# SunPower
# All-in-one Single Phase Energy Storage System

## Safety & Installation Manual




© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

## Published May 2026

This user manual is valid for installing the SunPower 1-phase hybrid all-in-one energy storage system:

| | |
|---|---|
| SP-ARSH-5kW-G1 | 5kW 1-Phase Hybrid Inverter |
| SP-ARSH-6kW-G1 | 6kW 1-Phase Hybrid Inverter |
| SP-ARSH-8kW-G1 | 8kW 1-Phase Hybrid Inverter |
| SP-ARSH-10kW-G1 | 10kW 1-Phase Hybrid Inverter |
| SP-RAH-HVB571-G1 | High Voltage Box (data/instruction transmission between battery and inverter) |
| SP-RH-B5K-G1 | 4.992kWh Battery Box |

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, and 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.

Copyright statement
TCL Photovoltaic Technology (Shenzhen) Co., Ltd. (hereinafter referred to as SunPower, the brand trademark “SunPower” used in EMEA (European, Mid East & Africa) belongs to TCL Photovoltaic Technology (Shenzhen) Co., Ltd. TCL Photovoltaic Technology (Shenzhen) Co., Ltd. has the right to use this trademark) owns the copyright to this manual. All rights reserved. Please properly store the manual and strictly follow all safety and operating instructions provided. Please do not operate the system before reading through this manual.

# CONTENTS


**1 GENERAL INTRODUCTION ..... 4**

1.1 System Application ..... 4
1.2 Features ..... 4
1.3 Application Scenarios ..... 4
1.4 Important Safety Instructions ..... 5
1.4.1 Warning and Safety Symbols ..... 5
1.5 Limitation of Liability ..... 7
1.6 Packing List ..... 7
1.7 System Overview ..... 9
1.8 Emergency Power Supply / Backup Function ..... 13

**2 INSTALLATION ..... 15**

2.1 Installation Location and Environment ..... 15
2.1.1 General ..... 15
2.1.2 Barriers to Habitable Rooms ..... 17
2.2 Installation Steps ..... 18
2.3 Cable Connections（CU wire only） ..... 24
2.4 System Wiring Diagrams ..... 31

**3 SYSTEM OPERATION ..... 39**

3.1 Turning ON the energy storage system ..... 39
3.2 Turn OFF the energy storage system ..... 39

**4 SYSTEM CONFIGURATION & SETUP ..... 40**

4.1 Preparation ..... 40
4.2 Installer account ..... 40
4.3 Add system ..... 40
4.4 WiFi dongle LED indicator description ..... 50

**5 ENERGY MANAGEMENT SYSTEM CONFIGURATIONS ..... 52**

**6 TROUBLESHOOTING ..... 54**

**7 EMERGENCY PROCEDURES ..... 56**

7.1 Inverter malfunction ..... 56
7.2 Battery leakage ..... 56
7.3 In case of fire ..... 56
7.4 Fire precautions and protective measures ..... 56
7.5 Water Damage ..... 56
7.6 Damaged Batteries ..... 57

**8 MAINTENANCE AND RECYCLING ..... 57**

8.1 Maintenance ..... 57
8.2 Recycle and Disposal ..... 57
8.3 Declaration of conformity ..... 57

**9 LABELS ..... 58**


© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

# 1 GENERAL INTRODUCTION

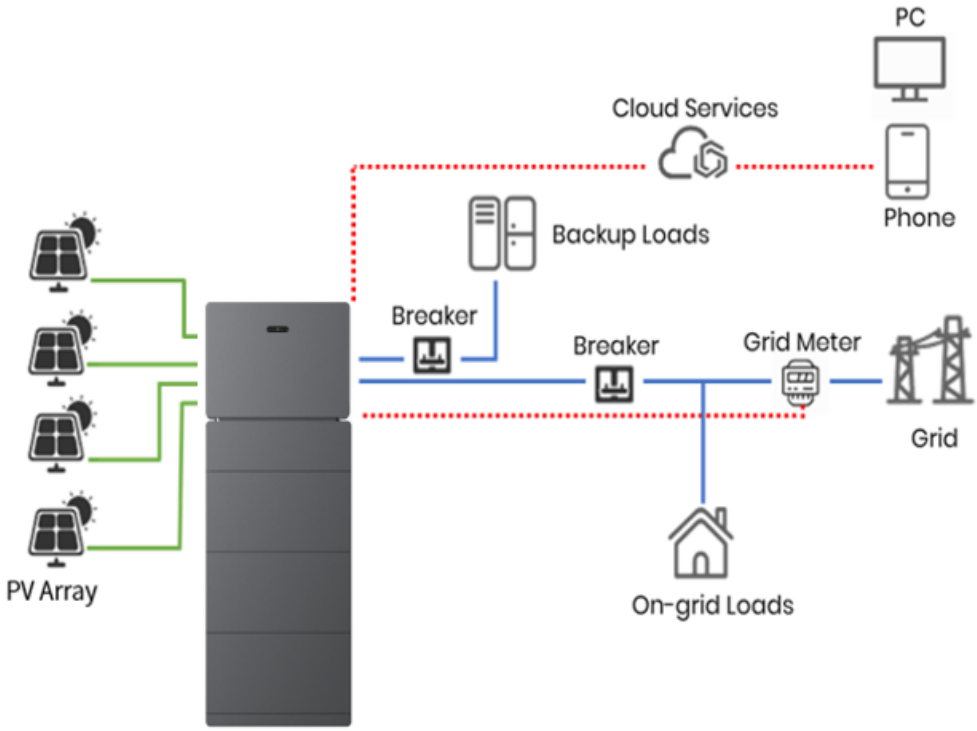
## 1.1 System Application

The system can be applied in DC coupled, AC coupled, and hybrid coupled installations. In all configurations, the system must be grid-connected and currently cannot be installed in a pure off-grid mode (no grid present). 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 Features

- Max 32/32A DC input current per string (8/10kW model)
- IP65 indoor or outdoor application
- <25dB, no noise pollution
- Support maximum 1.5 times @10s peak output power on EPS side
- Remote updates & self-diagnosis.

## 1.3 Application Scenarios




NOTE:

1. AC and hybrid coupled systems require additional PV meter to monitor the existing inverter.
2. Parallel installation is not supported; only a single system column is allowed.
3. The system is not compatible with generators.

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

## 1.4 Important Safety Instructions

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

- The SunPower hybrid all-in-one system must only be installed by a qualified electrician familiar with the product, local standards and electricity systems. The tasks described in this manual should only be performed by qualified electricians. End users can also use this manual to understand the product and functions.
- Disconnect all batteries and AC power sources from the product for at least 5 minutes before connecting any wires or conducting any electrical work to ensure the product is completely isolated and to avoid electric shocks.
- The surface of the product may exceed temperatures of 60℃ during operation. Please make sure it has cooled down before touching it, and make sure that the product is out of the reach of children.
- The product must be used and operated as described in this user manual, or safety features may not work as intended, and the warranty for the product will be voided.
- The warranty will be voided if you open the product cover or change any component without authorization from TCL SunPower.
- Care must be taken to protect the product from static damage. The SunPower Limited Warranty does not cover any damage caused by static.
- Neutral continuity is NOT maintained internally and must be achieved through external connections.
- The product features a built-in residual current monitoring unit (RCMU).
- Only use type B external residual current device (RCD) rated for a tripping current of 30 mA or higher.
- This product features active anti-islanding protection, and inverter frequency is shifted away from nominal conditions in the absence of a reference frequency (frequency shift).
- This product is a multimode inverter designed to be used in unconditioned outdoor shaded environments. The maximum operating ambient temperature is 55℃.
- An error message will be sent to the SunPower app in the event of a ground fault, and the status indicator on the product will turn red.

### 1.4.1 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.

© 2025 TCL | SunPower. All rights reserved. 

**⚠ 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.<br>Wear proper PPE before any operations. |
|  | Danger to life due to electric shock<br>The product operates at high voltages. All work on the product must be carried out by qualified persons only. |
|  | Risk of burns due to hot surfaces<br>The product can get hot during operation. Avoid contact during operation. Allow the product to cool down sufficiently before carrying out any work. |
|  | Heavy objects. Lift with care. |
|  | Keep the battery 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<br>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, and do not turn on its side or toss. |
|  | Observe all documentation supplied with the product. |
|  | Keep dry.<br>Store the package or product under cover and away from excess humidity. |
|  | CE marking<br>The product complies with the requirements of the applicable EU directives. |

© 2025 TCL | SunPower. All rights reserved. 

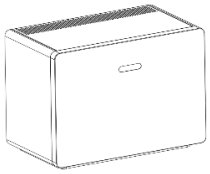
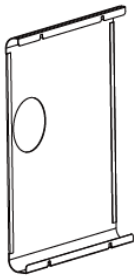
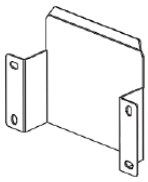
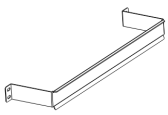
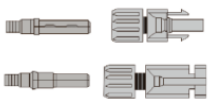
Specifications included in this document are subject to change without notice

## 1.5 Limitation of Liability

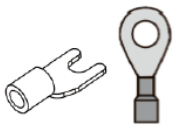
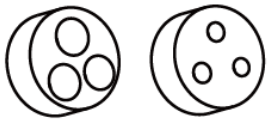
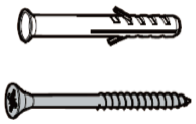
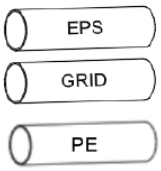
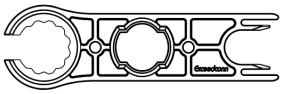
TCL SunPower assumes no direct or indirect liability for any product damage or property losses caused by the following.

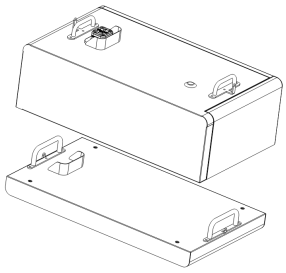
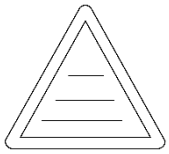
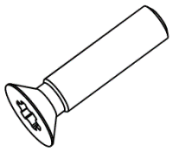
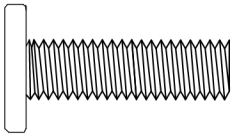
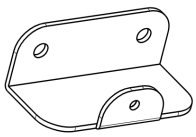
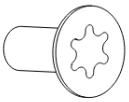
- Product modifications, design changes, or parts replaced without SunPower's authorization;
- Modifications or attempted repairs or removal of serial numbers or seals
- System designs and installations not in compliance with common or local standards or regulations;
- Failure to comply with the local 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 not done to acceptable standards;
- Force majeure (including severe or stormy weather, lightning, and fires).

## 1.6 Packing List

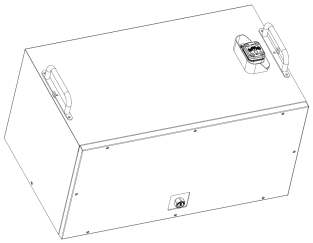
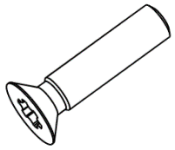
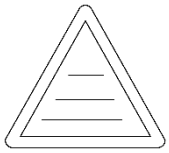
| Hybrid Inverter | | | |
|---|---|---|---|
|  |  |  |  |
| 1 × Inverter | 1 × Right side plate | 1 × Left side plate | 1 × Locking bracket |
|  |  |  |  |
| 1 × Sheet metal bracket | 5/6kW:<br>2 × Positive DC connectors<br>2 × Negative DC connectors<br>8/10kW:<br>4 × Positive DC connectors<br>4 × Negative DC connectors | 1 × WiFi module | 4 × M4*10 nuts 1 × M5*10 screws |

© 2025 TCL | SunPower. All rights reserved. 

| | | | |
|---|---|---|---|
|  |  |  |  |
| 6 × Spade terminals<br>1 × OT5-5 Terminal | 5/6kW:<br>1 × 3*Φ10 Silicone seal ring<br>1 × 3*Φ6.4 Silicone seal ring<br>8/10kW:<br>2 × 3*Φ10 Silicone seal ring | 4 × φ10*60 Expansion bolts | Heat shrink tubing<br>3 × EPS<br>3 × GRID<br>1 × PE |
|  |  |  |  |
| 1 × single-phase meter<br>1 × RJ45 | 1 × Quick installation guide | 1 × Quality certificate | 1 × Unlock Tool |

| High Voltage Box + Base | | | |
|---|---|---|---|
|  | |  |  |
| 1 × High Voltage Box \| 1 × Base | | 1 × Quality Certificate | 2 x M4*8 Screws |
|  |  |  | |
| 1 x M3*14 Screws | 1 x bracket | 3 x M4*6 Screws | |

© 2025 TCL | SunPower. All rights reserved. 

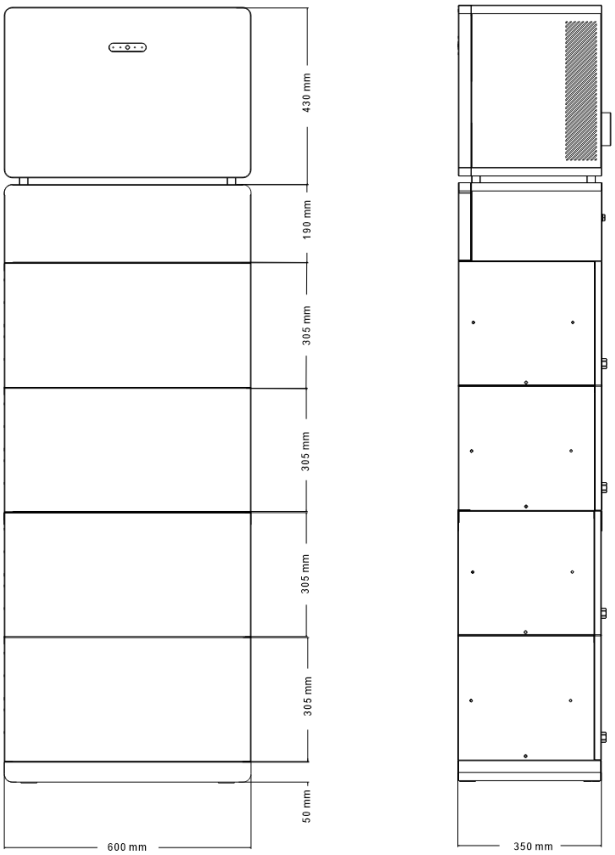
| Battery Box | | |
|---|---|---|
|  |  |  |
| 1 × Battery Box | 2 × M5*12 Screws | 1 × Quality Certificate |

NOTE: Materials not included in the kit:

1. PV Meter – required for AC and Hybrid coupling
2. Power cables and communication cables:
   a) Grid: 10mm² （for 5/6kW） / 16 mm² (for 8/10 kW) cable
   b) EPS: 6mm² （for 5/6kW） / 10 mm² (for 8/10 kW ) cable
   c) PV & PE: 4-6 mm² cable
   d) Communication: 0.5 mm² cable

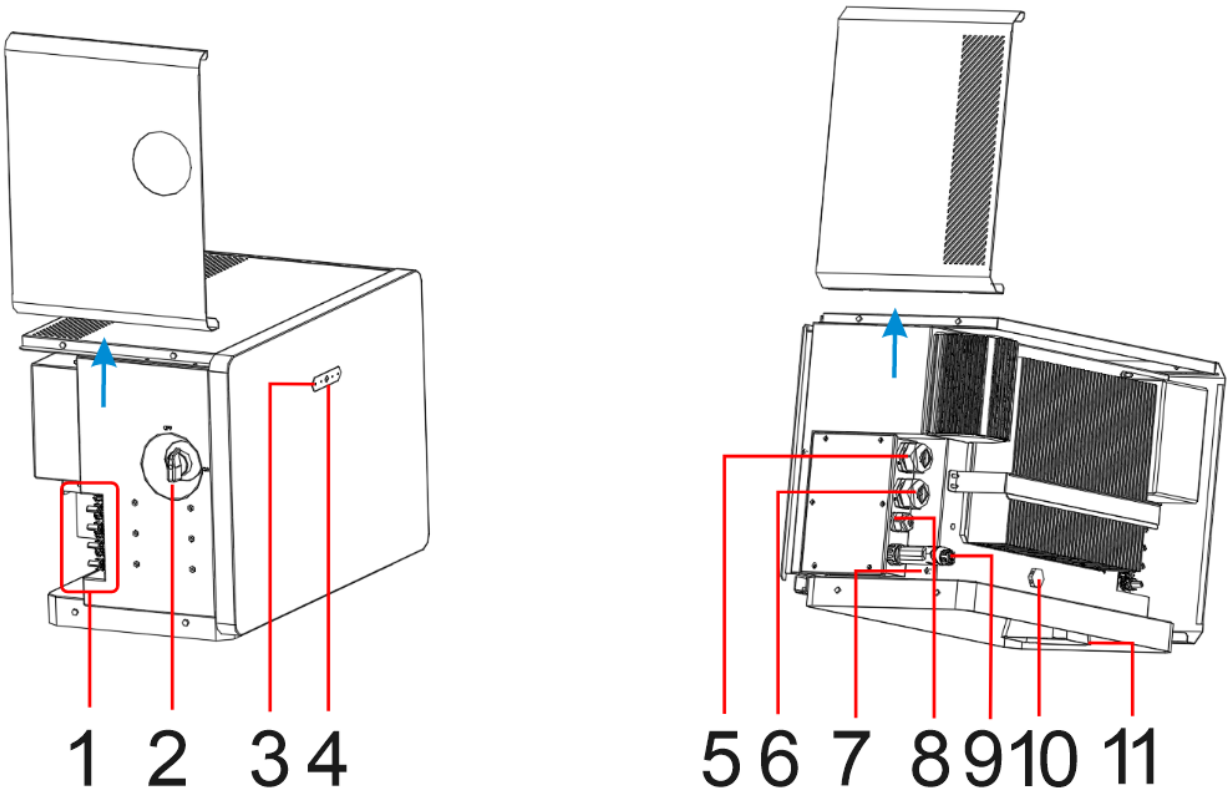
## 1.7 System Overview

Dimensions



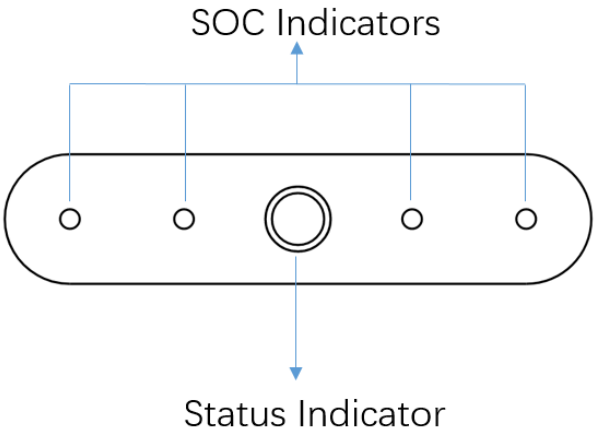

© 2025 TCL | SunPower. All rights reserved. 

Hybrid inverter - connections




| NO. | Parts | NO. | Parts |
|---|---|---|---|
| 1 | PV connectors | 7 | PE port |
| 2 | DC isolator | 8 | Communication port |
| 3 | SOC indicator | 9 | Wi-Fi dongle |
| 4 | Status indicator | 10 | Safety valve |
| 5 | EPS port | 11 | Battery port |
| 6 | Grid port | | |

Led indicator




© 2025 TCL | SunPower. All rights reserved. 

Status Indicator:

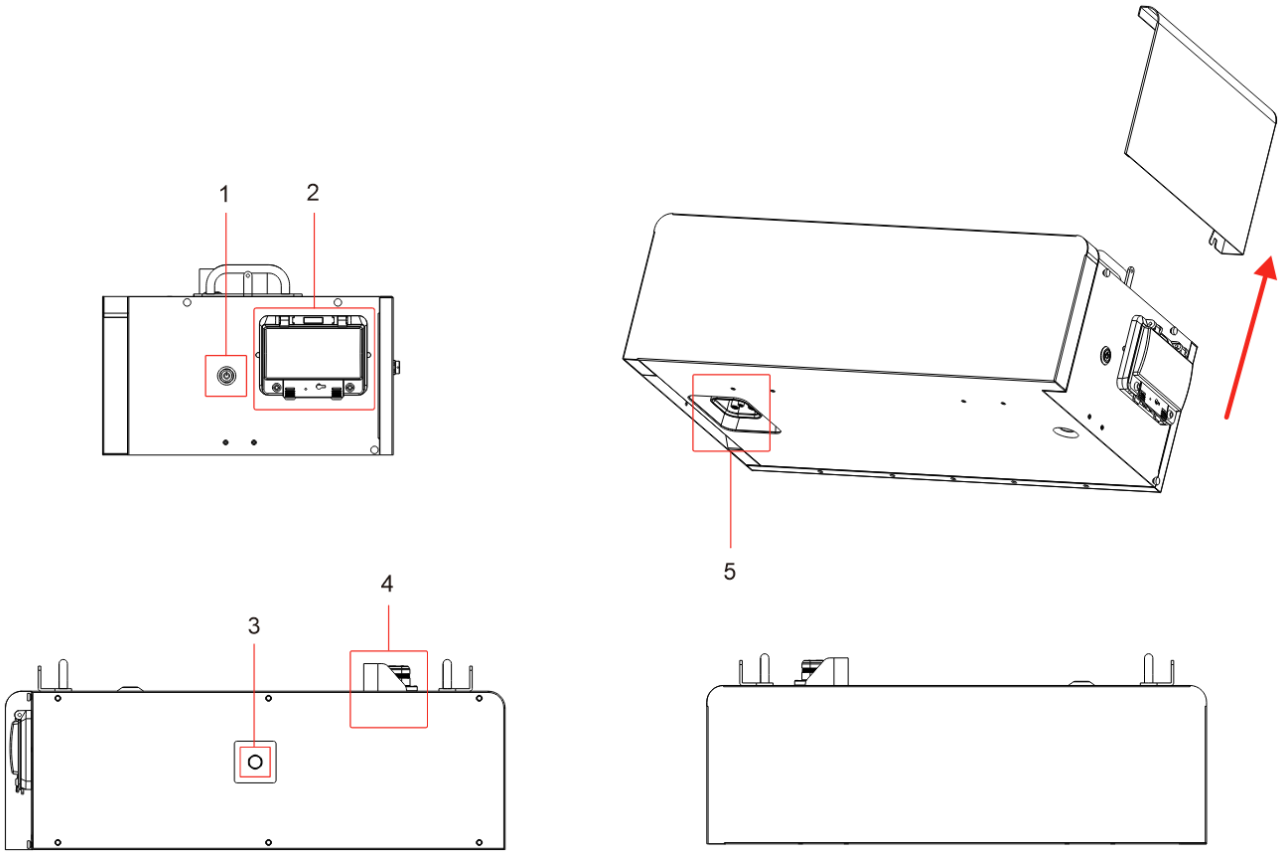
| STATUS | LED INDICATOR |
|---|---|
| Standby | Flashing white LED, 2 second intervals |
| Checking | Flashing white LED, 0.5 second intervals |
| Normal | Solid white LED |
| DSP fault | Solid red LED |
| Battery com. fault | Flashing red LED, 2 second intervals |
| Meter com. fault | Flashing red LED, 0.5 second intervals |

The Status indicator will be solid white when the system is ready for commissioning.

SOC Indicator:

| STATUS | | LED INDICATOR | | | |
|---|---|---|---|---|---|
| Capacity Indicator LED | | L1 | L2 | L3 | L4 |
| | <30% | On | Off | Off | Off |
| | 30%~60% | On | On | Off | Off |
| | 60%~90% | On | On | On | Off |
| | >90% | On | On | On | On |

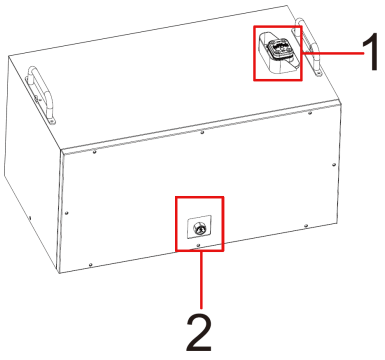
High voltage box




© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

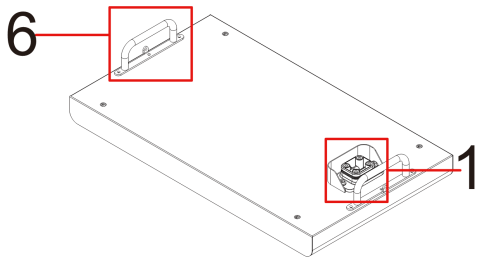
| No. | Name | Definition |
|---|---|---|
| 1 | Black Start and Power Off button | Black start mode: When there is no PV and no grid, press and hold for 5 seconds to restart the inverter.<br>Power off mode: Press and hold for 5 seconds to turn the system off – indicated by a click. Press and hold the button for 5 seconds to restart.<br>NOTE: At first install and during maintenance, this button should not be used. Please refer to Chapter 4.2 to turn the system on via the DC breaker. |
| 2 | DC breaker | System master switch - must be switched on before powering on the system to prevent short circuit |
| 3 | Safety valve | High voltage box pressure release safety protection device |
| 4&5 | Guided quick connectors | Integrated power and communication terminals |

Battery box




| No. | Parts |
|---|---|
| 1 | Guided quick connector |
| 2 | Safety valve |

Base




| No. | Parts |
|---|---|
| 1 | Guided quick connector |
| 6 | Lifting/moving handle |

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

## 1.8 Emergency Power Supply / Backup Function

The backup functionality of the hybrid inverter allows the system to provide power to selective appliances/loads during a grid outage / black out event, allowing system owners to power essential appliances.

**ATTENTION**
The product is not designed to backup the loads of entire households and only critical loads should be connected to the backup line.

The backup function has a limited capacity so installers must advise the system owner to choose only the most important home circuits for backup, and remove any unnecessary loads. If the backed-up loads exceed the inverter's output limit, the system will shut down to protect itself, impacting power supply during normal grid operation and grid outage.

**Power Rating and the Backed-up Loads**
SunPower energy storage EPS output is determined by the inverter power rating and the battery capacity.

NOTE: Installing batteries in parallel does not boost backup power.

**Backup power thresholds**
A single battery pack is 96V, with a charge and discharge current of 25A.

Two conditions define the upper and lower backup power (EPS) thresholds:

During a grid outage when PV production is unavailable, the backup output will correspond to the battery capacity. This is the lower limit of EPS discharge, which depends on two factors: the inverter rated power and the battery capacity. The actual output power of the EPS port depends on the smaller of these two factors.

During a daytime grid outage with sufficient sunshine, the backup output will be equivalent to the battery power + PV power – in-between the lower limit (no PV and grid) and the upper limit (connected to the grid).

**Changeover or bypass switch**
It is recommended to install a changeover switch. A changeover switch provides the ability to bypass the inverter to supply the backup loads directly from the grid. This bypass may be required during maintenance visits and ensures an option for the customer to restore supply in the case of any technical issue, or in case the system owner accidently adds unplanned loads on the backup line, causing tripping.

**1-PHASE BACKUP POWER BY INVERTER RATING AND BATTERY CAPACITY**

| | | | | |
|---|---|---|---|---|
| Backup output power | 5kW | 6 kW | 8 kW | 10 kW |
| Maximum current | 21.8A | 26.1 A | 34.8 A | 43.5 A |

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

| Current - Amps | | | | |
|---|---|---|---|---|
| 5 kWh | 20.8 A | 20.8 A | 20.8 A | 20.8 A |
| 10 kWh | 21.8A | 26.1. A | 34.8 A | 41.7 A |
| 15 kWh | 21.8A | 26.1 A | 34.8 A | 43.5 A |
| 20 kWh | 21.8A | 26.1 A | 34.8 A | 43.5 A |
| Power – Watts | | | | |
| 5 kWh | 4800 W | 4800 W | 4800 W | 4800 W |
| 10 kWh | 5000W | 6000 W | 8000 W | 9600 W |
| 15 kWh | 5000W | 6000 W | 8000 W | 10000 W |
| 20 kWh | 5000W | 6000 W | 8000 W | 10000 W |

NOTE: Maximum charge/discharge current: 50A | 1C discharge rate.

When selecting backup loads, installers should consider both the continuous and surge/peak output power rating, measured in kW or kVA.

| Surge/peak output for the 1-phase inverter | | |
|---|---|---|
| Rated power | Surge/peak power | Duration |
| 5kW | 7.5kW | 10 seconds |
| 6kW | 9kW | 10 seconds |
| 8kW | 12kW | 10 seconds |
| 10kW | 14.49kW | 10 seconds |

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

# 2 INSTALLATION

## 2.1 Installation Location and Environment

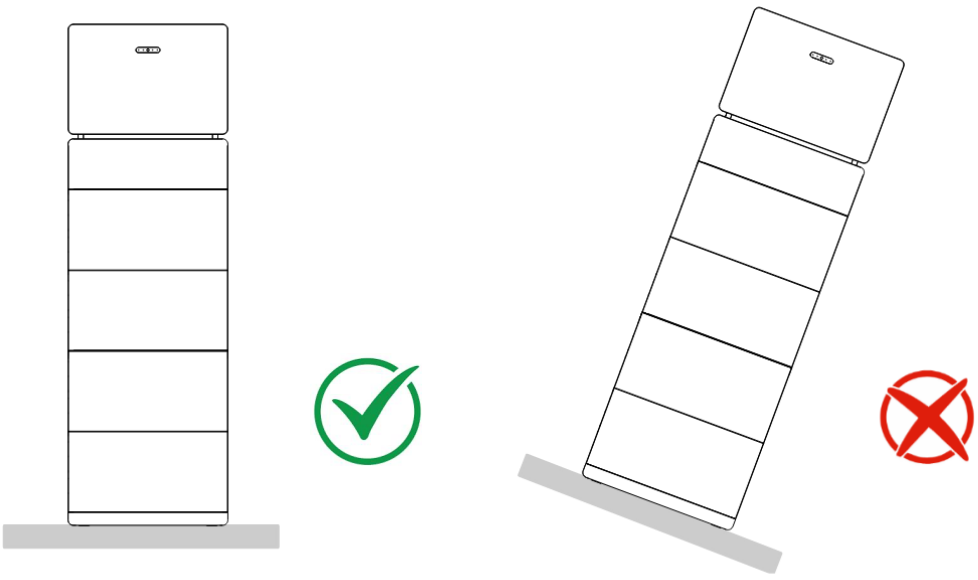
### 2.1.1 General

Install the equipment on a surface that is solid enough to bear the product weight Batteries should only be installed on concrete or other non-combustible surfaces. Please evaluate the load-bearing capacity. The installation location should be well-ventilated and away from flammable or explosive materials.

The energy storage system is rated for outdoor installation and can be installed both indoors and outdoors. The battery box 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 system and facilitate maintenance.

Rule 1**.** Do not install the system at forward tilted, back tilted, side tilted, horizontal, or upside-down positions.



Rule 2. During installation, ensure that there is no other equipment (except related SunPower equipment) or flammable or explosive materials around the ESS. Reserve sufficient clearances for heat dissipation and safety isolation.

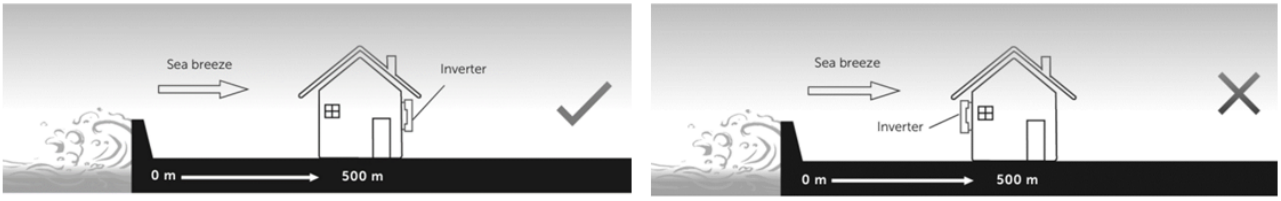
© 2025 TCL | SunPower. All rights reserved. 

Rule 3. Fixing the inverter to the wall through the locking bracket serves as a securing function only. The inverter is installed together with the SunPower battery system, and the load is borne by the battery boxes and base.

Rule 4. The system location should be protect or lightning.




Rule 5. Install the system at least 500 meters away from the coast and protect from coastal winds.




Rule 6. The system product label should be clearly visible after installation.

Rule 7. Do not install the system in the snow or rain. If installation in the snow or rain is unavoidable, ensure the system is protected and kept dry.

**⚠ WARNING**

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

Rule 8. Install the system away from strong magnetic fields to avoid electromagnetic interference.

When installing the system next to radio or wireless communication equipment operating below 30 MHz:

1. Install the system at least 30m away from the wireless equipment.

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

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

Choosing an Installation Location

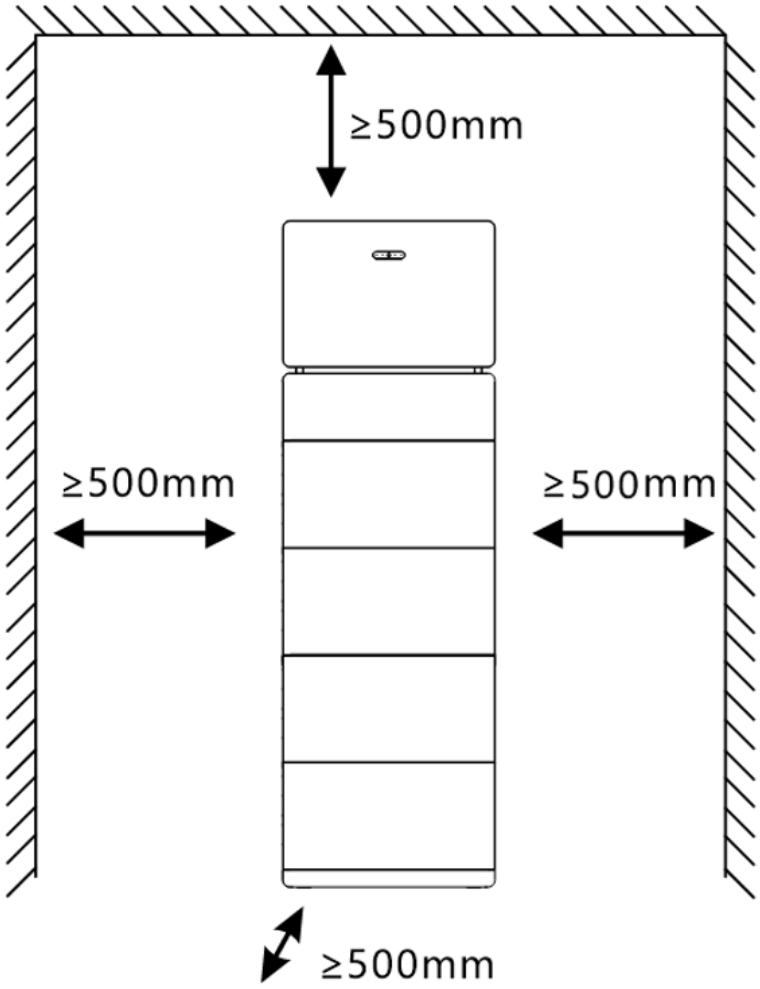
Allow the following minimum clearance around the installed system:

Top 500 mm - Front 500 mm - Left and right sides 500 mm

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

### 2.1.2 Barriers to Habitable Rooms

Ensure a suitable non-combustible barrier is set up between the system and any installation walls




or structures when installing the system on a wall or structure connected to a living space to protect against the spread of fire to living spaces.

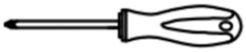
A non-combustible barrier should be installed between the system and the surface of the wall or structure it is being mounted to if the surface itself is not made out of a suitable non-combustible material.

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

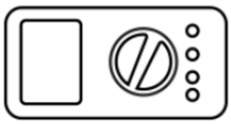
© 2025 TCL | SunPower. All rights reserved. 
Specifications included in this document are subject to change without notice

## 2.2 Installation Steps

Installation Tools:



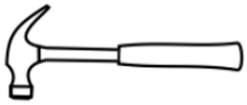
Falt/ Phillips/ Internal plum blossom Screwdriver



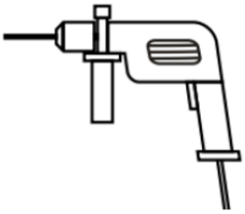
Multimeter



Wire stripper



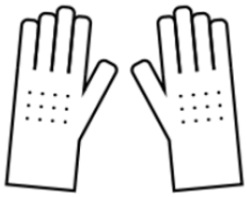
Claw hammer



10-14mm Hammer drill



Diagonal plier

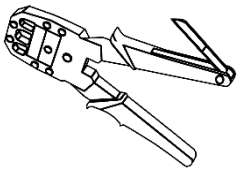


Insulating gloves



Protective gloves





Crimping pliers

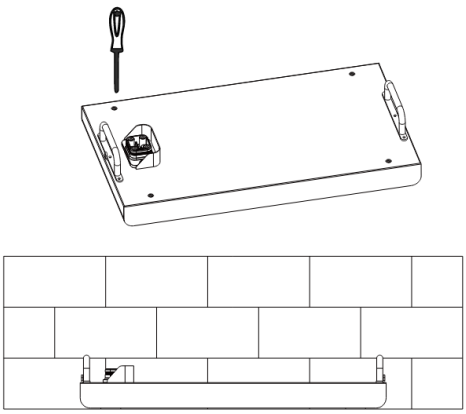
⚠ CAUTION

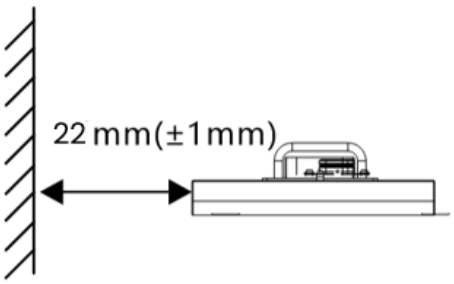
- Follow local electric safety and installation policy
- All installation and operation must follow local electric standard and requirements

Step1： Remove the high voltage box and base from the packaging.

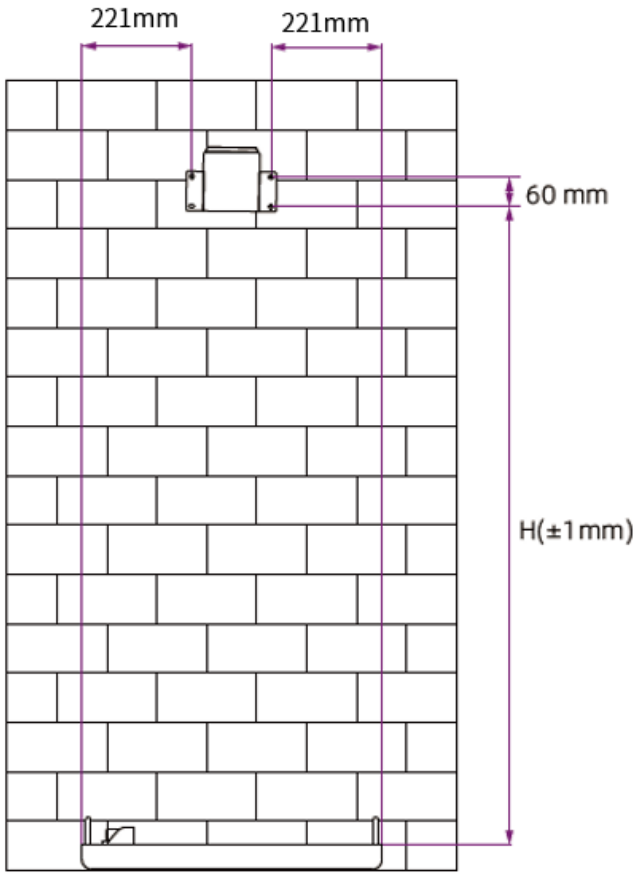
Step2： Place the base on the ground and adjust the height of the legs with a screwdriver to ensure the base is level.

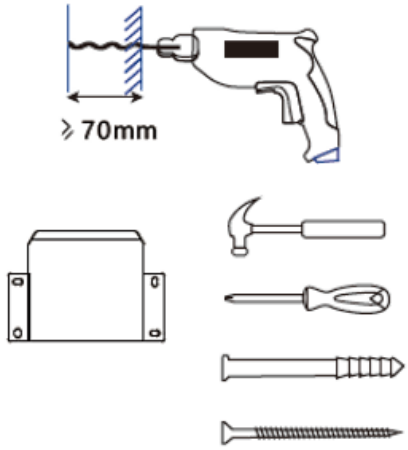
© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice






Step3： Install the plate that secures the high voltage box to the wall. Drill a hole with a diameter of 10mm at the center of the slotted hole in the back plate and insert the plastic expansion tube, then secure the self-tapping screw with a screwdriver.




| N | H(mm) |
|---|---|
| 1 | 593 |
| 2 | 898 |
| 3 | 1203 |
| 4 | 1508 |

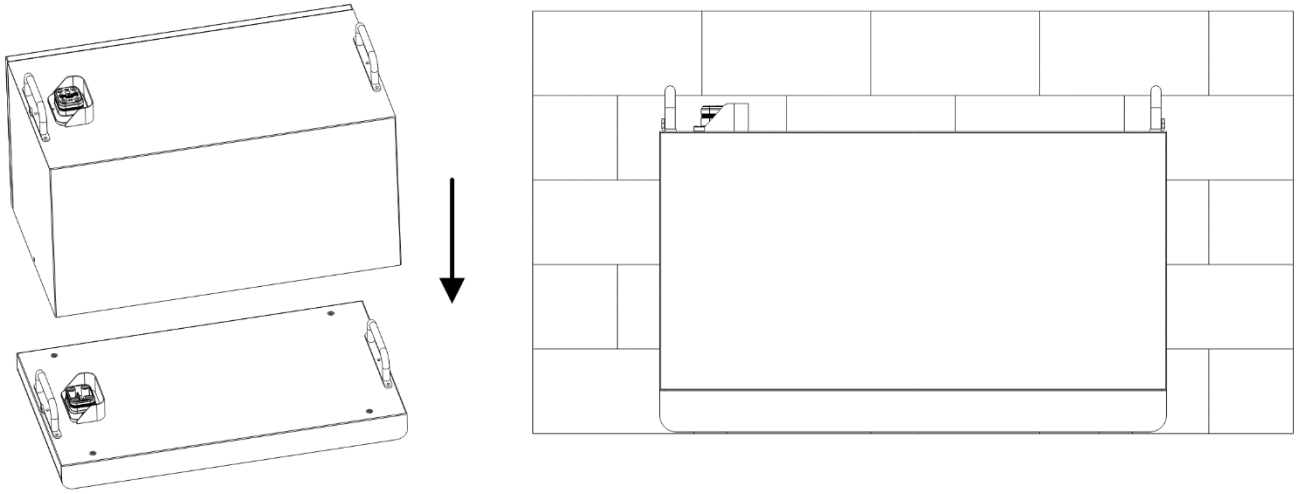
© 2025 TCL | SunPower. All rights reserved. 

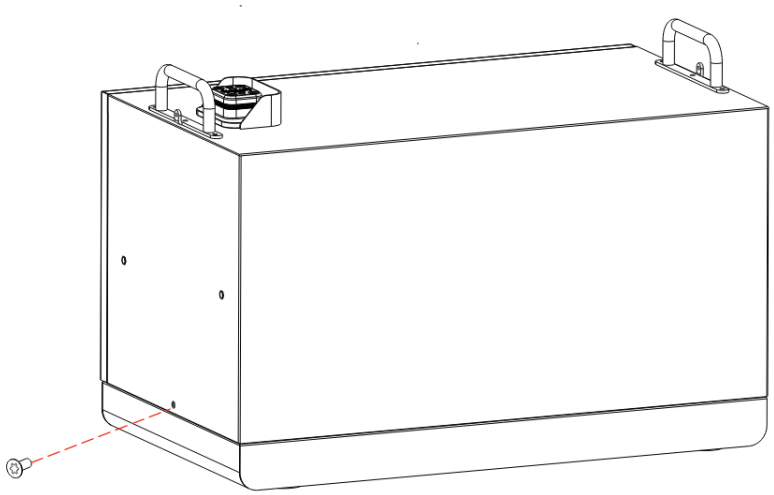
Step4： Remove the first battery pack from the packaging

**⚠ CAUTION**

- Be mindful of injury prevention when moving heavy objects. The weight of each battery pack is 56 kg.
- Use lifting handles to move the battery packs.

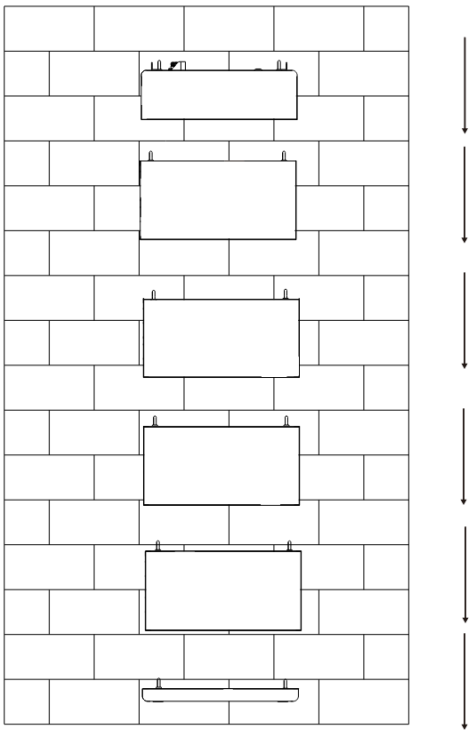
Step5： Install the first battery box. Stack the battery pack on the base, then fix it in place on both sides with the screws.





© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

Step 6: Install all the battery packs in turn. Each battery is connected by two screws, located on both sides of the battery respectively.

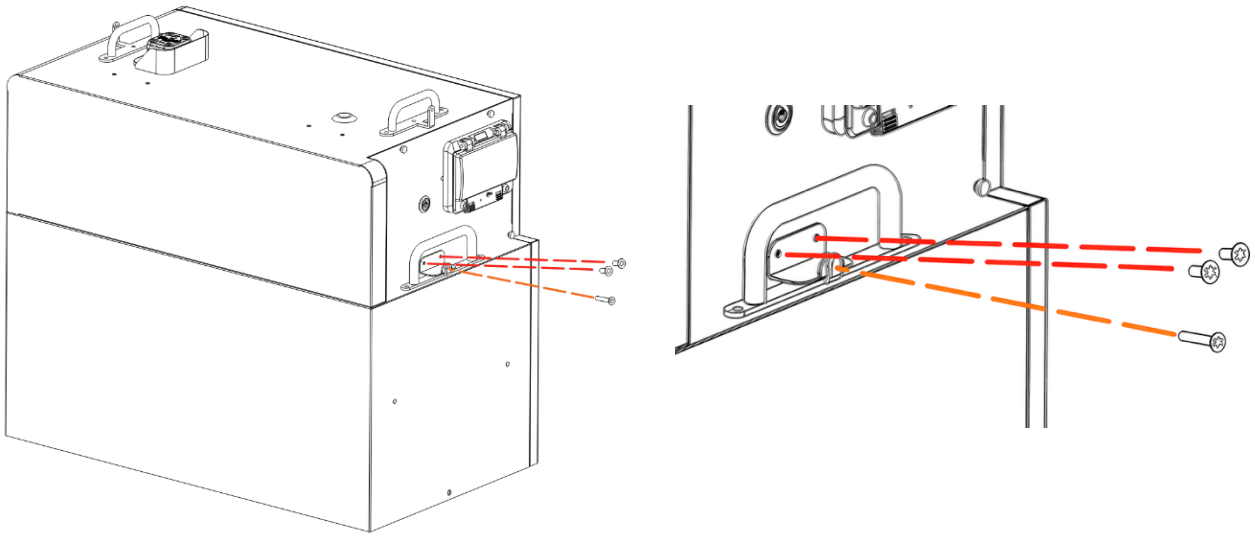


**⚠ CAUTION**

- Wear personal protective gear such as protective gloves and shoes when moving the equipment.
- If two or more people move a battery pack together, consider the manpower, height and other conditions to ensure the weight is evenly distributed, and move the battery pack at an even pace under the direction of one person.
- To lift a battery pack, approach it, squat down, then lift it gently and stably by the force of the legs, not the back. Do not lift it suddenly or twist your body around while lifting - move your feet instead of turning from the waist and ensure that your feet point towards the direction of movement
- Do not lift the battery pack quickly above your waist. Place it on a waist-high workbench or other appropriate place, adjust the positions of your palms, and then continue to lift. Place it down stably and slowly to prevent damaging or scratching to the surface or components and cables.
- When moving the battery pack, be aware of the environment - other equipment, slopes or stairways and slippery surfaces. Ensure doorways are wide enough to accommodate the battery pack without bumping or injury.

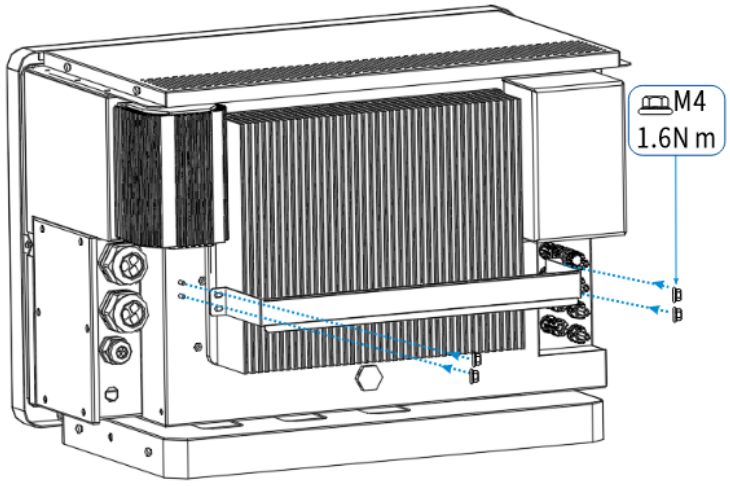
© 2025 TCL | SunPower. All rights reserved. 
Specifications included in this document are subject to change without notice

Step7： Install the high-voltage box after all batteries have been installed. The high-voltage box and the battery are connected by six screws, three on each side of the high-voltage box.



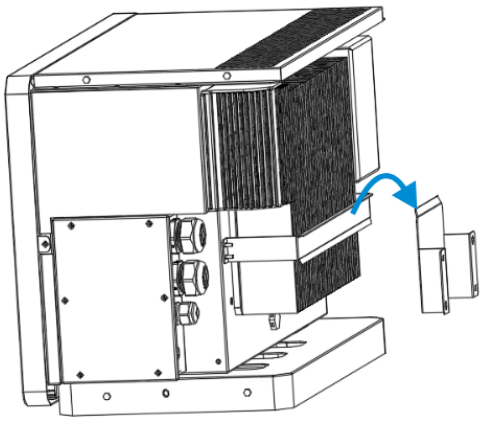
Step8： Remove the inverter from the packaging.

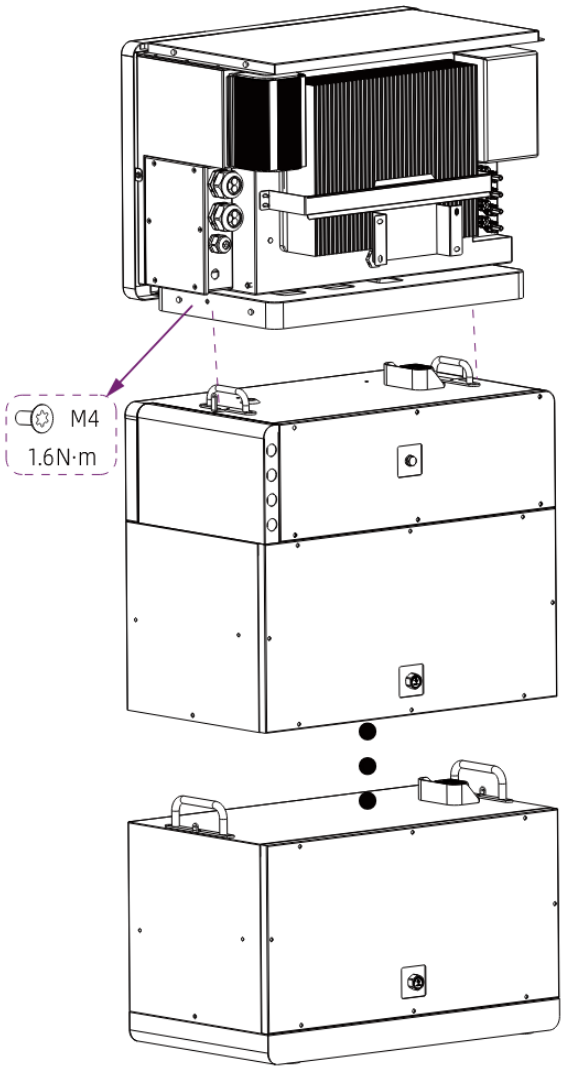
Step9： Install the metal bracket onto the inverter




© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

Step 10： Stack the inverter on the battery system and put the metal bracket of the inverter into the wallplate. Secure the components.

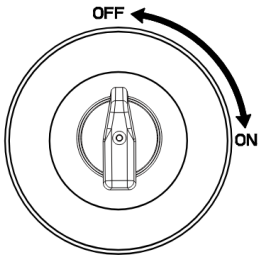





© 2025 TCL | SunPower. All rights reserved. 

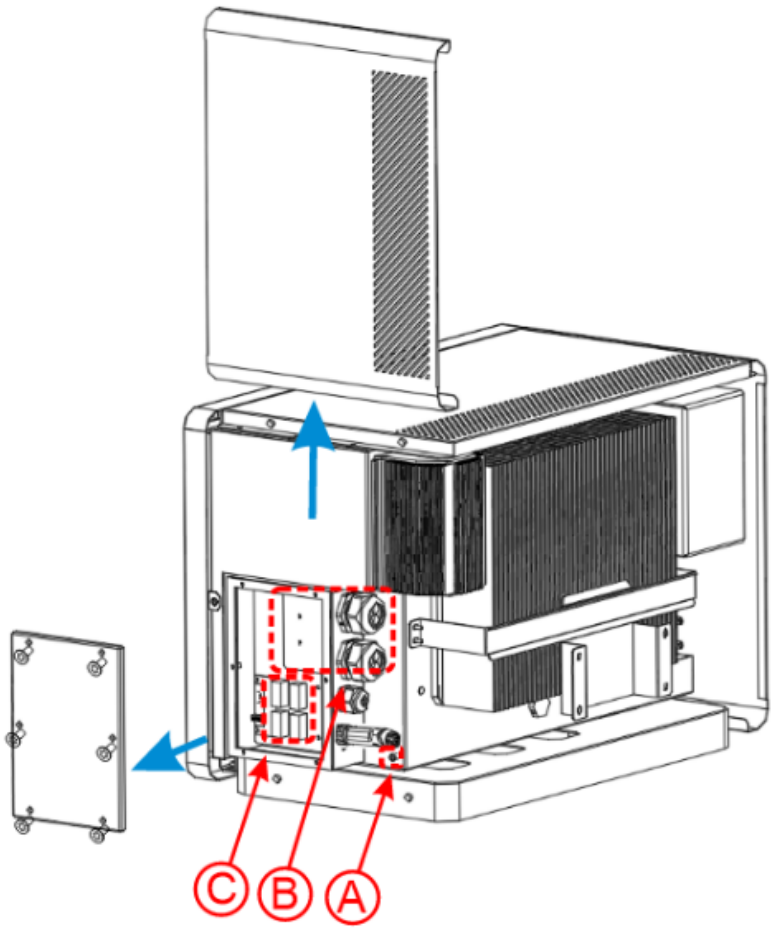
## 2.3 Cable Connections（CU wire only）

Make sure the inverter switch is OFF




DC ISOLATOR

Connect the ground cable, power cables and communication cable

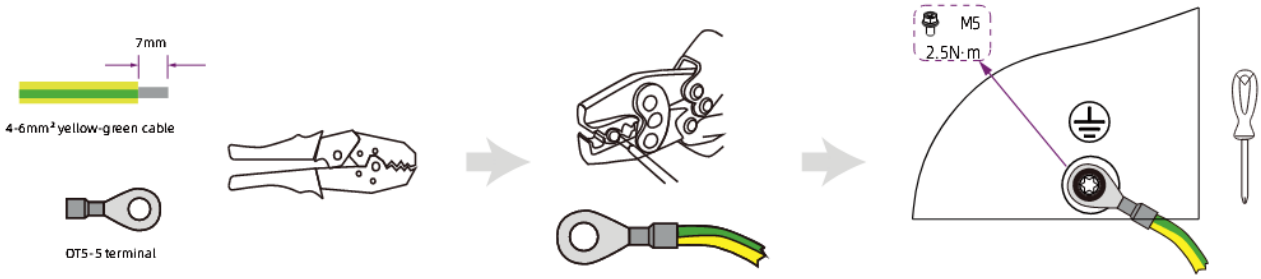



© 2025 TCL | SunPower. All rights reserved. 

Recommended cables and connectors:

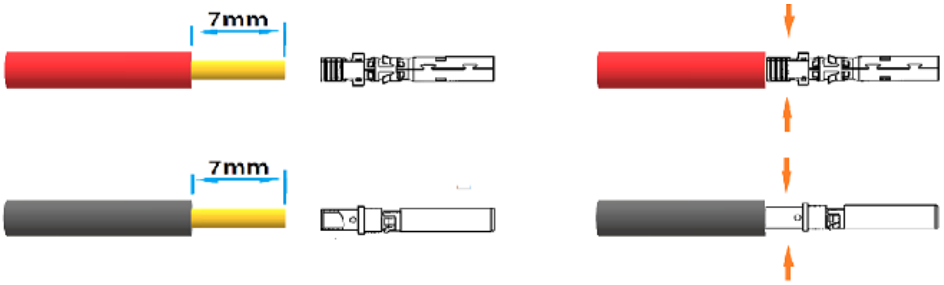
| Cable Type | Cable Specification | Terminal Model |
|---|---|---|
| PE Cable | 4-6 mm² | OT5-5<br>– Included in accessory packet |
| PV+ Cable | 4-6 mm² (RED) | Positive DC Connector<br>– Included in accessory packet |
| PV- Cable | 4-6 mm² (BLACK) | – Negative DC Connector<br>Included in accessory packet |
| Grid Cable(5/6kW) | 10 mm² | SV14-5<br>– Included in accessory packet |
| Grid Cable(8/10kW) | 16 mm² | SV14-5<br>Included in accessory packet |
| EPS Cable(5/6kW) | 6 mm² | SV14-5<br>– Included in accessory packet |
| EPS Cable(8/10kW) | 10 mm² | SV14-5<br>Included in accessory packet |
| Communication Cable | 0.5 mm² | |

## Step 1: Connect the PE cable Ⓐ




## Step 2: Connect the PV cables.

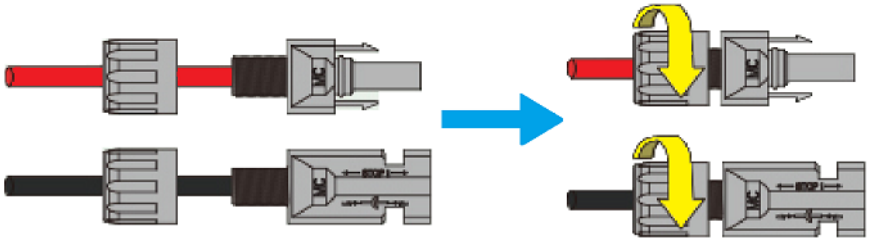
1. Crimp the terminal;



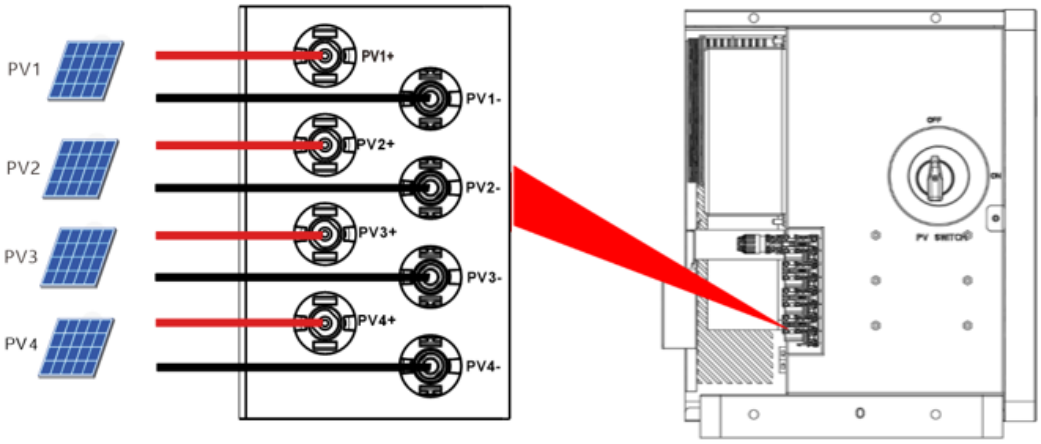

© 2025 TCL | SunPower. All rights reserved. 

| Legend | Description | Value |
|---|---|---|
| A | Outer Diameter | 5.5–8.0 mm |
| B | Insulated Cable Length | 7 mm |
| C | Conductor Core | 4-6 mm² |

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



3. Complete the connection.




Note：5/6kW models have two MPPTs, two strings. Please use PV1 and PV3 when installing.
8/10kW models have two MPPTs, four strings.

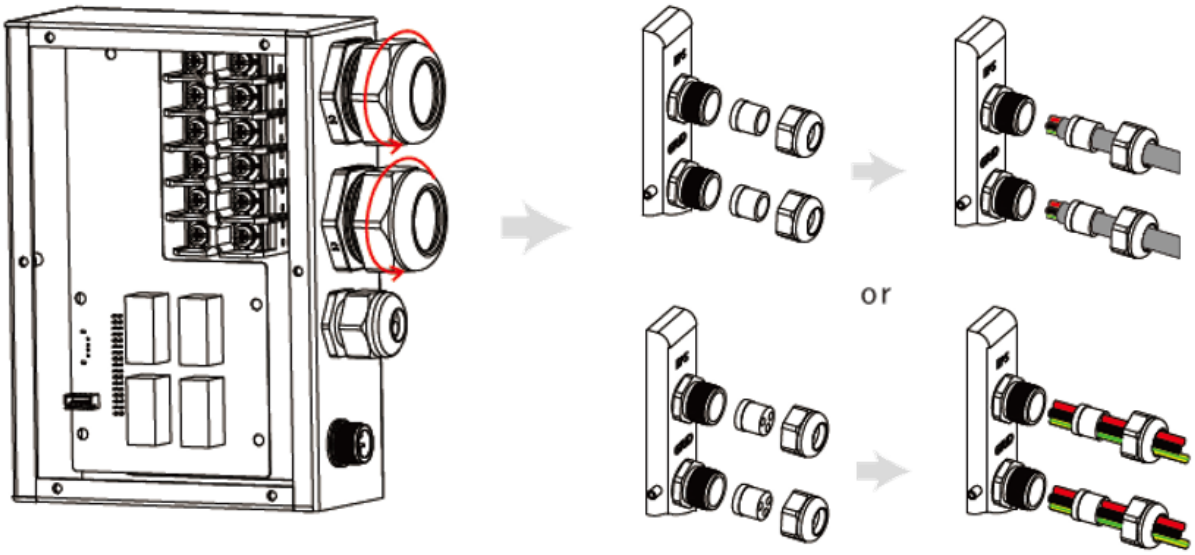
**⚠ CAUTION**

- For the best use of PV power, PV strings with the same MPPT should be the same in PV string structure, including the type, number, tilt, and orientation of the PV modules.
- Pay attention to PV string polarity, and ensure they are not connected in reverse order to avoid damage to the inverter.
-

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

## Step 3: Connect GRID and EPS cables Ⓑ

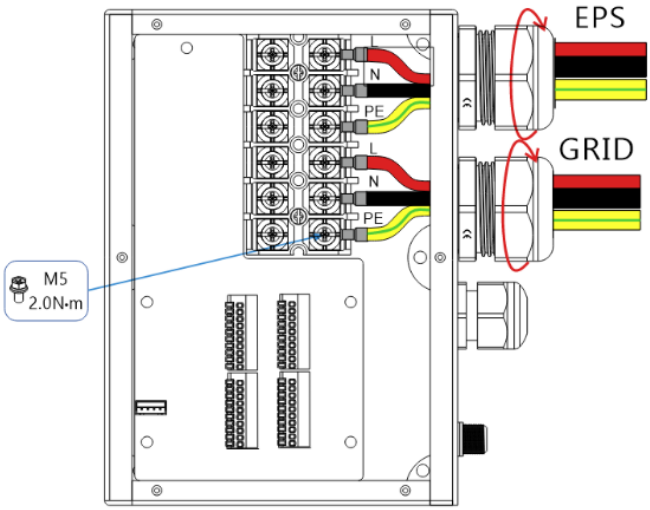
1. Loosen the waterproof connector press nut and remove the seal. Then, insert the cable into the hole.




2. Peel 7 mm off the L/N/PE cable end. Place the SV14-5 terminal onto the cable and crimp it tightly using pressure line clamps.




3. Insert the terminal into the wiring seat, use a Phillips head screwdriver to tighten the screws (2.5 N.m), and tighten the nut.



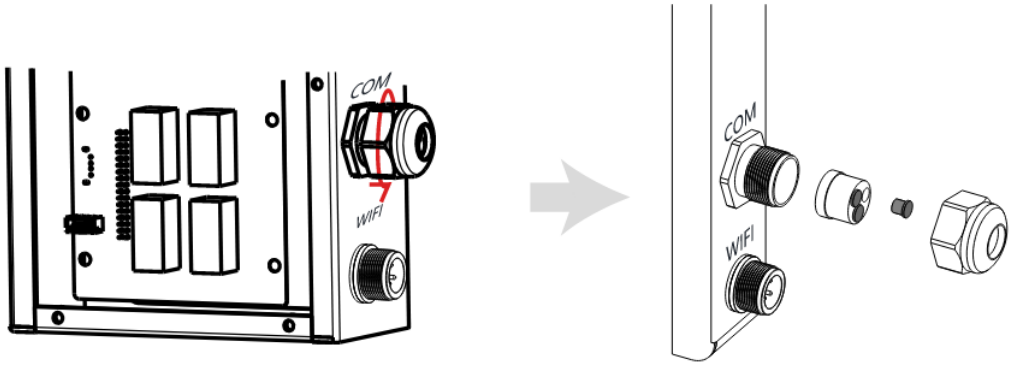

© 2025 TCL | SunPower. All rights reserved. 

Choose the correct breaker:

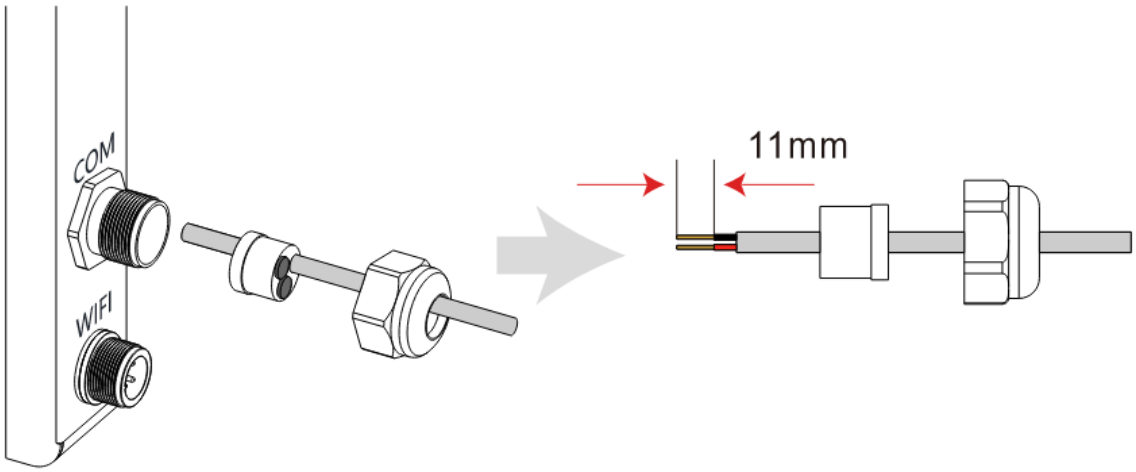
| Model | ① | ② | ③ ④ |
|---|---|---|---|
| SP-ARSH-5kW-G1 Series | 50 A/230 V AC breaker | 25 A/230 V AC breaker | According to residential load (generally already installed in the grid distribution box) |
| SP-ARSH-6kW-G1 Series | 63 A/230 V AC breaker | 32 A/230 V AC breaker | |
| SP-ARSH-8kW-G1 Series | 63 A/230 V AC breaker | 40 A/230 V AC breaker | |
| SP-ARSH-10kW-G1 Series | 63 A/230 V AC breaker | 50 A/230 V AC breaker | |

## Step 4： Connecting the communication cables ©

1、Loosen the waterproof connector's press nut and remove the seal. Then, insert the cable into the hole.

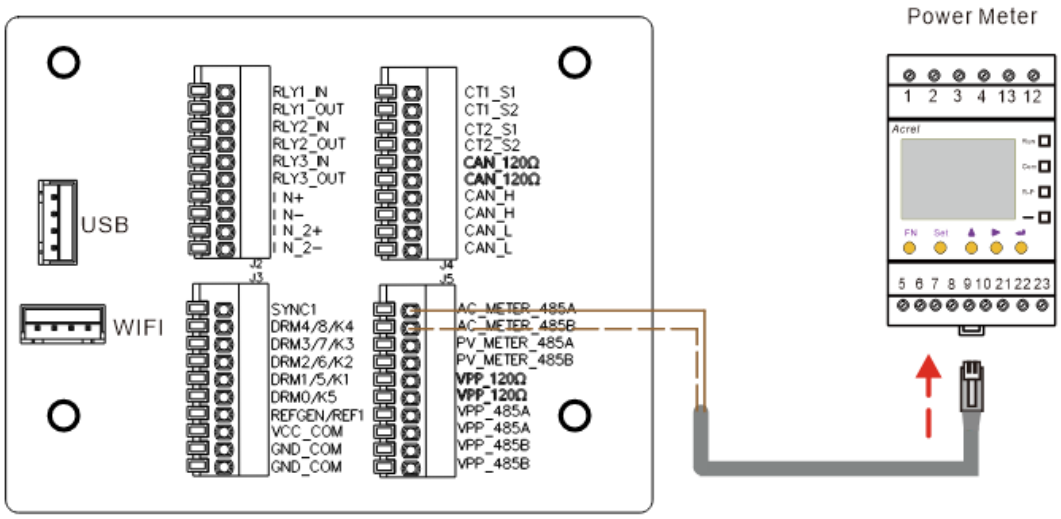


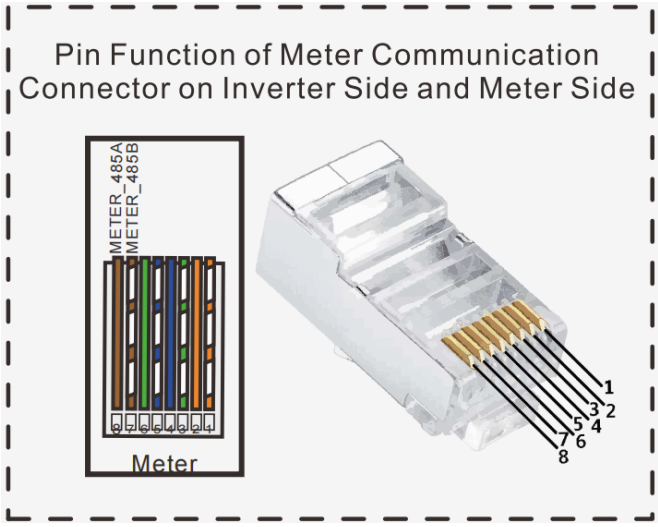

2、insert the cable into the hole. Peel 11 mm off the Communication cable end.



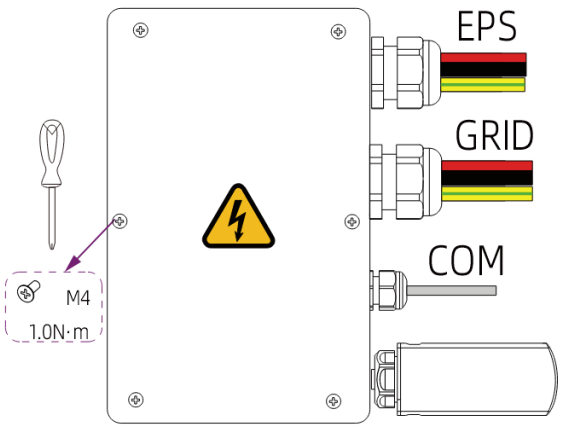

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

3、Insert the terminal into the wiring seat, and tighten the nut.



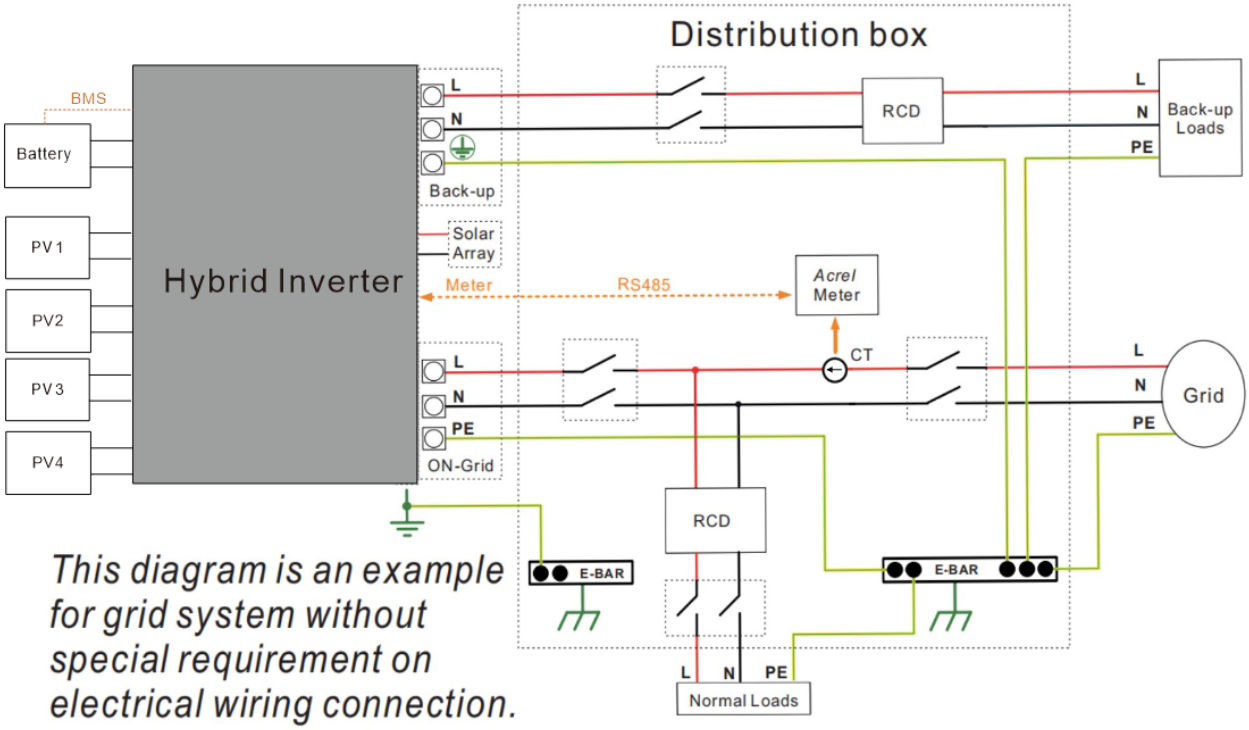




Step 5: Insert the Wi-Fi Module, and tighten the nut. Attach the waterproof cover and lock it in place.

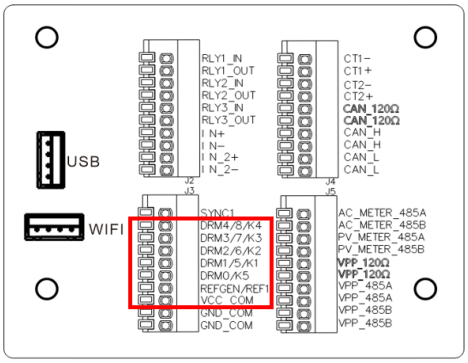


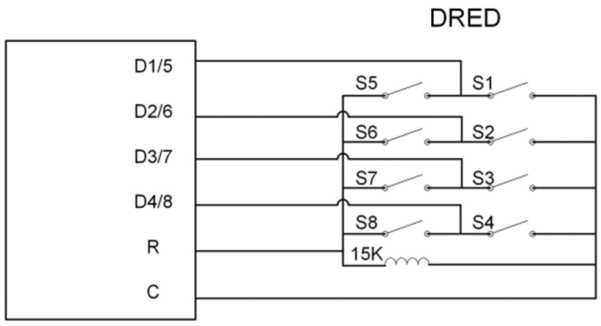

© 2025 TCL | SunPower. All rights reserved. 

System Connection Diagram




Demand Response Mode (DRM) connection
Wiring between the inverter and the external DRED.



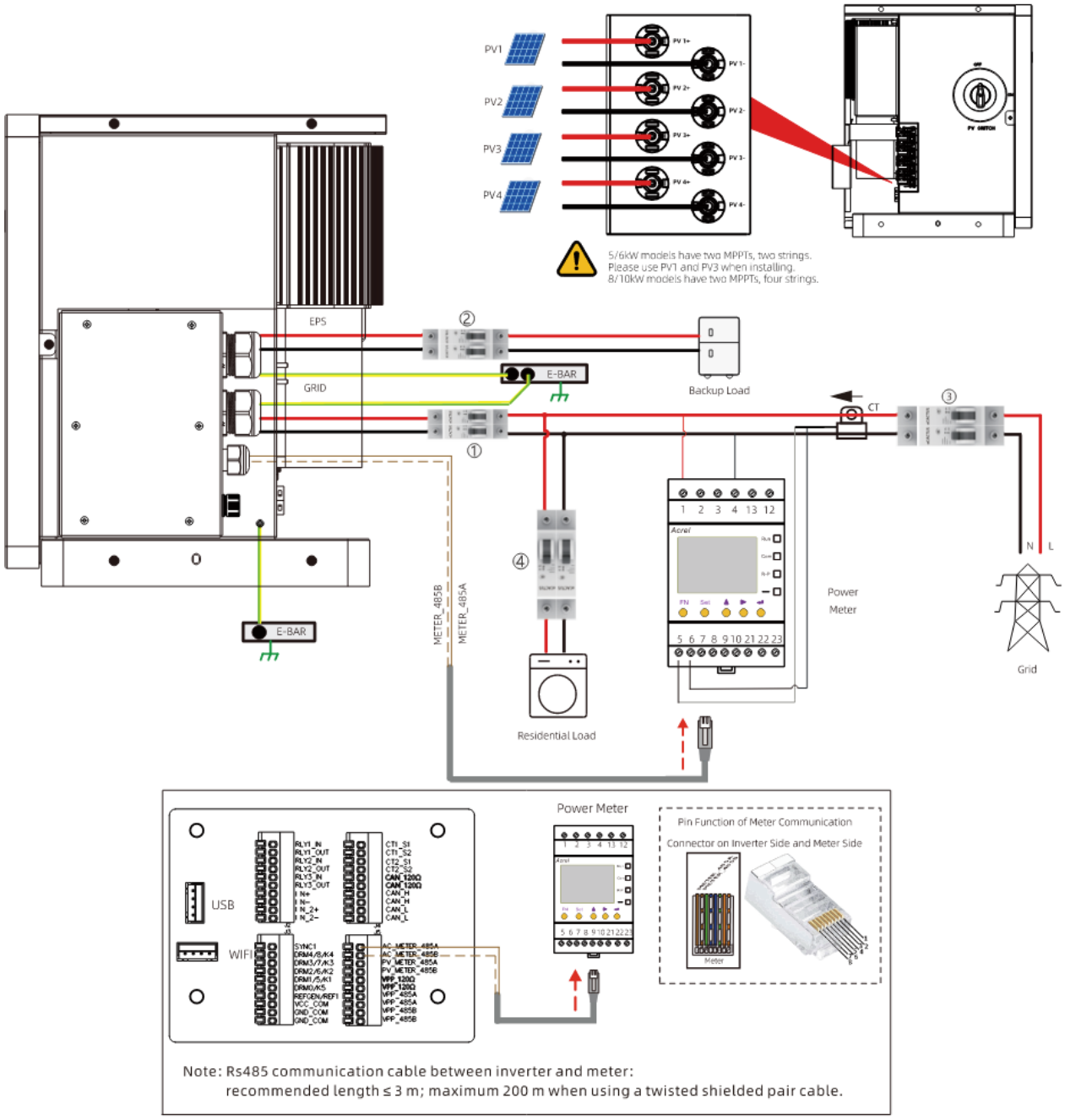




Currently supports DRMO (Demand Response Mode for zero export), other functions under development.

© 2025 TCL | SunPower. All rights reserved. 

## 2.4 System Wiring Diagrams

### 2.4.1 DC coupling



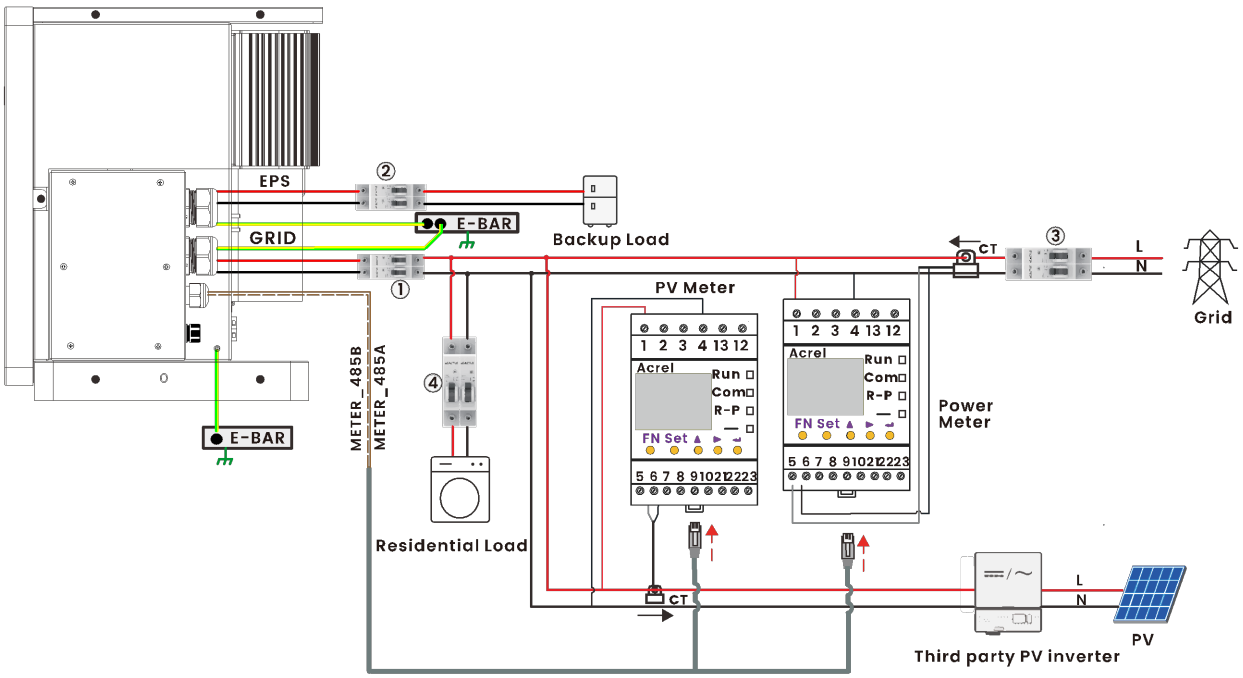

Choose the correct breaker:

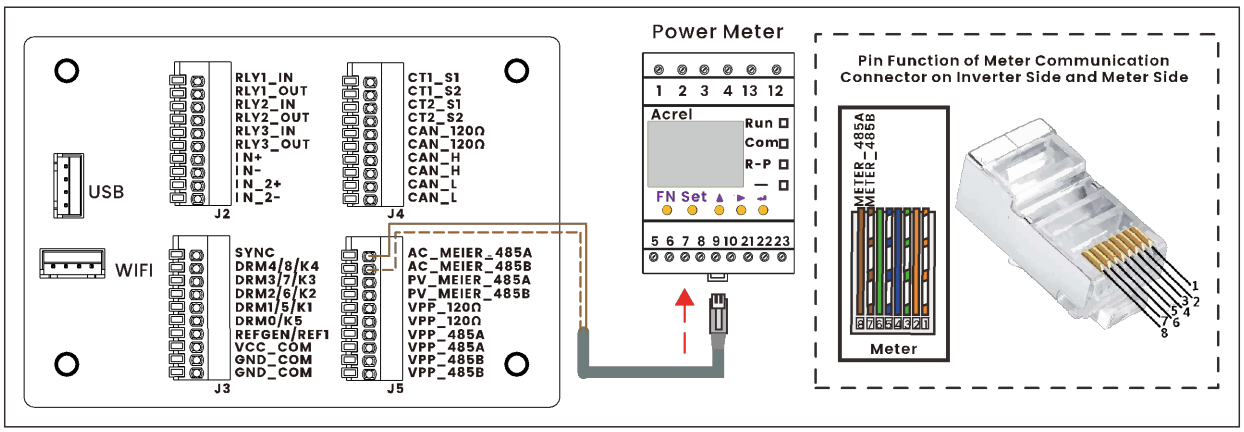
| Model | ① | ② | ③④ |
|---|---|---|---|
| SP-ARSH-5kW-G1 | 50A/230V AC breaker | 25A/230V AC breaker | According to residential load(generally already installed in the grid distribution box) |
| SP-ARSH-6kW-G1 | 63A/230V AC breaker | 32A/230V AC breaker | |
| SP-ARSH-8kW-G1 | 63A/230V AC breaker | 40A/230V AC breaker | |
| SP-ARSH-10kW-G1 | 63A/230V AC breaker | 50A/230V AC breaker | |

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

## 2.4.2 AC coupling

**System Wiring Diagram**




NOTE:

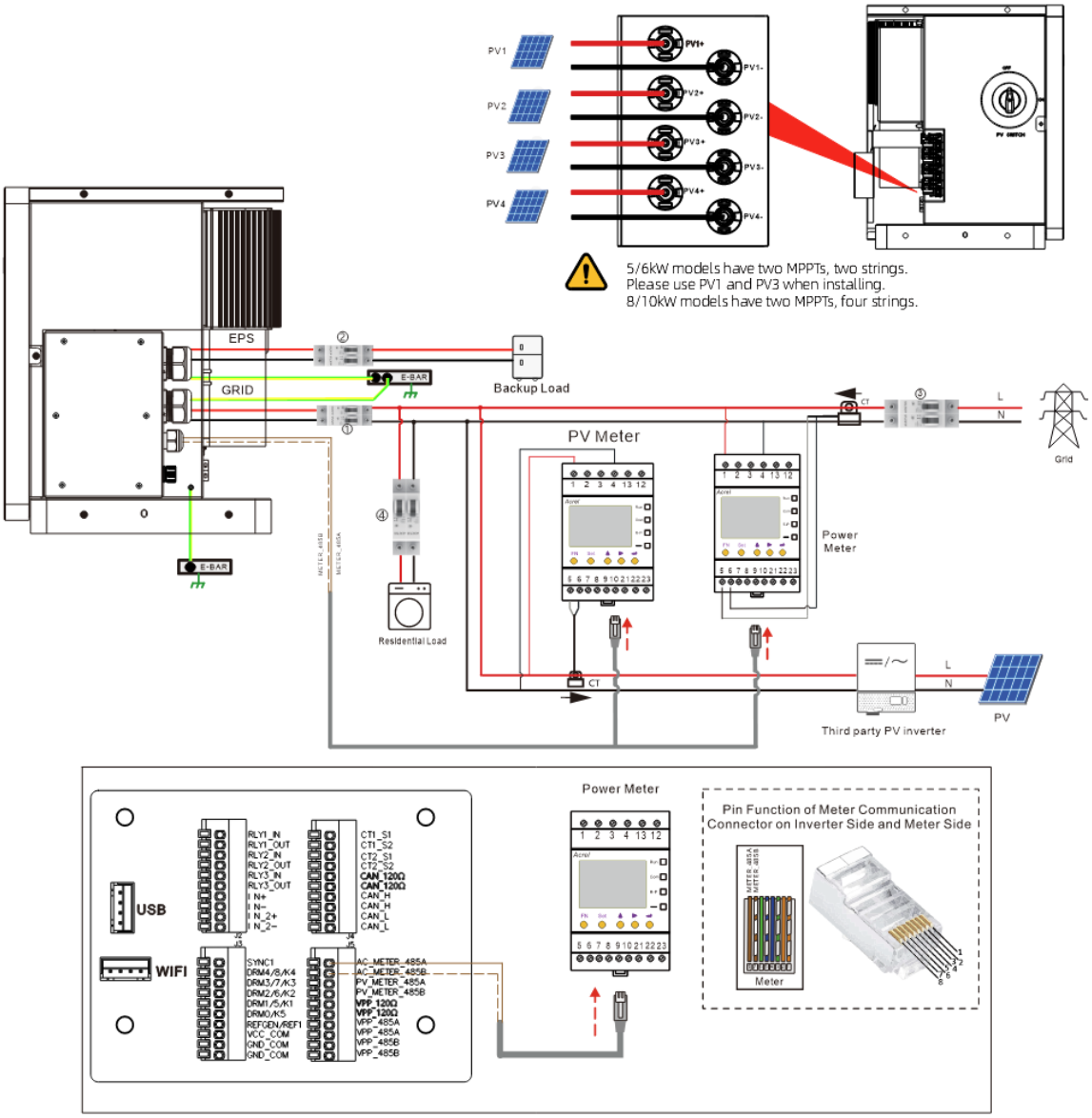
1. Compatible PV Meter from SunPower must be ordered separately
2. As shown in the diagram above, the Power Meter should be connected to the two AC RS485 A/B ports. For the PV Meter, please also follow the same wiring method and connect it separately to the PV RS485 A/B ports as indicated.

Choose the correct breaker:

| Model | ① | ② | ③④ |
|---|---|---|---|
| SP-ARSH-5kW-G1 | 50A/230V AC breaker | 25A/230V AC breaker | According to residential load (generally already installed in the grid distribution box) |
| SP-ARSH-6kW-G1 | 63A/230V AC breaker | 32A/230V AC breaker | |
| SP-ARSH-8kW-G1 | 63A/230V AC breaker | 40A/230V AC breaker | |
| SP-ARSH-10kW-G1 | 63A/230V AC breaker | 50A/230V AC breaker | |

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

## 2.4.3 Hybrid coupling




NOTE:

1. Compatible PV Meter from SunPower must be ordered separately
2. As shown in the diagram above, the Power Meter should be connected to the two AC RS485 A/B ports. For the PV Meter, please also follow the same wiring method and connect it separately to the PV RS485 A/B ports as indicated.

Choose the correct breaker:

| Model | ① | ② | ③④ |
|---|---|---|---|
| SP-ARSH-5kW-G1 | 50A/230V AC breaker | 25A/230V AC breaker | According to residential load (generally already installed in the grid distribution box) |
| SP-ARSH-6kW-G1 | 63A/230V AC breaker | 32A/230V AC breaker | |
| SP-ARSH-8kW-G1 | 63A/230V AC breaker | 40A/230V AC breaker | |
| SP-ARSH-10kW-G1 | 63A/230V AC breaker | 50A/230V AC breaker | |

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

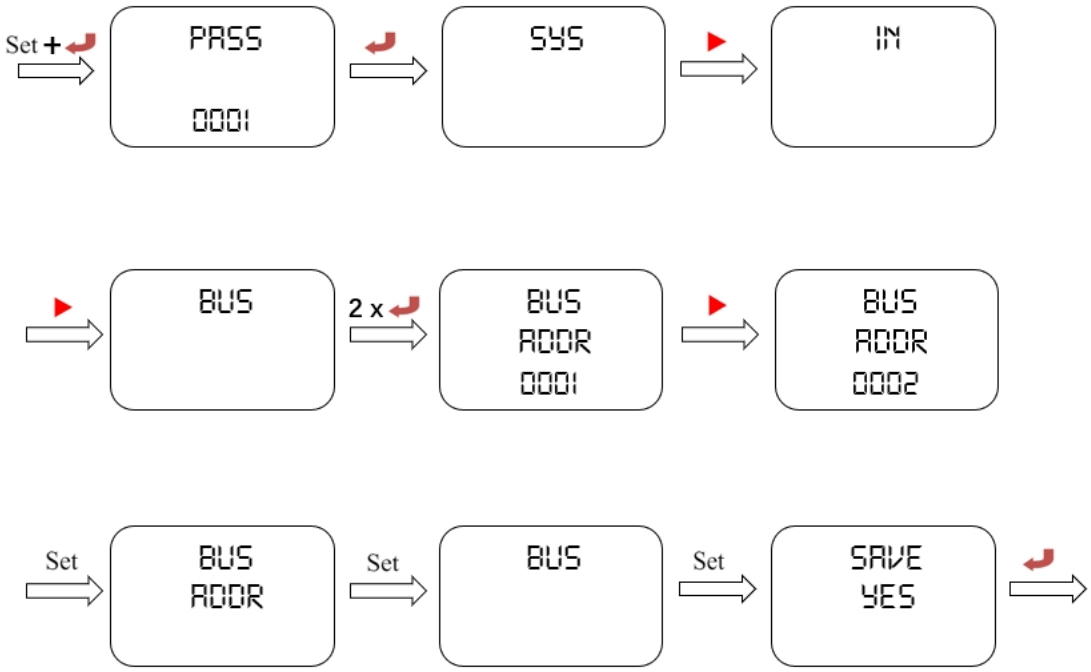
### 2.4.4 Configuration for Electric meters

In both System AC coupling and System Hybrid coupling, two electric meters are connected to the inverter simultaneously. To distinguish between the different electric meters, protocol address numbers must be used. Therefore, after completing the electrical wiring of the electric meters, it is necessary to configure their protocol addresses.

There are 5 buttons on the meter panel, arranged from left to right as follows: FN, Set, ▲, ▶, ↵.

Within the three systems stated above, Please ensure that the address of the installed Power meter is set to 0001, and the address of the PV meter is set to 0002.

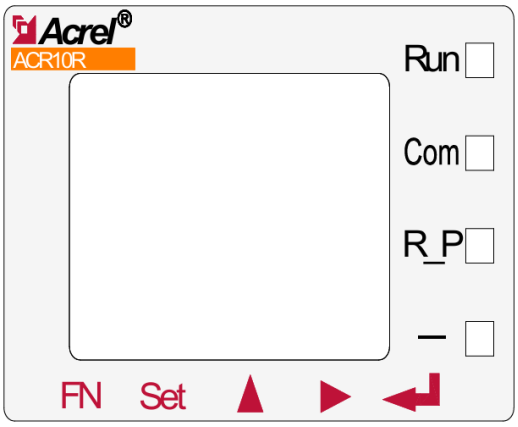
The configuration process is as follows:




© 2025 TCL | SunPower. All rights reserved. 

### 2.4.5 Meter indicator light status meanings

ACD10R series:




| | Off | On | Flashing |
|---|---|---|---|
| Run (Green) | The instrument is not running | / | The instrument is running normally |
| Com (Red) | The instrument is not communicating | / | The instrument is in communication status. |
| R-P(Red) | Positive power | Negative power | / |
| —(Red) | / | Negative value indicator lamp | / |

ADL200N-CT and ADL400N-CT series:

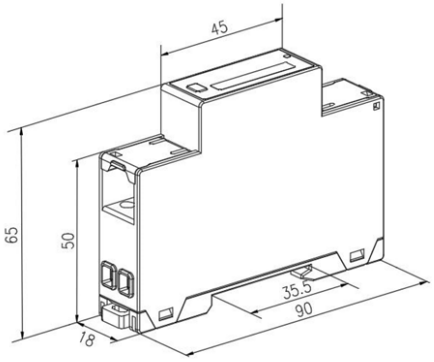



图 1 ADL200N-CT

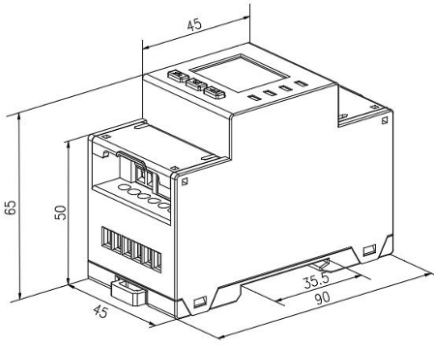



图 2 ADL400N-CT

| Indicator name | illustrate |
|---|---|
| RUN | Operation indicator light flashes at 1HZ frequency during normal operation |
| COM | Flashes during normal communication |
| STA | reserved |
| E | Pulse indicator light, if the pulse constant is 600, each pulse represents 1/600kwh of electricity |

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

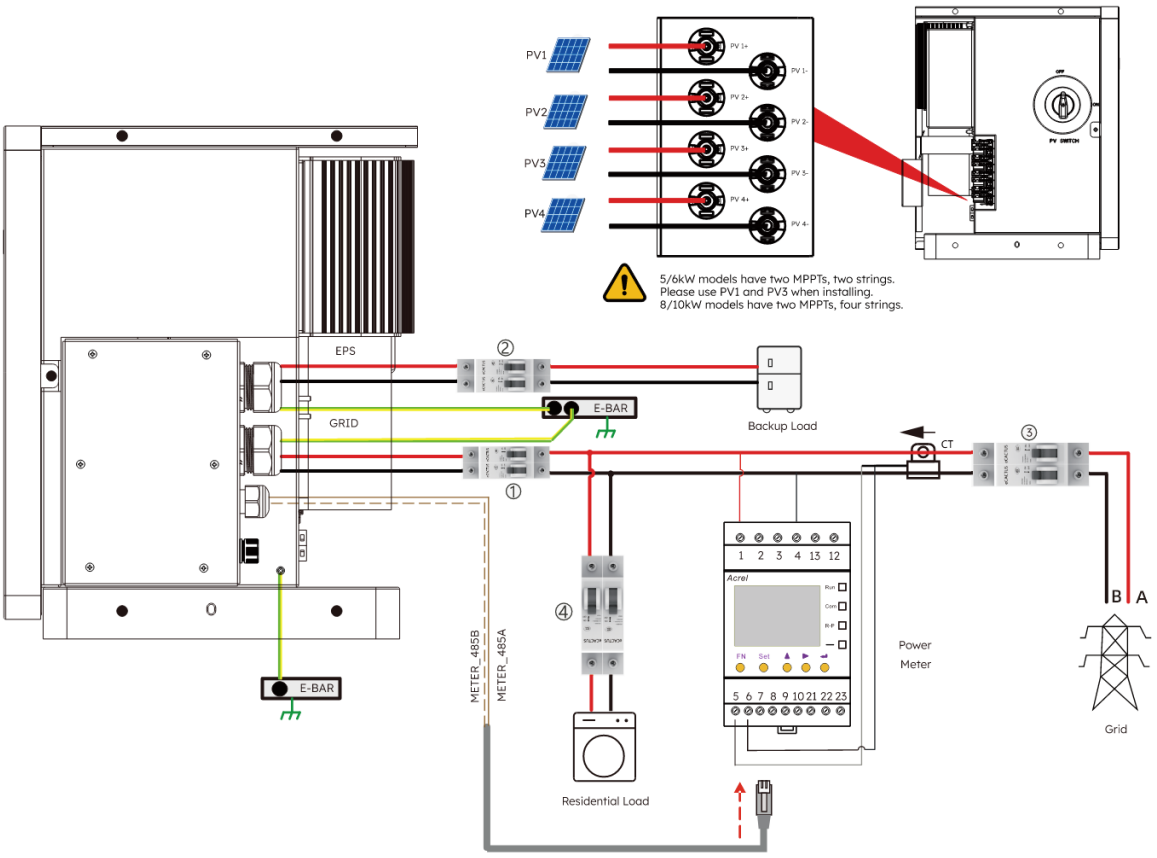
## 2.4.6 Description of Delta-Type Power Grid Wiring

Delta-Type System

The Delta power grid usually refers to a three-phase, three-wire system with a delta (Δ) connection, which is a common industrial power distribution method. The Delta power grid connects three live wires (L1, L2, L3) into a triangular configuration and has no neutral wire.

Delta-Type System Diagram

Single-phase meter wiring diagram（split phase grid connection）

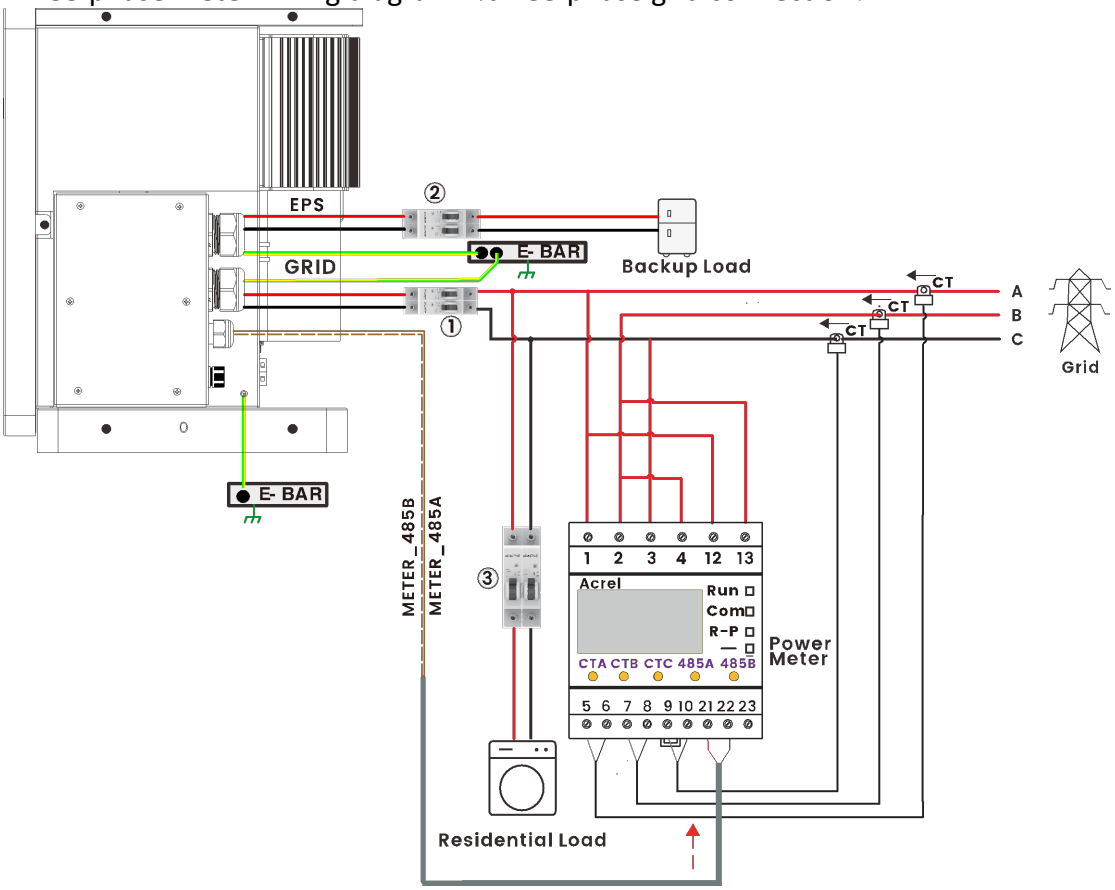



Single-phase Meter Wiring Notice：

- Ensure that the voltage between two live wires is within the operating voltage range of the system (typically AC 220–240 V). Also ensure that the CT is installed correctly, with the arrow pointing toward the inverter.
- Under the split-phase Delta grid wiring configuration, the meter wiring is shown in the diagram above. The principle is the same as the DC coupling wiring method, so no additional meter settings are required.

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

Three-phase meter wiring diagram（three-phase grid connection）




Three-phase Meter Wiring Notice

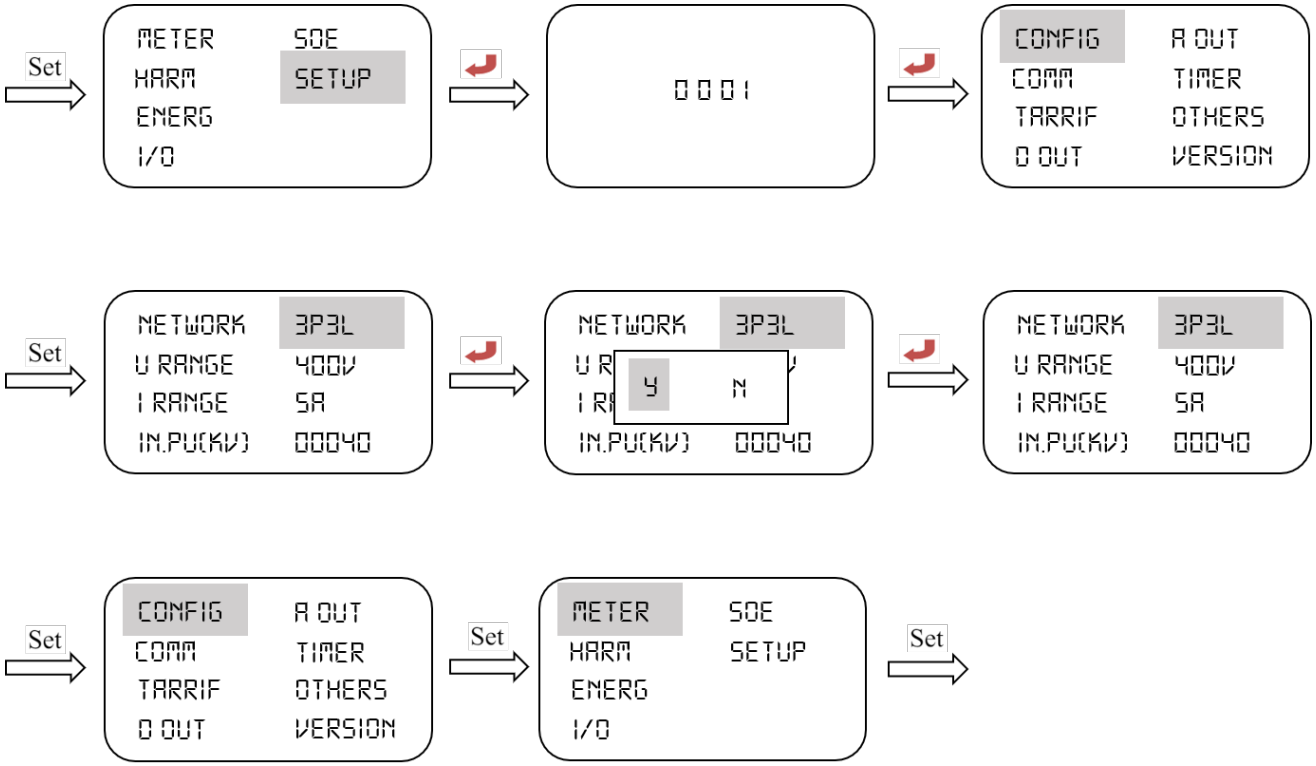
- Inverter-Grid Wiring: Please ensure that the line voltage of the power grid is 220V to 240V firstly, then connect any two phases of grid to L and N terminals of the inverter respectively.
- Working Voltage Wiring of Electric Meter: Connect any two phases of the power grid to L(+) terminal and N(-) terminal of the electric meter respectively.
- Voltage Sampling Wiring of Electric Meter: Connect phases A, B, and C of the power grid to phases A, B, and C of the electric meter respectively. Note that the phase sequence of the three phases must not be connected incorrectly. Meanwhile, short - connect the phase B sampling wire of the electric meter to the N terminal of the electric meter.
- CT Wiring for Current Sampling of Electric Meter: Connect (the CTs) to phases A, B, and C of the power grid respectively. The internal arrow of the CT shall point towards the equipment, and it is important to ensure a one-to-one correspondence with the voltage.
- Communication Wiring between Meter and Inverter: The RS485 terminals of the electricity meter should be connected to the RS485 ports of the machine respectively. RS485A(Meter) to RS485A(Inverter), RS485B(Meter) to RS485B(Inverter).
- Meter Configuration: It is necessary to modify the wiring method of the electricity meter to three-phase three-wire (3P-3L).
- Only 1-Phase mechines are useable: Please ensure that the electricity meter type is set to three-phase meter in the SUNPOWER Installer App like below diagram. Note the single-phase control mode cannot be implemented temporarily.

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

- Power meter Notice: All electricity meter mentioned in this section are POWER METER and do not involve wiring for other meters. The POWER METER for Delta system must be purchased separately as 3 Phase POWER Meter. If the PV meter is required, refer to Chapter 2.4.

Configuration for Electric meters

It should be noted that the three-phase electricity meter needs to be set to the corresponding mode, The setting process is as follows.



# 3 SYSTEM OPERATION

## 3.1 Turning ON the energy storage system

Warning: Please double-check the installation before turning on the system.

| No. | Check item |
|---|---|
| 1 | Power cable, communication cable and PE cable are correctly and securely connected. |
| 2 | Inverter/PCS voltage is the same level as the battery system. |
| 3 | Unused ports and terminals are sealed. |

Step 1: Open the battery breaker cover and turn the battery breaker ON.

Step 2: Turn on the PV switch.

Step 3: Turn on the grid breaker.

Step 4: Turn on the backup breaker if a backup load is being used.

Step 5: Close the battery breaker cover.

Step 6: Configure the Wi-Fi dongle (when turning system on for the first time).

## 3.2 Turn OFF the energy storage system

Step 1: When applicable, disconnect the backup load, then turn off the backup breaker.

Step 2: Turn off the grid breaker.

Step 3: Turn off the PV switch.

Step 4: Open the battery breaker cover and turn the battery breaker to the OFF position.

Step 5: Close the battery breaker cover.

NOTICE

1. After powering on, ensure that the system is operating normally before leaving the site.
2. If the system still fails to operate, please turn off the battery pack circuit breaker before leaving the site.

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

# 4 SYSTEM CONFIGURATION & SETUP

## 4.1 Preparation

1. To use the SunPower installer application, your Android or iOS smartphone must be connected to the internet.
2. The WiFi dongle will need to be connected to the internet either through a 2.4GHz Wi-Fi connection to the router or a wired LAN connection to the router.
3. To perform system configuration and commissioning, an installer account is required.

## 4.2 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.

## 4.3 Add system

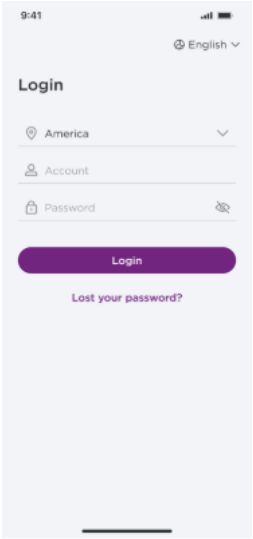
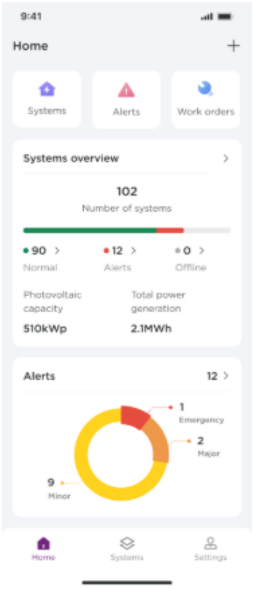
STEP 1

GET IT ON Google Play

Download on the App Store

Scan the QR code here to install the Android or iOS version of the SunPower Installer app, or simply search for "SunPower Installer" in App Store or Google Play..

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

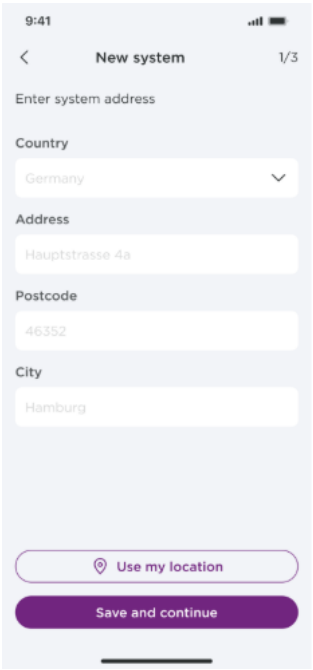
| | |
|---|---|
| STEP 2<br><br>• Open the SunPower Installer app<br><br>• Log in with your installer account |  |
| STEP 3<br><br>• Tap ‘Systems’ in the bottom menu to navigate to your systems list<br><br>• Tap on ‘+’ in the upper right corner to add a new system |  |

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

STEP 4

Enter system address:

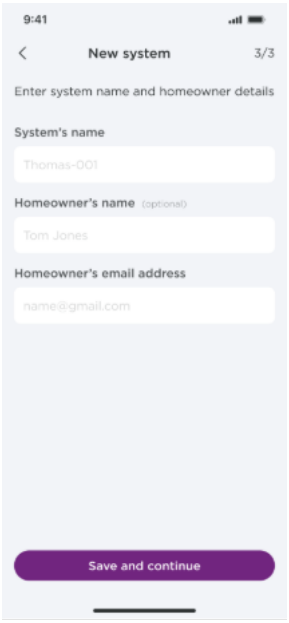
- Country
- Address: you can use your location to locate the installation location
- Postcode
- City




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.

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

| | |
|---|---|
| |  |
| STEP 5<br><br>• You will automatically enter the System details page<br><br>• Tap the purple button “Connect” to continue commissioning |  |

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

STEP 6

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

Can’t find the device?

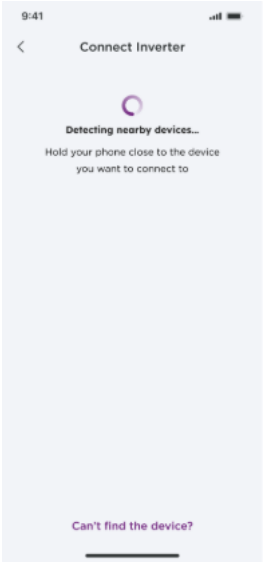
1. Check power: Make sure the device is turned on. Make sure the inverter and dongle are powered on. Both LEDs on the dongle should flash once per second when first powered.

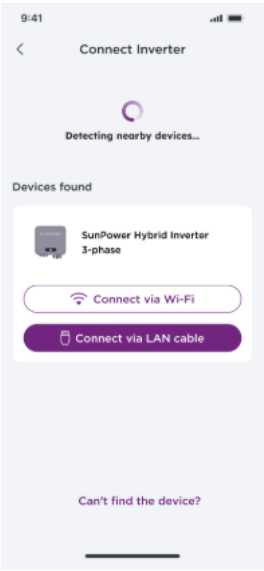
2. Move closer: Hold your phone close to the inverter and dongle. If using Wi-Fi, place the router closer to the inverter to avoid weak signal issues. For LAN setup, ensure the Ethernet cable is securely connected and the router has internet access.

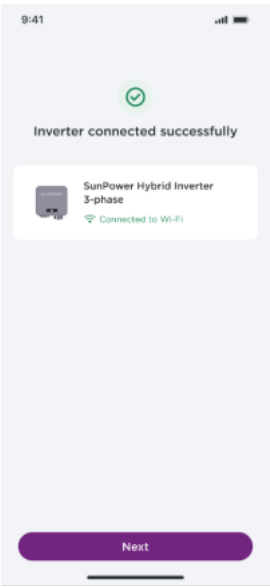
3. Check Dongle Indicators:
   Green Light: Network/Cloud Connection.
   Indicates the dongle’s connection to the router and cloud.
   a. Blinking (1 s): Not connected to the router → check Wi-Fi or LAN cable
   b. Blinking (2 s): Connected to router, no internet → check router network
   c. Blinking (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



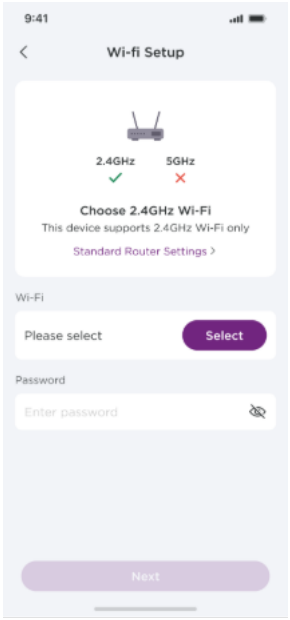




© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

STEP 7

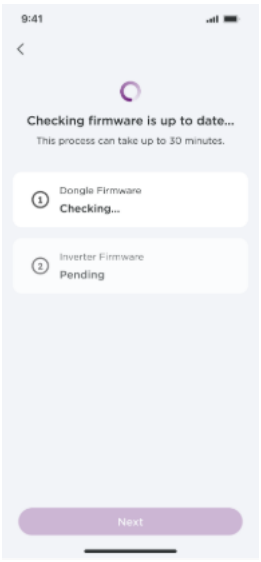
- The network configuration screen shows the Wi-Fi the phone is currently connected to
- After entering the Wi-Fi password, tap "Next" to proceed with the network configuration process

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

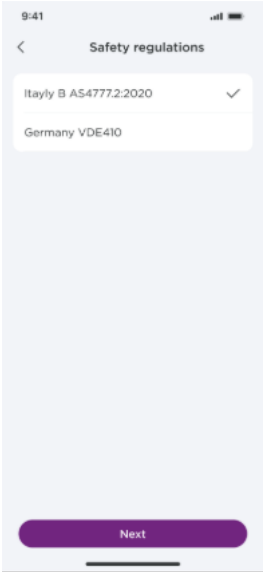
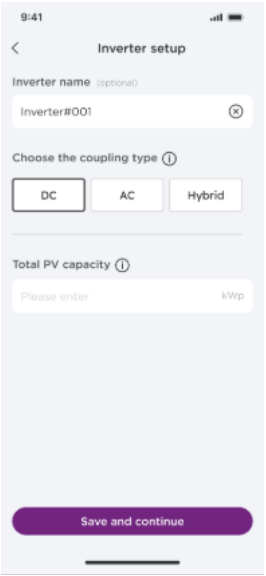



STEP 8

- During this step, the system automatically checks the Wi-Fi dongle firmware and inverter firmware versions to ensure they meet the required specifications
- This process can take up to 5 minutes
- In case the firmware is not up to date, the update process will start automatically. The process can take up to 30 minutes and the progress will be displayed on screen.
- No action is needed from the installer — please wait until the check is completed before proceeding to the next step




© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

| | |
|---|---|
| STEP 9<br><br>• In this step, select the safety regulations that apply to the country where the installation is being performed<br><br>• Choose the correct country from the list to ensure compliance with local electrical standards<br><br>• Tap Next to proceed |  |
| STEP 10<br><br>• Select the coupling type: DC, AC or Hybrid<br><br>• Input PV capacity |  |

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

STEP 11

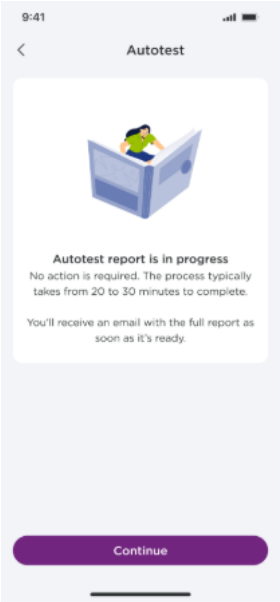
The next step depends on the installation location:

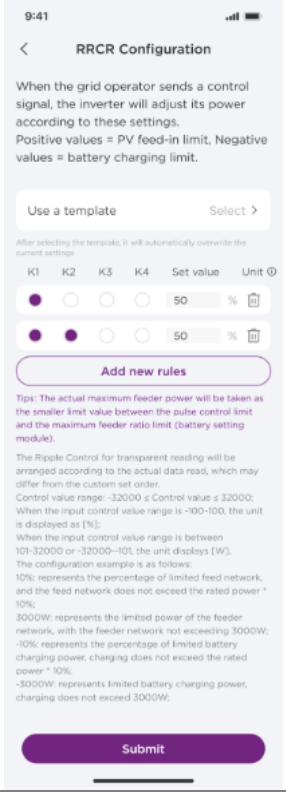
- Italy: You will receive an email confirming the Autotest Report has started - the report will be available within 30 minutes

- Germany: You can configure Enable §14a Grid Control (Power Reduction) according to local grid requirements

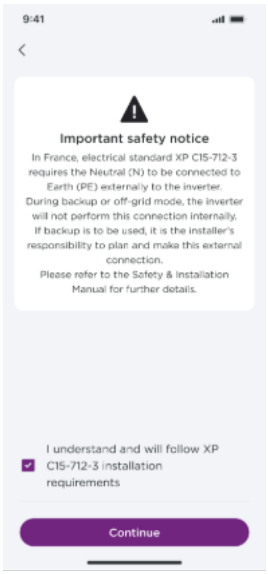
- France: If you are installing a systme in France, an important safety notice will be displayed. You need to confirm that you will follow the electrical standard XP C15-712-3that requires the neutral (N) to be connected to Earth (PE) externally to the inverter, before being allowed to continue to the next step.

- Other countries: You will be directed to the final commissioning screen to complete the process




© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

<table>
<tr>
<td></td>
<td>
</td>
</tr>
<tr>
<td>STEP 12<br><br>• To complete the commissioning process, simply tap Share with homeowner<br><br>• Once shared, you can close this card<br><br>• Before finishing, make sure the homeowner can access their system and that everything is working correctly</td>
<td>
</td>
</tr>
</table>

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

STEP 13

- 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/Google Play 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




© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

## 4.4 WiFi dongle LED indicator description

LED colors distinguish dongle states: Red represents the Device Communication Indicator; Green represents the Network Communication Indicator. When both Red and Green LEDs are steadily lit, the product is functioning normally. The logic for other LED states is as follows:

Red LED-- Device Communication Indicator

Green LED-- Network Communication Indicator

LED Status Table

| LED | State | Meaning | Solution |
|---|---|---|---|
|  | Steady On  | Normal communication with the connected device | / |
| | Flashes Once Per Second  | logger powered on, but no communication established with device | Communication Error:<br>1. Check communication line between logger and device or contact distributor.<br>2. Check if collector interface is loose on device. |
| | Off for >30 Seconds  | Power supply issue or product damaged | Confirm power supply from device interface is normal or contact distributor. |
|  | Steady On  | Normal communication with server | / |

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

| | | | |
|---|---|---|---|
| | Flashes Once Per Second  | Logger powered on, but no connection to router | Not Connected to Router：<br>1. Check router password is correct.<br>2. Check router signal strength (too weak?). |
| | Flashes Once Every 2 Seconds  | Connected to router, but unable to connect to server | No Internet Access:<br>1. Check router has internet access/permissions.<br>2. Check firewall settings. |
| | Flashes Once Every 4 Seconds  | Server returned incorrect product information | Contact distributor or email us: |

**NOTICE**

3. Please ensure the correct router password is entered.
4. Make sure the wireless network connection for the Wi-Fi dongle is strong.
5. 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.

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

# 5 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

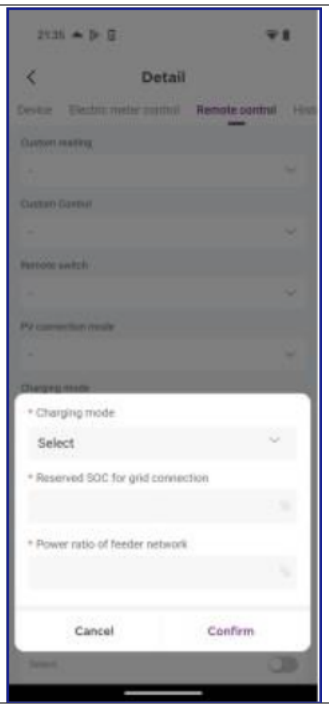
The EMS will manage the home power flows to minimize power grid reliance.

B. Forced time of use

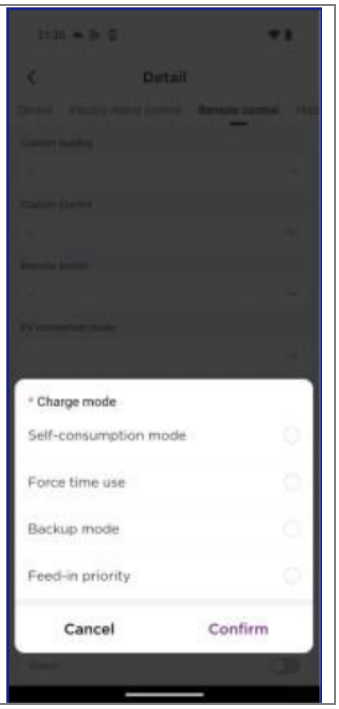
Batteries will be charged and discharged as configured.

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:<br><br>• Select the desired mode via the SunPower Installer app<br><br>• Navigate to the Remote Control page of the inverter and select the Charging mode |  |

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

| | |
|---|---|
| |  |

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

# 6 TROUBLESHOOTING

| | Issue Classification | Solution |
|---|---|---|
| 1. | IE1 – Inverter (INV) PV-related faults | 1. Check the PV string configuration and confirm the string current is within the inverter allowable range. 2. Power off the AC and DC switches, wait 5 minutes, then power on again. 3. If the fault persists, contact the dealer or after-sales service. |
| 2. | IE2 – INV general faults | 1. Check the number of PV modules in series and ensure the PV open-circuit voltage does not exceed the inverter limit (reference: 580V). 2. Power off the AC and DC switches, wait 5 minutes, then power on again. 3. If the fault persists, contact the dealer or after-sales service. |
| 3. | IE3 – INV AC power-related faults | 1. Check whether the grid voltage is within the normal range and complies with local standards. 2. Restore normal wiring or breaker status if abnormal. 3. If the measured voltage is normal but the fault persists, contact after-sales service. |
| 4. | IE4 – INV temperature-related faults | 1. Check ventilation and ambient temperature at the installation location. 2. Improve ventilation and heat dissipation if necessary. 3. If the environment is normal but the fault persists, contact the dealer or after-sales service. |
| 5. | IE5 – INV battery-side faults | 1. Make sure the battery switch is closed and check whether the battery voltage is within the normal range. 2. Restart the unit after confirming the battery side is normal. 3. If the fault persists, contact after-sales service. |
| 6. | IE6 – INV communication-related faults | 1. Verify the meter type setting, check the meter power supply and RUN indicator, and inspect the RS485 communication wiring. 2. If the fault persists after correction, contact after-sales service. |
| 7. | BE2 – BAT general faults | 1. No action is required. 2. If this fault is displayed unexpectedly, contact after-sales service. |

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

| | Issue Classification | Solution |
|---|---|---|
| 8. | BE3 – BAT DC-related faults | 1. Restart the high-voltage box. 2. If the fault persists, contact after-sales service. |
| 9. | BE4 – BAT temperature-related faults | 1. Check ventilation and ambient temperature at the installation location. 2. The unit will recover automatically when the temperature drops below 48°C. 3. If the environment is normal but the fault remains, contact after-sales service. |
| 10. | A1 - standalone alarm category. | 1. This is a BMS protection alarm, not a system fault. 2. Check whether a cell overvoltage fault is also present. 3. If no fault is present, no action is required. 4. If a fault is present, contact after-sales service. |

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

# 7 EMERGENCY PROCEDURES

## 7.1 Inverter malfunction

If the SP-ARTH 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 Battery leakage

If the battery pack leaks electrolyte, avoid contact with the leaking liquid or gas. If someone is exposed to the leaked substance, immediately take the following actions:

Inhalation: Evacuate contaminated area and seek medical aid.

Contact with eyes: Rinse eyes with running water for 15 mins and seek medical aid.

Contact with skin: Wash affected area thoroughly with soap and water and seek medical aid.

Ingestion: Do not induce vomiting unless explicitly instructed by a poison control center or medical professional. Immediately call the European Poisons Information Centre (telephone number: 112 in most EU countries) and seek emergency medical attention.

## 7.3 In case of fire

**⚠ DANGER**

DO NOT USER WATER. Only dry powder fire or carbon dioxide extinguisher can be used.

## 7.4 Fire precautions and protective measures

Extinguishing media: Dry powder, sand, carbon dioxide (CO2).

Flammable properties**:** Lithium-ion batteries contain a flammable liquid electrolyte that may vent, ignite, or produce sparks when subjected to high temperatures (> 150°C) or when damaged or improperly used (e.g., mechanical damage or overcharging). Burning cells can ignite other batteries close by.

Explosion data: Severe mechanical abuse may rupture batteries. Batteries may explode when exposed to fire.

**S**pecial protective equipment for firefighters: Wear full protective gear and self-contained breathing apparatus with a full face mask in a pressure-demand or other positive pressure mode.

## 7.5 Water Damage

If the module becomes wet or is submerged in water, do not approach it. Contact SunPower or an authorized dealer for technical support. Switch off all power on the inverter side.

© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

## 7.6 Damaged Batteries

**⚠ DANGER**

Damaged batteries may leak electrolyte or produce flammable gas. Never try to repair the damaged batteries even if you are a qualified electrician.

Damaged batteries are dangerous and must be handled with great care. They are not fit for use and may pose a danger to people or property. If the module seems to be damaged, please contact SunPower technical support.

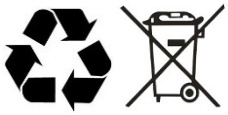
# 8 MAINTENANCE AND RECYCLING

## 8.1 Maintenance

1) It is required to charge the battery at least once every 6 months, for this charge maintenance make sure the SOC is charged to higher than 85%.
2) Check installation environment such as dust, water, insect etc. Make sure it is suitable for IP65 battery system. Connection of power connector, grounding point, power cable and screw are suggested to be checked every year

## 8.2 Recycle and Disposal

In case a battery (normal condition or damaged) needs disposal or needs recycling, it shall follow the local recycling regulation (i.e. Regulation (EC) № 1013/2006 among European Union) to process, and using the best available techniques to achieve a relevant recycling efficiency.



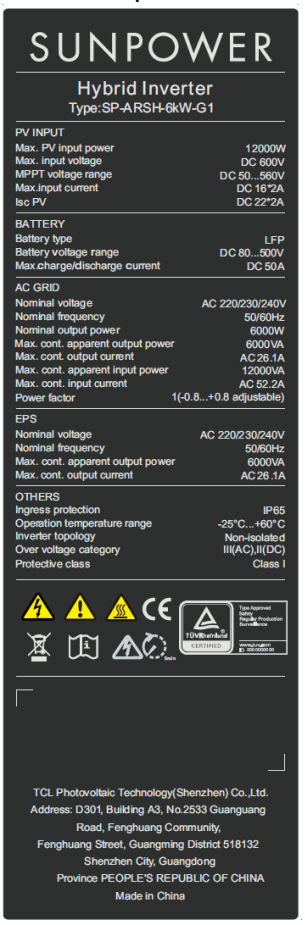
## 8.3 Declaration of conformity

The battery system described in this document complies with the applicable European directives. The certificate is available in the resources area of the SunPower website
https://www.sunpowerglobal.com/

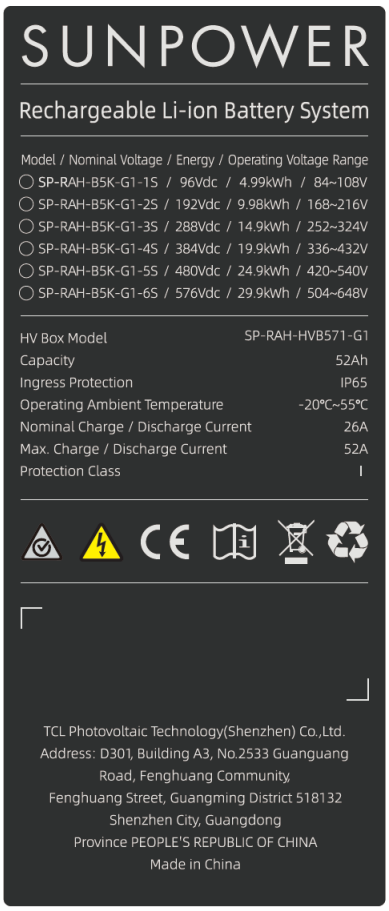
© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice

# 9 LABELS

PCS Nameplate:




High voltage box nameplate:




Battery box nameplate:




© 2025 TCL | SunPower. All rights reserved. | SP-ARSH-G1 Series User Manual | V1.0 published September 2025
Specifications included in this document are subject to change without notice