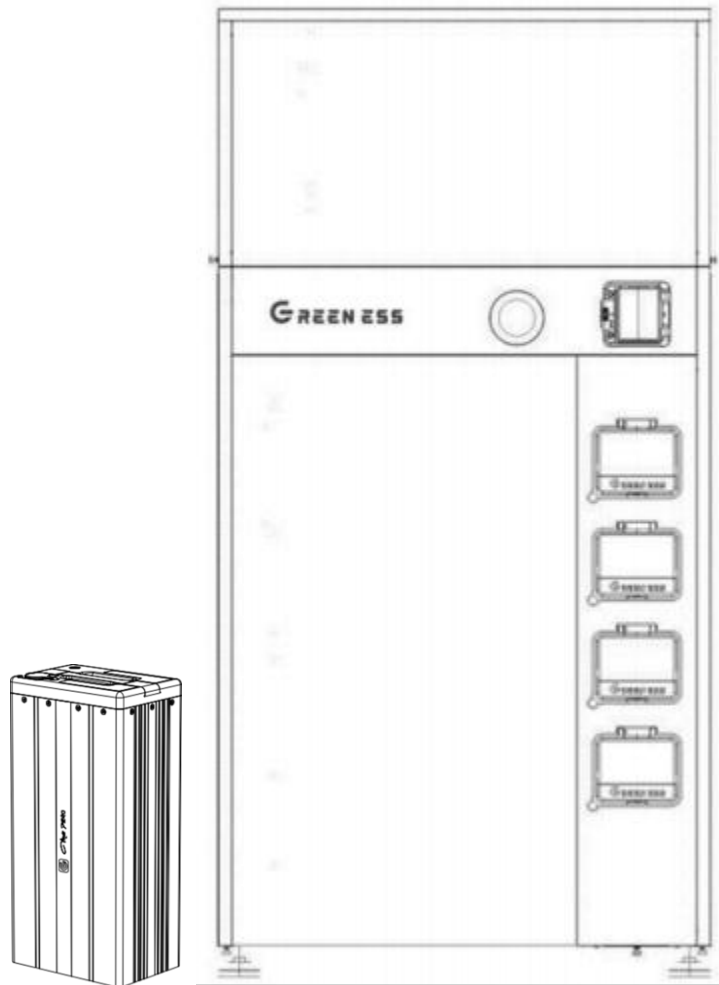




GreenVolt Pro Battery System
Mint 4870-2S/3S/4S/5S/6S/7S
User Manual

About This Manual

The manual mainly describes the product information, guidelines for installation, operation and maintenance. The manual does not include complete information about the overall energy storage system (i.e. the hybrid inverter), just the battery. The reader can get additional information about other devices at greeness.com.au.

Validity

This manual is valid for the following battery models of GreenVolt Pro Series:

Mint 4870-2S

Mint 4870-3S

Mint 4870-4S

Mint 4870-5S

Mint 4870-6S

Mint 4870-7S

They will be referred to as "battery" hereinafter unless otherwise specified.

Target Group

This manual is intended for battery owners who will have the ability to interact with the battery and qualified electricians who are responsible for the installation and commissioning of the battery. Qualified electricians should have the following skills:

Training for installation and commissioning of electrical systems, as well as dealing with hazards.

Knowledge of the manual and other related documents.

Knowledge of the local regulations and directives.

MOUNTING Disclaimer

Please read this User Manual and ensure you understand it fully before using the product. Please keep this User Manual properly for future reference. Any incorrect usage of this product may cause severe injury to the user or others, damage to the product, or loss of property. By using this product, the user will be deemed as having understood, recognized, and accepted all the terms and contents of this User Manual, and will be responsible for any incorrect usage and all consequences arising therefrom. Green ESS hereby claims any liability for any losses due to the user's failure to use the product according to the User Manual.

In compliance with laws and regulations, Green ESS have the final right to interpret this document and all related documents for this product. Any update, revision, or termination of the contents thereof, if necessary, shall be made without prior notice, and users may visit Green ESS official website for the latest information of the product.

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01 Safety Instructions

01-1 Warning

- i. It is strictly prohibited to place this battery near heat sources, such as fire or heating furnace.
- ii. It is strictly prohibited to allow this battery to contact any liquid. Do not immerse this battery in water. Do not use this battery in rainy, damp, or wet environments.
- iii. It is prohibited to use this battery in strong static or strong magnetic field environment.
- iv. It is prohibited to disassemble this battery in any way or puncture this battery with sharp objects.
- v. It is prohibited to connect the positive and negative terminals of the battery directly with wires or any metal objects.
- vi. It is prohibited to dismantle or replace the battery cells.
- vii. It is prohibited to stack heavy objects on top of this battery.
- viii. It is prohibited to place this battery in an unventilated or dusty environment.

01-2 Caution in general

- i. Please visit authorized Green ESS channels for official components and accessories information.
- ii. If the battery is compromised or battery cells are exposed, do not attempt to repair it yourself. Please have it inspected and repaired by Green ESS technician or authorized technician.
- iii. In case of accidental leakage of chemicals inside this battery, do not touch or inhale.
- iv. In case of accidental contact with skin or eyes, wash with plenty of clean water and seek medical treatment immediately.
- v. Do not operate this battery while wearing metal objects such as watch, necklace, and bracelet to avoid causing accidental short circuits. If this battery catches fire, immediately use fire extinguisher or firefighting equipment such as sand, fire blanket, dry powder fire extinguisher, carbon dioxide fire extinguisher. When using this battery for the first time, if the battery appears broken or has abnormal smell, do not continue to use this battery and return it to sellers.
- vi. If this battery accidentally falls into water during use, place it in a safe, open area and stay away from this battery until it is completely dry, and this battery should not be reused and should be disposed properly in accordance with the disposal methods in Section 7-3 of this User Manual.
- vii. If the battery charging exceeds regular charging time; charging should be stopped. Overcharge may cause the battery to overheat, to smoke and deform, or to combust.
- viii. This battery should be kept out of the reach of children and pets.

01-3 Caution while handling

- i. When handling this battery, use the non-slip metal handles from this battery for proper handling.
- ii. When handling this battery, be sure to secure it properly and keep it in a flat position.
- iii. Please handle with care.

01-4 Safety Instructions

The following symbols with important information for safety use.



DANGER

"Danger" indicates a hazardous situation which if not avoided, will result in death or serious injury.



WARNING

"Warning" indicates a hazardous situation which if not avoided, could result in death or serious injury.



WARNING

Risk of fire

Despite careful construction, electrical devices can cause fires.

Do not install the battery system in areas containing highly flammable materials or gases.

Do not install the battery system in potentially explosive atmospheres.



WARNING

Risk of electric shock.



CAUTION

"Caution" indicates a hazardous situation which if not avoided, could result in minor or moderate injury.



NOTE

"Note" provides tips that are valuable for the optimal operation of your product.



CAUTION

High temperature danger, please do not touch.



NOTE

Recyclable waste.



NOTE

Please read the instructions before using the equipment.



NOTE

When the end user intends to discard this product, he must send it to the appropriate facilities for recycling and recycling.



NOTE

Please read the instructions.



01-5 General Safety

DANGER

Mint products are equipped with batteries that are heavy! Use of lifting equipment is recommended. Do not stack the unpacked products to avoid irreversible damage.

It is prohibited to touch the internal components of Battery when it's running. Ensure that the power switch and the breaker of Mint 4870 are always off prior to all installation, replacement, and maintenance processes.

Do not attempt to open, disassemble, tamper with, or modify battery.

Do not squeeze, impact or puncture the battery, to avoid unnecessary damage and loss.

Do not operate Mint 4870 series outside of the specified conditions and requirements, or stand, lean on, or sit on the product.

Do not place Mint 4870 or its components in water or other liquids or expose Mint 4870 to flammable gases or other corrosive substances.

WARNING

Do not remove cover. There are no user serviceable parts inside, refer servicing to qualified and accredited service technicians.

The PV array supplies a DC voltage when they are exposed to sunlight.

Risk of electric shock from energy stored in capacitors of the Inverter, do not remove cover for 5 minutes after disconnecting all power sources (service technician only). Warranty may be voided if the cover is removed without authorization.

Do not touch any inner live parts until 5 minutes after disconnection from the utility grid and the PV input.

Electrical installations must be done in accordance with the local and national electrical safety standards.

Operations must be accomplished by licensed technician or authorized person.

Operator must put on the technicians' gloves during the whole process in case of any electrical hazards.

NOTE

NOTE:

The battery system has been constructed according to the applicable safety and technical guidelines. Use the battery in installations that meet the following specifications ONLY:

1. Permanent installation is required.
2. The electrical installation must meet all the applicable regulations and standards.
3. The battery system must be installed according to the instructions stated in this manual.
4. The battery system must be installed according to the correct technical specifications.

NOTE

This product shall not be disposed of with household waste.

They should be segregated and brought to an appropriate collection point to enable recycling and avoid

potential impacts on the environment and human health.
Local rules in waste management shall be respected.

02 Privacy Policy

02-1 Note

By using Green ESS Products, Applications and Services, you consent to the Green ESS Term.

02-2 Privacy Policy

You can access via the “Privacy Policy” page on the Green ESS official website.

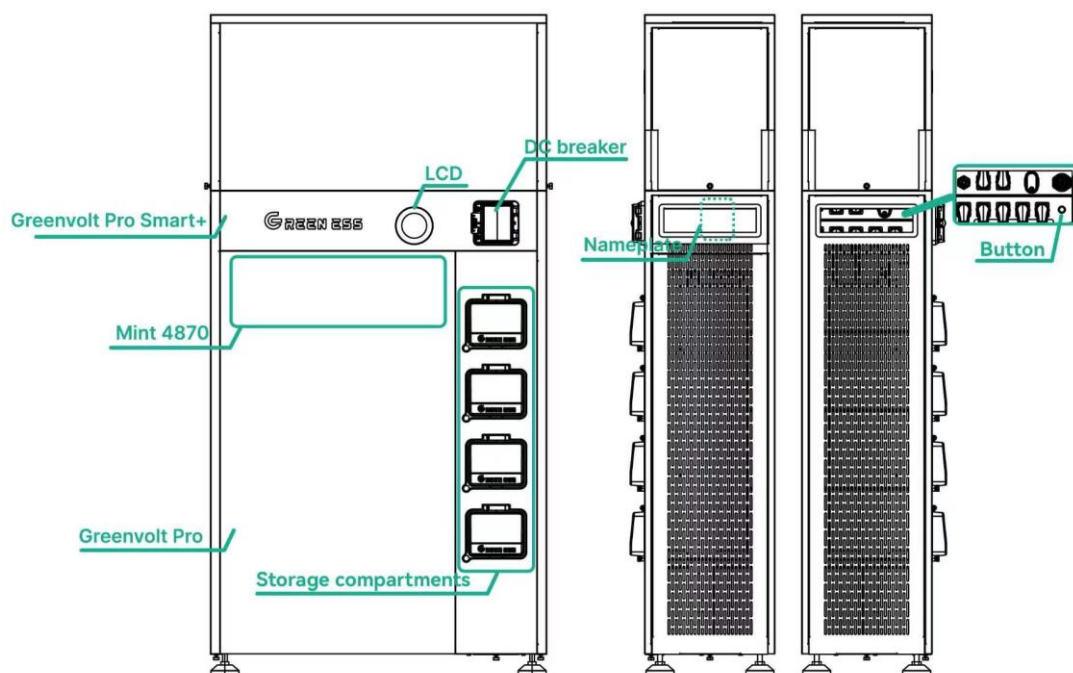
03 Product Description

03-1 Brief Introduction

The battery system: Mint 4870 (2S-7S) and GreenVolt Pro Smart+ control box (internal DC breaker), which is designed for residential energy storage systems. GreenVolt Pro Smart+ (inbuilt battery management system) monitors its operation and prevents the battery from operating beyond the specified limitations.

This product is a high-voltage battery system with an operating voltage range between 80V ~ 403.2 V. A battery system consists of 2 to 7 individual battery modules connected in series. The battery system and compatible inverter are joined by one factory pre-assembled cable carrying BAT DC plus RS485/CAN. For installation guidance of compatible inverters, including wiring connections for GRID, PV, BACK-UP and communication, please follow the inverter's own manual.

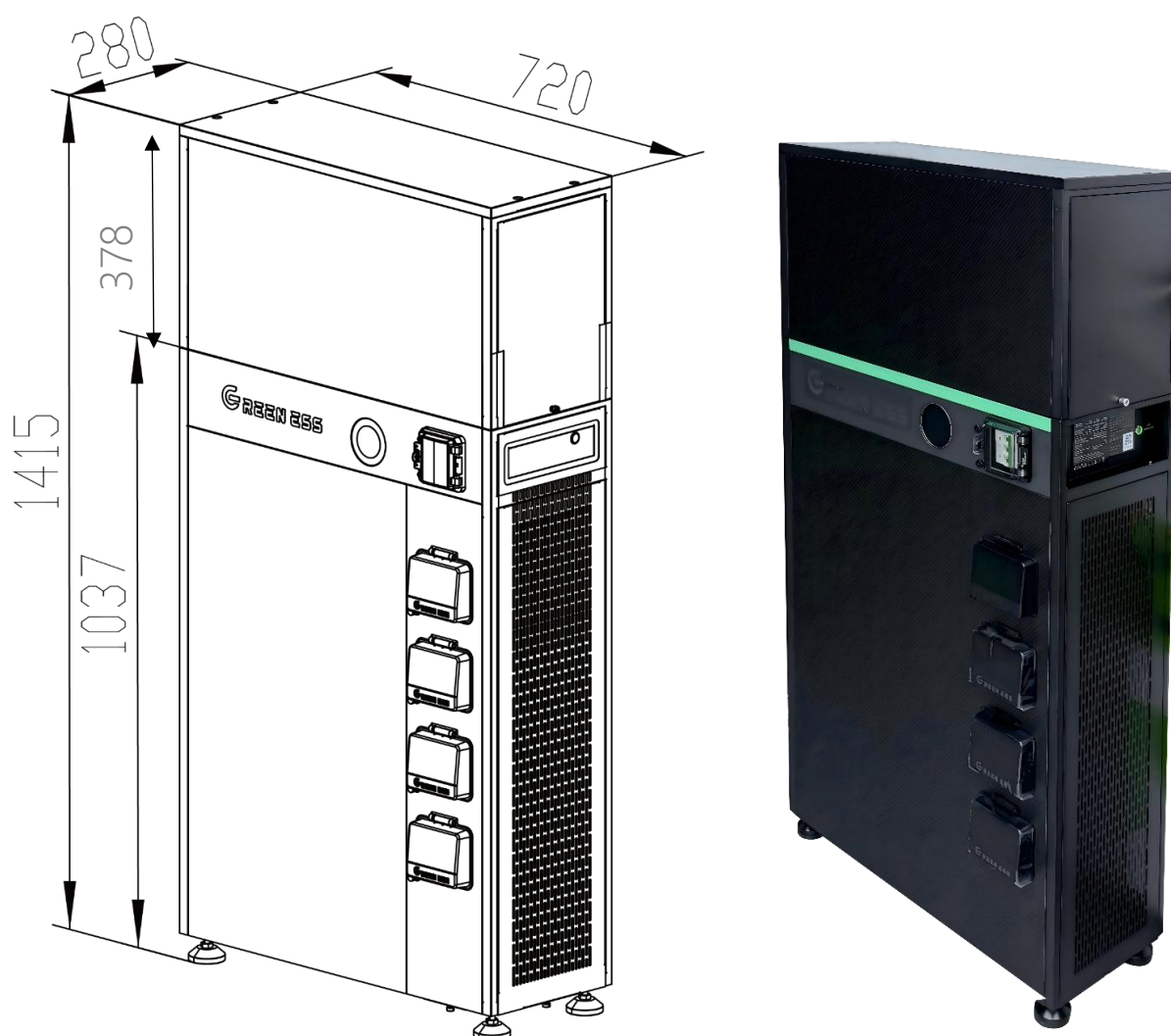
Max. 2 battery systems can be connected in parallel to compatible hybrid inverter. Please refer to hybrid inverter manual for the compatibility details.



Name	Descriptions
LCD	LCD Display Indicates the SOC value and status of the battery system.
GreenVolt Pro Smart+	The main control box. All electrical terminals are located at the main box. GreenVolt Pro Smart+ control box is used as the unified identifier hereinafter.
Nameplate	The nameplate clearly identifies the product with the following information: product model and technical data.

GreenVolt Pro	Battery Storage System Cabinet
Mint 4870	Battery module.
DC breaker	To close/isolate the DC circuit, for power-on, power-off, and short-circuit protection.
Start Button	The button on GreenVolt Pro Smart+ Control Box, Press it to start up the system. Start button is used as the unified identifier hereinafter.
Storage Compartments	Storage compartments of batteries for garden tools. Only Green ESS G4 batteries are permitted to be stored in the storage compartment. No other items are permitted to be stored in the storage compartment.

03-2 Dimensions

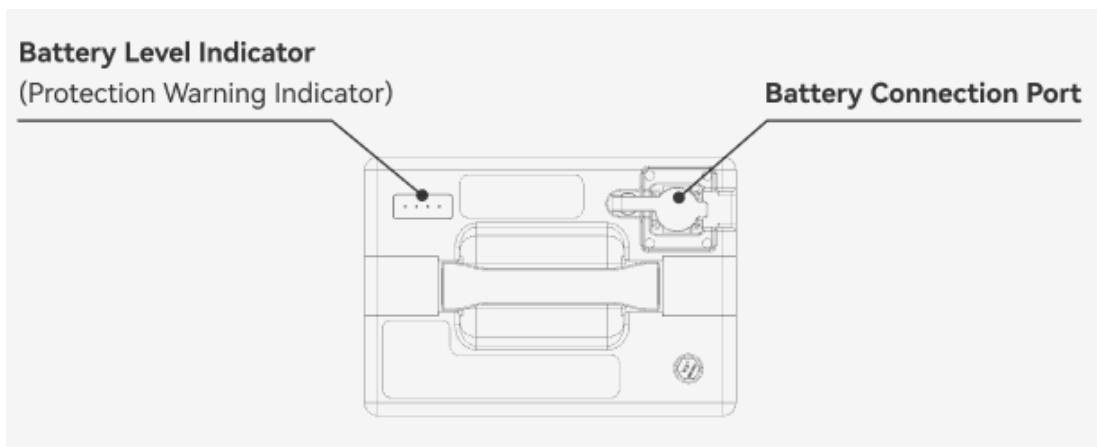


Dimensions of GreenVolt Pro Energy Storage System

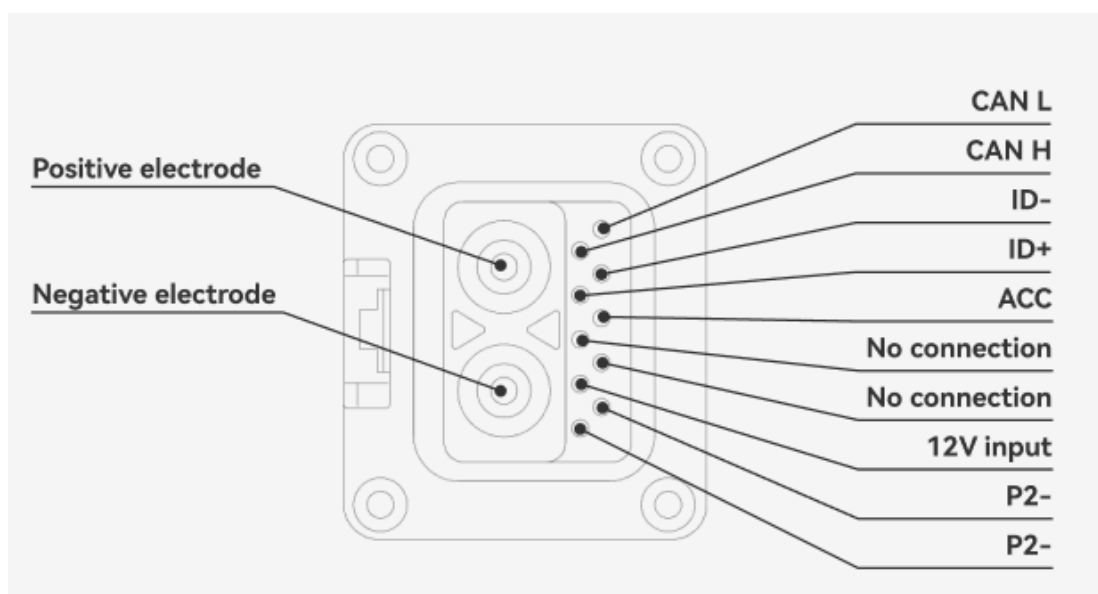
03-3 Mint 4870 Battery Electrical Interface



Mint 4870 Battery

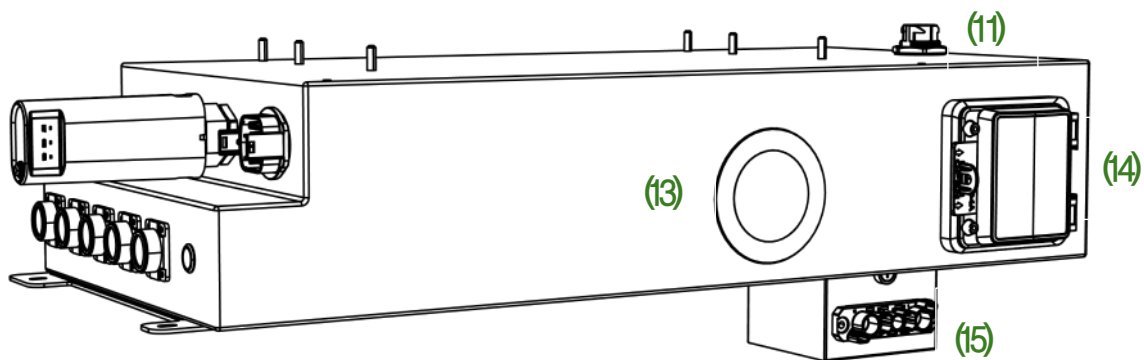


Mint 4870 Battery top view

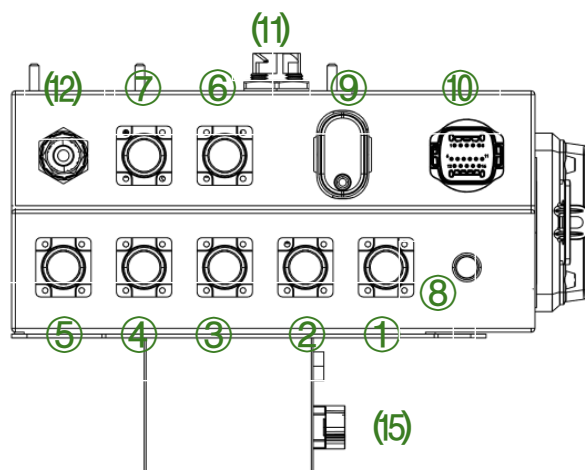


Mint 4870 Battery Connection port definition

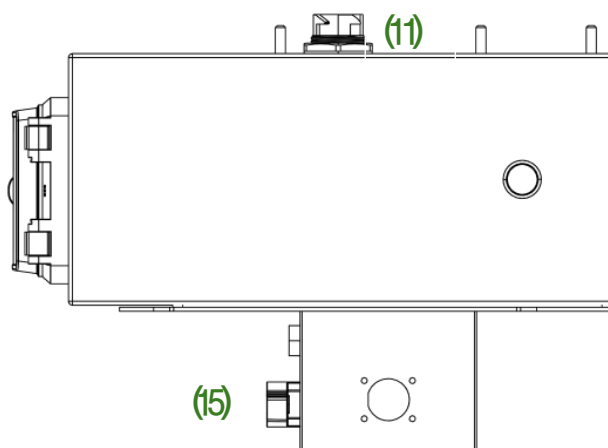
03-4 GreenVolt Pro Smart+ Electrical Interface



GreenVolt Pro Smart+



Left View



Right View

GREENVOLT PRO-Smart+		
Electrical parameters	Input Voltage	100-700VDC
	Output Voltage	100-700VDC
	Standby Power consumption	< 5W
	Working temperature	-20°C~85°C
Interface	1	Battery 1 Port
	2	Battery 2 Port
	3	Battery 3 Port
	4	Battery 4 Port
	5	Battery 5 Port
	6	Battery 6 Port
	7	Battery 7 Port
	8	Start Button
	9	WIFI Logger Port
	10	Debug Port
	11	Inverter Interface Port
	12	Meter COM Cable Port
	13	LCD
	14	DC breaker
	15	This terminal is non-functional and will not be energised. It was originally included in the design as a provision for an additional interface; however, this function has since been discontinued. As the UL certification was completed based on the controller's current physical configuration, the terminal has been retained without modification.
Communication	Inverter BMS	CAN
	Inverter Control	RS485
	Battery	CAN
	Meter	RS485
	WIFI Dongle	RS485/TTL UART
Others	Display	OLED
	Power On/Off	Button/Remote
	Ambient temperature detection	Support
	Soft Start	Support
	Over-circuit protection	Support
	Short-circuit protection	Support
	Active balancing	Support
	Insulation monitoring	Optional



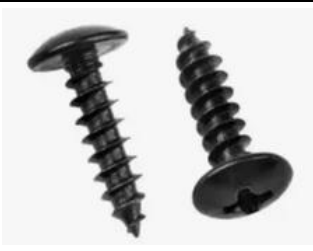
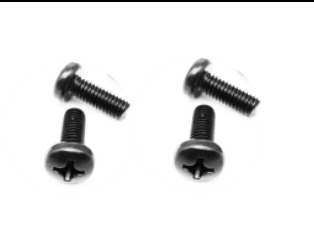
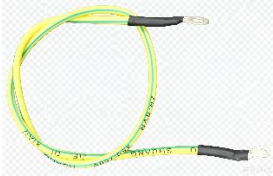
GreenVolt Pro Smart+ control box is pre-installed and firmly secured to the lower cabinet at the point of manufacture. The control box and lower cabinet are packaged integrally and shipped as one unit.

03-5 What's in the Box

Major Components:

Main Items		
		
GreenVolt Pro Lower Cabinet*1	GreenVolt Pro Upper Cabinet*1	Mint 4870 (*2~*7)
		
Top Cover*1	Accessories Kit*1	Mint 4870 MSDS report*1
		
Install Manual*1	Back clip positioning*1	

Accessories Kit		
		
Mint 4870 Cable1- 346mm*2	Mint 4870 Cable2- 510mm*2	Mint 4870 Cable3- 640mm*1
		
Mint 4870 Cable4- 877mm*2	Meter & cable*1	WIFI Logger*1
		
Leveler*1	Inverter cable*1	Back clip*1

		
Membership Card*1	Screw-M4X10 *12	Screw-M6x10 *4
		
Expansion plug set M8×60*2	Ground Wire *7	White Label *1

04 Mounting

04-1 Select a Location for the Battery

The following criteria should be considered:

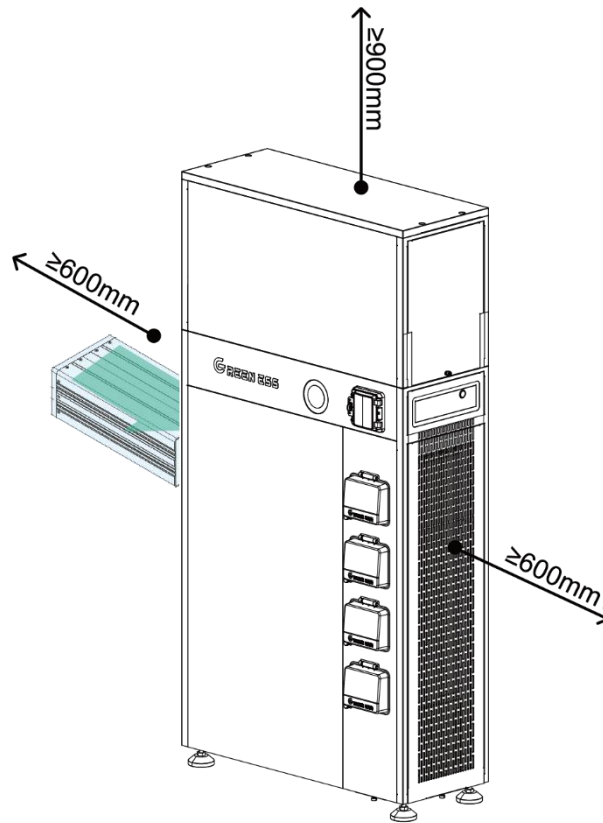
- i. Exposure to direct sunlight may cause output power derating. It is recommended to avoid installing the battery in direct sunlight.
- ii. It is recommended that the battery is installed in a cooler ambient which doesn't exceed 104°F /40°C



WARNING

Installation shall comply with AS/NZS 5139 requirements. The battery system shall not be installed in prohibited locations defined by AS/NZS 5139.

- All habitable rooms include bedrooms, living rooms, studies, kitchens and sunrooms; storage spaces convertible to bedrooms.
- Escape routes, stairwells, main entry doors and corridors; equipment must not block evacuation clearances.
- Ceiling cavities, underfloor voids and fully enclosed built-in wardrobes/cabinets.
- Areas within 600 mm of gas meters, gas valves, flammable materials, corrosive dust or unventilated high-humidity spaces.



Wall Requirements

1. Solid reinforced concrete walls, solid brick/concrete block walls and full ceramic tiled walls are all acceptable Substrates. There is no extra fire barrier required.
2. Light Steel / Timber Framed Partitions (separating habitable spaces): A minimum 6 mm cement fibre non-combustible backboard must be installed across the full projection area of the battery cabinet as a flame and smoke barrier. The fire board must extend a minimum of 300 mm beyond the cabinet perimeter on all sides.
3. Unacceptable Surfaces: Standard single-layer plasterboard, plain timber panels and combustible decorative claddings without full structural and fire reinforcement.

Floor Requirements

1. Preferred substrate: Solid reinforced concrete slabs (inherently non-combustible, no extra protection required).
2. Timber raised floors / composite flooring: A full non-combustible cement fibre underlay covering the base of the unit with 300 mm extra overhang on all sides is mandatory.
3. Direct placement on carpet, bare timber floors or plastic matting is prohibited.
4. Floor Load Bearing Criteria: a strong structure capable of bearing the maximum weight of the product (Mint 4870-7S model, 238kg).
5. Floor flatness: Maximum surface level deviation ≤ 3 mm. Install vertically with a maximum incline of ± 5 degrees, exceeding this may cause output power derating.

Environment Requirements

1. To avoid overheating, always make sure the flow of air around the product is not blocked. A minimum horizontal clearance of 600mm and a minimum vertical clearance above the cabinet of 900mm should be kept between products or objects.
2. Operating temperature (charge -10~50°C/discharge -20~55°C). Humidity 0~95% RH. Altitude ≤2000 m.
3. The location should not be accessible to children.

Outdoor Installation Requirements

The battery with IP25 can be installed both indoors and outdoors. If outdoor installation, a dedicated outdoor rain and sun canopy is mandatory for all externally installed units to protect the equipment from direct rainfall and dust.

Material Requirements:

1. The canopy shall be constructed of high-strength, UV-resistant, flame-retardant and anti-corrosive materials, such as aluminum alloy, galvanized steel or industrial PC. Low-grade materials including ordinary plastic and thin rust-prone sheet metal are prohibited.
2. The canopy structure shall provide sufficient mechanical strength to withstand strong local winds without deformation, shaking or falling off.

Installation Dimension & Clearance:

1. The canopy shall fully cover the top and upper sides of the unit. The width and length of the canopy must **exceed the equipment outline by no less than 150 mm** to prevent side rain splash and water infiltration.
2. The vertical clearance between the canopy bottom and the equipment top shall be **minimum 200 mm** to ensure proper heat dissipation. Close-fitting installation that blocks ventilation openings is prohibited.
3. A minimum **500 mm** clearance shall be maintained around the unit for ventilation and maintenance. Do not block terminals, heat vents, pressure relief ports and operation panels.

Drainage & Waterproofing:

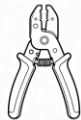
The canopy shall be installed with a **15°–30° outward slope** to ensure smooth rainwater drainage and eliminate water pooling or backflow.

NOTE

Nothing should be stored on or placed against the product.

04-2 Preparing Tools and Instruments

Installation tools include but are not limited to the following recommended ones. If necessary, use other auxiliary tools on site.

Tools			
			
Hammer Drill	Torque screwdriver	Multimeter	wire stripper
			
Electric screwdriver	torque wrench		

04-3 Safety during Mounting

- Only trained, qualified electricians may install this equipment. After opening the package, first check the battery and accessories. If the battery is damaged or there is an occurrence of missing parts, please contact the vendor.
- Keep the battery away from heat, water, strong magnetic fields and dusty or unventilated areas. Do not short-circuit, disassemble or puncture the battery. Installer provided cables must comply with local cable regulations and standards.
- Before installation, ensure the DC breaker on GreenVolt Pro Smart+ Control Box is OFF and the AC supply is off.
- Make sure the electrical specifications of the battery are compatible with the relevant devices and systems.
- Do not energize any part of the system until every connection in steps 1-11 is complete and verified.
- Handle each item by its individual weight. Do not move the cabinet with modules installed. A single Mint 4870 module is 28 kg (two persons or a handling aid). The empty cabinet including GreenVolt Pro Smart+ Control Box (excluding inverter and modules) is 42 kg. Keep upright; protect terminals against short circuit.

04-4 Battery Activated and Deactivated

- The battery stays on the status of Sleep Mode (no power output) until the Mint 4870 cable is installed. Once the Mint 4870 cable is installed, the battery is electrically activated automatically.
- The battery can be electrically deactivated via the remote software command from GreenVolt Pro Smart+ control box.

04-5 Installation steps

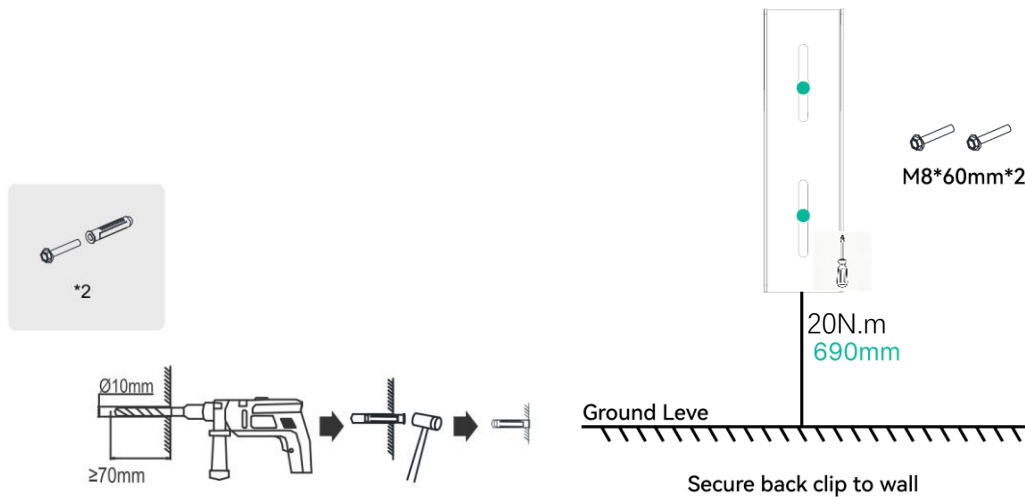
Installation is identical for all models. Only the battery module count differs. The same factory pre-assembled cable is used for all compatible inverters.

Check whether all items listed in the packing list are complete and confirm that there is no damage or missing

part before proceeding with the follow-up installation. If any discrepancy is found, contact the seller or after-sales service in time.

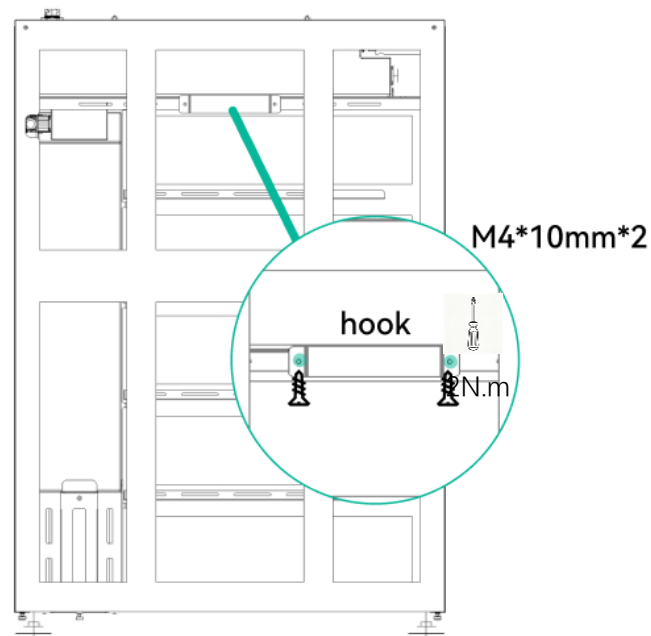
04-5-1 Secure the back clip

Fix the back clip to a solid concrete or brick wall—M8×60 into metal expansion anchors, approx. 18–22 N.m (per anchor datasheet). The bottom of the clip sits approx. 690 mm above ground.



04-5-2 install the hook

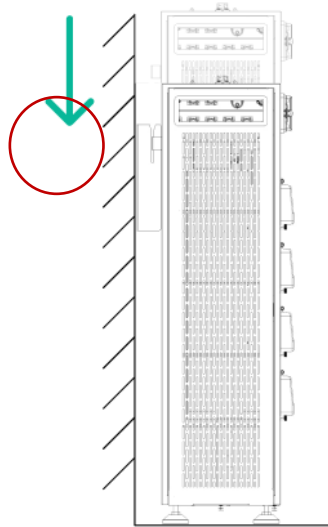
Install the hook on the cabinet—M4×10, tighten to 2.0 N.m



Install the hook on the cabinet

04-5-3 Hang the cabinet

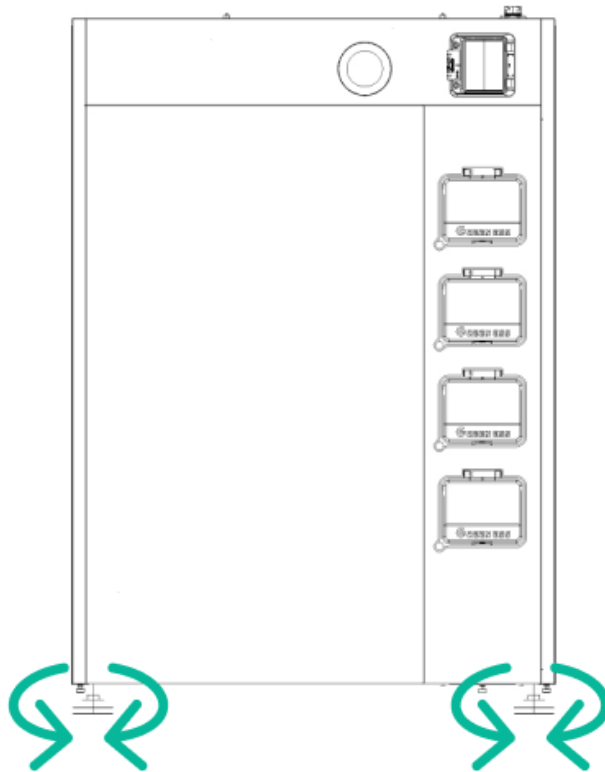
Hang the cabinet onto the back clip



Hang cabinet onto back clip

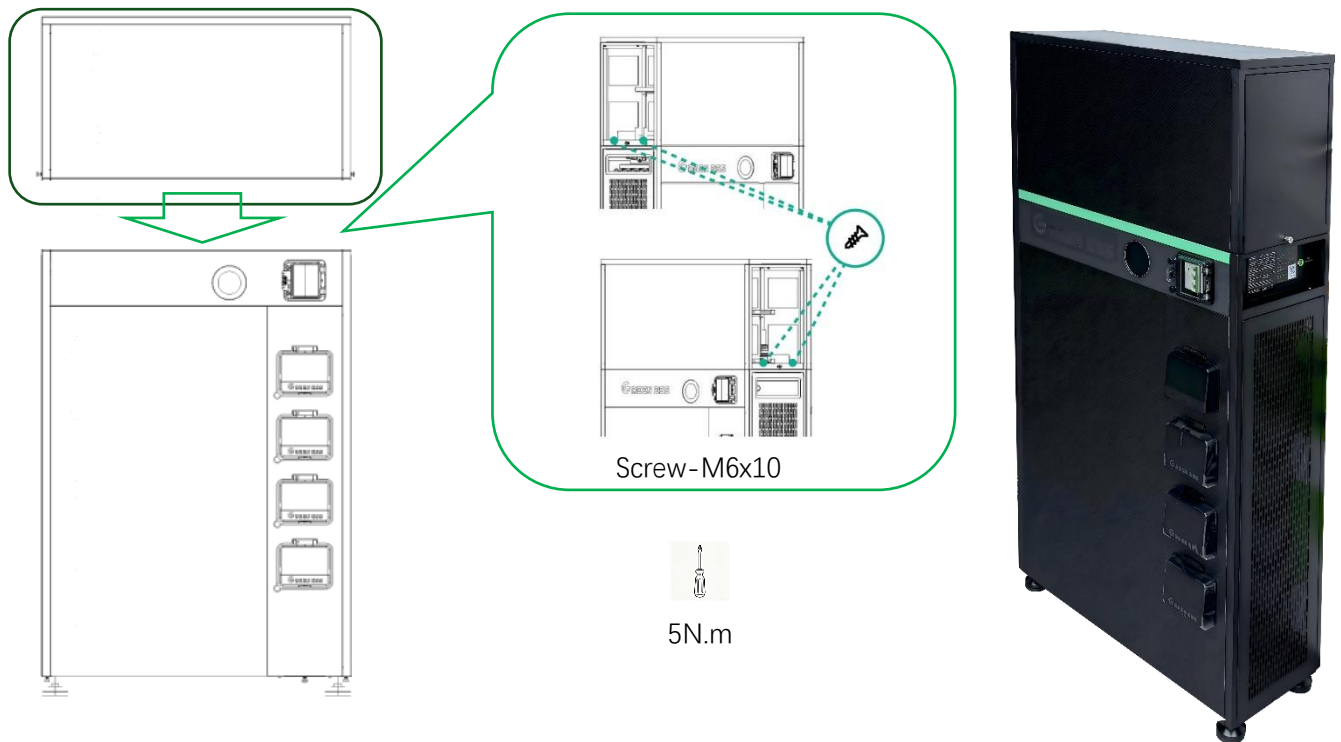
04-5-4 Level the cabinet

Adjust the cabinet's level using the four feet at the bottom.



04-5-5 Install and secure the upper cabinet

For model of Mint 4870-6S/7S, upper cabinet is required to be installed. Please refer to the instructions below.

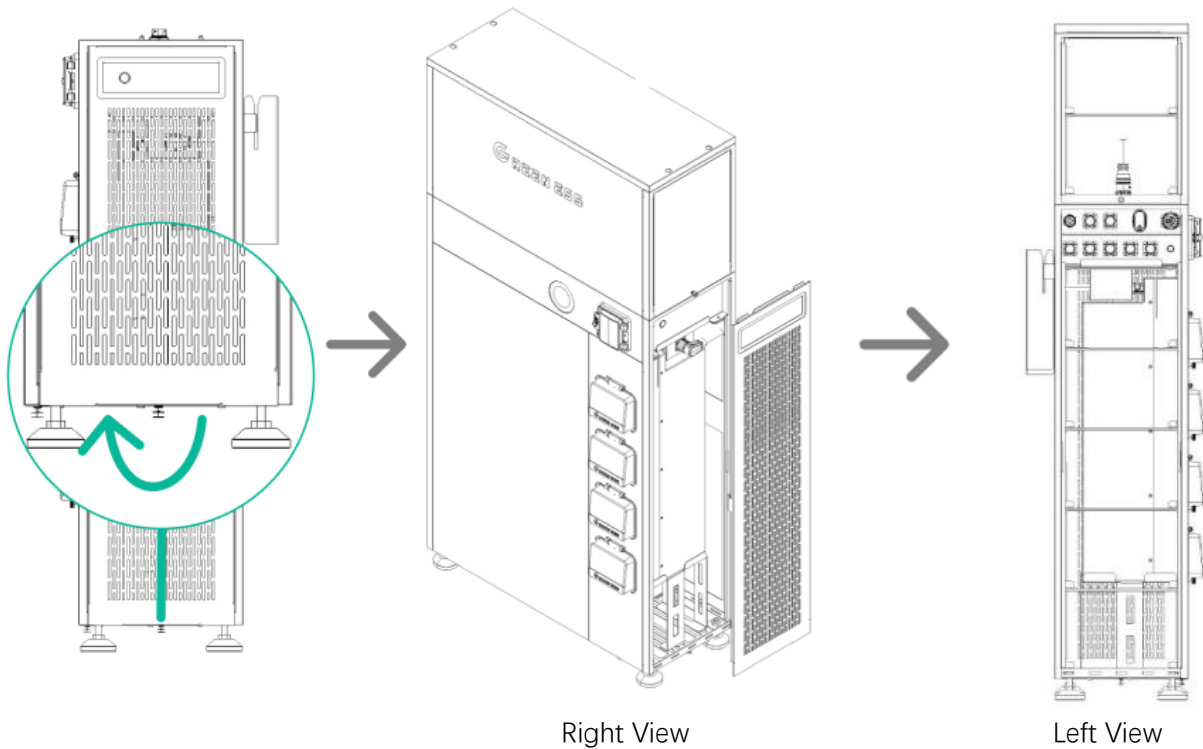


For model of Mint 4870-2S/3S/4S/5S, upper cabinet is not required to be installed, however, the top cover is required to be installed. Please refer to the instructions below.



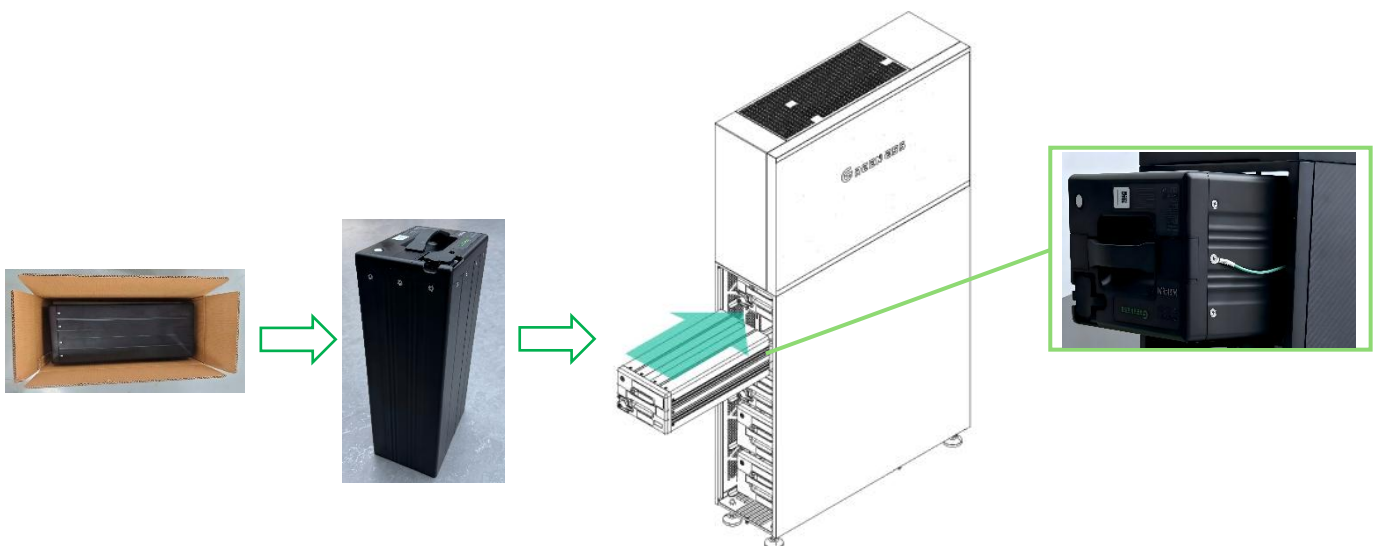
04-5-6 Remove the side panel

Unscrew the screws with hand and remove the cabinet side panel (Left and Right).

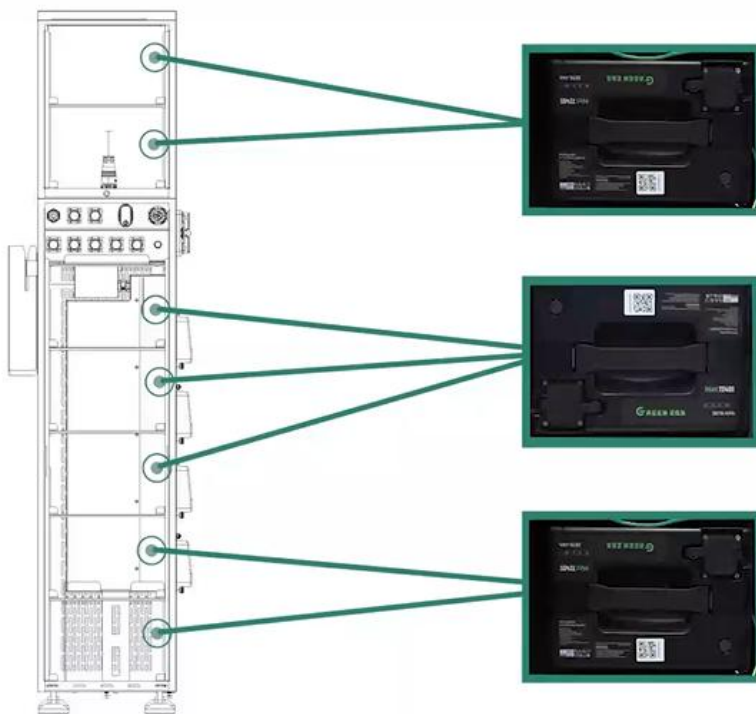


04-5-7 Install the batteries and plug the cables

Take the batteries out of the packaging and put the batteries into the cabinet one by one.

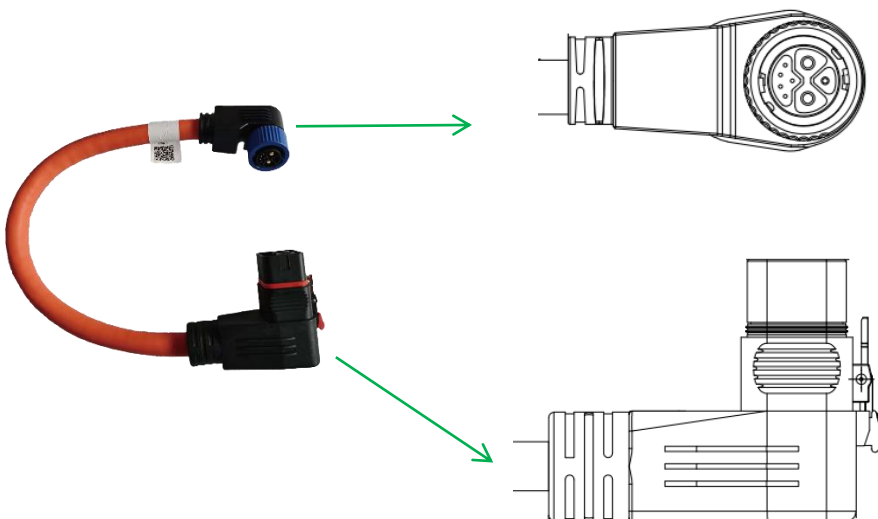


Pay attention to the battery orientation. Please refer to the instructions above.



Plug the cable:

Mint 4870 cable is a pre-assembled integrated cable harness with factory-terminated connectors. The harness integrates DC BAT+/- power lines, as well as CAN and RS485 communication signal wires. Shielding isolation is implemented between power conductors and signal wires, and the entire cable assembly is encapsulated by outer molded rubber.



Connect 2 - 7 Mint 4870 battery modules to GreenVolt Pro Smart+ Control Box using the applicable Mint 4870 battery cables (Cables 1-4: 346 mm, 510 mm, 640 mm, and 877 mm). The modules are secured using self-locking clips and do not require screws. Insert each connector into the corresponding port on GreenVolt Pro Smart+ Control Box until it clicks into place.

4870 Cable 2
510mm

4870 Cable 1
346mm

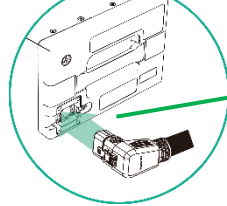
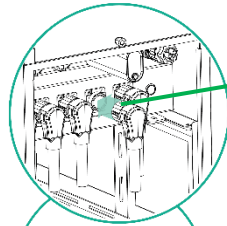
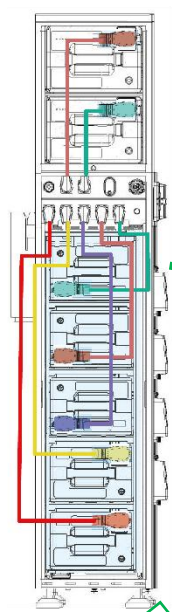
4870 Cable 1
346mm

4870 Cable 2
510mm

4870 Cable 3
640mm

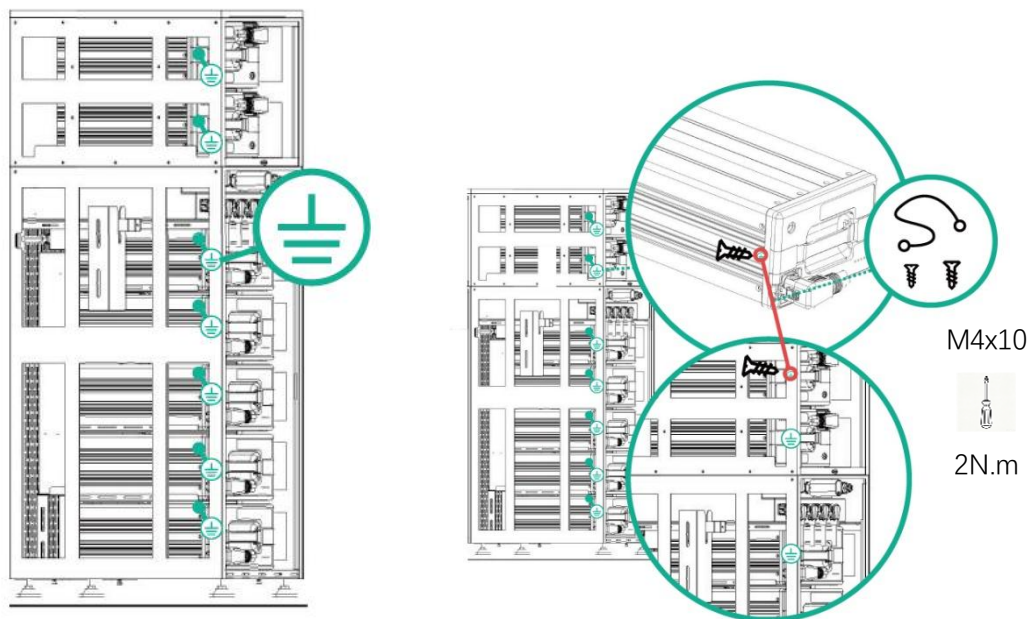
4870 Cable 4
877mm

4870 Cable 4
877mm

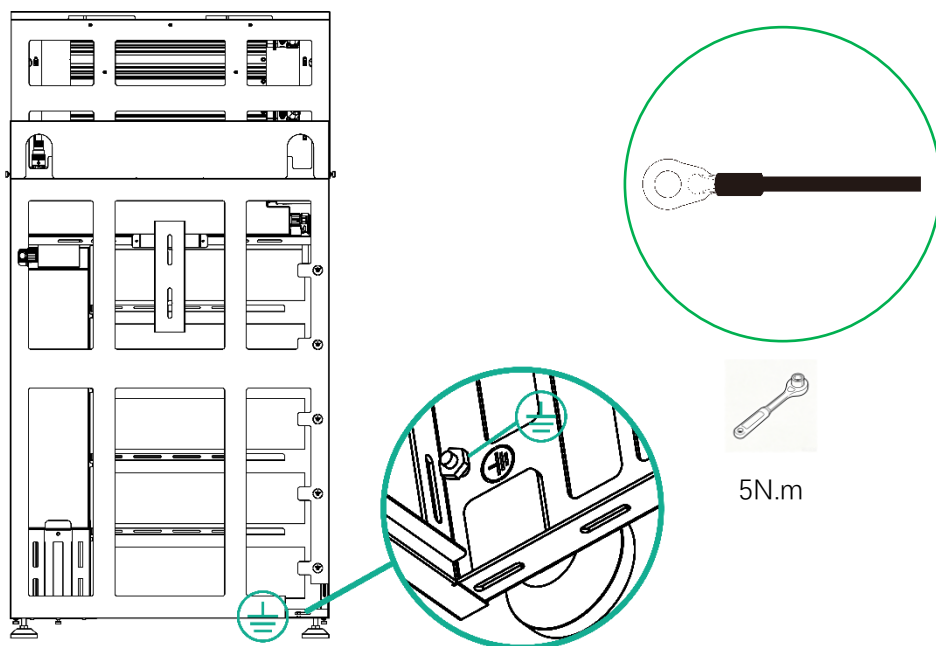


04-5-8 Ground the battery and cabinet

To ground the battery, Use the supplied 6 mm² green/yellow PE cable and M4x10 PH2 screw, 2.0 N.m. One end of the protective earth conductor shall be connected to the battery module, while the other end shall be terminated to the cabinet.



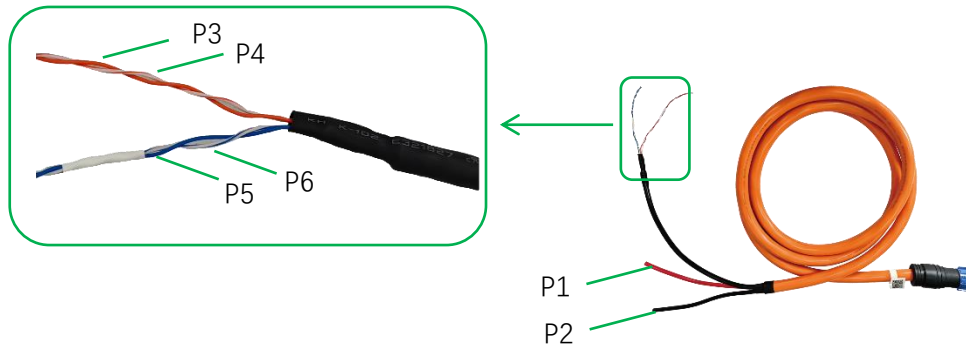
The cabinet shall then be bonded to the earthing terminal of the distribution box.



04-5-9 Connect the inverter

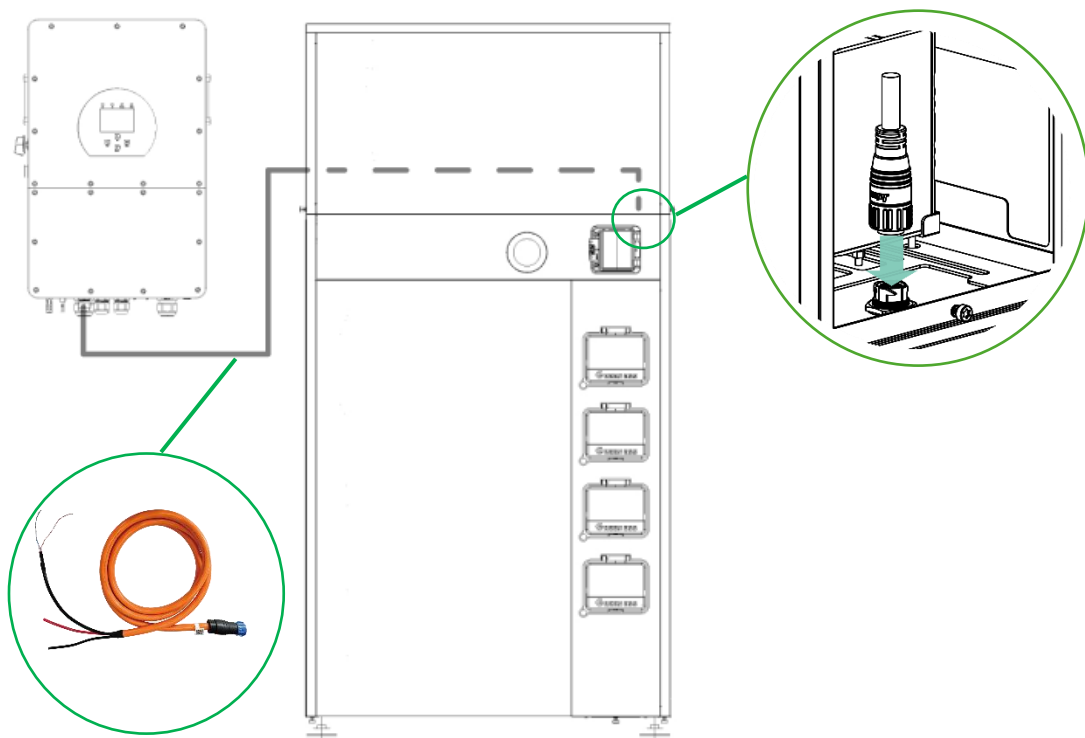
Connect the inverter using only the factory pre-assembled cable, the same cable serves all compatible inverters. It carries DC BAT+/- plus communication (RS485/CAN). Shielding isolation is implemented between power conductors and signal wires, and the entire cable assembly is encapsulated by outer molded rubber.

This cable interconnects GreenVolt Pro Smart+ Control Box and inverter. The connector-equipped end shall be mated with the matching receptacle on GreenVolt Pro Smart+ Control Box. Plug it until it clicks into place. The opposite end shall be wired to the inverter in accordance with the wiring specifications specified in the inverter user manual. The pin assignment of this cable is defined as follows.



No.	Color	Description
P1	Red	DC BAT+
P2	Black	DC BAT-
P3	Orange	485-A
P4	Orange/white	485-B
P5	Blue	CAN-H
P6	Blue/White	CAN-L

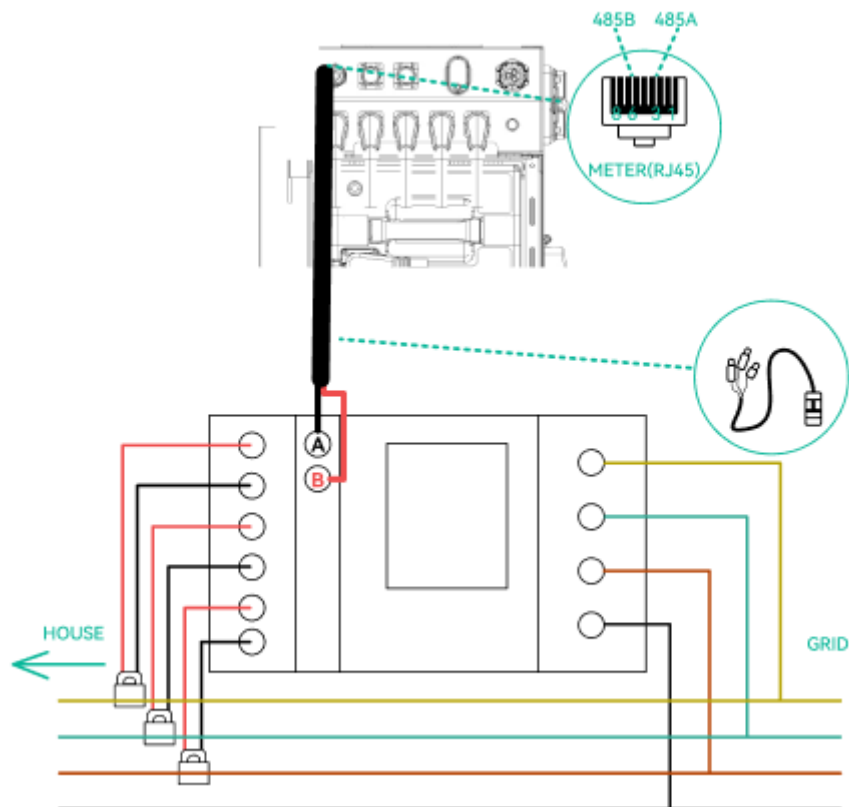
All other inverters wiring and mounting steps, follow the inverter's own manual.



04-5-10 Install the Meter.

The electricity meter is installed inside the distribution box. Mount the current transformers (CTs) on corresponding phases as required by the customer. Connect the one side of wiring harness to the electricity meter. Then, insert the crystal connector on the other end of the cable into the METER port on GreenVolt Pro Smart+ Control Box, and turn the outer locking cap clockwise to secure the connection.

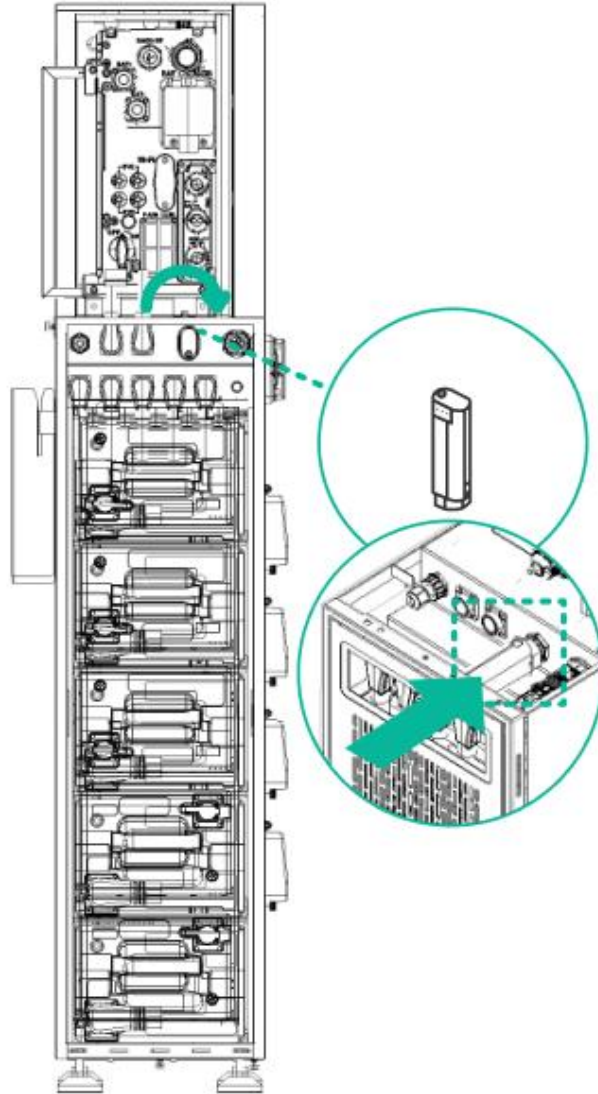
After installation is completed, meter inspection needs to be performed via the installer APP. Refer to the APP user manual for detailed operation steps.



04-5-11 Install the Wi-Fi dongle

Install the Wi-Fi dongle on GreenVolt Pro Smart+ Control Box, turn clockwise

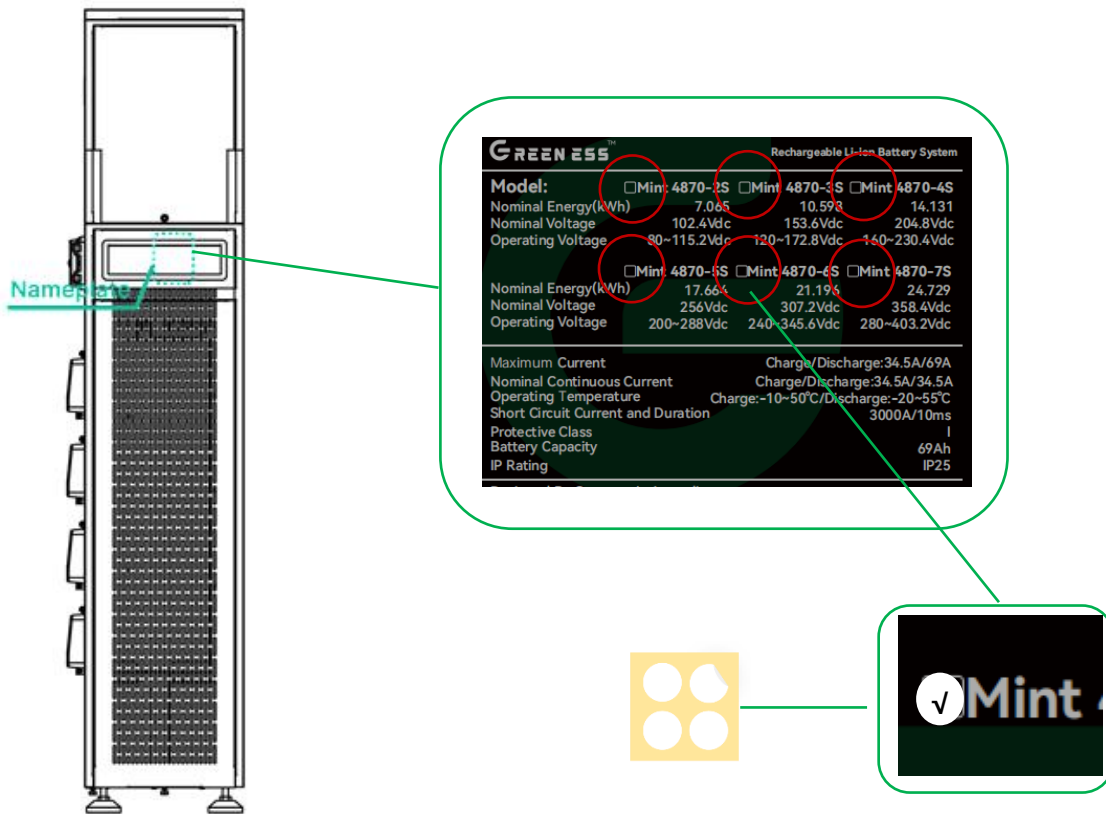
After installation, network configuration shall be completed via the APP. Refer to the APP user manual for detailed operating procedures.



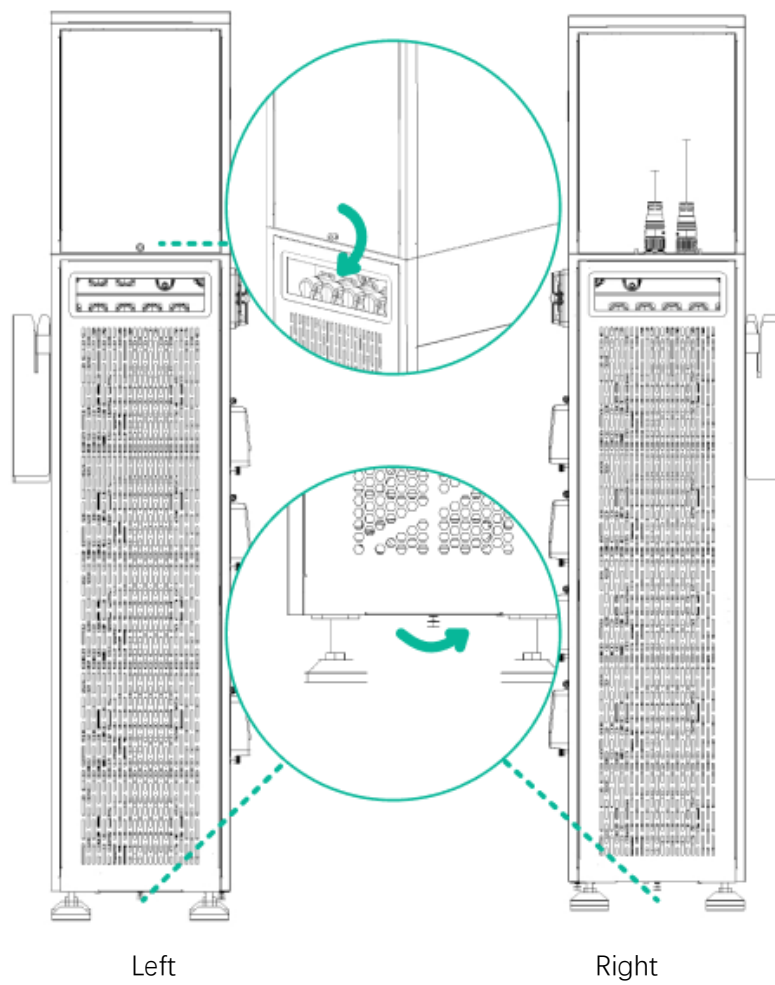
04-5-12 Mark the model number

There is only one label designed for 6 model numbers. It requires the installers to mark the correct model number on the label once it is installed on site. Tick the exact model number of the battery system at the corresponding position of the label when the system is installed.

Affix the white label provided in the package (refer to page 17) to the designated position, and use a black permanent marker to place a tick on the label..

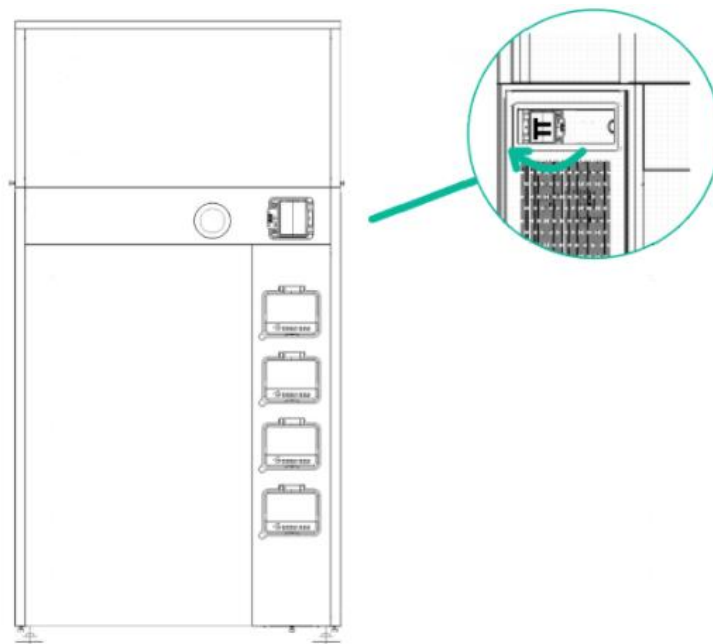


04-5-13 Install the door panel



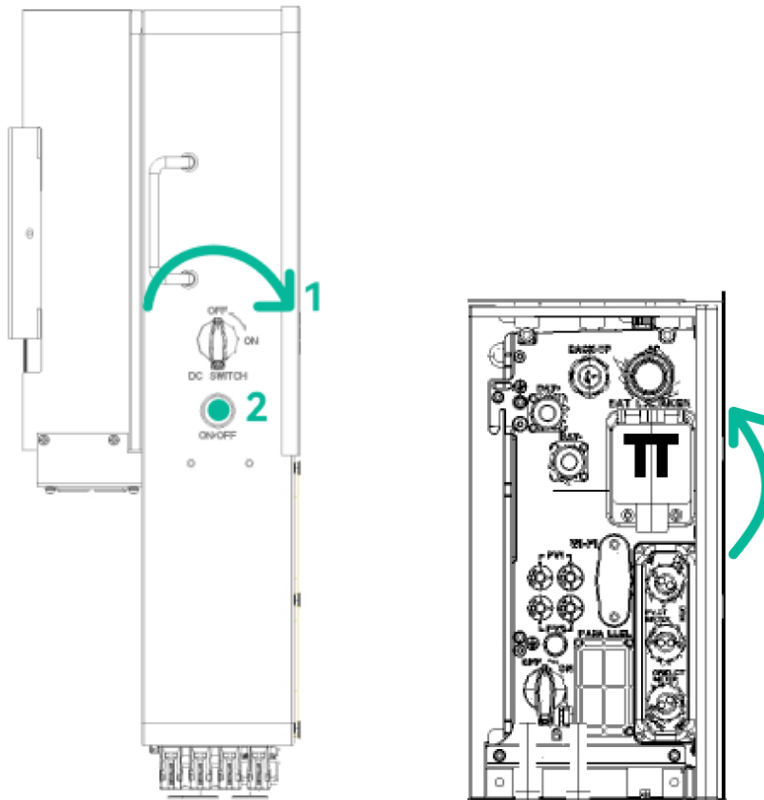
04-5-14 Switch on the DC breaker

Switch on the DC breaker on GreenVolt Pro Smart+ control box.

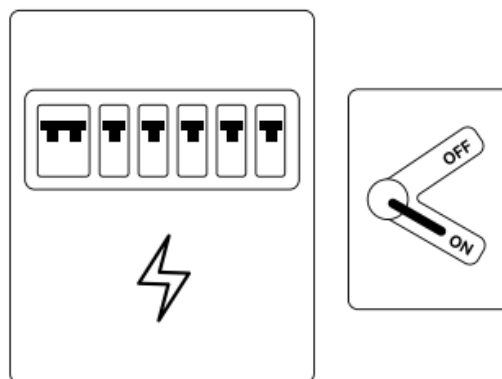


04-5-15 Turn on the Inverter switch

The following are illustrative examples. For more information, refer to the inverter's own manual.



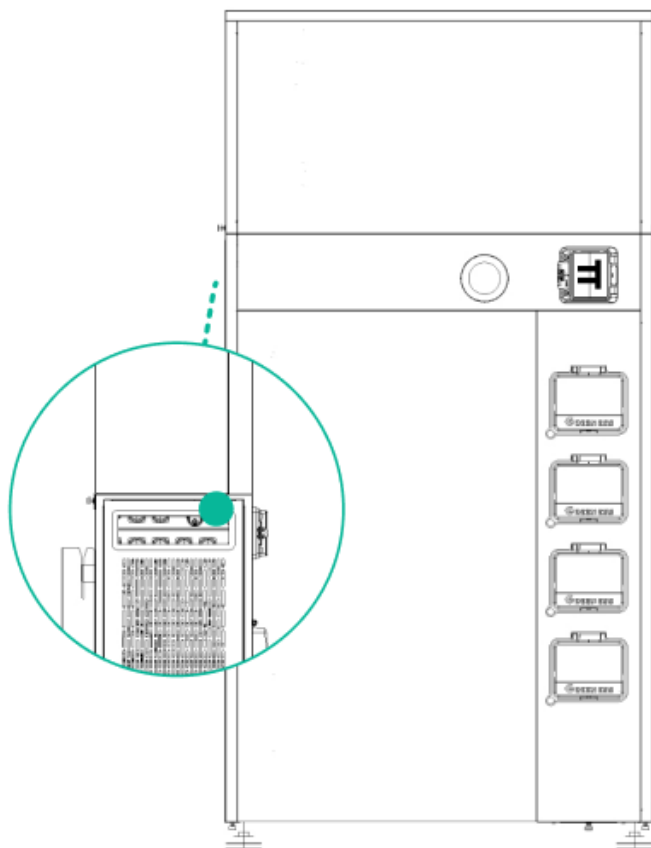
04-5-16 Switch on the grid breaker



Switch on the Grid Breakers

04-5-17 Press the start button

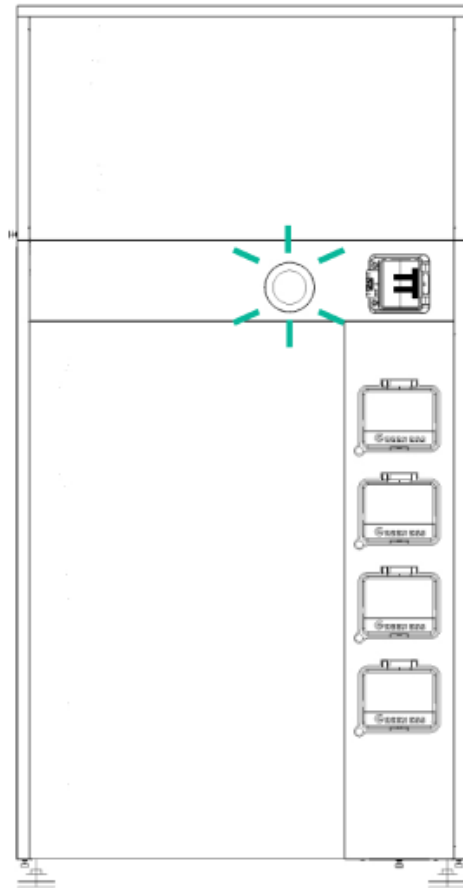
Press the start button on GreenVolt Pro Smart+ to start up the system.



04-5-18 check the screen.

GreenVolt Pro Smart+ control box display shows the system State of Charge (SOC).

For more information about LCD display and troubleshooting, refer to Section 6 of this User Manual.



Torque Summary		
Location	Fastener	Torque
Wall back clip	M8X60(Metal expansion anchor)	20 N.m
Hook	M4x10	2 N.m
Grounding	M4x10	2 N.m
Secured upper cabinet	M6X10	5 N.m

Inverter and AC-side torques follow the inverter's installation manual.

05 Commissioning & Operation

05-1 Startup procedure

Step 1

Switch on the DC breaker on GreenVolt Pro Smart+ control box.

Step 2

Turn the inverter DC switch to the ON position.

Step 3

Turn the inverter Grid ON/OFF switch to the ON position.

Step 4

Turn the grid-side AC MCB to the ON position.

Step 5

Wait approximately 30 seconds for the battery management system (BMS) and control system to initialize.

Step 6

Press the start button to startup the battery system.

Step 7

Turn on the backup AC MCB, if applicable.

NOTE

NOTE: the start button on the GreenVolt Pro Smart+ is for startup only and cannot switch the system off.

05-2 Shutdown procedure

Step 1

Turn off the AC circuit breaker at the grid connection point.

Step 2

Turn the inverter Grid ON/OFF switch to the OFF position.

Step 3

Turn off the PV DC switch, if fitted.

Step 4

Turn the inverter DC switch to the OFF position.

Step 5

Switch off the DC breaker on GreenVolt Pro Smart+ control box.

Step 6

Wait until all indicators and displays are off and the system has completely shut down.

NOTE

Ensure all the devices are accessible for operation, maintenance and service. Check and confirm that the

inverter is firmly installed.

Space for ventilation is sufficient for one inverter or multiple inverters.

Nothing is left on the top of the inverter or battery module.

Inverter and accessories are correctly connected.

Cables are routed in safe place or protected against mechanical damage. Warning signs and labels are suitably affixed and durable.

Measure DC voltage of PV strings and battery and ensure the polarity is correct. Measure AC voltage and frequency and ensure they are within local standard.

05-3 APP Download

Download the iGE Cloud App to complete Wi-Fi configuration. iGE Cloud App can be downloaded via App Store and Play Store for Apple and Android users. The App user manual will be sent to customers via email before the physical installation commences.

06 LCD Display and Troubleshooting

LCD Display	Back Light	Status	Description
	Solid Blue	Normal operation; Charging or discharging.	The number displayed in the center of the screen indicates the system State of Charge (SOC).
	Solid Yellow	Alert status	
		Meter-Discon. : Meter lost	Please check the Meter COM connection. Please check Meter's grid supply. Please contact after-sales.
		WiFi-Discon. : Network connection lost	Internet config and troubleshooting.
		Upgrading. : OTA	Upgrade the system
	Flashing Yellow	Flashes three times	The system has received a control command.
	Solid Red	Fault or protection status	Follow the shutdown procedure and troubleshoot the system according to the displayed fault code. Contact Green ESS After-sales Support if further assistance is required.

Mint 4870 Indicator LEDS	Error Description	Recovery Methods
0.5 second on-time and a 1.5 second off-time	Over-Discharge Protection	Battery charging, automatic recovery when SOC > 0%
1.5 second on-time and a 0.5 second off-time	Overvoltage Protection	Charging stops and recovers automatically after consumption of battery power
1 second on-time and a 1 second off-time	Over-Current Protection	Remove the overloading Device Professional inspection to eliminate the cause of the over-loading
1 second on-time and a 1 second off-time	Short-Circuit Protection	Professional inspection to eliminate the cause of the short circuit

07 Mint 4870 Transportation, Maintenance and Disposal

07-1 Transportation Safety Instructions

i. Pre-transport Preparation

Disconnect all inverter, meter and communication cables, and turn off the built-in DC breaker to fully isolate the battery circuit. Adjust the battery State of Charge (SoC) to no more than 50% before shipment. Fully charged or deeply depleted batteries are prohibited for long-distance transport. Cover all positive/negative terminals and CAN ports with insulating caps to avoid short circuits caused by metal contact.

ii. Packaging & Placement

Transport only with original UN-certified shockproof wooden crate or heavy-duty carton with full EPE foam protection on all six sides. The unit must be kept upright at all times; tilting, rolling, upside-down placement and violent impact are strictly forbidden. Do not stack cargo heavier than the labeled limit on top of battery packages.

iii. Loading & Unloading

Use certified lifting equipment or two qualified operators for heavy battery cabinets. Do not drag, drop or squeeze the unit directly on the ground. Avoid scratching the cabinet surface and shifting internal modules.

iv. Transit Environment Control

Keep the battery away from open flames, heat sources, flammable, corrosive and toxic goods during transport. Avoid prolonged direct sunlight, rain and condensation. The ambient transit temperature shall be controlled within 0°C~40°C.

v. Damaged Battery Rule

If the cabinet is swollen, cracked, leaking, burnt or emits abnormal odor, stop all transportation immediately. Do not ship damaged units together with normal products. Seal in insulated packaging and contact authorized service staff for professional recycling processing.

vi. Required Shipping Documents

Carriers shall be provided with complete UN38.3 test summary, MSDS, UN packaging certificate, packing list and commercial invoice before loading. Air and sea freight additionally require a signed Dangerous Goods Declaration.

07-2 Maintenance Instructions

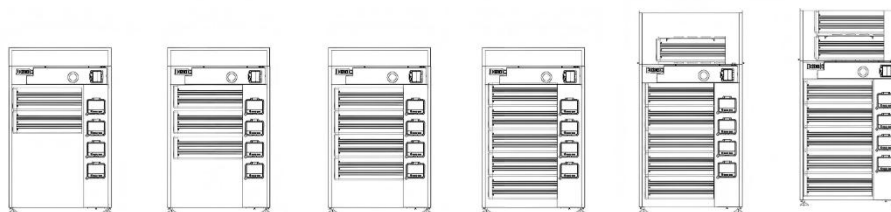
- i. The battery must be stored in dry and well-ventilated environment. If the storage temperature is too high or too low, this will affect the self-discharge rate of the battery and accelerate the natural aging of the battery. It is therefore recommended to store the battery at a temperature of 20~45°C and stay away from water sources, heat sources, and metal objects.
- ii. If the battery is not going to be used for a long period of time, it is recommended to be stored intact in a semi-charged state (60% SOC). The battery is recommended to be discharged to 30% and then recharged to 60% every three months.
- iii. For safety reasons, the battery must not be stored at temperature above 45°C (113°F) or below 20°C (68°F).
- iv. When the temperature of battery is equal to or below -20°C (4°F), the battery cannot be used for charging, discharging or heating.
- v. To extend the service life of the battery, it is recommended to be used at 20°C (68°F) to 45°C (113°F).

- vi. If the battery level is below 1% after use, it should be charged to 60% before storage. If the battery is left idle for a long period of time with critically low SOC, irreversible damage to the battery cell will occur, reducing the service life of the battery.
- vii. If the battery SOC is critically low and being left idle for too long, it will enter deep sleep mode and will need to be recharged before it can be used again.

07-3 Disposal

- i. If conditions permit, make sure that the battery is completely discharged before placing the battery in the designated battery recycling bin. The battery cells, which contain hazardous chemicals, are strictly prohibited from being placed in an ordinary garbage bin. For relevant details, please comply with the user's local laws and regulations regarding lithium battery recycling and disposal.
- ii. If the battery cannot be fully discharged due to the fault of the product itself, do not dispose of the battery directly. Contact a specialized battery recycling company for further disposal.
- iii. An over-discharged battery cannot be switched on. Please dispose of the battery according to local laws and regulations.

08 Specifications



Product Type Model	Mint 4870-2S	Mint 4870-3S	Mint 4870-4S	Mint 4870-5S	Mint 4870-6S	Mint 4870-7S
Technical Specifications	Standard Parameter					
Battery Type	LiFePO4 Prismatic Cell					
Battery Module	3.533kWh, 28kg					
Nominal Energy*	7.065kWh	10.598kWh	14.131kWh	17.664kWh	21.196kWh	24.729kWh
Nominal Voltage	102.4V	153.6V	204.8V	256V	307.2V	358.4V
Rated DC Power **	3.533kW	5.299kW	7.065kW	8.832kW	10.598kW	12.365kW
Maximum DC Power **	7.065kW	10.598kW	14.131kW	17.664kW	21.196kW	24.729kW
Operating Voltage	80~115.2V	120~172.8V	160~230.4V	200~288V	240~345.6V	280~403.2V
Continuous Charge Current ***	34.5A					
Continuous Discharge Current	34.5A					
Maximum Charge Current	34.5A					
Maximum Discharge Current	69A					
Depth of Discharge	Maximum 100 % DoD (Settable)					
Short Circuit Current	3000A/10ms					
Display	SOC Indicator , Status Indicator					
Communication Interface	CAN	CAN	CAN	CAN	CAN	CAN
Over/Under Voltage Protection	YES	YES	YES	YES	YES	YES
Over Current Protection	YES	YES	YES	YES	YES	YES
Over/Under Temperature Protection	YES	YES	YES	YES	YES	YES
DC Breaker	YES	YES	YES	YES	YES	YES
Dimensions (WHD, mm) ****	720*1167*280	720*1167*280	720*1167*280	720*1167*280	720*1415*280	720*1415*280
Weight	94kg	122kg	150kg	178kg	210kg	238kg
Installation Location	Indoor/Outdoor					
Operating Ambient Temperature Range	Charge: -10 °C - 50 °C Discharge: -20 °C - 55 °C					
Degree of Protection	IP25					
Cycle Life	8000 Cycles: Condition: Maximum 0.5C Charge/Discharge at 25±2°C, DoD:80%					
Allowable Relative Humidity Range	0 % - 95 % No Condensing					
Maximum Operating Altitude	Maximum 2000 m					
Cooling Method	Natural Convection					
Certificates	UL1973, UN38.3					
Warranty*****	10 Years					
Country of manufacture	China					

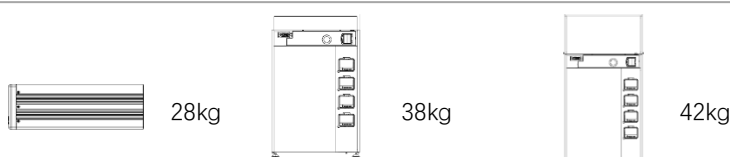
* Test conditions: 25°C, 100 % depth of discharge (DoD), 0.2C charge&discharge.

** The system supports a maximum discharge rate of 1C. The actual maximum discharge power depends on the battery system configuration and project-specific requirements.

*** Nominal charge / discharge current and DC power derating will occur related to temperature and SOC.

**** The height of Mint 4870-2S/3S/4S/5S includes the top cover.

***** Refer to battery warranty letter for conditional application.



Each battery module is 28kg in weight, bottom cabinet with GreenVolt Pro Smart+ and top cover is 38kg in weight, and top cabinet plus bottom cabinet with GreenVolt Pro Smart+ is 42kg in weight. **Total weight** of each model is shown above and on datasheet.



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