



Air Cooling Energy Storage System

AELIO-P50B200 / AELIO-P60B200
Installation Manual

Version 3.0

www.solaxpower.com



Table of Contents

Safety	.1
Preparation before Installation	.9
Mechanical Installation	.22
Electrical Connection	.27
Power on the System	.50
LED Indicators	.54
System Configuration	.56

Safety

General Notice

- Contents may be periodically updated or revised. SolaX reserves the right to make improvements or changes in the product(s) and the program(s) described in this manual without the prior notice.
- 2. The installation, maintenance and grid-related setting can only be performed by qualified personnel who:
 - Are licensed and/or satisfy state and local jurisdiction regulations;
 - Have good knowledge of this manual and other related documents.
- 3. Before installing the device, carefully read, fully understand and strictly follow the detailed instruction of the user manual and other related regulations. SolaX shall not be liable for any consequences caused by the violation of the storage, transportation, installation, and operation regulations specified in this document and the user manual.
- 4. Use insulated tools when installing the device. Individual protective tools must be worn during installation, electrical connection and maintenance.
- 5. Please visit the website www.solaxpower.com of SolaX for more information.

Safety Instruction

For safety reasons, installers are responsible for familiarizing themselves with the contents of the Manual and all warnings before performing installation.

Descriptions of Labels



CE mark of conformity



TUV certification



RCM mark of conformity



Grounding point



Additional grounding point



Caution, risk of danger



Caution, hot surface



Caution, risk of electric shock



The battery module may explode.



Keep the battery system away from children.



Keep the battery system away from open flames or ignition systems.



Do not operate this inverter until it is isolated from mains and on-site PV generation suppliers.



Read the enclosed documentations

sources.



The device cannot be disposed together with the household waste.



Danger of high voltage.
Do not touch live parts of the cabinet for 15 minutes after

disconnection from the power

4

The battery system must be disposed of at a proper facility for environmentally-safe recycling.



Danger of high voltage.

Do not touch live parts of the inverter for 5 minutes after disconnection from the power sources.



⚠ DANGER!

According to the local laws and regulations related to high-altitude work, operators
must wear PPE, e.g., a helmet, safety belt, or waist harness, when they work at
heights, while the other end of the harness must connect to a secure structure to
prevent fall incidents.

! DANGER!

- Do not connect the positive and negative poles of a battery together. Otherwise, it may be short-circuited. This will result in an excessive flow of current and large quantities of energy for a short time, and then will cause battery leakage, smoke, the emission of flammable gases, thermal runaway, fire, or even an explosion. Therefore, the battery must be powered off before maintenance.
- If a battery is overheated, it will cause leakage, smoke, release of flammable gases, thermal runaway, fire, or even an explosion. Therefore, please ensure that the installation site shall be well ventilated and kept away from high temperatures.
- Do not dismantle, change, shake, drop, crush, impact, cut, penetrate with a sharp object, or any other ways to damage the battery. Otherwise, it may cause leakage, smoke, emission of flammable gases, thermal runaway, fire, or even an explosion.
- Do not mix different types or makes of the battery. Otherwise, it may cause leakage or rupture, resulting in personal injury or property damage.
- The battery electrolyte is toxic and volatile. Never get in contact with the leaked liquids or inhale gases in the case of the battery leakage or odor, and contact professionals immediately. The professional must wear PPE (including but not limited to safety glasses, safety gloves, gas masks, and protective clothing) before powering off the device, and then contact our company at once after removing the damaged battery.
- Normally, the battery will not release any gases. However, in the following situations: burnt, needle-pricked, squeezed, struck by lightning, overcharged, or subject to other adverse conditions that may cause battery thermal runaway, the battery may be damaged or an abnormal chemical reaction may occur inside the battery, resulting in electrolyte leakage or production of gases. If the battery needs to exhaust flammable gas, safe emission measures must be taken to prevent fire and device corrosion.
- Do not use damaged batteries, and ensure that the installation site must be well ventilated.

♠ DANGER!

- Exposure to sunlight can result in the generation of high DC voltage by PV modules, which can lead to electric shock causing severe injuries or even death.
- Never touch the positive or negative poles of the PV connecting device, and avoid touching both poles simultaneously.
- Do not ground the positive or negative poles of the PV modules.
- Only qualified personnel can perform the wiring of the PV modules.

⚠ DANGER!

- Only operate the inverter if it is in a technically faultless condition. Operating a faulty inverter may lead to electric shock or fire.
- Do not attempt to open the enclosure without authorization from SolaX.

 Unauthorized opening of the enclosure will void the warranty and can result in lethal danger or serious injury due to electric shock.
- Make sure that the inverter is reliably grounded before any operation to prevent the risk of electric shock causing lethal danger or serious injury.
- Only qualified personnel can perform the installation, wiring, maintenance of the inverter by following this document and the related regulations.

↑ DANGER!

- Please make sure that the unit is free from any damage before the electrical connection.
- Do not modify, change, or dismantle the device, do not change the power-on and power-off sequences and the installation procedure written in the document, and please properly and correctly operate it.
- Do not power on the device during installation. Otherwise, it may cause a fire, personal injury, or device damage.
- Must remove earrings, rings, bracelets, watches, and any other metal jewelry before
 operation, to avoid electrical shock, burns, or even death.
- During operation, special insulated tools must be used to avoid electric shock or short circuit failure. The insulated tools' voltage ratings must exceed the system voltage ratings. Please refer to "12 Technical Data" for system information.

/ WARNING!

- Please prepare tools that meet the requirements before installation, and check the number of tools after installation, to avoid leaving them inside the equipment.
- Please ensure that the cabinet has been thoroughly secured before operating it.
 Otherwise, it may cause personal injury or equipment damage due to tilting or collapsing the cabinet.
- Please ensure that the cabinet's vents and cooling system are working properly when it is running. If the vents are blocked, it will lead to overheating, and even equipment damage or fire hazard.
- Please ensure that the cabinet's vents and cooling system are kept away from heat sources.
- Do not drill holes in the device to avoid equipment failure.
- If the circumstances that may cause personal injury or equipment failure occur, such as, fluid flowing into the equipment, stop operation and power off immediately.
 Otherwise, it may cause a short circuit or damage.
- Do not open the cabinet doors on a rainy or high humid day (≥80% humidity). If the doors have to be opened on such days, please take proper protective measures.



- Please read the document carefully before installation, operation and maintenance.
- Must arrange fire-fighting equipment in advance according to the local laws, regulations, and standards while installing and commissioning the device.
- Please check that there is no damage to the outer packaging before and after unpacking, and in the process of storage and transportation. The battery shall be correctly placed or stacked in accordance with the requirements stipulated on the labels to prevent damaging or scrapping the battery resulting from crushing or falling.
- Must tighten screws securing cables and on the copper bars according to the torque
 information specified in the document, and check whether they are tightened
 periodically. For instance, whether there is any rust, corrosion, or any other foreign
 object on it, and then clean it up if any. Because the loose screw connections may
 result in excessive voltage drops and large currents, leading to generating a lot of
 heat and burning the battery.
- The battery should be charged in time after discharge, to prevent battery damage due to overdischarge. If a battery pack is stored for a long time, please periodically recharge it to protect it from damage according to the storage requirements specified in the document.
- Please charge the battery within the specific temperature range because the low temperature may result in a short circuit. Hence, do not charge it when the temperature is below the low limit of the operating temperature.
- Do not use the battery when you find a bulge, or dents on the battery housing, and
 contact the installer or professional maintenance personnel to dismantle and replace
 it. The damaged battery must be kept away from other devices and flammable and
 explosive articles, and do not contact it except for professionals.
- Before operation, ensure that there are no irritating or burning smells around the battery.
- Do not weld or grind near a battery. Because electric sparks or arcs may cause fires.
- Do not step, lead, stand, or set on the battery.

∕!\ WARNING!

- Overvoltage protection with surge arresters should be provided when the PV system is installed. The grid connected inverter is fitted with SPDs on both PV input side and MAINS side.
- Please consult professionals before installing SPDs.
- Make sure that the input DC voltage does not exceed the maximum DC input voltage specified for the inverter. Overvoltage can cause irreversible damage to the inverter, and such damage is not covered by the warranty.
- PV modules should have an IEC61730 class A rating.



- Operators must wear PPE while installation and maintenance of the device.
- During operation, avoid touching any parts of the inverter other than the DC switch and LCD panel.
- Never connect or disconnect the AC and DC connector while the inverter is running.
- Prior to conducting any maintenance, turn off the AC and DC power and disconnect them from the inverter. Wait for 15 minutes to fully discharge the energy.
- Avoid touching the inverter while it is running, as it becomes hot during operation and may cause personal injuries.

∕!\ WARNING!

- Please wear PPE, such as, protective clothing, insulating shoes, goggles, safety helmets, insulating gloves, etc., when conducting electrical wiring.
- Do not touch the power supply equipment directly, or through conductors or damp objects.
- Do not touch the parts of the equipment of which warning signs are attached, to avoid personal injury or device damage.

(CAUTION!

- Do not use a straight ladder. When electrical work is involved, a wooden ladder or an insulated ladder shall be used.
- The equipment shall not be used to provide a backup power source in the following circumstances:
 - a. Equipment related to life;
 - b. Sensitive precision instruments;
 - c. Home appliances will be faulty in the case of a power failure during operation.

⚠ CAUTION!

- Make sure that children are supervised to prevent them from playing with the inverter.
- Pay attention to the weight of the inverter and handle it properly to avoid personal injuries.

! CAUTION!

- Do not power on the device until it has been installed and confirmed by professionals.
- In the event of a fire, evacuate immediately and call the local fire services.

NOTICE!

• The signs and messages on the labels and nameplates attached to the device need to be visible and clear.

NOTICE!

Transportation requirements for battery:

- Relevant qualifications for the transport of dangerous goods must be obtained by the forwarding agent engaged in such businesses, and they must strictly abide by the local regulations for the transport of dangerous goods.
- Please check the battery before transportation. If a battery leaks, smells, or is damaged, do refuse to transport it.
- Please handle gently in the process of loading and unloading, transportation, and moving a battery to prevent bumping, and take effective moisture-proof measures to prevent personal injuries and battery damage.
- Unless otherwise specified, do not transport the batteries, which are classified as
 dangerous goods, together with food, medicine, or other additives on the same
 means of transport.

If the battery leaks electrolyte or any other chemical materials, the electrolyte leakage can lead to toxic gases. Therefore, do not contact with them at all times. In case of accidentally coming into contact with them, please do as follows:

- In case of inhalation: Leave the contaminated area immediately, and seek medical attention at once:
- In case of contact with eyes: Rinse eyes with running water for at least 15 minutes, and seek medical attention:
- In case of contact with skin: Wash the contact area thoroughly with soap, and seek medical attention;
- In case of ingestion: Induce vomiting, and seek medical attention.

NOTICE!

If a fire breaks out where the battery is installed, please do as follows:

- In case a battery is charging when the fire breaks out, provided it is safe to do so, press the emergency stop button and unplug the power cable;
- In case a battery is not on fire yet, use a water-based fire extinguisher or a carbon dioxide extinguisher to extinguish the fire;
- In case a battery catches fire, do not try to put it out, and evacuate immediately;
- A battery may catch fire when it is heated above 150°F/60°C. If the battery catches fire, please evacuate immediately since it will generate noxious and poisonous gases.

Recovery of damaged or wasted battery:

- Dispose of the damaged or wasted batteries according to local laws and regulations instead of placing them in the household trash or curbside recycling bins. Otherwise, it may cause environmental pollution or explosions.
- Ensure that the damaged or wasted batteries are not exposed to the following situations: high temperatures, high humidity, direct sunlight, corrosive environments.
- Contact a battery recycling company to scrap the battery, which leaks electrolytes, or is damaged or expired.
- Please take protective steps to prevent battery short circuits before moving batteries.
- Please keep away from flammable material storage areas, residential areas, and other population centers when transporting and storing the damaged battery.

NOTICE

 Only connect the inverter to the grid with the permission of the local utility grid company.

NOTICE

- The inverter has an integrated Residual Current Monitoring Unit (RCMU). If an external
 Residual Current Device (RCD) is required by local regulations, verify the type of RCD
 required. It is recommended to use a Type-A RCD with a rating of 300 mA unless a
 lower value is required by the specific local electric codes. When required by local
 regulations, the use of an RCD type B is permitted.
- Keep all product labels and the nameplate on the inverter clearly visible and well-maintained.

NOTICE!

- Please operate according to the safety code for power station.
- Before installation, it is necessary to set up temporary safety fences or warning lines and hang warning signs in the operation area, to prohibit non-staff from entering here.
- Please make sure that the equipment and its associated switches are off before connecting and disconnecting power cables.
- Please check whether the protective housing and insulating sleeve for an electrical component have been installed correctly after finishing installation, to avoid electric shock.
- Must turn off the output switch of the power supply equipment when maintaining its electrical terminal device and power distribution device.
- If the device is required to be powered off during troubleshooting and diagnosis, please do as the following procedure: power off > electricity testing > connecting grounding cable > hanging warning signs and setting up guardrails.
- Must hang up "Do Not Switch On" warning signs on the relevant switches or circuit breakers before completing maintenance, to prevent power connection. Do not switch on before the fault is solved.
- Do not use water, alcohol, oil, or other solvents when cleaning electrical components inside and outside the device.

NOTICE

Grounding Requirements:

- The device's grounding impedance shall meet the requirements of local electrical safety standards.
- The equipment shall be permanently connected to a grounding wire within the building's electrical system. Please check whether the device is reliably grounded before operation. The grounding cable should be removed last while dismantling and maintaining the device.
- Do not start the device if it is not fitted with a grounding conductor.
- All acts against the grounding conductor are prohibited.
- If the device is equipped with a three-pronged socket, make sure that the ground prong is reliably grounded.
- For the device that may generate large contact currents, please make sure that the grounding terminal on the housing has been grounded before powering on, to avoid electric shock.

NOTICE!

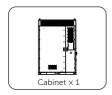
Cable Requirements:

- When deciding the wire diameter, and connecting or wiring cables, follow the local laws, regulations, and codes to ensure safety.
- When external conditions (e.g., placement method, ambient temperature, etc.)
 change, the cable type must be verified according to IEC-60364-5-52 or local laws,
 regulations and standards. For instance, whether the cable's current-carrying capacity
 meets the requirements.
- Before connecting power cables, please make sure that the cable labels are correctly labelled and the cable terminals are well insulated.
- Do not loop and twist cables while conducting electrical wiring. If the length of the
 power cable is not enough, please replace it instead of joining or welding. Ensure that
 all the cables of the correct type and size are fully connected and well insulated, and
 the edges of cable slots and crossing holes are smooth.
- It is recommended to bundle similar cables with cable ties, to ensure that the inside of the device is neat and tidy and to avoid cable jacket damage.
- Please use fireproof mud to seal the threading openings immediately after finishing wiring, to avoid the entry of water vapour or small animals.
- Cables should be kept away from heaters or other heat sources, because a high temperature environment may result in aging and damage to cable insulation.

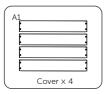
Preparation before Installation

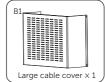
Packing List

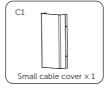
· Battery cabinet

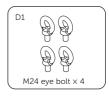


Accessory pack

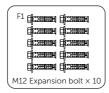


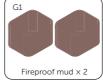


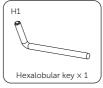










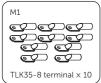




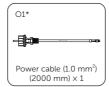


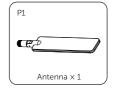








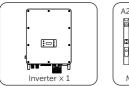




NOTICE

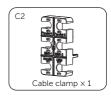
- The mark "*" indicates that if one of the cables connecting the high-voltage box AC input and AC power is damaged, the power cable (3000 mm) can be used as a replacement cable to connect to the AC input and the power cable (2000 mm) can be used as a replacement cable to connect to the AC power.
- Before installing the cabinet, you should check whether all the accessories and their respective quantities are complete and correct.

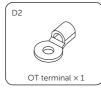
Inverter

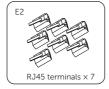


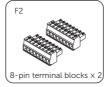


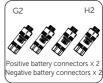












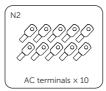




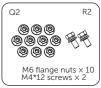




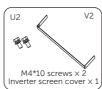




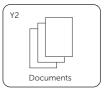
















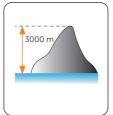
NOTICE!

- Refer to the actual delivery for the optional accessories.
- The positive and negative PV connector & pin contact are 10 pairs for X3-AELIO-50K, 12 pairs for X3-AELIO-60K.

Installation Site















explosive materials or

dust



Avoid sandy or dusty





Avoid strong vibration and noise



Avoid radiation



Avoid conductive and magnetic dust



Avoid strong electromagnetic fields and

antenna

Avoid toxic and harmful gases

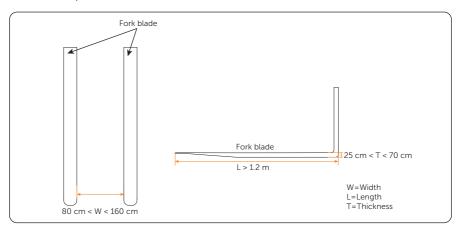


Avoid microbial growth

Installation Site	Distance
Distance from coastal areas	> 2000 m
Distance from heavy pollution sources, such as smelters, coal mines, thermal power plants	> 1500 m
Distance from moderate pollution sources, such as chemical plants, rubber plants, and electroplate factory	> 1000 m
Distance from light pollution sources, such as food processing plants, leather processing plants, heating boiler factory, slaughter houses, dumping sites, and sewage treatment stations	> 500 m

Transportation Requirement

• Forklift requirement

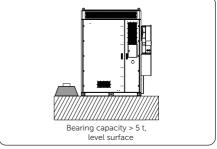


· Carton fork holes



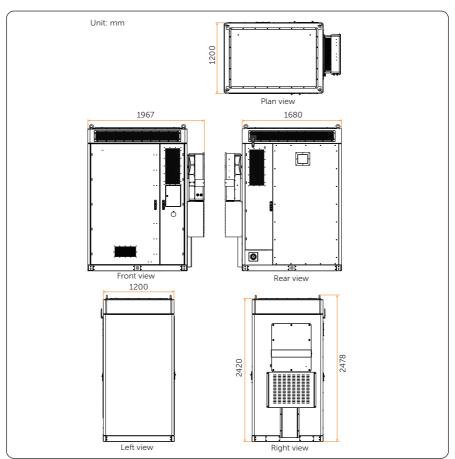
Installation Carrier



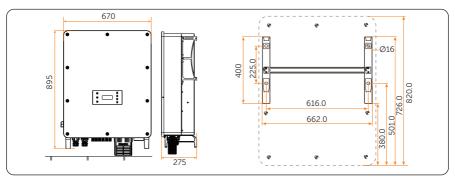


Dimension

• System dimensions

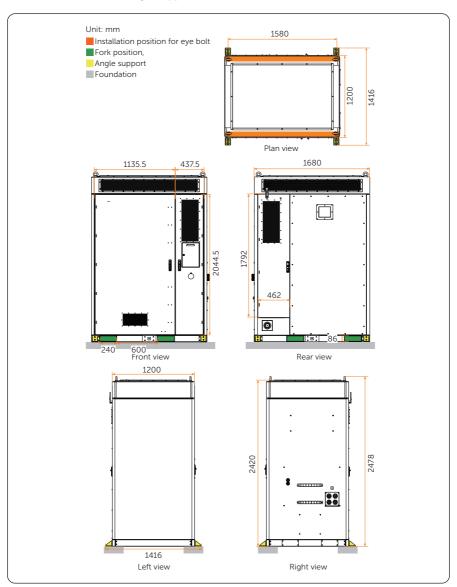


· Inverter dimensions



13

• Cabinet dimensions (Angle supports installed at front and rear sides)



• Cabinet dimensions (Angle supports installed at left and right sides)

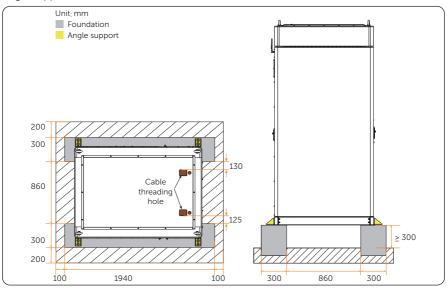


NOTICE

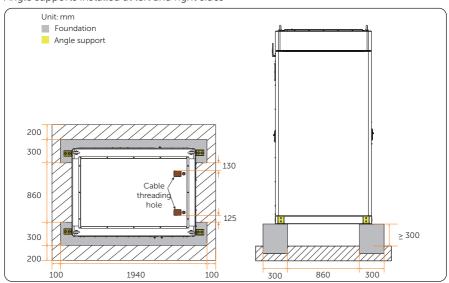
• There are two foundation schemes: concrete foundation and steel foundation.

• Concrete foundation

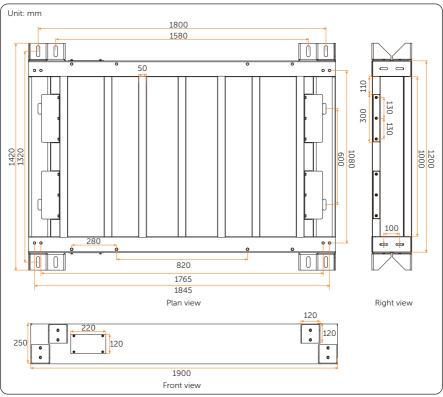
Angle supports installed at front and rear sides

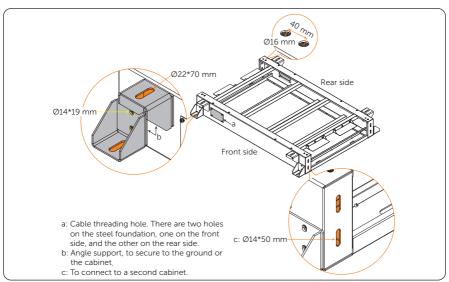


Angle supports installed at left and right sides



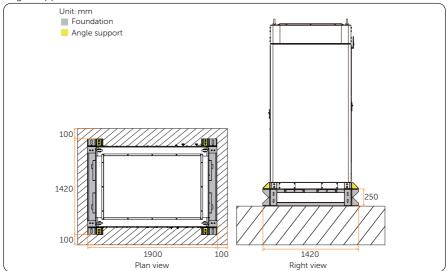
· Steel foundation



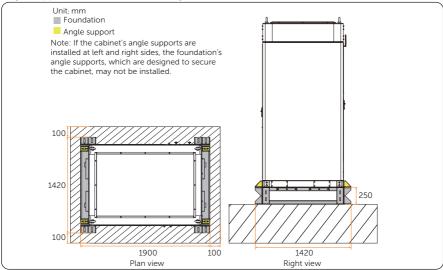


17

Angle supports installed at front and rear sides



Angle supports installed at left and right sides



NOTICE

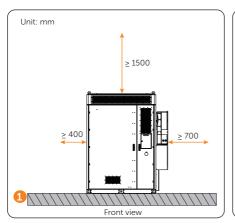
After completing construction of the steel foundation, please strictly comply with the following steps:

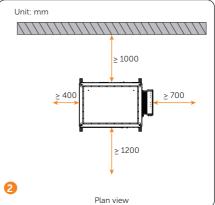
- a. Install the bottom angle support first to secure the foundation to the ground;
- b. Install the top angle support (if any);
- c. Finally, install the cabinet onto the steel foundation.

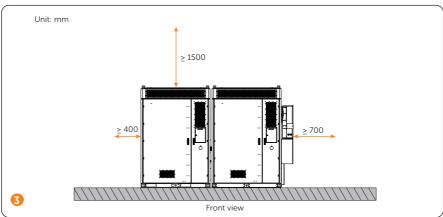
Installation Space

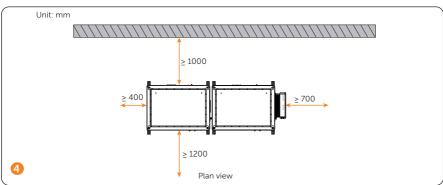
The device support the following installation options:

- 1. A single cabinet, see Figures 1 and 2;
- 2. Multiple cabinets, see Figures 3 and 4.







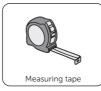


19

Installation Tools









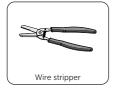






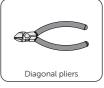
M4, M5, M6)





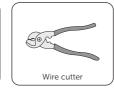


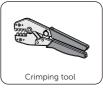








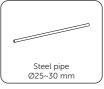












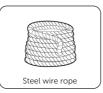




























Additionally Required Materials

No.	Required Material	Туре	Conductor Cross-section
1	PV cable	Dedicated PV cable with a voltage rating of 1000 V, a temperature resistance of 105 C , a fire resistance grade of VW-1	6 mm²
2	Communication wire 1	Network cable CAT5E	/
3	Communication wire 2	Four-core signal cable	0.25 mm ² -0.3 mm ²
4	Grounding plate	Galvanized iron plate	Width: 40 mm Depth: 4mm
5	Grid wire	Five-core copper cable * The conductor cross-section for L1, L2, L3 and N wires is 35 mm ² ; the conductor cross-section for PE wire is 16 mm ² .	35 mm² * 4 + 16 mm² * 1
6	EPS wire	Four-core copper cable	35 mm² * 4
7	Additional PE wire	Conventional yellow and green wire	> 25 mm²
8	Ring terminal	TLK16-8 ring terminal	/

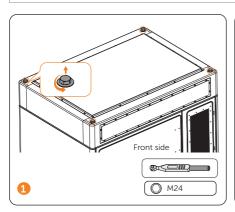
Mechanical Installation

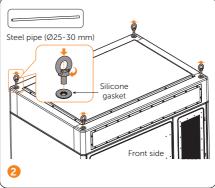
Handling

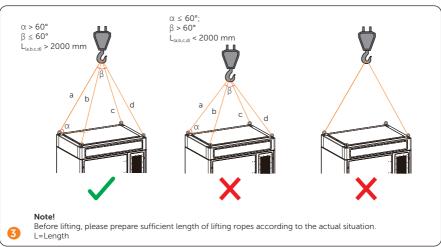
Hoisting

NOTICE!

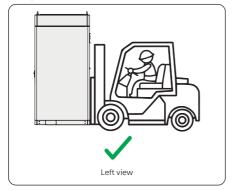
- When you hoist the cabinet, please strictly do the following requirements.
- If the eye bolts are required to be installed based on the actual situation, please strictly follow the steps below.

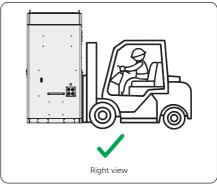


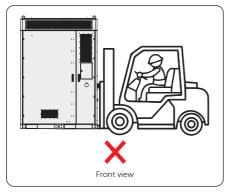


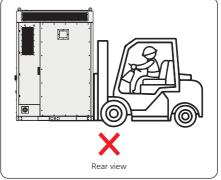


Forklift

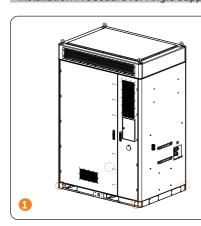




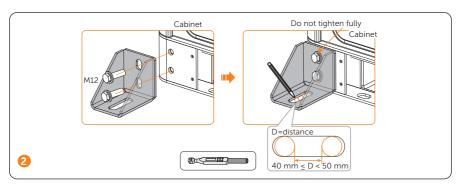


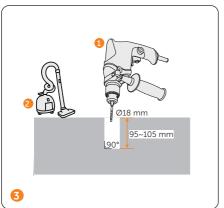


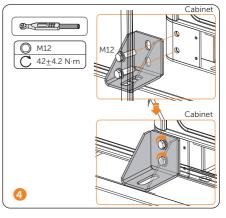
Installation Procedure for Angle Support and Cover

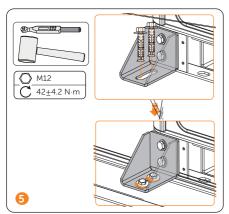


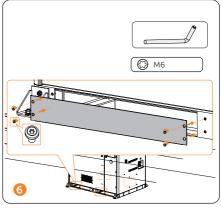
- Note!
 1. There are totalling 4 angle supports for a cabinet.
 2. There are 2 pieces of expansion bolts and M12 screws for each angle support respectively, with a total of 8 pieces of expansion bolts and M12 screws, respectively.







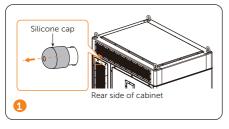


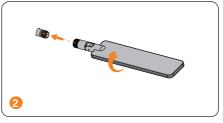


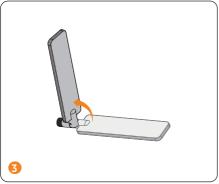
NOTICE

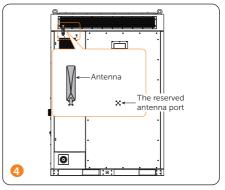
• The above-mentioned installation steps also apply to the angle supports, which are installed on both the left and right sides.

Installation of Antenna





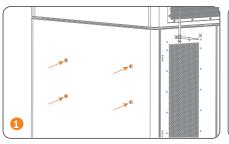


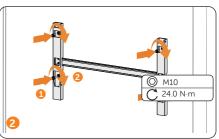


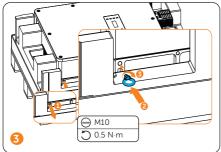
NOTICE

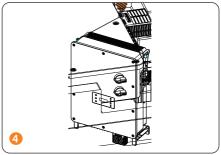
- The user can decide whether the reserved port connects an antenna based on the actual situation.
- Regarding the other antenna port, the antenna is delivered with the accessories kit.

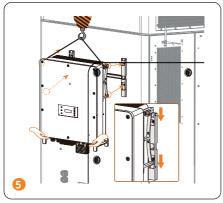
Installation of Inverter

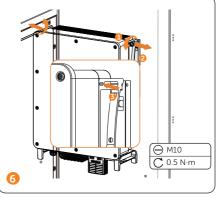


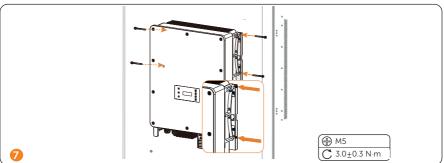










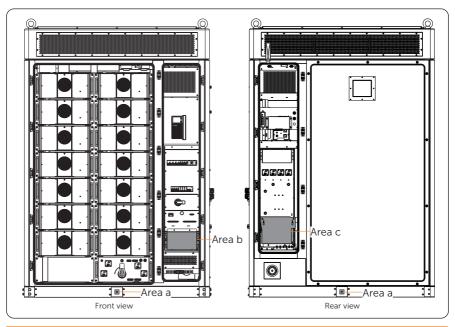


Electrical Connection

Parts that Need Wiring

NOTICE!

• Before wiring, operators are required to learn which areas need to be conducted wiring. For details, see the following figure.

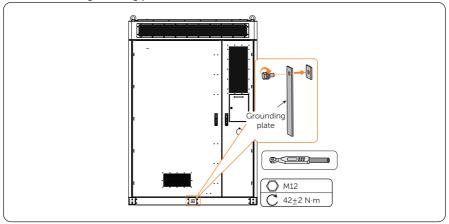


Wiring area	Description
Area a	To connect grounding plate or PE wire.
Area b	To connect EPS wires.
Area c	To connect GRID wires.

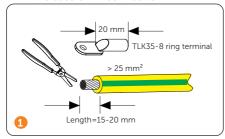
Cabinet Grounding

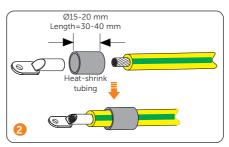
The device supports grounding plate connection and PE connection. Either of them can be connected to the wiring area **Area a** in "Parts that Need Wiring". Please strictly follow the steps below.

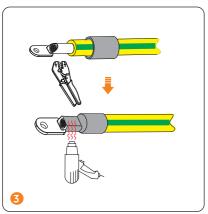
• In the case of grounding plate connection

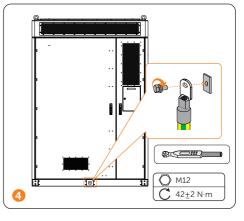


· In the case of PE connection





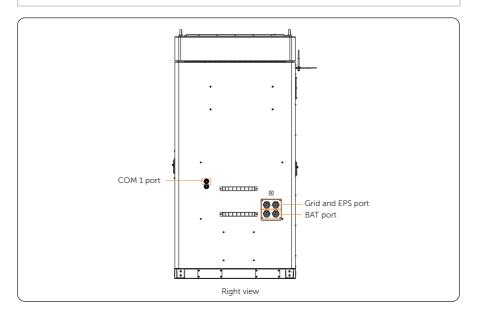




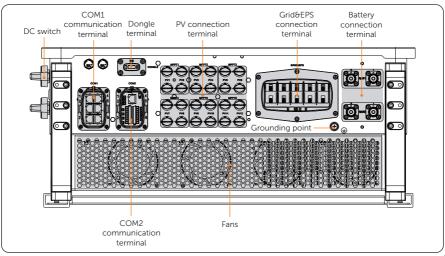
Prefabricated Inverter Cables in Battery Cabinet

NOTICE

The PE cable, Grid cable, EPS cable, battery cables, COM1 communication cables
of the inverter are prefabricated in the battery cabinet, the cable outlets as shown
below:

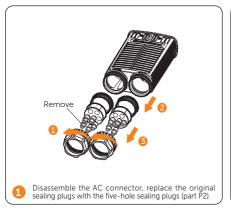


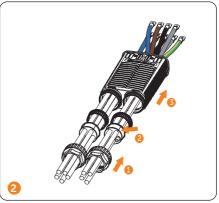
Terminals and Parts of Inverter

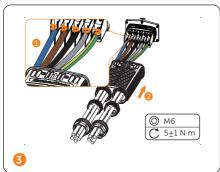


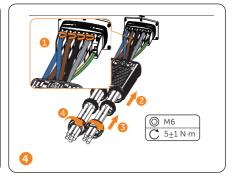
AC Side Connection

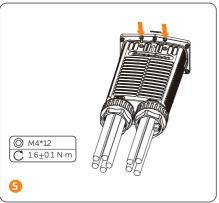
The Grid and EPS cables of the inverter outlet from the Grid and EPS port in "Prefabricated Inverter Cables in Battery Cabinet", please strictly follow the steps below.

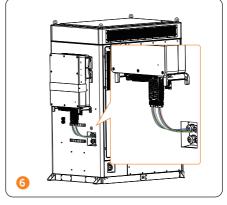




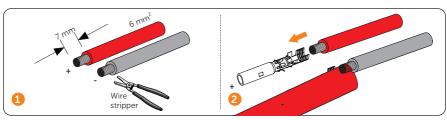


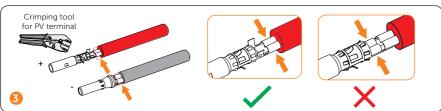


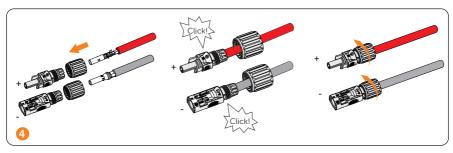


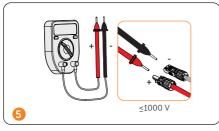


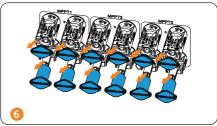
DC Side Connection

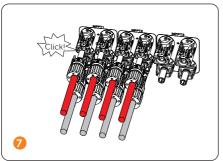




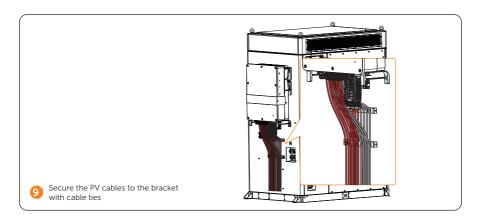






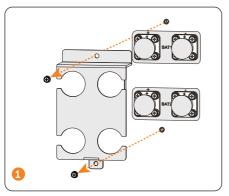


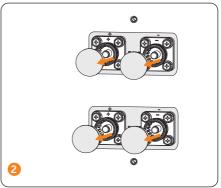


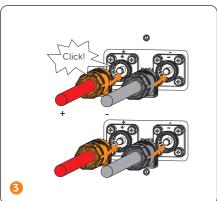


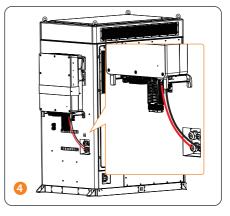
Battery Connection

The battery cables of the inverter outlet from the BAT port in "Prefabricated Inverter Cables in Battery Cabinet", please strictly follow the steps below.





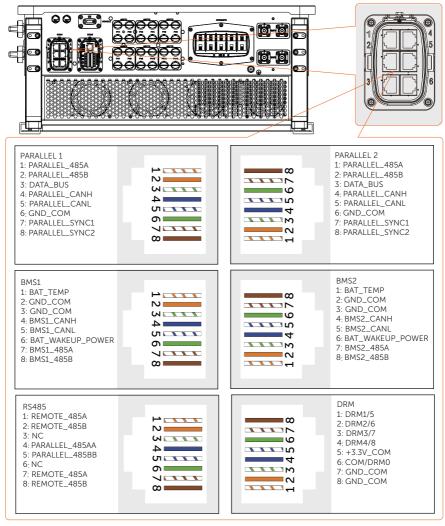




Communication Connection

COM 1 communication connection

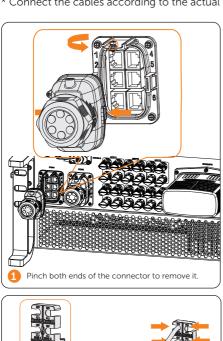
1. Pin assignment of COM 1 terminal

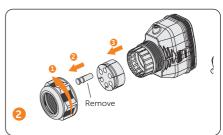


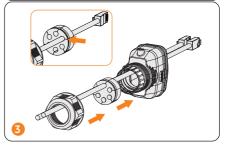
2. Cable connection steps

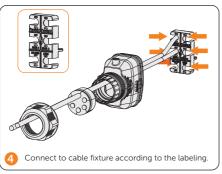
The EMS communication cable and BMS communication cable outlet from the COM 1 port in "Prefabricated Inverter Cables in Battery Cabinet", please strictly follow the steps below.

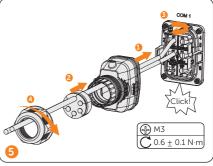
* Connect the cables according to the actual function requirements.

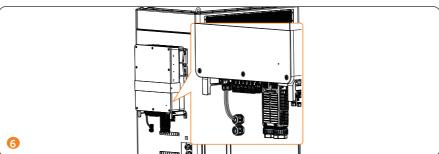






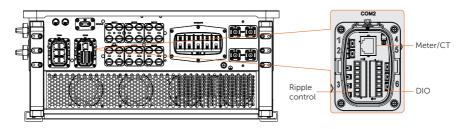






COM 2 communication connection

1. Pin asignment of COM 2 terminal

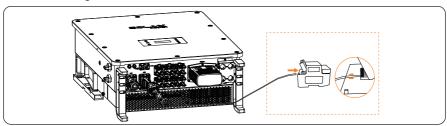


Pin	Pin assignment	Definition	
Meter/CT			
1	CT_R1_CON		
2	CT_S1_CON	For CT connection	
3	CT_T1_CON		
4	METER_485A	For Meter connection	
5	METER_485B	— For Meter connection	
6	CT_T2_CON		
7	CT_S2_CON	For CT connection	
8	CT_R2_CON		
Ripple contro	ol		
1	RP_K4		
2	GND_COM		
3	RP_K3		
4	GND_COM	For ripple central connection	
5	RP_K2	— For ripple control connection	
6	GND_COM		
7	RP_K1		
8	GND_COM		
DIO port			
1	DO_1	Eor gonerator dry contact cuitaut	
2	DO_2	For generator dry contact output	
3	DI_1+	— For system switch dry contact input	
4	DI_1-	Tor system switch dry contact input	

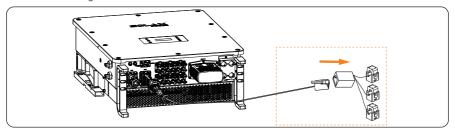
Pin	Pin assignment	Definition
5	DI_2+	Decembed
6	DI_2-	- Reserved
7	GND_COM	Reserved for connecting the shielding layer of the cables if there is strong interference in the surroundings.
8	EPSBOX_RELAY_VCC	12V power supply

2. Meter/CT connection

• Connecting to wire meter

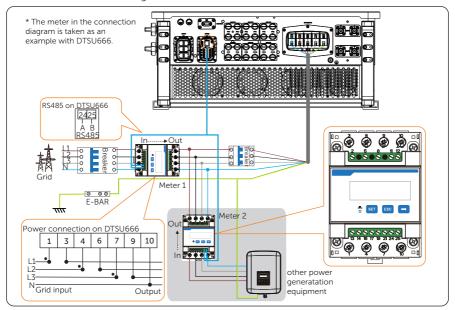


• Connecting to CT

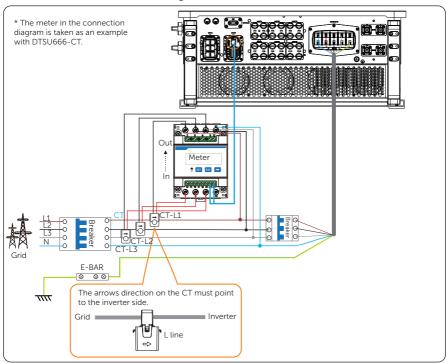


- Connection to wireless meter
- * Please refer to the user manual of relevant meter for connection pin definition.

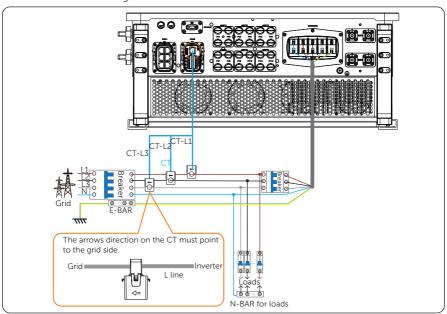
• Meter connection diagram



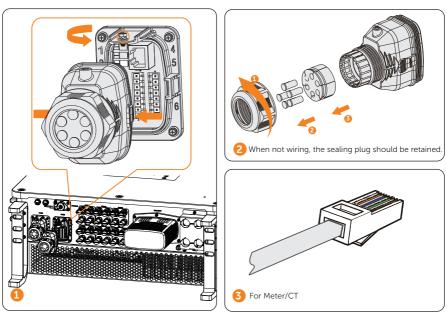
• Meter with CT connection diagram

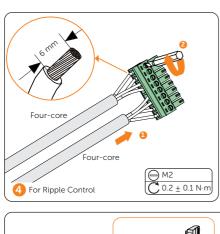


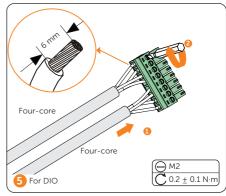
- * Markings on the CTs might be R, S and T or L1, L2 and L3. Make sure to clip CT-R/CT-L1 to the L1 wire, CT-S/CT-L2 to the L2 wire, and CT-T/CT-L3 to the L3 wire.
 - · CT connection diagram

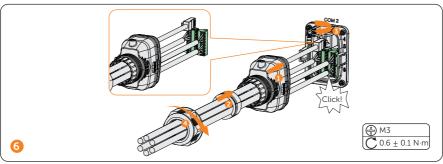


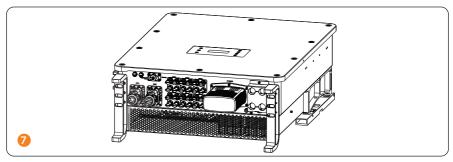
3. Cable connection steps









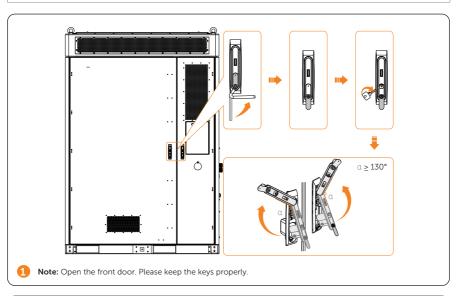


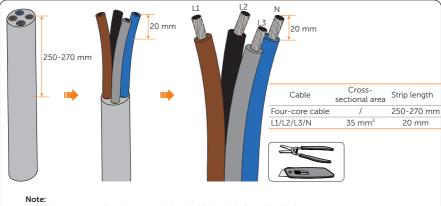
EPS Connection

Wiring area **Area b** in "Parts that Need Wiring" must be connected EPS wires. Please strictly follow the steps below.

NOTICE!

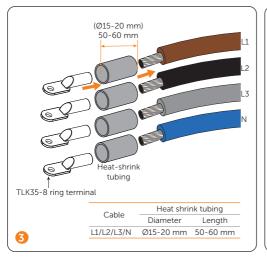
• Take out the underground electrical wiring which is buried beneath the ground.

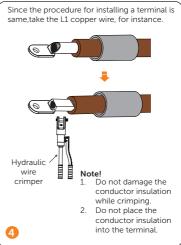


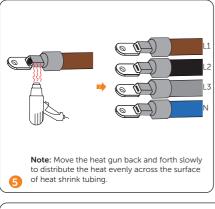


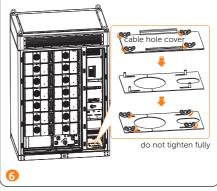
- 1. It's important to give the power cable a health check before stripping it.
- 2. It's necessary to use controlled motion to strip the insulation down the wire, to prevent damage to the wires.

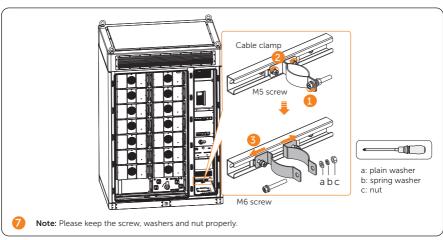
 Make gure that the insulation layer has been ctripped to a sufficient length so that the center conductor is
- Make sure that the insulation layer has been stripped to a sufficient length so that the center conductor is
 fully exposed without any damage or nicks. In addition, make sure that no extra insulation remains beyond
 the connector once it's crimped on.

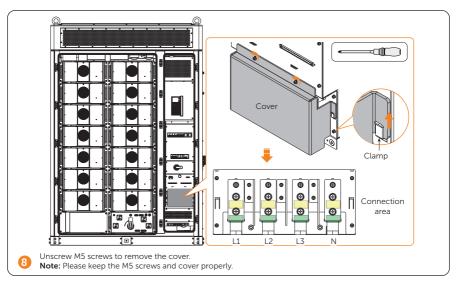


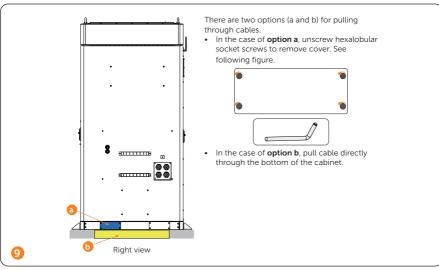


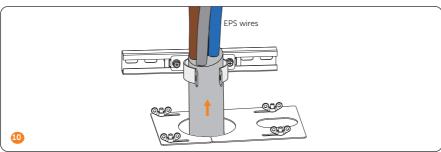


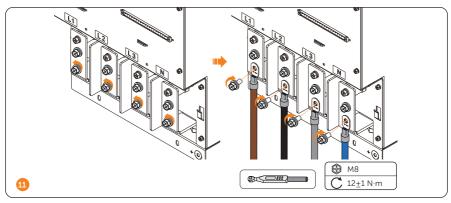


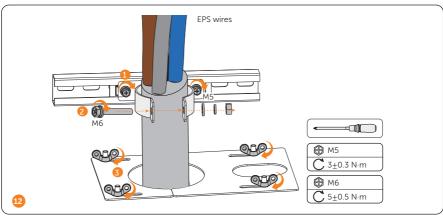


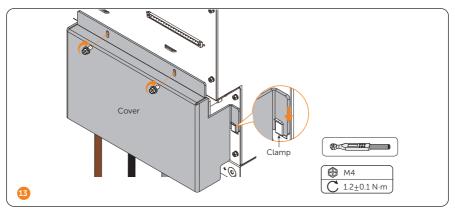






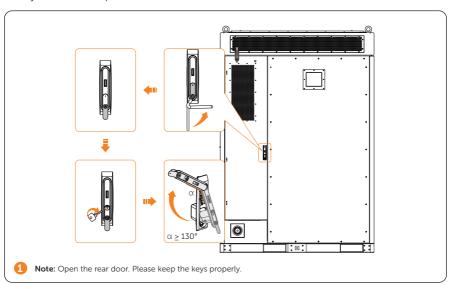


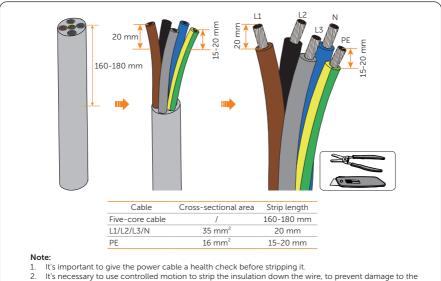




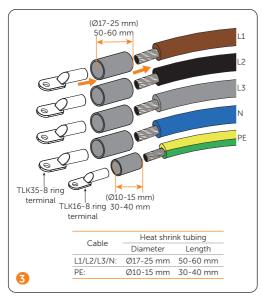
Grid Connection

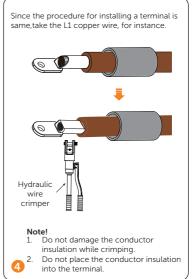
Wiring area Area c in "Parts that Need Wiring" must be connected GRID wires. Please strictly follow the steps below.

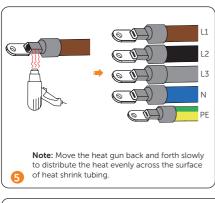


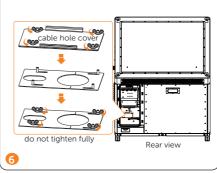


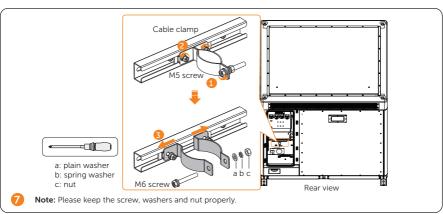
- 2. It's necessary to use controlled motion to strip the insulation down the wire, to prevent damage to the
- 3. Make sure that the insulation layer has been stripped to a sufficient length so that the center conductor is fully exposed without any damage or nicks. In addition, make sure that no extra insulation remains beyond the connector once it's crimped on.

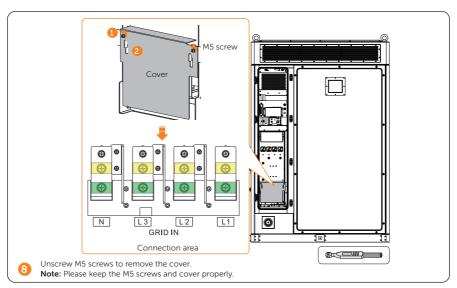


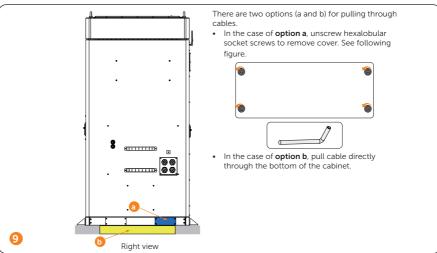


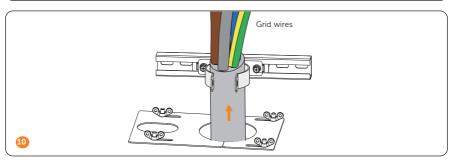


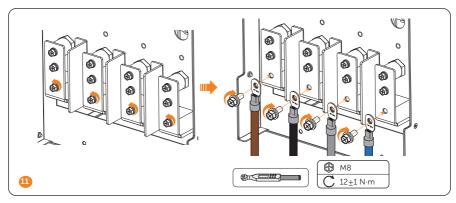


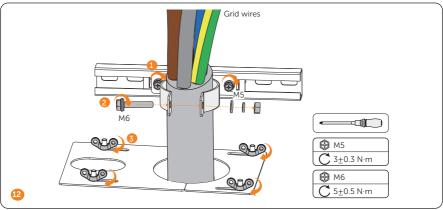


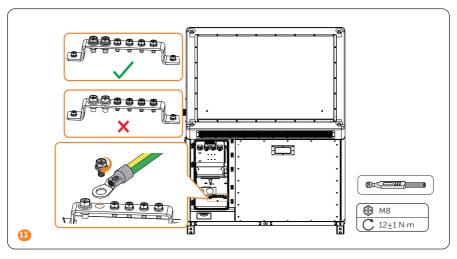


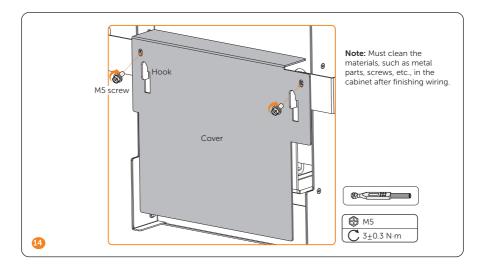




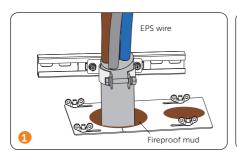


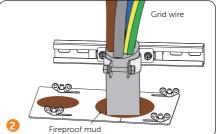






Fireproofing Mud Installation





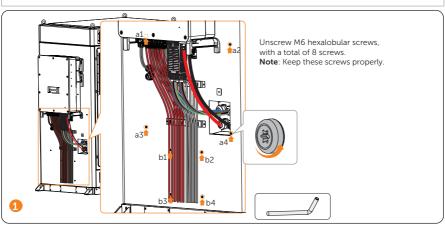
NOTICE

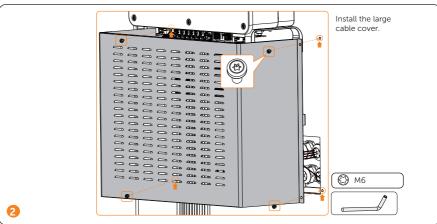
Notice for fireproofing mud:

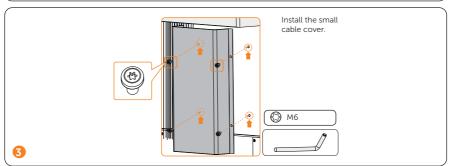
- Take out the fireproof mud delivered with the cabinet and knead it into a ball shape. In the case of the low temperature, place it into warm water, of which the temperature range is between 40°C and 70 °C, with its package until it is soft.
- Clean the area around the cable threading hole before sealing it.
- The fireproof mud should be evenly spread, embedded, or filled in the cable threading hole. If such a hole is too large, a fireproofing board can be placed to enhance fire protection before using the mud.
- The fireproof mud needs to be cured after sealing the cable threading hole. Prevent water from entering and colliding during curing.

NOTICE

• Do not install the cable cover until the all the cables are wired.

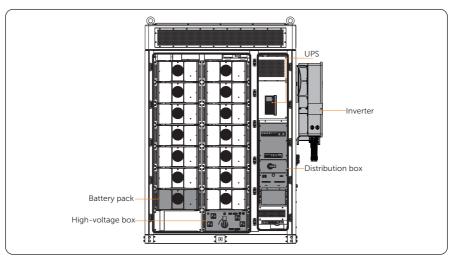




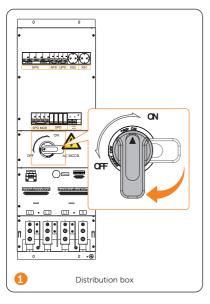


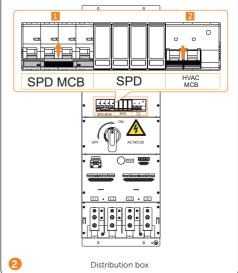
Power on the System

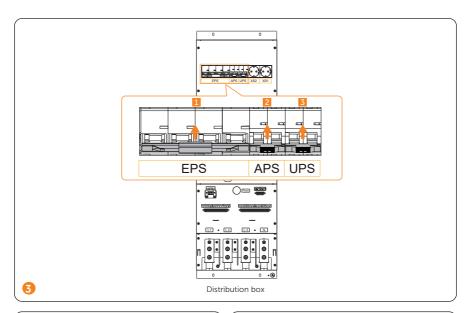
Regarding the detailed location of the modules in the cabinet, see following figure.

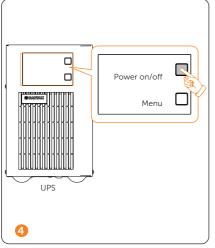


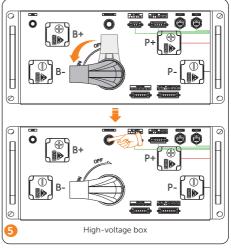
For the detailed steps, see following figures.

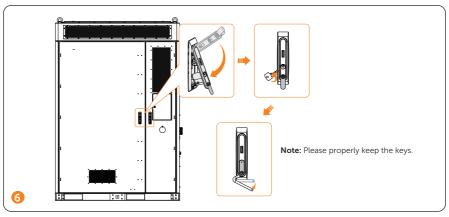


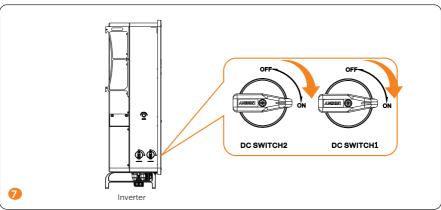


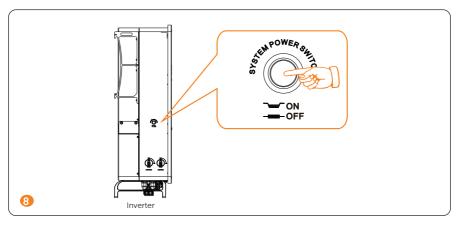


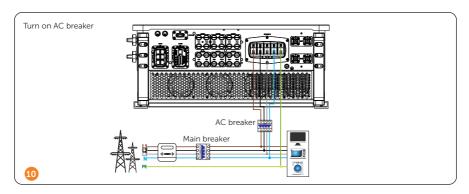








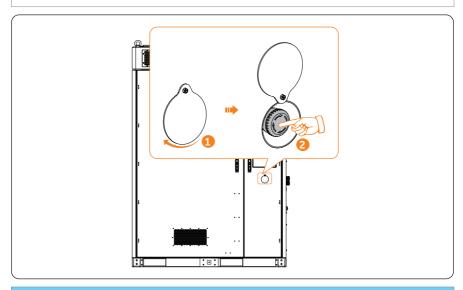




Emergency Power Off

! WARNING!

- Do not press the emergency stop button except for emergencies.
- Some modules inside the cabinet may still have power after pressing the emergency stop button, therefore, non-professionals are not allowed to operate them.



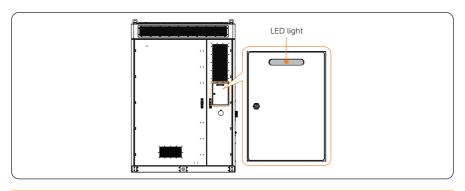
NOTICE!

If it has been pressed, the emergency stop button must be reset before starting the device. The reset steps are shown as follows:

- a. Rotate the cover;
- b. Rotate the button according to the arrow direction shown on the button. Then the button will spring back to its original position.

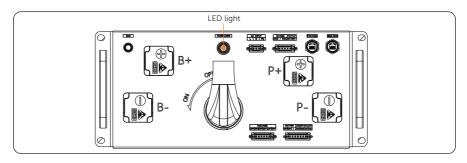
LED Indicators

Cabinet's LED Light



Status	Description
Solid yellow light	In standby
Solid green light	In operation
Solid red light	System failure

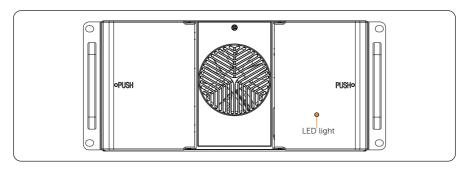
High-voltage Box's LED Light



Status		Description
Flashing green light		In operation
Solid green light		Rely in off state
Solid red light		System failure

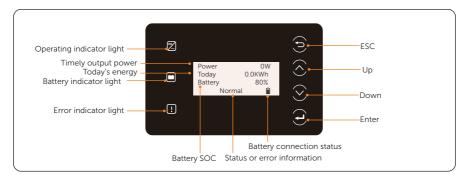
54

Battery Pack's LED Light



Status		Description	
Flashing green light	-0-	In operation	

Inverter LED Panel



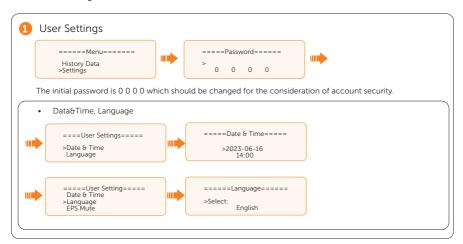
- In a normal state, the "Power", "Today" and "Battery" information will be displayed. You can press the keys to switch information.
- In an error state, the fault message and error code will be displayed, please refer to corresponding solutions in the user manual.

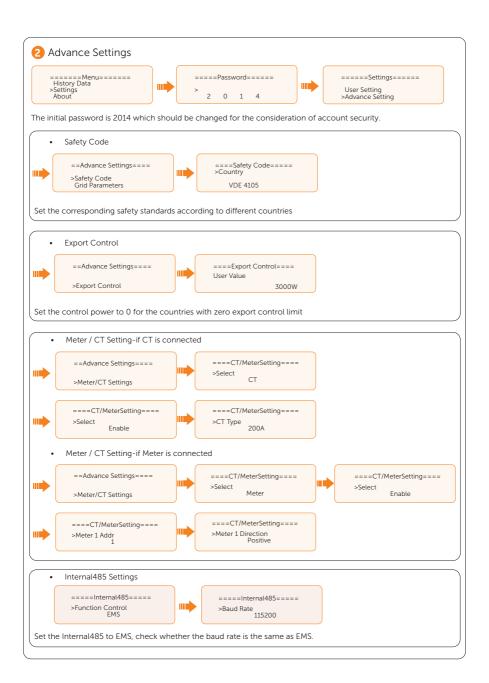
LED indicator	Status		Definition
	Light on		The inverter is in a normal state.
Operating	Blinking (The inverter is in a waiting or checking state.
<u>!</u> Error	Light on		The inverter is in a fault state.

LED indicato	r Status	Definition	
	Light on	One of the battery terminal is connected in a normal state at least.	
Battery	Blinking	Both of the battery terminals are connected are in an idle state.	
	Solid display	One of the battery terminals is connected normally at least.	
	Blinking	Both of the battery terminals are disconnected.	
Кеу	Definition		
ESC key	Exit from the current interface or function		
Up key	Move the cursor to the upper part or increase the value		
Down key	Move the cursor to the lower part or decrease the value		
Enter key	Confirm the selection		

System Configuration

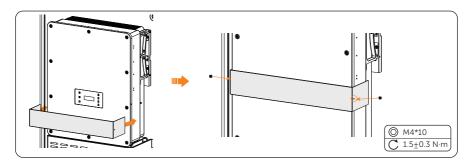
Inverter Configuration



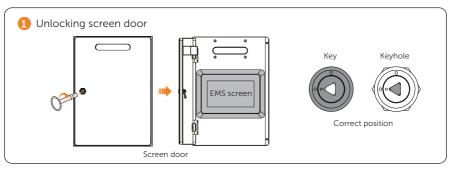


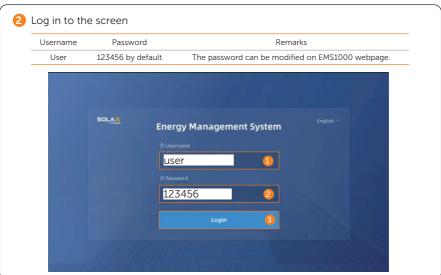
Inverter Screen Cover Installation

It is recommended that the inverter screen cover should be installed after all settings on the inverter LCD screen are set.

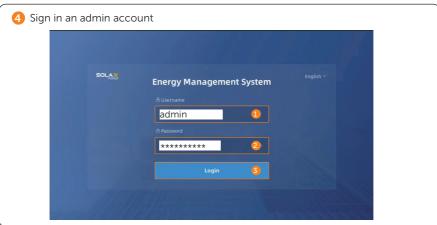


EMS Configuration









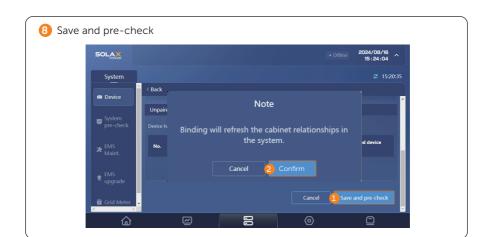




NOTICE

• If the device connects in parallel, the number in the **Connected device qty** column shall be based on the actual quantity of inverters.





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Technical Data

• DC Side

• DC side		
Model	AELIO-P50B200	AELIO-P60B200
Max. PV input power [kW]	100	120
Max. PV input voltage [V]	1000	1000
Start output voltage [V]	180	180
Rated input voltage [V]	650	650
MPPT voltage range [V]	160~950	160~950
No. of MPP trackers / Strings per MPP tracker	5 (2 per MPPT)	6 (2 per MPPT)
Max. input current [A]	40	40
Max. input short circuit current [A]	50	50
AC Side		
Model	AELIO-P50B200	AELIO-P60B200
Rated AC output power [kW]	50.0	60.0
Rated AC output current [A]	75.8 @ 220V 72.5 @ 230V 69.5 @ 240V	91.0 @ 220V 87.0 @ 230V 83.4 @ 240V
Max. AC output apparent power [kVA]	55.0	66.0
Max. AC output current [A]	83.4 @ 220V 79.8 @ 230V 76.4 @ 240V	100.0 @ 220V 95.7 @ 230V 91.7 @ 240V
Nominal grid voltage [V]	3/N/PE, 220/380,	230/400, 240/415
Nominal grid frequency [Hz]	50/60	
Auxiliary Power Input Voltage [a.c. V]	L/N/PE, 220, 230, 240	
Auxiliary Power Input Current [a.c. A]	Max. 10	
Auxiliary Power Frequency [Hz]	50/60	
Auxiliary Power Short Current [A]	3!	50
Adjustable power factor range	1 (0.8 Leading	~ 0.8 Lagging)
THDi (Rated power) [%]	<	3

Battery

Model	AELIO-P50B200 AELIO-P60B200	
Battery type	LiFePO4	
Rated battery capacity [kWh]	200	
Rated battery voltage [V]	716.8	
Battery voltage range [V]	560~817.6	
Discharge depth [%]	90	
Rated charge/discharge current [A]	140	
Max charge/discharge current [A]	160 (80 × 2)	

• General Parameter

Model	AELIO-P50B200	AELIO-P60B200
Dimensions (with Inverter) (W×H×D) [mm]	2070 × 2420 × 1200	
Dimensions (without Inverter) (W×H×D) $[mm]$ 1680 × 2420 × 1200		120 × 1200
Weight (with Inverter) [kg]	28	300
Weight (without Inverter) [kg] 2700		700
Operating ambient temperature range [°C]	-30~50	
Relative humidity(Non-condensing) [%]	0~100	
Max. operating altitude [m]	3000	
Cooling concept	Smart ai	r cooling
Ingress protection	Cabinet: IP55	; Inverter: IP66
Fire protection	Aeroso	l / Water
Topology	Non-i	solated
Standard	•	56:2000, IEC61000, -1, UN38.3

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Warranty Registration Form



For Customer (Compulsory)

Name	Country
Phone Number	Email
Address	
State	Zip Code
Product Serial Number	
Installer Name	Electrician License No.
For I	nstaller
Module (If Any)	
Module Brand	
	Number of Panel Per String
Battery (If Any)	
Battery Type	
Brand	

Please visit our warranty website: https://www.solaxcloud.com/#/warranty or use your mobile phone to scan the QR code to complete the online warranty registration.



For more detailed warranty terms, please visit SolaX official website: <u>www.solaxpower.com</u> to check it.



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