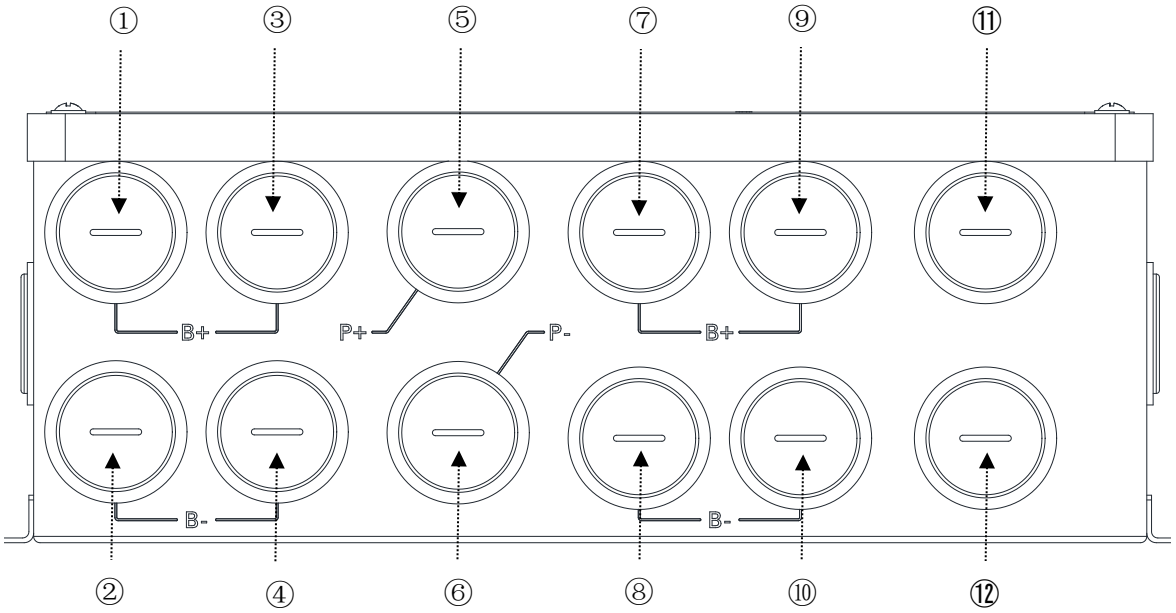
3. Appearance

3.1 Outline dimension



Length	356	mm
Width	260	mm
Height	135.5	mm
Weight	4.1	kg

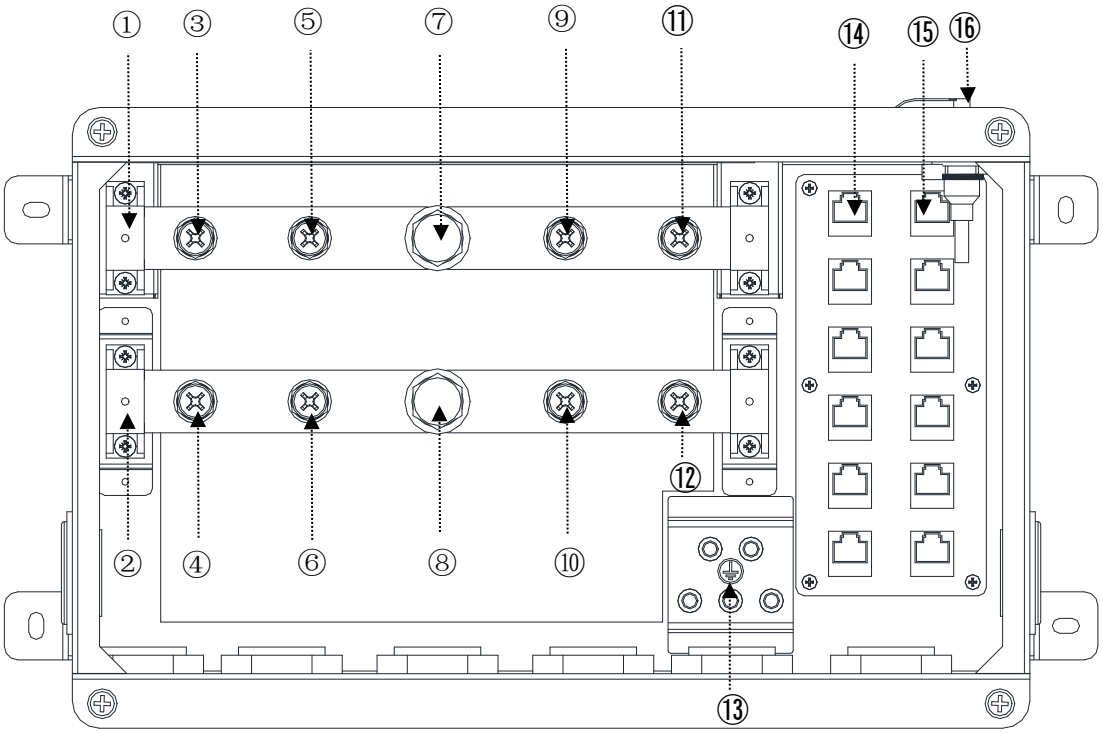
3.2 Terminal introduction



Number	Name	Remark
①③⑦⑨	B+	Connect to the positive battery terminal
②④⑧⑩	B-	Connect to the negative battery terminal
⑤	P+	Connect to positive inverter
⑥	P-	Connect to inverter negative terminal
⑪	Communication	Connect to battery and inverter communication
⑫	PE	Ground connection

3.3 Connection port

Users can see the LV Parallel Box II(NA) connection port after opening the cover, see the picture below for details.



Number	Name	Remark
①	Positive busbar	
②	Negative busbar	
③⑤⑨⑪	B+	Connect to the positive of battery (Input)
④⑥⑩⑫	B-	Connect to the negative of battery (Input)
⑦	P+	Connect to the positive of inverter (Output)
⑧	P-	Connect to the negative of inverter (Output)
⑬	PE	To battery PE
⑭	CAN1	Connect battery CAN1
⑮	CAN2	Connect battery CAN2 and inverter CAN communication
⑯	WiFi	Using for connect the WiFi stick

3.4 Technical data

Electrical Connecting Port

Working Voltage	51.2VDC
Input Current (Max)	100A*4
Output Current (Max)	400A
Input Wiring（Max）	4*65mm²
Output Wiring (Max)	100mm²

Communication Connecting Port

Communication connecting port type	RJ45 (8P)
Input Communication connecting port (QTY)	10
Output Communication connecting port (QTY)	2

Regular parameters

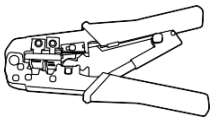
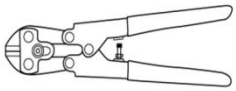
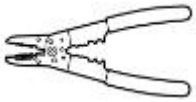
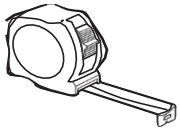
Operating temperature range （°C)	-10～+50
Storage stability range (°C)	-20～+60
Relative humidity	0~95%
Ingress protection	IP65
Condition	Indoor conditioned

4. Installation

4.1 Installation requirements

- Do not install the device in an environment that is flammable, explosive, or corrosive.
- Keep water pipes and cables away from the wall to avoid hazards during drilling.
- Keep it out of reach of children and out of a position easy to touch.
- Keep the device away from the sun, rain, and snow. You are advised to install the device in a sheltered position.
- Installation space must meet requirements for ventilation, heat dissipation, and operation space.
- The protection level of the device meets the requirements for indoor and outdoor installation. The ambient temperature and humidity must be within appropriate ranges.
- Keep away from strong magnetic fields to avoid electromagnetic interference.

4.2 Installation tools

No.	Photo	Name
1		Phillips-screwdriver bit
2		Terminal clamp
3		Wire cutter
4		Wire stripper
5		Tape measure
6		Drill
7		L-Shaped Wrench

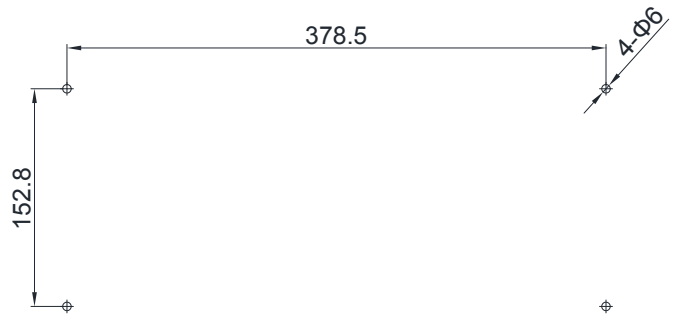
4.3 Installing the parallel box

Note:

- When drilling holes, ensure that the holes are drilled away from water pipes and cables in the wall to avoid dangers.
- When drilling holes,Wear safety goggles and a dust mask to prevent dust from inhaling or falling into the respiratory tract.

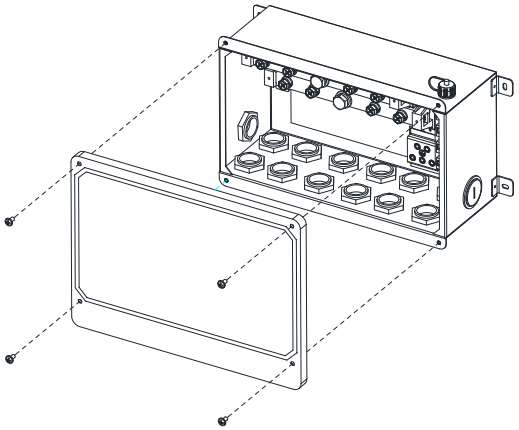
Step ①: Select a suitable position on the wall, and then use a drill to drill holes in the wall.
Step ②: Open the top cover of the parallel box.
Step ③: Secure the parallel box to the wall.
As shown in the following picture.

①

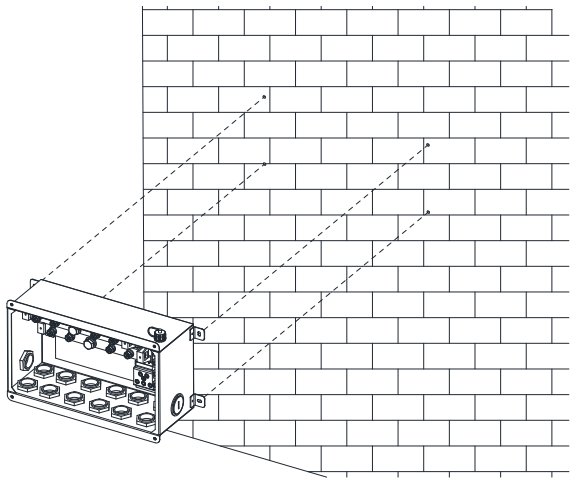


Unit：mm

②



③



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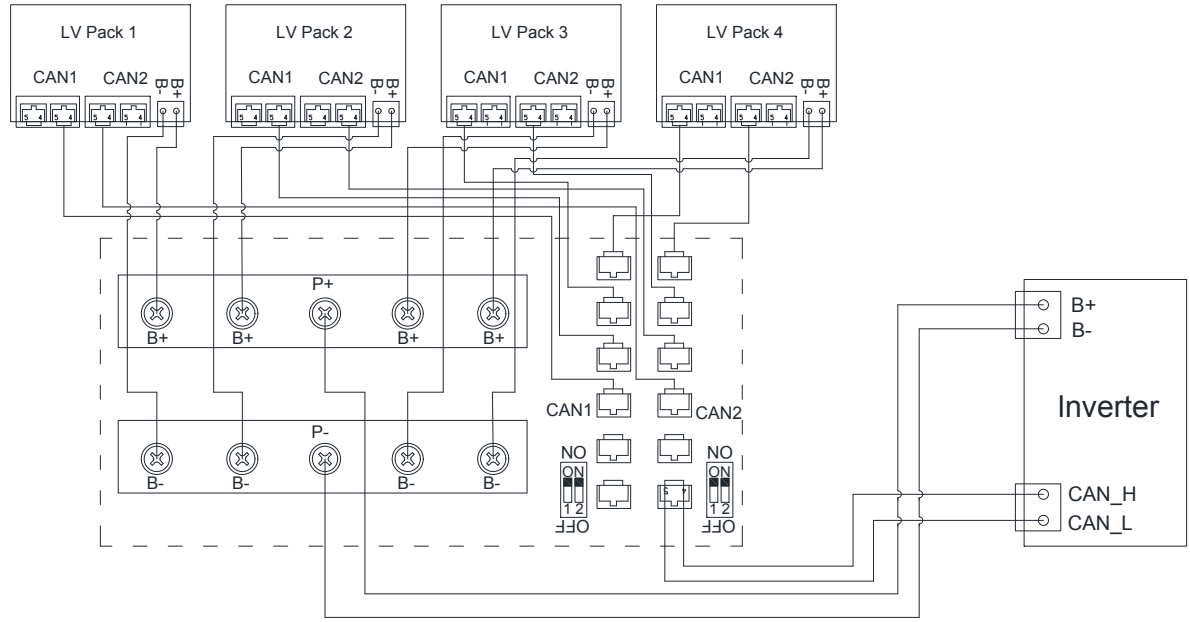
5. Electrical Connection

5.1 Connection requirements

- Safety note: Power supply to the inverter and battery must be cut off before connection to avoid electric shock.
- Grounding Instructions: This product must be connected to a grounded, metallic, permanent wiring system.
- Note: Personal protective equipment, such as safety shoes, safety gloves, insulating gloves, etc. must be worn during electrical connection.
- All electrical connections should be made by qualified professionals.
- The cable colors in this document are for reference only. The cable specifications must comply with local laws and regulations.

5.2 Electrical system connection diagram



Remark: please turn to pin1 and pin2 of dip switch ① and ② to the “ON” position.

6. Troubleshooting

Perform troubleshooting according to the following methods. Contact the after-sales service if these methods do not work.

No.	Fault	Case	Solution
1	Battery parallel failure	The communication cable is loose, the connection is incorrect, and the DIP switch position is incorrect	Check whether the communication cables are securely connected and correctly, and whether the DIP switch is in the correct position
2	Battery and inverter communication failure	The communication cable is loose and connected incorrectly	Check that the communication cables are properly connected
3	No battery	The battery cable is loose and connected incorrectly	Check whether battery cables are securely connected and the polarity is correct