OLP All-In-One ESS Cabinet

User Manual

OLiPower Energy & Automation Technology Co., Ltd

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.

Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

Document Approval

	Name	Dept	Date	Signature
Released		System Integration Department		Sgd.
Checked		System Integration Department		Sgd.
Prepared	Zhang Yuan	System Integration Department	2025-03-12	Sgd. Zhang Yuan

Version Update Record

Date	Edition	Update Explanation	Author
2025.03.12	V0.1	First edition	Zhang Yuan

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

Catalogue

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

1. Abbreviations

Abbreviation	Description – EN
OLP	OLiPower Technologies Co.,Ltd
BESS	Battery Energy Storage System
BMS	Battery Management System
BMU	Battery Management Unit
BSU	Battery Sampling Unit
BOL	Beginning of Life
CAN	Controller Area Network
DC	Direct Current
DOD	Depth of Discharge
EOL	End of Life
ESS	Energy Storage System
FAT	Factory Acceptance Testing
HMI	Human Machine Interface
IP	Ingress Protection
kVA	Kilo-Volt Ampere
kWh	Kilo-Watt Hour
MPPT	Maximum Power Point Tracker
MCB	Main Circuit Breaker
MCCB	Molded Case Circuit Breaker
ms	millisecond
PCS	Power Conversion System
PDU	Power Distribution Unit
SAT	Site Acceptance Testing
SCADA	Supervisory Control and Data Acquisition
SOC	State of Charge

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

Abbreviation	Description – EN
OLP	OLiPower Technologies Co.,Ltd
SOE	State of Energy
SOH	State of Health
SOP	State of Power
UPS	Uninterruptible Power Supply

Table 1 Abbreviations

2. Safety Precautions

This chapter introduces safety notices. Before performing any operation on the device, please carefully read the user manual, follow the operating and installation instructions, and comply with all danger, warning, and safety information to avoid personal injury and equipment damage caused by abnormal operation.

2.1. Safety Notice

This section mainly introduces safety precautions during operation and maintenance. For detailed information, please refer to the safety instructions in the relevant sections.

Caution!

- Before operation, please carefully read the announcement and operating instructions in this section to avoid accidents.
- The prompts in the user manual, such as "Danger", "Warning", "Caution", etc., are not include all safety notices. They are just supplementing to safety notices during operation.
- Any equipment damage caused by violation of general safety operation requirements or safety standards for design, production, and use will not be in the scope of product warranty.

2.1.1. Usage Notice

Danger

Do not touch terminals or conductors connected to the power grid to avoid fatal

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

risks!

Warning

There are no operating components inside the device. Please do not open the system casing by yourself, otherwise it may cause electric shock. The system damage caused by illegal operations exceeds the warranty scope.

Danger

- Damaged equipment or equipment malfunctions may result in electric shock or fire!
- Before performing any operation on the equipment, please visually inspect whether the equipment is damaged or dangerous.
- Check if the connections of other external devices or circuits are secure.

Danger

Before inspection or maintenance, if the DC and AC sides have just been powered off, it is necessary to wait for 20 minutes to ensure that the equipment is completely discharged before proceeding with the operation.

Warning

When repairing, ensure that all switches are completely disconnected and set warning signs at the disconnected position to avoid accidental re-connection.

Warning

Please do not put your fingers or tools into the rotating fan to avoid personal injury or equipment damage.

Caution!

Do not allow liquids or other objects to enter the cabinet.

Warning

If a fire occurs, please use a dry powder fire extinguisher. If a liquid fire extinguisher is used, it may cause electric shock.

Warning

The label on the device contains important information about safe operation. Do not tear or damage them!

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

2.1.2.Static Protection

Caution!

To prevent damage to sensitive components (such as circuit boards) caused by human static electricity, please make sure to wear an anti-static wristband and ensure the other end is properly grounded before touching sensitive components.

2.1.3.Grounding Requirements

Warning

- High risk of leakage! Before making electrical connections, the equipment must be grounded. The grounding terminal must be grounded.
- When installing equipment, it must be grounded first. When dismantling the device, the grounding wire must be removed at the end.
- Do not damage the grounding wire.
- The equipment should be permanently connected to the protective grounding. Before operation, the electrical connections should be checked to ensure reliable grounding of the equipment.

2.1.4.Moisture Protection

Caution!

- Moisture intrusion may cause system damage!
- Observe the following items to ensure that the equipment is functioning properly.
- Do not open the cabinet door of the equipment when the environmental humidity exceeds 95%.
- Do not open the cabinet door of the equipment for maintenance or repair in damp or humid weather.

2.1.5.Security Warning Label Setting

- To prevent accidental personnel approaching the equipment cabinet or improper operation, the following requirements should be followed during installation, daily maintenance, or repair.
- Set warning labels at the switches of the battery input and AC input to prevent

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

improper switching.

- Set up warning signs or safety warning tapes in the operating area to prevent personal injury or equipment damage.
- After maintenance, make sure to remove the key to the equipment cabinet door and store it properly.

2.1.6. Measurement During Equipment Operation

There is high voltage in the device. If accidentally touched, it may cause electric shock. Therefore, when conducting measurement operations during equipment operation, the operator must be accompanied by someone and take protective measures (such as wearing insulated gloves).

The measuring device must meet the following requirements:

- The measuring range and operational requirements of the measuring device meet the on-site requirements.
- The connection of the measuring device should be correct and standardized to avoid arcing.

2.2. Operator Requirements

- The operation and wiring of the equipment should be carried out by qualified personnel to ensure that the electrical connections comply with relevant standards.
- Before installing, operating, and maintaining the equipment, the operator must understand the safety notice, know the correct operation, and receive strict training.
- The operator should be familiar with the structure and working principle of this product.
- Operators must be familiar with relevant national and regional standards.

2.3. Operating Environment Requirements

The operating environment may affect the service life and reliability of the equipment. Therefore, please avoid using the device in the following environments:

- Places where the temperature and humidity exceed the technical specifications (temperature: -20 ℃~+55 ℃; relative humidity: 0%~95%).
- Places with vibration or impact.
- Places with dust, corrosive substances, salt, or flammable gases.
- Poor ventilation or enclosed areas.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

3. Product Introduction

This chapter mainly introduces the product features, appearance and operation panel, working principle, operation mode, etc.

3.1. Product Overview

3.1.1. Product Model

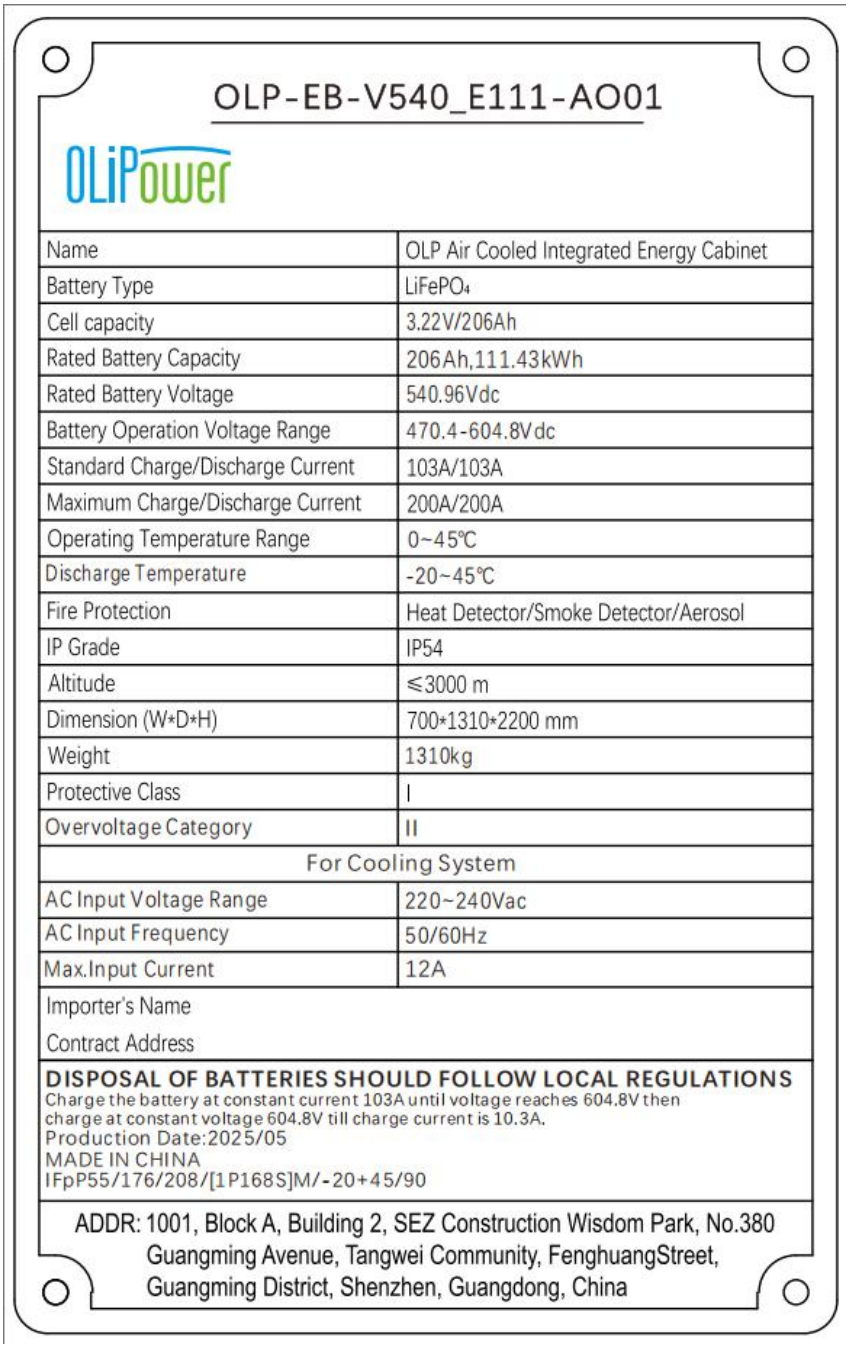
Product Model: OLP-EB-V540_E111-AO01,OLP-EB-V463_E95-AO01,
OLP-EB-V386_E79-AO01,OLP-EB-V309_E63-AO01

3.1.2. Product Nameplate

Plate material: 304 stainless steel

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn



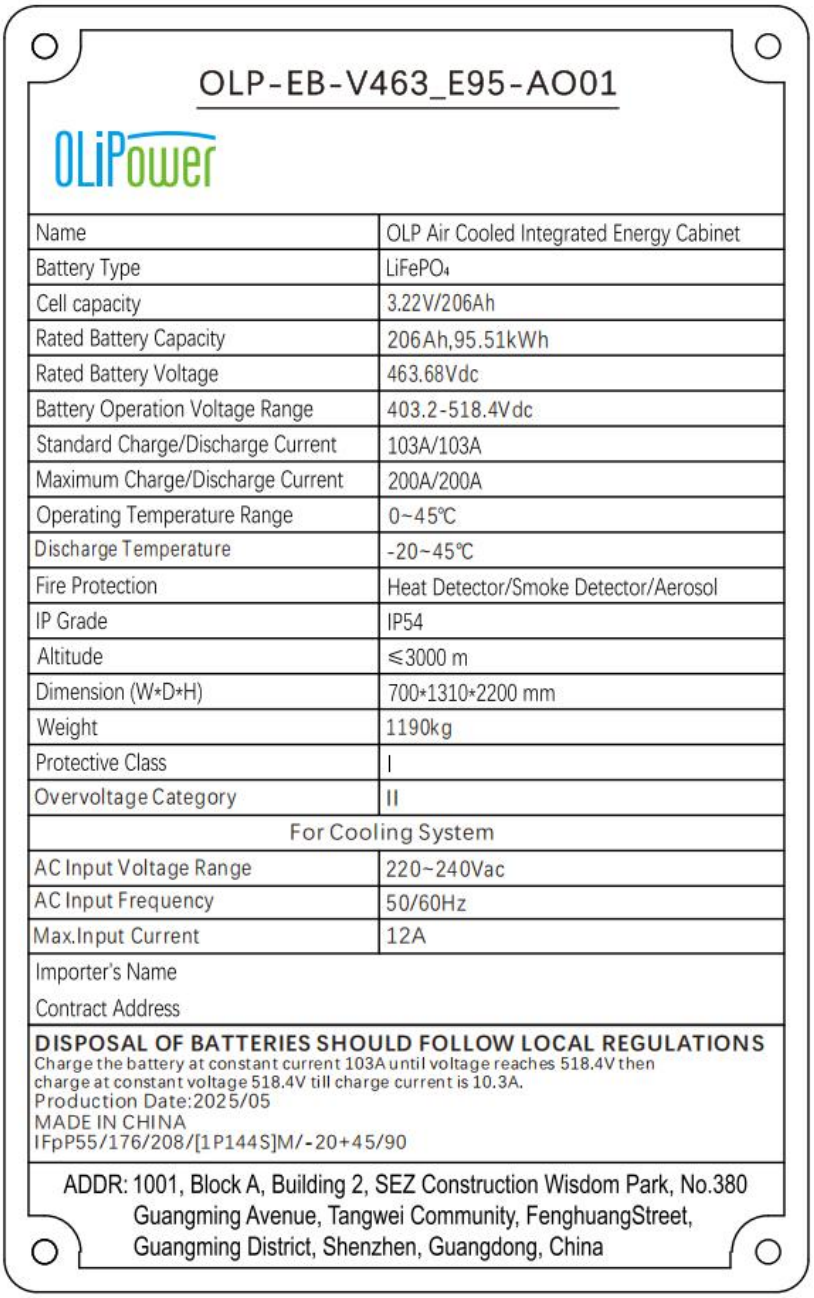
OLP-EB-V540_E111-AO01

Name	OLP Air Cooled Integrated Energy Cabinet
Battery Type	$LiFePO_4$
Cell capacity	3.22V/206Ah
Rated Battery Capacity	206Ah,111.43kWh
Rated Battery Voltage	540.96Vdc
Battery Operation Voltage Range	470.4-604.8Vdc
Standard Charge/Discharge Current	103A/103A
Maximum Charge/Discharge Current	200A/200A
Operating Temperature Range	0~45℃
Discharge Temperature	-20~45℃
Fire Protection	Heat Detector/Smoke Detector/Aerosol
IP Grade	IP54
Altitude	≤3000 m
Dimension (W*D*H)	700*1310*2200 mm
Weight	1310kg
Protective Class	I
Overvoltage Category	II
For Cooling System	
AC Input Voltage Range	220~240Vac
AC Input Frequency	50/60Hz
Max.Input Current	12A
Importer's Name Contract Address	

DISPOSAL OF BATTERIES SHOULD FOLLOW LOCAL REGULATIONS
Charge the battery at constant current 103A until voltage reaches 604.8V then charge at constant voltage 604.8V till charge current is 10.3A.
Production Date:2025/05
MADE IN CHINA
IFpP55/176/208/[1P168S]M/-20+45/90

ADDR: 1001, Block A, Building 2, SEZ Construction Wisdom Park, No.380 Guangming Avenue, Tangwei Community, FenghuangStreet, Guangming District, Shenzhen, Guangdong, China

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn



OLP-EB-V463_E95-AO01

OLiPower

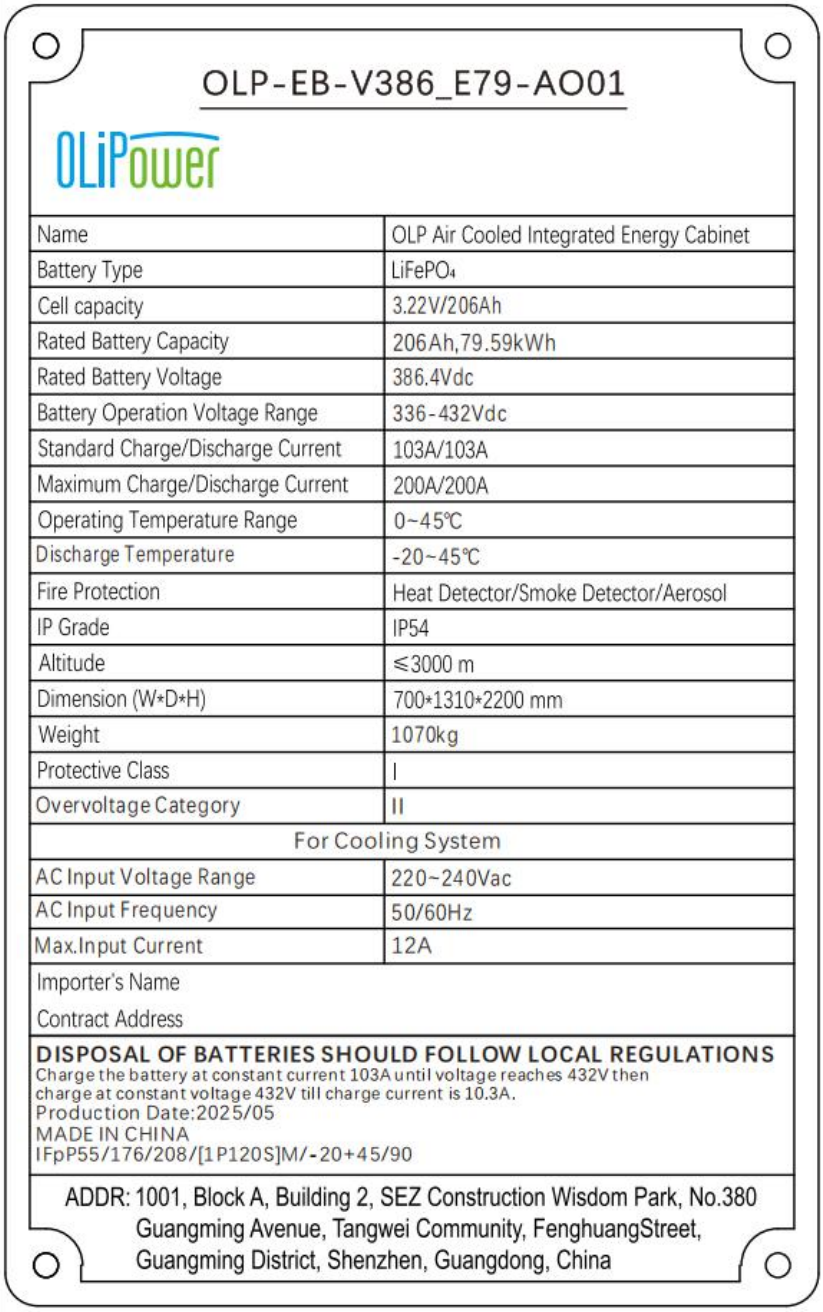
Name	OLP Air Cooled Integrated Energy Cabinet
Battery Type	$LiFePO_4$
Cell capacity	3.22V/206Ah
Rated Battery Capacity	206Ah,95.51kWh
Rated Battery Voltage	463.68Vdc
Battery Operation Voltage Range	403.2-518.4Vdc
Standard Charge/Discharge Current	103A/103A
Maximum Charge/Discharge Current	200A/200A
Operating Temperature Range	0~45℃
Discharge Temperature	-20~45℃
Fire Protection	Heat Detector/Smoke Detector/Aerosol
IP Grade	IP54
Altitude	≤3000 m
Dimension (W*D*H)	700*1310*2200 mm
Weight	1190kg
Protective Class	I
Overvoltage Category	II
For Cooling System	
AC Input Voltage Range	220~240Vac
AC Input Frequency	50/60Hz
Max.Input Current	12A
Importer's Name Contract Address	

DISPOSAL OF BATTERIES SHOULD FOLLOW LOCAL REGULATIONS
Charge the battery at constant current 103A until voltage reaches 518.4V then charge at constant voltage 518.4V till charge current is 10.3A.
Production Date:2025/05
MADE IN CHINA
IFpP55/176/208/[1P144S]M/-20+45/90

ADDR: 1001, Block A, Building 2, SEZ Construction Wisdom Park, No.380 Guangming Avenue, Tangwei Community, FenghuangStreet, Guangming District, Shenzhen, Guangdong, China

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn



OLP-EB-V386_E79-AO01

OLiPower

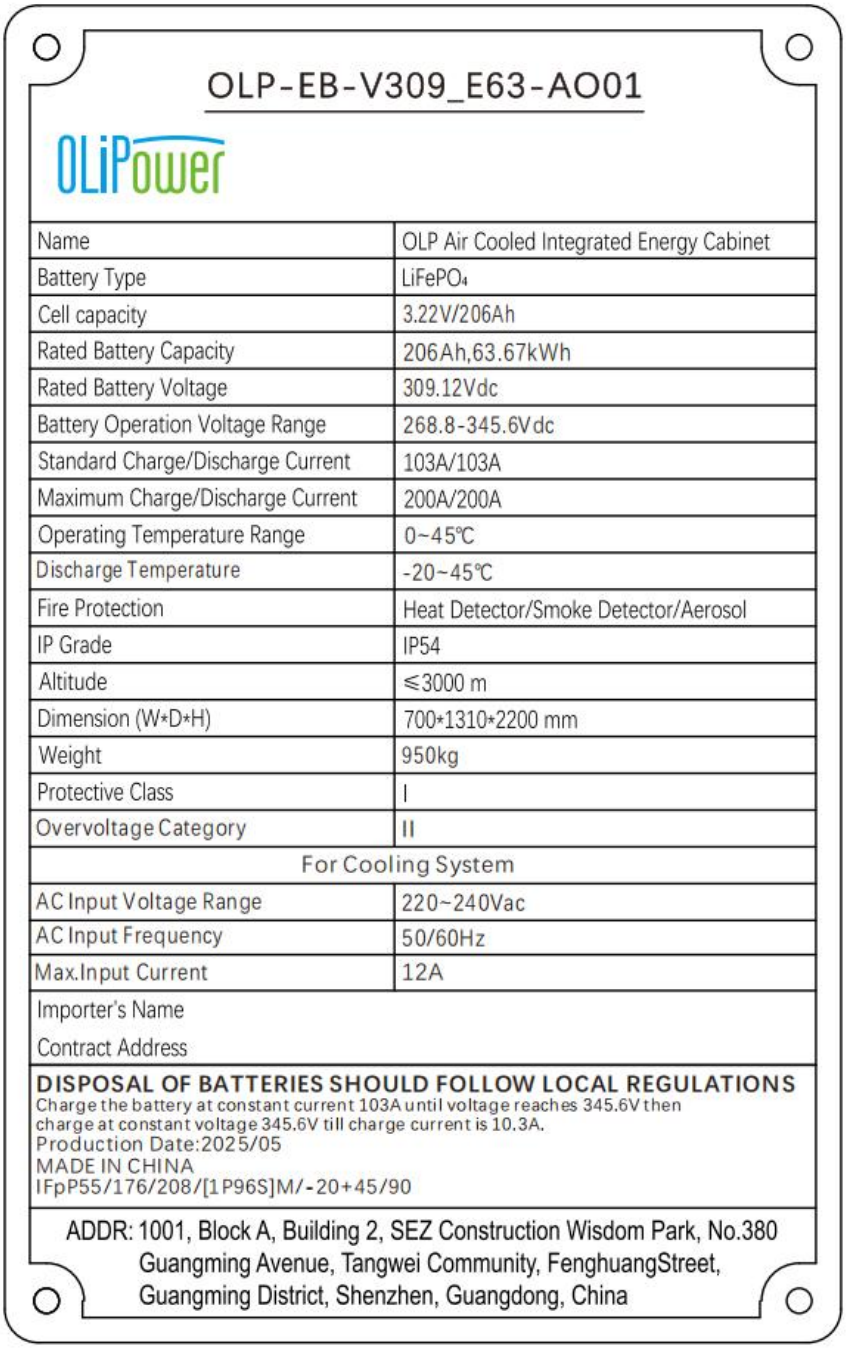
Name	OLP Air Cooled Integrated Energy Cabinet
Battery Type	$LiFePO_4$
Cell capacity	3.22V/206Ah
Rated Battery Capacity	206Ah,79.59kWh
Rated Battery Voltage	386.4Vdc
Battery Operation Voltage Range	336-432Vdc
Standard Charge/Discharge Current	103A/103A
Maximum Charge/Discharge Current	200A/200A
Operating Temperature Range	0~45℃
Discharge Temperature	-20~45℃
Fire Protection	Heat Detector/Smoke Detector/Aerosol
IP Grade	IP54
Altitude	≤3000 m
Dimension (W*D*H)	700*1310*2200 mm
Weight	1070kg
Protective Class	I
Overvoltage Category	II
For Cooling System	
AC Input Voltage Range	220~240Vac
AC Input Frequency	50/60Hz
Max.Input Current	12A
Importer's Name Contract Address	

DISPOSAL OF BATTERIES SHOULD FOLLOW LOCAL REGULATIONS
Charge the battery at constant current 103A until voltage reaches 432V then charge at constant voltage 432V till charge current is 10.3A.
Production Date:2025/05
MADE IN CHINA
IFpP55/176/208/[1P120S]M/-20+45/90

ADDR: 1001, Block A, Building 2, SEZ Construction Wisdom Park, No.380 Guangming Avenue, Tangwei Community, FenghuangStreet, Guangming District, Shenzhen, Guangdong, China

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn



OLP-EB-V309_E63-AO01

OLiPower

Name	OLP Air Cooled Integrated Energy Cabinet
Battery Type	$LiFePO_4$
Cell capacity	3.22V/206Ah
Rated Battery Capacity	206Ah,63.67kWh
Rated Battery Voltage	309.12Vdc
Battery Operation Voltage Range	268.8-345.6Vdc
Standard Charge/Discharge Current	103A/103A
Maximum Charge/Discharge Current	200A/200A
Operating Temperature Range	0~45℃
Discharge Temperature	-20~45℃
Fire Protection	Heat Detector/Smoke Detector/Aerosol
IP Grade	IP54
Altitude	≤3000 m
Dimension (W*D*H)	700*1310*2200 mm
Weight	950kg
Protective Class	I
Overvoltage Category	II
For Cooling System	
AC Input Voltage Range	220~240Vac
AC Input Frequency	50/60Hz
Max.Input Current	12A
Importer's Name Contract Address	

DISPOSAL OF BATTERIES SHOULD FOLLOW LOCAL REGULATIONS
Charge the battery at constant current 103A until voltage reaches 345.6V then charge at constant voltage 345.6V till charge current is 10.3A.
Production Date:2025/05
MADE IN CHINA
IFpP55/176/208/[1P96S]M/-20+45/90

ADDR: 1001, Block A, Building 2, SEZ Construction Wisdom Park, No.380 Guangming Avenue, Tangwei Community, FenghuangStreet, Guangming District, Shenzhen, Guangdong, China

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

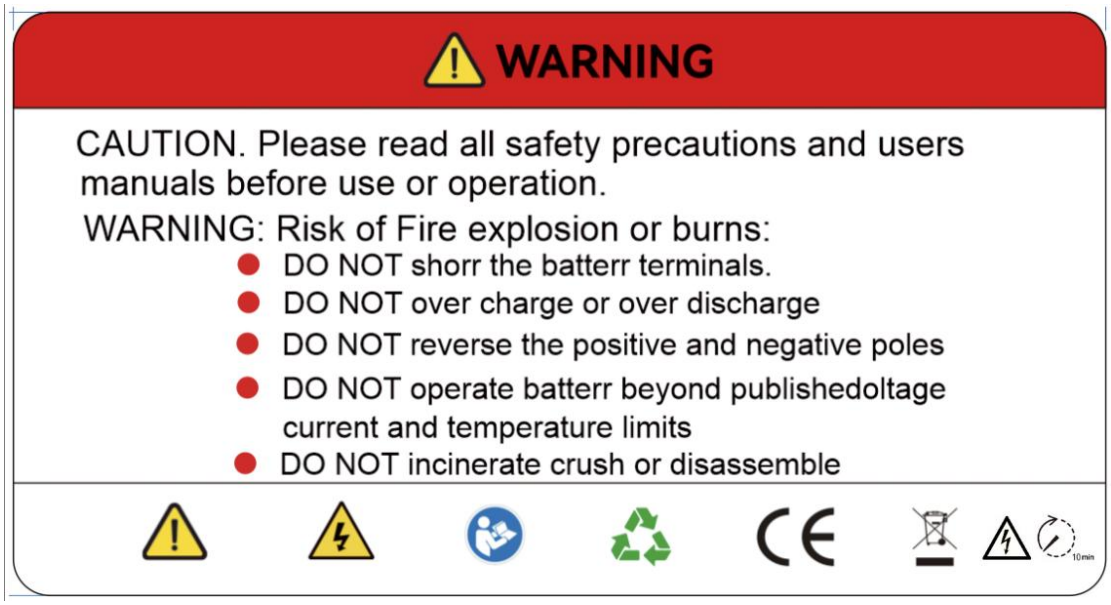


Figure 3.1.2-1 Product Nameplate

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

3.1.3.Product Specifications

Item		Specification
OLP-EB-V540_E111-AO01 Battery Cabinet Parameters	Rated Voltage (V)	540.96Vdc
	Voltage Range (V)	470.4~604.8Vdc
	Cluster Configuration	1P24S-7S
	Rated Charge/Discharge Current (A)	103
	Max. Charge/Discharge Current (A)	200
	Rated Energy (kWh)	111.43kWh
	HV BOX Voltage (V)	1000
	Thermal Management	Air conditioner
	Fire Suppression System	Heat Detector + Smoke Detector + Aerosol
	Cabinet IP Rating	IP54
	Cabinet Corrosion Protection Level	C3
	Working Temperature (℃)	-20~+55
	Storage Temperature (℃)	-20~+45
	Humidity	0~95%RH (No condensation)
	Altitude(m)	≤3000
	Weight	1310kg
	Production/Manufacturing Address:	China
	quality assurance	6000 cycle
OLP-EB-V463_E95-AO01 Battery Cabinet Parameters	Rated Voltage (V)	463.68Vdc
	Voltage Range (V)	403.2~518.4Vdc
	Cluster Configuration	1P24S-6S
	Rated Charge/Discharge Current (A)	103
	Max. Charge/Discharge Current (A)	200
	Rated Energy (kWh)	95.51kWh

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

	HV BOX Voltage (V)	1000
	Thermal Management	Air conditioner
	Fire Suppression System	Heat Detector + Smoke Detector + Aerosol
	Cabinet IP Rating	IP54
	Cabinet Corrosion Protection Level	C3
	Working Temperature (℃)	-20~+55
	Storage Temperature (℃)	-20~+45
	Humidity	0~95%RH (No condensation)
	Altitude(m)	≤3000
	Weight	1190kg
	Production/Manufacturing Address:	China
	quality assurance	6000 cycle
OLP-EB-V386_E79-AO01 Battery Cabinet Parameters	Rated Voltage (V)	386.4Vdc
	Voltage Range (V)	336~432Vdc
	Cluster Configuration	1P24S-5S
	Rated Charge/Discharge Current (A)	103
	Max. Charge/Discharge Current (A)	200
	Rated Energy (kWh)	79.59kWh
	HV BOX Voltage (V)	1000
	Thermal Management	Air conditioner
	Fire Suppression System	Heat Detector + Smoke Detector + Aerosol
	Cabinet IP Rating	IP54
	Cabinet Corrosion Protection Level	C3
	Working Temperature (℃)	-20~+55
	Storage Temperature (℃)	-20~+45
	Humidity	0~95%RH (No condensation)

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

	Altitude(m)	≤3000
	Weight	1070kg
	Production/Manufacturing Address:	China
	quality assurance	6000 cycle
OLP-EB-V309_E63-AO01 Battery Cabinet Parameters	Rated Voltage (V)	309.12Vdc
	Voltage Range (V)	268.8~345.6Vdc
	Cluster Configuration	1P24S-4S
	Rated Charge/Discharge Current (A)	103
	Max. Charge/Discharge Current (A)	200
	Rated Energy (kWh)	63.67kWh
	HV BOX Voltage (V)	1000
	Thermal Management	Air conditioner
	Fire Suppression System	Heat Detector + Smoke Detector + Aerosol
	Cabinet IP Rating	IP54
	Cabinet Corrosion Protection Level	C3
	Working Temperature (℃)	-20~+55
	Storage Temperature (℃)	-20~+45
	Humidity	0~95%RH (No condensation)
	Altitude(m)	≤3000
	Weight	950kg
	Production/Manufacturing Address:	China
	quality assurance	6000 cycle

PV Input Specifications	Max. Input Power (kW)	75
	Start-Up Voltage (V)	135
	Rated DC Input Voltage	620

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

	(V)	
	MPPT Voltage Range (V)	200-950
	No. of MPP Trackers	4
	No. of DC Inputs per MPPT	2
	Max. Input Current (A)	30×4
	Max. Short-circuit Current (A)	40×4
Grid Side AC Output Specifications	Rated Output Power (kW)	50
	Max. On-Grid Output Apparent Power (kVA)	55
	Max. Charging Power of Batter (kW)	50
	Rated AC Voltage (V)	3L/N/PE; 220/380V; 230/400V; 240/415V
	Rated AC Frequency (Hz)	50/60
	Max. Output Current (A)	83
	Power Factor	0.8leading~0.8lagging
	Max. Total Harmonic Distortion	<3% @ Rated Power
	DCI	<0.5%In
Back-up Side AC Output Specification	Rated Output Power (kW)	50
	Max. Off-grid Output Apparent Power (kVA)	55
	Max. Output Current (A)	83
	UPS Switching Time	<20ms
	Rated Output Voltage (V)	3/N/PE; 220/380V; 230/400V; 240/415V
	Rated Output Frequency (Hz)	50/60
	Voltage Harmonic Distortion	<3% @ Linear load
Inverter Efficiency	Max. Efficiency	98.8%
	European Efficiency	98.3%

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

Hybrid Inverter Protection Functions	DC Reverse Polarity Protection	Integrated
	Battery Input Reverse Connection Protection	
	Insulation Resistance Protection	
	Surge Protection	
	Over-temperature Protection	
	Residual Current Protection	
	Islanding Protection	
	AC Over-voltage Protection	
	Overload Protection	
	AC Short-circuit Protection	
Hybrid Inverter Comment Specifications	IP Rating	IP65
	Standby Self-consumption (W)	<15
	Cooling Method	Smart Fan
	Noise Level (dB)	<50
	Display	OLED & LED
	Communication	CAN, RS485, WiFi/4G (Optional)

Table 3.1.3-1 Specifications

Table 3.1.3-1 Specification Parameters

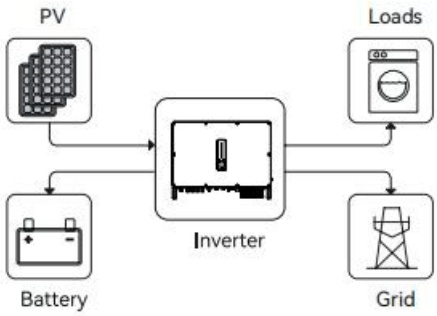
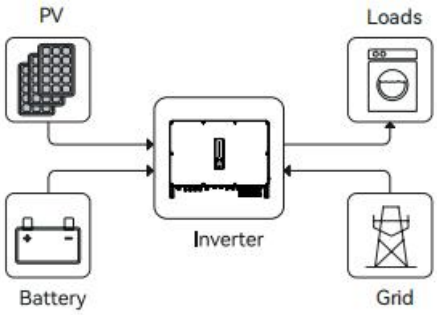
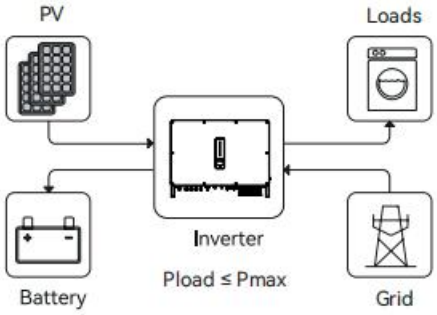
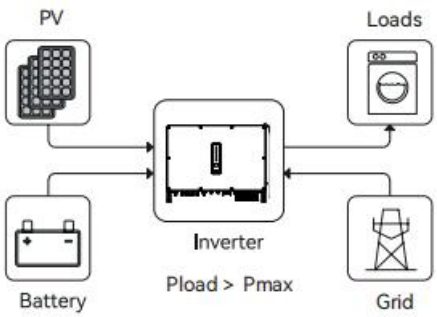
3.1.4.Operation Modes

Hybrid inverter has the following basic operation modes and you can configure the operation mode as per your preference in the App.

General Mode

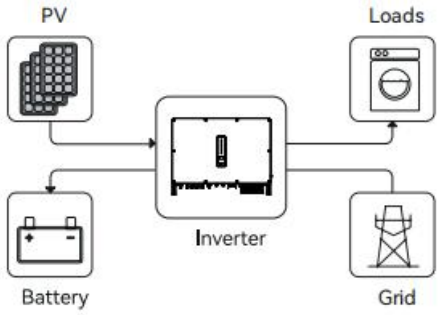
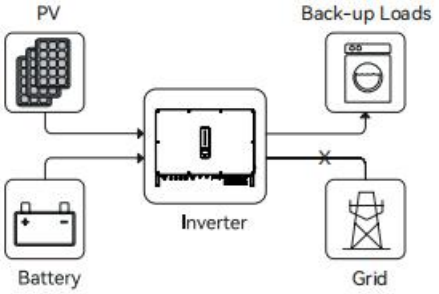
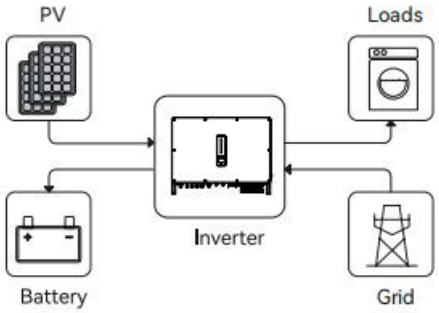
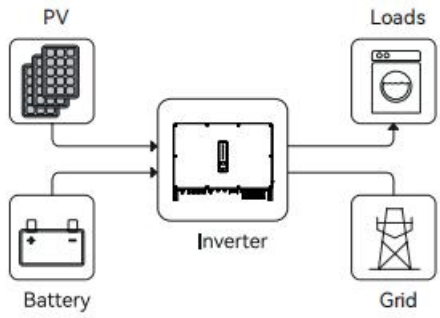
© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

In this working mode, when the power from the PV array is sufficient, PV power will supply the loads, battery, and grid in the order of loads first, battery second, and grid last. (You can set the power to the grid to 0W when the local grid does not allow inverter power to feed to the grid).	
When the PV power is insufficient, the battery will discharge to supply loads, and the grid will join in if the battery is not enough to supply loads.	
Peak load Shifting (Load Shifting)	
Set the maximum power Pmax (kVA) contracted with the grid. When the load consumption is less than the Pmax, the PV will charge the battery first, and the grid supplies the load. When the battery is full, PV will supply the load together with the grid, but the battery doesn't.	
When the load consumption exceeds the Pmax, the inverter will take power from the battery and PV to supply power to the load to compensate for the power that exceeds the Pmax.	
*To realize the “Peak load Shifting” function, the load power that exceeded Pmax has to be within the inverter max output power, otherwise, the inverter will only output the max power which allowed.	
UPS Mode	

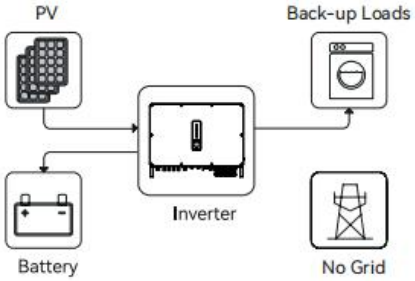
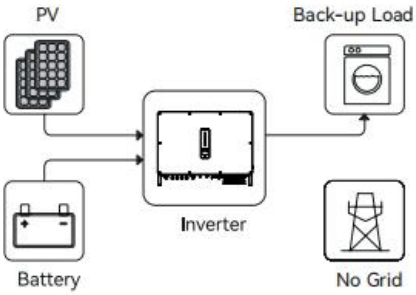
© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

In this working mode, the inverter will use the power from PV or grid to charge the battery until it is fully charged, and as long as the grid is there, the battery will not discharge.	
When the grid fails, power from PV and battery will supply loads connected on the back-up side (UPS).	
Economic Mode	
In this working mode, you can set charge/discharge power and time in the App, inverter will use the power from PV or grid (whether to use can be set in the App) to charge the battery in the predetermined period.	
Inverter will use power from PV and battery to supply loads in the predetermined period and the insufficient part will be supplied by the grid.	
Off-grid Mode	

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

In the purely off-grid mode, power from PV will supply the back-up loads first and then charge the battery if there's surplus power.	
When the power from PV is inadequate, the battery will discharge to supply backup loads together with PV.	

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

3.2. System Schematic Diagram

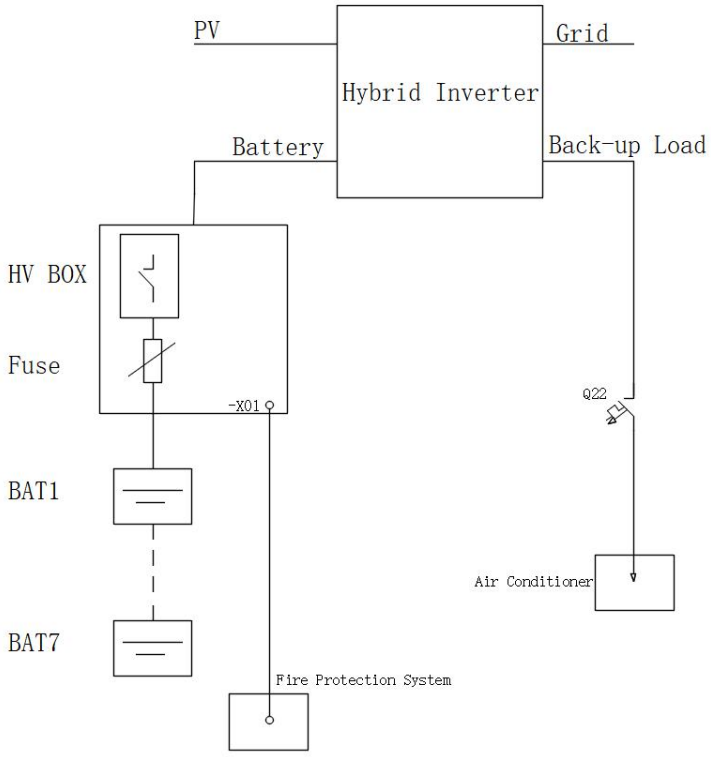


Figure 3.2-1 System Schematic Diagram

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

3.3. Appearance Dimensions

3.3.1. Appearance

Figure 3.3.1-1 Appearance

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

3.3.2.Dimensions

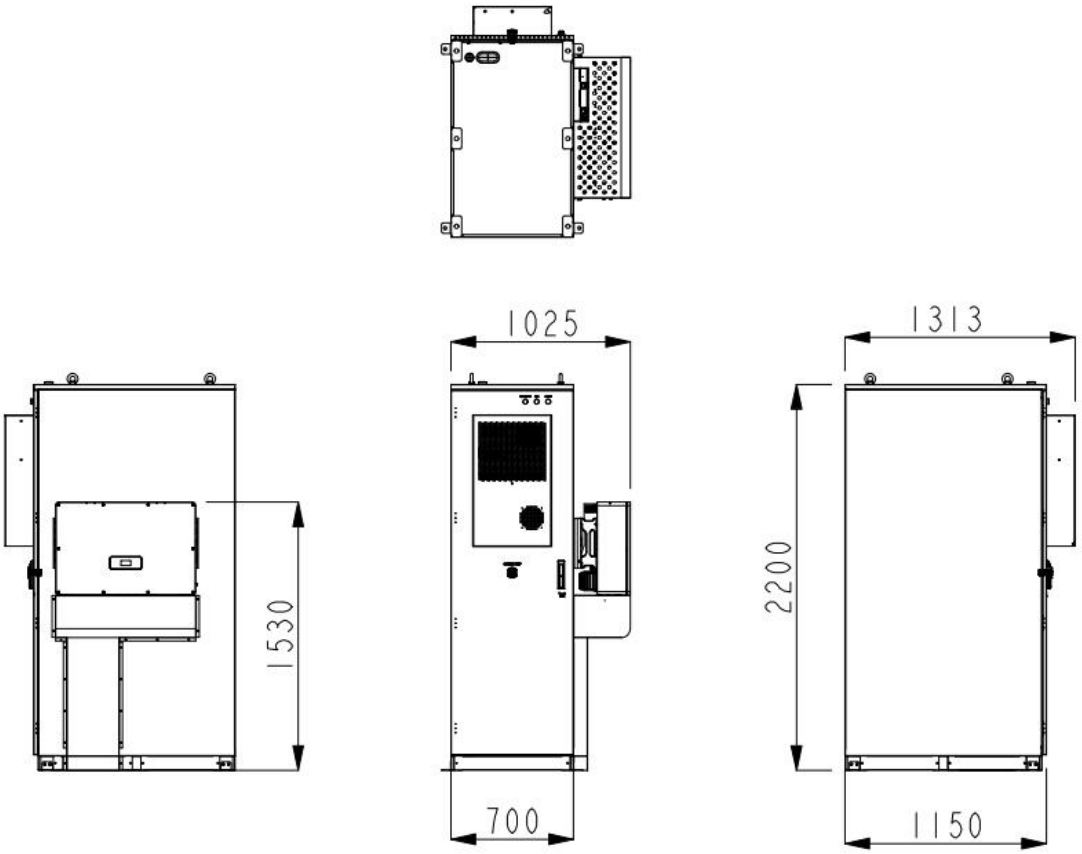


Figure 3.3.2-1 Cabinet size (unit: mm)

3.3.3.Display Panel

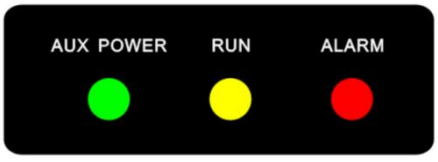


Figure 3.3.3-1 Display panel

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

NO.	Definition	Explanation
1	AUX POWER	After the system control power is turned on, the green power indicator light remains on
2	RUN	When the system power is output or input, the yellow running indicator light is always on
3	ALARM	When the system malfunctions, the red fault indicator light remains on

Table 3.3.3-2 Display Panel Description

3.4. Component Description

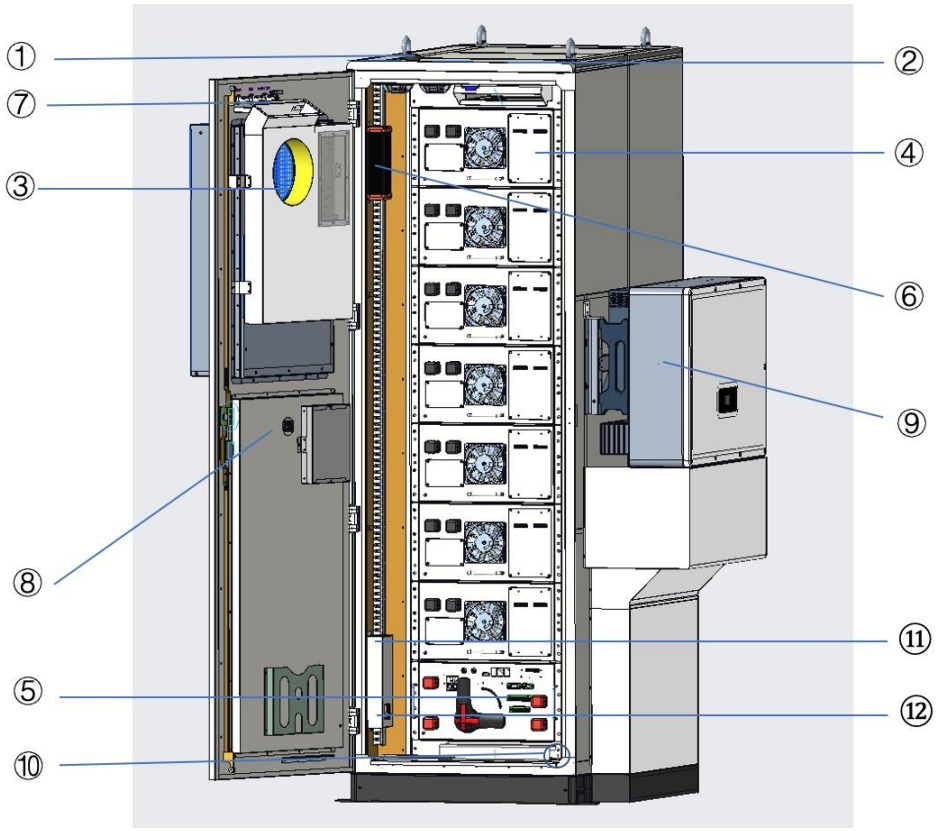


Figure 3.4-1 Component Description Diagram

No.	Name	Description
1	Network System	The system is equipped with a 4G antenna +4G router +WIFI module, and supports a cloud data monitoring platform (optional function).
2	Access Control System	The system is equipped with access control switches, which are responsible for monitoring the status of the cabinet doors.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

3	Thermal Management System	The system is equipped with a dedicated air conditioner for energy storage, supporting both cooling and heating functions.
4	Battery Pack	The system is equipped with 7 air-cooled battery packs, including BSU, to monitor battery data.
5	HV Control Box	The system is equipped with one high-voltage control box, including BMU, which is responsible for the monitoring and protection of the battery cluster.
6	Fire Protection System	Configure an aerosol automatic fire extinguishing system and reserve water fire protection interfaces to provide cabinet fire protection capabilities for the energy storage system.
7	Indicator Light	Indicate the power-on, operation and fault status of the system.
8	Emergency Stop Button	When the equipment is in an abnormal state or in an emergency, press the emergency stop button and the system will stop working.
9	Hybrid Inverter	External high-voltage hybrid inverters are used to achieve grid-connected, off-grid, photovoltaic, diesel engine and other energy storage applications.
10	Water Immersion Alarm System	Providing effective leakage monitoring means, helps to detect and deal with leakage problems in time, ensures the safe operation of the cabinet.
11	Air Conditioning Circuit Breaker	Be responsible for managing the AC power supply of air conditioners.
12		

Table 3.4-2 Component Description Table

3.4.1.Energy Storage System

➢ Air-cooled Battery Pack

The battery module is a sealed unit with air-cooled cooling. The ventilation holes on the casing measure 6mm × 18mm, preventing direct access to the internal cells and terminals.

The battery pack contains battery cells, BSU (Battery Data Acquisition Unit), temperature sensors, and liquid cooled chassis. The BSU collects data from the battery cells and uploads it to the battery management system.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

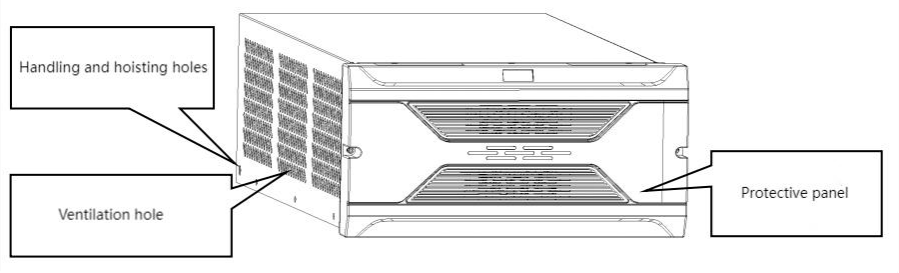


Figure 3.4.1-1 Appearance of Battery Pack

➢ Battery pack parameter list:

No.	Item	Specifications/Parameters	Note
1	Nominal Voltage (V)	77.28	
2	Working Temperature Range (V)	67.2~86.4	
3	Rated Capacity (Ah)	≥206.0	25±2℃, 0.5C, 2.5-3.65V
4	Rated Energy (kWh)	≥15.91	25±2℃, 0.5C, 2.5-3.65V
5	AC Resistance (mΩ)	≤12.0	New battery status, at 1KHz
6	Configuration	1P24S	
7	Insulation Value (MΩ)	≥300	Set the test voltage 1000V, the test resistance value > 300MΩ is judged as normal.
8	Withstanding Voltage Value	3300V,1mA	Set the test voltage 3300VDC, climb time 0.1S, test time 3S, leakage current <1mA is judged as normal.
9	Weight (Kg)	~130Kg	
10	Dimension (W*D*H) (mm)	464*230*880mm	
11	Standard Charge/Discharge Current (A)	103/103	25±2℃

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

12	Maximum Continuous Charge/Discharge ratio	1P/1P	25±2℃/20-45℃
13	Charging Temperature Range	0~55	
14	Discharging Temperature Range	-20~55	
15	Humidity (%)	0~95	No condensation
16	Module Cooling Method	Forced air-cooled	
17	Module Heating Method	None	
18	SOC (Charge on shipment)	30±5%	
19	Module Self-Discharge Rate	≤3% / month	New shipped cells, 25±2°C, 30% storage within 3 months
20	Cycles	≥6000	0.5C，90%DOD，80%SOH
21	IP Rating	IP20	
22	Altitude (m)	≤3000	
23	Storage Temperature Range (℃)	-20~45	
24	Anti-corrosion grade	C3	
25	Service Life	10 years or 6000 cycles	Whichever condition comes first
26	Attestation	EC62619 IEC62040 IEC61000 UN38.3 MSDS	

Table 3.4.1-2 Battery Pack function Parameters

- Interface definition

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

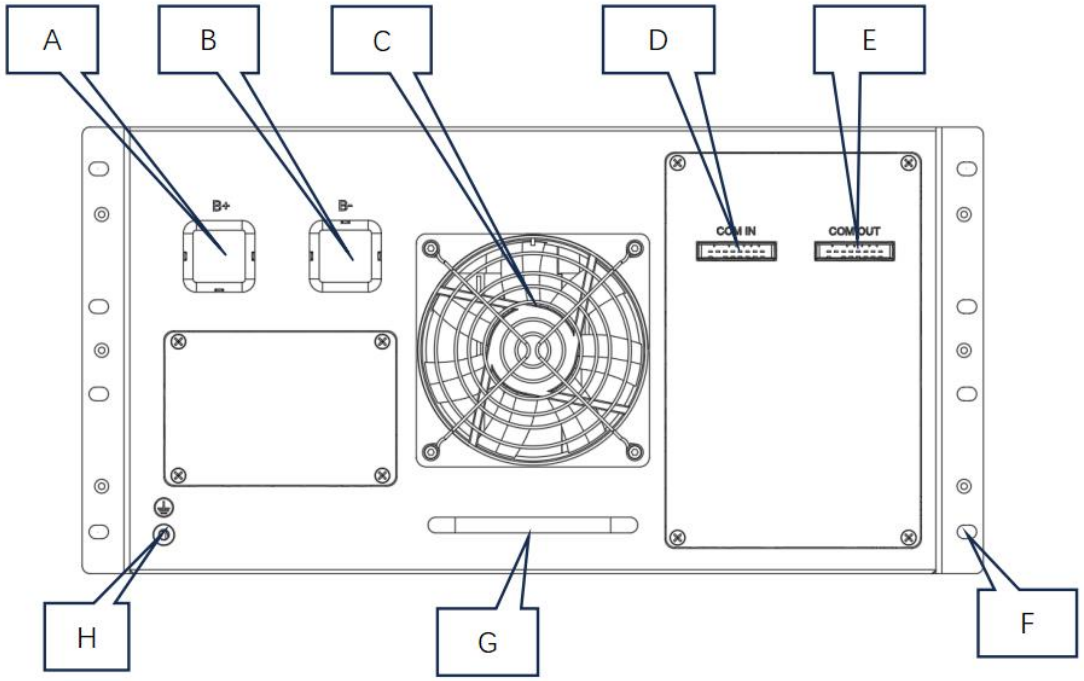


Figure 3.4.1-3 Battery pack panel interface

No.	Item	Identification	Note
A	Positive Pole	B+	
B	Negative Pole	B-	
C	Fan		
D	Power Supply and	COM IN	
E	Power Supply and	COM OUT	
F	Pack Fixing Holes		
G	Handle		
H	Grounding Bolt Hole		

Table 3.4.1-4 Description of battery pack panel interface

- High-voltage control box

The high-voltage control box contains BMU (Battery Management Unit) high-voltage contactors, high-voltage fuses, current transformers, etc. Used to control the closure and disconnection of DC circuits. Realize various levels of protection for DC side voltage, temperature, and current.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

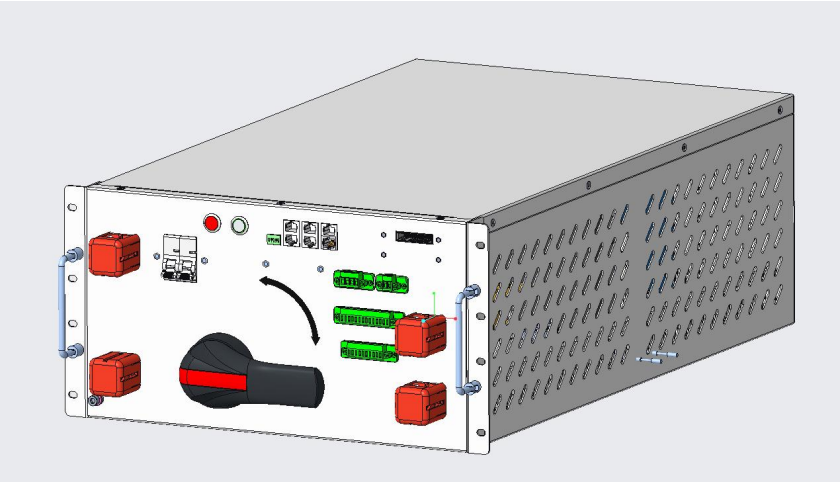


Figure 3.4.1-5 Appearance of High Voltage Control Box

➢ HV box parameter list:

No.	Item	Specifications/Parameters
1	Max. Working Voltage of Main Circuit	DC 1000V
2	AC Power Supply	AC230V 50Hz 10A
3	Rated Charge/Discharge Current	103A/103A
4	Max. Charge/Discharge Current	200A/200A
5	Active Protection	250A contactor
6	Passive Protection	315A/1500Vdc Fuse
7	Manual circuit breaker	250A/1500Vdc Isolation switch
8	General Operating Temperature	25°C
9	Storage Temperature Range	-20°C to +45°C
10	Series Unit	4~11 Battery modules in series
11	External Communications Interface	CAN3/RS485-1
12	Parallel Communication Interface	CAN2
13	Internal Communication Interface	CAN1
14	Maintenance Monitoring	RS232

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

	Interface	
15	Thermal Management Communication Interface	RS485-2
16	Dimensions (W*H*D)	464*230*720 mm
17	Weight	~30kg
18	IP Rating	IP20

Table 3.4.1-6 High Voltage Control Box function Parameters

- Interface definition

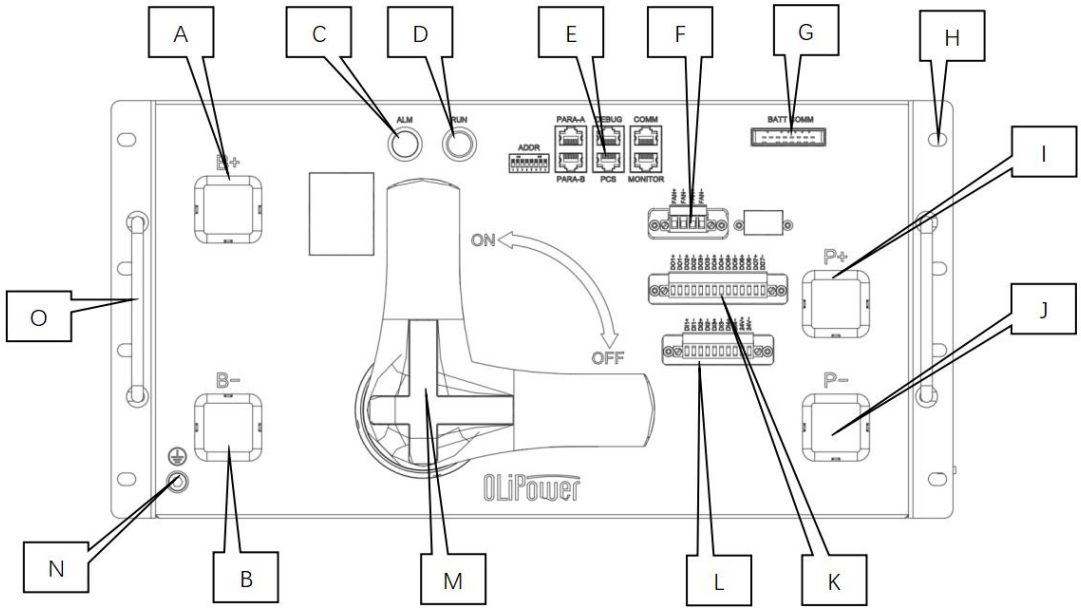


Figure 3.4.1-7 High Voltage Control Box interface

No.	Item	Identification	Note
A	Battery Positive Pole	B+	Red
B	Battery Negative Pole	B-	Black
C	Fault Indicator Light	ALM	Red
D	Operation Indicator Light	RUN	Green
E	Interface Board		
F	Pack Fan Control Terminal		
G	Pack Communication Interface		

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

H	Rack Fixing Hole		
I	Inverter Positive Pole	P+	Red
J	Inverter Negative Pole	P-	Black
K	DO Terminal Block		
L	DI Terminal Block		
M	Disconnector Switch		When the handle of the isolating switch is moved up or down, the switch remains ON, allowing DC connection. When the switch is OFF, it isolates all live components on the DC side, preventing contact with live parts.
N	Grounding Terminal		
O	Handle		

Table 3.4.1-8 Description of High Voltage Control Box interface

➢ Battery cluster

The battery cluster is equipped with a battery module and a high-voltage control box inside. The power circuit is connected in series with power cables, and the communication circuit is connected with shielded multi-core wires.

	Configuration	1P168S 1P144S 1P120S 1P96S
	Nominal energy	111.43kWh 95.51kWh 79.59kWh 63.67kWh
	Operating Voltage Range	470.4~604.8Vdc 403.2~518.4Vdc 336~432Vdc 268.8~345.6Vdc

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

	Max. Charge/Discharge current	200A
	Dimension (W*D*H) mm	464*880*1900mm
	Weight	≈900kg
	Accreditation	EC62619 IEC62040 IEC61000 UN38.3 MSDS

Table 3.4.1-9 Technical Parameters of Battery Clusters

Battery Management System

Battery management systems are categorized into 2 levels: BMU and BSU.

- The BSU is installed in the battery module and is responsible for collecting data from the battery cells in the battery module and uploading it.
- The BMU is installed in the high-voltage control box and is responsible for receiving and processing the battery cell voltage and temperature data uploaded by the BSU, the current transformer data, as well as SOC calculations and corrections, and executing all levels of logic protection such as current, voltage, and temperature.

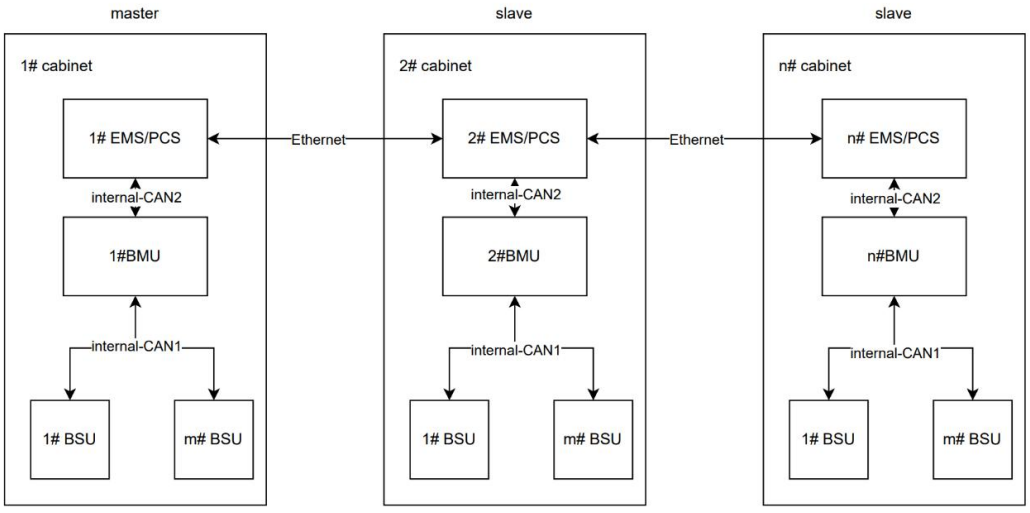


Figure 3.4.1-10 Management System Topology

NO.	Items	Parameters

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

1	Supply Voltage	BMU&BSU：24Vdc
2	Individual Voltage Sampling Accuracy	±5mV（0℃~60℃）
3	Total Voltage Sampling Accuracy	1% FSR
4	Total Voltage Sampling Range	0~1500Vdc
5	Current Sampling Accuracy	1%RDG
6	Current Sampling Range	-200~+200A
7	Temperature Sampling Accuracy	±2℃（-10℃~+50℃）
8	SOC Accuracy	≤5%; The system needs to be fully charged once a month

Table 3.4.1-11 Battery Management Unit

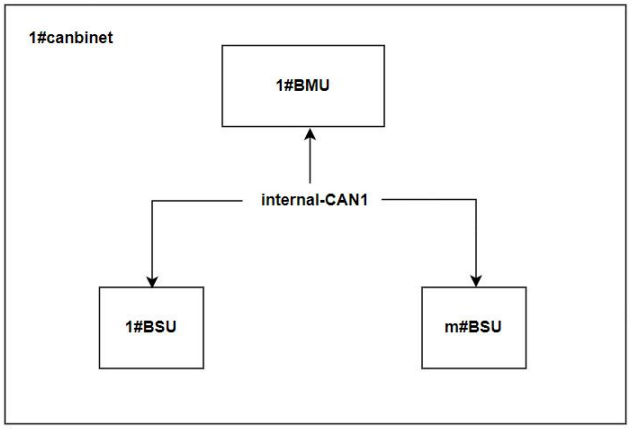


Figure 3.4.1-12 Topology diagram of battery management unit

3.4.2. Thermal Management System

Air conditioners

- Air conditioner is mainly made up of compressors, fans, condensers, evaporators, electric heating, main control boards, and other accessories.

The air conditioner is used to regulate the ambient temperature within the energy storage

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

system to ensure that the battery pack operates within the appropriate temperature range to maintain the optimal working condition of the system and to improve the service life of the system, and its functions are as follows:

- Monitor the ambient temperature inside the battery compartment and automatically adjust the temperature output according to the ambient temperature and the internal temperature of the battery pack.
- When the temperature of the battery compartment is high, the air conditioner reduces the ambient temperature of the battery compartment to prevent thermal runaway accidents.
- When the temperature of the battery compartment is low, the air conditioner can preheat and raise the ambient temperature to ensure the system's charging and discharging performance and safety in a low-temperature environment, as well as to improve the system's utilization efficiency.

Cooling mode

Refrigeration, the compressor will compress the refrigerant into liquid, and at this time the liquid will be sent to the battery compartment, at this time the hot air in the battery compartment and the evaporator contact, the liquid refrigerant is heated into a gaseous state, take away the heat in the battery compartment, to the condenser, in the fan blowing and the pressure change, the rapid exothermic to the outside of the battery compartment.

Heating mode

When heating, the fan and electric heating are activated to blow the passing hot air into the battery compartment to achieve the heating effect.

Items	Parameters
Rated Cooling Capacity	1500W (50Hz)
Rated Cooling Power	580W (50Hz)
Heating Capacity	1000W
Working Environment Temperature	-40℃~+55℃
Noise	60dB（A）
Power Supply	Operating voltage range: 220±15%, 50/60Hz; rated/maximum current: 4.6A
IP Rating	IP55
Communication Method	RS485

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

Working Temperature	20℃~50℃
Weight	24kg
Dimension (W*D*H)	446*200*746mm

Table 3.4.2-1 Air conditioner technical parameters table

3.4.3. Fire Protection System

The fire protection system consists of temperature sensors, smoke sensors, and aerosol fire extinguishing devices.

Fire alarm: The temperature sensor and smoke sensor are triggered simultaneously, and the BMS issues an alarm and cuts off the main circuit.

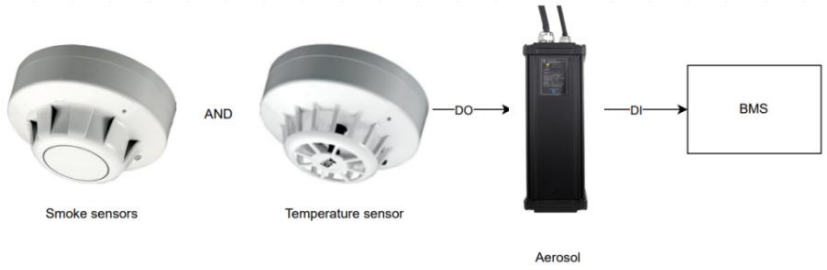


Figure 3.4.3-1 Topology diagram of the fire protection system

3.4.4. Access Control System

The system is equipped with an access control system, and each cabinet door is monitored by an access control switch to ensure the safety of the cabinet. After any cabinet door is opened, the access control system will report the status to the BMS, and the BMS will display an access control alarm. (Note: The access control alarm only displays the alarm status and does not affect the system operation).

3.4.5. Flood Protection System

The flood Protection system is composed of a flood transmitter and a flood sensor.

3.4.6. Hybrid Inverter

The system is equipped with a bidirectional inverter for energy storage, featuring constant voltage, constant current and constant power modes. It supports both off-grid and

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

grid-connected operation and can intelligently switch between multiple modes. Additionally, it has reactive power compensation and harmonic compensation functions, enabling parallel connection of multiple units.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

- **Appearances**

- **Hybrid Inverter Datasheet**

Inverter Parameter Table

Typology	Items	Parameters
PV Input Parameters	Suggested Maximum Input Power (kW)	75kW
	Starting Voltage (V)	135V
	Maximum DC Input Voltage (V)*	1000V
	Rated DC Input Voltage (V)	620V
	MPPT Operating Voltage Range (V)	200-950V
	The Number of MPPTS	4
	Number of Input Channels for Single-Channel MPPT	2
	Maximum Input Current (A)	30*4
	Maximum Short-Circuit Current (A)	40*4
Battery Parameters	Battery Type	Lithium battery (with BMS)
	Battery Voltage Range (V)	135-750
	Maximum Charging/Discharging Current (A)	100/100

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

Parameters on the DC Side	Maximum DC Input Voltage (V)	1000
	Maximum DC Operating Voltage (V)	950
AC Parameters (Power Grid End)	Rated Output Power (kW)	50
	Maximum Grid-Connected Output Apparent Power (kVA)	55
	Maximum Input Apparent Power (kVA)	60
	Maximum Charging Power of the Battery (kW)	50
	Rated Voltage (V)	3L/N/PE; 220/380V; 230/400V; 240/415V
	Power Grid Voltage Frequency (Hz)	50/60
	Maximum Output Current (A)	83
	Power Factor	0.8 Leading ~ 0.8 Lagging
	Maximum Total Harmonic Distortion	<3% @ Rated power
	DC Component	<0.5%In
AC Parameters (Off-Grid End)	Rated Output Power (kW)	50
	Maximum Output Apparent Power (kVA)	55
	Maximum Output Current (A)	83
	UPS Switching Time	<20ms
	Rated Output Voltage (V）	3/N/PE; 220/380V; 230/400V; 240/415V
	Rated AC Frequency (Hz)	50/60
	Three-Phase Peak Overload Apparent Power (kVA)***	60
	Total Harmonic Distortion of Voltage	<3% @ Linear Load
Efficiency Parameter	Maximum Photovoltaic Conversion Efficiency	98.8%
	European Efficiency	98.3%
Conform to the	IEC/EN 62109,	

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

Standard	IEC/EN 61000, EN50549-1, TOR Generator Type A, VDE-AR-N-4105	
Conventional Parameters	Overvoltage Category	PV: Ⅱ; Main: Ⅲ
	Dimensions (W*H*D) mm	760×490×290
	Weight (kg)	56.0
	Protection Grade	IP65
	Standby Wear (W)	＜15
	Topology	Transformer less type
	Operating Temperature (℃)	-30~60
	Relative Humidity (%)	0~100
	Working Altitude (m)	3000 (>3000m load reduction)
	Cooling Method	Intelligent fan
	Noise Index (dB)	＜50
	Display	OLED & LED
	Communication	CAN, RS485, WiFi/LAN (Optional)

Figure 3.4.6-1 Inverter parameter table

4. Installation

This chapter introduces the installation of energy storage cabinets, including preparation before installation, installation environment, inverter installation, electrical connection requirements, etc.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

4.1. Installation Preparation

4.1.1. Installation Tools

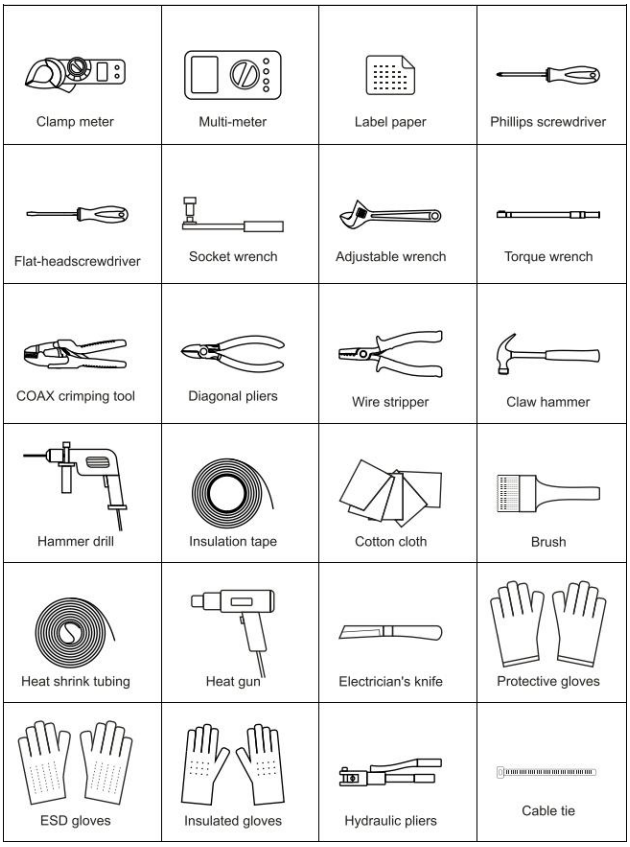


Figure 4.1.1-1 Installation Tools Table

Caution!

The installation tools must be insulated to avoid electric shock.

4.1.2. Installation Environment

The installation environment of energy storage cabinets should meet the following requirements:

- The energy storage cabinet is an outdoor cabinet that meets the IP54 protection level and is installed in a dry, dust-free environment.
- The venue must maintain a good ventilation environment, avoid direct sunlight as

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

much as possible, and have necessary fire prevention, waterproofing, and rodent and insect prevention measures.

- The site should be kept away from areas where toxic and harmful gases are concentrated, as well as from flammable, explosive, and corrosive materials.
- The installation surface of the site must be flat and dry, and there must be no standing water. The ground must be higher than the highest level of standing water in previous years
- The ground level of the venue should not shake and should be able to bear the weight of the cabinet. It is prohibited to have dents or tilts.
- Adequate space must be left in front, back, left, right, and above the energy storage cabinet for heat dissipation, maintenance, and evacuation.
- Avoid opening cabinet doors and installing in rainy or humid weather conditions.
- The temperature should be within the range of -20 ℃ to+50 ℃ to ensure that the energy storage cabinet operates in good.

4.2. Handling

Caution!

Precautions for long-distance transportation:

- Please strictly package the product before transportation by vehicle. Closed boxes must be used for long-distance transportation!
- It is strictly prohibited to mix and transport this product with equipment or items that may affect or damage it!

Caution!

Precautions for forklift handling:

- A forklift test fork is required, and if it is not suitable, the forklift foot position needs to be adjusted. After the fork is suitable, lift up the cabinet and then move it!
- During the transportation process, the equipment tilt angle should be less than 8 ° and the height of the undulations should be as low as possible!
- Do not use hydraulic trucks for long-distance transportation or on sloping roads!
- When taking off and landing, handle with care to avoid impact or vibration of the forklift. When descending, be careful not to press your feet!
- When moving, someone needs to support you left and right, and pay attention to the flatness of the ground!
- Considering that the equipment is relatively high and may obstruct the driver's line of sight, it is recommended to arrange personnel to guide the driver according to the situation!
- In the scenario where the cabinet is filled with batteries, be sure to pay attention to the

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

center of gravity of the cabinet. It is strictly prohibited to use a crane to lift only from the top of the cabinet, as it may cause damage to the cabinet!

4.2.1.Center of Gravity

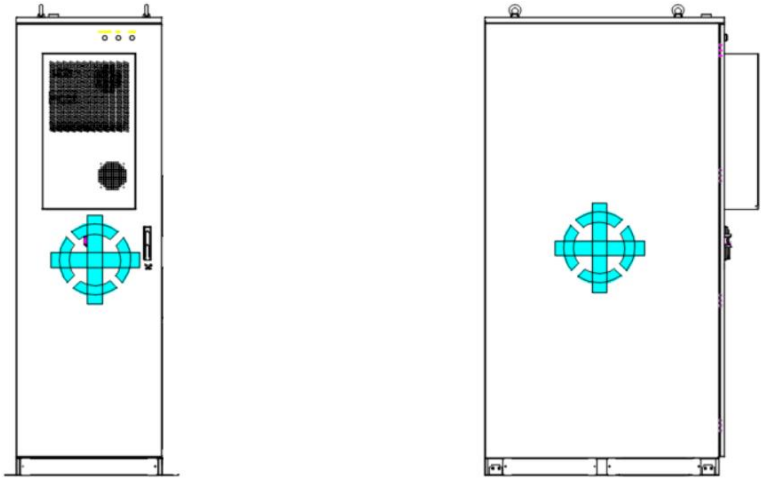


Figure 4.2.1-1 Schematic diagram of cabinet center of gravity

4.2.2.Handling Method

- Forklift handling: Adjust the width and size of the forklift legs to place the center of gravity in the center of the forklift legs.
- Crane handling: A single lifting strap can withstand a weight of no less than 3000KG, and the strap should be tightly tied to the box.

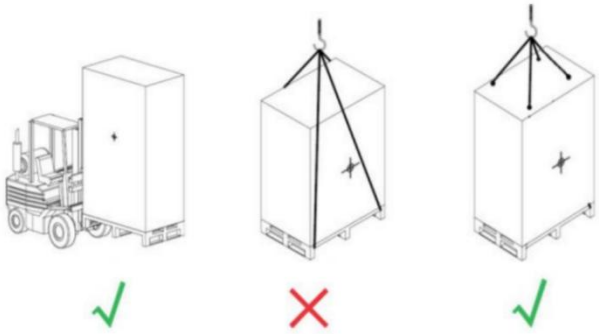


Figure 4.2.2-1 Schematic diagram of forklift and crane handling

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

4.3. Open Box Inspection

After opening the box, the following items must be inspected:

NO.	Inspection Items	Confirm
1	The quantity of equipment installation accessories is consistent with that on the shipping list	
2	The appearance is undamaged, scratch free, and the paint is normal	
3	The outer packaging of the product is intact, without damage, moisture, or deformation	
4	The connecting bolts inside the equipment are not loose, and there is no displacement or tilt of the components	

Table 4.3 Inspection Checklist after Unboxing

Check List:

No.	Name	Description	QTY	Unit	Note
1	Cabinet	Dimension：700*1300*2200mm (W*D*H)	1	pcs	
1.1	High Voltage Control Box	BMU + High voltage protection	1	pcs	
1.2	Air-Cooled Battery Packs	77.28V/15.91kWh	7/6/5/4	pcs	
1.3	Thermal Management System	Industrial air conditioners	1	pcs	
1.4	Fire Suppression System	Heat Detector + Smoke Detector + Aerosol	1	pcs	
1.5	Waterlogging Alarm System	Waterlogging Sensor + Controller	1	pcs	
2	Hybrid Battery Inverter	50kW, 50/60Hz, 3L/N/PE, 220/380V, 230/400V	1	pcs	
3	Equipment Accessories	Cable trough	1		
		Anti-reverse flow electricity meter + CT	1	Set	

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

		Battery cable	1	Set	
		Communication line	1	Set	

Table 4.3-2 Equipment list

4.4. Cabinet Installation

Caution!

Precautions for cabinet installation:

- When installing, it is necessary to strictly follow the safety instructions, otherwise it may cause equipment damage, personal injury or serious injury accidents. Please strictly follow the safety instructions!
- The installation must be carried out correctly by professionals while following all warning prompts!
- Please ensure that the mechanical strength of the installation location is sufficient to support the weight of the equipment, otherwise it may cause mechanical danger!
- Do not wear loose clothing or accessories, as there may be a risk of electric shock!

4.4.1. Inverter Installation

1. Back-mounted installation

Back-mounted installation dimensions (mm)

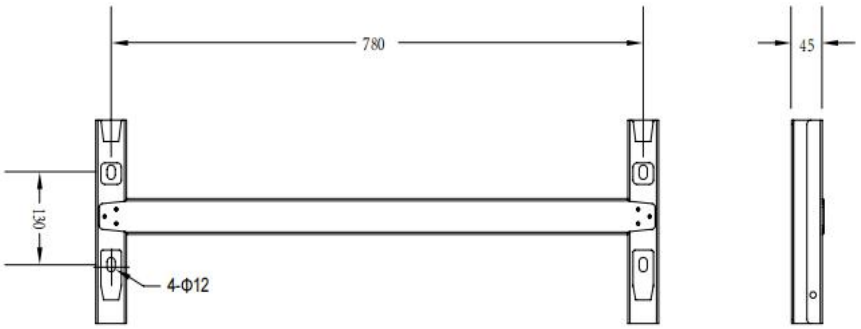


Figure 4.4.1-1 Back-mounted installation dimensions (mm)

2. Fix the inverter bracket to the side of the cabinet with 4 bolts (provided on the side of the cabinet).

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

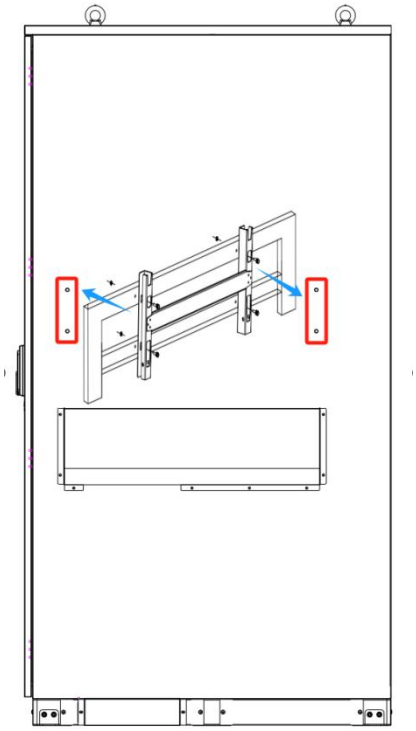


Figure 4.4.1-2 Fixed Bracket

3. Inverter installation: Lift the inverter and carefully hang the track slot on the back of the inverter onto the back-mounted bracket. Fix (both sides) with M6 bolts.

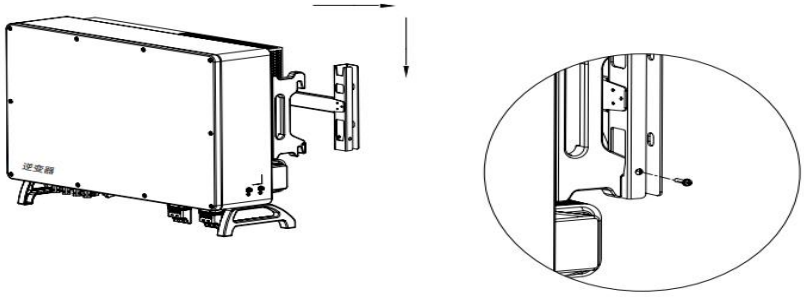


Figure 4.4.1-3 Inverter

3. The inverter housing is grounded. The inverter housing is connected to the grounding bar through a PE line to achieve the purpose of grounding protection. Please remember to connect the PE line first and then the other lines.

! Danger: Do not connect the N wire as a protective ground wire to the bushing on the inverter, otherwise it may cause electric shock.

! Reliable grounding is beneficial for resisting surge voltage impacts and enhancing electromagnetic interference performance. The inverter must be well grounded. For a system with only one inverter, it is only necessary to ground the PE wire. For multi-inverter systems, all PE lines of the inverters should be connected to the same grounding copper

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

bar to ensure equipotential bonding.

Grounding terminal connection steps:

The grounding terminal of the casing is located at the lower right corner of the inverter. Use appropriate tools to fix the grounding terminal on the PE line and lock the grounding terminal on the grounding hole at the lower right corner of the inverter.

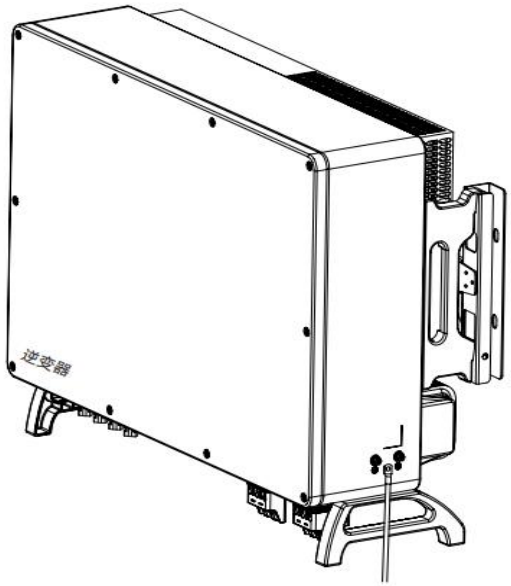


Figure 4.4.1-4 Grounding terminal connection

4.4.2.Cabinet Installation

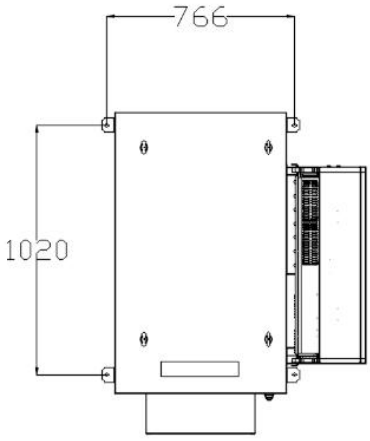


Figure 4.4.2-1 Schematic diagram of fixed hole size for cabinet installation

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

Installation Gap

- The distance between the cabinet and other buildings in front of the wall should be greater than or equal to 1300mm (for easy opening and maintenance).
- The distance between the cabinet and other buildings behind the wall should be greater than or equal to 500mm (for easy opening and maintenance).
- The distance between the side of the cabinet against the wall and other buildings is greater than or equal to 500mm (for easy installation).
- Arrange multiple cabinets with a distance of 50mm or more between them (for easy installation).
- Energy storage cabinets must be kept away from heat sources such as hot water systems, gas heaters, and boilers, with a recommended safety distance of at least 3 meters (10 feet). For high-power heat sources (e.g., large boilers), the distance should be further increased to prevent external high temperatures from triggering thermal runaway within the battery.
- When installed outdoors, energy storage cabinets must maintain a minimum clearance of 1 to 3 meters between the cabinet enclosure and the walls of residential or sensitive buildings, as specified by local fire safety regulations.

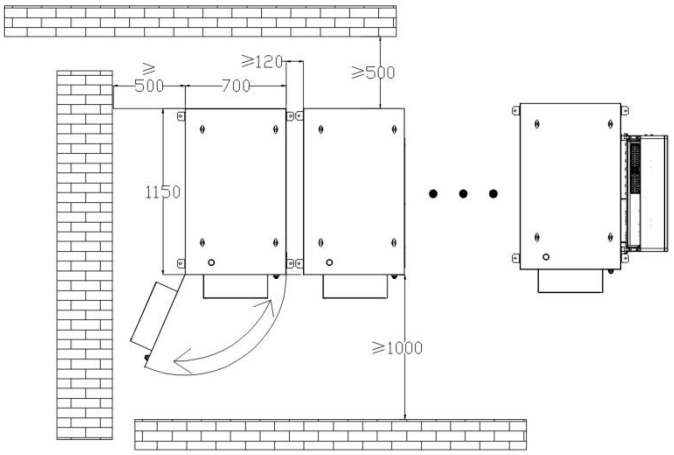


Figure 4.4.2-2 Schematic diagram of cabinet installation gap (unit: mm)

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

4.4.3.Installation Hole Position

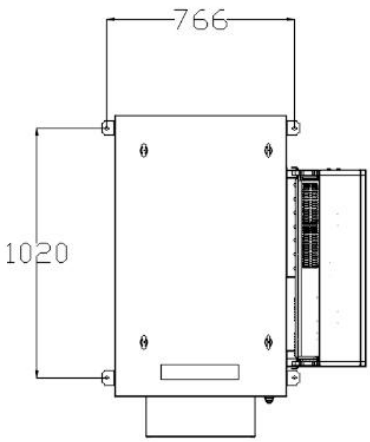


Figure 4.4.3-1 Schematic diagram of fixed hole size for cabinet installation

4.4.4.Foundation

- The lower part of the embedded parts is fixed on the hardened ground, and the upper part is connected to the fixed equipment with bolts.
- The threading steel pipe is divided into power inlet pipe and signal inlet pipe (reserved).
- During construction, it should be ensured that the bottom of the equipment is above the local historical highest water level.
- Equipment (including height, pre embedded parts, conduit, etc.) should be adjusted according to the process and on-site conditions.

If the wiring method of the trench is adopted, the trench requirements are:

- The equipment cabinet adopts a bottom entry method, and to prevent foreign objects from entering, there is no wire hole left on the side of the cabinet.
- The trench must have necessary dust-proof and rodent proof design to prevent foreign objects from entering.
- Necessary waterproof and moisture-proof design is required in the trench to prevent cable aging and short circuit.
- When designing trenches, it is necessary to fully consider the cross-sectional area and bending radius of cables.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

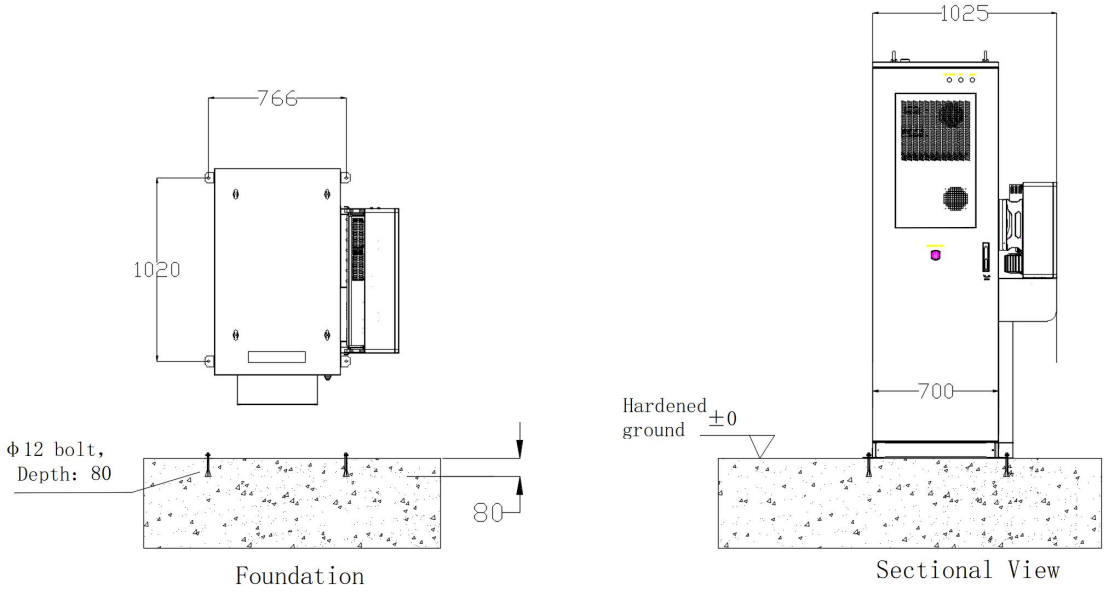


Figure 4.4.4-1 Schematic diagram of ground foundation dimensions and requirements

4.4.5. Fixing

Fixed steps:

- Confirm that the fixed holes on the installation plane are consistent with the bottom installation holes of the cabinet.
- Move the cabinet to the installation location.
- Move the cabinet to the installation location.
- Align the screw holes and fix the equipment on the channel steel or foundation with 4 M12 screws, with an installation torque of 300N. m.

4.5. Electrical Installation

Caution!

Precautions for Electrical Installation:

To ensure the safety of installation personnel, necessary safety protection measures must be taken during electrical installation of this product. The following regulations must be followed during electrical installation:

- Professional personnel are required to install the cabinet, strictly following the instructions in the user manual during the installation process!
- Installation personnel must comply with the relevant electrical operation regulations of the country or region where they are located!

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

- Installation while live is not allowed!
- Before installation, the external wiring of the cabinet must be disconnected to ensure that all components inside the cabinet are in a dead state!
- Warning signs must be left at the power-off location, and if necessary, locked with a lock to prevent being re powered on during installation!
- The voltage of the conductive part of the inverter is too high, which may cause electric shock to people. When installing the inverter, please ensure that the AC power supply and the power switch are normal, and the DC side of the inverter is completely disconnected.
- Do not connect the N line as a protective ground wire to the bushing on the inverter. Otherwise, it may cause electric shock.
- The positive and negative poles of the PV string are extremely ungrounded; otherwise, it will cause serious damage to the inverter.
- Static electricity may damage the electronic components of the inverter. Anti-static measures should be taken for maintenance during installation and the installation process.
- Do not use terminals of other brands or models other than those in the accessory packaging. We reserve the right to reject all damages caused by the mixed use of application terminals.
- Moisture and dust can damage the inverter. Please ensure the sealing of the cable joints. If the inverter is damaged due to poor connection of the cable connector, the warranty claim will be invalid.

4.5.1.Wiring Inspection

Before wiring operations, ensure that the following checks are completed:

- The cables used for wiring have met the corresponding requirements for wire diameter and shielding.
- Ensure good grounding of equipment and products.
- The conductor of the grounding system should be multi-stranded copper-core insulated wires or cables, and the marking color should be two colors of yellow and green, and the cross-sectional area of its copper core should not be less than 25mm^2 , and the grounding wire from the grounding terminal of the support body to the grounding trunk or the grounding conductor between the grounding wire should adopt the SC25-10 copper nose, and be connected by stainless steel bolts with stainless steel anti-loosening gaskets of no less than M10, Protection pipe should be installed in the parts susceptible to mechanical damage.
- The relevant accessories for wiring are ready.
- The cable needs to meet the voltage insulation level and have necessary protection to avoid scratching the insulation skin of the cable.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

After the wiring operation, ensure that the following checks are completed:

- Measure whether the voltage on the incoming side is within the specified range and confirm that there are no faults such as phase loss or short circuit.
- The power input terminal has been correctly connected and securely fastened.
- The grounding wire has been reliably grounded.

4.5.2.Wiring Instructions

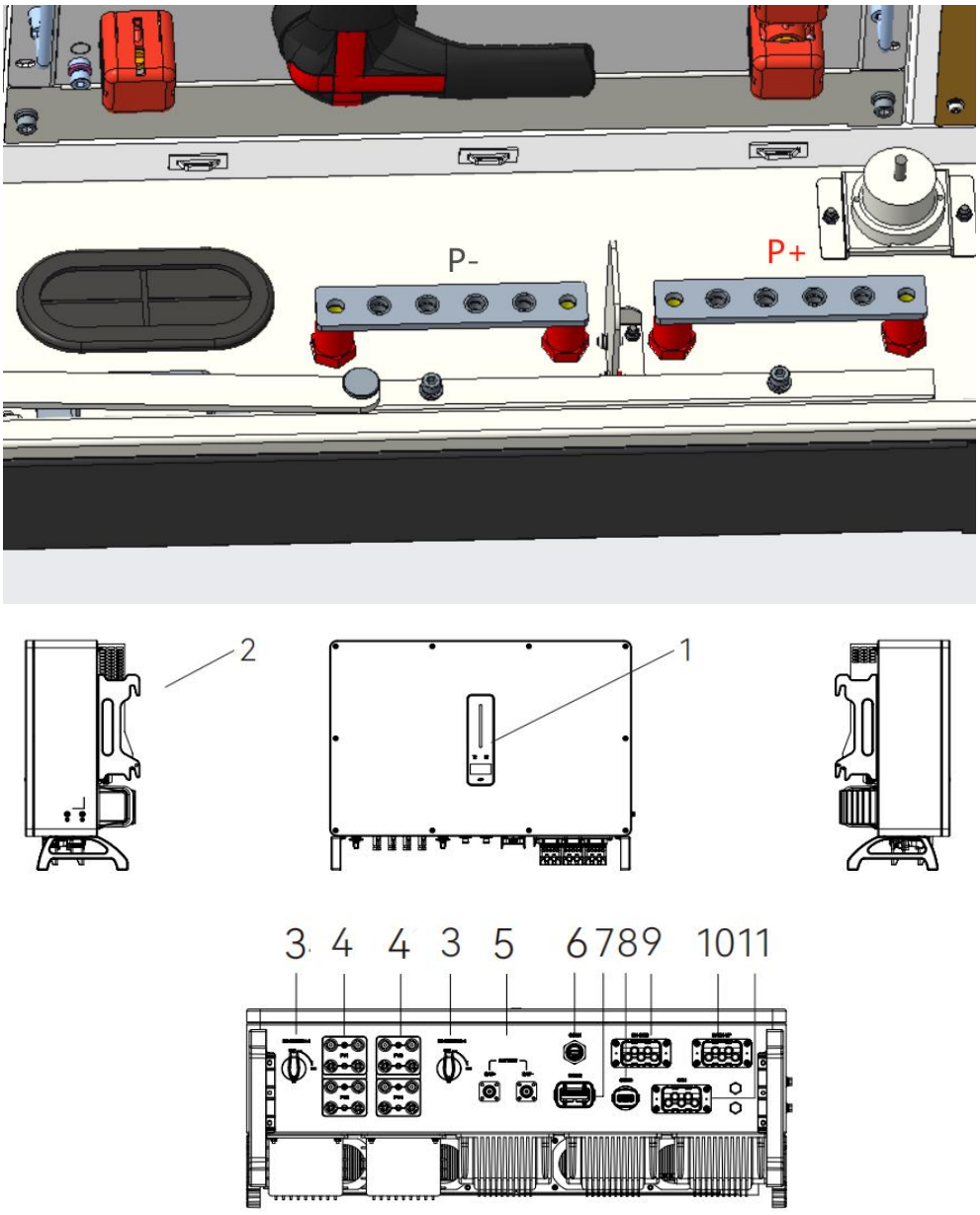


Figure 4.5.2-1 Inverter Interface Description

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

Wiring terminals are at the bottom of the inverter, as shown in the table below.

No.	Delimiting	Remark
P+	HV Box Positive Pole	It is used to connect the positive terminal of the inverter battery input terminal
P-	HV Box Negative Pole	It is used to connect the negative terminal of the inverter battery input terminal
1	Display and LED Panel	Display the operation information and working states of the inverter.
2	Hanger	Used to hang the inverter on the wall-mounting bracket.
3	DC Switch	Used to safely disconnect the DC circuit.
4	DC Input Terminal	PV connector (MHT-25~50K 8 pairs/ MHT-40~50K-P 6 pairs)
5	Battery Input Terminal	Battery connector
6	COM1 Port	WiFi/LAN/4G module connector
7	COM2 Port	Meter/BMS/RS485/DRED/DO Connector
8	COM3 Port	DO/0-10V AO/4-20mA AO Connector
9	On-grid Output Terminal	Used for On-grid output cable connection
10	Back-up Output Terminal	Used for Back-up output cable connection
11	Generator Input Terminal	Generator connector (This function is temporarily unavailable)

Table 4.5.2-2 Inverter Interface Description

Attention:

Use shielded twisted pair cables for communication lines.

4.5.3.Electrical Wiring diagram

This figure shows the wiring structure and composition of the 25-50K series energy storage inverters. In actual engineering, both installation and wiring must comply with local standards.

Smart electricity meters include ACR10R and SM. For specific wiring, please refer to Section 4.5.6. The following electricity meter wiring diagram is for reference only.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

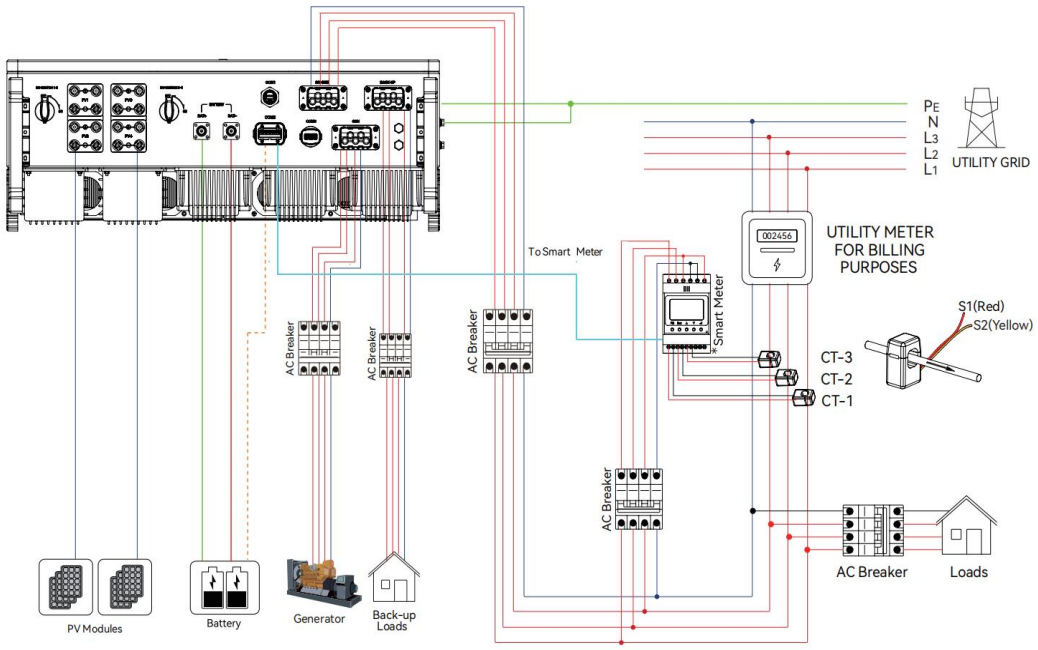


Figure 4.5.3-1 Circuit diagram

Wiring diagram of a single inverter

This picture is an example. There are no special requirements for the connection of electrical circuits. The N line of the AC power supply can be isolated or switched on.

Smart electricity meters include ACR10R and SM. For specific wiring, please refer to Section 4.5.6. The following electricity meter wiring diagram is for reference only.

12(L)*/13(N)* only applicable to ACR10R, 11(PE)* only applicable to SM.

The wiring between the battery cabinet and the DC side of the inverter should follow the diagram below:

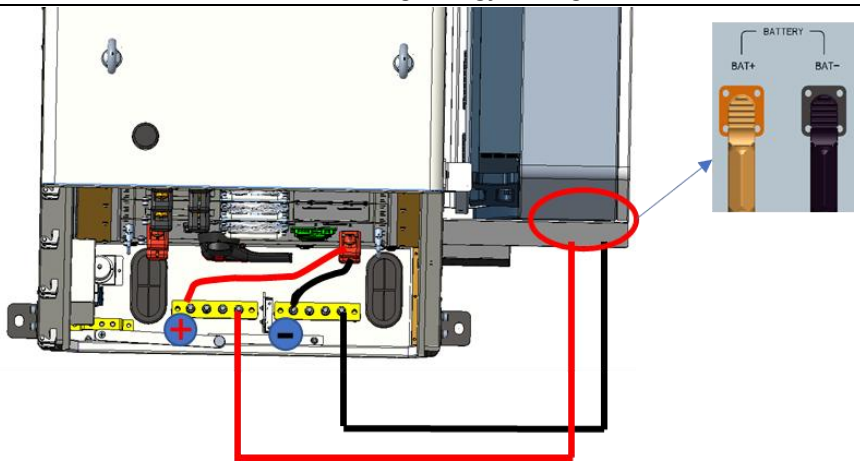
The DC side battery modules are connected using 25mm^2 power cables rated for DC1000V voltage.

Red indicates the DC positive power cable

Black indicates the DC-side negative power cable

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn



动力线接线图 power line wiring diagram

4.5.4.AC Connection

1. AC terminal requirements

- Both the grid-connected output side and the standby output side need to be connected to an independent AC circuit breaker. No load can be directly connected to the inverter.
- Before connecting the AC cable, please make sure that all DC and AC power sources have been disconnected from the device.
- The 25~50K series three-phase high-voltage energy storage inverter is suitable for three-phase power grids with a voltage of 230/400V and a frequency of 50/60Hz.
- Inverters must be approved by the local power company before being connected to the power grid.
- Three-phase AC circuit breakers need to be installed on the 25-50K AC side. To ensure that 25 to 50K can safely disconnect from the power grid in abnormal conditions, when choosing an overcurrent protection device, local distribution regulations and the maximum AC side input (output) current should be referred to.
- The allowable wire diameter and cross-sectional area of 25-50K AC cables are shown in the following figure:
- ! Reminder: Please check the overcurrent capacity of the AC circuit breaker. The actual situation shall prevail.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

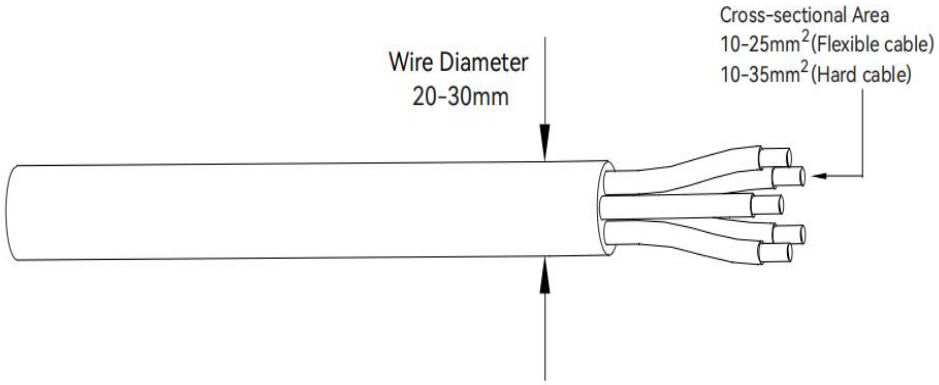


Figure 4.5.4-1

2. RCD

The residual current leakage protection device will immediately disconnect the inverter from the mains power supply once it detects that the fault current value exceeds the limit. However, if an external leakage current protection device (RCD) (recommended type A) must be configured, the switch must be triggered when the residual current exceeds the limit. Leakage current protection devices of other specifications can also be used in accordance with local standards. For example, in Australia, installers can use A 30 milliampere (Type A) leakage current protection device.

The suggested limits of leakage current values are as follows:

Model	Leakage current limit value
25kW-100A	300mA
30kW-100A	
36kW-100A	360mA
40kW-100A	400mA
40kW-100A-P	
50kW-100A	500mA
50kW-100A-P	

3. Install AC Terminal

- There is a high voltage risk in the inverter!
- Before making electrical connections, please ensure that all cables are not live.
- Please connect the AC circuit breaker only after all the electrical connections of the inverter are completed.
- The AC terminal block is located at the bottom of the inverter.

①Sealing accessories

The recommended outer diameters of the cables are 20 to 24mm and 24.5 to 30mm.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

If the outer diameter of the cable exceeds 24mm, please disassemble Part 1 in Figure 4.5.4-2.

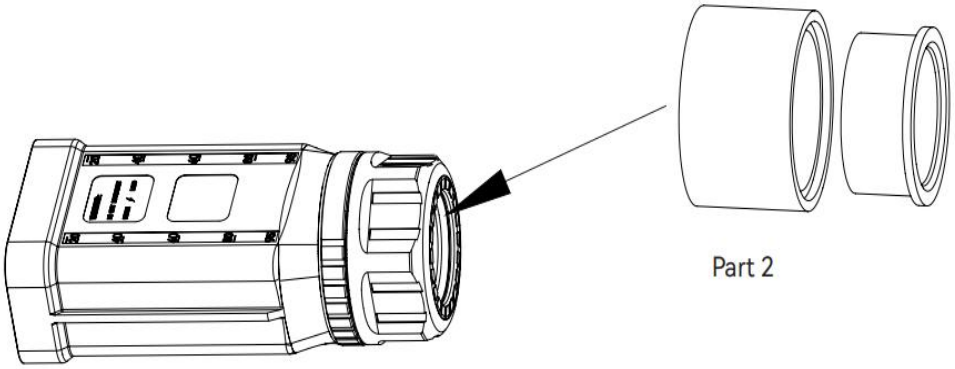


Figure 4.5.4-2

②According to Figure 4.5.4-1, select the appropriate cables. Strip 95-100mm of the insulating sleeve of the AC cable and 15mm of the end of the 3L /PE/N cable.

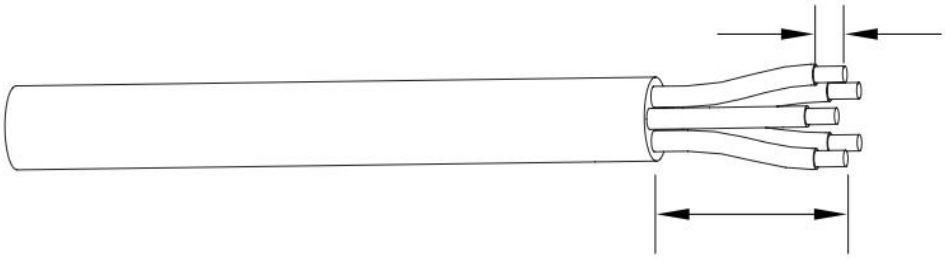


Figure 4.5.4-3

③Pass the stripped copper wire through the lock nut and the main body in sequence. (For multi-core and multi-strand copper wire cables, they need to be riveted to cold-pressed terminals.)。

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

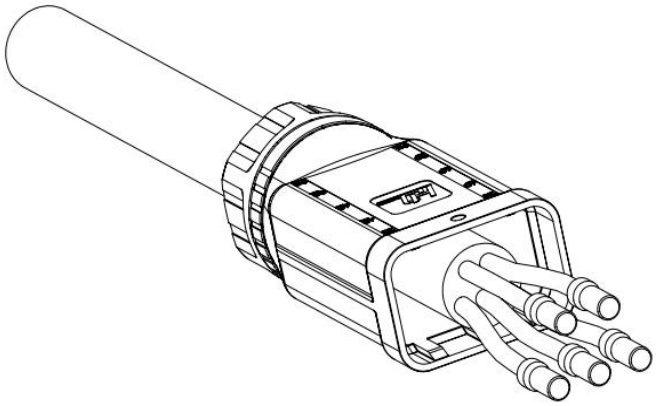


Figure 4.5.4-4

④Insert the cables into the rubber core in the order of the circuit. Observe the cables in place through the holes. The torque of the crimping screwdriver is 5±0.1N.m.
! Warning: Cold-pressed terminals must be locked tightly and ensure that they do not loosen after long-term use.

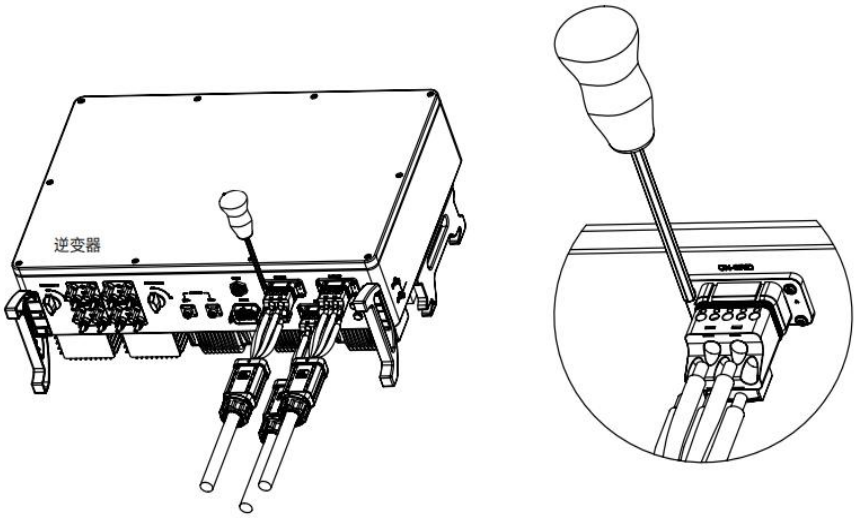


Figure 4.5.4-5A

⑤Insert the main body at the front of the cable terminal into the rubber core. When you hear a "click", then use a wrench (torque 10.0±0.1N·m) to tighten the nut to complete the installation.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

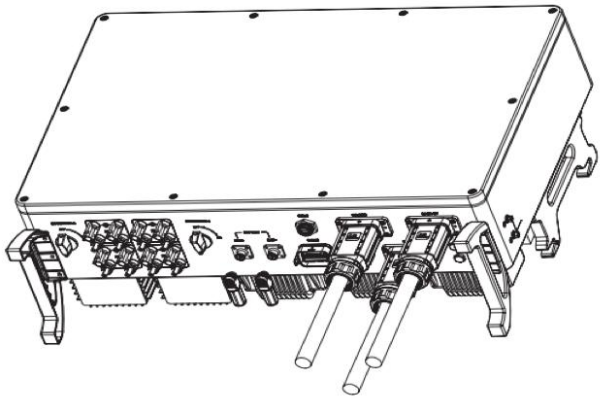


Figure 4.5.4-5B

4. Remove the AC terminal

① Hold the unlock latch with one hand and rotate it along the marked direction, while rotate the nut in the opposite direction with the other hand.

② Align the screwdriver with the unlocking position, hold down the main body and pull it backward to complete the disassembly.

! Note: Please distinguish between the On-grid side terminal and the Back-up side terminal. Do not confuse them.

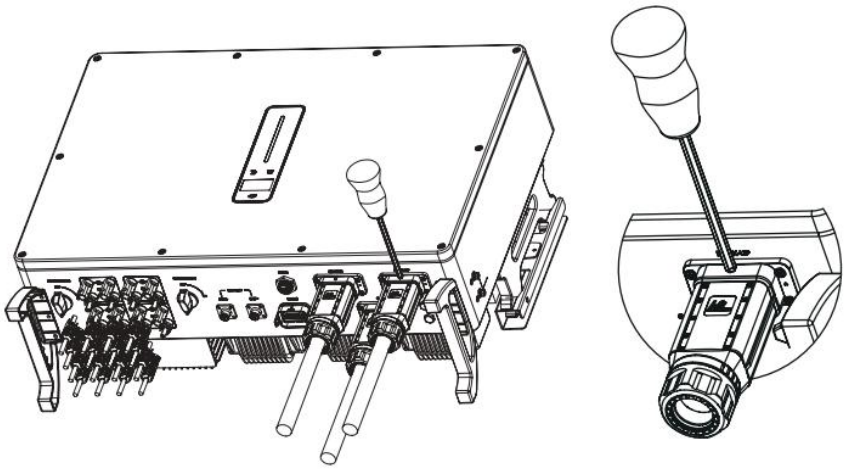


Figure 4.5.4-6

4.5.5.Install monitoring equipment

The 25~50K series hybrid inverters support WIFI, LAN and 4G communication. Insert the WIFI/LAN / 4G module into the COM1 port at the bottom of the inverter. A slight "click"

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

sound during the installation process indicates that the installation is in place.

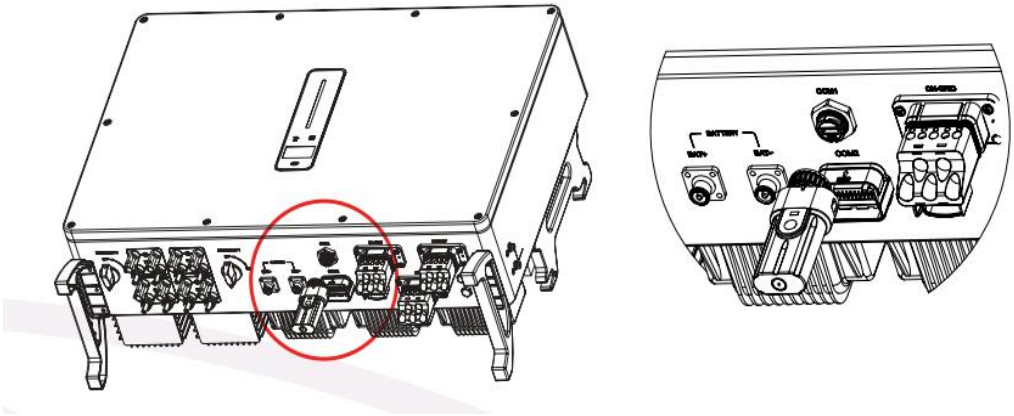


Figure 4.5.5-1 Install monitoring equipment

4.5.6.Connect Meter and CT

Current transformers, also known as CTS, are usually installed on the live wire between the house load and the power grid.

This instrument should be installed in an AC distribution cabinet or other places that are not easily accessible to children. The length of the CT cable is 2 meters and it is fixed and cannot be extended.

When you receive the electricity meter, the CT has already been connected to it. Just connect the CT according to the wiring diagram on the electricity meter.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

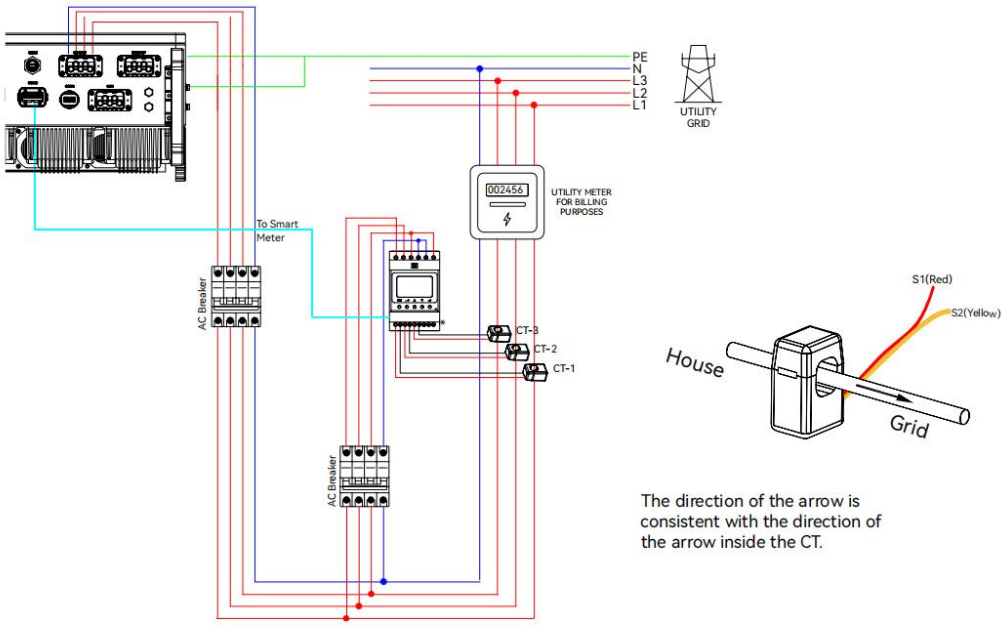


Figure 4.5.6-1

! Warning:

- **The installation direction of the CT should follow the arrow direction, from the load to the power grid. The installation direction of the CT should be strictly carried out in accordance with the instructions in the user manual; otherwise, it may cause the inverter to fail to work properly.**
- **The CT must correspond to the port in the electricity meter, and the connection between the CT and the electricity meter needs to be reliable; otherwise, it may cause damage to the CT and affect the measurement accuracy of the CT.**
- **Please select the appropriate CT size according to your needs.**

The terminals of the electricity meter are defined as shown in the following table:

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

No.	Definition		Function
	ACR10R	RMM	
1	L1		L1/L2/L3/N connect to grid to detect power grid voltage
2	L2		
3	L3		
4	N		
5	L1-S1		To detect the CT current and direction
6	L1-S2		
7	L2-S1		
8	L2-S2		
9	L3-S1		
10	L3-S2		
11	/	PE	Ground connection
12	L	/	Power supplied from grid
13	N	/	
RS485	/	Reserve	
	RS485	RS485-2	Communicate with hybrid inverter
ANT	/	Reserve	
LAN	/	Reserve	
Type-C	/	Type-C	Specified Debug Interface. Do not use it by non-professionals

4.5.7. Communication Connection

All communication ports are in the multi-functional communication ports at the bottom of the inverter, including the Meter port, CAN port, BMS port, EMS port, DRED port, DO port, 0-10V AO port, and 4-20mA AO port.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

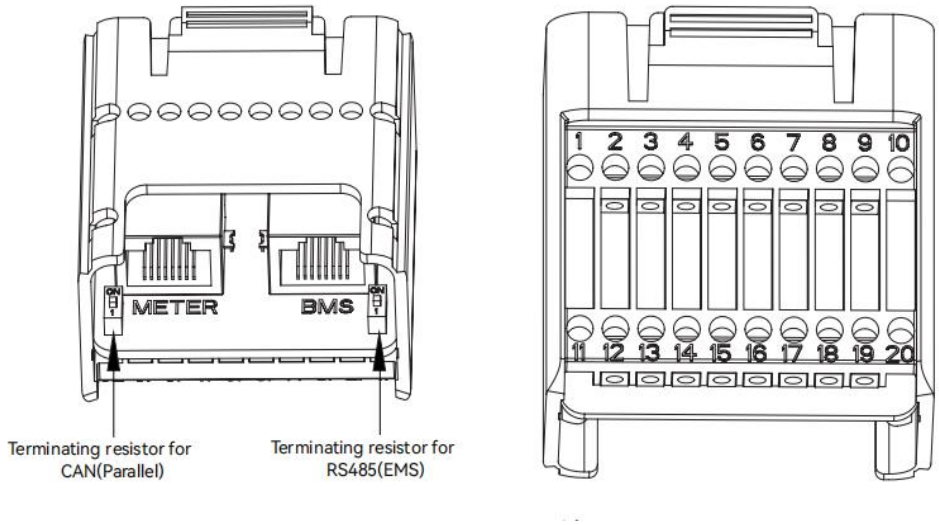


Figure 4.5.7-1 COM2 Terminal

Pin	Definition	Function
METER (RJ45-1)	RS 485	Communicate with Meter
BMS (RJ45-1)	CAN	Communicate with BMS
1	COM	DO-1 (Multifunction Relay)
2	NO (Normally Open)	
3	/	Reserved
4	/	Reserved
5	DRM4/8	DRED For Australia and New Zealand
6	DRM3/7	
7	DRM2/6	
8	DRM1/5	
15	COM D/0	
16	REF D/0	
11	Fast stop +	Fast stop
12	Fast stop -	
13	485 B1	EMS
14	485 A1	
17	CANL_P	CAN for parallel connection of inverters
18	CANH_P	
19	/	Reserved
20	/	Reserved

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

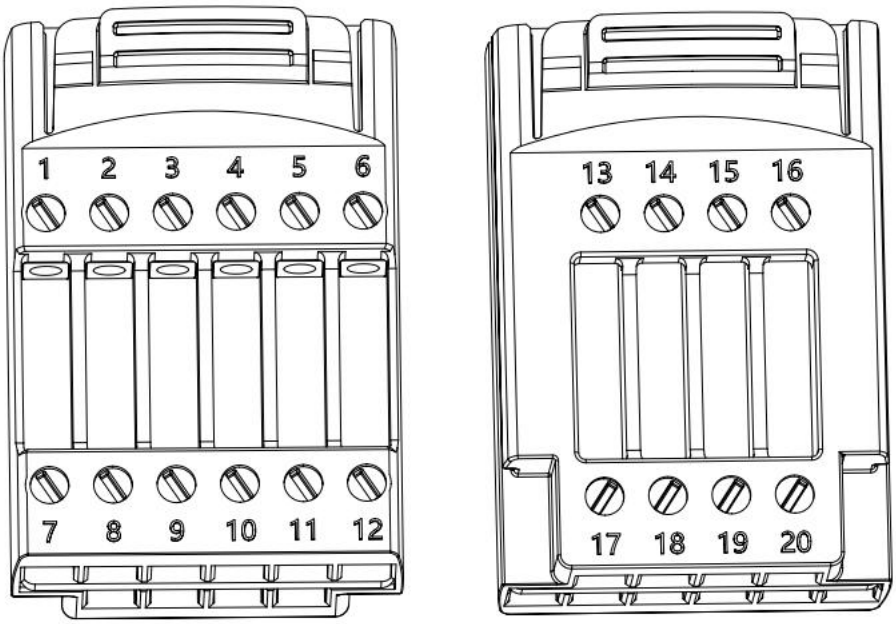


Figure 4.5.7-2 COM3 Terminal

Pin	Definition	Function
1-6	/	Reserved
7	COM	DO-2 (Multifunction Relay)
8	NO	
9-10	/	Reserved
11	COM	DO-3 (Multifunction Relay)
12	NC	
13-16	/	Reserved
17	4-20mA_OUT	4-20mA analog output
18	GND	
19	GND	0-10V analog output
20	0-10V_OUT	

➢ Assemble multi-functional terminals

① Unscrew the rotating nut from the multi-functional terminal.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

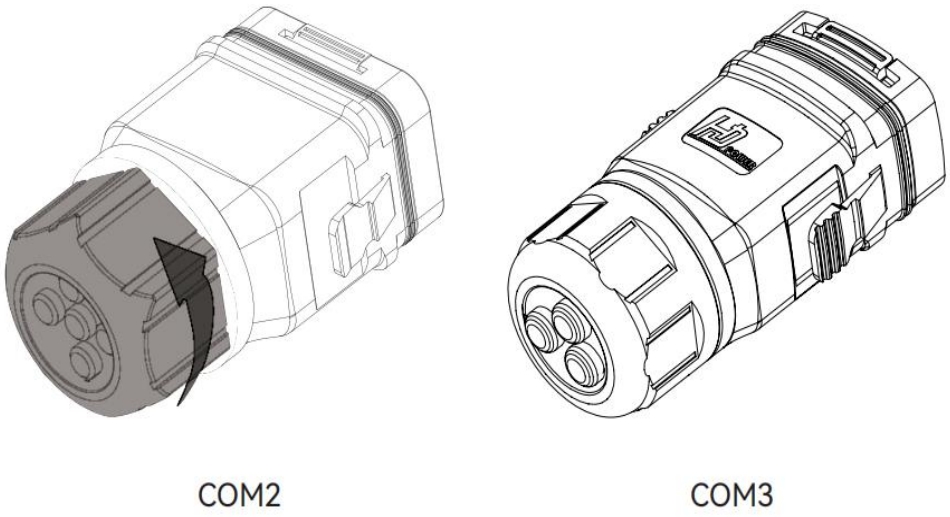


Figure 4.5.7-3

② Take out the terminal box.

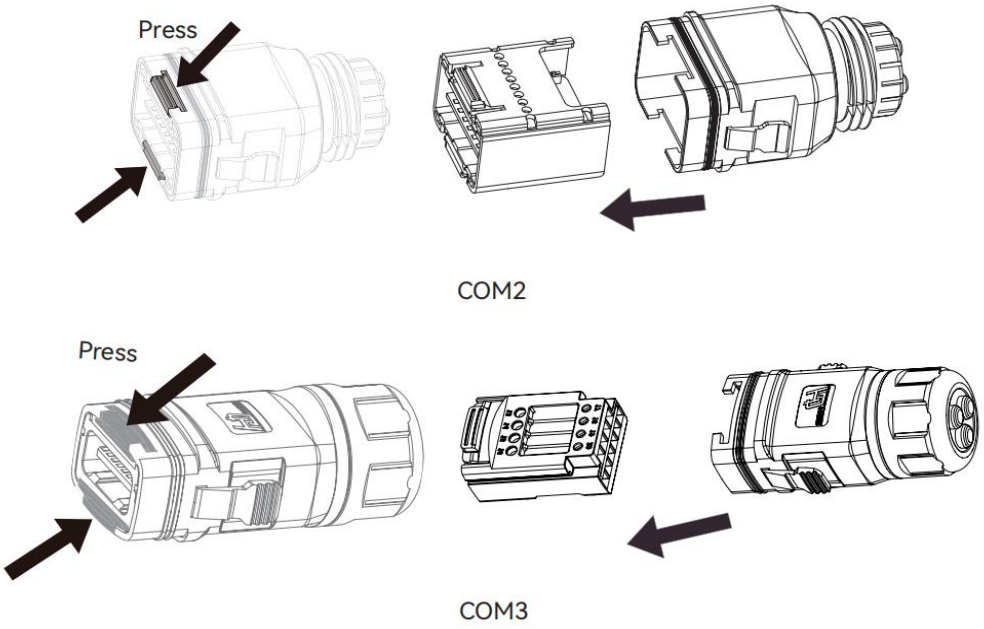


Figure 4.5.7-4

③ Remove the sealing rubber and pass the cable through the cable cover.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

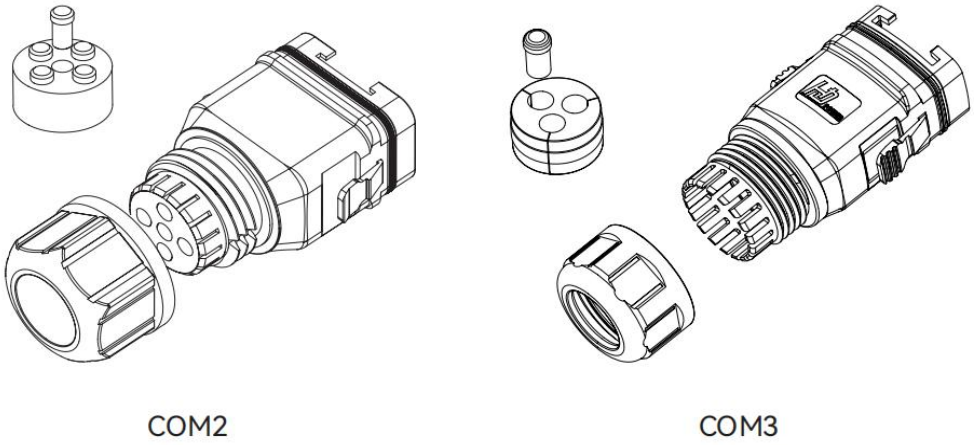


Figure 4.5.7-5

- Connect the communication cables of the electricity meter and BMS. The communication between the electricity meter /BMS and the inverter is an RJ45 interface cable.

① Pass an RJ45 plug of the appropriate length through the rotating nut and insert it into the open side of the rubber gasket.

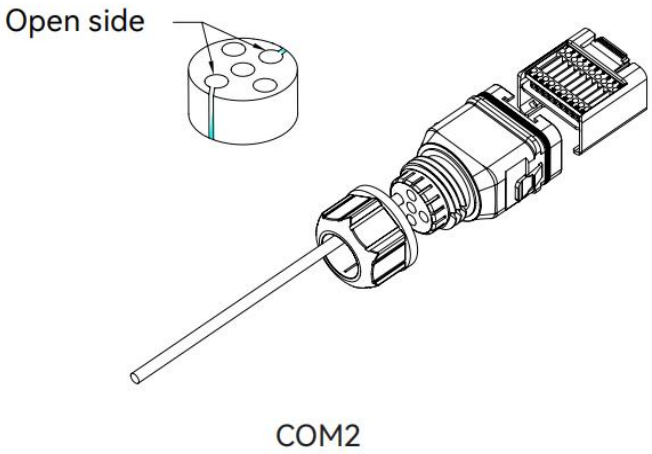


Figure 4.5.7-6

② Insert one end of the RJ45 plug into the RJ45 interface of the terminal socket.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

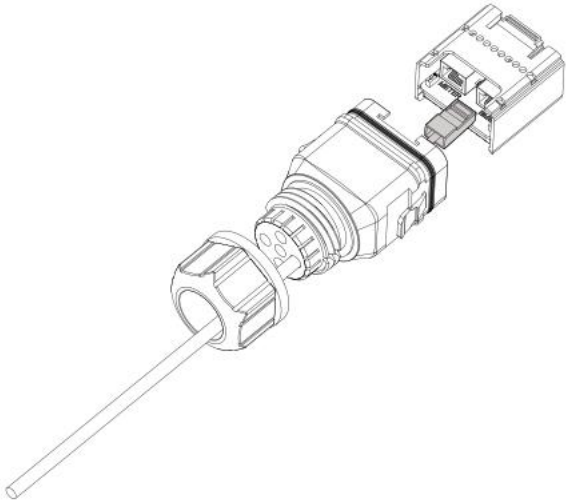


Figure 4.5.7-7

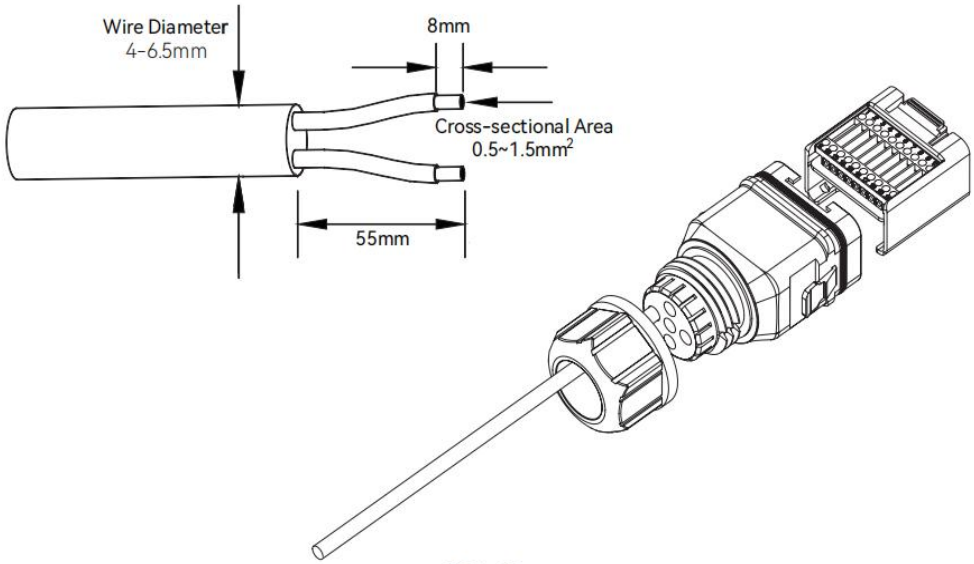
③ Insert the other end of the communication line into the RS485 interface or BMS CAN interface of the instrument.

➢ Connect other cables

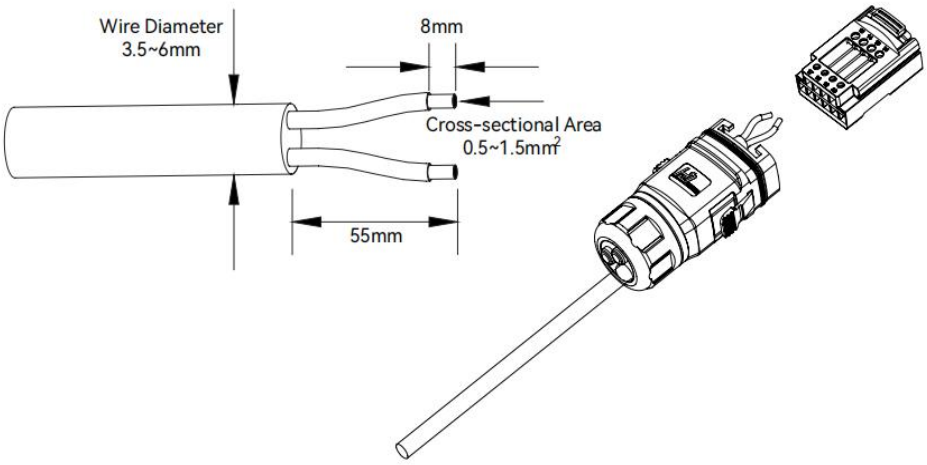
① Pass a cable of the appropriate length through the rotating nut and the housing. Remove the cable sheath and strip off the insulation of the wire.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn



COM2



COM3

Figure 4.5.7-8

② (Optional) When using multi-core and multi-strand copper wire cables, the wire ends should be connected to cold-pressed terminals (manually tightened). If it is a single-strand copper wire, please skip this step.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

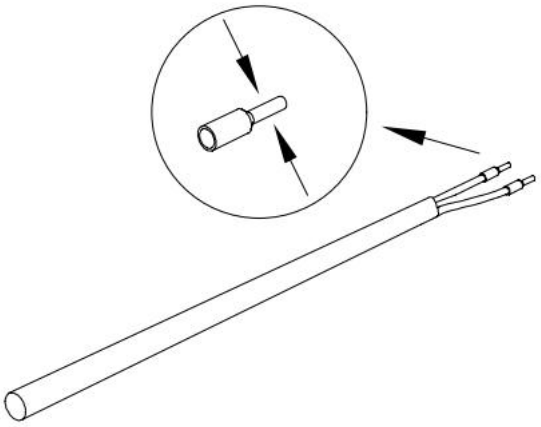


Figure 4.5.7-9

③ Fix all the cables on the terminal plugs according to the configuration diagram and tighten them with a screwdriver at a torque of 1.2+/-0.1N·m.

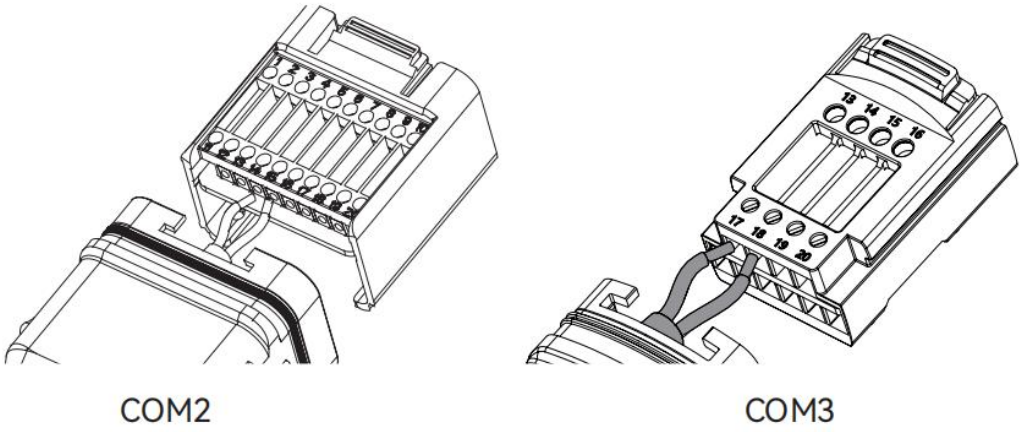


Figure 4.5.7-10

④ Pull the wire outward and check if it is installed firmly. Insert the terminal socket into the connector until a click is heard.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

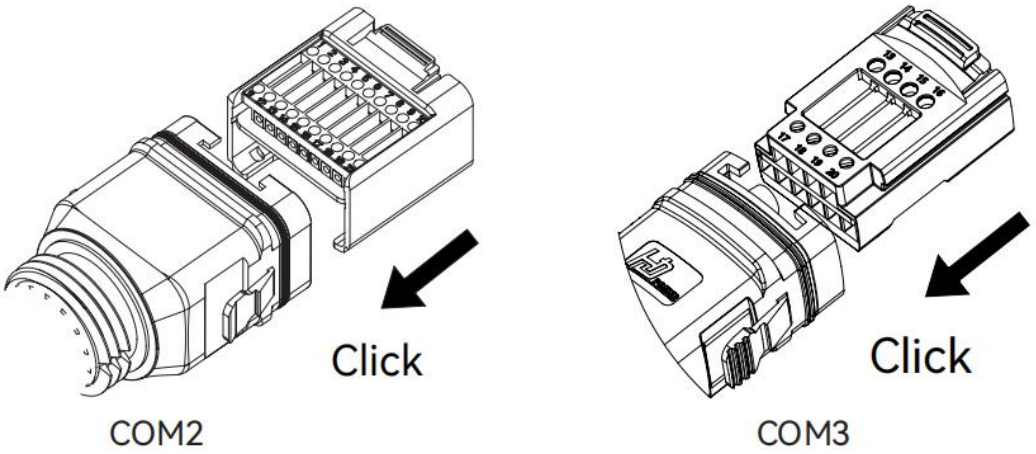


Figure 4.5.7-11

⑤ Tighten the rotating nut.

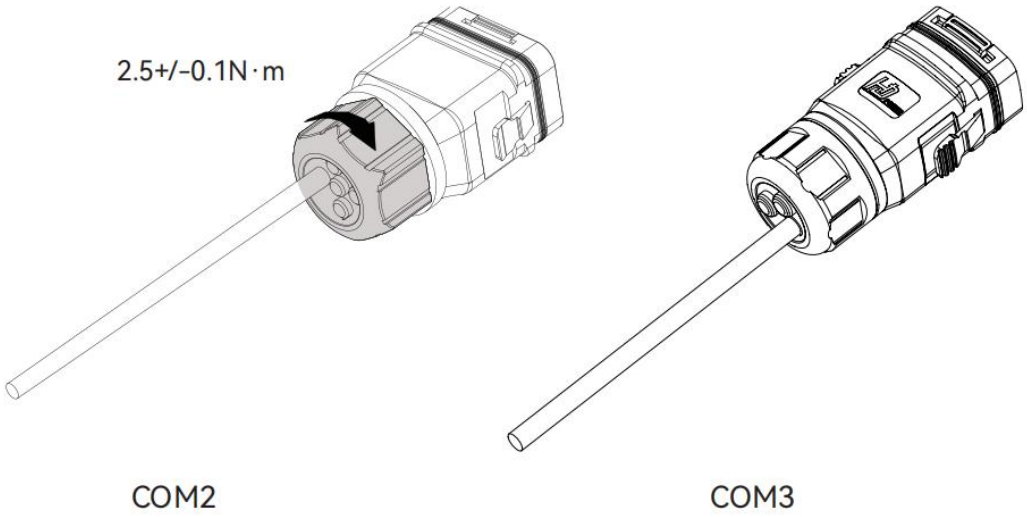


图 4.5.7-12

➢ Install the multi-functional COM interface

① Remove the waterproof cover of the COM terminal.

② Insert the COM connector into the COM terminal at the bottom of the inverter until you hear a "click".

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

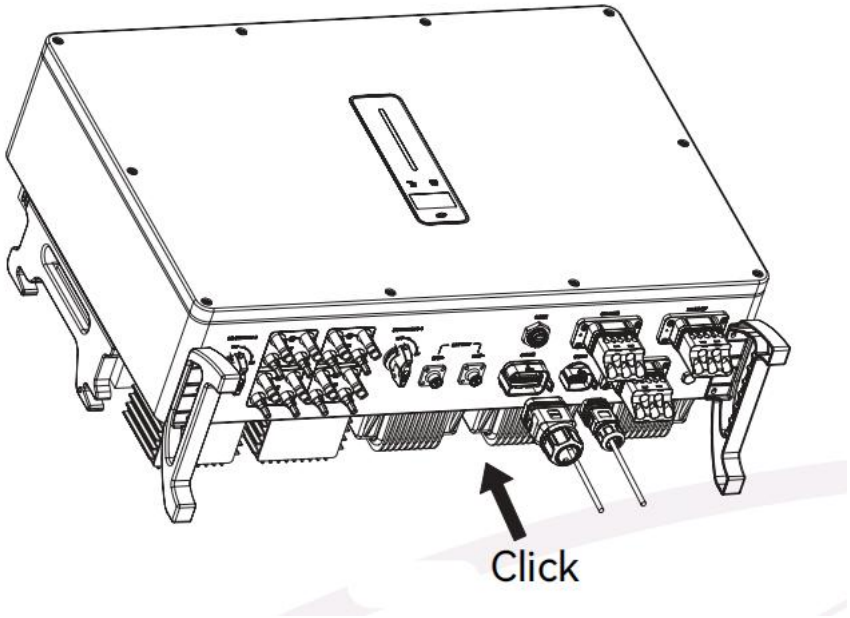
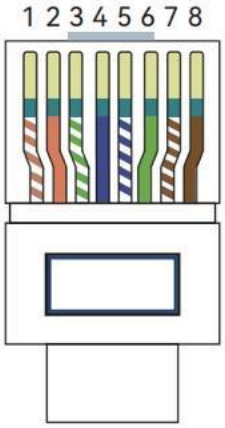


Figure 4.5.7-13

- Connect electricity meter with the BMS

The connection sequence and definition of the RJ45 terminals are as follows:



No.	Color	Meter Side	Battery end
1	Orange & White	/	RS485_A3
2	Orange	/	RS485_B3
3	Green & White	RS485_B2	/
4	Blue	/	CANH_B
5	Blue & White	/	CANL_B
6	Green	RS485_A2	/
7	Brown & White	RS485_B2	/
8	Brown	RS485_A2	/

Figure 4.5.7-14 RJ45 terminal connection sequence and definition

- EMS communication: When controlling the operation of the energy storage inverter through EMS, an EMS communication line needs to be connected. The communication mode between EMS and the inverter is RS485.
- DI ctrl. The inverter only supports one of the functions, DRM and Ripple Control, at the same time.

  ① DRM

  According to relevant safety regulations, the DRED (Demand Response Enabling Device) interface is reserved specifically for it. We do not provide DRED equipment to

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

customers. The inverter supports the "demand response modes" stipulated in the standard AS/NZS 4777. The inverter integrates a terminal block for connecting DRED.

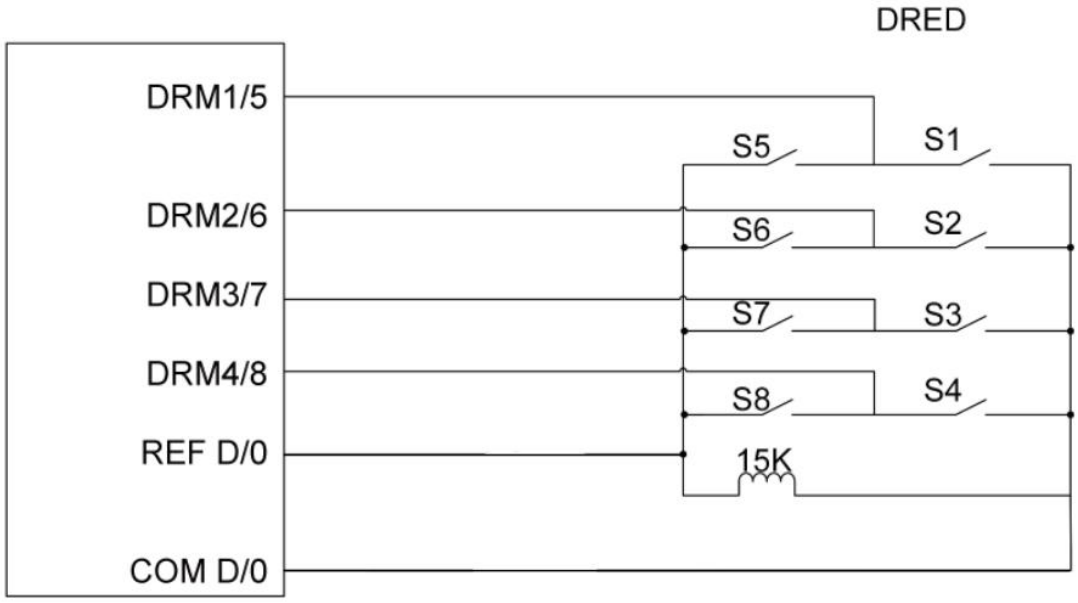


Figure 4.5.7-15

! Hint: There is a resistor between terminals 15 (COM D/0) and 16 (REF D/0). Do not disassemble this resistor when wiring.

DRED mode as shown in table below:

Mode	Function
DRM 0	Operate the disconnection device
DRM 1	Do not consume power
DRM 2	Do not consume at more than 50% of rated power
DRM 3	Do not consume at more than 75% of rated power and source reactive power if capable
DRM 4	Increase power consumption (subject to constraints from other active DRMs)
DRM 5	Do not generate power
DRM 6	Do not generate at more than 50% of rated power
DRM 7	Do not generate at more than 75% of rated power and sink reactive power if capable.
DRM 8	Increase power generation (subject to constraints from other active DRMs
Priority	DRM1 > DRM2 > DRM3 > DRM4
	DRM5 > DRM6 > DRM7 > DRM8

Figure 4.5.7-16

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

② RCR

According to the security regulations of the relevant regions, the RCR (Ripple Control Receiver) interface is reserved specifically for it, and we do not provide RCR devices to customers. In Germany and some European regions, Ripple Control Receive is used to convert power grid dispatching signals into dry contact signals. Dry contacts are used to receive power grid dispatching signals.

The RCR wiring diagram (energy storage inverter) is as follows:

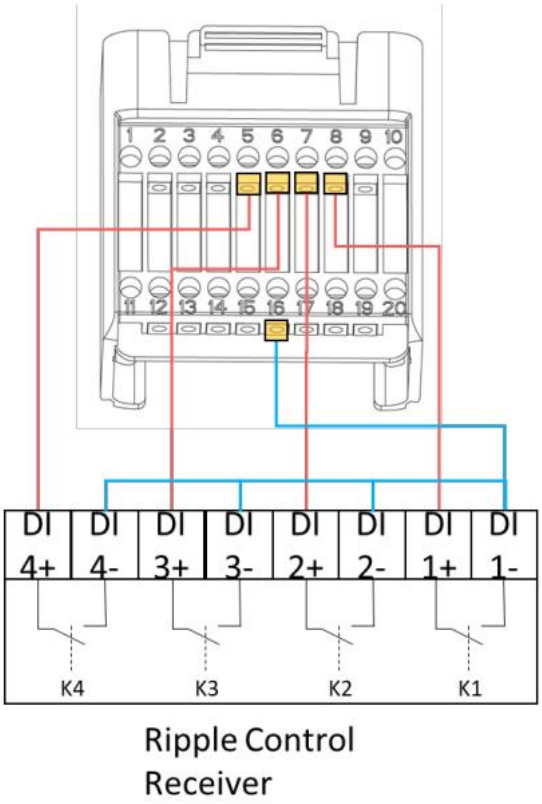


Figure 4.5.7-17

RCR operation mode as shown in table below:

Switch mode (External RCR device)	Feed-in output power (in % of the Rated AC output power)
K1 turn on	0%
K2 turn on	30%
K3 turn on	60%
K4 turn on	100%
RCR priority: K1>K2>K3>K4	

Figure 4.5.7-18

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

➢ Multifunctional relay

The inverter is equipped with a multi-functional dry contact relay. When connected to an external contactor, it can help turn on or off the load, or when connected to a diesel generator start signal, it can help start the diesel generator.

! Reminder:

Maximum voltage and current of DO dry contact :230VAC 1A/ 30VDC 1A.

The AC contactor should be connected between the inverter and the load.

DO not connect the load directly to the DO port.

The contactor is not provided by the manufacturer. Connect the load to the DO port if the load is designed with DI.

For the port, directly use the DO port of the inverter.

When the controlled load is connected to the ON-GRID side, the contactor coil must also be connected to the ON-GRID side.

When the controlled load is connected to the BACK-UP side, the contactor coil must also be connected to the BACK-UP side.

Load Control:

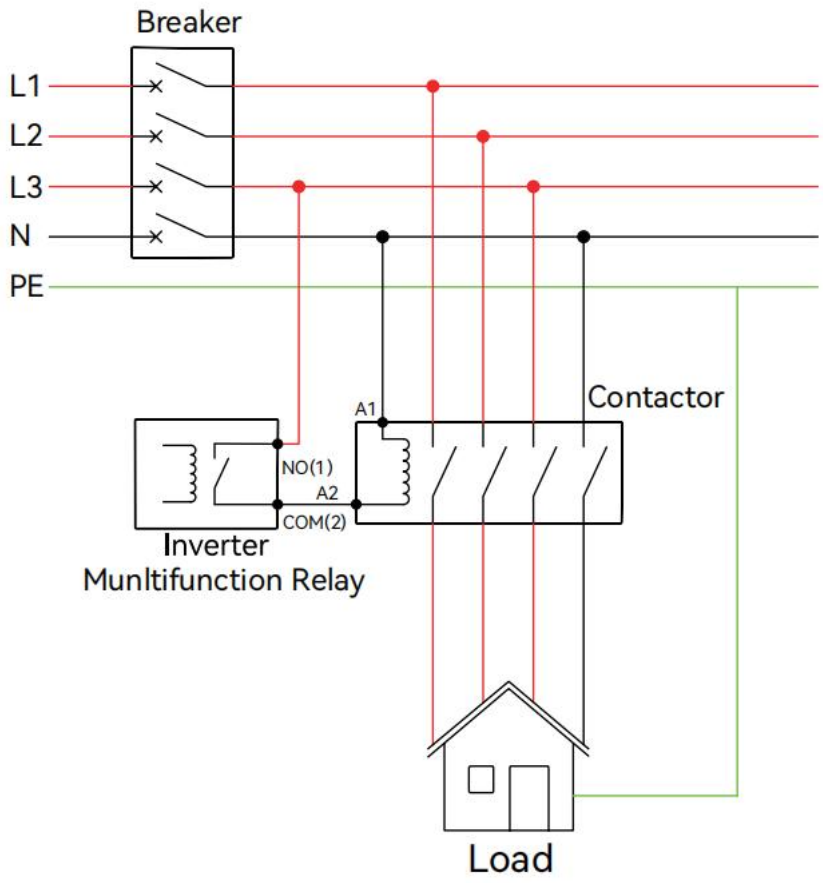


Figure 4.5.7-19 Load control wiring diagram

➢ Generator control

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

When the "GEN signal" is activated, the open contact (GS) will open (with no voltage output).

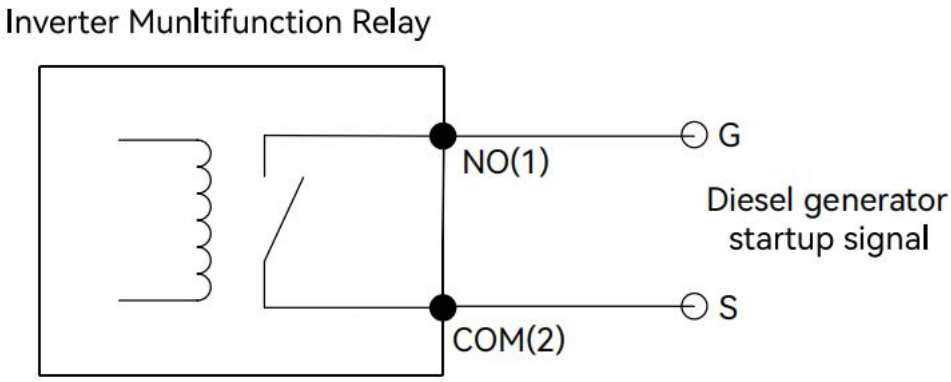


Figure 4.5.7-20 Generator control wiring diagram

4.5.8.PV String Connection

There may be high voltage in the inverter!
Before conducting electrical operations, please ensure that all cables are free of voltage.
Do not connect the DC switch and the AC circuit breaker until the electrical connection is completed.
For better power generation efficiency, please ensure that each MPPT is connected with photovoltaic modules of the same model and specification.
The maximum input voltage of PV is 850V. If it exceeds 850V, the inverter will enter standby mode.

- Requirements on the PV side

System diagram of the external DC switch.
① Local standards or regulations may require that photovoltaic systems be equipped with external DC switches on the DC side. The DC switch must be capable of safely disconnecting the open-circuit voltage of the photovoltaic array, plus a 20% safety margin. Install a DC switch on each PV string to achieve isolation on the DC side of the inverter.

- Select the appropriate PV cable.

Cable requirements		Cable stripping length
Outside diameter	Conductor core section	
5.9-8.8 mm	4 mm^2	7 mm

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

➢ Before assembling the PV connector, please confirm that the polarity of the cable is correct.

① Peel off 7mm of the insulation sheath of the DC cable.

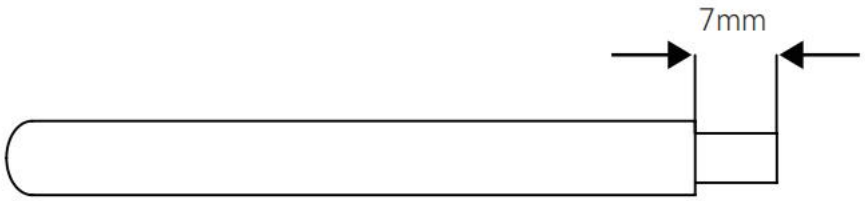


Figure4.5.8-1

② Remove the connector from the accessory bag.

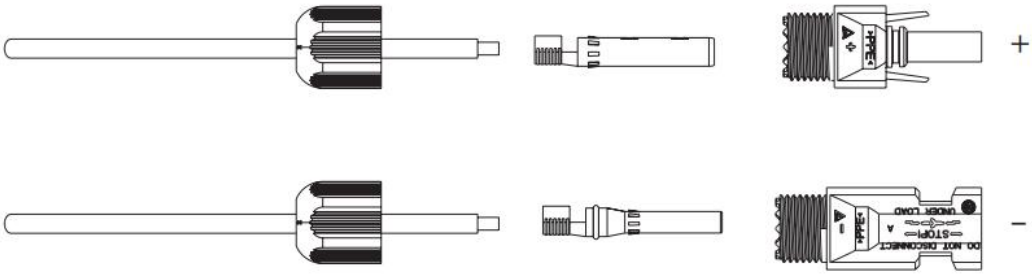


Figure 4.5.8-2

③ Insert the DC cable into the metal terminal through the DC connector nut, and press it with a professional crimping pliers (pull the cable with a certain force to check if the terminal is firmly connected to the cable).

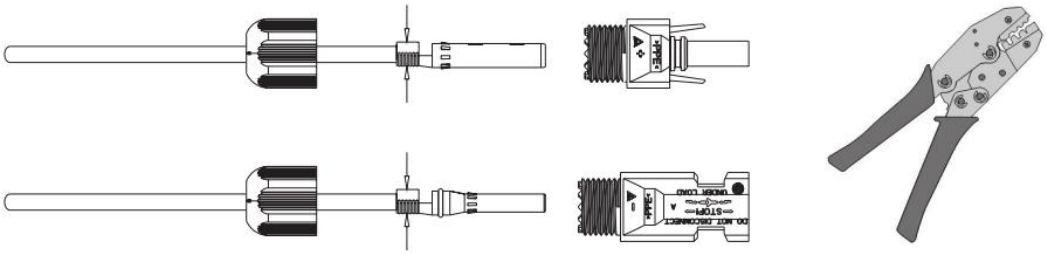


Figure 4.5.8-3

④ Insert the positive and negative cables into the corresponding positive and negative connectors respectively. Pull the DC cable with a certain force to ensure that the terminals are tightly inserted into the connectors.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

⑤ Use a wrench to tighten the nut to the end to ensure that the terminal is well sealed.

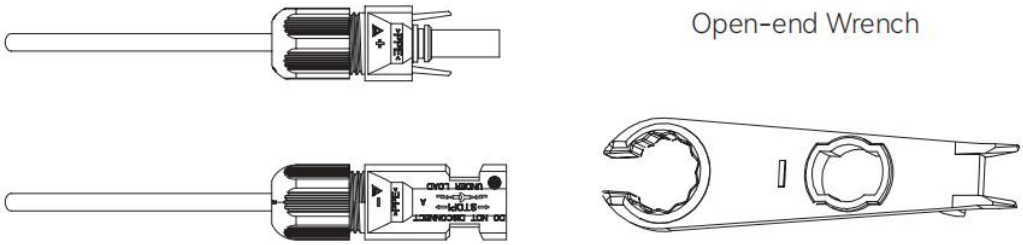


Figure 4.5.8-4

➢ Install the PV connector.

① Rotate the DC switch to the "OFF" position.

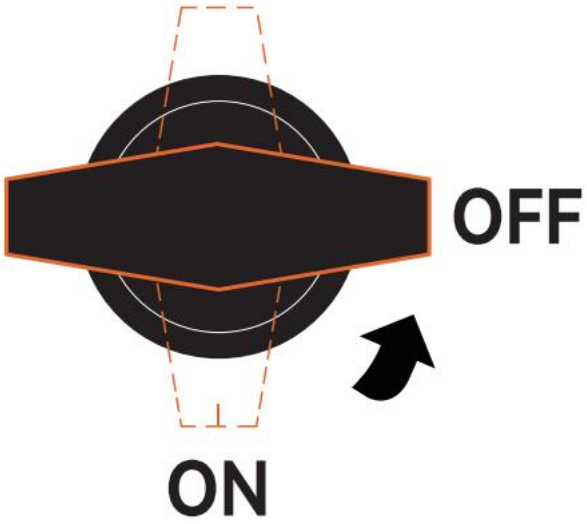


Figure 4.5.8-5

② Check the correct polarity of the PV string to ensure that its open-circuit voltage does not exceed the inverter input limit of 1000V under any circumstances. The maximum input voltage on the DC side is 850V. If it exceeds 850V, the inverter will enter standby mode.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

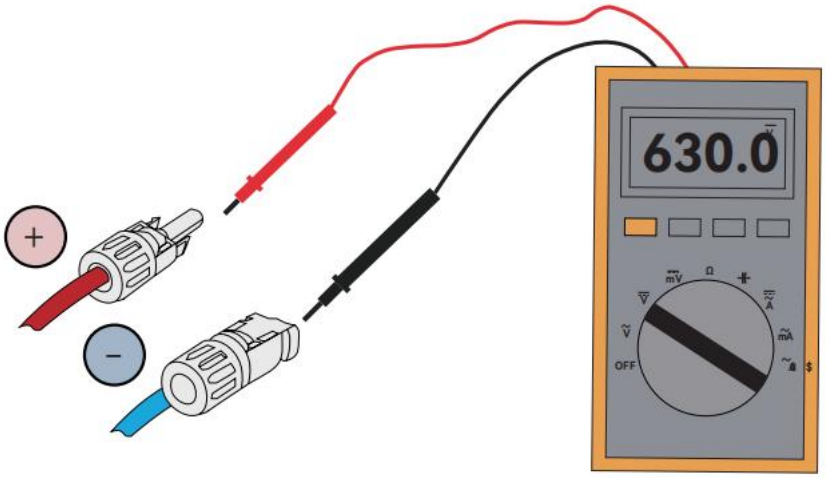


Figure 4.5.8-6

③ Insert the positive and negative connectors into the DC input terminals of the inverter respectively. A "click" sound indicates that the connection is complete.

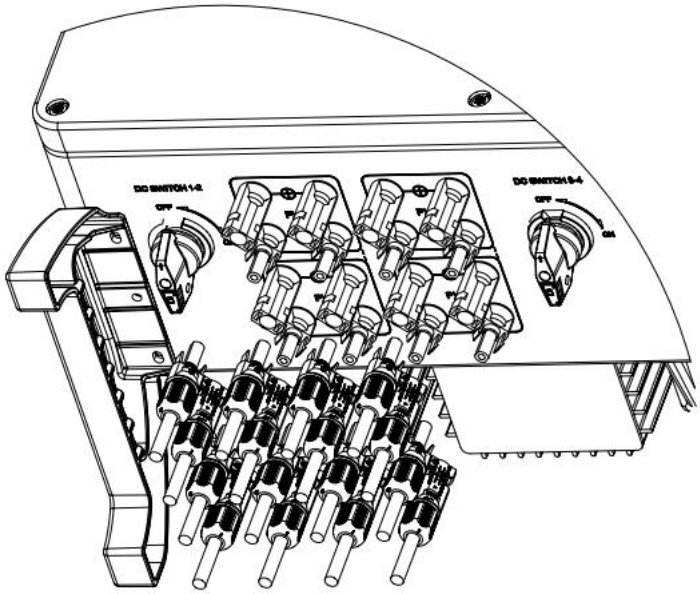


Figure 4.5.8-7

④ Seal the unused PV terminals with terminal caps.

4.5.9.Battery Cables Connection

The following principles must be considered when connecting the battery:

①Disconnect the AC circuit breaker on the power grid side.

②Disconnect the circuit breaker on the battery side.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

③Set the inverter DC switch to the "OFF" position.

④Ensure that the maximum input voltage of the battery is within the limit range of the inverter.

➢ Select the appropriate DC cable.

Cable requirements		Cable stripping length
Outside diameter	Conductor core section	
9.8±0.2 mm	25 mm^2	20 mm

Figure 4.5.9-1

①Remove the cables that come with the cabinet, and insert the positive and negative connectors into the corresponding inverter battery terminals respectively. A "click" sound indicates that the assembly is in place.

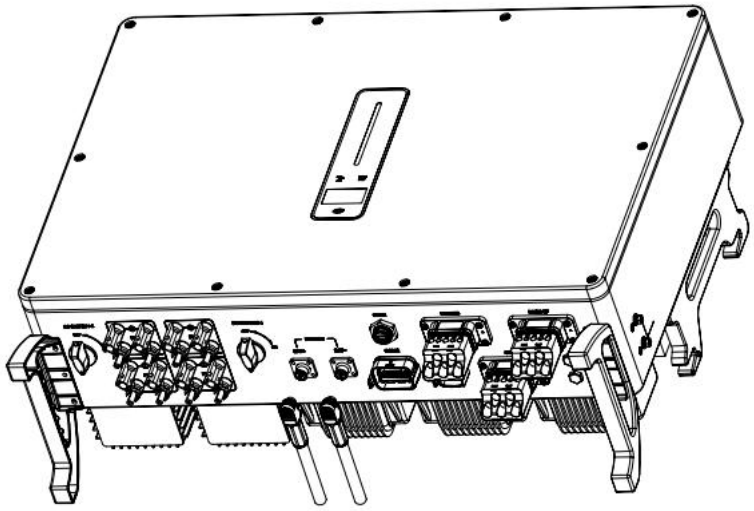


Figure 4.5.9-2

②When unplugging the plug, press the switch button first and then unplug the plug.

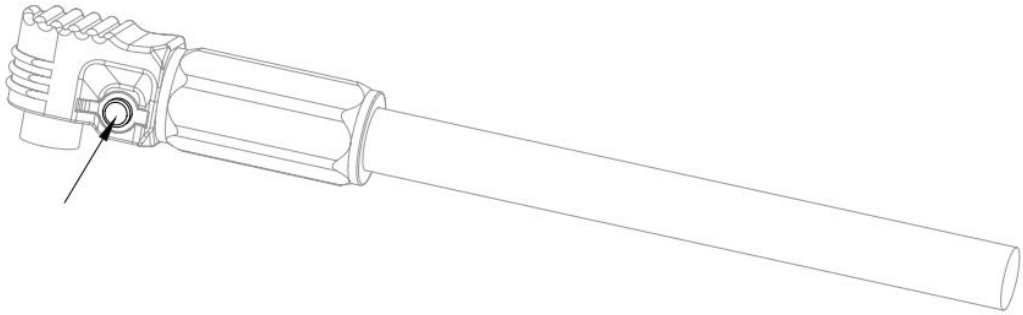


Figure 4.5.9-3

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

5. Debugging and Operation

5.1. Inspection

Before starting up and running, the following items need to be checked:

NO.	Check items before startup and operation
1	Check whether there is condensation phenomenon (water film or water droplets on the surface) in various parts of the cabinet. If there is, the cabinet must be opened for ventilation until the phenomenon disappears.
2	Check if there are any foreign objects blocking the ventilation openings and cooling fans of the cabinet. If there are any foreign objects blocking the air vent, they must be cleaned up.
3	The terminal on the side connected to the power grid must be correctly connected and firmly secured to ensure that the voltage is within the specified range and there are no faults such as short circuits.
4	The wiring of each control signal cable is correct.
5	There are no foreign objects at the connection points between the cabinet and various power circuits. (Wire heads, metal shavings, etc.)
6	The cabinet must be reliably grounded.

Table 5.1 Pre startup Inspection Checklist

5.2. Operating Instructions

5.2.1. Startup

After confirming the correctness of the pre-boot check, perform the boot operation in sequence:

1) Confirm that the cable has been connected as required;
2) Close the high-voltage control box - disconnector Q01;
3) Close the power circuit breaker Q02 of the air conditioner inside the cabinet;
4) The RUN light (green) on the high-voltage control box is always on;
5) Power on completed.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

5.2.2.Inverter Monitoring Setting

- Inspection and Manufacturing
- Inspection list:
  ① CAN connection between the battery and the inverter.
  ② Ground wire connection between the inverter and the battery.
  ③ Insert the communication module.
  ④ Multi-functional interface insertion.
  ⑤ Wiring and power supply of smart electricity meters.
- Setting Priority：
  ① The fuse at the AC terminal is closed (if any).
  ② The AC circuit breaker is closed.
  ③ The DC switch of the battery is closed.
  ④ Battery power button.
  ⑤ Turn on the photovoltaic DC switch of the inverter.
- If everything is ready, please scan the QR code below with your mobile phone to download the MetaEss APP.

V4.0.7-(3)

- After downloading the MetaEss APP, open the main interface of the APP (as shown in

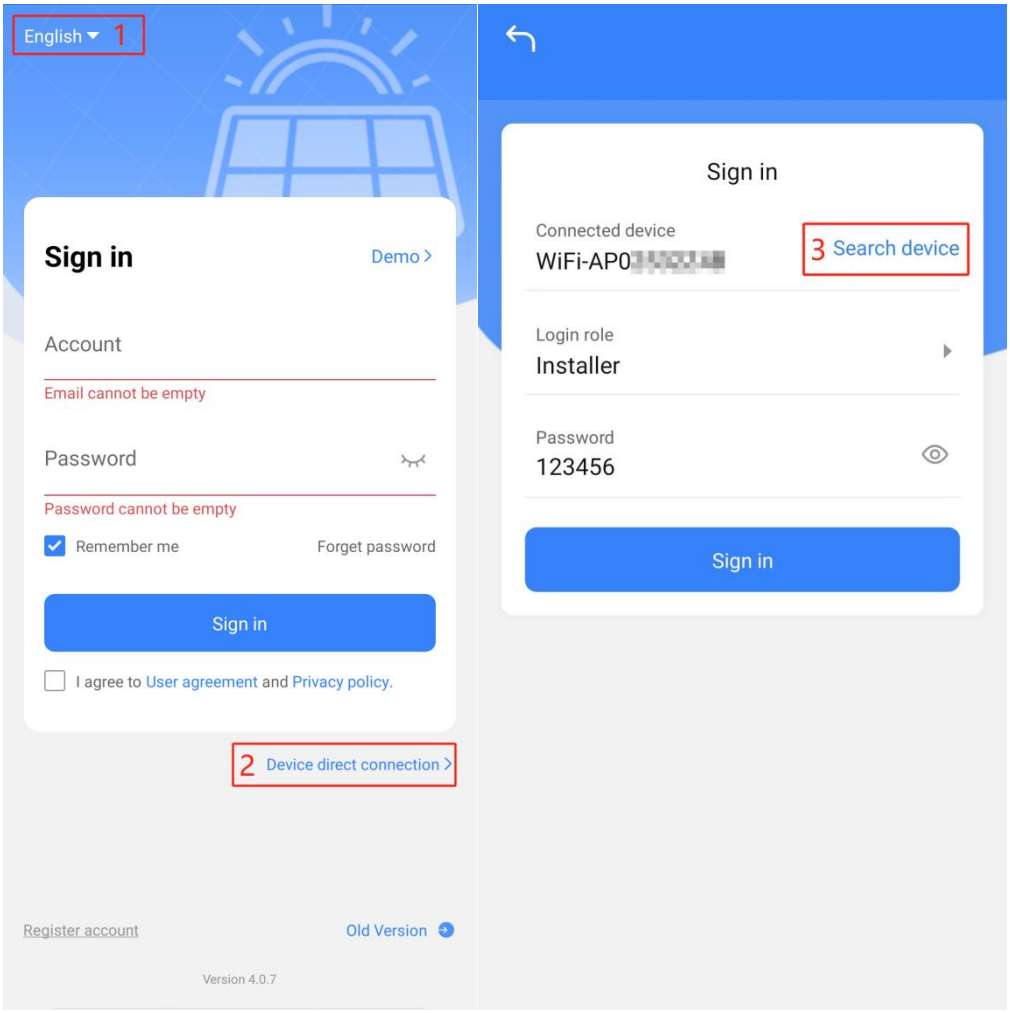
© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

the following figure).

① Select the corresponding language in the upper left corner.

② Click on Direct connection of the device.

③ Search for the device to connect to the inverter's WiFi. Use a mobile device to search for the inverter's WiFi. Search for a WIFI named Wifi-apxxxxxx, whose last few digits are the same as the inverter's SN code. Please ensure that the WiFi stick or the 2-in-1 module is connected to the inverter before operation. After connecting, return to the MetaEss APP and click on Device Direct Connection. Log in using the installer role (default password: 123456).



➢ Quick configuration and WiFi (as shown in the following figure).

① Complete the inverter parameter Settings according to the quick configuration steps.

② Connect the inverter to the customer's WiFi (please disconnect the mobile data when connecting).

➢ Create power stations and accounts.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

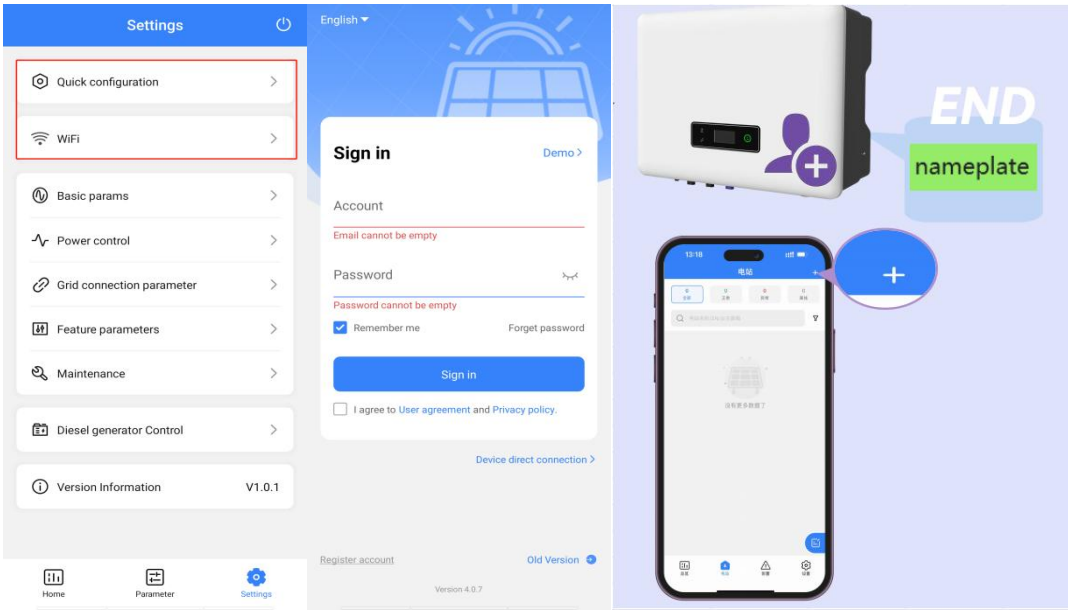
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

① Log in to your organization account (please obtain the account from your superior organization).

② Create a power station using customer information (the customer account and password will be sent to the email address you filled in).

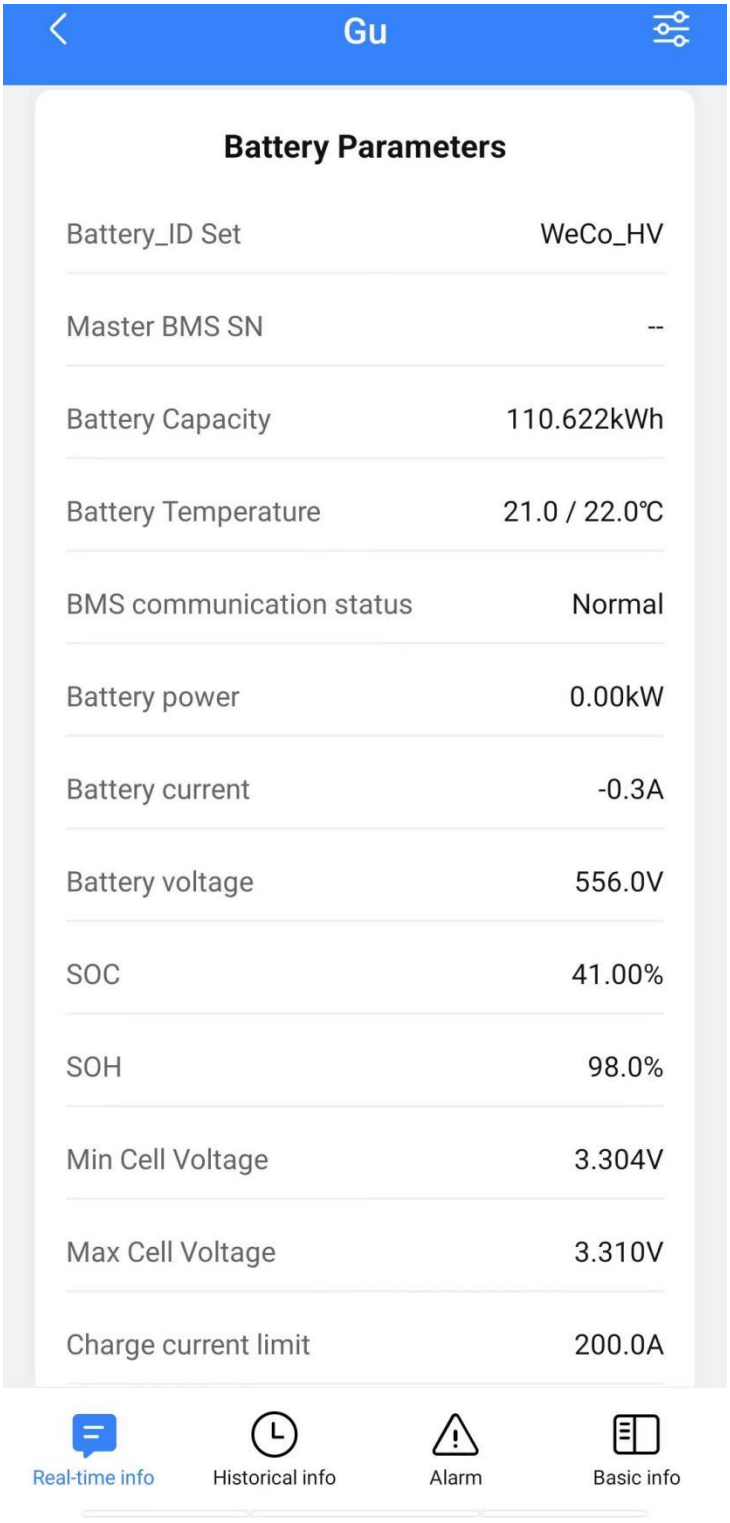
③ Add an inverter to this power station (the SN code and check code are indicated on the nameplate).

④ After successful configuration, launch the inverter monitoring app. Once the device is operational, you can track the battery system status through this app.



© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn



© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

5.2.3.Shutdown

After confirming that the shutdown is possible, perform the shutdown operation in sequence:

Confirm that the power output has stopped;

1) Disconnect the power circuit breaker Q02 of the air conditioner inside the cabinet;
2) Disconnect the high-voltage control box - isolation switch Q01;
3) Shutdown completed.

6. Fault Handling

Caution!

Please do not disassemble machine components during self-inspection.

6.1. Fault List

NO.	Fault name	Possible reasons	Fault handling
1	Overvoltage Fault of Battery Cell	1. BMS malfunction 2. Voltage collection point malfunction 3. Overcharging	1. Replace BMS 2. Check the voltage collection point 3. Stop charging
2	Undervoltage Fault of Battery Cell	1. BMS malfunction 2. Voltage collection point malfunction 3. Long term non-charging	1. Replace BMS 2. Check the voltage collection point 3. Charge in a timely manner
3	Battery Total Voltage Overvoltage Fault	Overcharging	Stop charging， Check the inverter
4	Battery Total Voltage Undervoltage Fault	Long term non charging	Charge in a timely ， Check the inverter manner
5	High Temperature Fault During Battery Charging	1. BMS malfunction 2. Temperature collection point malfunction 3. Air Conditioning	1. Replace BMS 2. Check the Temperature collection point 3. Check the air conditioner wiring

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

		Abnormal	harness and restart the air conditioner
6	Low Temperature Fault During Battery Charging	1. BMS malfunction 2. Temperature collection point malfunction 3. Air Conditioning Abnormal	1. Replace BMS 2. Check the Temperature collection point 3. Check the air conditioner wiring harness and restart the air conditioner
7	High Temperature Fault During Battery Discharge	1. BMS malfunction 2. Temperature collection point malfunction 3. Air Conditioning Abnormal	1. Replace BMS 2. Check the Temperature collection point 3. Check the air conditioner wiring harness and restart the air conditioner
8	Low Temperature Fault During Battery Discharge	1. BMS malfunction 2. Temperature collection point malfunction 3. Air Conditioning Abnormal	1. Replace BMS 2. Check the Temperature collection point 3. Check the air conditioner wiring harness and restart the air conditioner
9	Battery Charging Overcurrent Fault	Charging current exceeds the maximum current of the battery	Reduce charging power
10	Battery Discharge Overcurrent Fault	Discharge current exceeds the maximum current of the battery	Reduce discharge power
11	Low Insulation Fault	1. Not grounded 2. Rainwater or liquids entering the equipment	1. Check if the grounding circuit is installed correctly 2. Check if the equipment is wet
12	SOC Low Alarm	Low battery level	Charging processing
13	Air Conditioner Communication Failure	BMS and air conditioner communication line disconnected	Check the communication line between BMS and air conditioner

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

14	Fire Trigger	The temperature sensor and smoke sensor are triggered simultaneously, and the fire extinguishing device is activated	Contact the manufacturer
15	BMS Communication Failure	1. BMS malfunction 2. BMS communication line disconnected	1. Replace BMS 2. Check the BMS communication cable
16	Emergency Stop Triggered	Check the wiring of the emergency stop function	Check the energy storage cabinet and restore it manually after no faults are found

Table 6.1-1 Fault List

7. Daily Maintenance and Upkeep

Due to the influence of temperature, humidity, dust, and vibration in the environment, the components inside the energy storage cabinet may age, which may cause potential failures or reduce the service life of the cabinet. Therefore, it is necessary to carry out daily and regular maintenance work on the energy storage cabinet.

Caution!

- Personnel with professional qualifications are required to maintain the energy storage cabinet.
- The cabinet is equipped with strong electricity, and necessary safety precautions must be taken before starting maintenance.
- Before maintenance, it is necessary to ensure that all power sources have been disconnected.
- During maintenance, it is necessary to strictly follow the correct operating procedures.
- There are energy storage capacitors inside the energy storage cabinet. After power off, it is necessary to wait for more than 20 minutes to confirm that the inverter is in a dead state before maintenance can be carried out.
- After the power is disconnected, a warning sign should be hung at the disconnection location to prevent someone from powering on during maintenance.
- To avoid accidental danger, maintenance personnel should wear insulation protective equipment during the maintenance process.

7.1. Daily Inspection Items

Daily inspection items should be implemented according to the following key points:

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

NO.	Daily inspection items	Remarks
1	Real time monitoring of the input, output voltage, current, and operating status of the energy storage cabinet is required, Assign personnel to observe at designated locations, and promptly carry out maintenance if any abnormal work or voltage/current is found.	
2	Is there any abnormal noise inside the energy storage cabinet.	
3	Is there any odor inside the energy storage cabinet.	
4	Observe the temperature within the normal range based on the internal temperature displayed on the screen.	
5	Check the exterior surface of the chassis for any damage, clean any dirty areas with water or alcohol, and touch up any damaged paint on the surface.	

Table 7.1-1 List of Daily Inspection Items

Attention: It is recommended to check once a week.

7.2. Regular Inspection Items

Regular inspections mainly target areas that are difficult to detect during daily inspections and operations：

NO.	Regular inspection items	Remarks
1	Check the appearance of the energy storage cabinet for any damage or rust.	
2	Use a temperature measuring instrument to check the internal temperature of the equipment without any abnormalities.	
3	Check that the ventilation, ambient temperature, humidity, dust, and other environmental conditions around the equipment meet the requirements.	
4	Check for any signs of aging or damage to the cable insulation layer. If any issues arise, additional insulation measures should be taken or the cable should be replaced.	
5	Check that there are no signs of aging or burning at the wiring bolts, and shake them by hand to confirm that they are tightened.	

Table 7.2-1 Regular Inspection Item List

© OLiPower Energy & Automation Technologies 2024 All rights reserved.
Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn

Attention: It is recommended to check every three months.

© OLiPower Energy & Automation Technologies 2024 All rights reserved.

Address: 10th Floor, Block A, Building 2, Shangzhi Science and Technology Park, No. 380 Guangming Avenue, Tangwei Community, Fenghuang Street, Guangming District, Shenzhen, China.
Tel: +86 (755) 2650 8686
E-mail: sales@olipower.cn