



Quick Installation Manual

Rechargeable Li-ion Battery system
EverCore-261kWh-125kW



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1. Product Introduction

This manual is applicable to the EverCore-261kWh-125kW-NV、EverCore-261kWh-75kW-LV integrated energy storage cabinet. Hereinafter referred to as "EverCore".

EverCore consists of a Solis hybrid inverter (HYI), a battery system, an energy management system (EMU), a fire suppression system (FSS), a thermal management system (TMS), and an auxiliary distribution system (PDU)



Figure 1- 1 Product Appearance

2. Site Requirements

2.1. Clearance Requirements

For single system installation, the site should meet requirement as below figure 2-1:

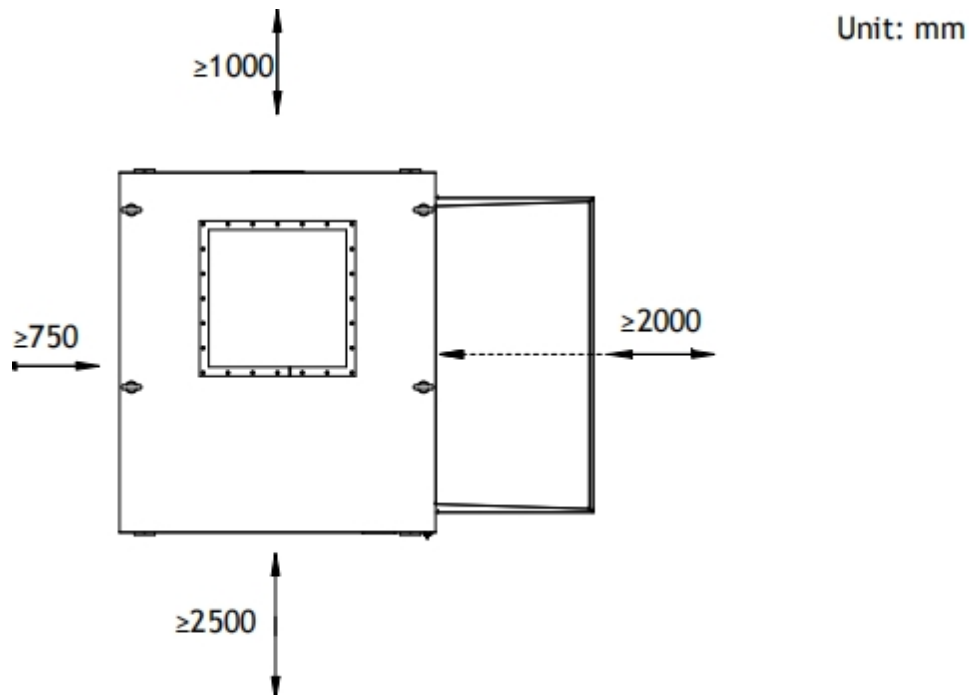


Figure 2- 1 Single system clearance

NOTICE

For single-cabinet installation: the front distance should be >2500 mm, the side distance ≥ 750 mm, For inverter-side installations, considering installation, maintenance, and heat dissipation, the minimum distance is >2000 mm.

For multiple system in one site, you can refer to the below figure 2-2

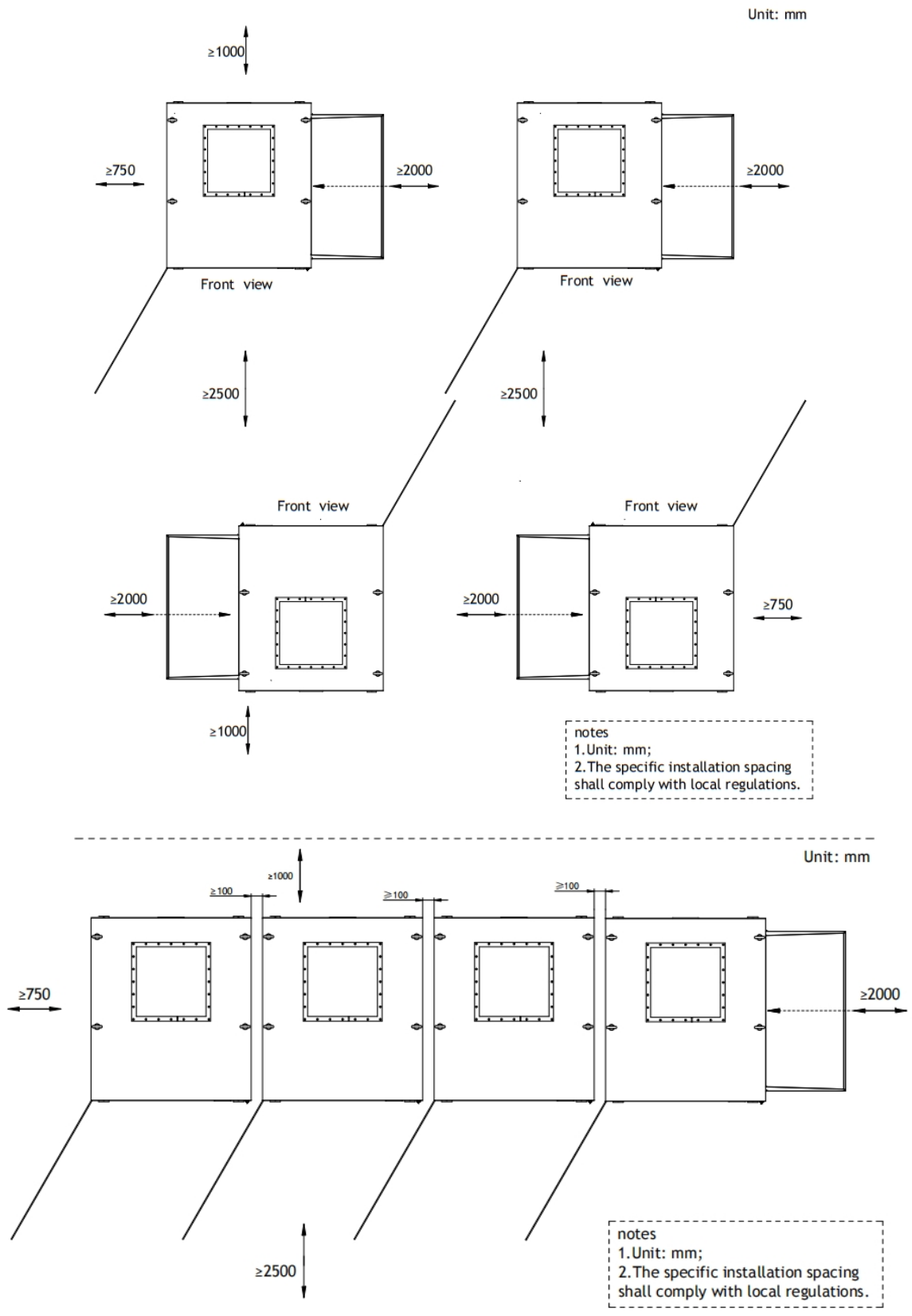


Figure 2- 2 Multiple system layout clearance requirement

1. The minimum distance between back-to-back units is 500mm.
2. The recommended distance when facing each other should be $\geq 2500\text{mm}$ (between air conditioners).
3. The minimum gap between the back of the cabinet and the wall is 1000mm.
4. The recommended minimum distance between the front of the cabinet and the wall is 2500mm (between the wall and the cabinet door).
5. The minimum distance between the cabinet rears is suggested to be 500mm.

⚠ CAUTION

The above minimum interval parameters are for reference only. The specific requirements and standards should be in accordance with those of the local fire department.

⚠ WARNING

It is essential to ensure the unobstructed flow of air through the intake and exhaust ports; otherwise, it will seriously affect the operation of the equipment.

2.1.1. Forklift Equipment Requirements

- 1) Recommended load capacity: $\geq 3.5\text{T}$;



Figure 2- 3 Forklift requirement

2) Vertical insertion: Recommended length of fork arm $\geq 1.7\text{m}$

Horizontal insertion: Recommended length of fork arm $\geq 1.5\text{m}$

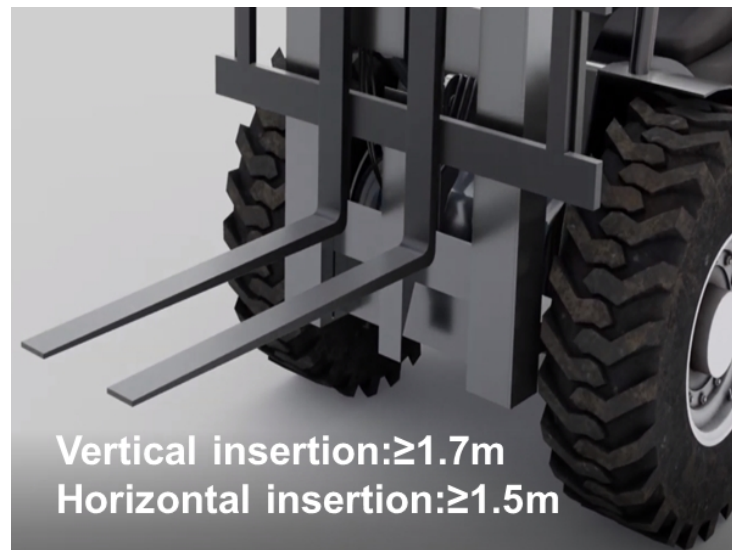


Figure 2-4 Forklift requirement

3) Vertical insertion: distance between the two fork arms (excluding the width of the fork arms) should $= 630\text{mm}$ (excluding the width of the fork arms)

Horizontal insertion: distance between the two fork arms (excluding the width of the fork arms) should $= 574.5\text{mm}$ (excluding the width of the fork arms)

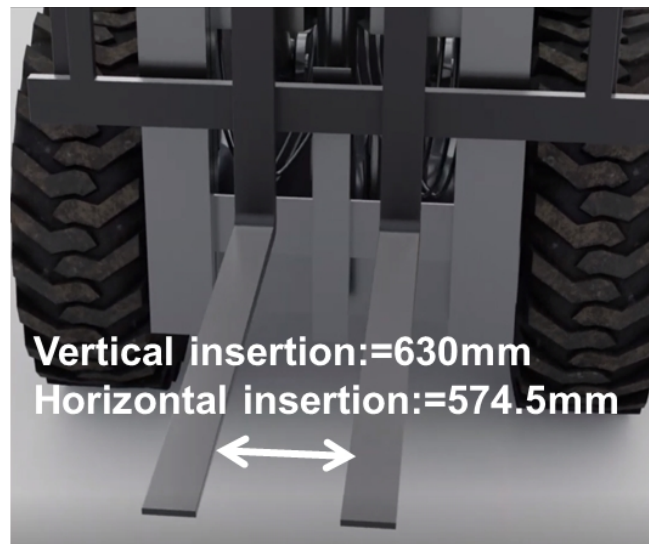


Figure 2-5 Forklift requirement

3. Unpacking and Accessory Inspection

3.1. Unpacking

Before unpacking the equipment, check the outer packing for damage, such as holes and cracks, and check the equipment model. If any damage is found or the equipment model is not what you requested, do not unpack the product and contact your dealer as soon as possible

3.1.1.Steps of Product Outer Packaging

The unpacking steps are as follows:

1. Remove the wrapping film outside the cardboard
2. Remove the top cover of the carton.
3. Remove the white clips from the cabinet.
4. Remove the cardboard enclosure frame.
5. Remove the honeycomb panels from the four sides and the top.
6. Remove the bottom honeycomb panel.
7. Take off the PE bag.

Unpacking is complete.

3.2. Accessory and cable Inspection

3.2.1. Inspection of Pre-installed Cables

EverCore has pre-installed important cables inside the cabinet, so that customers on site just need to install these cables another terminal to hybrid inverter, the storage position of the cables inside the cabinet is indicated by the arrows in the figure below.

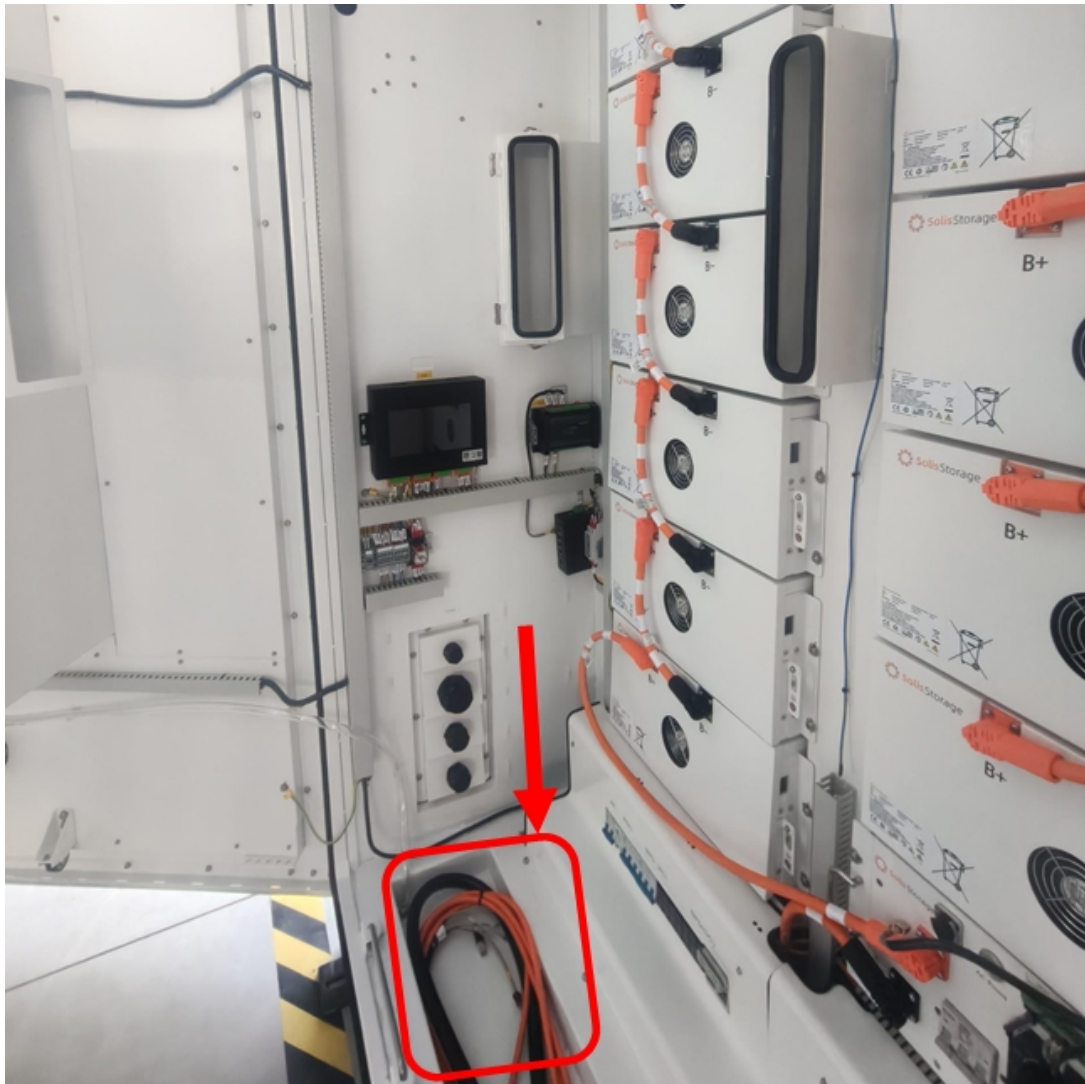


Figure 3- 1 Pre-installed cables inside cabinet

Table 3- 1 Pre-installed cables

Name	Figure	Amount	Usage
Battery DC cables		4 pcs (Each diameter is 35mm ²)	For inverter battery port connection, they should be connected to inverter battery port
Auxiliary power cable		1 pcs (5 core cable, each diameter is 16mm ²)	Used as auxiliary power cable, they should be connected to inverter backup port
Communication cable		CAN cable (1pcs)	For BMS communication, it should be connected to BMS1 port
		Ethernet cable(1pcs)	For inverter datalogger connection
		EPO Cable (2 pcs)	For EPO function with inverter, it should be connected to EPO terminal on inverter COM1 port

3.2.2. Inspection of Accessories Supplied with Cabinet

Check that the deliverable contents are intact and complete, and free from any damage. If any items listed in the Packing List is missing or damaged, contact your dealer or call SolisStorage service.

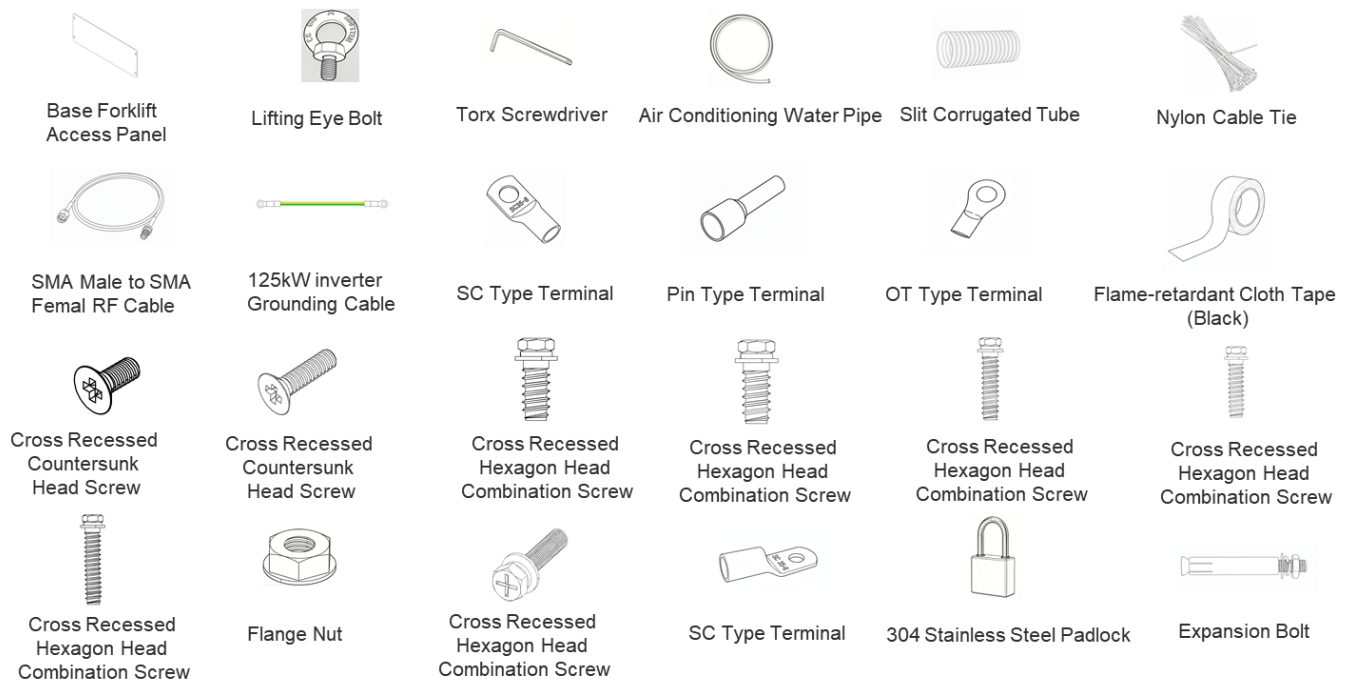


Figure 3-2 Accessory in cabinet

Table 3-2 Accessory usage

NO	Item	Qty	Usage	Remark
1	Base Forklift Access Panel	8	For forklift entry sealing of cabinet bottom 8 position	
2	Lifting Eye Bolt (M24)	4	For cabinet hoisting usage	
3	Torx Screwdriver	1	For rear door disassembly	Spare tool
4	Air Conditioning Water Pipe(1.5m)	1	This pipe is designed to link the drain port of the air conditioner to the customer's on-site drainage outlet.	
5	Slit Corrugated Tube(1.5m)	1	For DC cable protection during battery parallel operation	For parallel
6	Nylon Cable Tie (20mm)	10	For fixing the wiring harness	
7	SMA Male to SMA Female RF Cable	1	For 4G router connection with outside antenna	

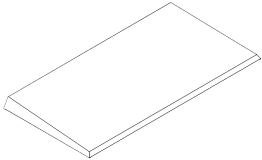
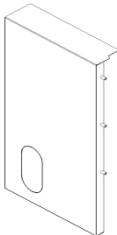
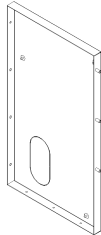
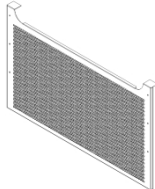
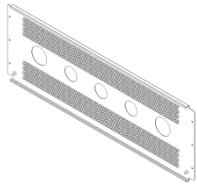
8	Inverter Grounding Cable	1	For Inverter ground cable connection with cabinet	
9	SC Type terminal	4	For parallel operation, battery cable terminal crimping on site	For parallel
10	Pin Type Terminal	5	For parallel operation, crimp the L1, L2, L3, L4, and N cores of the secondary cabinet's auxiliary power cable to 4 terminals, with 1 terminal reserved later use.	
11	OT Type Terminal	4	For parallel operation, crimp the PE cores of the secondary cabinet's auxiliary power cable to 1 terminal, with 4 terminal reserved later use	
12	Flame-retardant Cloth Tape (Black) 25m	1	For parallel operation, thread the BAT wiring harness through the corrugated tube, then wrap both ends of the tube with cloth tape	
13	Cross Recessed Countersunk Head Screw (M4*8)	2	For LED light fixation	
14	Cross Recessed Countersunk Head Screw (M4*20)	2	For temperature sensor, smoke sensor fixation	Spare parts
15	Cross Recessed Hexagon Head Combination Screw (M4*16)	2	For audible and visual alarm fixation	
16	Cross Recessed Hexagon Head Combination Screw (M6*20)	2	For pack fixation	
17	Cross Recessed Hexagon Head Combination Screw (M6*12)	2	For PDU PE bar fixation	
18	Cross Recessed Hexagon Head Combination Screw	2	For insulating column fixation	

	(M8*16)			
19	Cross Recessed Hexagon Head Combination Screw (M8*25)	2	For bus bar fixation	
20	Flange Nut (M8)	2	For bus bar fixation	
21	Cross Recessed Hexagon Head Combination Screw	2	For wiring protective baffle fixation	
22	SC Type Terminal	4	For hybrid inverter battery cable connection usage	
23	304 Stainless Steel Padlock	1	For inverter anti-theft	
24	Expansion Bolt	6	For cabinet 4 base feet fixation, 2 reserved for later use	

3.2.3. Inspection of Accessory Kit

Please ensure that the following items are included in the accessory kit:

Table 3- 3 Accessory Package

Number	Name	Amount	Item
1	Sun shade	1	
2	Right side panel	1	
3	Left side panel	1	
4	front panel	1	
5	bottom panel	1	
6	M6*12/304 Steel	12	

4. Installation

DANGER

Electric shock danger! Ignoring the following warnings may result in death or serious injury.

Make sure that no DC voltage is supplied to the equipment and there is no AC voltage on the AC lines; otherwise, it may cause serious injury or death. Provide warning labels to notify all personnel whose devices are not turned on. This label should be hung on the outside of the door and remain clearly visible. Make sure that the external AC side circuit breaker and DC circuit breaker are in the open position.

Do not touch the live parts of the device.

Do not place flammable materials near the equipment.

WARNING

The cables or copper bars provided by the user should meet the current-carrying capacity requirements.

It is necessary to comply with all country-specific standards and regulations.

Hybrid inverter can only be connected to the public power grid after obtaining authorization from the local network operator.

Only professional electricians can perform the operations described in this chapter.

All wiring instructions must be followed.

All input and output circuits are isolated from the housing.

Make sure the electrical insulation meets the requirements before laying the cables.

In accordance with EMC regulations, power lines and communication cables should be laid in layers.

Provide support and protection for the cables when necessary to reduce their stress.

Before wiring, please ensure that the equipment is turned off.

Operators are strictly prohibited from operating without training.

It is strictly prohibited for workers to work by hand without wearing protective equipment.

The key points of connection are: ensuring that the connection is correct, reliable (without looseness), has good contact and no short circuit.

During the wiring process, the positive and negative poles of the DC combiner cabinet must not be reversed.

Strictly prevent any form of short circuit during the connection process.

NOTICE

Moisture can damage equipment. For the normal operation of the equipment, please abide by the following rules.

Do not open the equipment door when the relative humidity is higher than 95%.

Do not maintain or repair the equipment in rainy or other bad weather.

The installation and design of the equipment must comply with national and local standards and regulations.

The wire dimensions and rated values are provided by the manufacturer in the corresponding table. If other cable sizes comply with local standards or regulations, they can also be used.

The size of the grounding wire must be larger than half of the size of the AC or DC cable.

4.1. Installation Preparation

4.1.1. Tools Preparation

The main tools used during the installation process can be referred to in the following figure.

Additionally, at the site, the OT terminals and the 35mm² DC battery cable bundle need to be pressed together. The crimping tools need to be prepared.



Figure 4- 1

4.2. Battery Cabinet Securing

As shown in Figure4-2, battery cabinet is provided with 4 fixing points on 4 feet.

Fixing $\phi 14\text{mm}$ holes are pre-reserved at the fixing feet points, which shall align with the openings at the bottom corners of the cabinet base. Secure the cabinet using M12 screws with matching nuts.

In accessory package, 4 explosion bolts is already provided with battery cabinet, Level ground installation is suitable for areas where high water accumulation ($\geq 50\text{ mm}$) will not occur. If the installation site is prone to water accumulation, it is recommended to add a concrete foundation.

Footing Spec: $80 \times 80 \times 7$ Angle Steel (7 mm Thick)

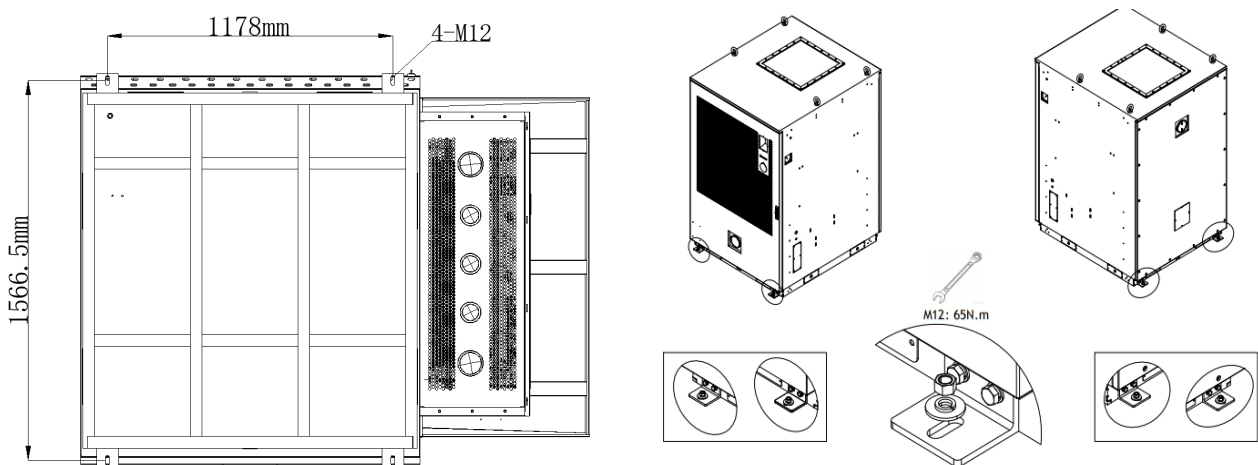


Figure 4-2 Bottom view and Feet position on cabinet

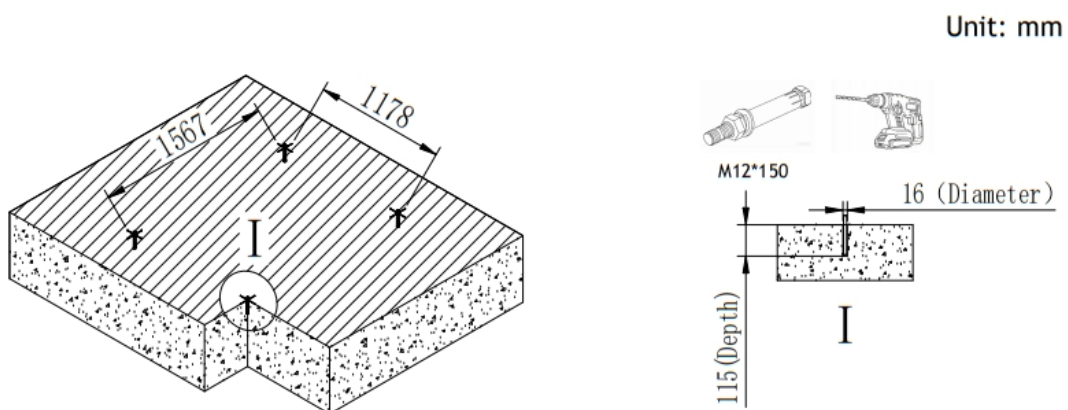


Figure 4-3 Drilling requirements for expansion bolts installation

4.3. Cabinet Ground Cable Connection

As shown in Figure 4-4, EverCore has a grounding connection copper bar. The copper bar has a M8 hole and requires the user to connect a ground cable to the ground point at the site.

The recommended cable diameter is 25mm², Use M10*20 Three-piece Screw/Stainless Steel, Torque: 30N.

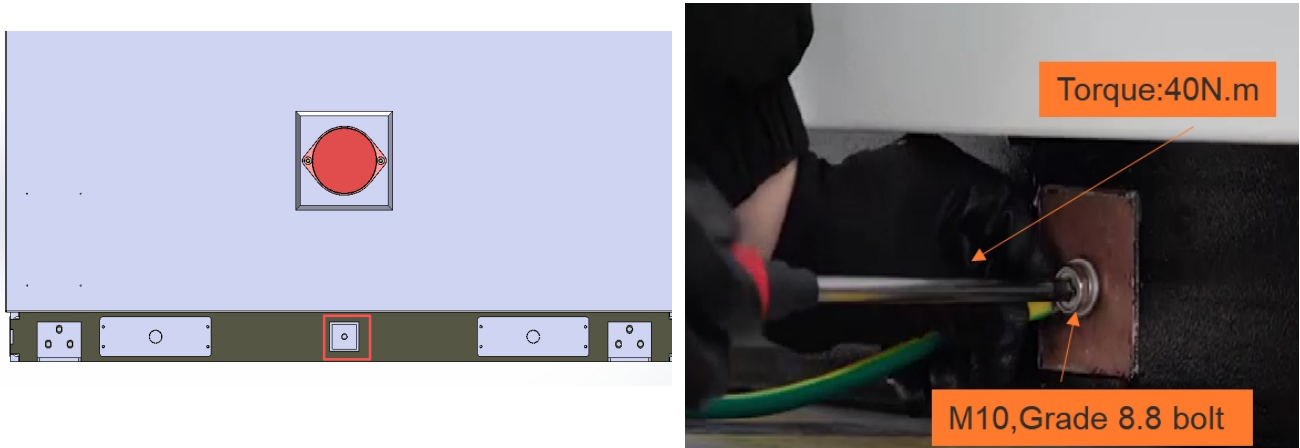


Figure 4-4 Cabinet ground connection

4.4. Inverters Wall-mounting Installation

The battery cabinet and the hybrid inverter are shipped separately. At the user's site, the hybrid inverter needs to be installed on the battery cabinet first. The installation steps are as follows:

1. Secure the inverter bracket, then hang the inverter on the bracket.

Use M10×16 hexagonal flange bolts to lock the back plate of the hybrid inverter onto the battery cabinet enclosure, and then use a forklift to assemble the hybrid inverter onto the back plate. Lift the hybrid inverter (be careful to avoid physical strain), and align the back plate of the hybrid inverter with the raised part of the installation bracket. Hang the hybrid inverter on the installation bracket and make sure it is firmly installed.

4.5. The Grounding Cable Connection

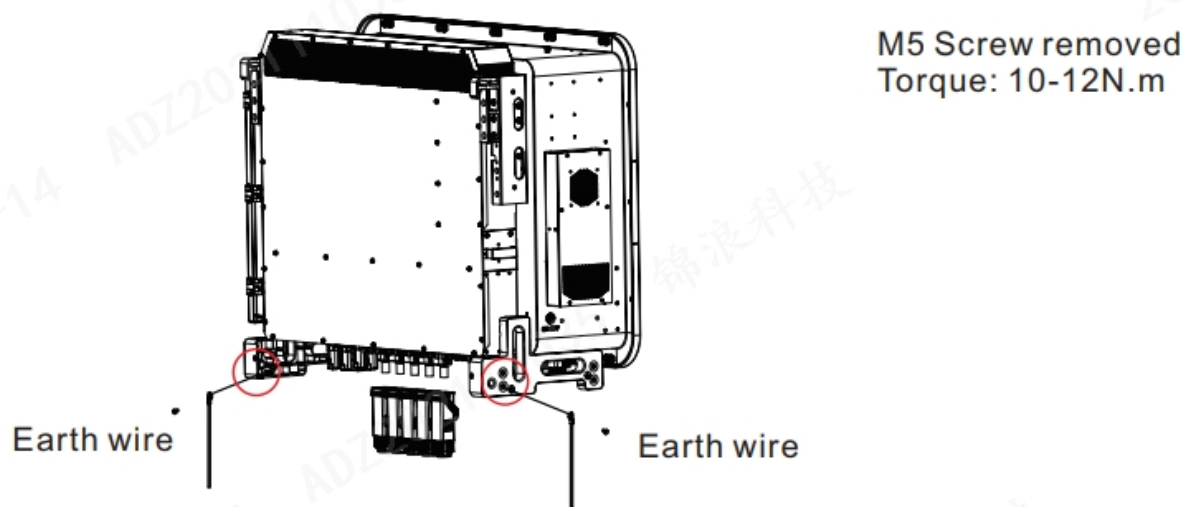


Figure 4-5 Inverter ground point



Figure 4-6 Ground connection with cabinet enclosure

4.6. Sunshade Installation

Installing a Sunshade by using M8×25 hexagonal flange bolts to fix Inverter Sunshade at the upper right position of the cabinet.



Figure 4-7

remove the pre-installed bolts from the cabinet enclosure



Figure 4-8

fixing the sunshade to cabinet enclosure

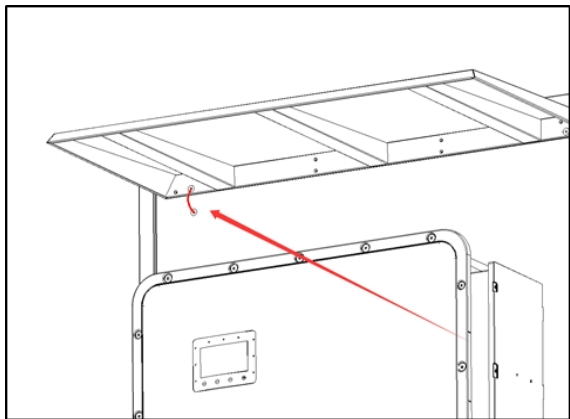


Figure 4-9 connect the ground cable of sunshade to cabinet enclosure



4.7. Threading Pre-installed Cable inside Cabinet

Be careful for using cabinet door stopper to make an enough space for installer to operate.



Figure 4- 10 Door stopper position

For product convenient installation, before leaving factory, some cables already pre-installed inside cabinet, for detailed cable definition, you can refer to **chapter 3.2.2** in this manual.

For the cable entry you can see the skill screen inside the cabinet, below is the cable entry definition

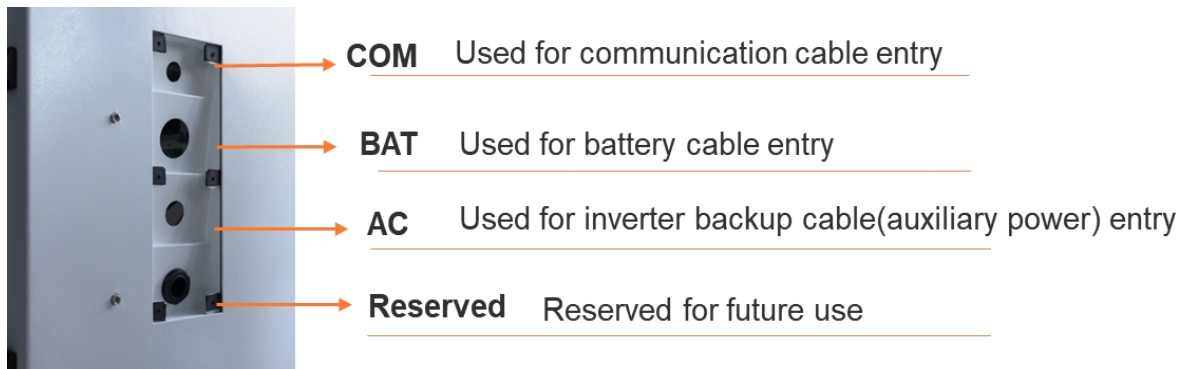
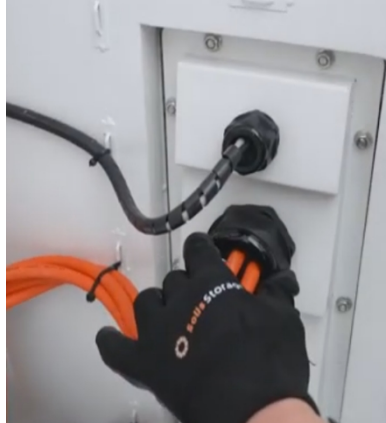


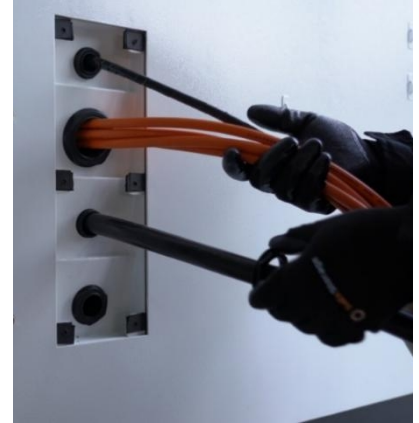
Figure 4- 11 Cable hole



You just need to connect another terminal to inverter



Ensure the cable gland nuts on both ends of the cable hole are fully tightened.



Ensure all cable harnesses are fully threaded into right position

Figure 4- 12 Steps of threading cable

4.8. Cabinet Pre-installed Cable Connection with Inverter

4.8.1. Battery Cable Connection with Inverter

Note: For battery cable, you should crimp the cooper lug on installation site,

Four DC cables pre-installed inside cabinet, their label: battery1\+, battery1\-, battery2\+, battery2\-

Strip the DC cables inside the cabinet in accordance with the following requirements.

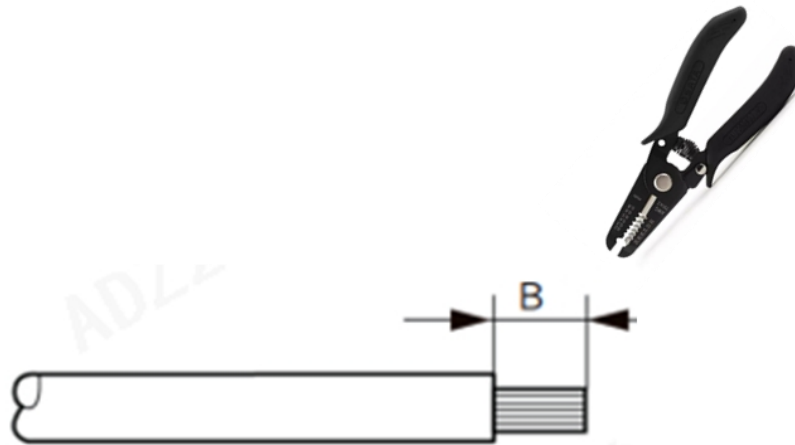


Figure 4- 13

NOTICE

B (insulation stripping length) is 2mm -3mm longer than A (OT cable terminal crimping area).

The outer diameter of the sealing ring at the battery interface is smaller than that of the copper cable lug. Battery cables must be threaded through the tail cover, rear sealing ring, and waterproof housing in sequence before crimping the cable lugs. Copper Lug: M6, Torque: 4–5N•m

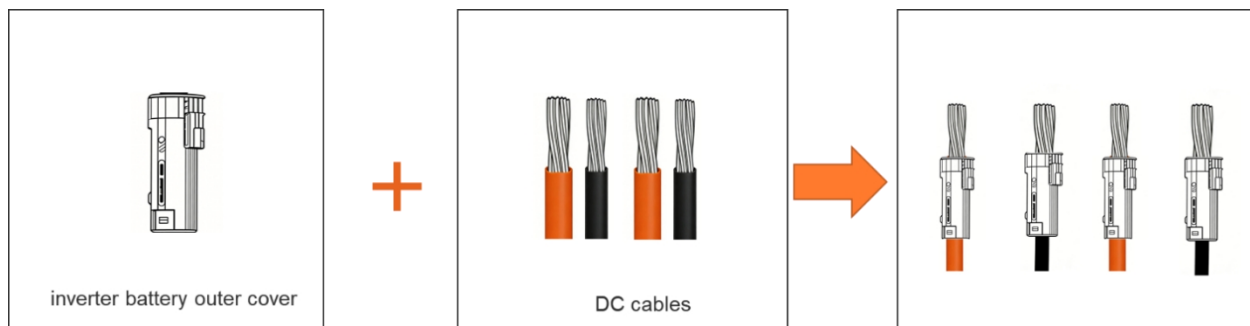


Figure 4-14 Threading steps

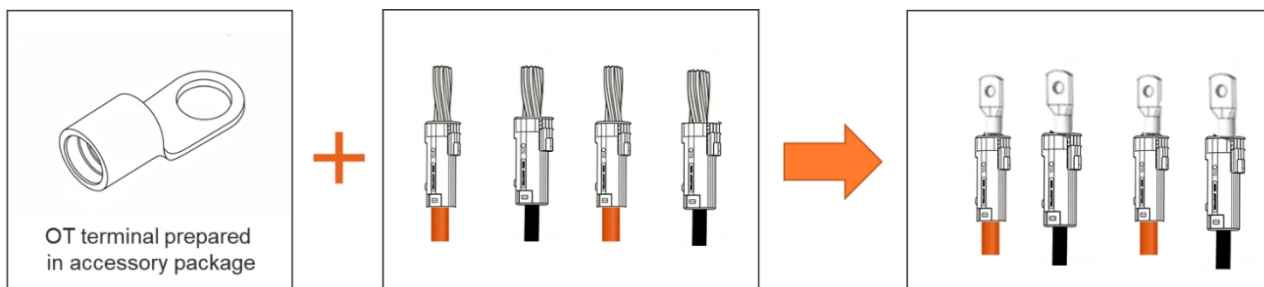


Figure 4-15 Crimping OT terminal

Fasten the terminal to the flow guide bar using an M6 round washer screw, M6 screw tightening torque: 4.5-5.0 N·m

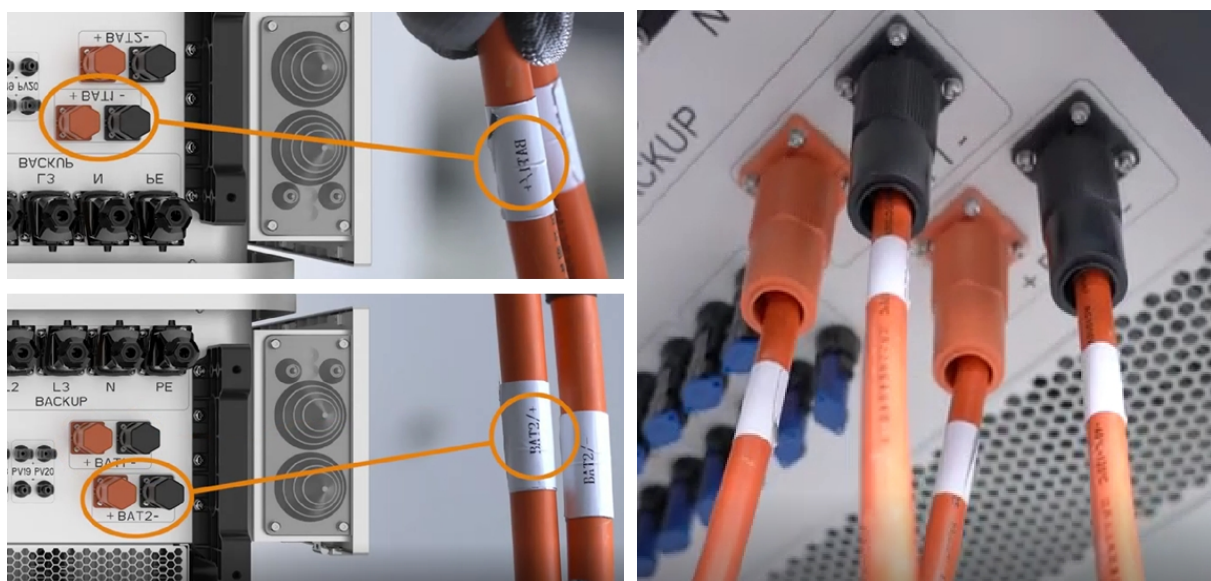


Figure 4-16 Connecting battery cables to inverter

4.8.2.Auxiliary Power Cable Connection with Inverter

You can find the AC cable inside the cabinet, detailed cable appearance you can refer to chapter 3.2.2.

Connection precautions for the AC cables at the hybrid inverter (including Smart port/ Backup port /Grid port):

the allowed maximum temperature when connecting the ac power and the battery terminals is 85°C.



Figure 4- 17 Auxiliary power cable

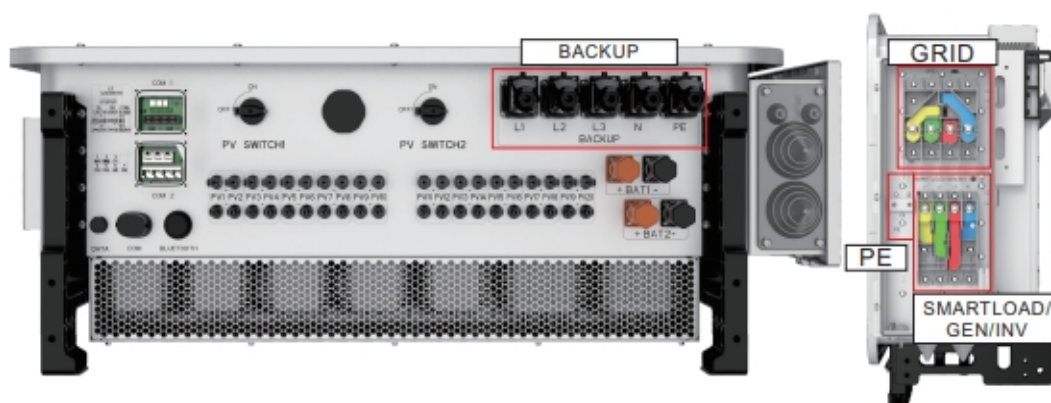


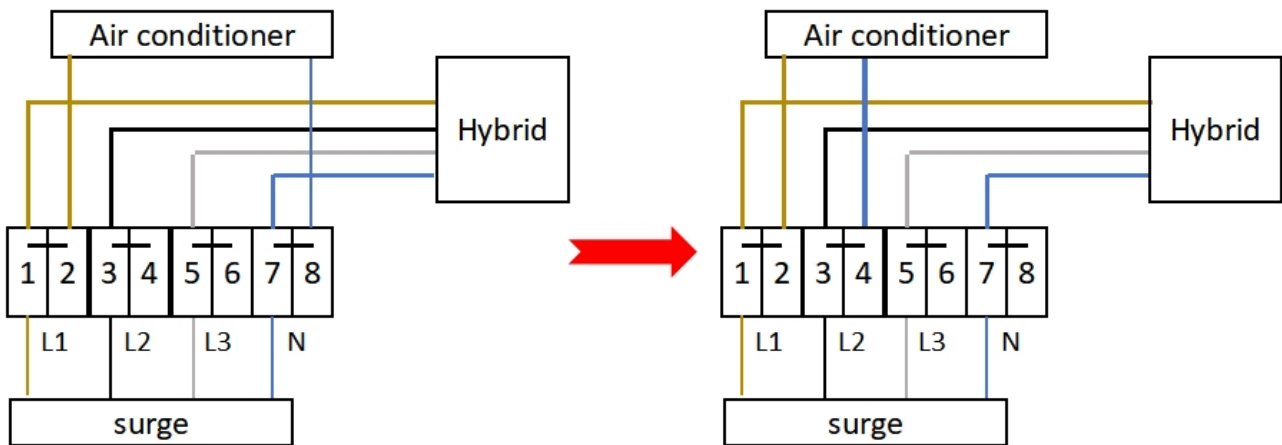
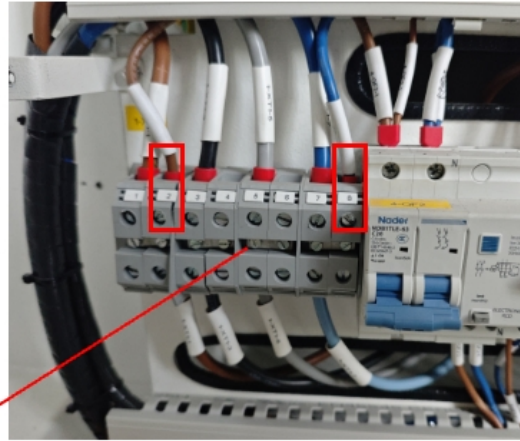
Figure 4- 18 Backup port on bottom of inverter



Figure 4- 19 Backup port auxiliary cable connection

Auxiliary power wiring connection (For 3/(N)/PE, 220V/ 230V hybrid):

Since the power supply for the air conditioner is 220V, considering the three-phase voltage of the power grid being 220/230V, the voltage between L1 and N is only approximately 130V. Therefore, it is necessary to open the bottom cover of the battery cabinet and adjust the auxiliary power wiring.



When a hybrid is combined with multiple battery cabinets for DC expansion, since the auxiliary power supply of the battery is automatically provided by phases L1-L2 when they are manufactured, in order to achieve balanced three-phase output, the equipment needs to be manually adjusted to draw power from phases L2-L3 or L1-L3.

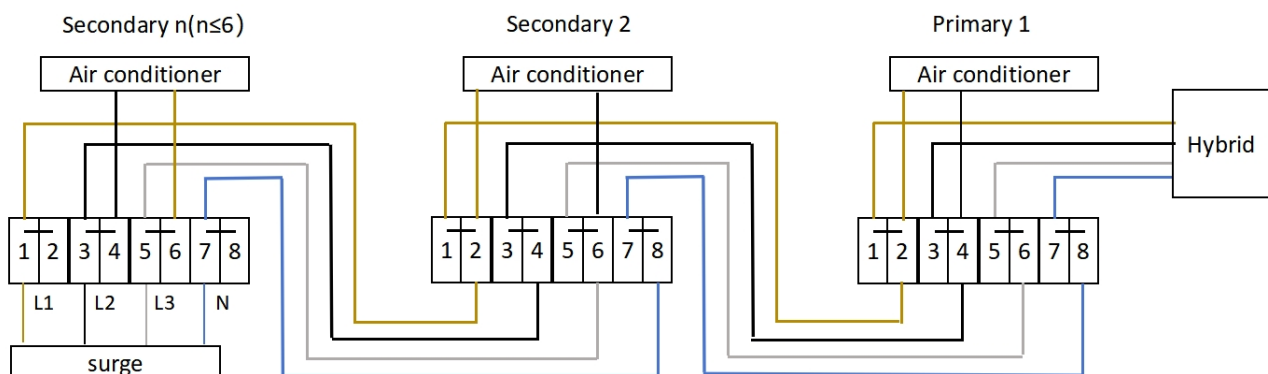


Table 4- 1 Ports connection reference

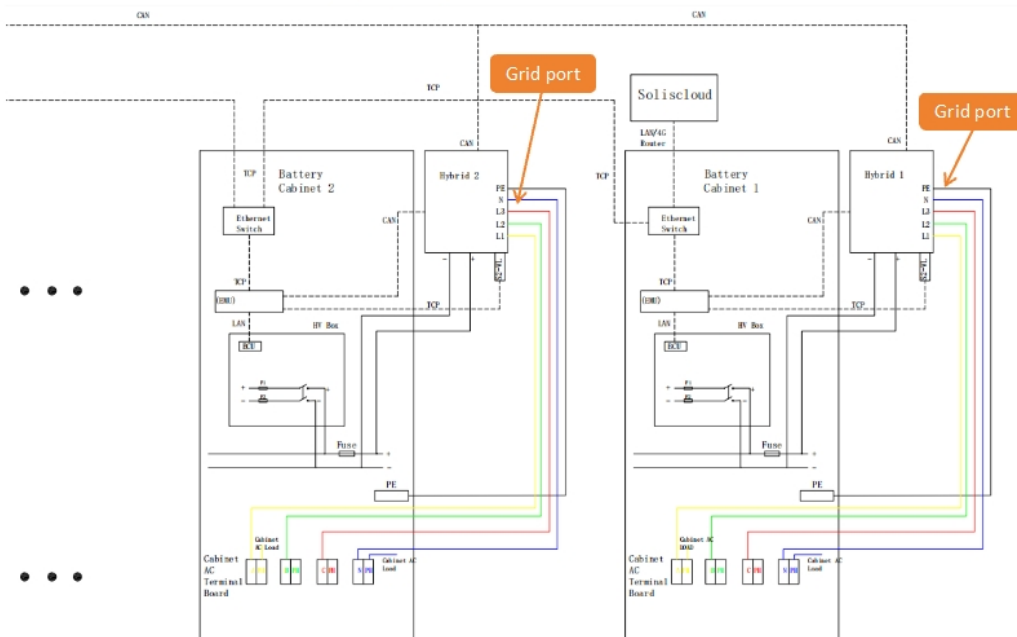
	Backup	SMARTLOAD/GEN/INV	Grid	PE
Wire Size	3/0AWG,	4/0AWG,	4.7/0AWG	2/0AWG
Cable	70-95mm ²	70-95mm ²	95-150mm ²	50-75mm ²
Torque	10-12N.m	20-30N.m	20-30N.m	10-12N.m

Note: The above method (connecting the auxiliary power line to the backup port) is applicable in cases where there is a backup load: grid-connected and off-grid switching scenarios, as well as pure off-grid scenarios.

If it is the scenario that multiple hybrid inverters are connected in parallel and operate in pure grid-connected mode (with no backup load and no need for on-grid/off-grid switching), The auxiliary power wiring of each battery cabinet needs to be connected to the grid terminal of the hybrid inverter.

The customers need to prepare the terminals for connecting the grid port and the auxiliary power cables, and perform the on-site crimping operation. (The cross-sectional area of the auxiliary power cables are 16 square millimeters. The bolt size for the power grid port are M12 (L1, L2, L3, N), and the PE port is M10(PE).

Multiple hybrid inverters are connected in parallel and operate in pure grid-connected mode (with no backup load and no need for on-grid/off-grid switching), the auxiliary power wiring of each battery cabinet needs to be connected to the **grid port**.



4.8.3.Communication Cable Connection

1. Battery BMS cable connection

The CAN cable reserved inside the cabinet according to chapter6.2.2, Plugging the CAN cable to communication interface-BMS1 of the hybrid inverter COM 2 area.

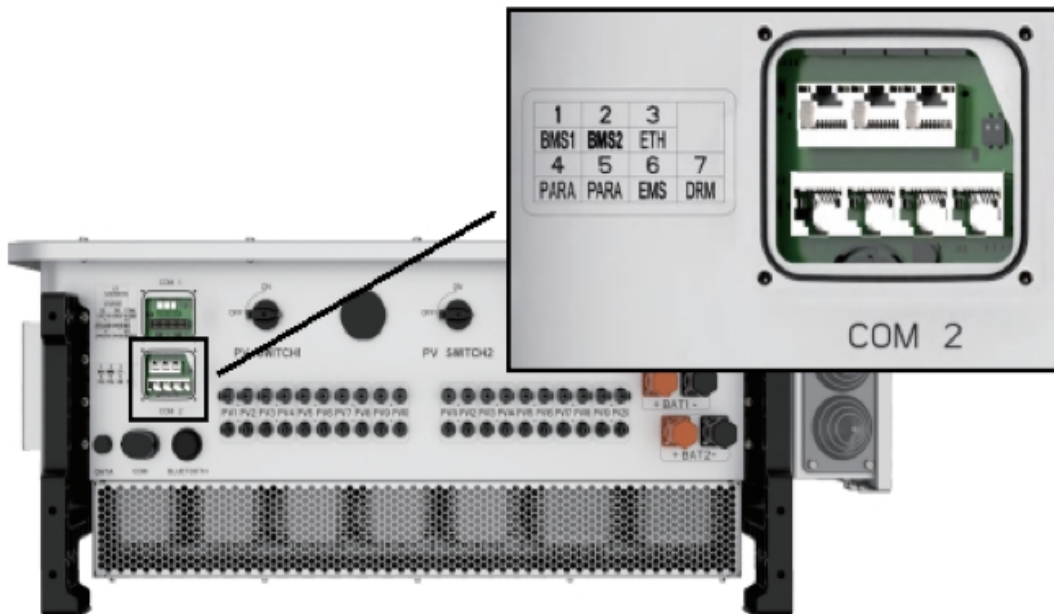


Figure 4-20 Inverter Bottom BMS Interface

2. Data logger Ethernet cable connection.

Follow the connection method shown in Figure 4-21. Find the Ethernet cable inside the cabinet, and connect it to the bottom of data logger, then connect the datalogger to inverter COM2 port

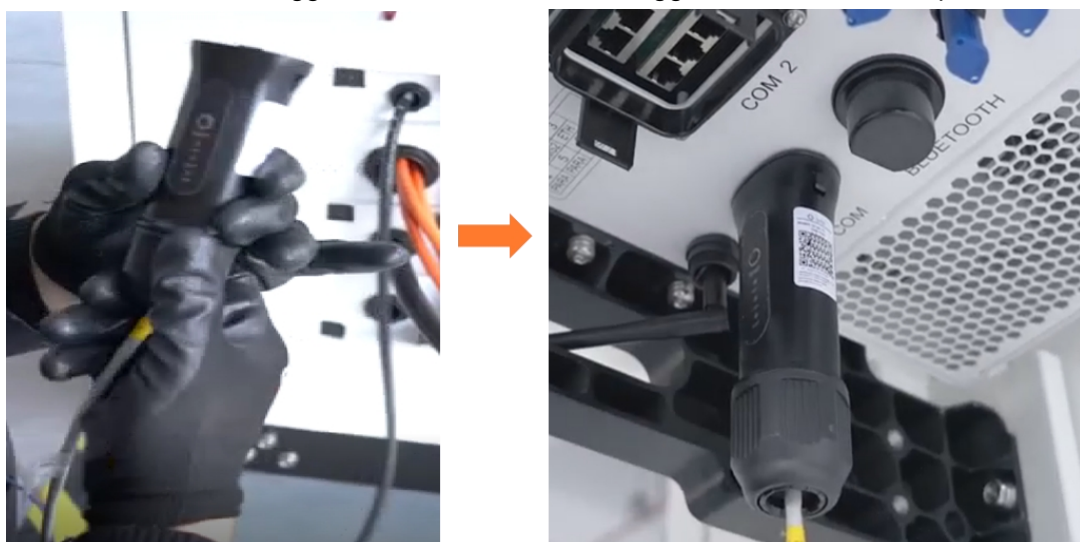


Figure 4-21 Connect the data logger Ethernet cable

3. Inverter EPO cable connection

The Battery cabinet EPO Signal cable should be connected with inverter EPO terminal. The following figure is the interface definition. Using the 2 dry contact signal cable (pre-installed inside cabinet) from cabinet to connect the hybrid inverter EPO port

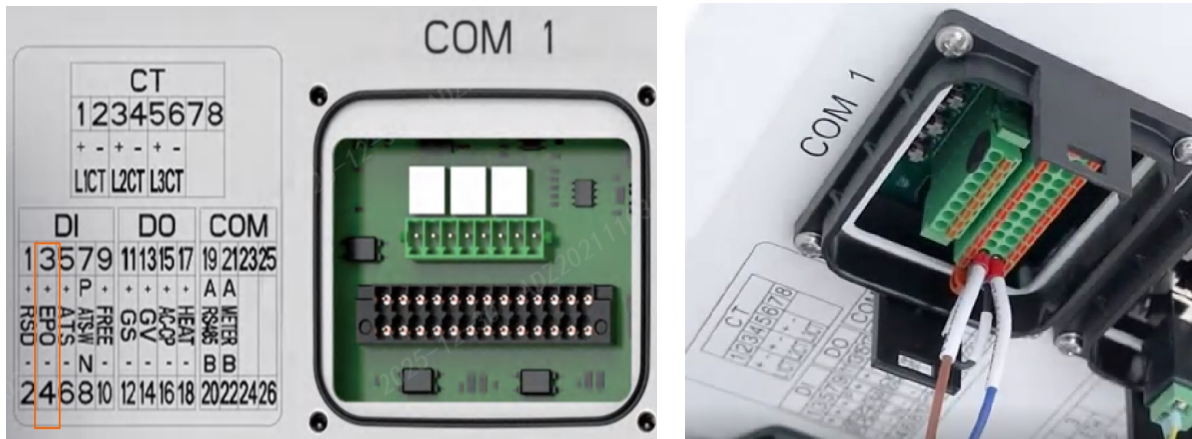


Figure 4-22 EPO Cable connection

4.9. Inverter Cable Connection

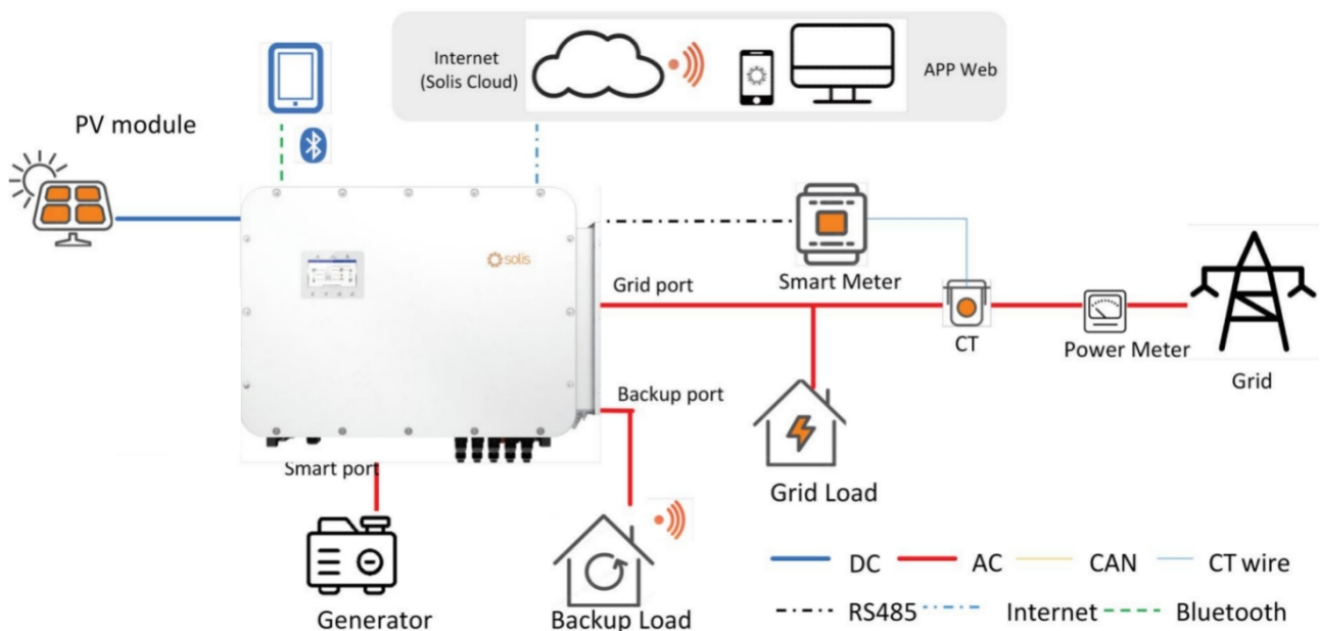


Figure 4-23 Inverter wiring connection diagram(without battery)

Table 4- 2 Ports connection reference

	Backup	SMARTLOAD/GEN/INV	Grid	PE
Wire Size	3/0AWG,	4/0AWG,	4.7/0AWG	2/0AWG
Cable	70-95mm ²	70-95mm ²	95-150mm ²	50-75mm ²
Torque	10-12N.m	20-30N.m	20-30N.m	10-12N.m

4.9.1.PV Connection

⚠ DANGER

Before connecting the inverter, make sure that the open-circuit voltage of the photovoltaic array is within the limit range of the inverter.

Before connection, confirm that the polarity of the output voltage of the photovoltaic array matches the "DC+" and "DC-" symbols.

Please use the approved DC cables for the photovoltaic system.

The user's on-site PV system should be connected to the hybrid inverter, you can thread the PV cable from left wiring protective panel or bottom panel.

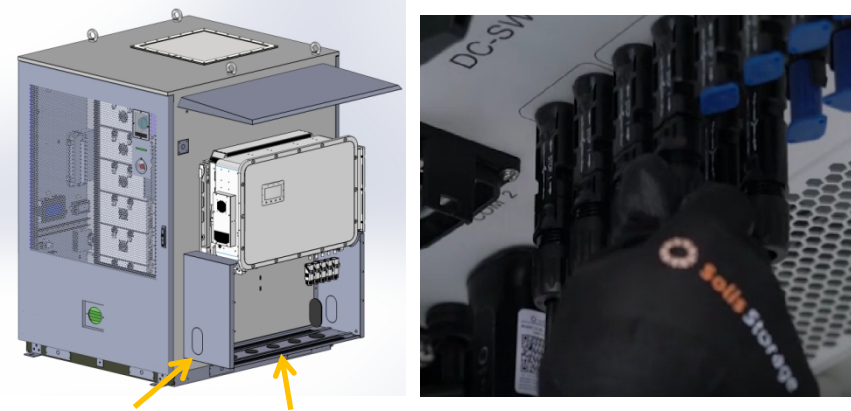
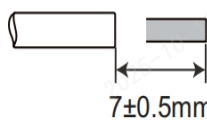


Figure 4-24 PV Wiring

1. PV Cable Installation

1. Select the appropriate DC cable and strip the outer sheath of the wire by 7 ± 0.5 millimeters.

Please refer to the table below for specific specifications.



Cable type	Cross section (mm ²)	
	Range	Recommended value
Industry generic PV cable	4.0~6.0 (12~10AWG)	4.0 (12AWG)

Figure 4-25

2. Remove the DC terminals of the accessory package, rotate the nut to disassemble it, and remove the waterproof rubber ring.

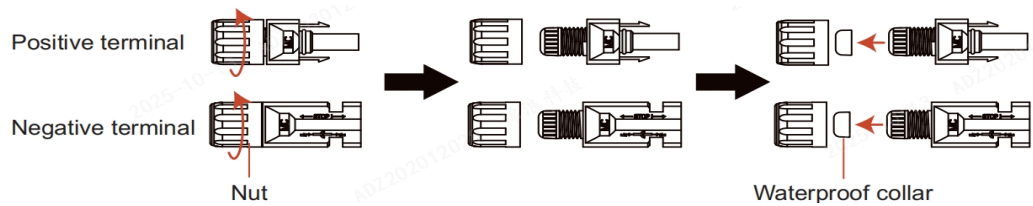


Figure 4-26

3. Pass the stripped DC cable through the nut and the waterproof rubber ring.

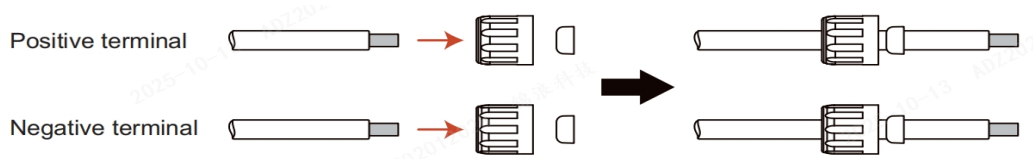


Figure 4-27

4. Connect the wire part of the DC cable to the metal DC terminal, and use the dedicated DC terminal crimping tool for crimping.

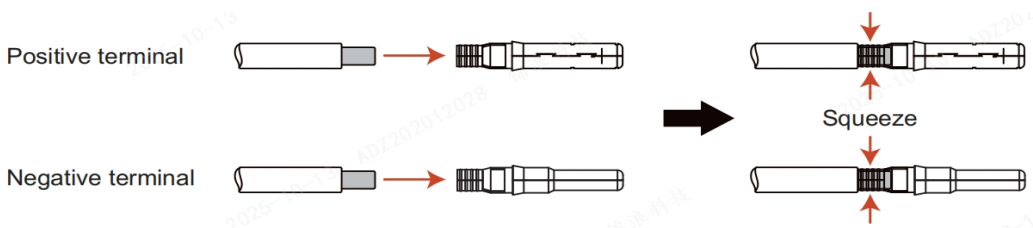


Figure 4-28

5. Insert the press-welded DC cable firmly into the DC terminal, then insert the waterproof rubber ring into the DC terminal and tighten the nut.

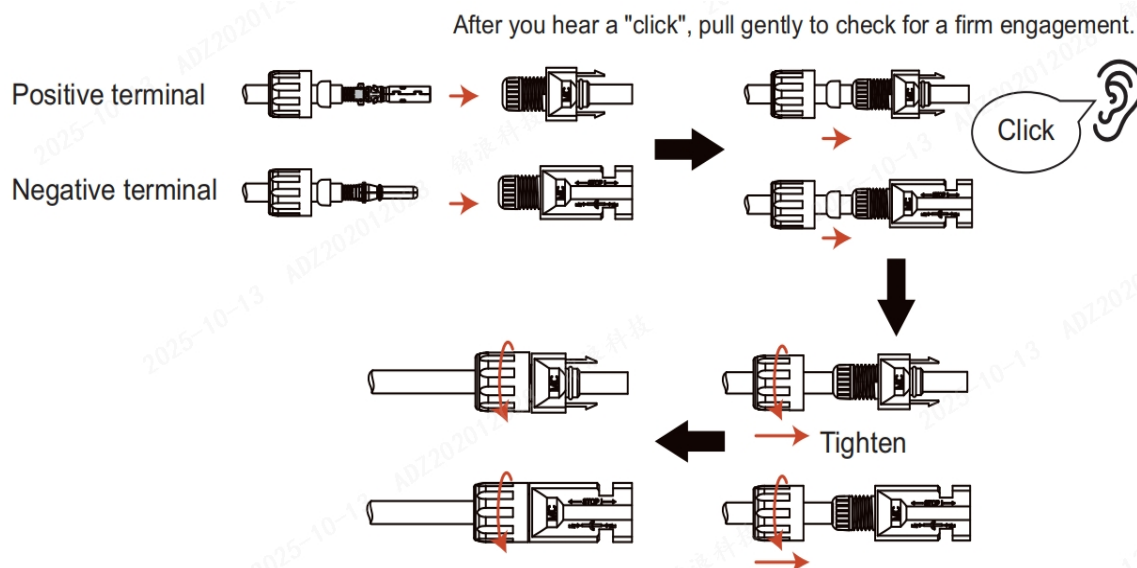


Figure 4-29

6. Use a multimeter to measure the DC input photovoltaic voltage and verify the polarity of the DC input cable.



Figure 4-30

7. Connect the already wired DC terminals to the inverter as shown in the figure, and gently tighten the nuts to ensure a secure connection. When you hear a "click" sound, it indicates that the connection is correct and secure.

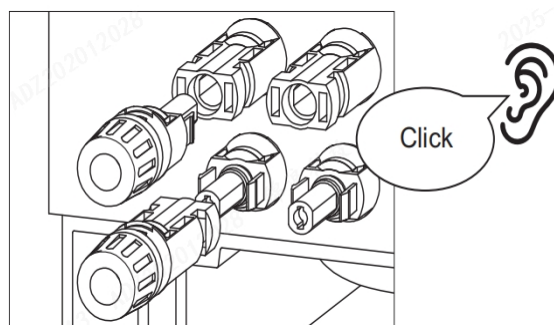


Figure 4-31

When installing, please pay attention to the following points:

If the DC input is accidentally reversed or the inverter malfunctions or operates abnormally, the DC switch must not be turned off. Otherwise, it may cause a DC arc, damage the inverter, and even lead to a fire.

The correct operation is:

1. Use the clamp-type clamp meter to measure the DC series current.
2. If the current is higher than 0.5A, wait until the solar irradiance decreases until the current drops below 0.5A.
3. Only when the current is lower than 0.5A, is it allowed to close the DC switch and disconnect the photovoltaic series.
4. To completely eliminate the possibility of faults, disconnect the photovoltaic series after closing the DC switch to avoid secondary faults caused by continuous photovoltaic energy the next day.

Please note that any damage caused by incorrect operation is not covered by the equipment warranty.

Table 4-3 PV input requirement

Max input voltage	1000V
Rated voltage	600V
Start voltage	180V
MPPT voltage range	150-950 V
Max input current	10*42A
Max short current	10-60A
MPPT number/Max input strings number	10/20

Please note that the maximum operating altitude is 4,000 meters. However, when the altitude exceeds 2000 meters, the maximum input photovoltaic voltage will decrease. The table below shows the relationship between altitude and voltage.

Table 4-4

Altitude (m)	Voltage (Vdc)
2000	1000
2700	1000
3000	981
3500	925
4000	875

4.9.2.Utility Grid Connection

About local grid connection with inverter. Please refer to Figure for the wiring procedure:

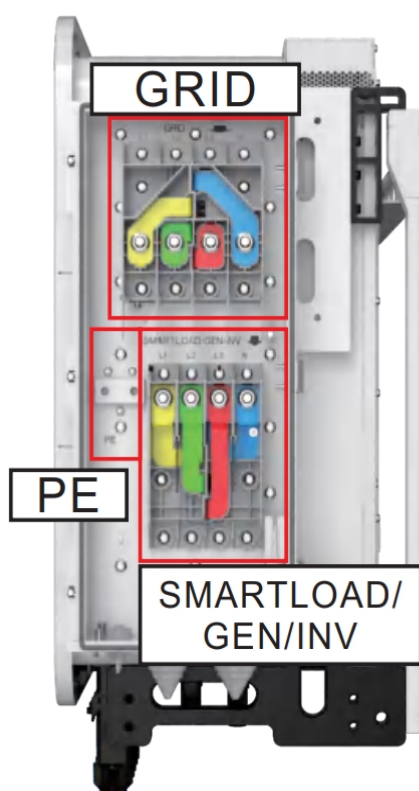


Figure 4- 32 Grid port position of inverter

Table 4- 5 Connection reference

Position	Terminal type	Recommended Specification	Position	Terminal type	Remark
Grid	Depends on the grid type of client side	95-150mm ²	inverter Grid Port	R-type	Torque: 20-30N.m
		95-150mm ²		R-type	Torque: 20-30N.m
		95-150mm ²		R-type	Torque: 20-30N.m
		95-150mm ²		R-type	Torque: 20-30N.m
		50-75mm ²		R-type	Torque: 10-12N.m

Detailed wiring steps are as follows:

1. Disconnect the AC circuit breaker to ensure it won't accidentally turn on.
2. Strip the insulation sheath from the end of the AC cable to a length B, where B (insulation stripping length) is 2 mm –3 mm longer than A (OT cable terminal crimping area).
3. Place R-type terminals on both ends and perform a secure crimp connection. The crimped part of the terminals must be insulated with heat shrink tubing or insulating tape.
4. Select the matching diameter of the outlet sealing ring according to the diameter of the AC cable. Cut the diameter of the sealing ring to the appropriate size, pass the cable through the sealing ring, remove the nut at the corresponding position of the wiring box, and use a socket wrench to connect the cable to the corresponding AC terminal block in sequence. The torque should follow the recommended torque in table.
6. When the cable is coming out in right wiring box, there should be no openings or gaps between the tower protective sleeve and the cable.
7. After the AC cable are wired, the cables should be fixed, the installers should use the ribbon to secure the wire harnessed in the holes of the surrounding metal shells.
8. For detailed connection information, refer to the Solis hybrid inverter manual.

4.9.3.Backup Load Connection

The power cable of the user load should be connected to the backup port of the hybrid inverter. The following is the interface definition:

NOTE: The auxiliary power and backup load cable should be connected to a same set of backup terminal, you should lock 2 sets cable in 1 set copper terminal.

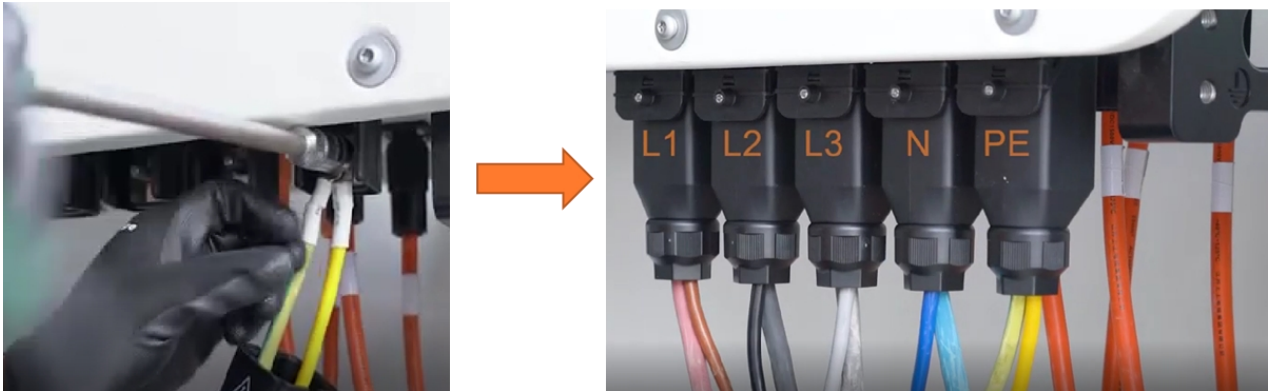


Figure 4-33 Backup Load Connection Position

4.9.4.Generator Connection

The diesel generator is connected to the EverCore hybrid inverter. Please refer to Figure to ensure the connection procedures are correct.

For automatic control function of generator, you should connect the dry contact signal cable to the DO ports in COM1 area of inverter

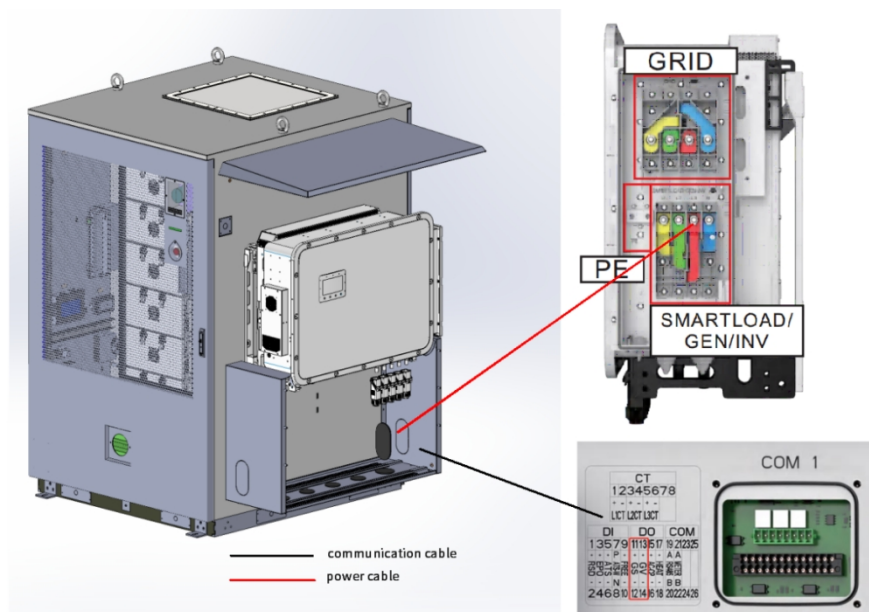


Figure 4-34 Generator Connection Position

- Detailed wiring steps are as follows

1. Disconnect the AC circuit breaker to ensure it won't accidentally turn on.
2. Strip the insulation sheath from the end of the AC cable to a length B, where B (insulation stripping length) is 2 mm – 3 mm longer than A (OT cable terminal crimping area). Place R-type terminals on both ends and perform a secure crimp connection. The crimped part of the terminals must be insulated with heat shrink tubing or insulating tape.
3. When connecting to the grid port and the SMARTLOAD/GEN/INV ports, remove the three screws on the cover of the inverter junction box, and then remove the junction box cover.
4. Select the matching diameter of the outlet sealing ring according to the diameter of the AC cable. Cut the diameter of the sealing ring to the appropriate size, pass the cable through the sealing ring, remove the nut at the corresponding position of the wiring box, and use a socket wrench to connect the cable to the corresponding AC terminal block in sequence. The torque should follow the recommended torque in table.
5. When the cable is coming out in right wiring box, there should be no openings or gaps between the tower protective sleeve and the cable.
6. After the AC cable are wired, the cables should be fixed, the installers should use the ribbon to secure the wire harnessed in the holes of the surrounding metal shells.
7. For detailed connection information, refer to the Solis hybrid inverter manual.

4.9.5.Smart Meter Connection

The wiring principle between the smart meter and the CT is shown in the following diagram. It mainly consists of two parts: One part is the wiring between the smart meter itself and the CT, and the other part is the wiring between the smart meter and the hybrid inverter. The connections related to the smart meter and CT are mainly divided into voltage input, current input, auxiliary power supply, communication lines, as shown in the following diagram:

1. The voltage measurement cable should be directly connected to the input port of the client's power grid, including L1, L2, L3 and the N line.
2. The current measurement should be detected by CT, CT device must be installed on each phase cable of the power grid. When connecting, be sure to pay attention to the polarity of the CT and ensure that the phase sequence of the CT connected to L1, L2, and L3 is correct; otherwise, it will affect the normal use of the product.

Table 4-6 CT cable sequence

CT cable	Ports on meter
L1 CT+ cable(white)	20(S ₁₁)
L1 CT- cable (black)	19(S ₂₁)
L2 CT+ cable (white)	18(S ₁₂)
L2 CT- cable (black)	17(S ₂₂)
L3 CT+ cable (white)	16(S ₁₃)
L3 CT- cable (black)	15(S ₂₃)

3. Meter Auxiliary power supply: an external 220Vac power supply must be provided separately to power the electricity meter. The power line needs to be connected to the LA (5) and NA (6) terminals of the smart meter.

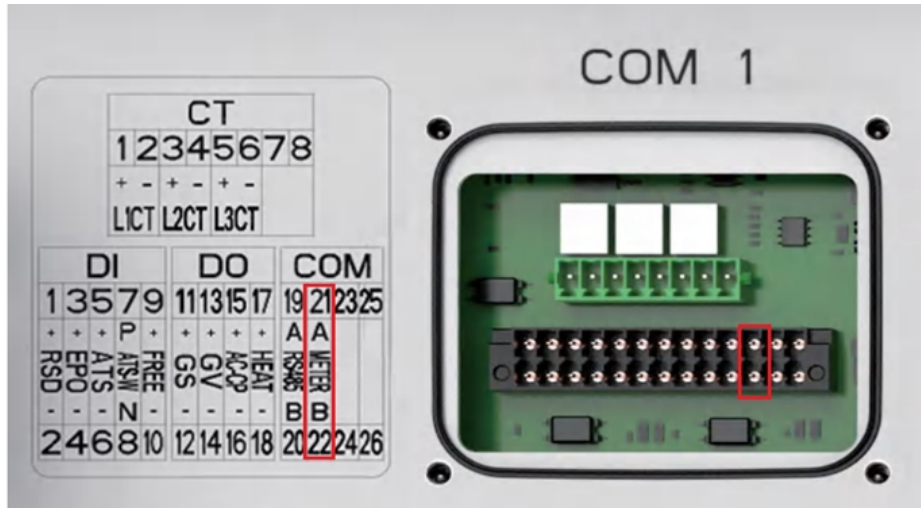


Figure 4-35 Meter Connection Port

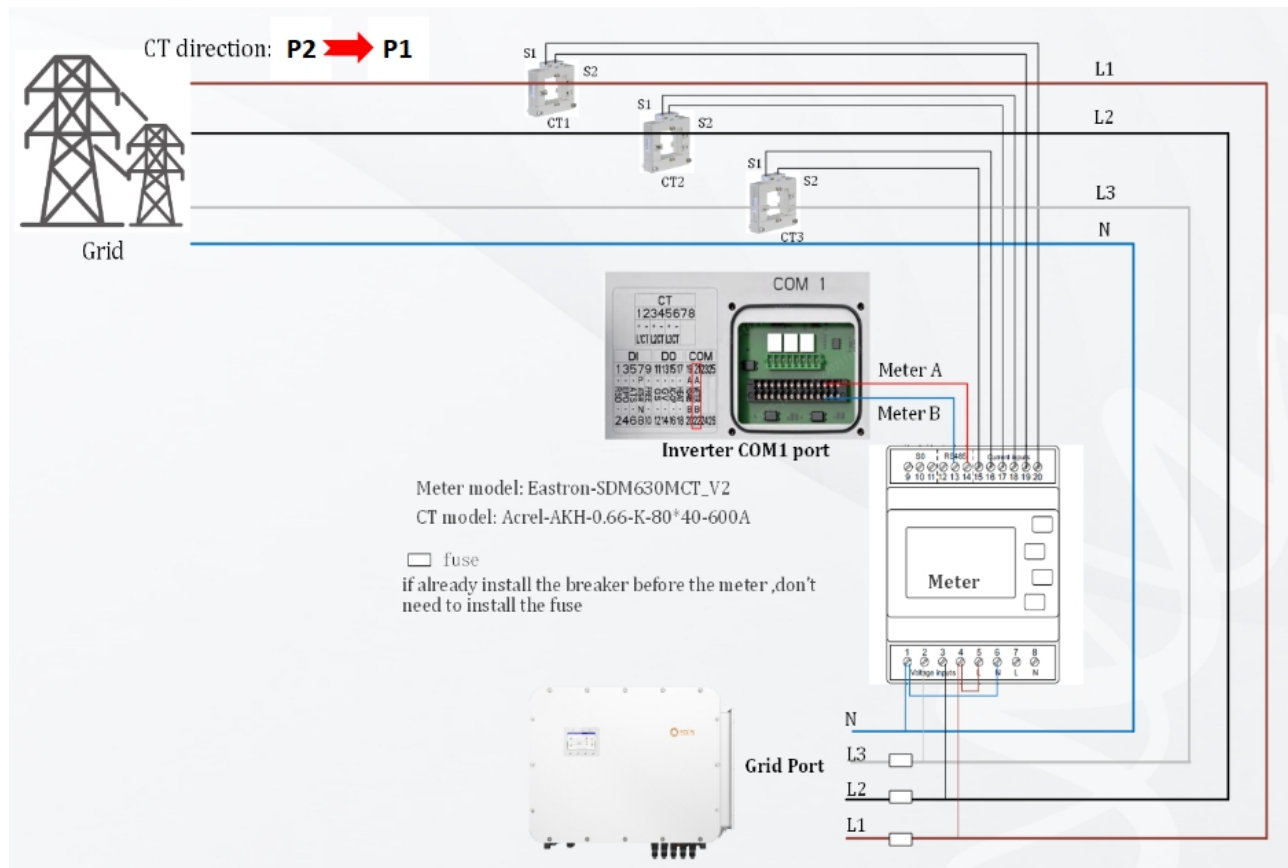


Figure 4-36 Meter Cable Connection

4.10. Wiring Protective Baffle Panel Installation

Securing the left and right side panel firstly, and if you have the load cable or other grid cable, generator cable, you should thread these AC cable to the bottom panel, after that install the bottom panel.



Figure 4- 37 Wiring protective baffle panel installation diagram

Using M6×12 hexagonal flange nuts, securing corresponding panels to the right position

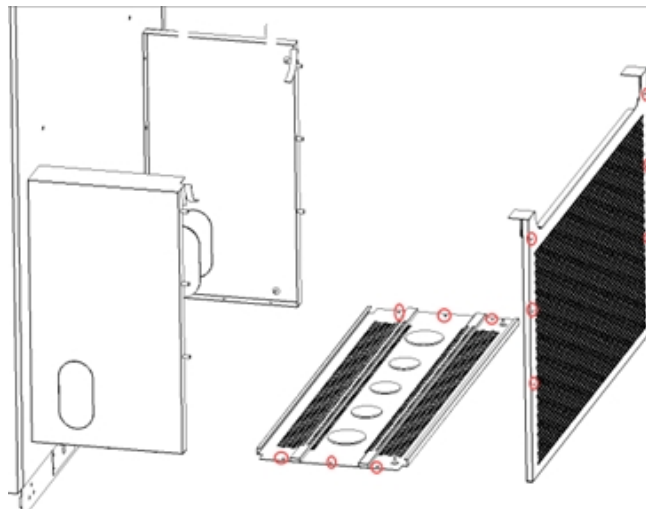


Figure 4- 38 Securing position

Connecting the ground cable of the right / left side baffle to cabinet enclosure



Figure4- 39 Panel ground cable installation

Fix the front panel.

After the assembly of the hybrid inverter wiring harness is completed, use M6×12 hexagonal flange bolts to fix front panel at both ends of the side plates.

Table 4- 7 Bolt and Nut Torque Gauge

Bolt diameter	Torque(N.m)	Re-twisting torque(N.m)
M6	10	9
M8	20	15
M10	30	25
M12	50	45

4.11. Battery Pack Wiring

The power cables of the battery compartment that have been removed need to be manually connected at the delivery site. The orange ones should be connected to the positive terminal (B+), and the black ones to the negative terminal (B-). The detailed operation steps are as follows:

1. Before installation, it should be confirmed that the pins of the power line connector are not skewed or broken, and should be inserted as vertically as possible.
2. Install the DC power line according to the color and refer to Figure 5-43. When connecting the wire harness, do not pull the wire harness forcefully.
3. After the connector is assembled in place, you should hear a click. Gently pull the connector by hand; it must not be loose.

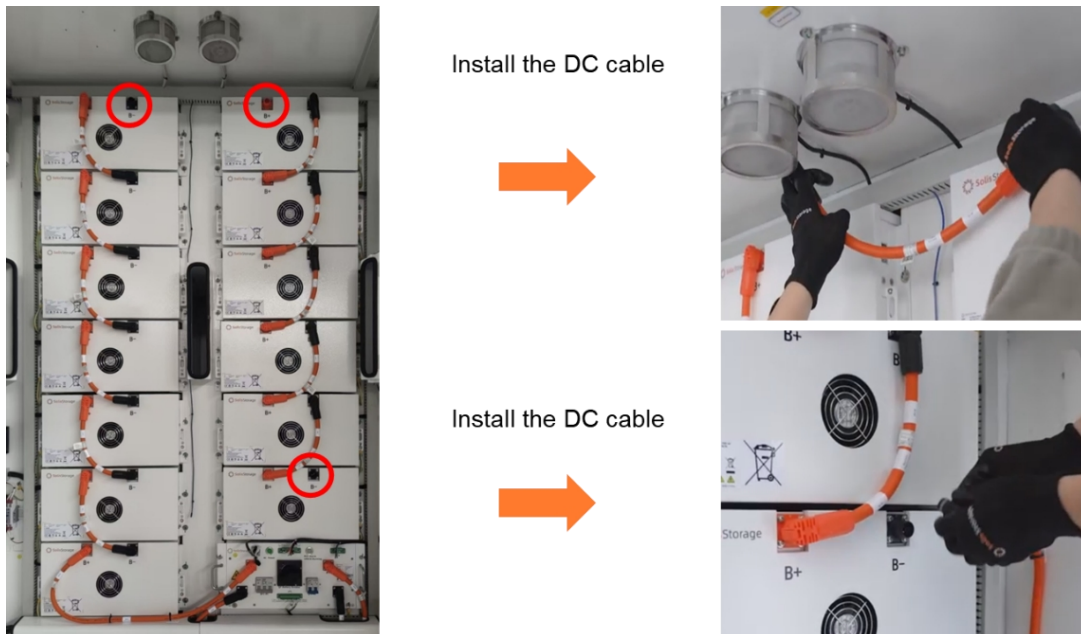


Figure 4- 40 Diagram of Power Cables in the Battery Compartment

4.12. System External Dry Contact Signal Connection (optional)

The EverCore system provides a dry contact output for Fire Protection Linkage activation. Upon detecting fire protection linkage system activation, the system will enable the Fire Protection Linkage dry contact to transmit a signal to the client.

Table 4- 8 External Dry Contact Interface

Position	Terminal	Definition of terminal	Connector type
EverCore XT3	XT3:1	Fire Protection Linkage	Tubular terminal
	XT3:2		Tubular terminal

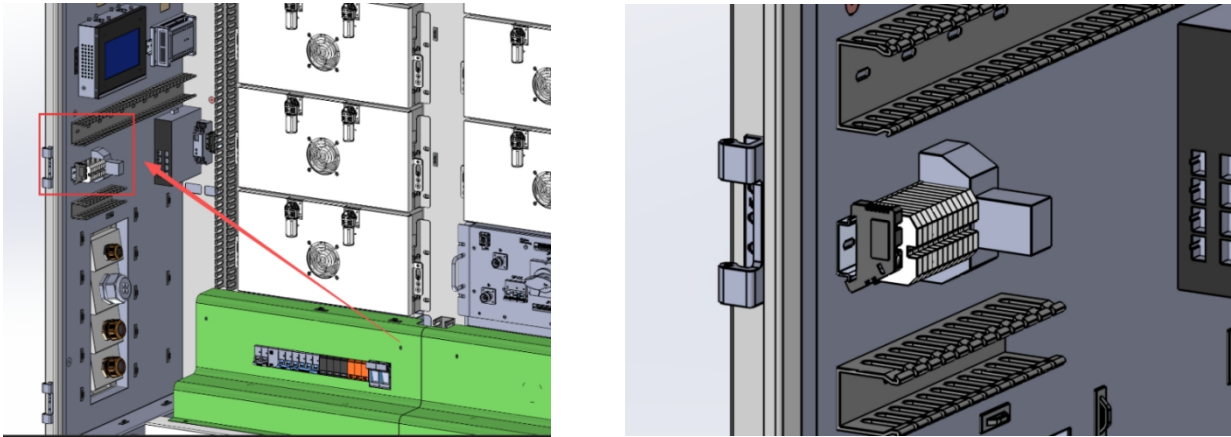


Figure 4-41 External Dry Contact Control

4.13. Broadband Router Installation

Customers need prepare the router by themselves. you can connect the Ethernet cable from switch from left side or right side

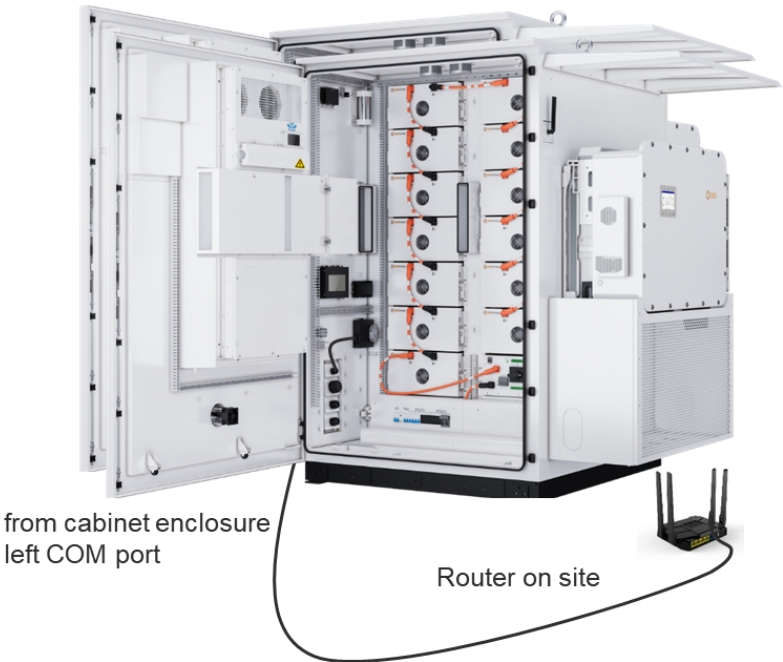


Figure 4-42

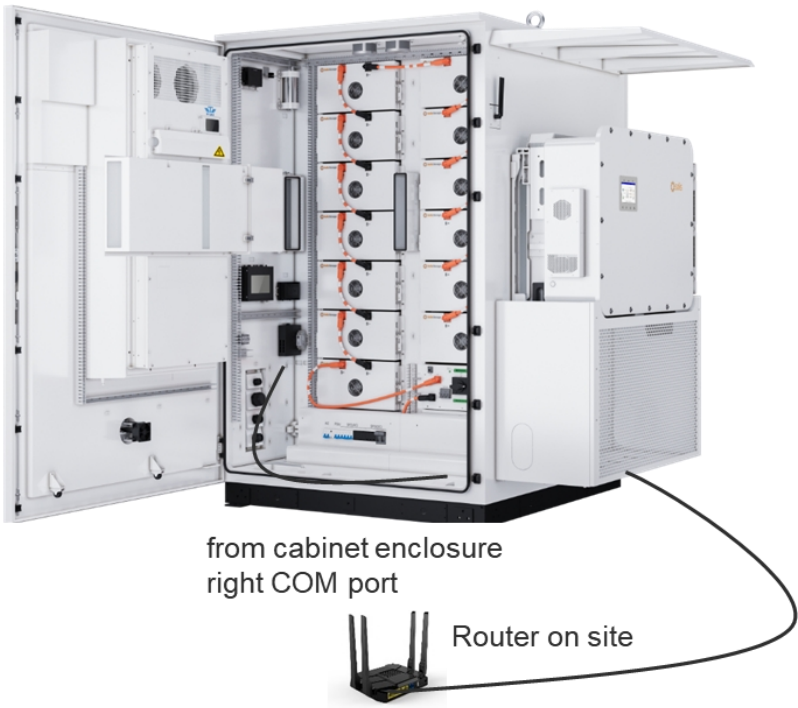


Figure 4-43

4.14. Air-conditioner Drain Pipe Installation (optional)

1. The pipe is prepared in the accessory package, if your installation foundation is like below figure, you should install the drain pipe to divert water to the designated location.

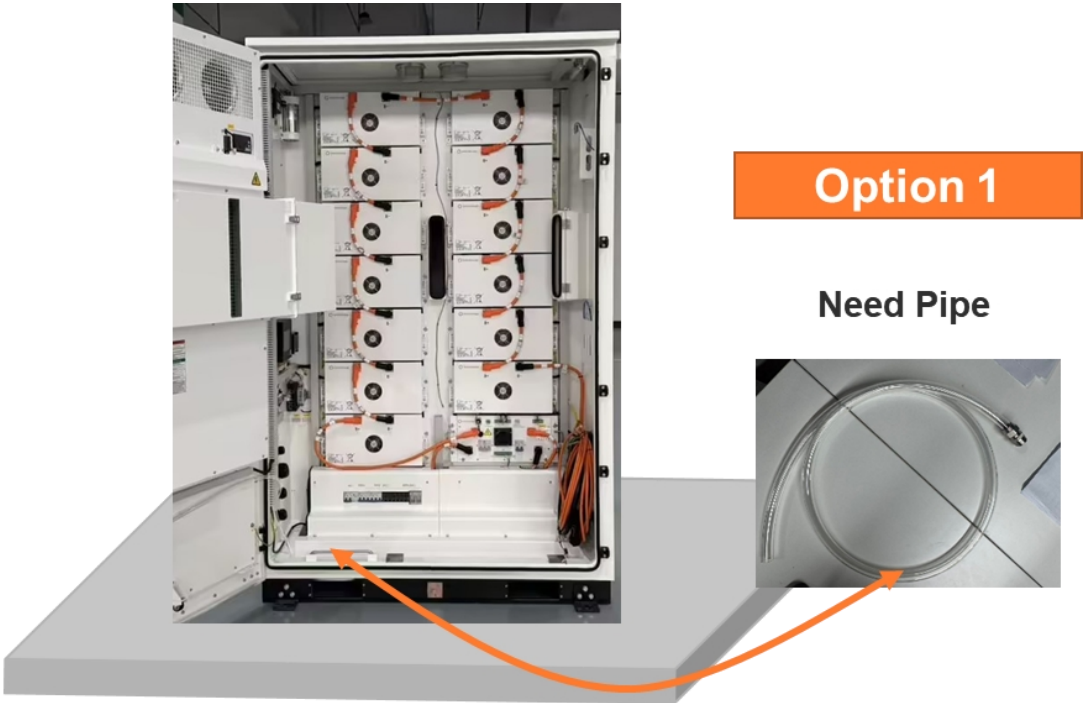


Figure 4-44

Water pipe installation method 1:

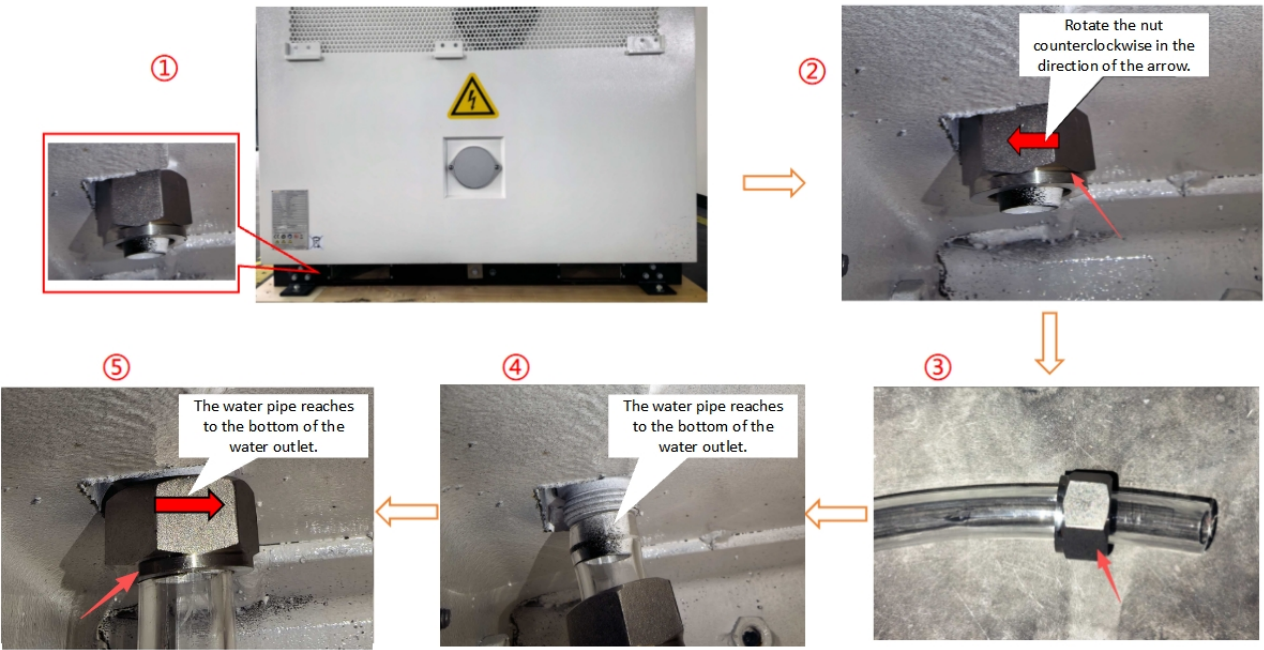


Figure 4-45

- a. Use a 24-inch open-end wrench to rotate and remove the retaining nut at the water outlet.
- b. Insert the removed nut into the water pipe (the water pipe is in the accessory package)
- c. Insert the water pipe into the bottom water outlet of the cabinet.
- d. Use an open-end wrench to tighten the nut.

Water pipe installation method 2:

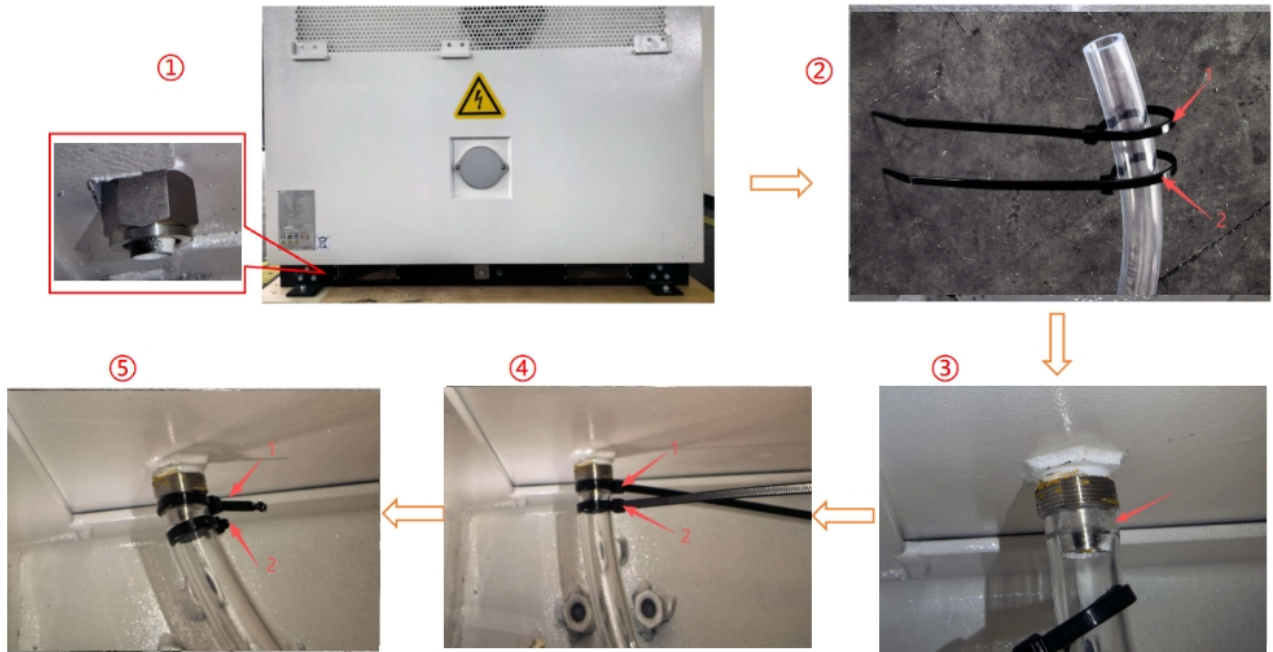


Figure 4-46

- a. Insert the cable ties(in the attachment package) into the water pipe.
- b. Put the water pipe into the water outlet.
- c. Tighten the cable ties.
- d. Cut off the excess part of the cable ties.

2. your foundation is like the bellow figure, you don't need the pipe.



Figure 4-47

4.15. Dust cover Installation

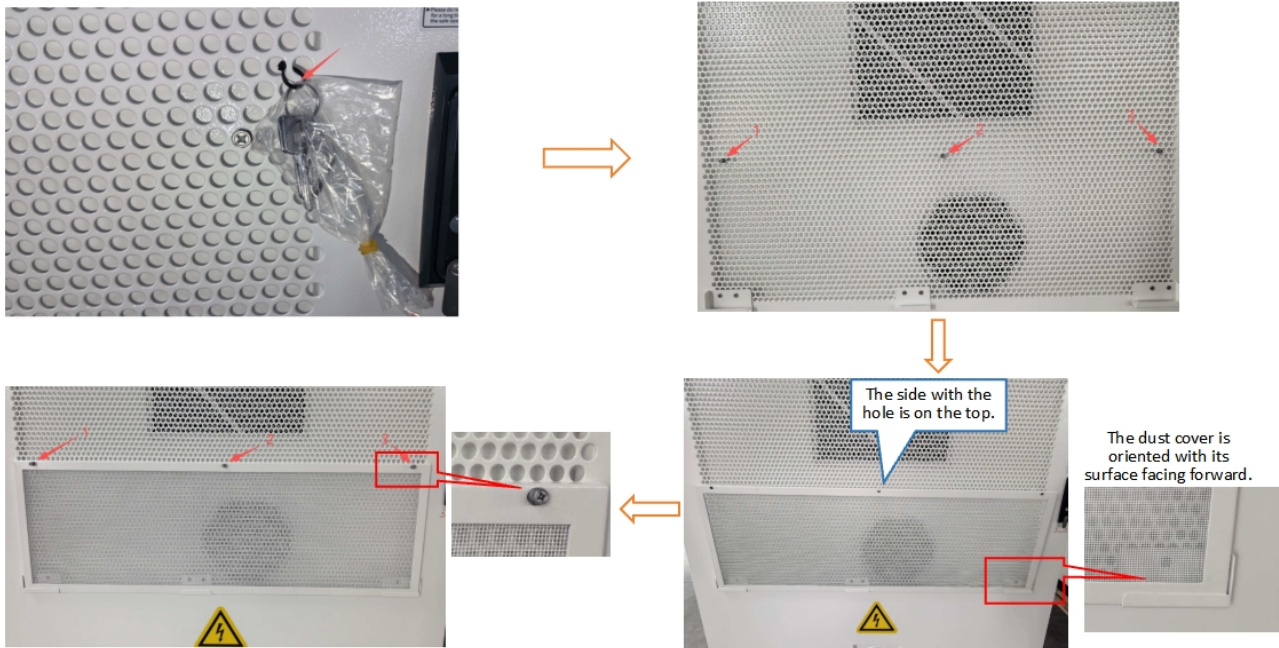


Figure 4-48

- a. e. Use the diagonal pliers to cut off the cable ties and remove the cabinet door key.
- b. a. Use the Phillips screwdriver to remove the reserved screws on the cabinet door.
- c. b. Place the dust filter in the groove of the bracket (the dust filter is in the accessory package).
- d. Use the M6*25 hex socket combination screw that was removed to fix the dust filter (recommended torque: 2.5 N.M).

4.16. Anti-theft Lock Installation

For preventing the stealing of inverter, you should install a lock (in accessory package) to the bracket



Figure 4- 49 Lock Installation

4.17. Removal of the Cover for the Water Connector

For the convenience of water injection through the fire water connection if a fire breaks out on-site, remove the transparent cover from the water connection after installation is finished.



Figure 4-450 Remove the water inlet cover

4.18. Forklift Entry Panel Installation

After all the cables and necessary components installation are finished, you should seal the forklift entry, the cover panel in the accessory package, the sealing positions are as below figure

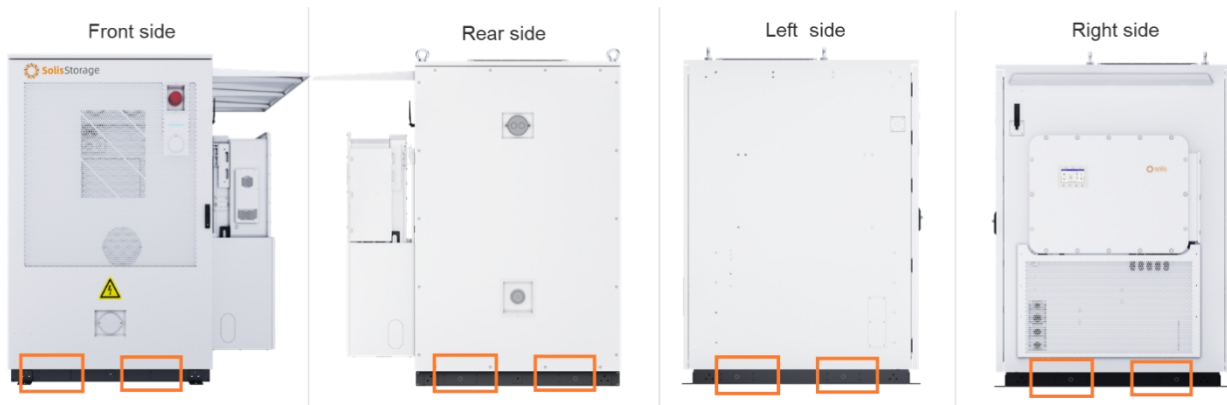


Figure 4-51 Sealing the forklift entry

5. System Commission

5.1. Inspection before Power-ON

5.1.1. Inspection of Wiring Quality

1. Check whether the polarity of the DC cables is correct, whether the nuts are installed properly, and whether the cable labels are correct.
2. Check whether the phase sequence of the AC cables is correct, whether the connection terminals are fixed properly, and whether the cable labels are correct.
3. Check whether the insulation resistance of all equipment meets the requirements.
4. Check whether the positive and negative poles of EverCore are short-circuited, and whether the AC cable terminals L1, L2, L3, N, and PE are short-circuited.
5. Check whether the grounding conductance of the grounding wire is good.
6. Before powering on, check the connection cables of the entire system to ensure reliable cable connections, without aging, cracking, or insulation damage.
7. Check whether all communication cables and terminals are tightly and reliably connected;

5.1.2. Inspection of Components State

Before the trial run, please check the following items:

Table 5- 1 System Inspection

NO	Inspection items
1	Check if all cable connections are reliable.
2	Check if system is well ventilated.
3	Check if system is reliably grounded.
4	Test the AC input items of system to ensure if they are correct.
5	Check if all switches of system are in the off position.
6	Check if the PDU area isolating switch is in the off position.
7	Ensure that the grid voltage and frequency on the AC side are in accordance with the input requirements of system.

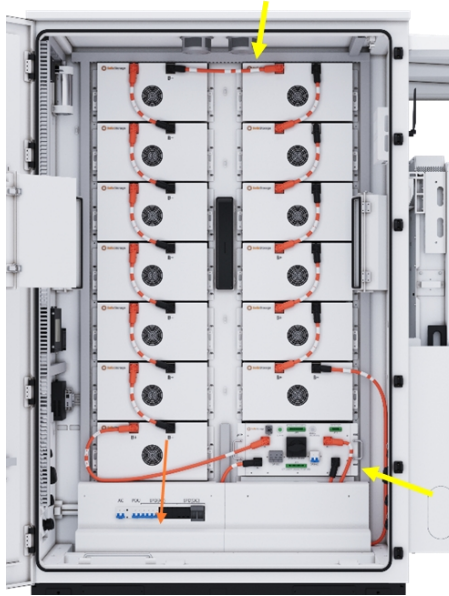


Figure 5-1 Check cable connection



Figure 5-2 Check air duct

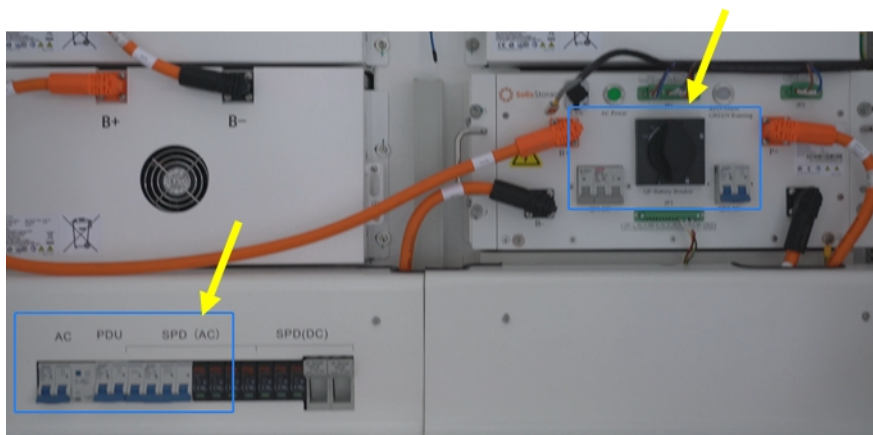
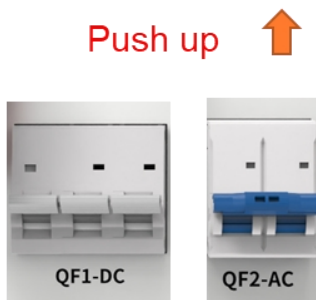
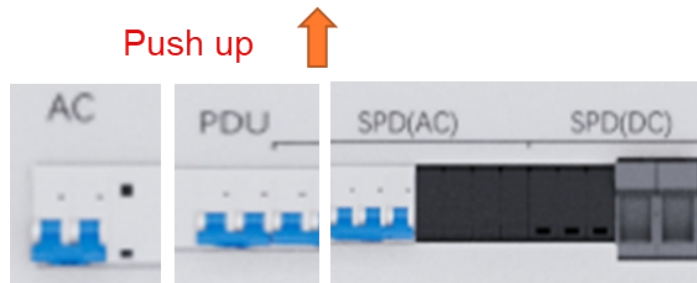
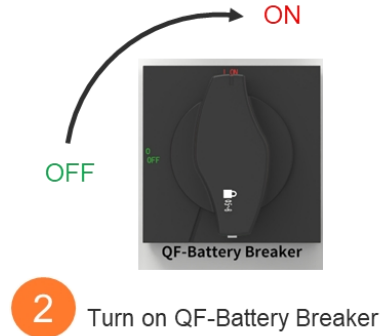
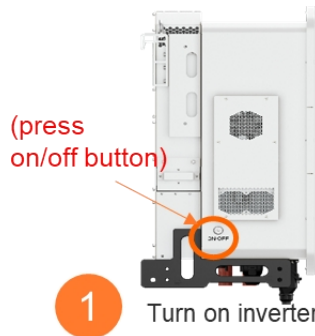


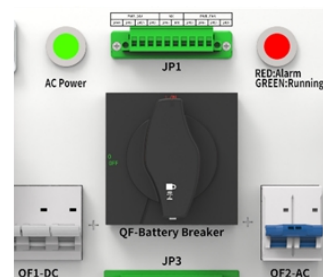
Figure 5-3 Check switch

5.2. System Power-On Operation

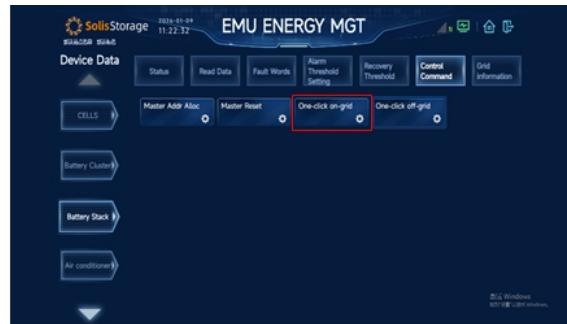
Don't forget to turn on the PV switch under the bottom of inverter, after that, you should following the following steps



Check indicator lights



When the AC Power green indicator light is on, it indicates that the auxiliary power supply on the high-voltage cabinet has been activated.

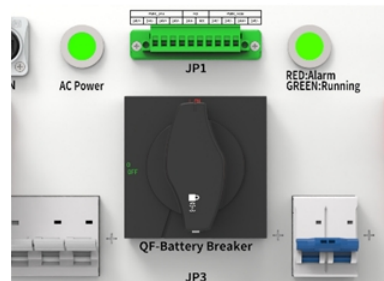


- 6 enable "On-click on grid" button on EMU screen

Waiting for 30S-60S

Check indicator lights

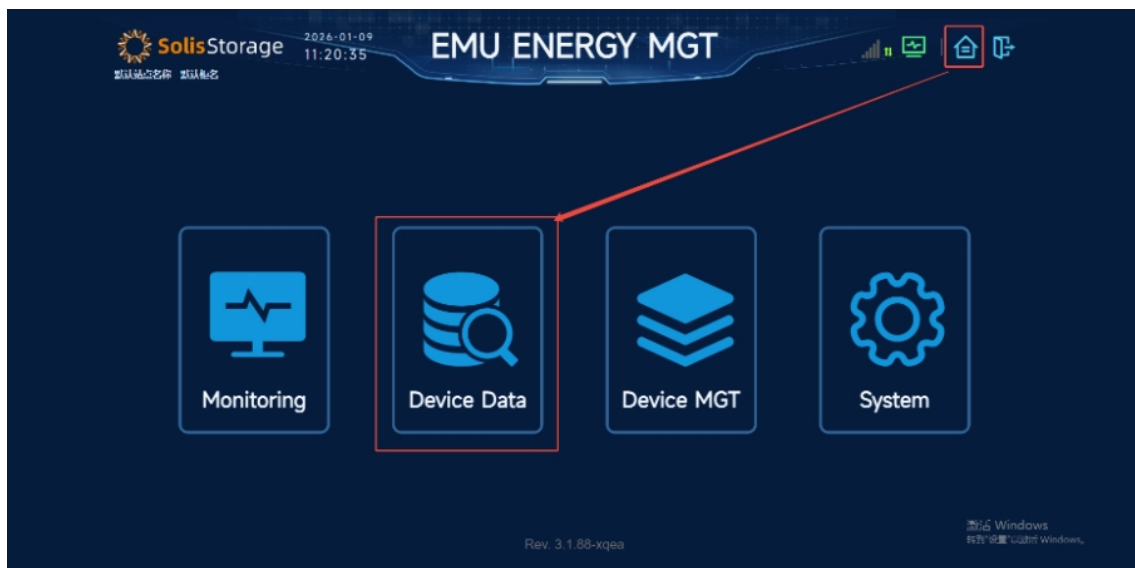
Power-On Successfully

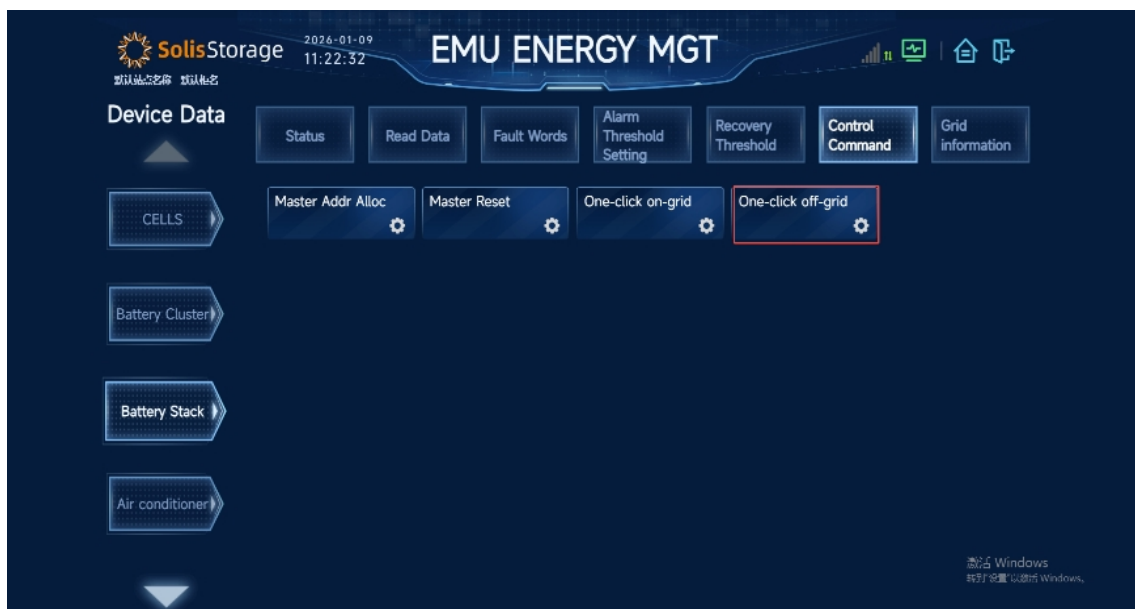
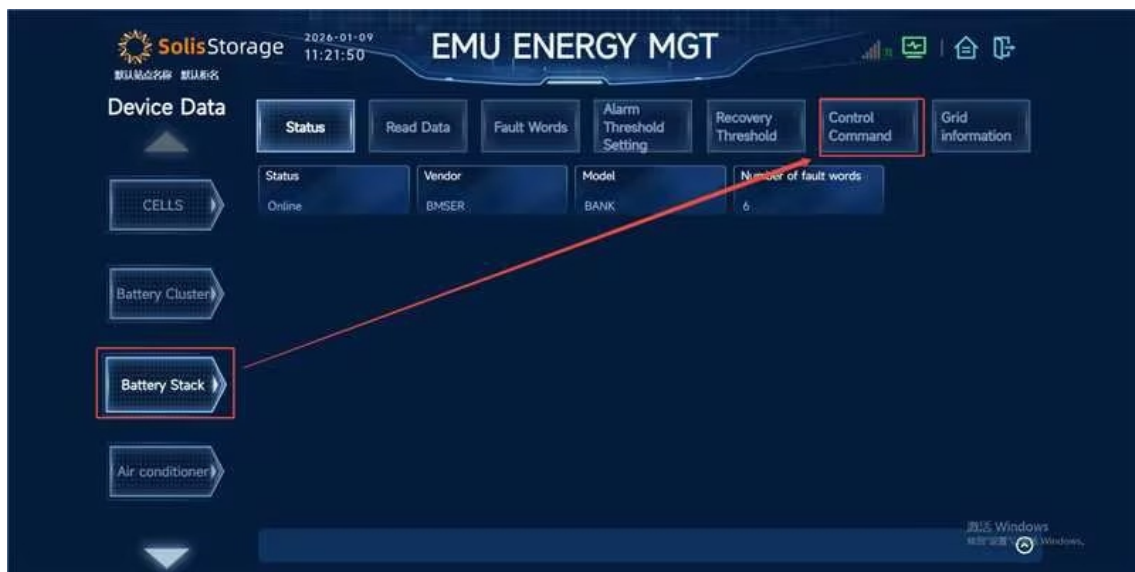


- 7 When the system running indicator light changes from red to green, it indicates that the system has been powered on successfully

Figure 5-4

find the button: one-click-off on EMU inside the cabinet





After power on successfully, you should do the following power-on inspection

Table 5-2 Inspection items

Export the monitoring data of all devices and check whether the data are normal
Check whether the indicator light status of each device is corresponding to the running status
Check the working status of the flammable gas detector (H2)
Check the indicator light of the smoke sensor
Check the indicator light of the temperature sensor

And you should do the following parameters inspection to ensure the system running at a normal state

Table 5- 3 Parameters inspection

Model Parameter	EverCore-261kWh
Total Battery Charge	0 kWh (New product, initial state, first use)
Total Battery Discharge	0 kWh (New product, initial state, first use)
SOC	5-100%
SOH	100% (New product, initial state, first use)
Total Voltage	754V-936V
Total current	0A (first start)
Direction	Static (first start)
Installed Capacity	261kWh
Min Cell Voltage	2900mV~3600mV
Max Cell Voltage	2900mV~3600mV
Min Cell Temperature	5°C-56°C
Max Cell Temperature	5°C-56°C

5.3. Quick Setting on APP (SolisCloud)

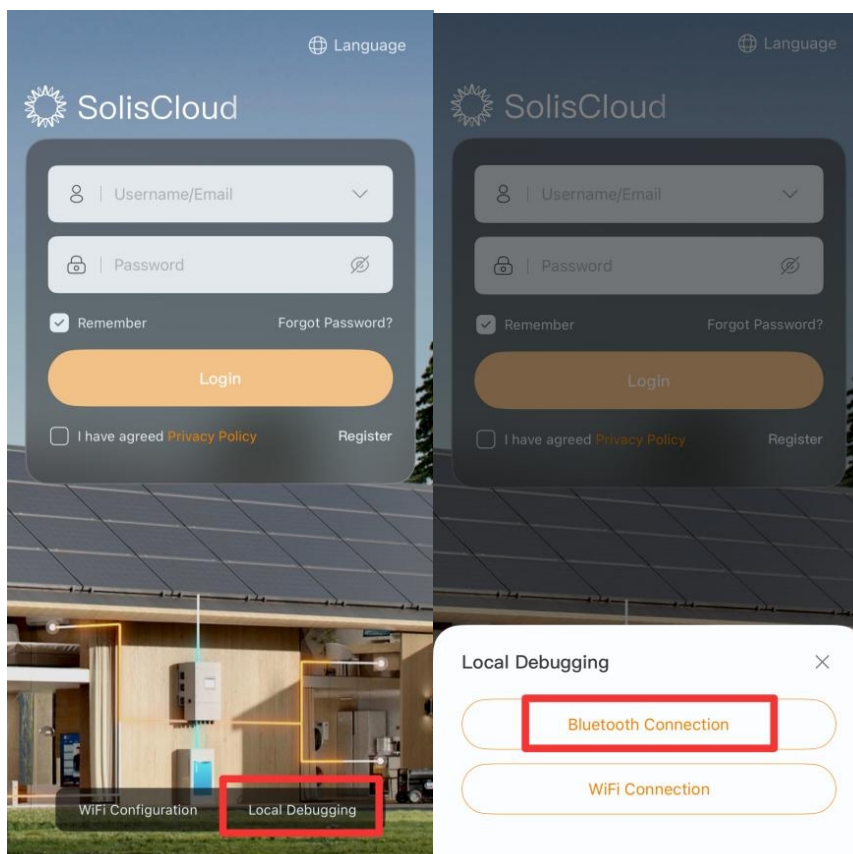
You can download the app by scanning the QR Code or download it in the App Store in your region, the App version should be higher than V5.1.1



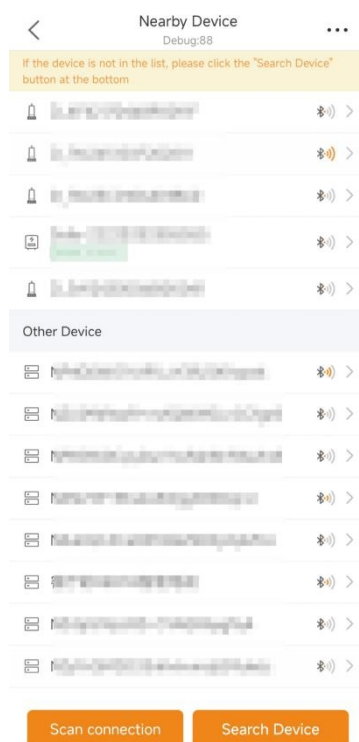
5.3.1. Log in the APP Via Bluetooth

Step 1: Turn on Bluetooth switch on your phone and then open the SolisCloud APP.

Click "Local Debugging"——> "Bluetooth Connection"

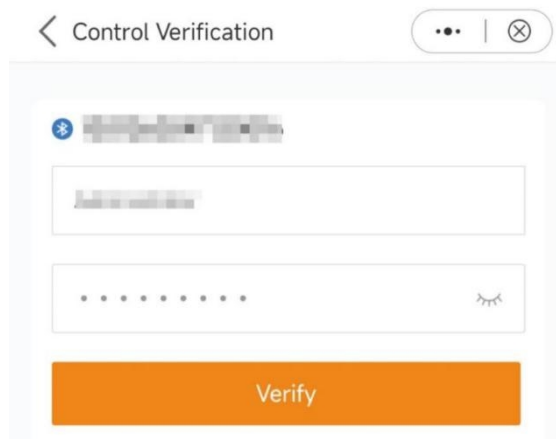


Step 2: Select the Bluetooth signal from the inverter. (Bluetooth Name: Inverter SN)



Step 3: Login account.

If you are the installer, please select the account type as Installer. If you are the plant owner, please select the account type as owner. Then set your own initial password for control verification. (The first time log-in operation must be finished by installer in order to do the initial setup)

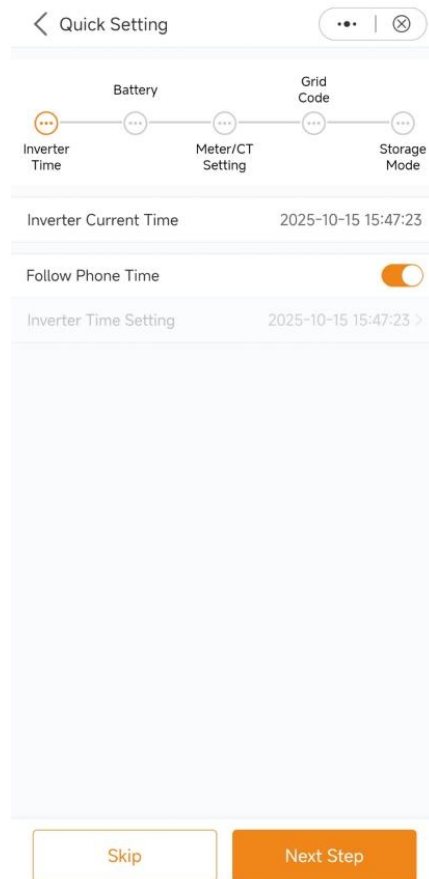


5.3.2.APP Quick Setting

If this is the first time the inverter has been commissioned, you will need to first go through the Quick Settings. Once this has been done, these settings can be changed later.

(1) Inverter Time:

Set inverter time and date, tap the slider next to "Follow Phone Time", then tap "Next step" at the bottom right corner.



(2) Battery:

- Select number of battery banks: The default value for EverCore should be 1,

Select battery connect method: for EverCore system, the battery connection default method is 2 batteries in parallel, DC1 and DC2 ports be parallel to one terminal

- Select battery model: **SolisStorage**

- Select battery cabinet quantity setting; it means the number of parallel cabinet

You can manually configure a dynamic or static IP address for the battery cabinet.

< Batt Model

Number of Battery Banks 1 >

Battery Model SolisStorage >

Battery Connection Method

DC Line
--- BMS Communication Line

Battery Cabinet Quantity Setting 6 >

Online Battery Cabinet Settings Refresh

Master	No.1 SN: 4555555555CESVEFVFV	Setting >
No.2	SN: 4555555555CESVEFVFV	Setting >
No.3	SN: 4555555555CESVEFVFV	Setting >
No.4	SN: 4555555555CESVEFVFV	Setting >
No.5	SN: 4555555555CESVEFVFV	Setting >
No.6	SN: 4555555555CESVEFVFV	Setting >

Save

< Quick Setting

Battery

Grid Code

Inverter Time

Grid Meter/CT

Storage Mode

Tip

The selection method must correspond to the field connection!

DC Line
--- BMS Communication Line

BMS1 port must be connected among all modes
BAT in parallel is the preferred mode when > 50kWh

Cancel Confirm

6 Parallel- 6 Online 0 Offline

Back Next Step

< Setting

...

⊗

SN:4

Internet Access Method

Static IP Address >

IP

0.0.0.6

Gateway

0.0.0.6

Subnet mask

0.0.0.6

Preferred DNS

0.0.0.6

Standby DNS

0.0.0.6

Save

< Setting

...

⊗

SN:4

Internet Access Method

Dynamic IP Address >

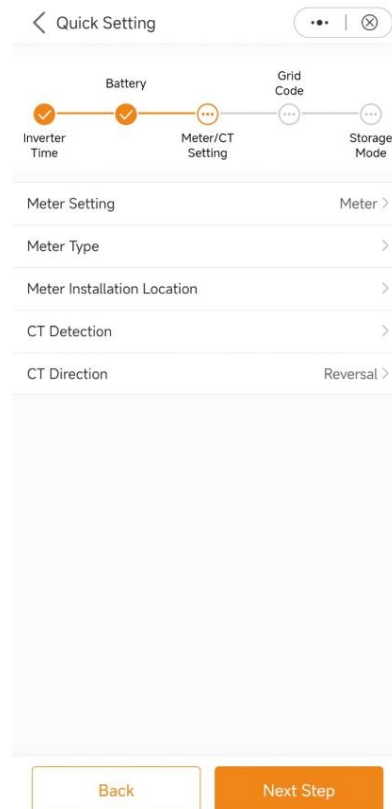
Save

(3) CT/Meter setting:

- Select CT or Meter;
- Set Meter type (Solis provide Eastron 3 phase meter, it is self-identifiable).
- Set Meter installation location: Grid side / Load side / Grid+ PV inverter;
- Set CT ratio: default 60 (Solis provide ESCT-T50-300A/5A CT), if the user installs their own CT,

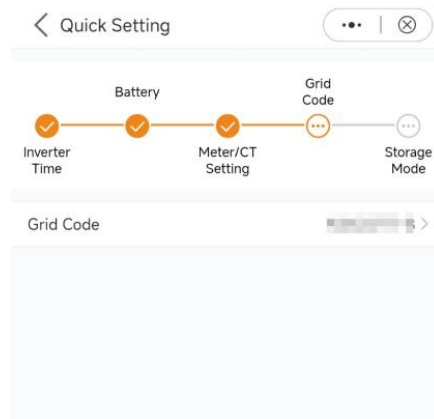
then need to set the CT ratio manually. If the system is connected to the Meter, then the CT ratio needs to be set on the Meter.

•CT direction: When CT is installed correctly, select "Forward"; when CT is installed in the wrong direction, the sampling current of CT will be reversed when calculating the power, select "Reversal" to correct it.



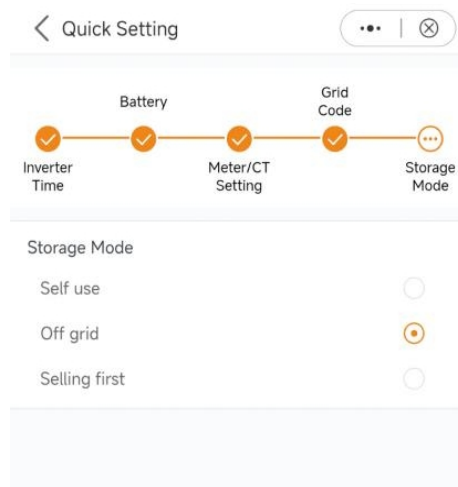
(4) Grid code:

Select grid code that meets the local regulations.

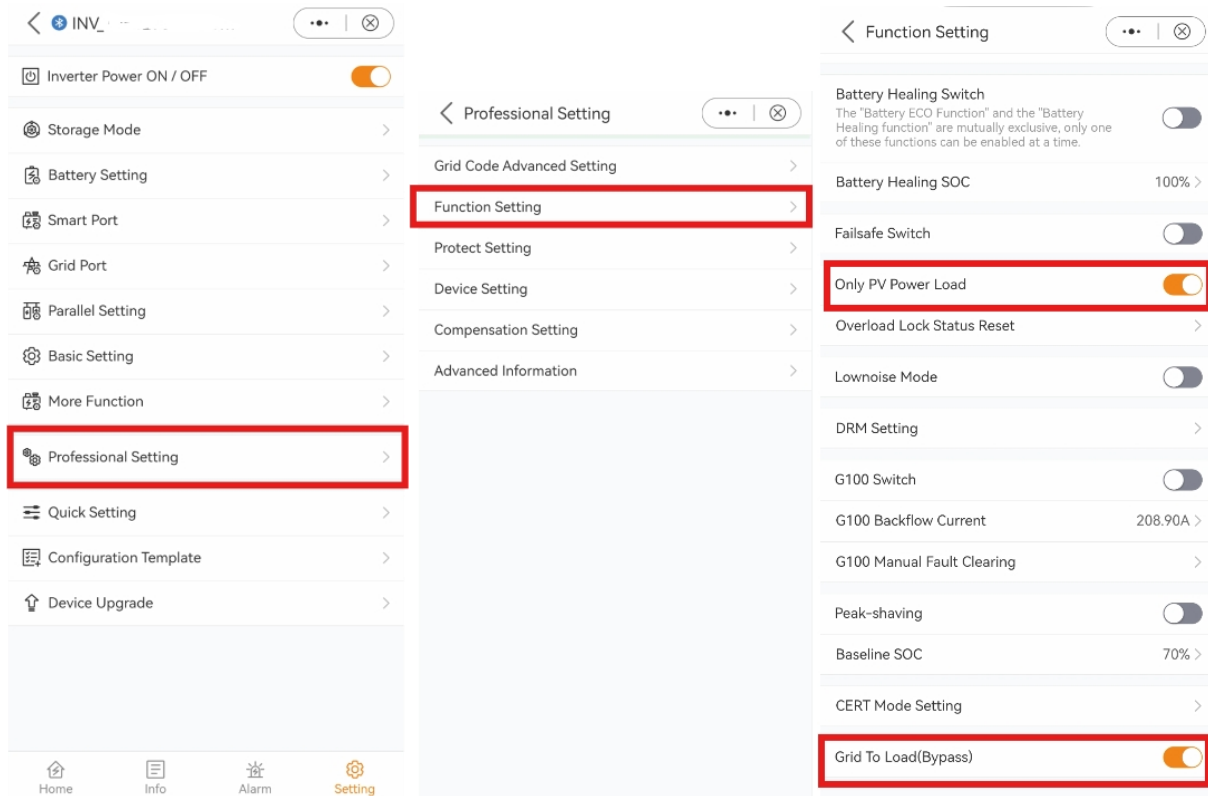


(5) Storage mode:

ALL modes first priority is to use the available PV power to support loads. The different modes determine what the second priority, or use of the excess PV power, will be. Self-use / Selling first / Off-grid are exclusive, the user can select only one mode.

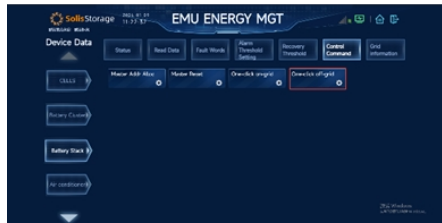


To ensure that the AC backup power source of the battery cabinet can still supply power normally even when only PV or only the grid is available, the "Only PV Power Load" and "Grid To Load (Bypass)" functions need to be enabled in the APP function settings. Click the bottom right corner "Setting", then click "Professional Setting" and "Function Setting" - check and enable both functions.



Power-off procedures

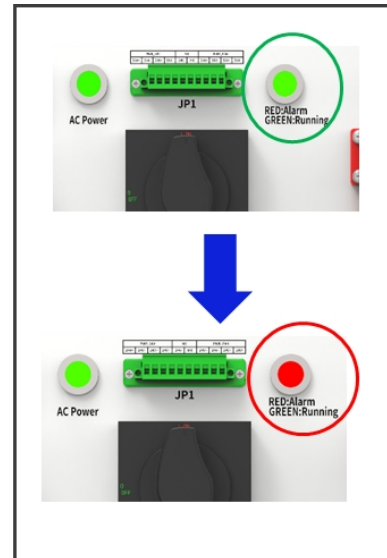
following the steps to operate power-off procedures



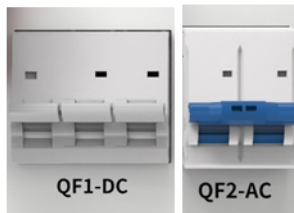
Waiting for 30S-60S

Check indicator lights

- 1 Press One click off-grid button on EMU

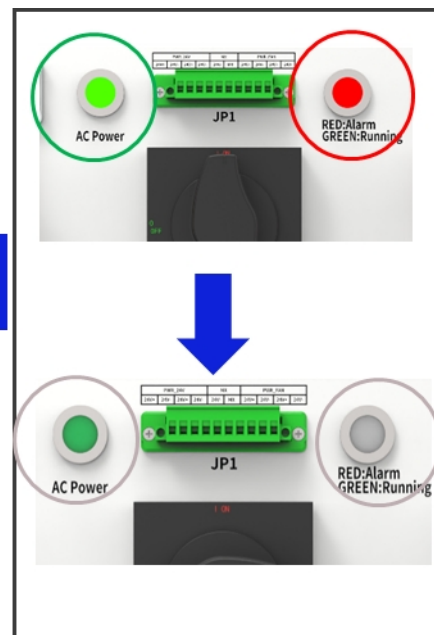


Push down ↓

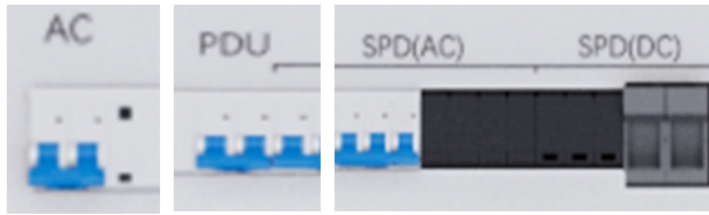


Check indicator lights

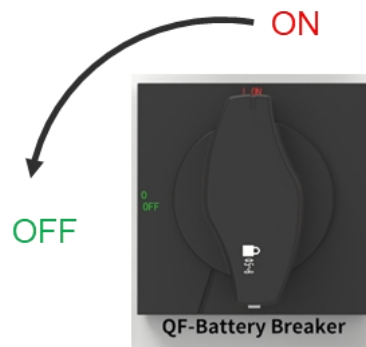
- 2 Turn off on QF1-DC,QF2-AC



Push down ↓



- 3 Turn off AC,PDU switch and SPD (AC) Protection Switch



- 4 Turn off QF-Battery Breaker,



(press on/off button)

System Power-OFF Successful



- 5 Turn off inverter

6. Parallel system

6.1. AC coupling parallel operation

1.Before doing the parallel mode, please upgrade all the EMU(Inside the battery cabinet) and hybrid inverters to the latest version(ARM&DSP).

2.Check if the evercore battery cabinets and hybrids are the same model. Eg, match a 50kW-120kWh system with 50kW-120kWh system. Do not install systems in parallel mode from different model!

3.When there are up to 6pcs of inverters working in parallel mode, the on-grid to off-grid switching time is less than 20ms. When there are up to 7~10pcs of inverters working in parallel mode,It is recommended to install external switching devices such as STS.

4.It is recommended that the specification and total capacity of battery on the master and slave inverter be same; If it's different, connect the battery of larger capacity to the master inverter, if the battery with larger capacity is connected to a slave inverter , may fail to fully discharge in heavy load scenarios.

5.Parallel connection of Battery port is not supported between each inverter, each inverter should have its own battery connected independently.

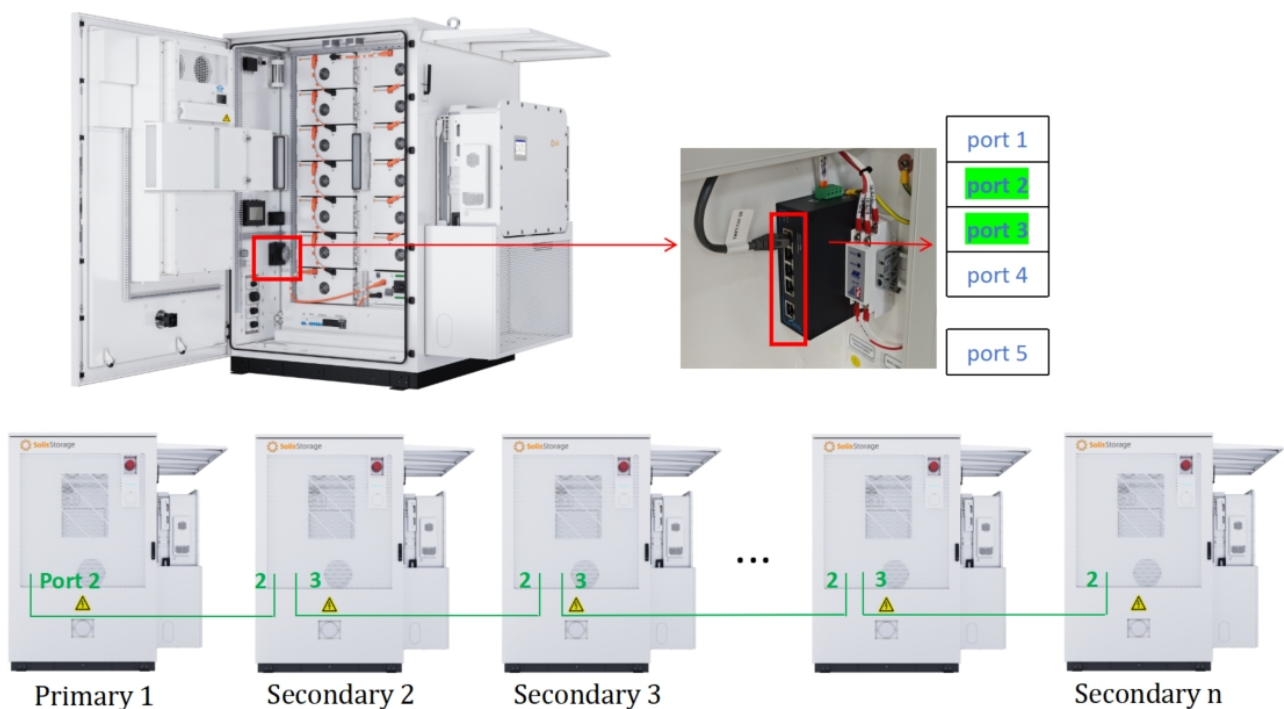
6.When the current on each phase of the grid side is over 300A, for which indicates sum of the load and the inverter system output capacity, customers need to equip their own CT, which can meet the secondary side current of 5A.

6.1.1.Connection of the communication lines for the Cabinets

The EMUs inside the battery cabinet need to be connected through the CAN wiring harness(Need to be prepared by the customer themselves): Start from the “port 2” of the primary(host) cabinet, connect to the “port 2” of the second cabinet, then from the “port 3” of the second cabinet, to connect to the “port 2” of the next cabinet...

For the EMU communication lines, the customer is required to prepare them according to the placement distance. To avoid interference during operation, the following requirements apply(During the DC expansion, the communication lines of the EMU also have the same requirements.):

1. Use shielded network cables ,Category 6A (Cat6a) is recommended.
2. All terminations shall be crimped in accordance with the T568B wiring standard.
3. The tensile strength (pull-out force) between the plug and the cable conductors shall be greater than 50N .
4. Ensure 100% continuity for all 8 conductors and shield layer.



6.1.2.Connection of the communication lines for the hybrid inverters

You can use the CAN cable in accessory as the parallel communication cable(3m).

We recommend 3~5m parallel distance between inverters.

If you have the longer distance demand on customer site:

Solis support 20m distance with no communication fault between the first and last under 2 units parallel mode;

Solis support 60m distance with no communication fault between the first and last under 6 units parallel mode.

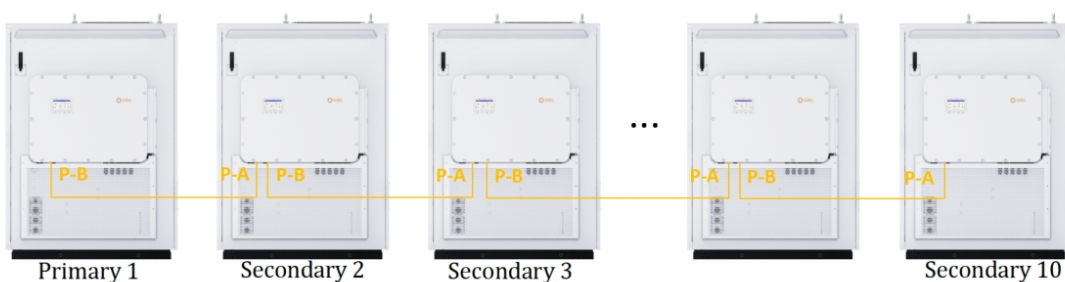
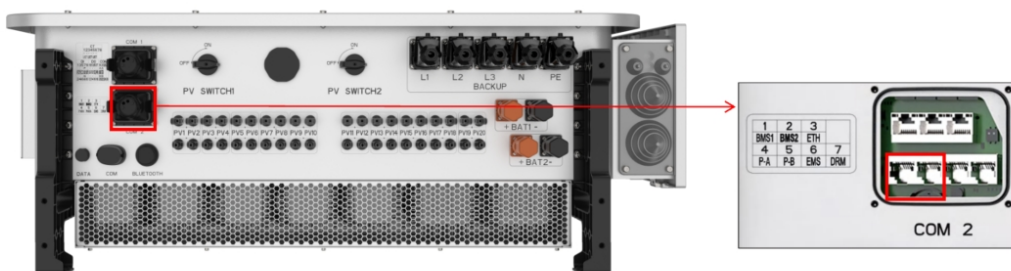
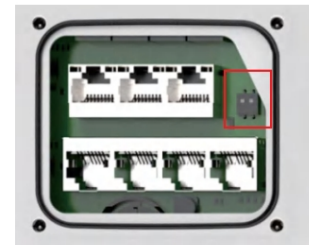


Parallel Terminal Connection



NOTE:

If the parallel machine is connected to the first and last consoles of the parallel connection, you need to put the DIP switch on the ARM board to "ON" position, and all the middle machines' DIP switch should be put to "OFF" position.



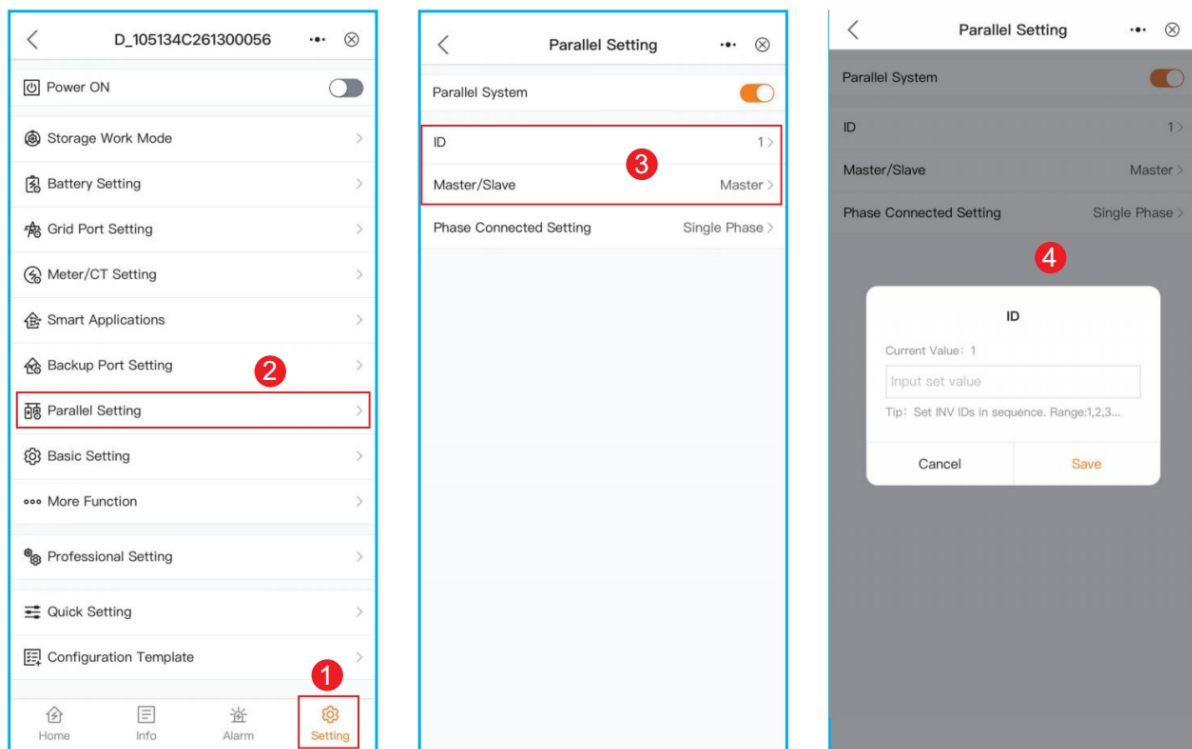
6.1.3.Hybrid inverters Master/Slave settings

- 1.Select Parallel setting
- 2.Set the Master hybrid ID to 1
3. Set the Slaves ID to 2,3,4and so on....

Note:

1.When under parallel system(inverter amount > 2), the AC cable length difference from inverter grid/backup port to the busbar should not exceed 10%.

2.You must set the parallel mode on Solis app for each hybrid in case of avoiding the damage to hybrid when power on.

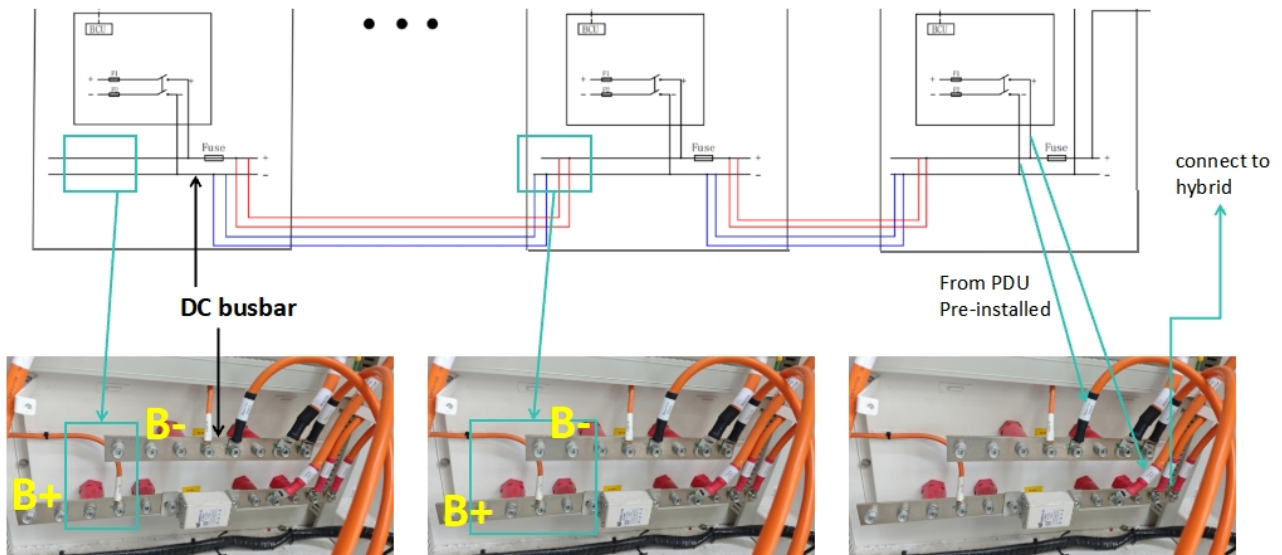


6.2. DC coupling expansion operation

6.2.1. Power lines and communication lines connection

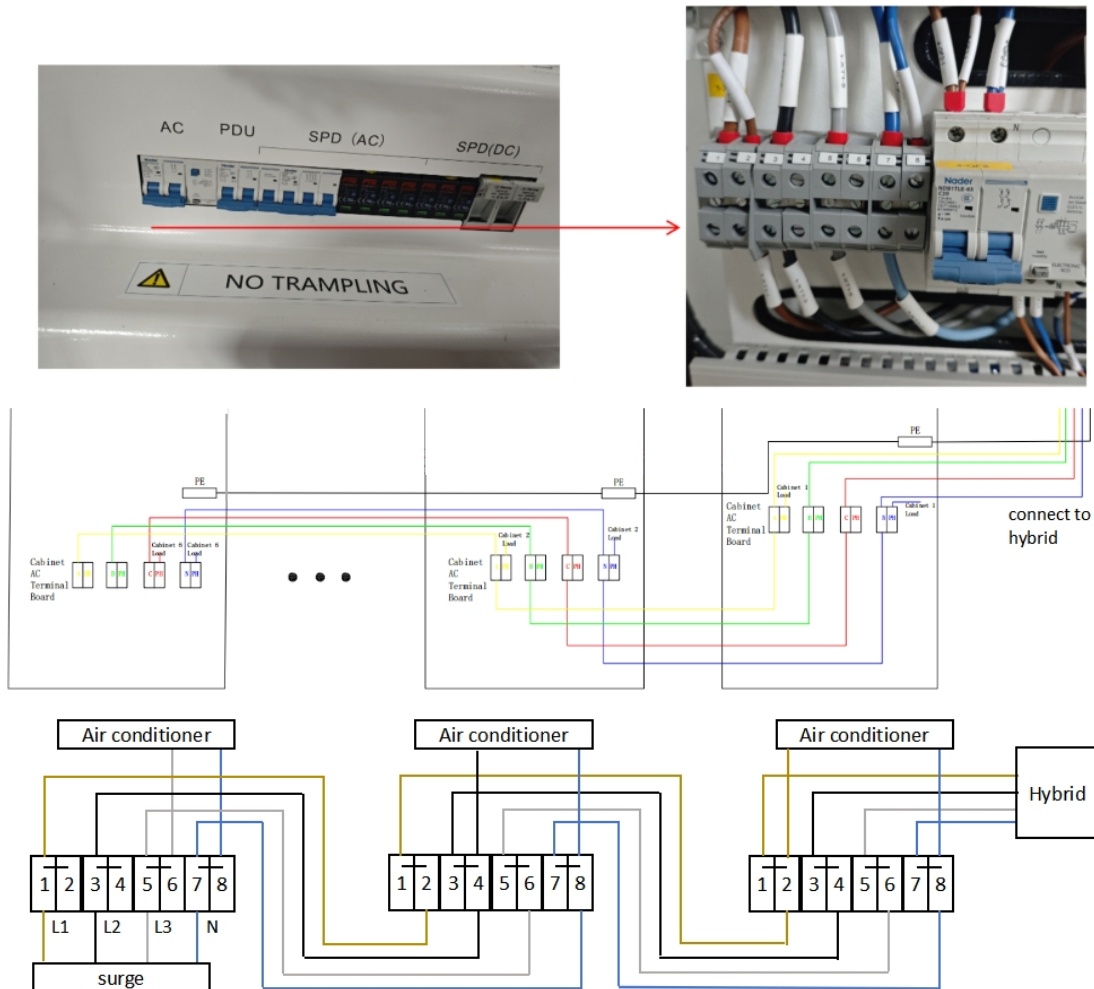
Battery wiring connection (2 positive, 2 negative) :

Remove the battery wiring cover and locate the copper bus, connect the four battery cables as shown in the diagram.

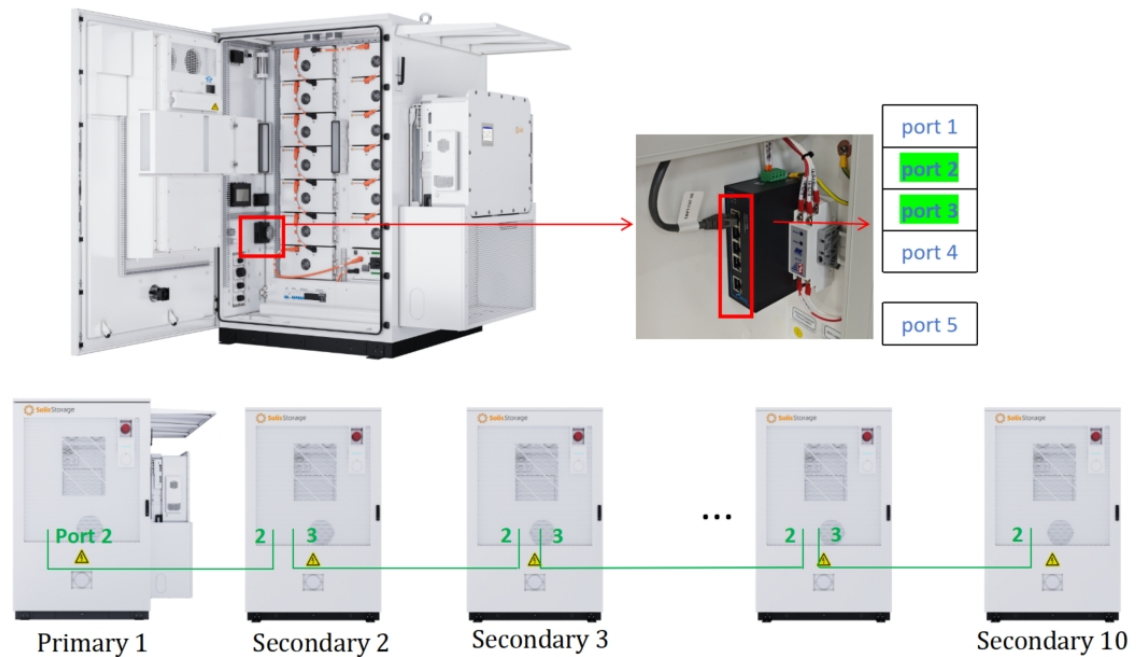


Auxiliary power wiring connection:

When the battery is shipped from the factory, the auxiliary power supply is automatically powered by the L1 phase. To achieve balanced three-phase output, the device needs to be manually adjusted so that it draws power from the L2 or L3 phase.



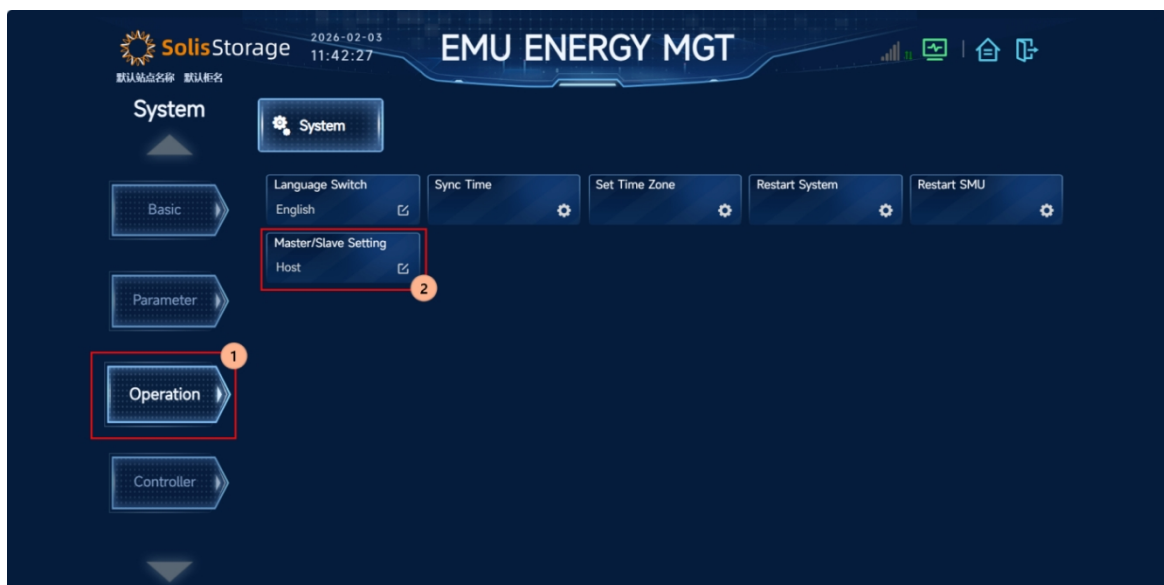
EMU communication wiring connection:



6.2.2.EMU settings

Set Master

1. Click **System** ► **Operating**.
2. Click the **Master/Slave Setting** module.
3. In the pop-up editing dialog box, click the drop-down arrow, select the desired mode, and then click **Sure**.

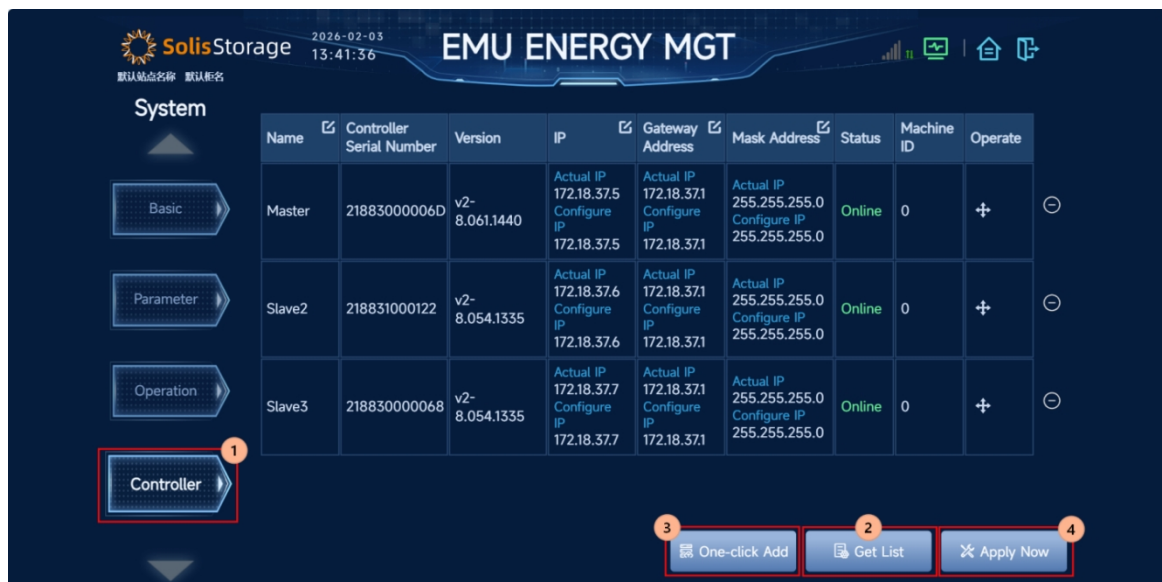


Set Slave

(1) Add Slave

The master controller and slave controllers are connected through the WAN 1 network port. For multiple slaves, use a switch for networking. Users can automatically or manually assign incrementing IP addresses.

1. Click **System ► Controller**
2. Click **Get List** button
3. Click **One-click Add** button
4. Click **Apply Now** button。



If you need to adjust the arrangement order of the slave machines, click on the corresponding drag icon of the machine, and then drag it up and down to the desired position. As shown in the figure below, after dragging "Slave 3" to the position of "Slave 2", Slave 2 will occupy this logical position and present the corresponding logical relationship.

Click **System ► Controller**.

SolisStorage 2026-02-03 13:45:21 **EMU ENERGY MGT**

默认站点名称 默认柜名

System

Basic
Parameter
Operation
Controller

Name	Controller Serial Number	Version	IP	Gateway Address	Mask Address	Status	Machine ID	Operate
Master	21883000006D	v2-8.061.1440	Actual IP 172.18.37.5 Configure IP 172.18.37.5	Actual IP 172.18.37.1 Configure IP 172.18.37.1	Actual IP 255.255.255.0 Configure IP 255.255.255.0	Online	0	+
Slave2	218831000122	v2-8.054.1335	Actual IP 172.18.37.6 Configure IP 172.18.37.6	Actual IP 172.18.37.1 Configure IP 172.18.37.1	Actual IP 255.255.255.0 Configure IP 255.255.255.0	Online	0	+
Slave3	218830000068	v2-8.054.1335	Actual IP 172.18.37.7 Configure IP 172.18.37.7	Actual IP 172.18.37.1 Configure IP 172.18.37.1	Actual IP 255.255.255.0 Configure IP 255.255.255.0	Online	0	+

One-click Add Get List Apply Now

(2) Delete Slave (If necessary)

1. Click **System ► Controller**.

2. Click the "Delete" button on the right side of the slave device that needs to be removed.

SolisStorage 2026-02-03 13:53:53 **EMU ENERGY MGT**

默认站点名称 默认柜名

System

Basic
Parameter
Operation
Controller

Name	Controller Serial Number	Version	IP	Gateway Address	Mask Address	Status	Machine ID	Operate
Master	21883000006D	v2-8.061.1440	Actual IP 172.18.37.5 Configure IP 172.18.37.5	Actual IP 172.18.37.1 Configure IP 172.18.37.1	Actual IP 255.255.255.0 Configure IP 255.255.255.0	Online	0	+
Slave2	218831000122	v2-8.054.1335	Actual IP 172.18.37.6 Configure IP 172.18.37.6	Actual IP 172.18.37.1 Configure IP 172.18.37.1	Actual IP 255.255.255.0 Configure IP 255.255.255.0	Online	0	+
Slave3	218830000068	v2-8.054.1335	Actual IP 172.18.37.7 Configure IP 172.18.37.7	Actual IP 172.18.37.1 Configure IP 172.18.37.1	Actual IP 255.255.255.0 Configure IP 255.255.255.0	Online	0	+

One-click Add Get List Apply Now

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Web: www.solisstorage.com

Please adhere to the actual products in case of any discrepancies in this user manual.

If you encounter any problem on the inverter, please find out the inverter S/N and contact us, we will try to respond to your question ASAP.