SunPower
Three Phase Hybrid Inverter

Safety & Installation Manual

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This user manual is valid for installing the SunPower 3-phase hybrid inverter SP-SRTH-G1.

It applies to the following product series:

SP-SRTH-5kW-G1
SP-SRTH-6kW-G1
SP-SRTH-8kW-G1
SP-SRTH-10kW-G1
SP-SRTH-12kW-G1
SP-SRTH-13kW-G1

This document contains important instructions for the high-voltage energy storage system that should be followed during installation and maintenance. It describes the information, installation, electrical connection, commissioning, maintenance and troubleshooting of the product. Please read it carefully before operating.

Illustrations in this document are reduced to the essential information and may deviate from the real product.

For the latest version and additional product documentation please refer to our resources on www.sunpowerglobal.com

Contents are subject to change without notice.

TCL Photovoltaic Technology (Shenzhen) Co., Ltd.

CONTENTS

1 General introduction

1.1 System application

The system can be applied in a DC coupled system, AC coupled system, hybrid coupled system and off-grid system. It can store and release the energy from solar or grid according to the requirements of the built-in EMS. The backup function can supply power to critical loads in case of power outage.

1.2 Safety Introduction

1.2.1 Important Safety Instructions

Important instructions contained in this manual should be followed during installation, operation and maintenance.

- The hybrid inverter must only be installed or operated by qualified electricians in compliance with local grid or power company standards, wiring rules, and requirements.
- Disconnect all batteries and AC power sources from the hybrid inverter for at least 5 minutes before connecting any wires or conducting any electrical work to ensure the inverter is fully isolated and to avoid electric shocks.
- The surface of the hybrid inverter may exceed temperatures of 60° C during operation. Please make sure the inverter has cooled down before touching it, and make sure that the hybrid inverter is out of the reach of children.
- The hybrid inverter must be used and operated as described in this user manual, or safety features may not work as intended, and the warranty for the hybrid inverter will be voided.
- Your hybrid inverter warranty will be voided if you open the hybrid inverter cover or change any component without SunPower's authorization.
- Care must be taken to protect the inverter from static damage. The SunPower Limited Warranty does not cover such damage.
- This hybrid inverter features a built-in residual current device (RCMU).
- We recommend type B external residual current devices (RCD) rated for a tripping current of 30 mA or higher, but local regulations may differ and must always be followed.
- This hybrid inverter features active anti-islanding protection. When

connected to the grid, the inverter will adapt to the frequency of the grid. When off-grid, the inverter will disconnect the grid side.

- This hybrid inverter is a multimode inverter designed to be used in unconditioned outdoor shaded environments. The maximum operating ambient temperature is 60 °C.

- Alerts and error messages are transmitted via the inverter LEDs, the homeowner and installer apps and the monitoring portal.

1.2.2 Warning and Safety Symbols

The following warning and safety symbols should be noted on the product:

⚠ DANGER

Indicates a hazard with a high level of risk that, if not avoided, will result in death or serious injury.

⚠ WARNING

Indicates a hazard with a medium level of risk that, if not avoided, could result in death or serious injury.

⚠ CAUTION

Indicates a hazard with a low level of risk that, if not avoided, could result in minor or moderate injury.

NOTICE

Indicates a situation that, if not avoided, could result in equipment or property damage.

Potential risks exist.
Wear proper PPE before any operations.

Danger to life due to electric shock.
The system operates at high voltages. All work on the system must be carried out by qualified persons only.

Risk of burns due to hot surfaces.
The system can get hot during operation. Avoid contact during operation. Allow to cool sufficiently before carrying out any work.

Heavy objects. Lift with care.

Keep the battery away from open fire or ignition sources.

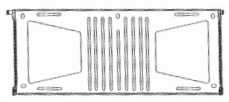
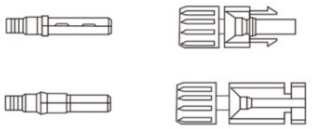
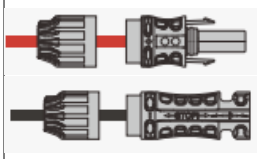
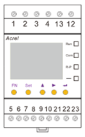
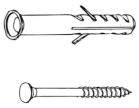
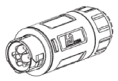
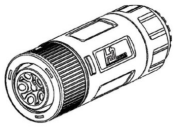
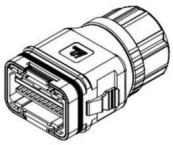
	Wait at least 5 minutes after turning off the inverter before touching or using it - to prevent electrical shocks or injuries.
	Recyclable product components.
	This side up. The package must always be transported, handled, and stored upright, with the arrows pointing upwards.
	Ensure that no more than five packages, whether identical or varied, are stacked on top of one another.
	WEEE designation. Do not dispose of the product together with the household waste but in accordance with the locally applicable disposal regulations for electronic waste.
	Handle the package/product with care. Do noto turn on its side or toss.
	Observe all documentation supplied with the product.
	Keep dry. Store the package or product under cover and away from excess humidity.
	CE marking Product complies with the requirements of the applicable EU directives.

1.3 Limitation of Liability

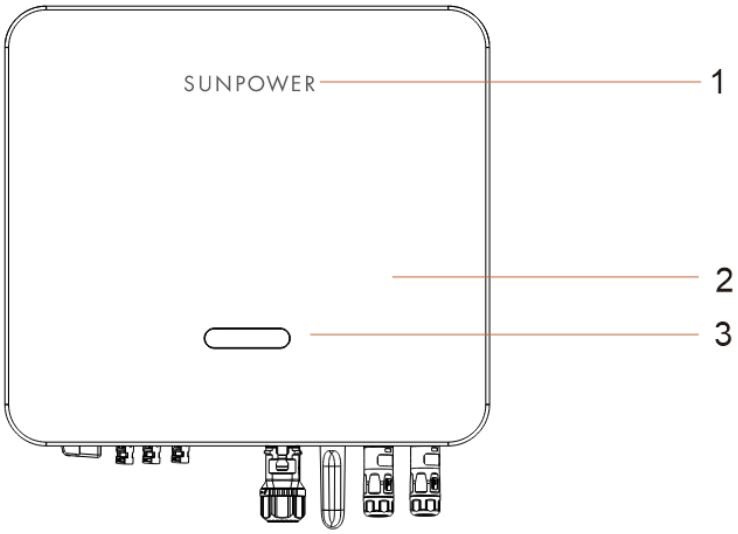
TCL SunPower assumes no direct or indirect liability for any product damage or property losses caused by the following.

- Product modifications, design changes, or parts replaced without SunPower's authorization;
- Modifications or attempted repairs or removal of serial numbers or seals by non-authorised technicians;
- System designs and installations not in compliance with common or local standards or regulations;
- Failure to comply with the local safety regulations;
- Damage caused during customer transportation. Any claims for damage during shipping should be made directly with the shipping or insurance company as the container/packaging is unloaded and damage is identified;
- Failure to follow any/all of this installation manual or maintenance guidelines;
- Improper use or misuse of the device;
- Insufficient ventilation around the device;
- Product maintenance that does not meet required standards.;
- Force majeure (including severe or stormy weather, lightning, and fires).
-

1.4 Packing List

SUNPOWER 3P Split Hybrid Inverter Packaging List				
				
1 × Inverter	1 ×Wall mount plate	2× Positive PV Connectors (PV-KBT4/6I-UR) 2× Negative PV Connectors (PV-KST4/6I-UR)	1× Positive BAT Connector (PV-KBT4-EVO ST/10X) 1× Negative BAT Connector (PV-KST4-EVO ST/10X)	
				
1 × Meter (Three Phase Meter)	5× Φ10*60 Expansion Bolts	1× WiFi Dongle (Data Logger)	2× M4*14 Screws	1 × Backup connector
				
1 × GRID connector	1 × COM connector	1 × GND heat shrink tubing – insulation for exposed wires.	1×OT5-4 Terminal	1× Quick Installation Guide
				
1× Quality Certificate				

1.5 System Overview

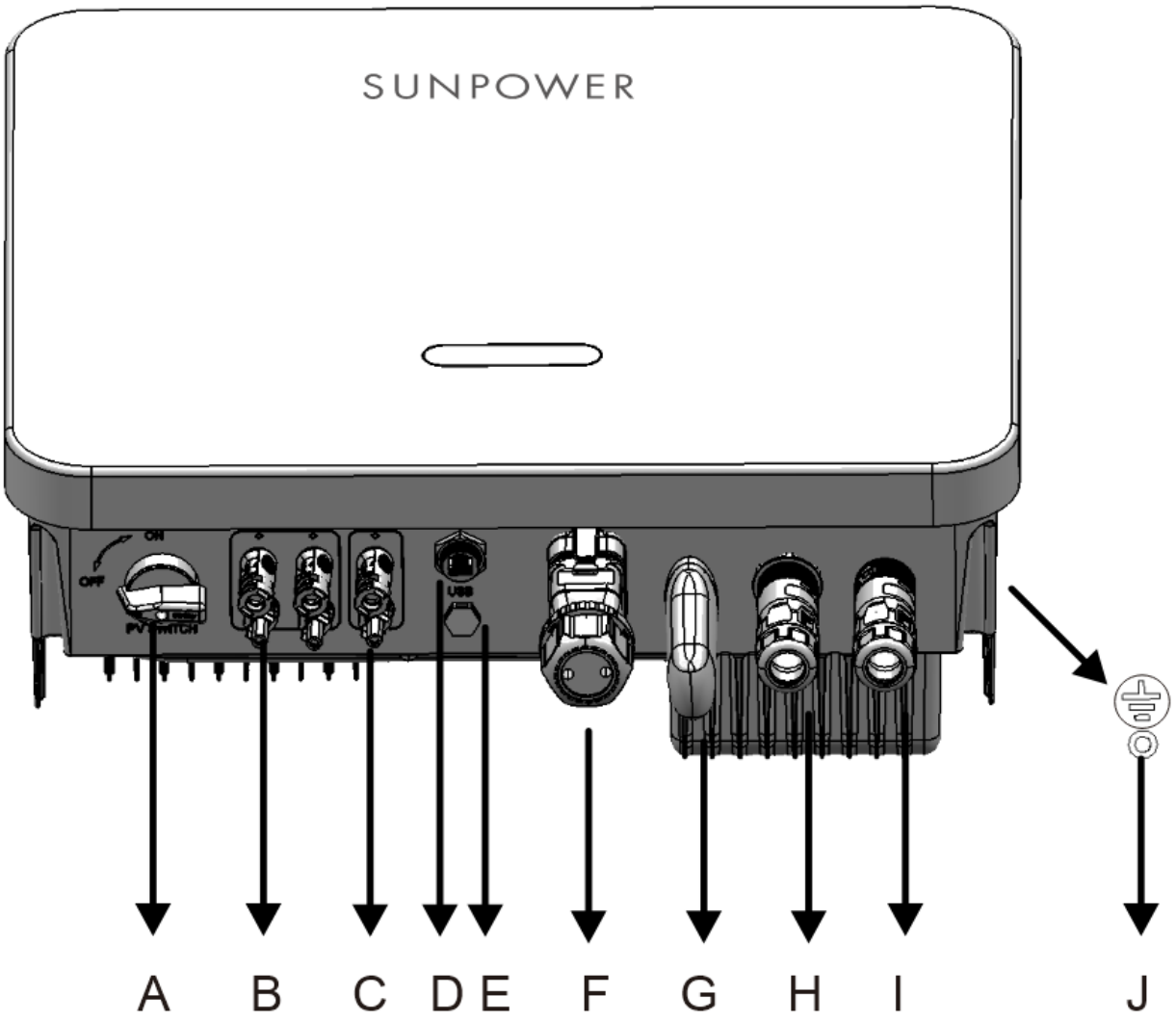


Object	Description
1	Logo
2	Hybrid Inverter
3	Indicator light

LED INDICATOR

STATUS	LED INDICATOR	
Standby	○	Flashing white LED, 2-second intervals
Checking	○	Flashing white LED, 0.5-second intervals
Normal	○	Solid white LED
Inverter fault	●	Solid red LED
Battery com. fault	●	Flashing red LED, 2-second intervals
Meter com. fault	●	Flashing red LED, 0.5-second intervals
Copying files	○	Flashing white LED, 0.5-second intervals
Program update	● ○	Flashing red and white (alternating) LED, 1-second intervals

Hybrid inverter connections



Item	Description	Tool requirements and torque values
A	DC isolator	---
B	PV connectors	Please follow Staubli assembly instructions "MA231"
C	Battery connectors	Please follow Staubli assembly instructions "MA297"
D	USB	Plug and play connection, no tools required
E	Vent valve	---
F	VPP & BMS & METER & DRM communication port	Torque 2.5 Nm
G	Wi-Fi dongle	Torque 2.5 Nm
H	EPS connector	Torque 2.5 Nm
I	Grid connector	Torque 2.5 Nm
J	Ground screw	Torque 2.5 Nm

2 Installation

2.1 Installation Location and Environment

2.1.1. General

The product must be installed on a flat surface or platform with a load-bearing capacity of at least 120 kg. The installation location should be well-ventilated and away from flammable or explosive materials.

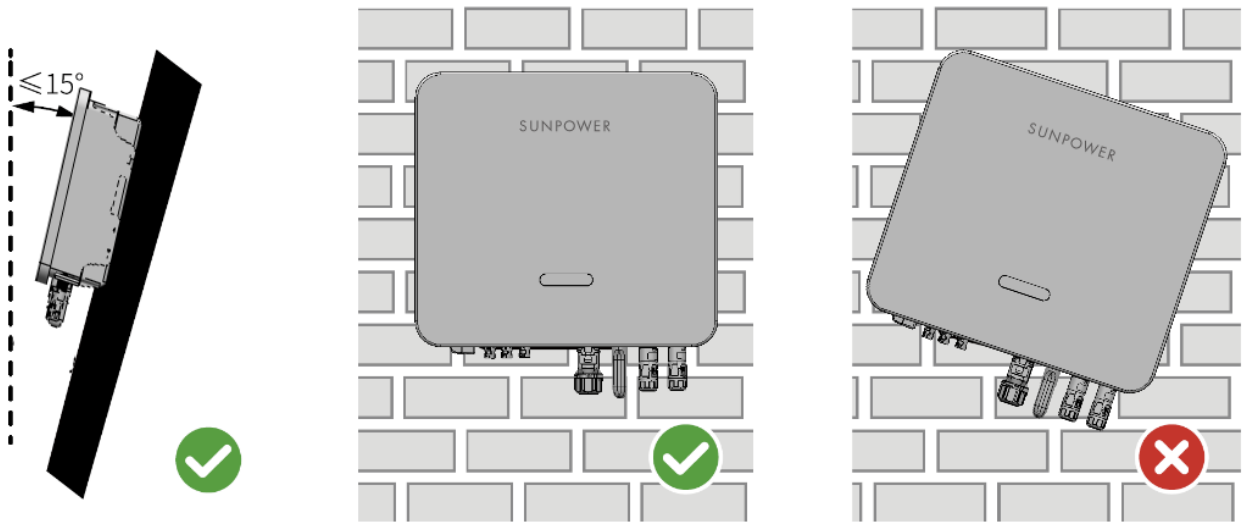
This hybrid inverter is rated for outdoor installation and can be installed both indoors and outdoors. The hybrid inverter is naturally ventilated. The installation location must be clean, dry, and adequately ventilated. Enough space should be left for unrestricted access to the unit for installation and maintenance purposes, and the system panels should not be obstructed.

Carefully select an appropriate installation location based on the following rules to protect the hybrid inverter and facilitate maintenance.

Rule 1. The hybrid inverter should be installed on a solid surface capable of supporting its size and weight.

Rule 2. The hybrid inverter should be installed vertically or at a maximum 2° angle (Pic 1).

Rule 3. The hybrid inverter should be installed vertically or at a maximum 15° angle (Pic 1).

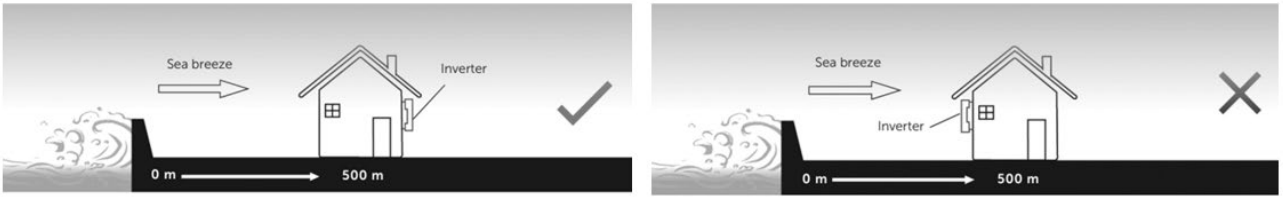


Picture 1

Rule 4. The recommended ambient operating temperature should be lower than 40℃.

Rule 5. The inverter installation location should be protected from direct sunlight or bad weather like snow, rain, or lightning.

Rule 6. Install the inverter at least 500 meters away from the coast and away from direct sea breezes.



Picture 3

Rule 7. The hybrid inverter's product label should be clearly visible after installation.

Rule 8. Do not install the inverter in the snow or rain. If installation in the snow or rain is unavoidable, ensure the inverter and distribution box are protected and kept dry.

⚠ WARNING

The system must not be installed near flammable or explosive materials or near equipment with strong electromagnetic fields.

Rule 9. Install the hybrid inverter away from strong magnetic fields to avoid electromagnetic interference.

1. Keep the hybrid inverter 30m away from radio or wireless communication equipment operating at frequencies below 30 MHz:

2. Attach a low-pass EMI filter or a multi-winding ferrite core to the hybrid inverter DC input cable or AC output cable.

2.1.2 Choosing an Installation Location

Carefully select an appropriate installation location to protect the hybrid inverter and facilitate maintenance. The hybrid inverter should only be installed on concrete or other non-combustible surfaces.

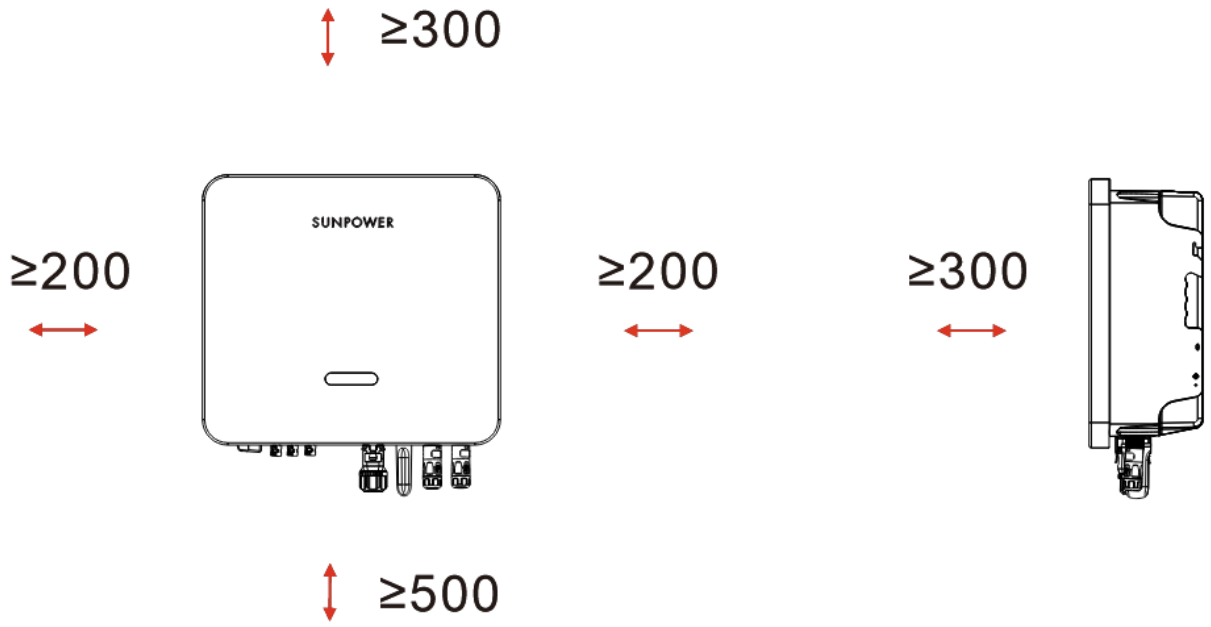
The hybrid inverter should not be installed in the following locations:

- Habitable rooms;
- Ceiling or wall cavities;
- Access/exit areas or passages;
- Places where the room temperature remains below 0°C for several days which has an impact on battery charging.
- Humid or salty environments (500 meters away from the sea and avoid exposure to direct sea winds);
- Seismic-prone areas—additional safety measures are needed;
- Sites higher than 3000 meters above sea level;
- Near flammable or explosive materials or near equipment with strong electromagnetic fields;
- In direct sunlight or places susceptible to significant changes in ambient temperature.

2.1.3 Location Restrictions

Allow the following clearance around the installed hybrid inverter:

Top 300 mm - Bottom 500 mm - Front 300 mm - Left and right sides 200 mm



Leave at least 1 meter of clearance between the hybrid inverter and any emergency exits when installing the device in corridors, lobbies, or hallways to ensure a safe exit.

2.1.4 Barriers to Habitable Rooms

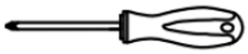
Ensure a suitable non-combustible barrier is set up between the hybrid inverter and any installation walls or structures when installing the hybrid inverter on a wall connected to a living space to protect against the spread of fire to living spaces.

A non-combustible barrier should be installed between the hybrid inverter and the mounting wall or structure if the surface is not a suitably non-combustible material.

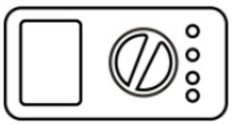
Increase the distance between the hybrid inverter and any other nearby structures or objects if there is less than 30 mm between the hybrid inverter and the wall or structure separating it from living spaces.

2.2 Hybrid Inverter Installation Steps

Installation Tools:

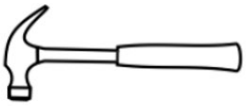


Screwdriver

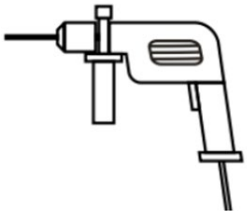


Multimeter

Wire stripper

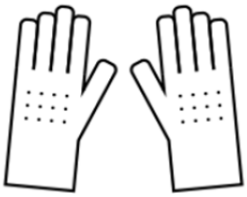


Claw hammer

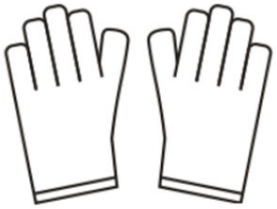


Hammer drill

Diagonal pliers



Insulating gloves

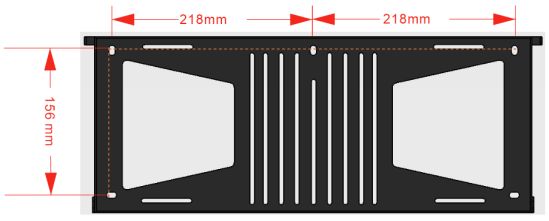


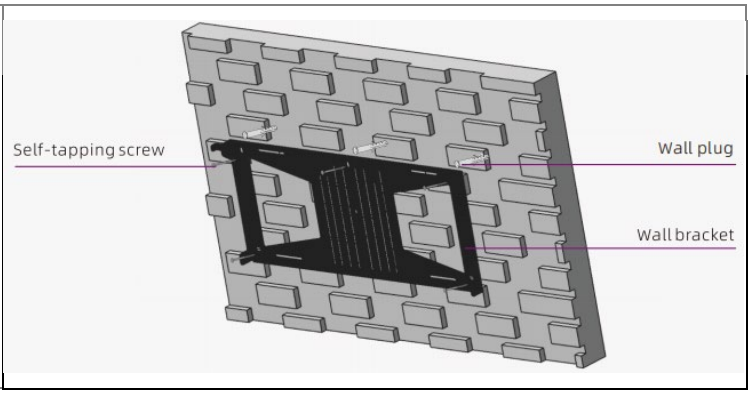
Protective gloves

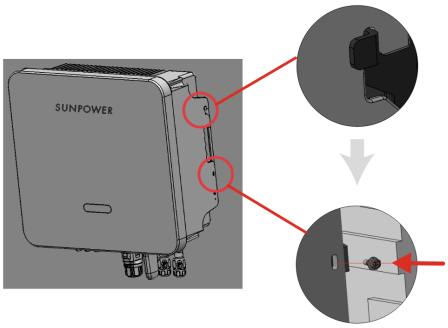
Crimping pliers

⚠ CAUTION

- Follow local electric safety and installation policy, a suitable breaker between the battery system and inverter is required.
- All installation and operation must follow local electric standards.
- When battery modules are installed in parallel, the system should be powered off before installation operation.

STEP 1 Use the wallplate as a template and drill 5 holes in the right positions.	

STEP 2 Use the included wall plugs in the accessory box to secure the mounting bracket onto the wall. NOTE: The wall must have a load-bearing capacity of more than 120 kg to ensure it can support the inverter.	

STEP 3 Hold the inverter from both sides of the heatsink and attach it to the mounting bracket. NOTE: Make sure the inverter heat sink is properly aligned with the mounting bracket joint.	

2.3 Cable Connections

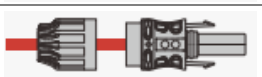
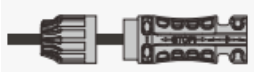
2.3.1 PV Connections

Ensure all below requirements are filled before connecting PV panels/strings to the inverter:

- The total short-circuit current of a single PV string must not exceed the inverter's max DC current rating.
- Do not connect PV strings to earth/ground conductors.

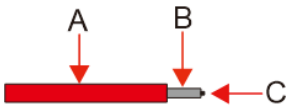
Use the appropriate PV connectors in the included accessory box.

IMPORTANT NOTE!
BAT connectors look similar to (but are different from) PV connectors. Please check the models in the table below before proceeding.

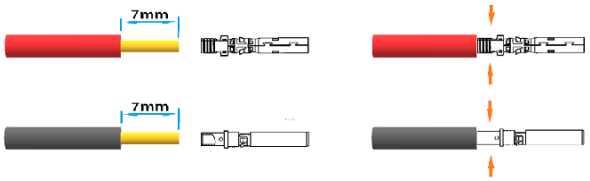
Name	Picture	Brand	Model
PV connector+		Staubl	PV-KBT4/6I-UR
PV connector-		Staubl	PV-KST4/6I-UR
BAT connector+		Staubl	PV-KBT4-EVO ST/10X
BAT connector-		Staubl	PV-KST4-EVO ST/10X

Follow the below PV cable requirements.

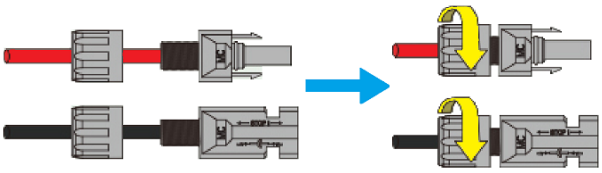
Legend	Description	Value
A	Outside Diameter	5.5–8.0 mm
B	Insulated Cable Length	7 mm
C	Conductor Core	5-6 mm²



1. Crimp the terminal;



2. Insert the terminal into the connector and lock the nut;



Minimum torque: Please follow Staubli assembly instructions "MA231"

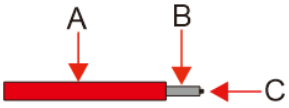
Note: Connectors make a clicking sound when inserted correctly into the PV plugs.

2.3.2 Battery Connections

Use the appropriate BAT connectors in the included accessory box. (PV connectors look similar to BAT connectors. Please double-check before using them.)

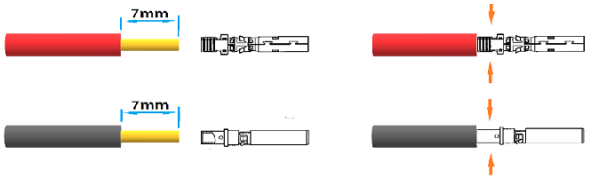
Follow the below battery cable requirements.

Legend	Description	Value
A	Outside Diameter	5.5–8.0 mm
B	Insulated Cable Length	7 mm
C	Conductor Core	8-10 mm²

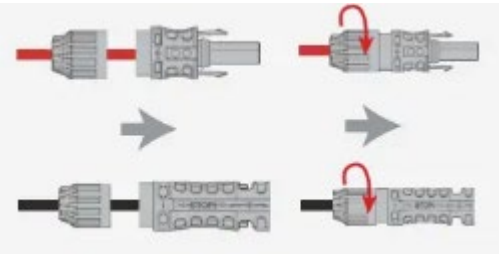


Battery wiring connection steps:

1. Crimp the terminal;



2. Insert the terminal into the connector and lock the nut;



Minimum torque: Please follow Staubli assembly instructions "MA237"

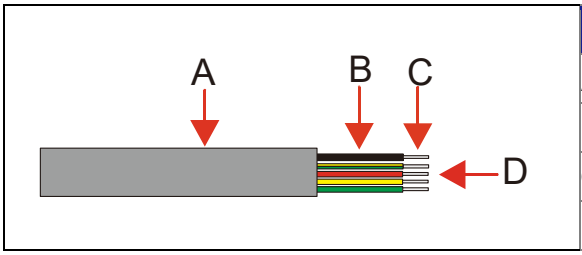
Note: Connectors make a clicking sound when inserted correctly into the BAT plugs.

2.3.3 EPS Connections

NOTICE

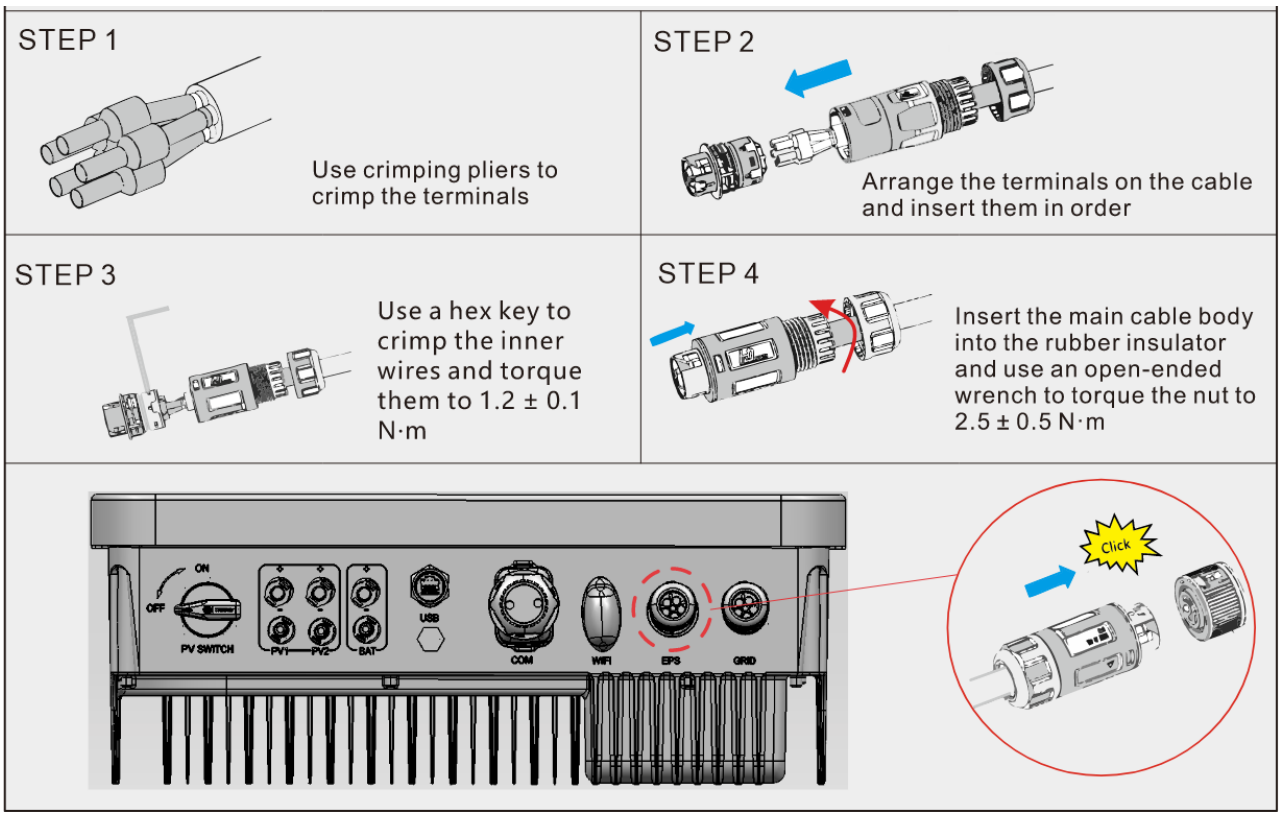
1. Some external factors may cause the backup switching time to exceed 10 ms, and loads reliant on a constant stable energy supply should not be connected.
2. Very high inrush current surges from loads such as fixed-frequency air conditioners and high-power pumps can cause the inverter to switch to the overload protection state.
3. Ensure the EPS load power rating is within the EPS output rating, or the inverter may shut down and give an “overload” warning.
4. Adjust the load power when facing an “overload” warning to one within the EPS output power range, then turn the inverter back on.
5. Make sure the input surge current for any nonlinear loads is within the EPS output power range.
6. A change over switch is recommended.

Follow the below EPS cable requirements.



Legend	Description	Value
A	Outside Diameter	8–11 mm
B	Individual Cable Length	25–30 mm
C	Insulated Cable Length	10 mm
D	Conductor Core	5-6 mm^2

EPS connection process:



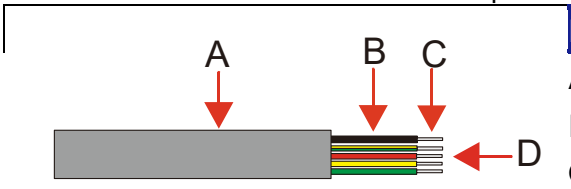
2.3.4 Grid Connections

An external AC breaker is needed for On-Grid connection to isolate the hybrid inverter from the utility grid when necessary.

NOTICE

Electrical short-circuits on the Back-Up side may damage the inverter if an AC breaker is not installed on the Back-Up side.

Follow the below GRID cable requirements.

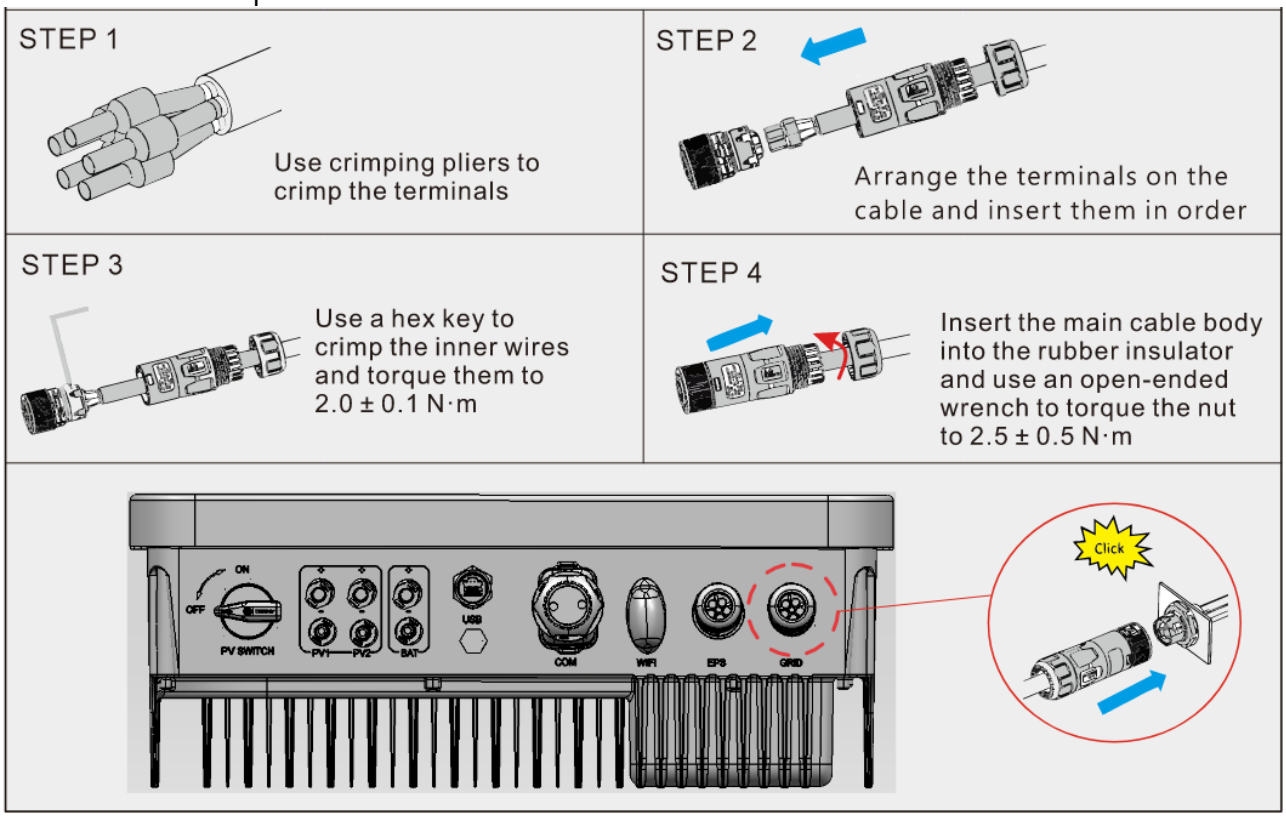


Legend	Description	Value
A	Outside Diameter	15–20 mm
B	Individual Cable Length	25–30 mm
C	Insulated Cable Length	15–17 mm
D	Conductor Core	5-6 mm^2

NOTICE

The L1/L2/L3/N/earth is brown, black, grey, blue and green/yellow, respectively.

Grid connection process:

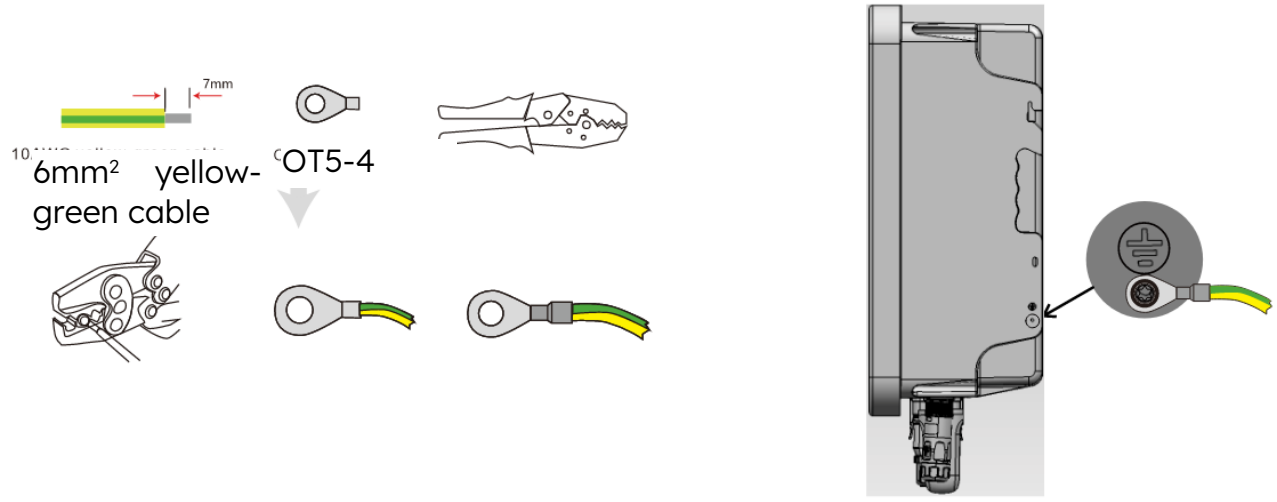


2.3.5 PE Connections

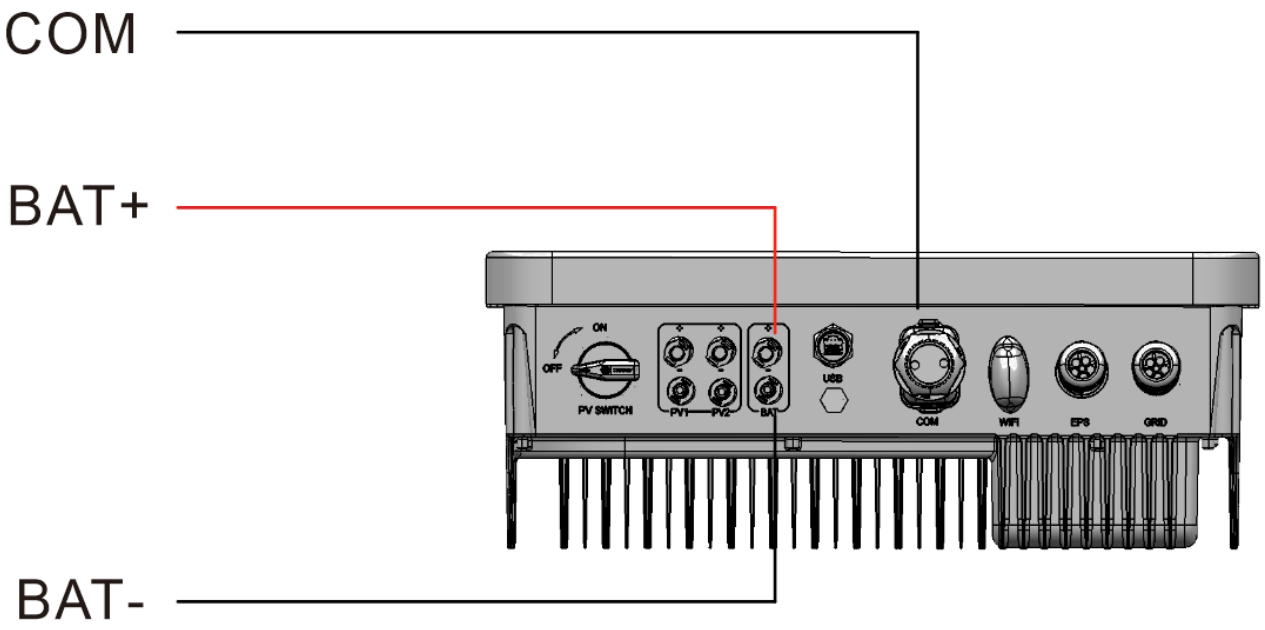
NOTICE

The PE screw has been pre-installed on the hybrid inverter in advance.

PE cable connection process is as below:



2.3.6 Inverter Box and Battery Box Connections



NOTICE

This section mainly describes cable connections on the inverter side. Refer to the SunPower battery safety and installation instructions for battery side connections and configurations.

2.3.7 Communication Connections

2.3.7.1 BMS Connections

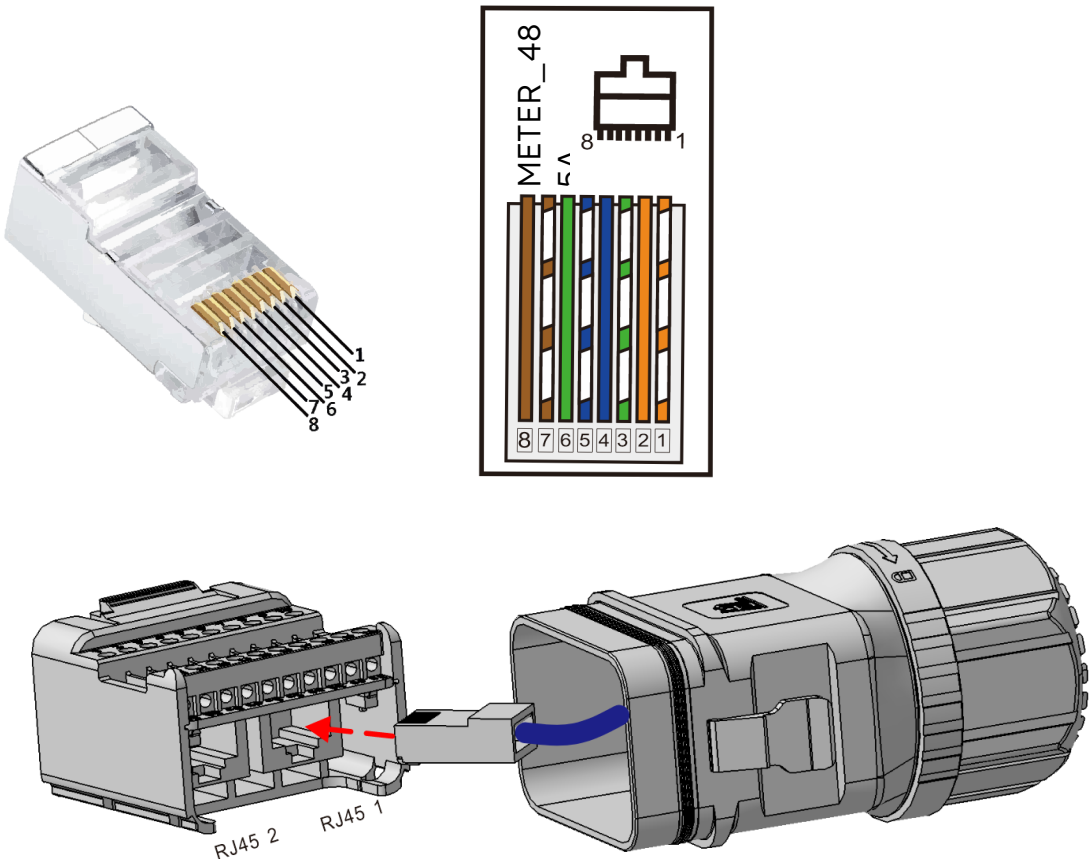
The BMS is used to communicate with connected SunPower batteries.

Connection Steps

1. Confirm that the battery and inverter power cables are connected.
2. Connect the inverter BMS communication cable to the SunPower battery communication port.
3. The ethernet cable category is as follows:

No.	Category	Remarks
1	CAT 5/CAT 5e	Recommended, CAT 5/5e supports up to 100Mbps/1 Gbps, respectively.
2	CAT 6/ CAT 6a	CAT 6/6a supports up to 1 Gbps/ 10 Gbps, respectively.

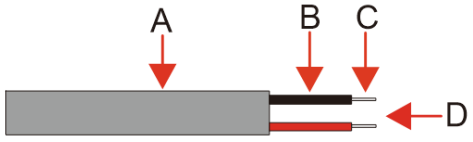
The BMS cable uses 568B standard crimping.



2.3.7.2 Meter Connections

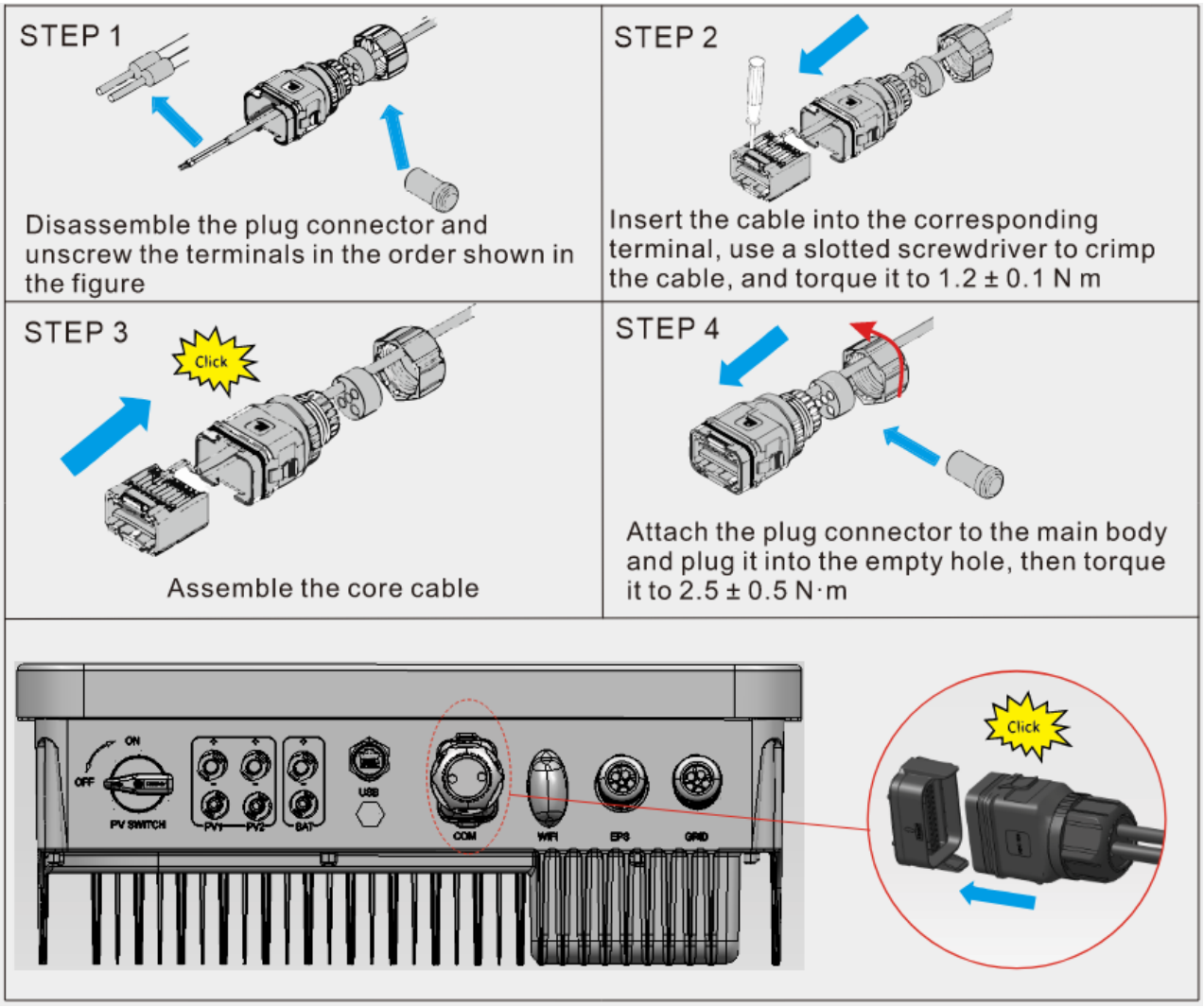
Make sure the AC cable is completely isolated from AC power before connecting the Meter and CT. The maximum installation distance between Meter and CT is 10 meters.

Three Phase Meter cable requirements as below.

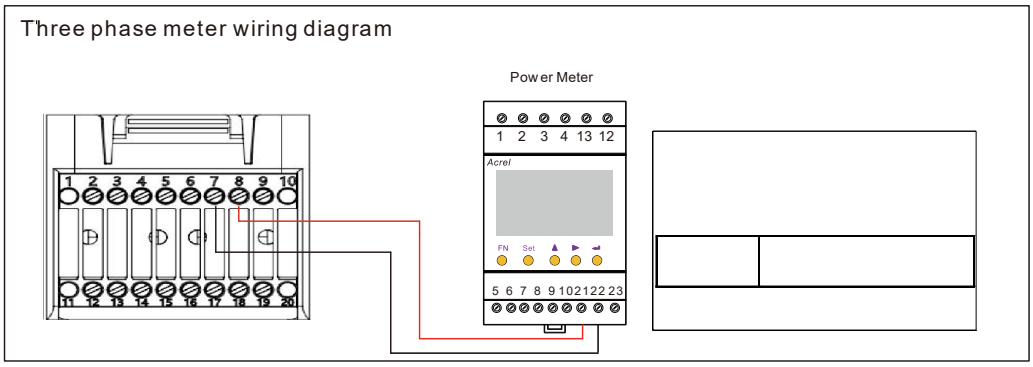


Legend	Description	Value
A	Outer Diameter	5-6mm
B	Individual Cable Length	22-32mm
C	Insulated Cable Length	7-8mm
D	Conductor Core	0.5mm^2

Three Phase Meter connection:



Three Phase Meter Wiring Diagram

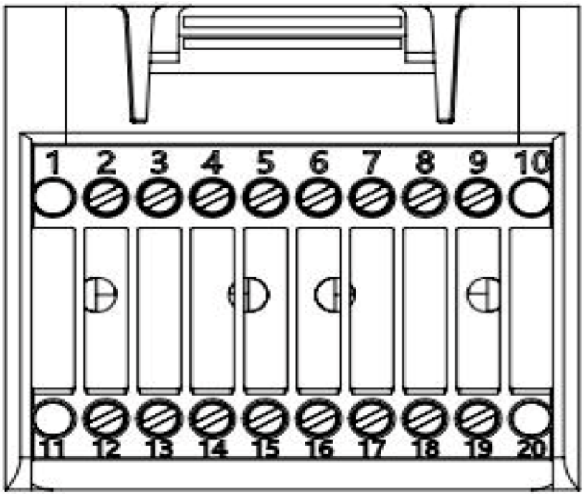


NOTICE

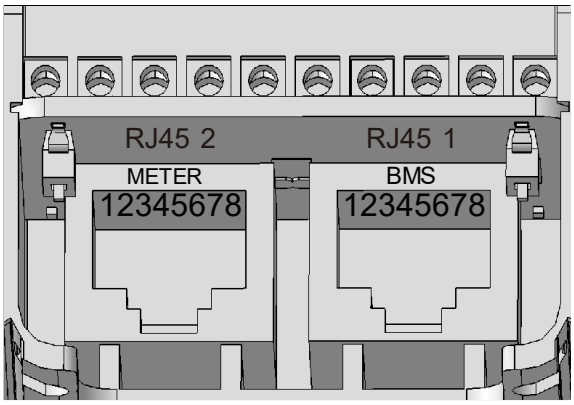
The maximum distance between inverter and meter is 20 meters.

COM definitions below

No.	Function	No.	Function
1	COM/DRM0	11	CANL_OUT
2	REFGEN	12	CANH_OUT
3	DRM1/5	13	IN+
4	DRM2/6	14	IN-
5	DRM3/7	15	RLY1_IN
6	DRM4/8	16	OUT_12V
7	METER_485B	17	RLY2_IN
8	METER_485A	18	RLY2_OUT
9	VPP_485A	19	GND_COM
10	VPP_485B	20	VCC_COM



BMS		METER	
1	BMS_485A	1	NC
2	BMS_485B	2	NC
3	BMS_CANL	3	NC
4	BMS_CANH	4	NC
5	NC	5	NC
6	NC	6	NC
7	NC	7	METER_485B
8	NC	8	METER_485A



2.3.8 Wi-Fi Dongle Connection

Insert the Wi-Fi dongle included in the accessory package into the base and tighten the plastic nut.

Torque 2.5 Nm

2.3.9 System Wiring Diagram

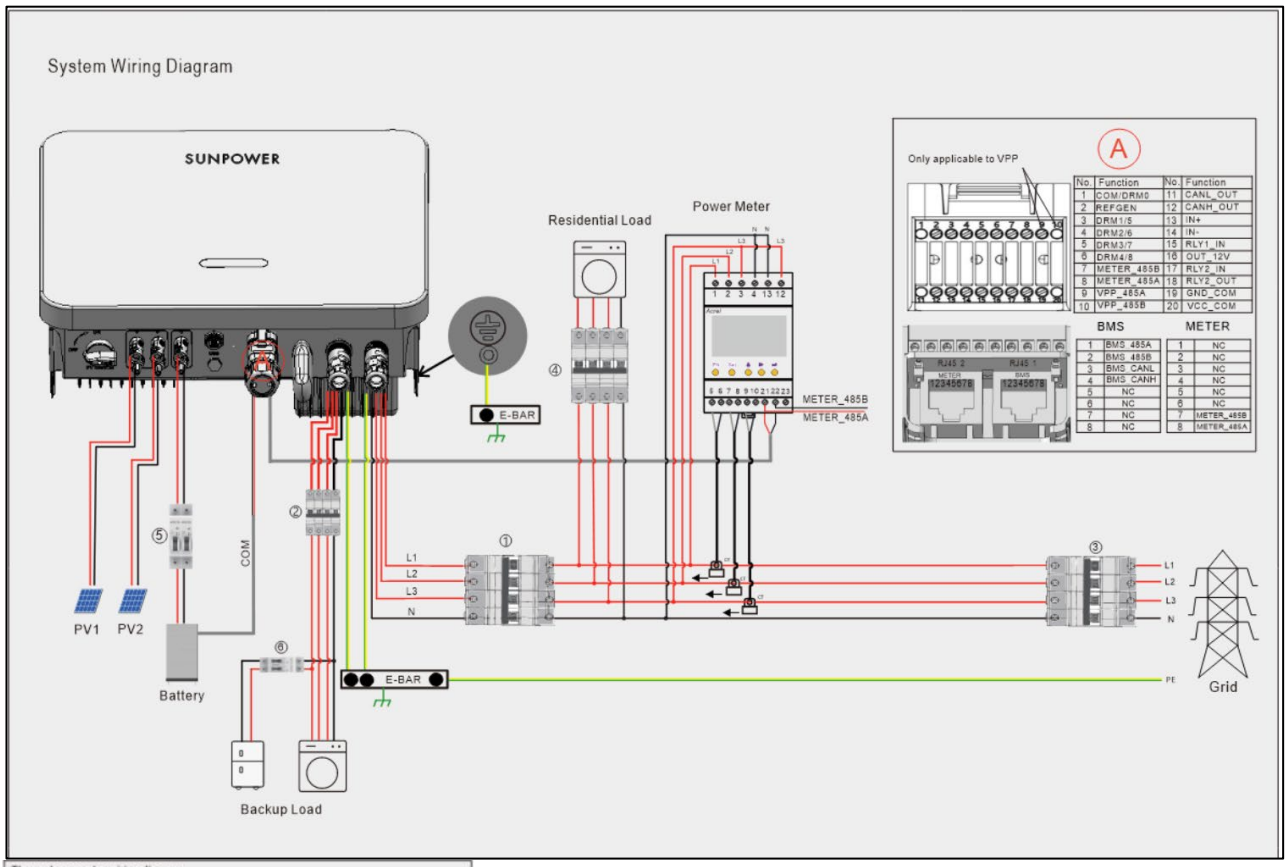
Please use an appropriate breaker based on the following specifications:

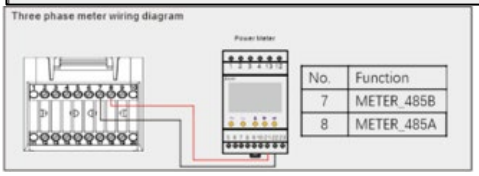
NOTICE

1. Electrical short circuits on the grid side will damage the inverter if an AC breaker is not installed.
2. This diagram illustrates the wiring diagram for SP-SRTH series hybrid inverters, not the electrical wiring standards.
3. Please make sure that the AC line matches the "L1", "L2", "L3", "N", and the grounding port of the AC terminal completely when wiring. If the cable is connected incorrectly, the device may be damaged.

Note that phase rotation order is automatically adaptive.

DC Coupling



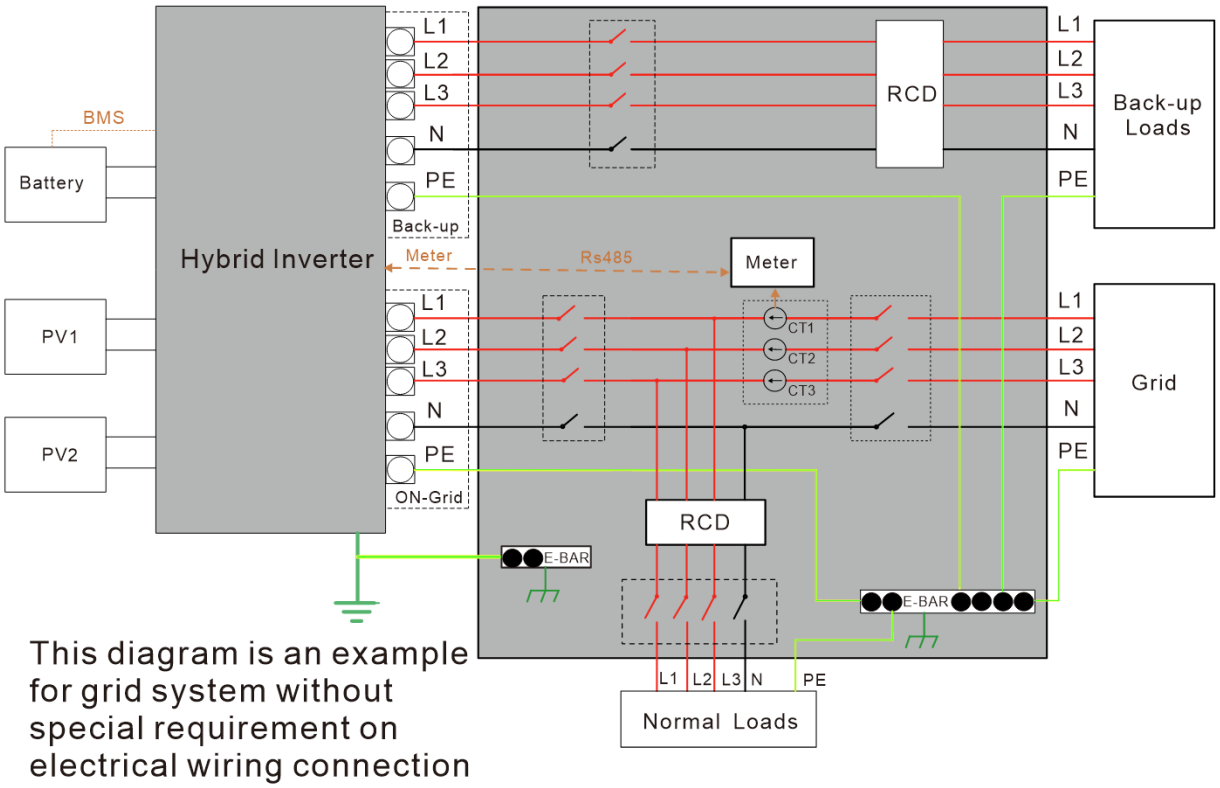


Choose the correct breaker:

Model	①	②⑥	③④	⑤
SP-SRTH-5kW-G1	32A/230V AC breaker	32A/230V AC breaker	According to residential load(generally already installed in the grid distribution box)	40A/750 Vdc breaker(no external DC breaker is necessary when using battery systems with existing breakers)
SP-SRTH-6kW-G1	32A/230V AC breaker	32A/230V AC breaker		
SP-SRTH-8kW-G1	32A/230V AC breaker	32A/230V AC breaker		
SP-SRTH-10kW-G1	32A/230V AC breaker	32A/230V AC breaker		
SP-SRTH-12kW-G1	32A/230V AC breaker	32A/230V AC breaker		
SP-SRTH-13kW-G1	32A/230V AC breaker	32A/230V AC breaker		

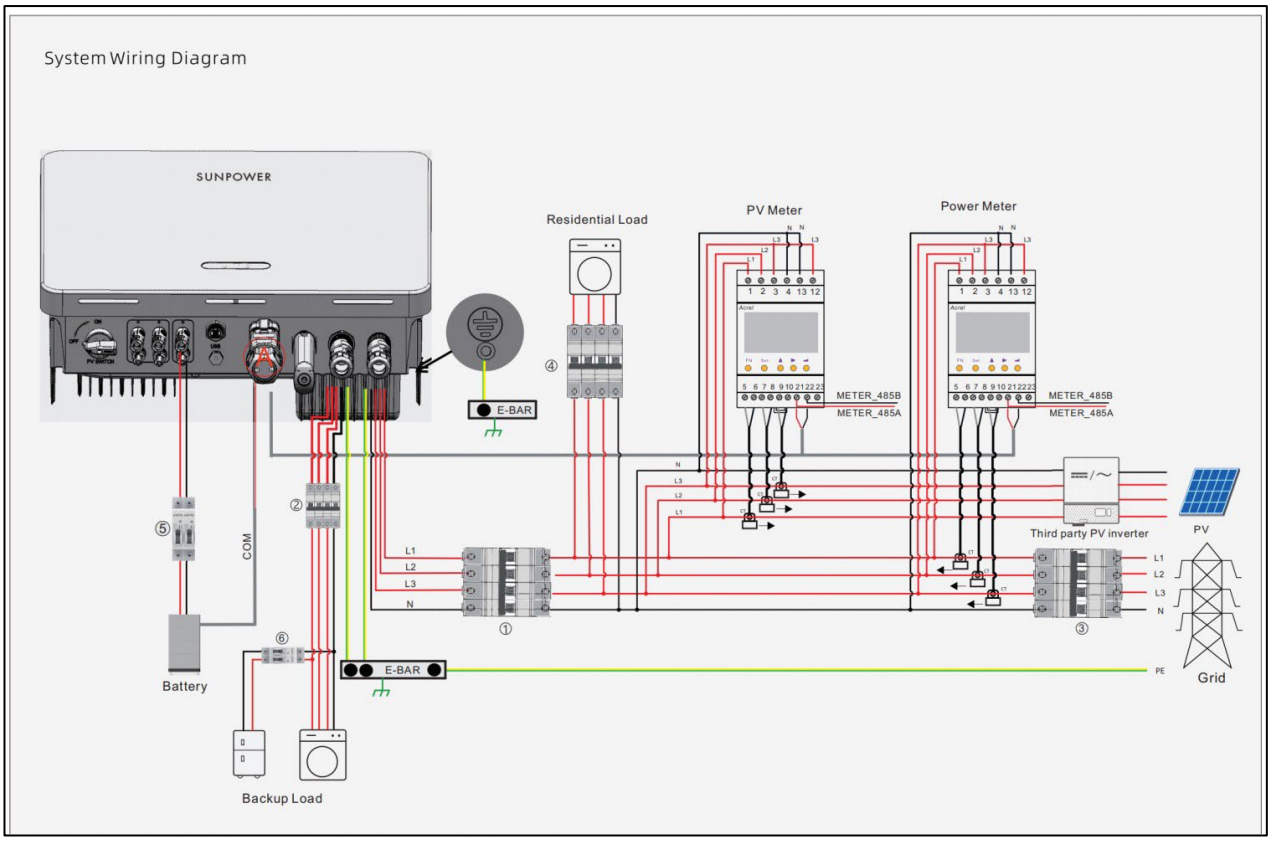
System Connection

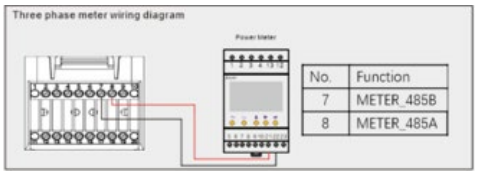
The following diagram illustrates an example use case where the neutral wire is separate from the PE in the distribution box. Please follow local wiring regulations.

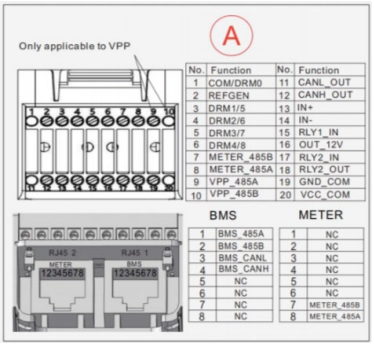


This diagram is an example for grid system without special requirement on electrical wiring connection

AC Coupling



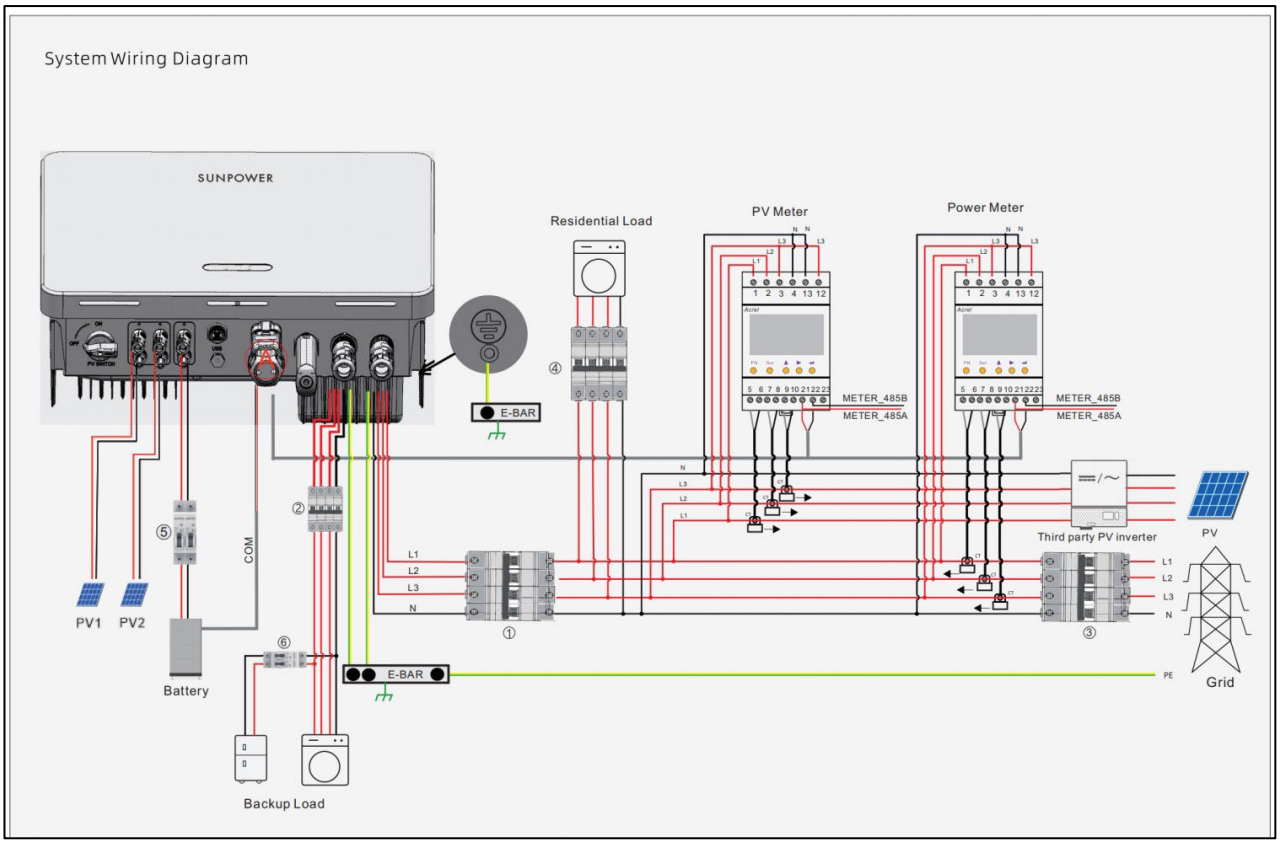


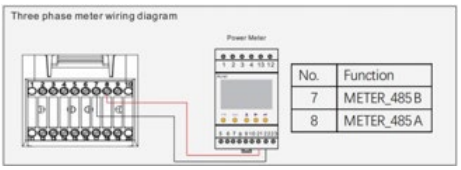


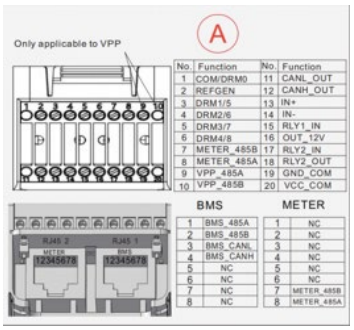
Choose the correct breaker:

Model	①	②⑥	③④	⑤
SP-SRTH-5kW-G1	32A/230V AC breaker	32A/230V AC breaker	According to residential load(generally already installed in the grid distribution box)	40A/750 Vdc breaker(no external DC breaker is necessary when using battery systems with existing breakers)
SP-SRTH-6kW-G1	32A/230V AC breaker	32A/230V AC breaker		
SP-SRTH-8kW-G1	32A/230V AC breaker	32A/230V AC breaker		
SP-SRTH-10kW-G1	32A/230V AC breaker	32A/230V AC breaker		
SP-SRTH-12kW-G1	32A/230V AC breaker	32A/230V AC breaker		
SP-SRTH-13kW-G1	32A/230V AC breaker	32A/230V AC breaker		

Hybrid Coupling







Choose the correct breaker:

Model	①	②⑥	③④	⑤
SP-SRTH-5kW-G1	32A/230V AC breaker	32A/230V AC breaker	According to residential load (generally already installed in the grid distribution box)	40A/750 Vdc breaker (no external DC breaker is necessary when using battery systems with existing breakers)
SP-SRTH-6kW-G1	32A/230V AC breaker	32A/230V AC breaker		
SP-SRTH-8kW-G1	32A/230V AC breaker	32A/230V AC breaker		
SP-SRTH-10kW-G1	32A/230V AC breaker	32A/230V AC breaker		
SP-SRTH-12kW-G1	32A/230V AC breaker	32A/230V AC breaker		
SP-SRTH-13kW-G1	32A/230V AC breaker	32A/230V AC breaker		

3 System configuration & setup

3.1 Preparation

1. To use the SunPower installer application, your Android or iOS smartphone must be connected to the internet - either through a 2.4GHz Wi-Fi connection to the router or a wired LAN connection to the router.
2. To perform system configuration and commissioning, an installer account is required.
3. Once hardware commissioning is done, please check the SunPower Installer app user manual.

3.1.1 Installer account

4. A service provider account is created by SunPower with an e-mail address provided by the installation company. Please ask your SunPower representative for an account if you don't already have one. The initial password will be sent to the e-mail address provided.

5. The company representative logs into the monitoring platform using the e-mail address & initial password. Multiple installer accounts can be created in the platform by adding the e-mail address of each installer. The installers will receive an email with the initial password.

   Scan the QR code to go to the monitoring platform:

6. Installers can log into the SunPower Installer app or service provider portal with their e-mail address and the password received when the account was created.
7.
8. If you forget your password
   a) Select "*Forgot password*" at login in the installer portal or installer app
   b) Enter your email address and select "*Send verification code*"
   c) You will receive a verification code in your inbox
   d) Copy and paste the code into the verification field
   e) After verifying the code, you will be taken to a page where you can create a new password. Your new password must contain 8–16 letters and numbers.

9. Deleting an account
   Only a Service Provider can delete installer accounts. Please ensure the installer belongs to your sub-accounts.
   To delete the account, log in to the Service Provider portal. Select the *Service Provider Management* tab, search for the installer, and click *Delete*.
   NOTE: This action cannot be undone.

3.1.2 Add system

STEP 1

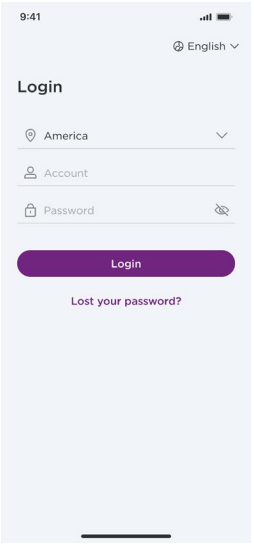
Scan the QR code here to install the Android or iOS version of the SunPower Installer app.

GET IT ON Google Play

Download on the App Store

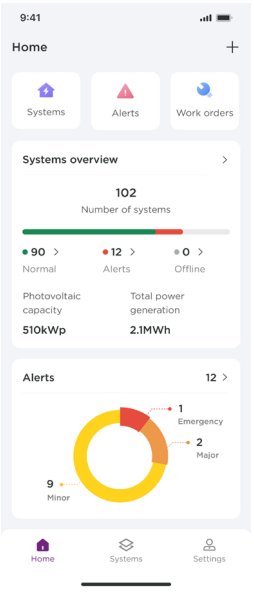
STEP 2

- Open the SunPower Installer app
- Log in with your installer account



STEP 3

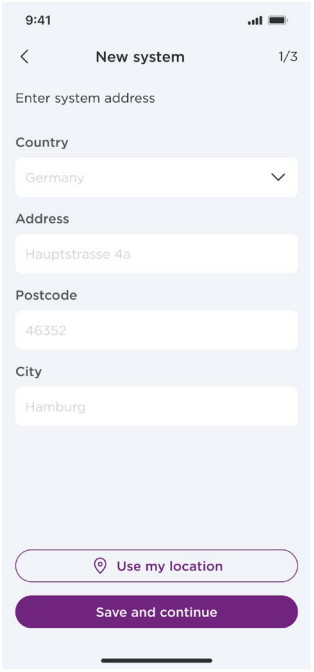
- Tap ‘Systems’ in the bottom menu to navigate to your systems list
- Tap on ‘+’ in the upper right corner to add a new system



STEP 4

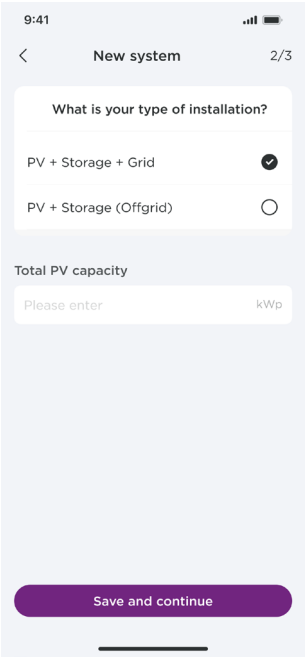
Enter system address:

- Country
- Address: you can use your location to locate the installation location
- Postcode
- City



Enter system type:

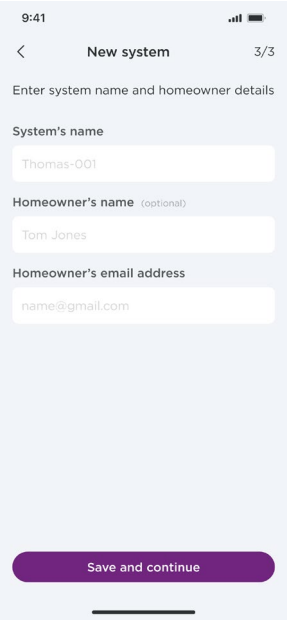
- Select PV+Storage+Grid unless you are installing an offgrid system
- Total photovoltaic capacity (kWp)



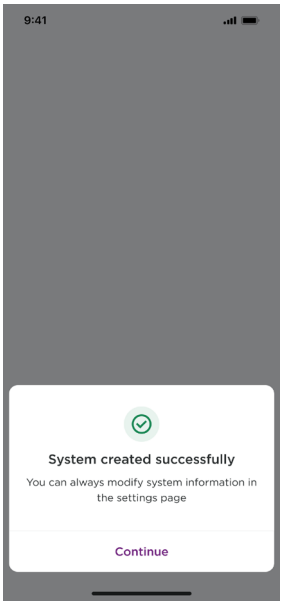
Enter system contact details

- System name
- Homeowner name
- Homeowner email address

Note: it does not matter if homeowners email address is different later when trying to login. This is only for creating the system and having customer contact information.

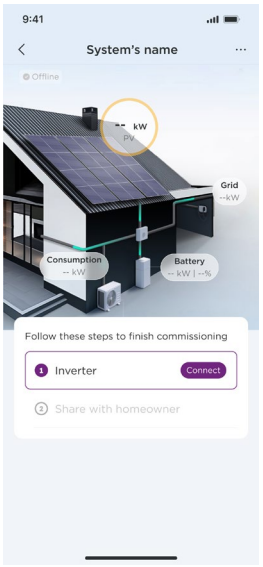


You will see a screen with a green icon indicating the system is successfully created.



STEP 4

- You will automatically enter the System details page
- Tap the purple button “Connect” to finish commissioning

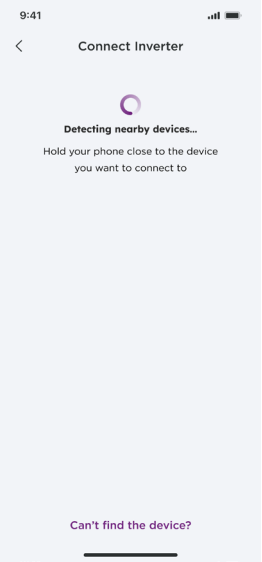


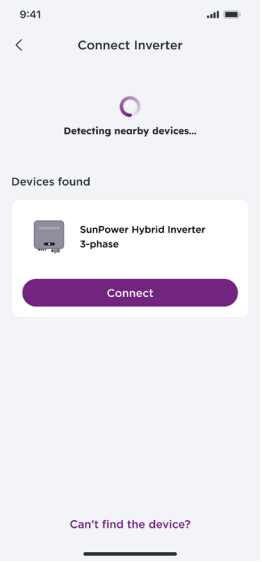
STEP 5

Make sure your phone is close to the inverter to allow bluetooth connection.

Can’t find the device?

1. Check power: Make sure the device is turned on. Make sure the inverter and dongle are powered on. Both LEDs on the dongle should flash once per second when first powered.
2. Move closer: Hold your phone close to the inverter and dongle. If using Wi-Fi, place the router nearer to the inverter to avoid weak signal issues. For LAN setup, make sure the Ethernet cable is securely connected and the router has internet access.
3. Check Dongle Indicators:
   Green Light: Network/Cloud Connection.
   Indicates the dongle’s connection to the router and cloud.
   a. Blinking (1 s): Not connected to the router → check Wi-Fi or LAN cable
   b. Blinking (2 s): Connected to router, no internet → check router network





c. Blinking (4 s): Server error → contact support

d. Solid: Connected to the cloud

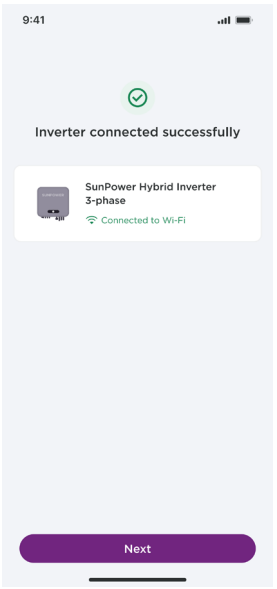
Red Light (Inverter Connection)

a. Blinking (1 s): No communication with inverter → check connection

b. Solid: Connected to inverter

Still not detected?

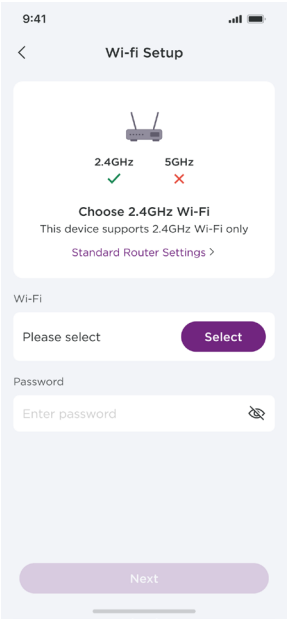
1. Reset the dongle: Unplug it, wait 5 seconds, and plug it back in
2. Return to the Search Device page and tap Retry Search
3. Watch the LED indicators again to confirm progress



STEP 6

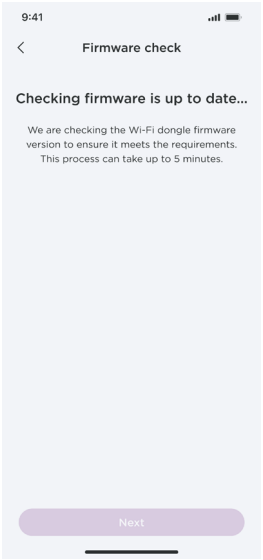
- The network configuration screen shows the Wi-Fi the phone is currently connected to
- After entering the Wi-Fi password, tap "Next" to proceed with the network configuration process

NOTE: Please connect to a 2.4GHz Wi-Fi network or LAN connection directly



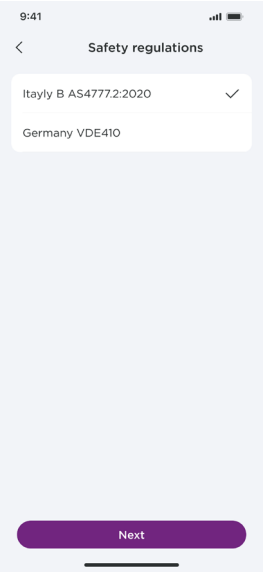
STEP 7

- During this step, the system automatically checks the Wi-Fi dongle firmware version to ensure it meets the required specifications
- This process can take up to 5 minutes
- No action is needed from the installer — please wait until the check is completed before proceeding to the next step



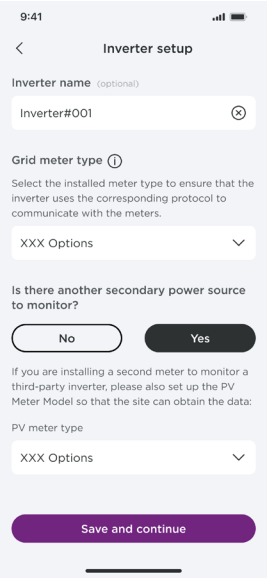
STEP 8

- In this step, select the safety regulations that apply to the country where the installation is being performed
- Choose the correct country from the list to ensure compliance with local electrical standards
- Tap Next to proceed



STEP 9

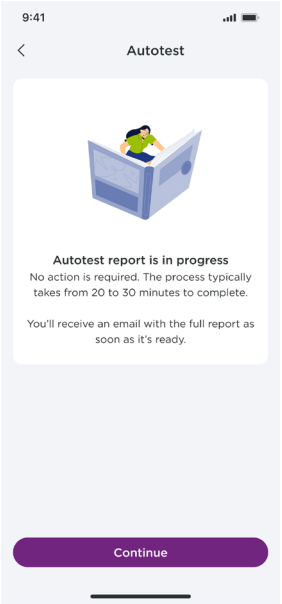
- Select the installed meter type - ACR Three Phase
- If you are installing a second meter to monitor a third party inverter, please also include the PV meter type

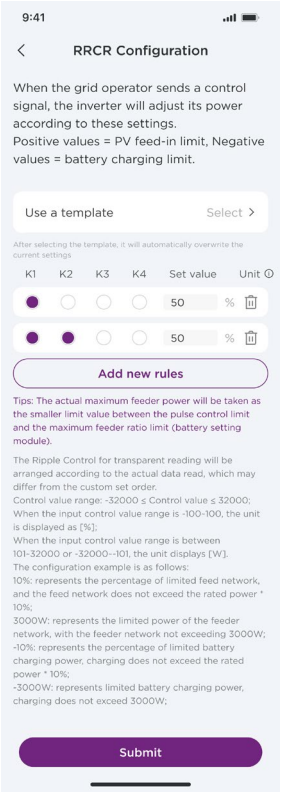


STEP 10

The next step depends on the **installation location**:

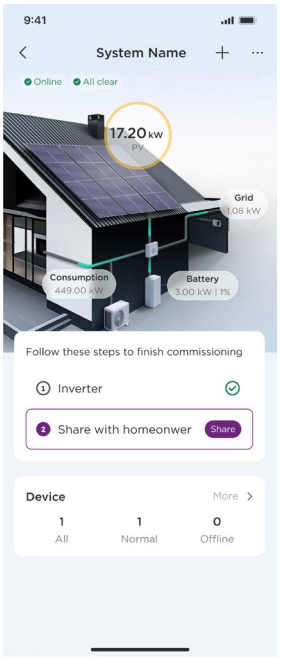
- **Italy**: You will receive an email confirming the **Autotest Report** has started - the report will be available within 30 minutes
- **Germany**: You can configure **Enable §14a** Grid Control (Power Reduction) according to local grid requirements
- **Other countries**: You will be directed to the final commissioning screen to complete the process





STEP 11

- To complete the commissioning process, simply tap **Share with homeowner**
- Once shared, you can close this card
- Before finishing, make sure the homeowner can access their system and that everything is working correctly



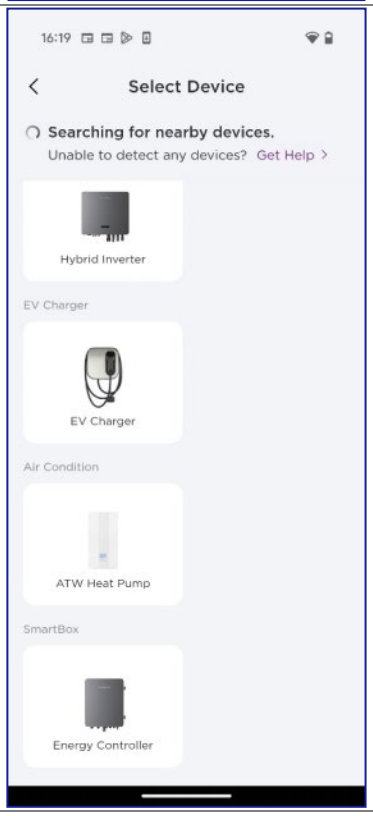
STEP 12

- Once in the station transfer screen, ask the homeowner to scan the QR code in Step 2 with their SunPower app to complete the transfer process
- If the homeowner doesn't have the SunPower app yet they should scan the QR code at Step 1 to be taken to the AppStore/GooglePlay to download the app and register their account
- Once inside the SunPower app, the homeowner scans the QR code in Step 2 of the installer's screen to complete the system transfer

NOTICE

1. Please ensure the correct router password is entered
2. Make sure the wireless network connection for the Wi-Fi dongle is strong
3. On successful set-up the green LED on the dongle will change from flashing slowly to flashing quickly and then become solid, indicating the system has successfully connected to the Wi-Fi network

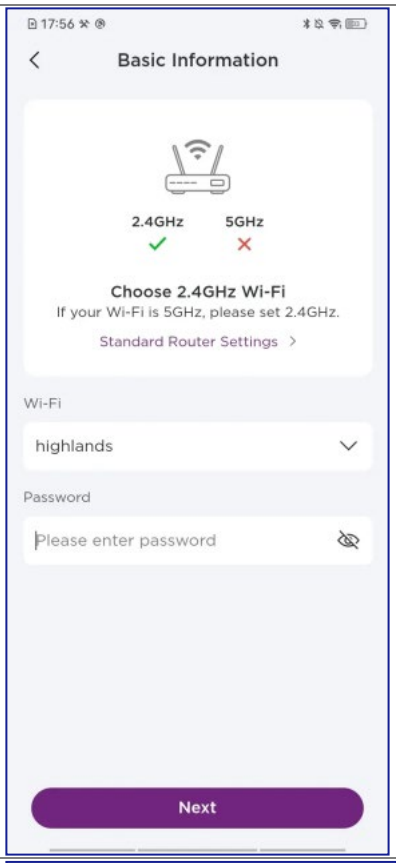
3.1.3 Adding more devices

STEP 1 • Enter the Site interface in the app and tap “Add Device”. • In the Site details screen, tap the “+” icon at the top left corner next to the Site Setting Button to begin the device setup process.	
STEP 2 • On the device selection screen, select the desired device.	

STEP 3

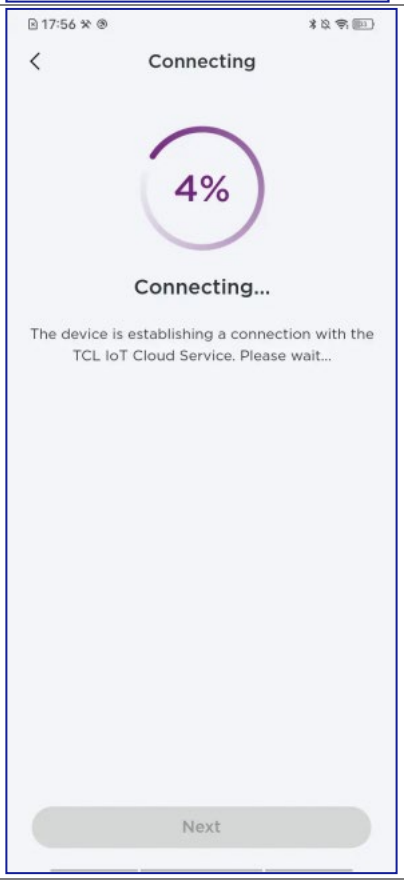
- The network configuration screen displays the Wi-Fi that the phone is currently connected to.
- After entering the Wi-Fi password, tap "Next" to proceed with the network configuration process.

  NOTE: Please connect to a 2.4GHz Wi-Fi network or LAN connection directly.



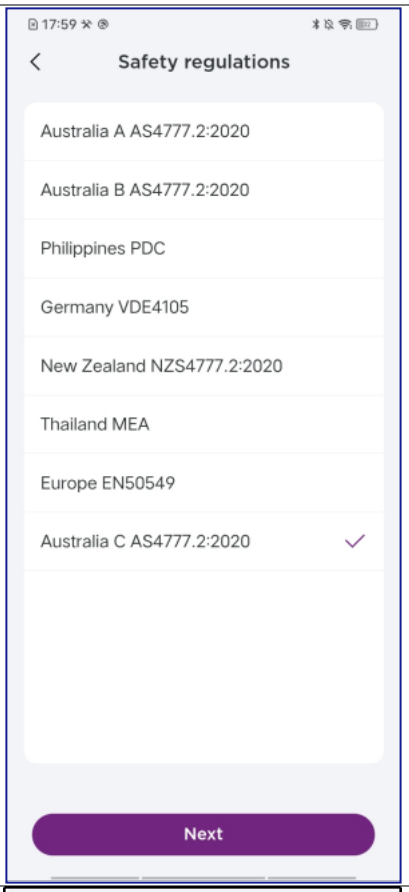
STEP 4

- Proceed with Online Registration
- Follow the in-app instructions to complete the online registration of the new device.



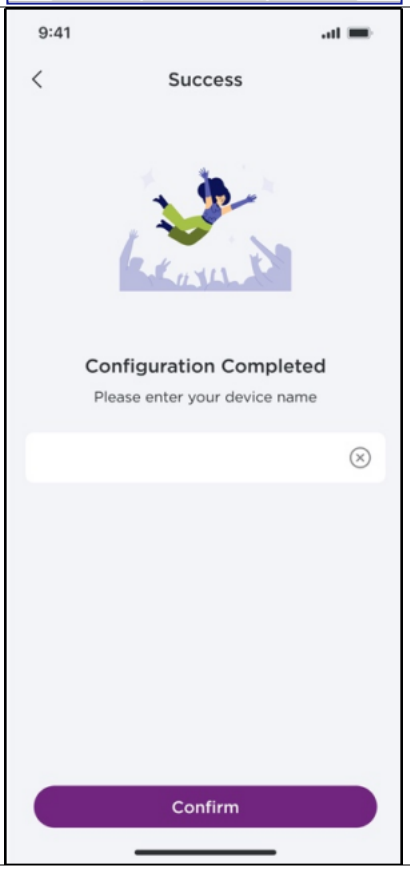
STEP 5

- After completing the network configuration, you will automatically be redirected to the safety regulation screen.



STEP 6

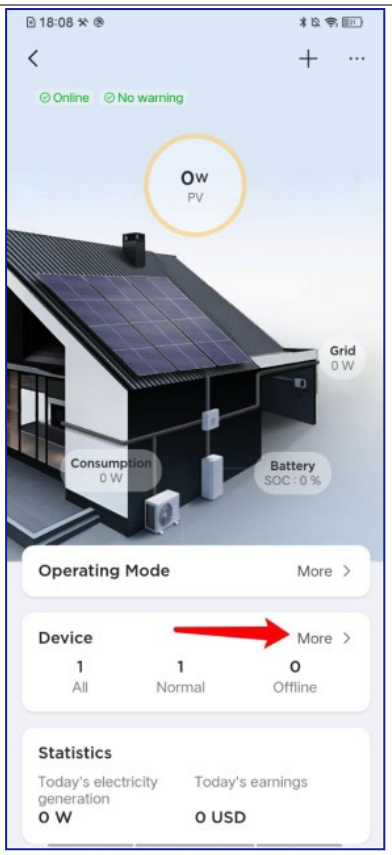
- Once registration is complete, input your desired device name to finish the setup.



3.1.4 Remove a device

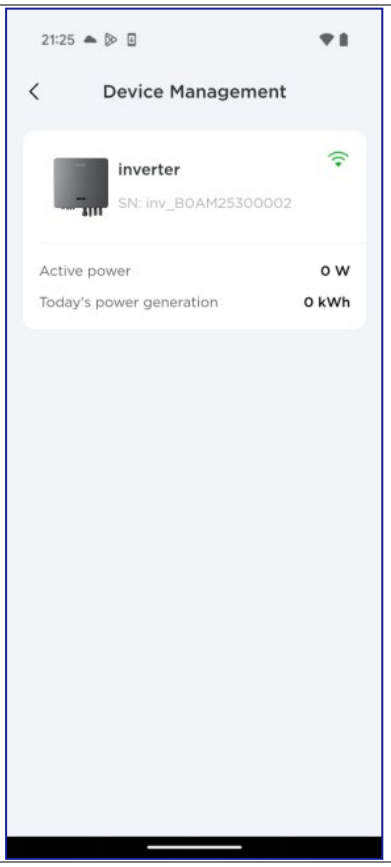
STEP 1

- Go to the station details section and tap ‘More’ in the device section to enter the device list screen.



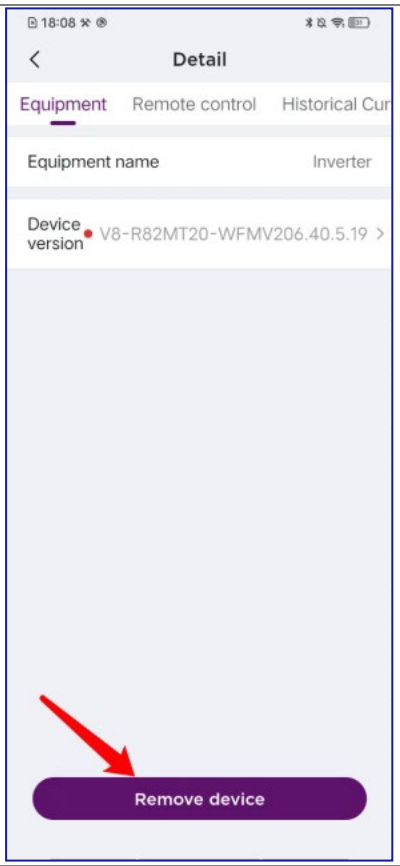
STEP 2

- On the device list screen, tap the device you want to remove to enter the device details screen.



STEP 3

- On the device details screen, tap the "Remove Device" button at the bottom to proceed with removal.



4 Energy management system configurations

Energy management system (EMS) configurations can be set via the SunPower Installer app or in the monitoring portal.

Three working modes can be configured:

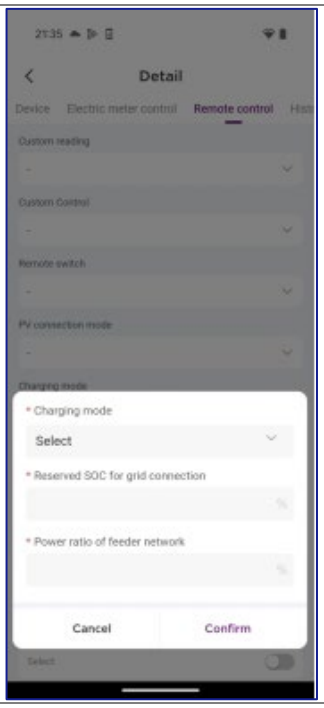
A. **Self-consumption**
   The EMS will manage the home power flows to minimize power grid reliance.

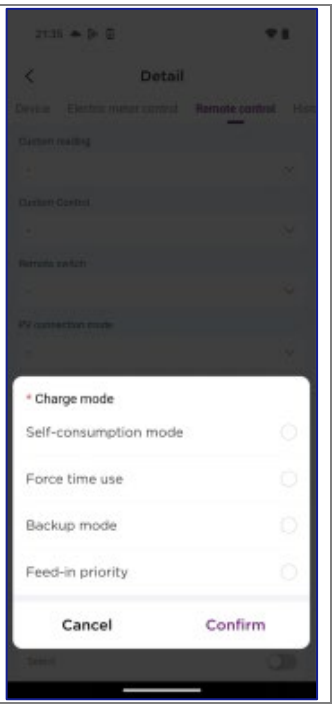
B. **Forced time of use**
   Batteries will be charged and discharged as configured.

C. **Backup**
   The EMS will not discharge the battery unless the power grid is off. When this happens, EMS will provide power to the home through the batteries.

Working Modes:

- Select the desired mode via the SunPower Installer app
- Navigate to the Remote Control page of the inverter and select the Charging mode





5 Troubleshooting

	Issue	Solution
1	Red LED flashing every 0.5 seconds	Meter Communication Fault. Please check whether the power supply & communication cables are properly connected in accordance with local standards.
2	Red LED flashing every 2 second	Battery Communication Fault. Please check whether the inverter is properly connected to the battery box, and make sure that the battery switch and breaker are both in the ON position.
3	Abnormal Energy Flow Monitoring	Please check whether the power supply and CT have been properly installed according to the installation manual.
4	All the LEDs are off	Please check whether the voltage at each port is within the normal range.
5	SOC mis-indicates and fluctuates after initial installation	Do nothing, and the device will self-correct itself as soon as the battery is fully charged or discharged.
6	Battery completely depleted	We highly recommend disconnecting the battery ASAP during installation or when the device is on standby to avoid serious depletion and damage caused by extreme power consumption over a long period of time. Please contact after-sale services for technical support in the event of serious battery depletion.
7	Code DSP_1	PV1 overvoltage. Please check whether the open circuit voltage is within the normal voltage range.
8	Code DSP_2	PV1 overcurrent. Please check whether PV1 is correctly connected.
9	Code DSP_3	PV2 overvoltage. Please check whether PV2 is within the rated voltage range.
10	Code DSP_4	PV2 overcurrent. Please check whether PV1 is correctly connected.
11	Code DSP_9	Please check whether PV is within the normal voltage range.
12	Code DSP_10	No grid power. Please check whether the gird voltage is normal.
13	Code DSP_11	Grid voltage fault. Please check whether the grid voltage is within the normal range.
14	Code DSP_12	Grid current fault. Please check whether the EPS load power is within the normal range.

	Issue	Solution
15	Code DSP_13	Grid frequency fault. Please check whether the grid frequency is within the normal range.
16	Code DSP_14	Overheat fault. Please check whether the cooling system is working properly.
17	Code DSP_16	Current over-leak fault. Please check the solar panel and device wiring.
18	Code DSP_17	Isolation resistance fault. Please check the solar panels and wiring system.
19	Code DSP_26	Battery voltage fault. Please check whether the battery voltage is within the normal range.
20	Code DSP_37	EPS voltage fault. Please check whether the EPS load power is within the normal range.
21	Code DSP_38	EPS current fault. Please check whether the EPS load power is within the normal range.
22	Code DSP_39	EPS overload fault. Please check whether the EPS load power is within the normal range.
23	Code DSP_40	EPS short circuit fault. Please check whether the EPS load power is within the normal range.
24	Code DSP_41	Earth & Neutral wire fault. Please check whether the earth and neutral wires are properly wired in line with standard requirements.
25	What should I do if I forget my SunPower password?	Open the SunPpower app and tap “Lost your Password,” >> get a verification code >> check email for verification code >> reset password.
26	How can I change my SunPower password?	Log into the SUNPOWER app and navigate to "Me" >> "Account" >> "Change Password". In this screen, enter your current password, then enter your new password and type it again for confirmation, then click on the “Confirm” button.
27	How can I delete my device account?	Log into SUNPOWER app, then navigate to "Me" >> “Account” >> "Account cancellation." Read carefully the information on the screen before pressing “Continue”. All account data will be deleted and will not be recoverable. Please think twice before deleting your account.
28	How can I share my account with my family members?	Log into the SUNPOWER app, navigate to your site’s page and tap on the “Settings” button in the upper right corner of the screen. Pick the option ”Share plant” to allow other people – like family members – to view your system. You can share your account by adding the e-mail of the person you want to share it with, or their

	Issue	Solution
		SunPower Account ID. Note: they need to first download the SUNPOWER app and register their account. The invited user receives a message in the Messages section of the SunPower app, informing that a friend invited them. After confirming, a card of the energy solution will appear on the home page of their SUNPOWER app.
29	Why is there no data on the home page?	The device may be offline. 1- Check that your Wi-Fi is working 2- Check that the inverter LED light is on 3- Check that the Wi-Fi dongle is properly connected 4- Check mobile phone reception 5- Check that the internet is working properly and try to restart SUNPOWER app. Data can take a while to upload (up to 5 mins), after which the SUNPOWER app will be bound to the device.
30	Adding multiple devices to SUNPOWER	Log in to the SUNPOWER app and tap the “+” on the top left of the home page. Scan the QR code on the Wi-Fi dongle to add new devices. Or navigate to “Setting" >> "Devices” and tap the “+” to add more devices.
31	How can I delete my device account?	Log in to SUNPOWER and navigate to “Setting" >> "My Devices,” select the device account, and tap the top right of the screen to delete the device.
32	Why is the device offline	Possible reasons for the device to be offline. 1. Check that the Wi-Fi network is working properly 2. Check that the inverter LED light is on 3. Check that the LED on the Wi-Fi dongle is on
33	Why can't I search for and find the Wi-Fi dongle hotspot?	1. Check that the inverter LED light is on 2. Check that the LED on the Wi-Fi dongle is on 3. Restart or reconnect the Wi-Fi dongle
34	Why is no internet connection found when returning to other interfaces after configuring SunPower app via WLAN?	Disconnect your mobile phone from the WLAN, and reconnect it to your home Wi-Fi or your mobile network after successfully configuring WLAN.

6 Cleaning and maintenance

Power off the system before cleaning or performing any maintenance

Shut down procedures:

Step 1: Disconnect the backup load where applicable, and then turn off the backup breaker.

Step 2: Turn off the grid breaker.

Step 3: Turn off the DC isolator

7.1 Cleaning

Power off the system before cleaning the inverter. Only clean the battery case with a soft, dry brush or vacuum cleaner to remove dirt. Do not use any solvents, abrasives, or corrosive liquids to clean the case.

7.2 Maintenance

The inverter requires periodic maintenance, as follows:

NOTE: Make sure inverter is totally isolated from all DC and AC power for at least 5 mins before maintenance.

Heat sink: please use clean towel to clean the heat sink once a year.

Torque: please use a torque wrench to tighten the AC and battery wiring connection once a year.

7 Emergency Situations

7.1 Emergency Procedures

If the SP-SRTH Series inverter malfunctions, turn off the main grid breaker directly feeding the inverter and turn off all inverter switches. Please immediately contact SunPower technical support for detailed instructions.

WARNING: Do not open the inverter upper cover plate by yourself.

7.2 Firefighting Measures

Suitable extinguishing media: In case of fire suitable extinguishing media: carbon dioxide or dry chemical. Use Novec 1230, FM-200, or dioxide extinguisher. ABC extinguishers are not effective when the battery pack is on fire.

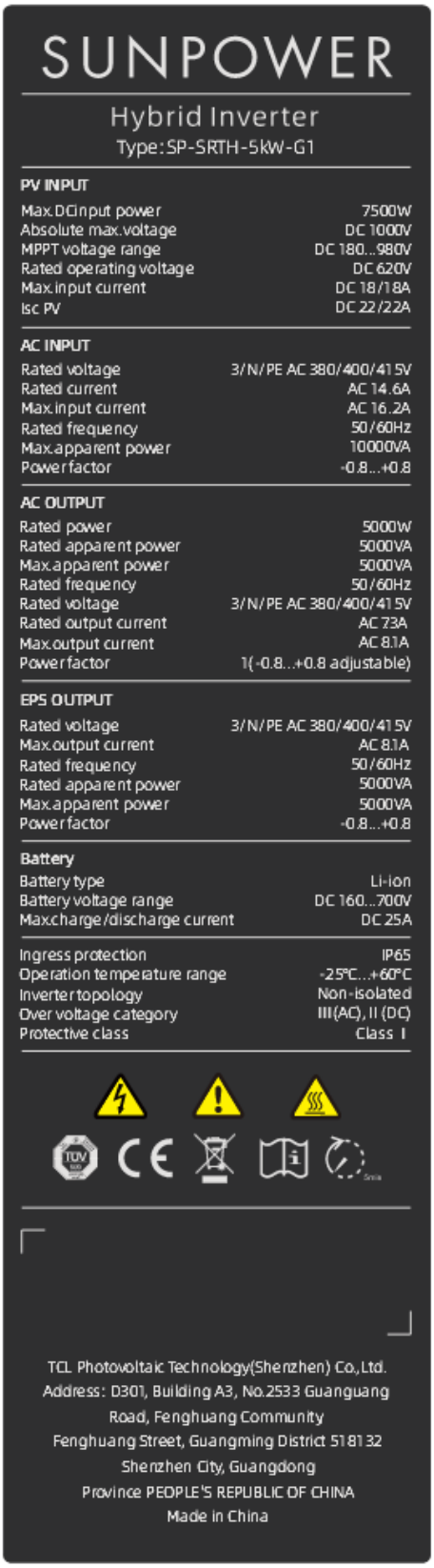
Flammable properties: Contents react with water. May explode if exposed to high temperatures due to pressure build up in battery casing. Lithium may burn in a fire

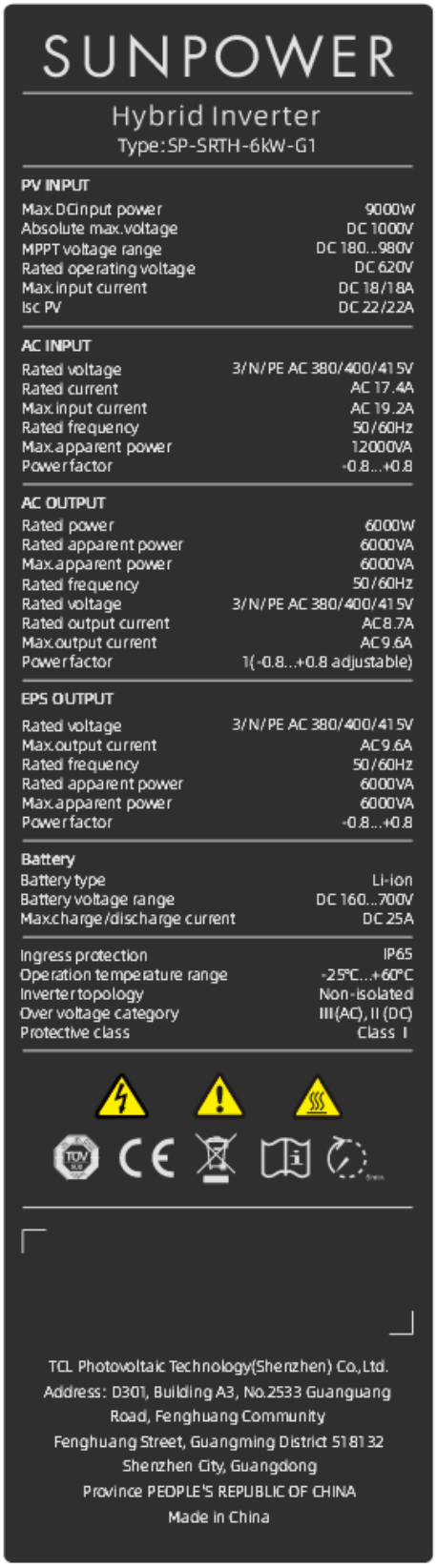
situation and may be ejected from the battery. Damaged cells may evolve toxic and flammable vapours.

Special protective equipment and precautions for firefighters: Evacuate area and contact emergency services.
Toxic gases may be released in the event of a fire. Remain upwind and notify those downwind of the potential hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) and protective gear in compliance with the Directive on Personal Protective Equipment 89/686/EEC when combating fire. Use water fog to cool intact containers and nearby storage areas.

Hazchem code:
4: Dry Agent (water MUST NOT be allowed to contact substance).
W: Risk of violent reaction or explosion. Wear liquid-tight chemical protective clothing and breathing apparatus. Contain spill and run-off.

8 Labels





SUNPOWER

Hybrid Inverter

Type: SP-SRTH-8kW-G1

PV INPUT	
Max.DC input power	12000W
Absolute max.voltage	DC 1000V
MPPT voltage range	DC 180...980V
Rated operating voltage	DC 620V
Max.input current	DC 18/18A
Isc PV	DC 22/22A

AC INPUT	
Rated voltage	3/N/PE AC 380/400/415V
Rated current	AC 23.2A
Max.input current	AC 25.6A
Rated frequency	50/60Hz
Max.apparent power	16000VA
Power factor	-0.8...+0.8

AC OUTPUT	
Rated power	8000W
Rated apparent power	8000VA
Max.apparent power	8000VA
Rated frequency	50/60Hz
Rated voltage	3/N/PE AC 380/400/415V
Rated output current	AC 11.6A
Max.output current	AC 12.8A
Power factor	1(-0.8...+0.8 adjustable)

EPS OUTPUT	
Rated voltage	3/N/PE AC 380/400/415V
Max.output current	AC 12.8A
Rated frequency	50/60Hz
Rated apparent power	8000VA
Max.apparent power	8000VA
Power factor	-0.8...+0.8

Battery	
Battery type	Li-ion
Battery voltage range	DC 160...700V
Max.charge/discharge current	DC 25A

Ingress protection	IP65
Operation temperature range	-25℃...+60℃
Inverter topology	Non-isolated
Over voltage category	III(AC), II (DC)
Protective class	Class I

TCL Photovoltaic Technology(Shenzhen) Co.,Ltd.
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Shenzhen City, Guangdong
Province PEOPLE'S REPUBLIC OF CHINA
Made in China

SUNPOWER

Hybrid Inverter

Type: SP-SRTH-10kW-G1

PV INPUT	
Max.DC input power	15000W
Absolute max.voltage	DC 1000V
MPPT voltage range	DC 180...980V
Rated operating voltage	DC 620V
Max.input current	DC 18/18A
Isc PV	DC 22/22A

AC INPUT	
Rated voltage	3/N/PE AC 380/400/415V
Rated current	AC 26A
Max.input current	AC 26A
Rated frequency	50/60Hz
Max.apparent power	17900VA
Power factor	-0.8...+0.8

AC OUTPUT	
Rated power	10000W
Rated apparent power	10000VA
Max.apparent power	10000VA
Rated frequency	50/60Hz
Rated voltage	3/N/PE AC 380/400/415V
Rated output current	AC 14.5A
Max.output current	AC 16.0A
Power factor	1(-0.8...+0.8 adjustable)

EPS OUTPUT	
Rated voltage	3/N/PE AC 380/400/415V
Max.output current	AC 16.0A
Rated frequency	50/60Hz
Rated apparent power	10000VA
Max.apparent power	10000VA
Power factor	-0.8...+0.8

Battery	
Battery type	Li-ion
Battery voltage range	DC 160...700V
Max.charge/discharge current	DC 25A

Ingress protection	IP65
Operation temperature range	-25℃...+60℃
Inverter topology	Non-isolated
Over voltage category	III(AC), II (DC)
Protective class	Class I

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Made in China

SUNPOWER

Hybrid Inverter

Type:SP-SRTH-12kW-G1

PV INPUT	
Max.DC input power	20000W
Absolute max.voltage	DC 1000V
MPPT voltage range	DC 180...980V
Rated operating voltage	DC 620V
Max.input current	DC 18/18A
Isc PV	DC 22/22A

AC INPUT	
Rated voltage	3/N/PE AC 380/400/415V
Rated current	AC 26A
Max.input current	AC 26A
Rated frequency	50/60Hz
Max.apparent power	17900VA
Power factor	-0.8...+0.8

AC OUTPUT	
Rated power	12000W
Rated apparent power	12000VA
Max.apparent power	12000VA
Rated frequency	50/60Hz
Rated voltage	3/N/PE AC 380/400/415V
Rated output current	AC 17.4A
Max.output current	AC 19.2A
Power factor	1(-0.8...+0.8 adjustable)

EPS OUTPUT	
Rated voltage	3/N/PE AC 380/400/415V
Max.output current	AC 19.2A
Rated frequency	50/60Hz
Rated apparent power	12000VA
Max.apparent power	12000VA
Power factor	-0.8...+0.8

Battery	
Battery type	Li-ion
Battery voltage range	DC 160...700V
Max.charge/discharge current	DC 25A

Ingress protection	IP65
Operation temperature range	-25℃...+60℃
Inverter topology	Non-isolated
Over voltage category	III(AC), II (DC)
Protective class	Class I

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Made in China

SUNPOWER

Hybrid Inverter

Type:SP-SRTH-13kW-G1

PV INPUT	
Max.DC input power	20000W
Absolute max.voltage	DC 1000V
MPPT voltage range	DC 180...980V
Rated operating voltage	DC 620V
Max.input current	DC 18/18A
Isc PV	DC 22/22A

AC INPUT	
Rated voltage	3/N/PE AC 380/400/415V
Rated current	AC 26A
Max.input current	AC 26A
Rated frequency	50/60Hz
Max.apparent power	17900VA
Power factor	-0.8...+0.8

AC OUTPUT	
Rated power	13000W
Rated apparent power	13000VA
Max.apparent power	13000VA
Rated frequency	50/60Hz
Rated voltage	3/N/PE AC 380/400/415V
Rated output current	AC 18.9A
Max.output current	AC 20.8A
Power factor	1(-0.8...+0.8 adjustable)

EPS OUTPUT	
Rated voltage	3/N/PE AC 380/400/415V
Max.output current	AC 20.8A
Rated frequency	50/60Hz
Rated apparent power	13000VA
Max.apparent power	13000VA
Power factor	-0.8...+0.8

Battery	
Battery type	Li-ion
Battery voltage range	DC 160...700V
Max.charge/discharge current	DC 25A

Ingress protection	IP65
Operation temperature range	-25℃...+60℃
Inverter topology	Non-isolated
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