Solis S6 Single Phase Inverter

S6-GR1P(5-10)K03-NV-ND-AU Installation and Operation Manual

(Australian version)

Ver 1.0

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

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

Ginlong Technologies Co., Ltd.

Contents

1. Introduction

1.1 Product Description

Solis S6 Single Phase Inverters integrate DRM and backflow power control function, that could suitable for smart grid requirement.

This manual covers the S6 Single Phase Inverter model listed below:

S6-GR1P5K03-NV-ND-AU, S6-GR1P6K03-NV-ND-AU, S6-GR1P7K03-NV-ND-AU,
S6-GR1P8K03-NV-ND-AU, S6-GR1P9K03-NV-ND-AU, S6-GR1P9.9K03-NV-ND-AU,
S6-GR1P10K03-NV-ND-AU
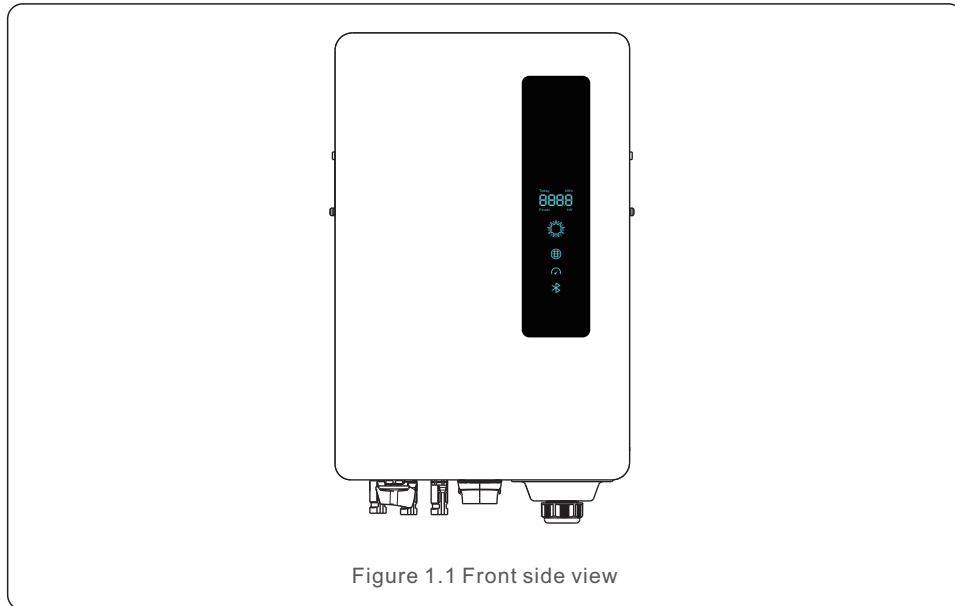

Figure 1.1 Front side view
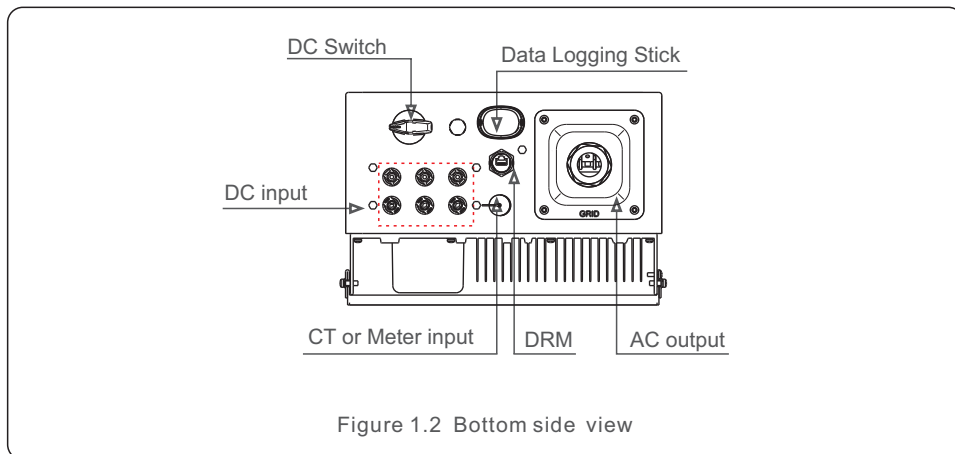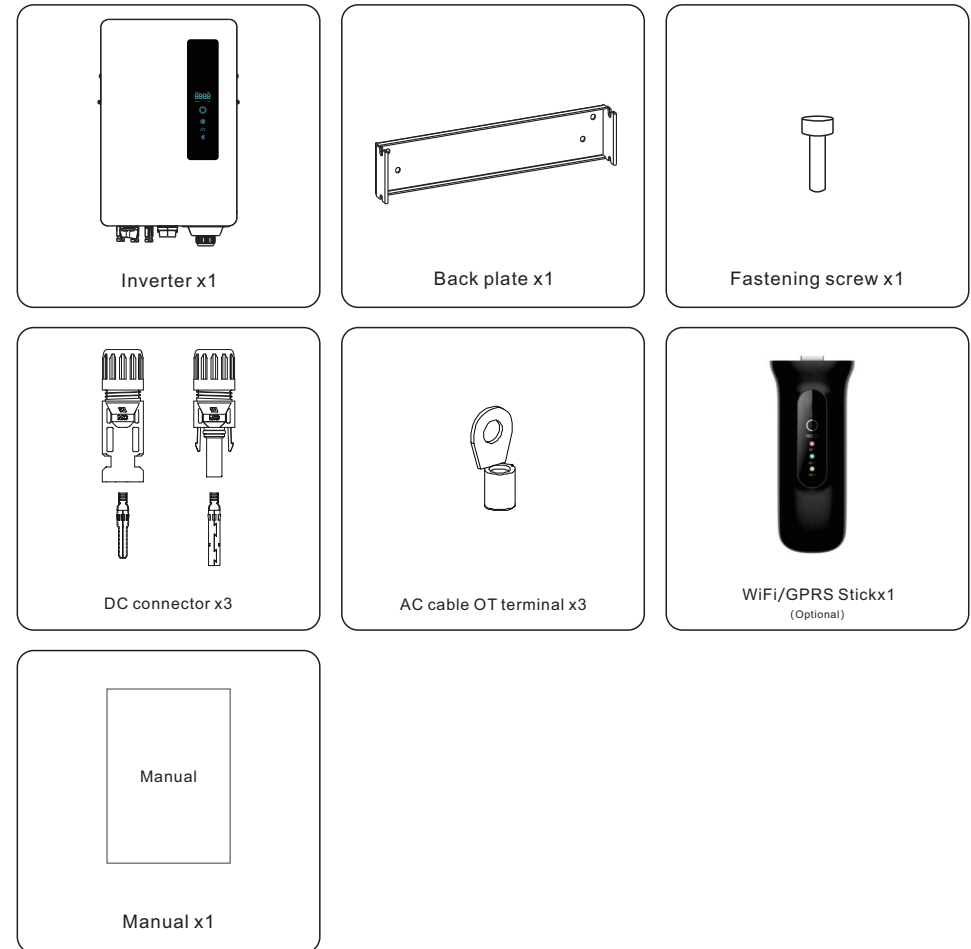

Figure 1.2 Bottom side view

1.2 Packaging

When you receive the inverter, please ensure that all the parts listed below are included:

Inverter x1

Back plate x1

Fastening screw x1

DC connector x3

AC cable OT terminal x3

WiFi/GPRS Stickx1
（Optional）

Manual

Manual x1

If anything is missing, please contact your local Solis distributor.

1. Introduction

1.3 Product Storage

If the inverter is not to be installed immediately, storage instructions and environmental conditions are below:

- Use the original box to repackage the inverter, seal with adhesive tape with the desiccant inside the box.
- Store the inverter(s) in a clean and dry place, free of dust and dirt.
- Storage temperature must be between -40℃ and 70℃ and the humidity should be between 0 and 95% non-condensing.
- Stack no more than four (4) inverters high.
- Keep box(es) away from corrosive materials to avoid damage to the inverter enclosure.
- Inspect packaging regularly. If packaging is damaged(wet, pest damage, etc), repackage the inverter immediately.
- Store the inverter(s) on a flat, hard surface - not inclined or upside down.
- After long-term storage, the inverter needs to be fully examined and tested by qualified service or technical personnel before using.
- Restarting after a long period of non-use requires the equipment to be inspected and, in some cases, the removal of oxidation and dust that has settled inside the equipment will be required.

2. Safety Instructions

2.1 Safety Symbols

Safety symbols used in this manual, which highlight potential safety risks and important safety information, are listed as follows:

WARNING:
WARNING symbol indicates important safety instructions, which if not correctly followed, could result in serious injury or death.

NOTE:
NOTE symbol indicates important safety instructions, which if not correctly followed, could result in some damage or the destruction of the inverter.

CAUTION:
CAUTION, RISK OF ELECTRIC SHOCK symbol indicates important safety instructions, which if not correctly followed, could result in electric shock.

CAUTION:
CAUTION, HOT SURFACE symbol indicates safety instructions, which if not correctly followed, could result in burns.

2.2 General Safety Instructions

WARNING:
Only devices in compliance with SELV (EN 69050) may be connected to the RS485 and USB interfaces.

WARNING:
Please don't connect PV array positive(+) or negative(-) to ground, it could cause serious damage to the inverter.

NOTE:
PV module used with inverter must have an IEC 61730 Class A rating.

WARNING:

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

WARNING:

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

5min

CAUTION:

Risk of electric shock. Do not remove cover. There is no user serviceable parts inside. Refer servicing to qualified and accredited service technicians.

WARNING:

To reduce the risk of fire, over-current protective devices (OCPD) are required for circuits connected to the Inverter.

The DC OCPD shall be installed per local requirements. All photovoltaic source and output circuit conductors shall have disconnects that comply with the NEC Article 690, Part II. All Solis S6 Single Phase Inverters feature an integrated DC switch.

CAUTION:

The PV array (Solar panels) supplies a DC voltage when they are exposed to sunlight.

CAUTION:

The surface temperature of the inverter can exceed 75℃ (167F).

To avoid risk of burns, DO NOT touch the surface when inverter is operating.

The inverter must be installed out of reach of children.

CAUTION:

Risk of electric shock from energy stored in capacitors of the Inverter.

Do not remove cover for 5 minutes after disconnecting all power sources (service technician only). Warranty may be voided if the cover is removed without unauthorized.

2.3 Notice For Use

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

- Permanent installation is required.
- The electrical installation must meet all the applicable regulations and standards.
- The inverter must be installed according to the instructions stated in this manual.
- The inverter must be installed according to the correct technical specifications.
- To startup the inverter, the Grid Supply Main Switch (AC) must be switched on, before the solar panel's DC isolator shall be switched on. To stop the inverter, the Grid Supply Main Switch (AC) must be switched off before the solar panel's DC isolator shall be switched off.

2.4 Notice for Disposal

This product shall not be disposed of with household waste. They should be segregated and brought to an appropriate collection point to enable recycling and avoid potential impacts on the environment and human health. Local rules in waste management shall be respected .
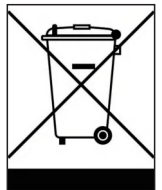
3. Overview

3.1 Front Panel Display

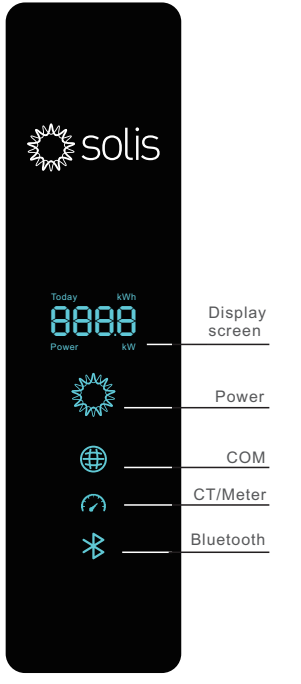There are four indicators on the Solis S6-GR1P(2.5-6)K-S Series Inverter(Power, COM, CT/Meter and Bluetooth) which indicate the working status of the inverter.

Light	Status	Description
Display screen	Today/kWh	Today's energy yield.
	Power/kW	Current AC power.
	XXXX	The error code.
Power	Blue Flashing	The inverter is initializing.
	Blue Solid ON	Normally Operating.
	Yellow Solid ON	Warning.
	Red Solid ON	Alarm.
COM	Blue Solid ON	COM Port is using.
	OFF	COM Port is not used.
CT/Meter	Blue Solid ON	CT/Meter Port is using.
	OFF	CT/Meter Port is not used.
Bluetooth	Blue Solid ON	Bluetooth Port is using.
	OFF	Bluetooth Port is not used.

NOTE:
COM/CT/Meter/Bluetooth indicators will automatically turn off after 2 minutes.
The Power indicator will remain on with lower brightness.
Shortpress the Power indicator can wake up all indicators.

NOTE:
Long press the Power button for 5 seconds to reset the bluetooth connection passwords. If the reset is successful, the Power button will be flashing in Blue color and in 0.5s interval for 3s. If the reset is failed, the Power button will be flashing in Yellow color and in 0.5s interval for 3s.

4. Installation

4.1 Select a Location for the Inverter

To select a location for the inverter, the following criteria should be considered:

WARNING: Risk of fire
Despite careful construction, electrical devices can cause fires.
- Do not install the inverter in areas containing highly flammable materials or gases.
- Do not install the inverter in potentially explosive atmospheres.
- The mounting structure where the inverter is installed must be fireproof.

- Do not install in small closed spaces where air can not circulate freely. To avoid overheating, always make sure the flow of air around the inverter is not blocked.

- Exposure to direct sunlight will increase the operational temperature of the inverter and may cause output power limiting. Recommends inverter installed to avoid direct sunlight or raining.

- To avoid over heating ambient air temperature must be considered when choosing the inverter installation location. Recommends using a sun shade minimizing direct sunlight when the ambient air temperature around the unit exceeds 104°F/40°C.
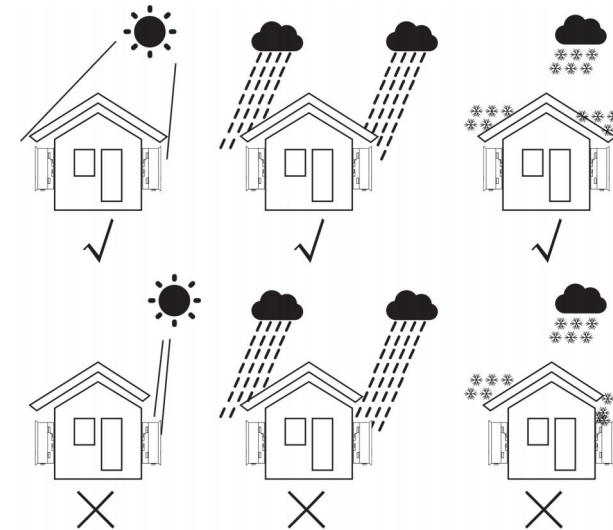
Figure 4.1 Recommended Installation locations

- Install on a wall or strong structure capable of bearing the weight.

- Install vertically with a maximum incline of +/- 5°.If the mounted inverter is tilted to an angle greater than the maximum noted, heat dissipation can be inhibited, and may result in less than expected output power.

- When 1 or more inverters are installed in one location, a minimum 12inchs clearance should be kept between each inverter or other object. The bottom of the inverter should be 20inchs clearance to the ground.

Figure 4.2 Inverter Mounting clearance
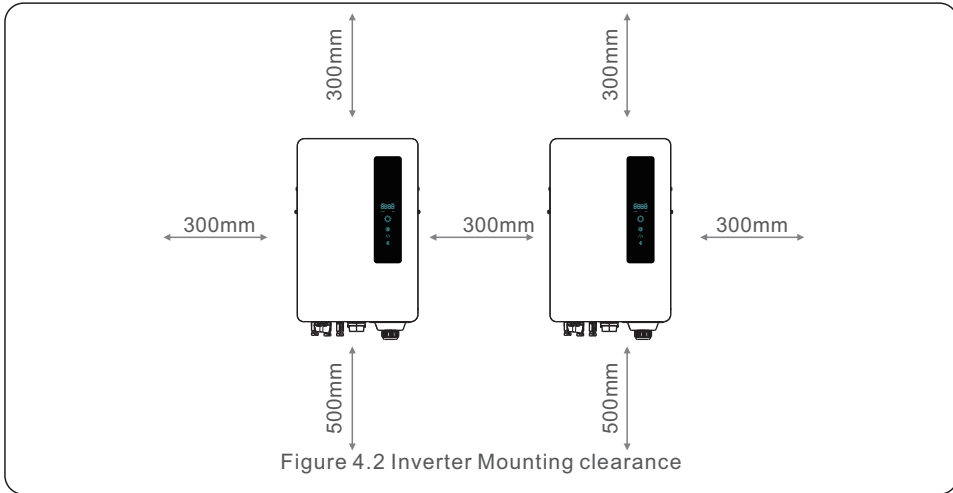
- Visibility of the LED status indicator lights and the LCD located at the front panel of the inverter should be considered.

- Adequate ventilation must be provided if the inverter is to be installed in a confined space.

NOTE:
Nothing should be stored on or placed against the inverter.

4.2 Mounting the Inverter

Dimensions of mounting bracket:

Figure 4.3 Inverter wall mounting
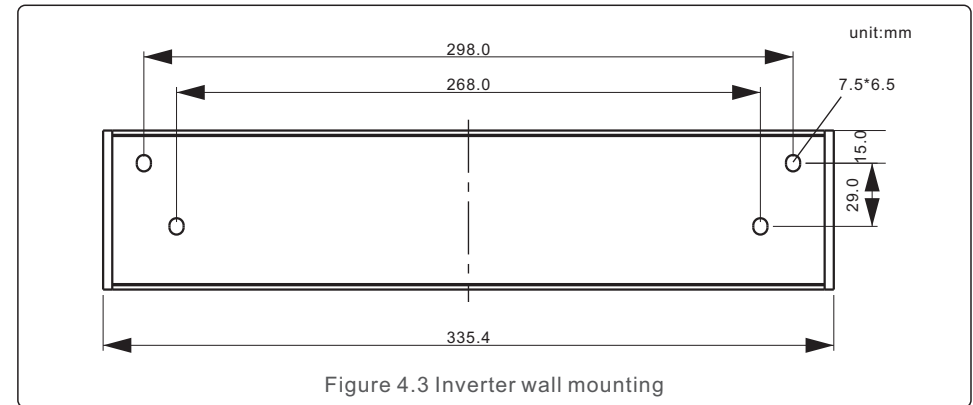
Please see Figure 4.4 and Figure 4.5 for instruction on mounting the inverter..
The inverter shall be mounted vertically. The steps to mount the inverter are listed below.

1. According to the figure 4.2, select the mounting height of the bracket and mark the mounting holes. For brick walls, the position of the holes should be suitable for the expansion bolts.

Bracket

Suitable fixing screws

Figure 4.4 Inverter wall mounting
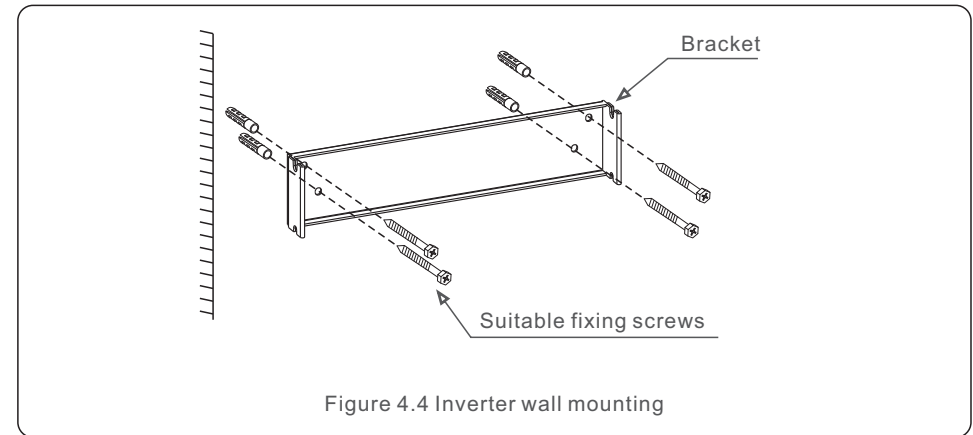
WARNING:
The inverter must be mounted vertically.

2. Lift up the inverter (be careful to avoid body strain), and align the back bracket on the
   inverter with the convex section of the mounting bracket. Hang the inverter on the
   mounting bracket and make sure the inverter is secure (see Figure 4.5).
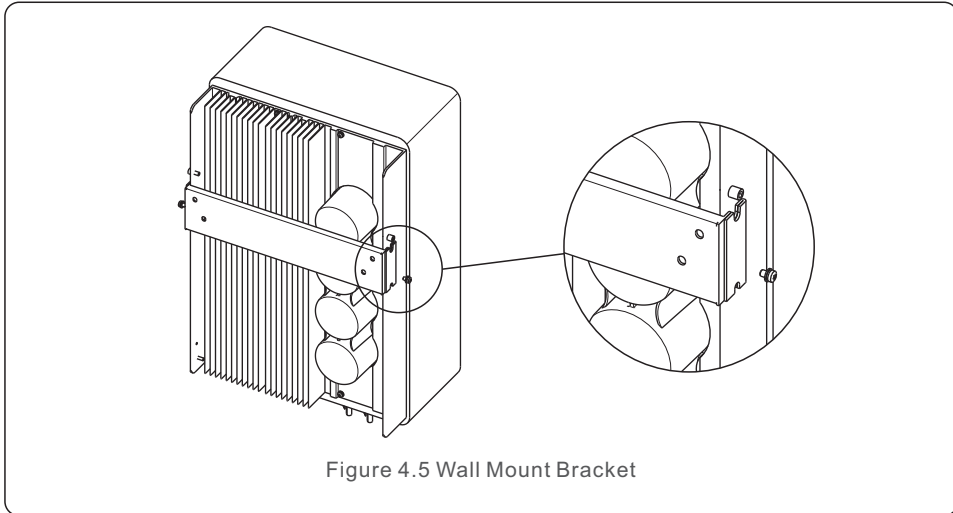
Figure 4.5 Wall Mount Bracket

4.3 Electrical Connections

4.3.1 Connect PV side of inverter

The electrical connection of the inverter must follow the steps listed below:

1. Switch the Grid Supply Main Switch (AC) OFF.
2. Switch the DC Isolator OFF.
3. Assemble PV input connector to the Inverter.

Before connecting inverter, please make sure the PV array open circuit voltage is within the limit of the inverter.

Maximum 550Vdc for

S6-GR1P5K03-NV-ND-AU, S6-GR1P6K03-NV-ND-AU, S6-GR1P7K03-NV-ND-AU,
S6-GR1P8K03-NV-ND-AU, S6-GR1P9K03-NV-ND-AU, S6-GR1P9.9K03-NV-ND-AU,
S6-GR1P10K03-NV-ND-AU

Before connection, please make sure the polarity of the output voltage of PV array matches the"DC+"and"DC-"symbols.

Please don't connect PV array positive or negative pole to the ground, it could cause serious damages to the inverter.
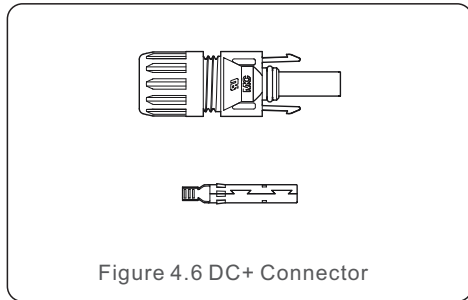
Figure 4.6 DC+ Connector
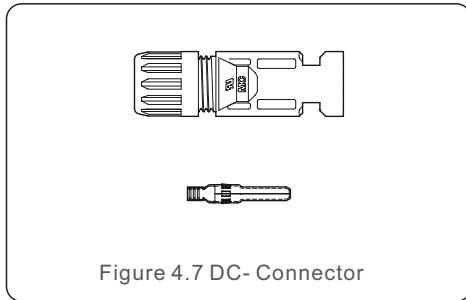
Figure 4.7 DC- Connector

⚠ Please use approved DC cable for PV system.

Cable type	Cross section（mm²）	
	Range	Recommended value
Industry generic PV cable (model:PV1-F)	4.0~6.0 （12~10AWG）	4.0（12AWG）

The steps to assemble the DC connectors are listed as follows:

1. Strip off the DC wire for about 7mm, Disassemble the connector cap nut. (see Figure 4.8)

2. Insert the wire into the connector cap nut and contact pin. (see Figure 4.9)

3. Crimp the contact pin to the wire using a proper wire crimper. (see Figure 4.10)

4. Insert the contact pin to the top part of the connector and screw up the cap nut to

the top part of the connector .(see figure 4.11).

5. Then connect the DC connectors to the inverter. Small click will confirm connection.

(see figure 4.12)
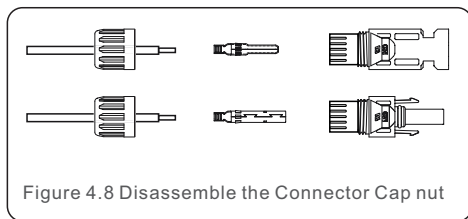
Figure 4.8 Disassemble the Connector Cap nut
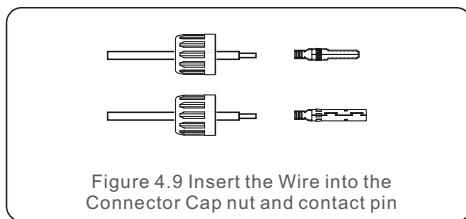
Figure 4.9 Insert the Wire into the Connector Cap nut and contact pin

Crimping plier
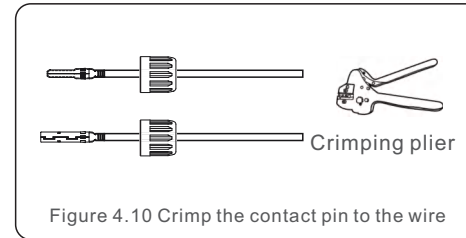
Figure 4.10 Crimp the contact pin to the wire
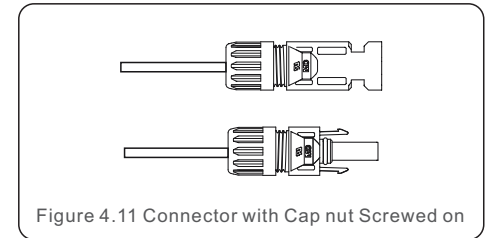
Figure 4.11 Connector with Cap nut Screwed on

Click
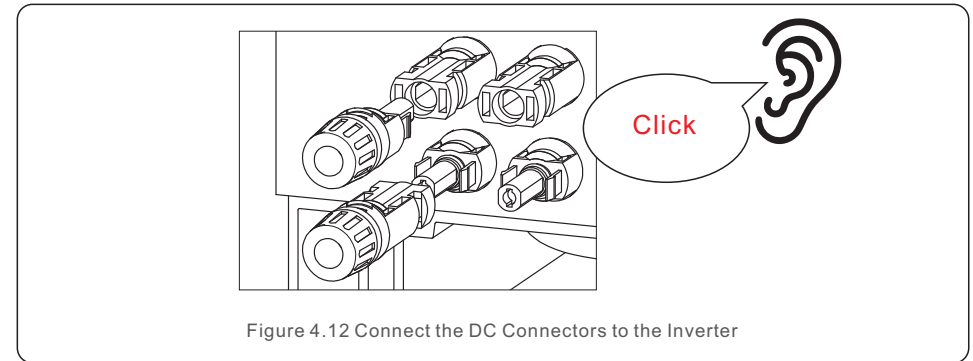
Figure 4.12 Connect the DC Connectors to the Inverter

⚠ **Caution:**
If DC inputs are accidently reversely connected or inverter is faulty or not working properly, it is NOT allowed to turn off the DC switch as it will damage the inverter and even leads to a fire disaster.
The correct actions are:
*Use a clip-on ammeter to measure the DC string current.
*If it is above 0.5A, please wait for the solar irradiance reduces until the current decreases to below 0.5A.
*Only after the current is below 0.5A, you are allowed to turn off the DC switches and disconnect the PV strings.
Please note that any damages due to wrong operations are not covered in the device warranty.

4.3.2 AC output connections

It is recommended to use 6-16mm2 outdoor cables with a crimp terminal range of 6-10mm2.
Installation steps are shown as below:

1. Strip the end of the AC cable insulation sleeve about 55mm then strip a short bit (S2)on the end of each wire.

N
L
PE
S2 —| S1 |—
55MM

Figure 4.13 Stripped AC Wires
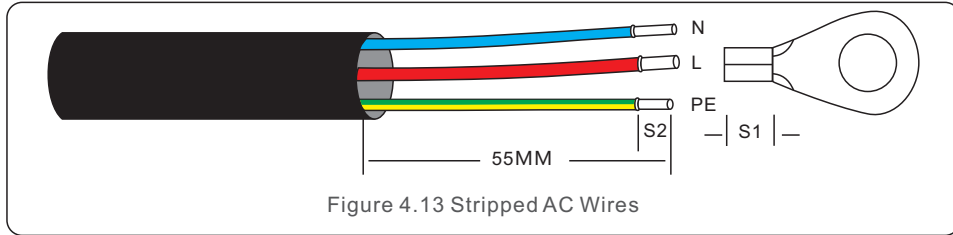
NOTE:
S2 (the length to strip the wire is about 8mm) which is 2-3mm longer than S1.

2. Insert the stripped cable into the crimping area of the OT terminal then use crimping tool to crimp the cable terminal .
The terminal part must be insulated with heat shrink tubing or insulating tape.

NOTE:
If aluminum cables are used, please use copper and aluminum terminals to avoid direct contact between the copper bar and the aluminum cables. (the copper and aluminum adapters are configured according to the selected cable)

L N PE
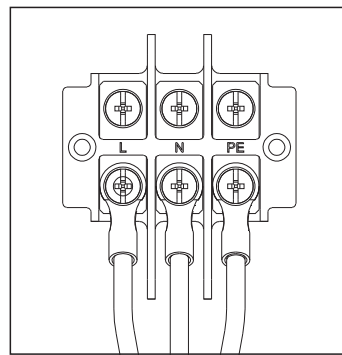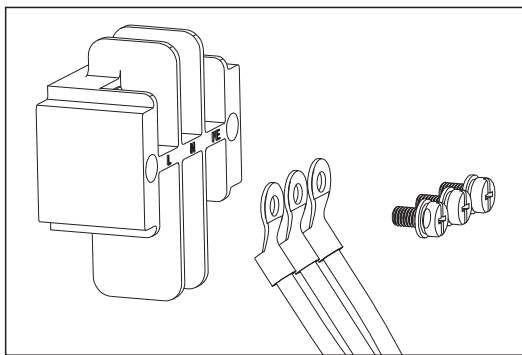
Figure 4.14 Copper-aluminum transition terminal

3. Dissemble the 4 screws on the AC terminal cover and take out the cover.

Figure 4.15 Disassemble AC terminal cover
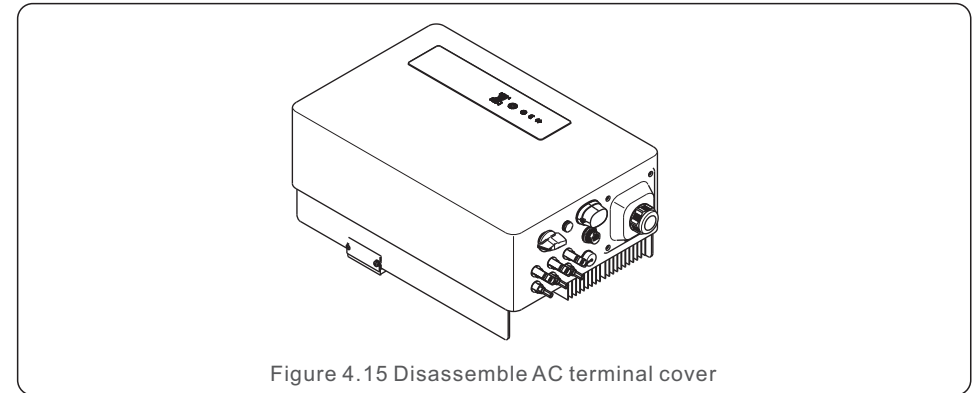
4. Insert the cable through cap nut, tubing and AC terminal, Insert the 3 cables into AC terminal and use the slotted screwdriver to tighten the screws with torque of 2-3Nm.

Figure 4.16 Connect cable to AC terminal
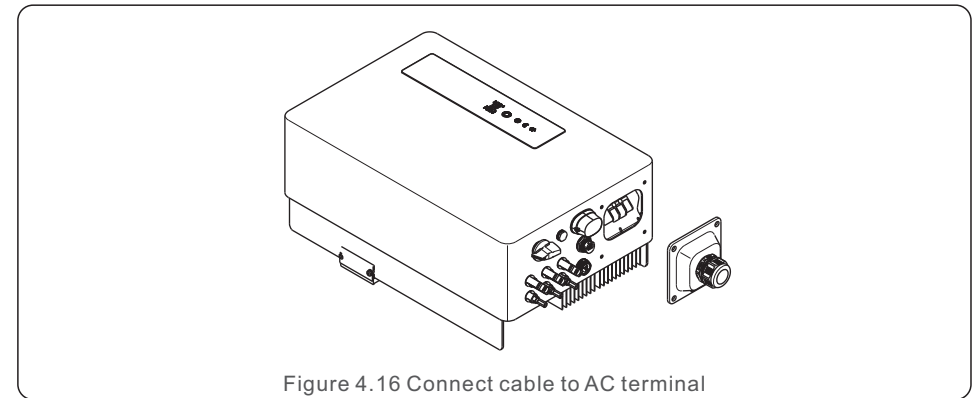
WARNING:
When assembling the AC terminal, be careful not to cut the insulation layer of the wire, or it might lead to poor contact.

5. Push the AC terminal along the rail to the inside of the inverter then tighten the screws. Lock the 4 screws of the AC terminal then tighten the cap nut.

4.3.3 External ground connection

An external ground connection is provided at the right side of inverter.

Prepare OT terminals: M4. Use proper tooling to crimp the lug to the terminal.

Connect the OT terminal with ground cable to the right side of inverter.
The torque is 20 in-lbs (2N.m).

Figure 4.17 Connect the external grounding conductor
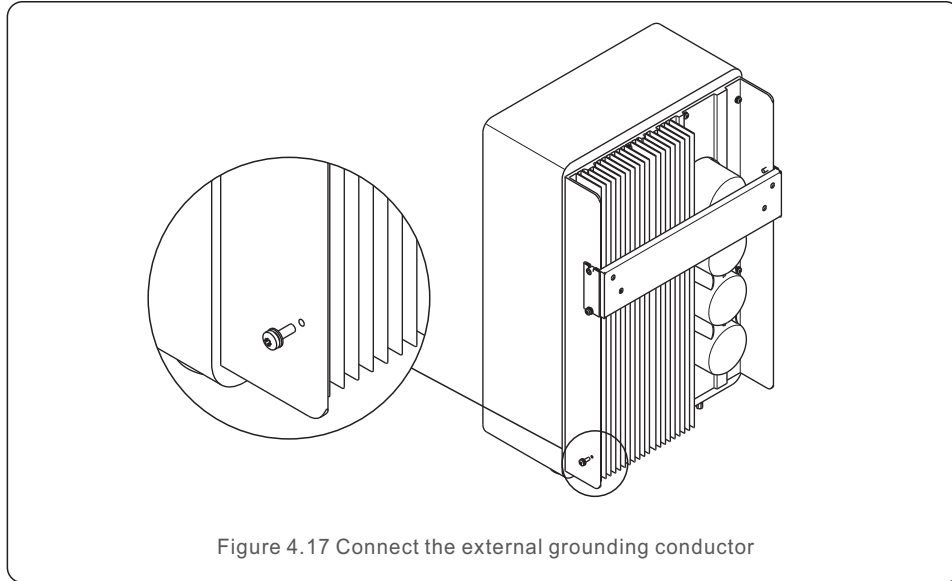
4.3.4 Max. over current protection device (OCPD)

To protect the inverter's AC grid connection conductors, Solis recommends installing breakers that will protect against overcurrent. The following table defines OCPD ratings for the Solis S6 Single Phase Inverters.

Inverter	Rated output voltage(V)	Rated output current (A)	Current for protection device (A)
S6-GR1P5K03-NV-ND-AU	230	21.7	32
S6-GR1P6K03-NV-ND-AU	230	26.1	40
S6-GR1P7K03-NV-ND-AU	230	30.4	40
S6-GR1P8K03-NV-ND-AU	230	34.8	50
S6-GR1P9K03-NV-ND-AU	230	39.1	63
S6-GR1P9K03-NV-ND-AU	230	43.0	63
S6-GR1P10K03-NV-ND-AU	230	43.5	63

Table 4.3 Rating of grid OCPD

4.3.5 Inverter monitoring connection

The inverter can be monitored via Wi-Fi or GPRS. All Solis communication devices are optional (Figure 4.18). For connection instructions, please refer to the Solis Monitoring Device installation manuals.
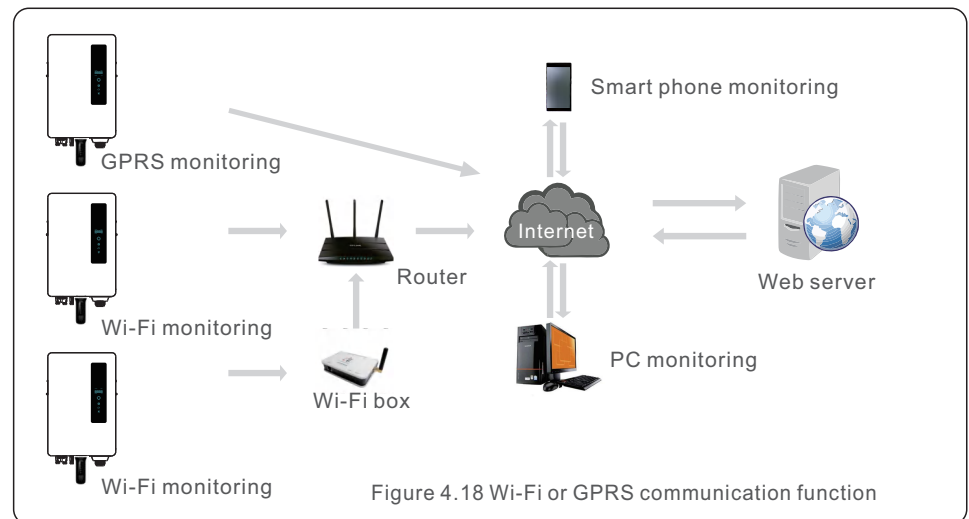
Figure 4.18 Wi-Fi or GPRS communication function

4.3.6 Electrical connection diagram

Refer to figure 4.22, which is a simple guidance for installing a solar system with PV inverter.
A DC isolator is required to be installed in the system between PV panels with inverter.
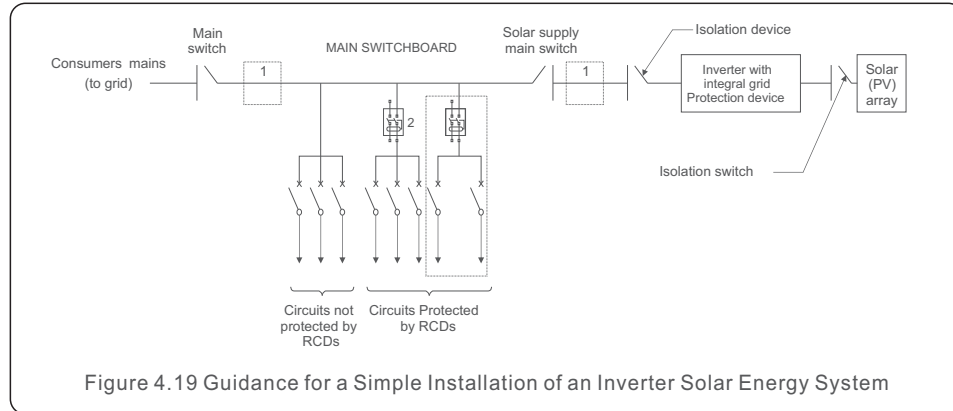
Figure 4.19 Guidance for a Simple Installation of an Inverter Solar Energy System

1. The RCD should be in parallel connection between the consumers mains and the solar supply.
2. More than one RCD may be used. Each RCD can protect one or more circuits.

4.3.7 Meter Connection(optional)

The inverter can work with a single phase smart meter to achieve Export Power Management function and/or 24hour consumption monitoring function.

NOTE:
To achieve Export Power Management function, the smart meter can be installed on either grid side or load side. To achieve 24hour consumption monitoring function, the smart meter can only be installed on grid side.

Two types of meters are supported:
Direct Insert Type Meter - Max input current 60A (Model:DDSD1352-C)
External CT Type Meter - 120A/40mA CT is supplied (Model: ACR10RD16TE)
Customer can place the order for a suitable meter from Solis Sales Reps.
Below are the connection diagrams of different meters connecting to different locations.
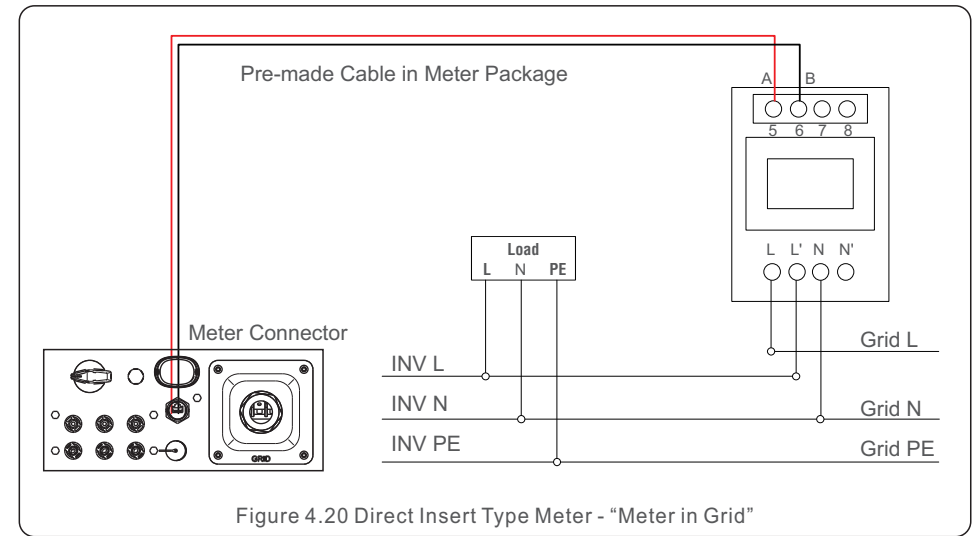
Figure 4.20 Direct Insert Type Meter - "Meter in Grid"
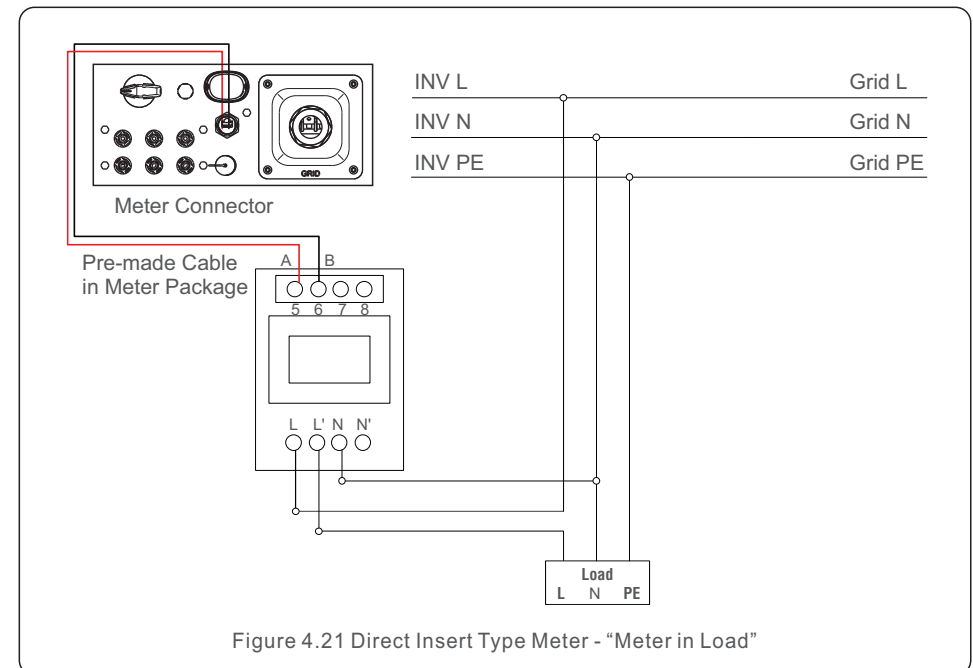
Figure 4.21 Direct Insert Type Meter - "Meter in Load"

Pre-made Cable in Meter Package

RJ45 Connector

Meter Connector

Load
L   N   PE

White +   Black -
CT Arrow → Grid

1 2 3 4 13 12
5 6 7 8 9 10 21 22 23

INV L   Grid L
INV N   Grid N
INV PE   Grid PE

Figure 4.22 External CT Type Meter - "Meter in Grid"

INV L   Grid L
INV N   Grid N
INV PE   Grid PE

Meter Connector

Pre-made Cable
in Meter Package

RJ45 Connector

1 2 3 4 13 12
5 6 7 8 9 10 21 22 23

CT Arrow → Grid

White +   Black -

Load
L   N   PE

Figure 4.23 External CT Type Meter - "Meter in Load"
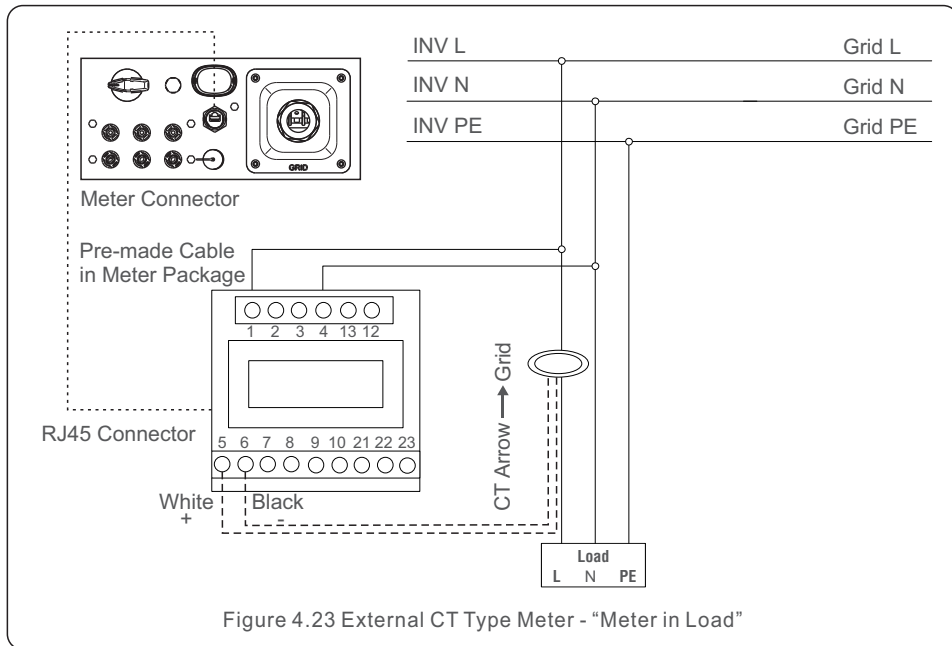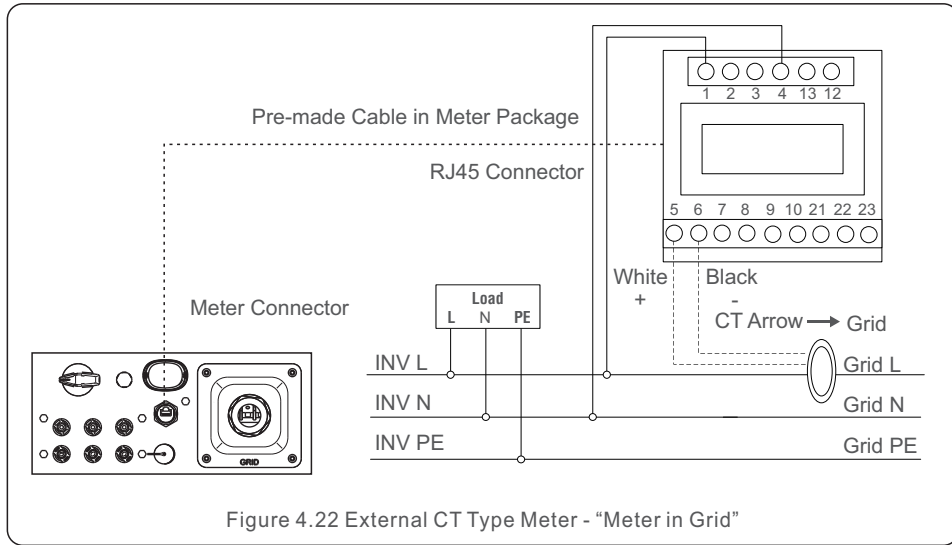
4.3.8 CT connections(optional)

The inverter can work with a smart sensor to achieve Export Power Management function.

NOTE:
Inverters are classified as "Meter Model" and "CT Model" due to hardware difference.
Meter Model can only connect a smart meter.
CT Model can only connect a smart sensor.
Please consult Solis Sales Rep before placing the order.

NOTE:
To achieve Export Power Management function, the smart sensor must be installed on the grid side.

Below is the connection diagram of the smart sensor.

Pre-made Cable in CT Package

CT Connector

CT Arrow → Grid

INV L   Grid L
INV N   Grid N
INV PE   Grid PE

Load
L   N   PE

Figure 4.24 Smart Sensor
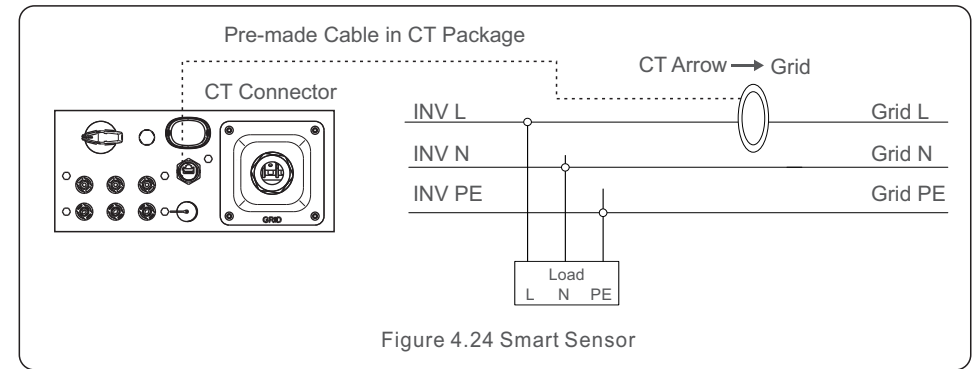
4.3.9 Earth Fault Alarm

Solis inverters fully comply with IEC62109-2 in terms of earth fault alarm (PV insulation detection and protection). When the earth fault on PV side happens, the red alarm indicator will be solid on and the alarm code "PVISO-PRO" will show up on the APP.

Inverter should be installed in a high traffic area to ensure the alarm to be noticed.

The inverter can't start to generate until the earth fault is resolved. Please refer to the troubleshooting section of this manual to resolve the earth fault or contact Solis service team for help.

4.3.10 DRED port connections

DRED means demand response enable device. The AS/NZS 4777.2:2020 required inverter need to support demand response mode(DRM). This function is for inverter that comply with AS/NZS 4777.2:2020 standard.
A RJ45 terminal is used for DRM connection.

Pin	Assignment for inverters capable of both charging and discharging	Pin	Assignment for inverters capable of both charging and discharging
1	DRM 1/5	5	RefGen
2	DRM 2/6	6	Com/DRM0
3	DRM 3/7	7	V+
4	DRM 4/8	8	V-

NOTE:
Solis inverter is designed to provide 12V power for DRED.

Please follow below steps to assemble RJ45 connector.
1.Insert the network cable into the communication connection terminal of RJ45.

Figure 4.25 RJ45 communication connection terminals

2.Use the network wire stripper to strip the insulation layer of the communication cable. According to the standard line sequence of figure 4.26 connect the wire to the plug of RJ45, and then use a network cable crimping tool to make it tight.

RJ45 plug   1--8

RJ45terminal
1 2 3 4 5 6 7 8

1 2 3 4 5 6 7 8
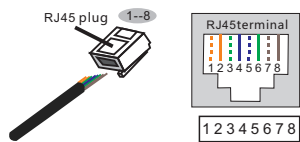
Correspondence between the cables and the stitches of plug
Pin 1: white and orange ;   Pin 2: orange
Pin 3: white and green;   Pin 4: blue
Pin 5: white and blue;   Pin 6: green
Pin 7: white and brown;   Pin 8: brown

Figure 4.26 Strip the insulation layer and connect to RJ45 plug

3.Connect RJ45 to DRM port.

4.3.11 External Residual Current Device(RCD)

All series of Solis inverters are integrated with an internal residual current device to protect against any potential d.c component and a.c component of residual current. Therefore, all Solis inverters, due to the design, are not able to feed in DC fault current to the system which fully complies with IEC60364-7-712.
If an external RCD is required to be installed by local regulations, Solis recommends installing a Type-A RCD with a threshold current higher than 100mA.

5.1 Preparation

- Ensure all the devices are accessible for operation, maintenance and service.
- Check and confirm that the inverter is firmly installed.
- Space for ventilation is sufficient for one inverter or multiple inverters.
- Nothing is left on the top of the inverter.
- Inverter and accessories are correctly connected.
- Cables are routed in safe place or protected against mechanical damage.
- Warning signs and labels are suitably affixed and durable.
- An Android or IOS mobile phone with Bluetooth function is available.
- Measure DC voltage of PV strings and ensure the polarity is correct.
- Measure AC voltage and frequency and ensure they are within local standard.

Measure DC voltage of PV strings and battery

Measure AC voltage and frequency
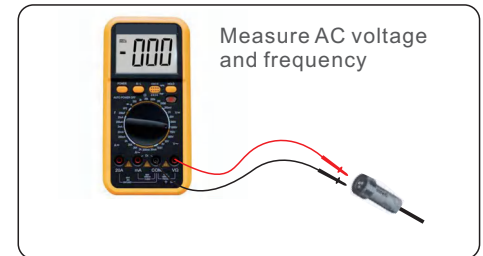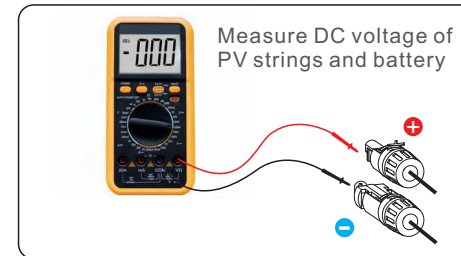
5.2 APP Download

Users need to download the APP before installing it for the first time.
There are three ways to download and install the latest APP:
1. You can visit **www.soliscloud.com** to download the latest version APP.
2. You can search "**Soliscloud**" in Google Play or App Store.
3. You can scan this QR code below to download "**Soliscloud**".

5.3 Log in the APP via bluetooth

Step 1: **Connect with Bluetooth.**

Turn on Bluetooth switch on your mobile phone and then open the Soliscloud APP.

Click "More Tools"->"Local Operation"->"Connect with Bluetooth"
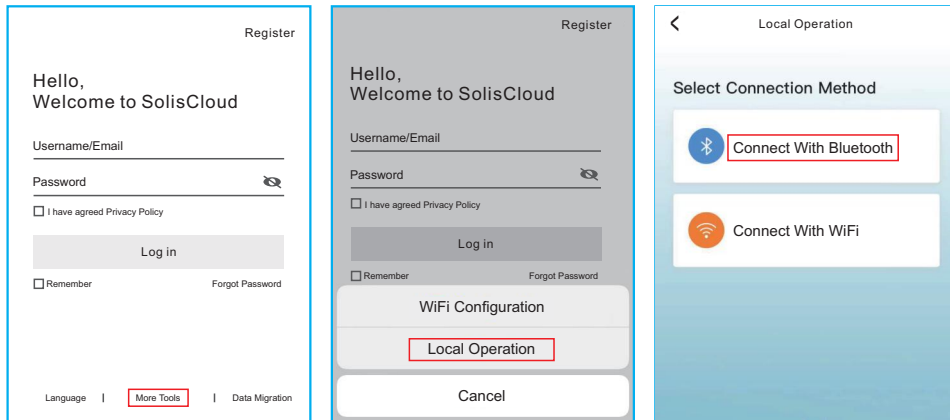
Step 2: Select the Bluetooth signal from the inverter.
(Bluetooth Name: INV-Inverter SN)

Step 3: **Login account.**

If you are the installer, please select the account type as Installer. If you are the plant owner, please select the account type as owner. Then set your own initial password for control verification. (The first log-in must be finished by installer in order to do the initial set up)
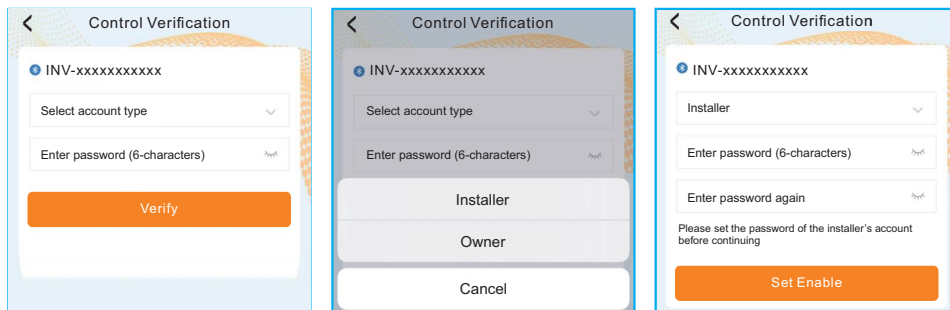
Step 4: Perform the setting configuration for Grid CodeSetting, etc.

Step 5: Switch on the AC breaker, wait till the inverter start generating.

5.4 Start the Inverter

To start up the Inverter, it is important that the following steps are strictly followed:

1. Switch the grid supply main Switch (AC) ON first.

2. Switch the DC switch ON. If the voltage of PV arrays are higher than start up voltage, the inverter will turn on. The Power indicator will be red solid on.

3. When both the DC and the AC sides supply to the inverter, it will be ready to generate power. Initially, the inverter will check both its internal parameters and the parameters of the AC grid, to ensure that they are within the acceptable limits. At the same time, the Power indicator will be blue flashing.

4. After 30-300 seconds (depending on local requirement), the inverter will start to generate power. The Power indicator will be blue solid on.

> **WARNING:**
> Do not touch the surface when the inverter is operating. It may be hot and cause burns.

5.5 Stop the Inverter

To stop the inverter, it is mandatory that the steps below are followed in the exact order outlined.

1. Select "Power OFF" in the APP.

2. Turn off the AC Switch between Solis inverter and Grid.

3. Wait approximately 30 seconds (during this time, the AC side capacitors are dissipating energy). If the inverter has DC voltage above the start-up threshold, the POWER indicator will be red solid on. Switch the DC switch OFF.

4. Confirm all LED's switch OFF (~one (1) minute).

> **CAUTION**
> Although the inverter DC disconnect switch is in the OFF position and all the LED's are OFF, operators must wait five (5) minutes after the DC power source has been disconnected before opening the inverter cabinet. DC side capacitors can take up to five (5) minutes to dissipate all stored energy.

Bluetooth communication parameters are as follow：

1. RF operating frequency range: 2402~2480MHz (BLE, TX/RX)

2. Maximum e.i.r.p.: 7.22dBm

5.6 Australian Grid Code Settings

Customers can follow the quick setting process to select the corresponding grid codes based on AS/NZS4777.2:2020 (4777-A/ 4777-B/ 4777-C/ 4777-N).
Or modify the grid code in following path in the APP:
Settings -> Grid Parameter Setting -> Grid Code Setting

NOTE:
The standard code selection "4777-A", "4777-B", "4777-C" and "4777-N" already have preset default settings as required by AS/NZS 4777.2:2020. Unless specially required, customers do not need to gain access to the following sections or modify any settings inside.

Region	Australia A	Australia B	Australia C	New Zealand	
Standard Code Name	4777-A	4777-B	4777-C	4777-N	Setting Range
OV-G-V1	265V	265V	265V	265V	230-276V
OVGV1-T	1.5S	1.5S	1.5S	1.5S	1-2S
OV-G-V2	275V	275V	275V	275V	230-276V
OVGV2-T	0.1S	0.1S	0.1S	0.1S	0.1-2S
UN-G-V1	180V	180V	180V	180V	38-230V
UNGV1-T	10S	10S	10S	10S	10-11S
UN-G-V2	70V	70V	70V	70V	38-230V
UNGV2-T	1.5S	1.5S	1.5S	1.5S	1-2S
OV-G-F1	52HZ	52HZ	55HZ	55HZ	50-55HZ
OVGF1-T	0.1S	0.1S	0.1S	0.1S	0.1-2S
OV-G-F2	52HZ	52HZ	55HZ	55HZ	50-55HZ
OVGF2-T	0.1S	0.1S	0.1S	0.1S	0.1-2S
UN-G-F1	47HZ	47HZ	45HZ	45HZ	45-50HZ
UNGF1-T	1.5S	1.5S	5S	1.5S	1-6S
UN-G-F2	47HZ	47HZ	45HZ	45HZ	45-50HZ
UNGF2-T	1.5S	1.5S	5S	1.5S	1-6S
Startup-T	60S	60S	60S	60S	10-600S
Restore-T	60S	60S	60S	60S	10-600S
Recover-VH	253V	253V	253V	253V	230-276V
Recover-VL	205V	205V	205V	196V	115-230V
Recover-FH	50.15Hz	50.15Hz	50.15Hz	50.15Hz	50-52Hz
Recover-FL	47.5Hz	47.5Hz	47.5Hz	47.5Hz	47-50Hz
Start-VH	253V	253V	253V	253V	230-276V
Start-VL	205V	205V	205V	196V	115-230V
Start-FH	50.15Hz	50.15Hz	50.15Hz	50.15Hz	50-52Hz
Start-FL	47.5Hz	47.5Hz	47.5Hz	47.5Hz	47-50Hz

5.6.1 Working Mode Set

Solis AU version inverters have the following working mode settings:
1. Null
2. Volt-Watt
3. Volt-Var
4. Fixed PF
5. Fixed Reactive
The setting path in the APP is:
Settings-> Inverter Work Mode Setting -> Work Mode

1. NULL
Description: Inverter will not be under any working mode.

2. Volt-Watt
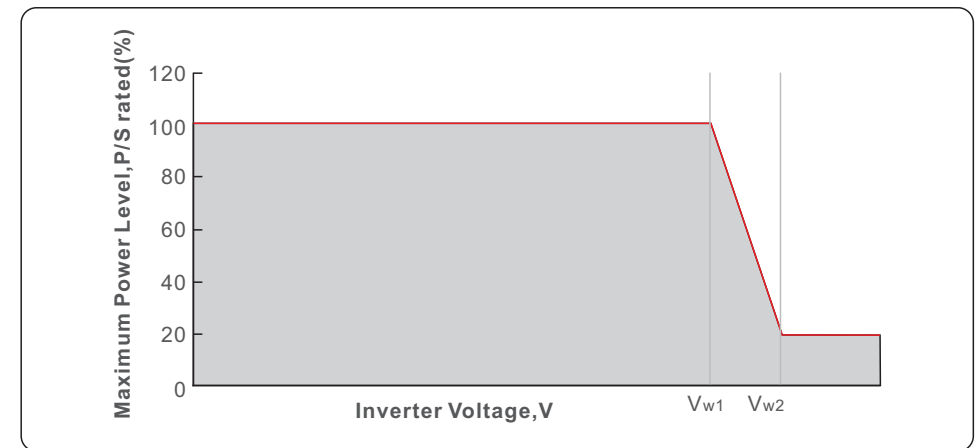
Status: Enable/Disable (Note: This is used to enable or disable the Volt-Watt mode)
Voltage 1: 207V
P-Limit 1: 100%
Voltage 2: 220V
P-Limit 2: 100%
Voltage 3 (Vw1):
235-255V (Default: 4777-A(253V); 4777-B(250V);4777-C(253V);4777-N(242V))
P-Limit 3: 100%
Voltage 4 (Vw2):
240-265V (Default: 4777-A(260V); 4777-B(260V);4777-C(260V);4777-N(250V))
P-Limit 4: 0%-20% (Default: 20% for 4777-A; 4777-B; 4777-C; 4777-N)

3. Volt-Var
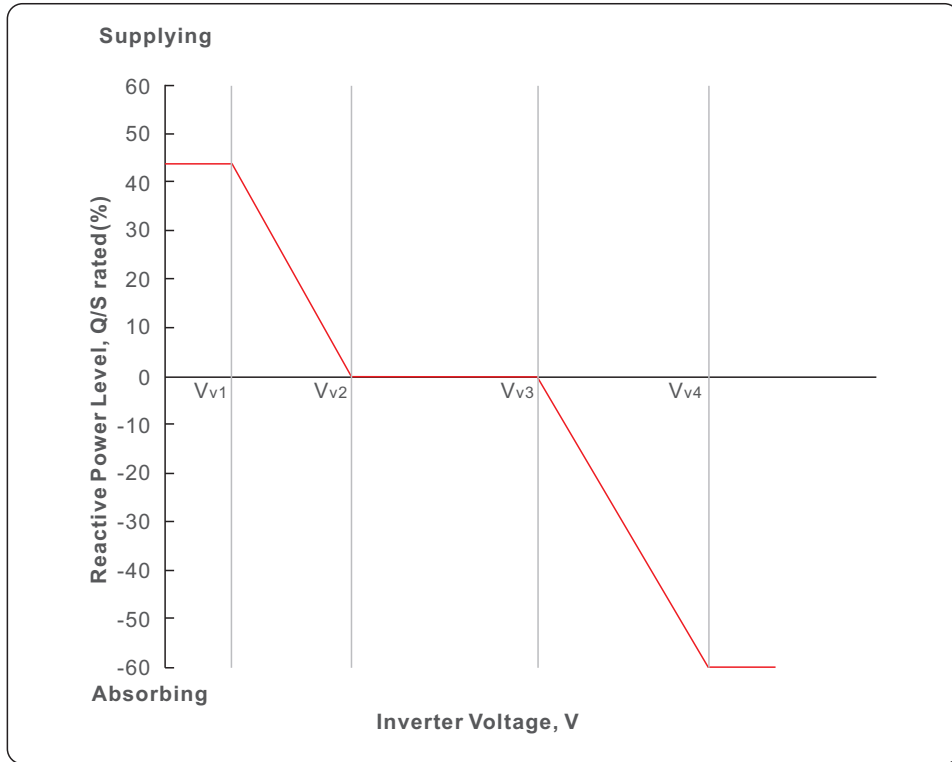
Voltage 1 (Vv1):
180-230V (Default: 4777-A(207V); 4777-B(205V);4777-C(215V);4777-N(207V))

Voltage 2(Vv2) :
180-230V (Default: 4777-A(220V); 4777-B(220V);4777-C(230V);4777-N(220V))

Voltage 3(Vv3) :
230-265V (Default: 4777-A(240V); 4777-B(235V);4777-C(240V);4777-N(235V))

Voltage 4(Vv4) :
230-265V (Default: 4777-A(258V); 4777-B(255V);4777-C(255V);4777-N(244V))

Leading(Supplying) :
+30~+60% (Default: 4777-A(+44%); 4777-B(+30%);4777-C(+44%);4777-N(+60%))

Lagging(Absorbing) :
-30%~-60% (Default: 4777-A(-60%); 4777-B(-40%);4777-C(-60%);4777-N(-60%))

4. Fixed PF
Description: This mode is to set a fixed power factor output
Range: -0.8~+0.8
Default: 1

5. Fixed Reactive
Description: This mode is to set a fixed reactive power output
Range:-60%~+60%
Default: 0%

5.6.2 Power Rate Limit

Settings-> Inverter Setting -> Inverter Power Setting ->Power Limit
To set the power rate limits for increase and decrease in power level per minute.
Wgra+: 5-100%, Default:16%
Wgra-: 5-100%, Default:16%

5.6.3 Freq Derate Set

Settings-> Frequency Derating Setting
To set the frequency response limits for response to a decrease/increase in frequency.
OVF_Start(F_ULCO): 50.1Hz~50.5Hz
(Default: 4777-A(50.25Hz), 4777-B(50.15Hz), 4777-C(50.5Hz), 4777-N(50.2Hz))
OVF_Stop(F_Pmin): 51Hz~53Hz
(Default: 4777-A(52Hz), 4777-B(52Hz), 4777-C(53Hz), 4777-N(52Hz))
UNF_Start(F_LLCO): 49.5Hz~49.9Hz
(Default: 4777-A(49.75Hz), 4777-B(49.85Hz), 4777-C(49.5Hz), 4777-N(49.8Hz))
UNF_Stop(F_Pmax): 47Hz~49Hz
(Default: 4777-A(48Hz), 4777-B(48Hz), 4777-C(47Hz), 4777-N(48Hz))

5.6.4 10mins Voltage Set

Settings ->Grid Parameter Setting -> Grid Code Setting -> 10min Overvoltage Setting
To set the 10mins average protection limit.
Range: 244V to 258V
Default: 4777-A (258V); 4777-B(258V); 4777-C(258V); 4777-N(249V)

5.6.5 DRM Settings

Settings->Inverter Setting -> Inverter Function Setting -> Logic Interface Setting
"DRM ON/OFF" is used to enabled or disable the functionality of the DRM port.

5.7 Export Power Control

Built-in EPM is for PV plant with only 1 inverter, while External EPM for multiple inverters.

5.7.1 Built-in EPM Setting

Select "Settings -> EPM Setting -> Built-in EPM Setting" to make the settings.

The Built-in EPM includes 2 functions related to the smart meter or smart sensor.

> **NOTE:**
> **Function 1: Export Power Management Function**
> 1. Inverters can work with a smart meter OR a smart sensor to dynamically limit the export power of the system.
> 2. Zero injection can be achieved.
> 3. Smart meter can be installed either on the grid side OR the load side. Smart sensor can only be installed on the grid side.
> **Function 2: 24-Hour Load Monitoring Function**
> 1. Only applicable if Solis monitoring system is used.
> 2. Inverters can work with a smart meter OR smart sensor to monitor the load consumption data for the whole day and the data will be displayed on the Solis monitoring system.
> 3. Smart meter or smart sensor can only be installed on the grid side.

> **NOTE:**
> Please refer to below instructions for different user scenarios.
> **Scenario 1. Only Function 1 is required**
> **Using a Smart Meter:**
> Step 1: Refer to Section 4.3.7 to connect the smart meter on the grid side or load side.
> Step 2: Select the corresponding meter model in the **Meter Selection**.
> Step 3: Choose **Meter in Grid Mode** or **Meter in Load Mode** in the **Built-in EPM mode selection** accordingly.
> Step 4: Configure the **System Export Power Limit Value** to set the allowed backflow power.
> Step 5: Configure the **Built-in EPM Failsafe Switch** to enable the failsafe function (If necessary).
> **Using a Smart Sensor:**
> Step 1: Refer to Section 4.3.8 to connect the smart sensor on the grid side.
> Step 2: Select the **CT Sensor Mode** in the **Built-in EPM mode selection**.
> Step 3: Configure the **CT Ratio** and **CT Direction** at the "**Settings -> EPM Setting -> CT Setting**". (If necessary).
> Step 4: Configure the **System Export Power Limit Value** to set the allowed backflow power.
> Step 5: Configure the **Built-in EPM Failsafe Switch** to enable the failsafe function (If necessary).

> **NOTE:**
> Please refer to below instructions for different user scenarios.
> **Scenario 2. Only Function 2 is required**
> **Using a Smart Meter:**
> Step 1: Refer to Section 4.3.7 to connect the smart meter on the grid side.
> Step 2: Select the corresponding meter model in the **Meter Selection**.
> Step 3: Choose **Meter 24-Hour Monitoring Mode** in the **Built-in EPM mode selection** accordingly.
> Step 4: Enable the **24-Hour Load Monitoring** function at "**Settings -> Inverter Setting -> Inverter Function Setting**".
> **Using a Smart Sensor:**
> Step 1: Refer to Section 4.3.8 to connect the smart sensor on the grid side.
> Step 2: Select the **CT load Monitoring Mode** in the **Built-in EPM mode selection**.
> Step 3: Configure the **CT Ratio** and **CT Direction** at the "**Settings -> EPM Setting -> CT Setting**". (If necessary).
> Step 4: Enable the **24-Hour Load Monitoring** function at "**Settings -> Inverter Setting -> Inverter Function Setting**".

NOTE:

Please refer to below instructions for different user scenarios.
Scenario 3. Both Function 1 and 2 are required
Using a Smart Meter:
Step 1: Refer to Section 4.3.7 to connect the smart meter on the grid side.
Step 2: Select the corresponding meter model in the **Meter Selection**.
Step 3: Choose **Meter in Grid Mode** in the **Built-in EPM mode selection** accordingly.
Step 4: Configure the **System Export Power Limit Value** to set the allowed backflow power.
Step 5: Configure the **Built-in EPM Failsafe Switch** to enable the failsafe function (If necessary).
Step 6: Enable the **24-Hour Load Monitoring** function at "**Settings -> Inverter Setting -> Inverter Function Setting**".
Using a Smart Sensor:
Step 1: Refer to Section 4.3.8 to connect the smart sensor on the grid side.
Step 2: Select the **CT Sensor Mode** in the **Built-in EPM mode selection**.
Step 3: Configure the **CT Ratio** and **CT Direction** at the "**Settings -> EPM Setting -> CT Setting**". (If necessary).
Step 4: Configure the **System Export Power Limit Value** to set the allowed backflow power.
Step 5: Configure the **Built-in EPM Failsafe Switch** to enable the failsafe function (If necessary).
Step 6: Enable the **24-Hour Load Monitoring** function at "**Settings -> Inverter Setting -> Inverter Function Setting**".

‹ Built-in EPM Setting	
Built-in EPM mode selection	EPM ALL OFF >
Built-in EPM Hard Limit Mode Select	OFF >
System Export Power Limit Value	0W >
System Export Power Hard Limit Value	0W >
Built-in EPM FailSafe Switch	ON >
Meter select	DDSD1352C-Acrel 1P Meter >

Setting	Description
Built-in EPM mode	6 built-in EPM mode is optional. Choose the appropriate mode needed.
Built-in EPM Hard Limit Mode Select	Enable/Disable the export power control hard limit.
System Export Power Limit Value	Set the permissible PV plant export power to the gird.
System Export Power Hard Limit Value	The hard export power limit. If the **Built-in EPM Hard Limit Mode Select** is enabled and hard limit value is reached, inverter will shut down within 5s and give alarm as "EPM-Hard Limit"
Built-in EPM Failsafe Switch	When G100 standard is used, this switch is enabled by default.
Meter Select	Select the meter model according to the actual installation.

There are 6 modes for Built-in EPM.
1. EPM ALL OFF. Built-in EPM function is disabled.
2. CT Sensor Mode. Solis Smart Sensor is connected in the grid connection point
(The **System Export Power Limit Value** setting is applicable, default value is 0W).
3. Meter in Grid Mode. Solis Smart Meter is connected in the grid connection point
(The **System Export Power Limit Value** setting is applicable, default value is 0W).
4. Meter in Load Mode. Solis Smart Meter is connected in the load branch circuit
(The **System Export Power Limit Value** setting is applicable, default value is 0W).
5. Meter 24-Hour Monitoring Mode. Solis Smart Meter is connected in the grid connection point(used for 24h load monitoring only, the **System Export Power Limit Value** setting is not applicable).
6. CT load Monitoring Mode. Solis Smart Sensor is connected in the grid connection point (used for 24h load monitoring only, the **System Export Power Limit Value** setting is not applicable).

5.7.2 External EPM Setting

Select "**Settings -> EPM Setting -> External EPM Setting**".
External EPM Failsafe Swtich should be turned ON when external EPM device is used.

5.8 AFCI Setting

Settings-> Inverter Setting -> Inverter Function Setting -> AFCI Setting
"AFCI Protect" is used to enable the inverter AFCI function ON/OFF.
"Arc-Fault Manual Reset" is used to make a manual reset operation. When Arc-Fault error happens more than 5 times, the inverter will stop generating. Users have to check the inverter DC side wire connection is OK and then make a manual reset.

5.9 MPPT Multi-peak Scanning Setting

Settings-> Inverter Setting -> Inverter Function Setting -> MPPT Multi-peak Scanning Setting
"MPPT Multi-peak Scanning Switch" is used to enable the MPPT Multi-peak Scanning function ON/OFF.
"MPPT Multi-peak Scan Interval" is used to set the scanning interval. The inverter will carry out Multi-peak MPPT scanning 1 time every scanning interval.

The APP interface contains 4 sections:

1. Home
2. Info
3. Alarm
4. Settings

6.1 Home Page

The home page contains the power and energy data of the inverter.
The PV data and AC data are also available under this section.

	1801151232210002 NO-grid	
Total PV Input Power	**Today Yield**	
0 w	3.6 kWh	
Yesterday Yield	**This Month Yield**	
0.0 kWh	3 kWh	
Last Month Yield	**This Year Yield**	
0 kWh	3 kWh	
Last Year Yield	**Total Yield**	
0 kWh	3 kWh	

	Voltage	Current	Power
PV1	400.9V	0.0A	0.00W
PV2	21.3V	0.0A	0.00W
PV3	0.0V	0.0A	0.00W
PV4	0.0V	0.0A	0.00W

AC Voltage	0.0V
AC Current	0.0A

| Home | Info | Alarm | Settings |
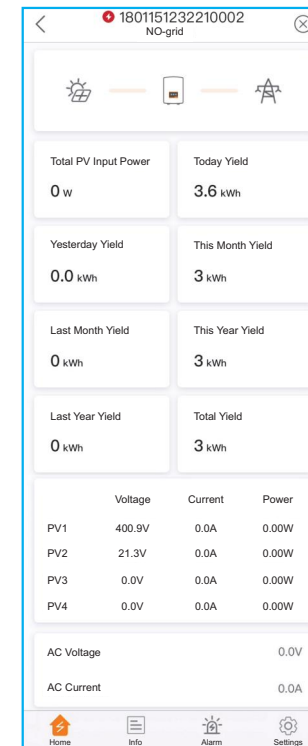
6.2 Info Page

Info page displays the general information of the inverter such as inverter serial number, firmware version, grid code, etc.
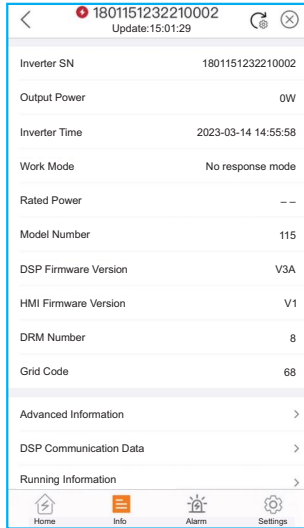
6.3 Alarm Page

Alarm page contains the alarm code of the inverter and its corresponding troubleshooting methods.
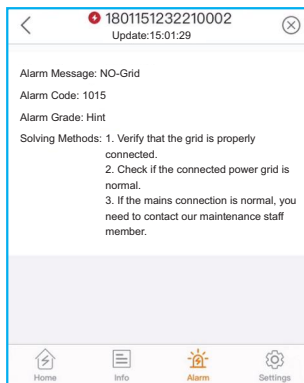
6.4 Setting Page

Setting page contains all the setting options of the inverter.

Functions	Setting Path
Switch on/off the inverter	Settings -> "Power ON" & "Power OFF"
Change inverter time setting	Settings -> Inverter Setting-> Inverter Parameter Setting -> Inverter Time Setting
Change inverter output power percentage or power factor	Settings -> Inverter Setting-> Inverter Power Setting
Set grid code and protection parameters	Settings -> Grid Parameter Setting -> Grid Code Setting
Set Export Power control	Settings -> EPM Setting
Set grid code related working modes	Settings -> Inverter Work Mode Setting -> Work Mode
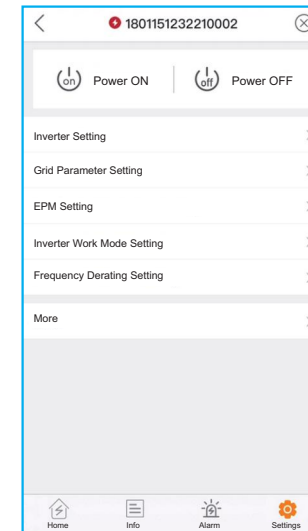
7. Maintenance

Solis S6 Single Phase Inverter does not require any regular maintenance.
However, cleaning the dust on heat-sink will help the inverter to dissipate the heat and
increase its life time. The dust can be removed with a soft brush.

> **CAUTION:**
> Do not touch the inverter's surface when it is operating. Some parts of the
> inverter may be hot and cause burns. Turn off the inverterand wait for a
> cool-down period before any maintenance or cleaning operation.

The Screen and the LED status indicator lights can be cleaned with cloth if they are too dirty
to be read.

> **NOTE:**
> Never use any solvents, abrasives or corrosive materials to clean the inverter.

8. Troubleshooting

The inverter is designed in accordance with the most important international grid-tied standards
and safety and electromagnetic compatibility requirements. Before delivering to the customer,
the inverter has been subjected to several tests to ensure its optimal operation and reliability.

In case of failure, the APP will display an alarm message. In this case, the inverter may stop
feeding into the grid. The failure descriptions and their corresponding alarm messages are
listed in Table 8.1:

Message Name	Information Description	Troubleshooting Suggestion
Grid Over Voltage 01 (1010 DATA:0001)	Over grid voltage	1. If it occurs by accident, it may be short-term abnormality of the power grid. The inverter will resume normal work after detecting the normal power grid, and no manual intervention is required.
Grid Over Voltage 02 (1010 DATA:0002)		
Grid Over Voltage 03 (1010 DATA:0003)		
Grid Over Voltage 04 (1010 DATA:0004)		
Grid Over Voltage 05 (1010 DATA:0005)		
Grid Under Voltage 01 (1011 DATA:0001)	Under grid voltage	1. If it occurs by accident, it may be short-term abnormality of the power grid. The inverter will resume normal work after detecting the normal power grid, and no manual intervention is required. 2. If it occurs frequently, check the grid voltage and check whether the grid frequency is in the inverter. Within the allowable range, if not, please contact customer service; if yes, please check if the AC side breaker and output cable are connected properly. 3. If the grid voltage, grid frequency is within the allowable range of the inverter, and the AC side wiring confirmation It is true that this alarm still occurs frequently. After obtaining the consent of the local power operator, please contact customer service to modify the over-voltage and under-frequency protection points of the inverter power grid.
Grid Under Voltage 02 (1011 DATA:0002)		
Grid Over Frequency 01 (1012 DATA:0001)	Over grid frequency	
Grid Over Frequency 02 (1012 DATA:0001)		
Grid under Frequency 01 (1013 DATA:0001)	Under grid frequency	
Grid under Frequency 02 (1013 DATA:0002)		
NO-Grid (1015 DATA:0000)	No grid voltage	1. Verify that the grid is properly connected. 2. Check if the connected power grid is normal. 3. If the mains connection is normal, you need to contact our maintenance staff member.
OV-G-I (1018 DATA:0000)	Over grid current	

8. Troubleshooting

Message Name	Information Description	Troubleshooting Suggestion
IGFOL-F (1019 DATA:0000)	Grid current tracking fail	1. Restart the inverter or contact our service personnel.
OV-DC (1020 DATA:0001)	Over DC voltage	1. Check whether the series configuration of the PV strings is excessive, resulting in the open circuit voltage of the PV array being higher than the maximum input voltage of the inverter. If so, reduce the number of strings and make the string open voltage fall within the inverter specification range.
OV-DC (1020 DATA:0002)		
OV-BUS (1021 DATA:0000)	Over DC bus voltage	1. Check if the input voltage exceeds the maximum input voltage of the inverter. 2. Restart the inverter. 3. If it is still not resolved, contact the factory's customer service.
UNB-BUS (1022 DATA:0000)	Under DC bus voltage	
DC Bus Under Voltage 01 (1023 DATA:0001)	DC bus undervoltage	1. Check if the input voltage is too low. 2. Restart the inverter. 3. If it has not been eliminated, contact the factory's customer service.
DC Bus Under Voltage 02 (1023 DATA:0002)	Abnormal detection of DC bus voltage	
OV-DCA-I (1025 DATA:0000)	DC 1 average overcurrent	1. Check whether the MPPT of the A-way is reversed polarity. 2. Restart the inverter. 3. If it has not been eliminated, contact the factory's customer service.
OV-DCB-I (1026 DATA:0000)	DC 2 average overcurrent	1. Check whether the MPPT of the B-way is reversed polarity. 2. Restart the inverter. 3. If it has not been eliminated, contact the factory's customer service.
DC-INTF. (1027 DATA:0000)	DC hardware overcurrent	1. Check whether the DC connection is broken or damaged. 2. Restart the inverter. 3. If it has not been removed, contact the factory's customer service.
Reverse-DC (1028 DATA:0000)	Reverse DC polarity	1. Check if the DC line is reversed. 2. Restart the inverter. 3. If it is still not excluded, please contact the factory customer service.

Message Name	Information Description	Troubleshooting Suggestion
GRID-INTF. (1030 DATA:0000)	AC hardware overcurrent	1. Check whether the AC connection is virtual. 2. Restart the inverter. 3. If it has not been eliminated, contact the factory's customer service.
INI-FAULT (1031 DATA:0000)	Initialization system fault	1. Restart the inverter. 2. If it is still not resolved, contact the factory's customer service.
OV-TEM (1032 DATA:0000)	Over Temperature	1. Check whether the inverter installation position meets the requirements of the user manual. 2. Try to reduce the ambient temperature. 3. Restart the inverter after fifteen minutes. 4. If the error persists, please contact the factory's customer service.
PV Isolation Protection 01 (1033 DATA:0001)	DC bus undervoltage	1. Check whether the PV strings have insulation problems. 2. Check whether the PV cable is damaged.
PV Isolation Protection 02 (1033 DATA:0002)	PV negative ground fault	
Leakage Current Protection 01 (1034 DATA:0001)	Leakage current protection	1. Connect each string component individually to determine if it is caused by a component problem. If there is no error when inserting one of the string components, it can be determined that it is a string problem. Check whether the string in question is broken or not. 2. If this error is only caused by a rainy day or a certain time of the morning, it is because the aging of the module causes the leakage current to be too large. When the weather is fine or the air humidity is reduced, the error will be cleared automatically. Can be resolved through remote upgrade software.
Leakage Current Protection 02 (1034 DATA:0002)		
Leakage Current Protection 03 (1034 DATA:0003)		
Leakage Current Protection 04 (1034 DATA:0004)		
ILeak-Check (1039 DATA:0000)	Leakage current sensor failure	1. Upgrade software to the latest version. 2. If the fault persists, please contact the factory's customer service.
UN-TEM (103A DATA:0000)	Under Temperature	1. Check if the ambient temperature is too low and restart the inverter. If it has not been eliminated, contact the factory's customer service.

8. Troubleshooting

Message Name	Information Description	Troubleshooting Suggestion
Relay-FAULT (1035 DATA:0000)	Relay check fail	1. Restart the inverter 2. If it is still not resolved, contact the factory's customer service.
DSP-B-Com-Fau (1036 DATA:0000)	Comm. failure between main and slave DSP	
DCInj-FAULT (1037 DATA:0000)	High DC injection current	
12Power-FAULT (1038 DATA:0000)	12V power supply fault	
AFCI-Check (1040 DATA:0000)	AFCI module self-detect fault	1. Restart the inverter. 2. If it is still not resolved, contact the factory's customer service.
ARC-FAULT (1041 DATA:0000)	Detect arc in DC circuit	1. Check for arc in the inverter connection and restart the inverter.
GRID-INTF02 (1046 DATA:0000)	Power grid disturbance 02	1. Check if the grid side is not healthy. 2. Restart the inverter. If it is still not removed, contact the factory's customer service.
IG-AD (1047 DATA:0000)	Grid current sampling fail	1. Restart the inverter 2. If it is still not resolved, contact the factory's customer service.
IGBT-OV-I (1048 DATA:0000)	Over IGBT current	
State 2 excursion (2043H)	G100 State 2 excursion	The alarm appears when the current flow exceeds "G100V2 Backflow Current" under scenarios stipulated by G100 standard. As required by G100, "State 2 excursion" alarm should be manually reset. Please select the "Settings -> EPM Setting -> Built-in EPM Setting->G100V2 Alarm Clear" to reset.
Fail Safe 2010H	Meter Communication Fail	1. Check the meter communication and restart the inverter. 2. If it is still not resolved, contact the factory's customer service.
MET_SEL_FAIL 2019H	Meter type select fail	Please select the correct smart meter type in inverter setting based on the smart meter actually connected to the inverter.

Message Name	Information Description	Troubleshooting Suggestion
CT Fault 201AH	CT Fault	The alarm occurs when the CT connected to the inverter or the CT connected to the smart meter loses connection. 1. When the alarm occurs with the "G100V2 Control Switch" on, please check and repair the CT wiring first, then select "Settings -> EPM Setting -> Built-in EPM Setting-> G100V2 Alarm Clear" to reset the alarm. 2. When the alarm occurs with the "G100V2 Control Switch" off, please check and repair the CT wiring and restart the inverter. 3. If it is still not resolved, contact the factory's customer service.
DRM_LINK_FAIL 2018H	DRM link fail	Please check if your DRM control device/ logic interface or its wiring is normal. If there is actually no DRM control device/ logic interface connected, please disable the DRM function in inverter settings.
DRM_CTL_Off 201BH	DRM control inverter to stop	Please check if the DRM function is enabled. This alarm indicates the DRM function controls the inverter to stop. If this is not expected, please disable the DRM function.
AFCI-Comm-Fail 2041H	AFCI communication fail	1.Restart the inverter . 2. If it is still not resolved, contact the factory's customer service.
AFCI-CTModule-Fail 2042H	AFCI CT module fail	

Table 8.1 Fault message and description

NOTE:
If the inverter displays any alarm message as listed in Table 8.1; please turn off the inverter and wait for 5 minutes before restarting it .
If the failure persists, please contact your local distributor or the service center.

1. Serial number of Solis Single Phase Inverter;
2. The distributor/dealer of Solis Single Phase Inverter (if available);
3. Installation date.
4. The description of problem
5. The PV array configuration (e.g. number of panels, capacity of panels, number of strings , etc.);
6. Your contact details.

Model	S6-GR1P5K03-NV-ND-AU
Max. DC input voltage (Volts)	550
Rated DC voltage (Volts)	330
Startup voltage (Volts)	60
MPPT voltage range (Volts)	50-500
Max. input current (Amps)	20/20/20
Max short circuit input current (Amps)	25/25/25
MPPT number/Max input strings number	3/3
Rated output power (Watts)	5000
Max. output power (Watts)	5000
Max. apparent output power (VA)	5000
Rated grid voltage (Volts)	1/N/PE, 230
Rated output current (Amps)	21.7
Max. output current (Amps)	21.7
Power Factor (at rated output power)	>0.99 (0.8 leading - 0.8 lagging)
THDi (at rated output power)	<3%
Rated grid frequency (Hertz)	50
Operating frequency range (Hertz)	45-55
Max.efficiency	98.0%
EU efficiency	97.1%
Dimensions	335W*510H*220D (mm)
Weight	16.0kg
Topology	Transformerless
Self consumption (night)	< 1 W
Operating ambient temperature range	-25℃~+60℃
Relative humidity	0-100%
Ingress protection	IP66
Noise emission (typical)	<40 dB(A)
Cooling concept	Natural convection
Environmental Category	Indoor and outdoor
Max.operation altitude	4000m
Grid connection standard	AS/NZS 4777.2:2020, IEC 62116, IEC 61727, IEC60068, IEC 61683, EN 50530
Safety/EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-1/-2/-3/-4
DC connection	MC4 connector
AC connection	OT Terminal
Display	LED indicator & Bluetooth+APP
Communication connections	RS485, Optional: Wi-Fi, GPRS
Warranty Terms	5 Years (Extend to 20 Years)

Model	S6-GR1P6K03-NV-ND-AU
Max. DC input voltage (Volts)	550
Rated DC voltage (Volts)	330
Startup voltage (Volts)	60
MPPT voltage range (Volts)	50-500
Max. input current (Amps)	20/20/20
Max short circuit input current (Amps)	25/25/25
MPPT number/Max input strings number	3/3
Rated output power (Watts)	6000
Max. output power (Watts)	6000
Max. apparent output power (VA)	6000
Rated grid voltage (Volts)	1/N/PE, 230
Rated output current (Amps)	26.1
Max. output current (Amps)	26.1
Power Factor (at rated output power)	>0.99 (0.8 leading - 0.8 lagging)
THDi (at rated output power)	<3%
Rated grid frequency (Hertz)	50
Operating frequency range (Hertz)	45-55
Max.efficiency	98.0%
EU efficiency	97.1%
Dimensions	335W*510H*220D (mm)
Weight	16.0kg
Topology	Transformerless
Self consumption (night)	< 1 W
Operating ambient temperature range	-25℃~+60℃
Relative humidity	0-100%
Ingress protection	IP66
Noise emission (typical)	<40 dB(A)
Cooling concept	Natural convection
Environmental Category	Indoor and outdoor
Max.operation altitude	4000m
Grid connection standard	AS/NZS 4777.2:2020, IEC 62116, IEC 61727, IEC60068, IEC 61683, EN 50530
Safety/EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-1/-2/-3/-4
DC connection	MC4 connector
AC connection	OT Terminal
Display	LED indicator & Bluetooth+APP
Communication connections	RS485, Optional: Wi-Fi, GPRS
Warranty Terms	5 Years (Extend to 20 Years)

Model	S6-GR1P7K03-NV-ND-AU
Max. DC input voltage (Volts)	550
Rated DC voltage (Volts)	330
Startup voltage (Volts)	60
MPPT voltage range (Volts)	50-500
Max. input current (Amps)	20/20/20
Max short circuit input current (Amps)	25/25/25
MPPT number/Max input strings number	3/3
Rated output power (Watts)	7000
Max. output power (Watts)	7000
Max. apparent output power (VA)	7000
Rated grid voltage (Volts)	1/N/PE, 230
Rated output current (Amps)	30.4
Max. output current (Amps)	30.4
Power Factor (at rated output power)	>0.99 (0.8 leading - 0.8 lagging)
THDi (at rated output power)	<3%
Rated grid frequency (Hertz)	50
Operating frequency range (Hertz)	45-55
Max.efficiency	98.0%
EU efficiency	97.1%
Dimensions	335W*510H*220D (mm)
Weight	16.1kg
Topology	Transformerless
Self consumption (night)	< 1 W
Operating ambient temperature range	-25℃~+60℃
Relative humidity	0-100%
Ingress protection	IP66
Noise emission (typical)	<40 dB(A)
Cooling concept	Natural convection
Environmental Category	Indoor and outdoor
Max.operation altitude	4000m
Grid connection standard	AS/NZS 4777.2:2020, IEC 62116, IEC 61727, IEC60068, IEC 61683, EN 50530
Safety/EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-1/-2/-3/-4
DC connection	MC4 connector
AC connection	OT Terminal
Display	LED indicator & Bluetooth+APP
Communication connections	RS485, Optional: Wi-Fi, GPRS
Warranty Terms	5 Years (Extend to 20 Years)

Model	S6-GR1P8K03-NV-ND-AU
Max. DC input voltage (Volts)	550
Rated DC voltage (Volts)	330
Startup voltage (Volts)	60
MPPT voltage range (Volts)	50-500
Max. input current (Amps)	20/20/20
Max short circuit input current (Amps)	25/25/25
MPPT number/Max input strings number	3/3
Rated output power (Watts)	8000
Max. output power (Watts)	8000
Max. apparent output power (VA)	8000
Rated grid voltage (Volts)	1/N/PE, 230
Rated output current (Amps)	34.8
Max. output current (Amps)	34.8
Power Factor (at rated output power)	>0.99 (0.8 leading - 0.8 lagging)
THDi (at rated output power)	<3%
Rated grid frequency (Hertz)	50
Operating frequency range (Hertz)	45-55
Max.efficiency	98.0%
EU efficiency	97.1%
Dimensions	335W*510H*220D (mm)
Weight	16.1kg
Topology	Transformerless
Self consumption (night)	< 1 W
Operating ambient temperature range	-25℃~+60℃
Relative humidity	0-100%
Ingress protection	IP66
Noise emission (typical)	<40 dB(A)
Cooling concept	Natural convection
Environmental Category	Indoor and outdoor
Max.operation altitude	4000m
Grid connection standard	AS/NZS 4777.2:2020, IEC 62116, IEC 61727, IEC60068, IEC 61683, EN 50530
Safety/EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-1/-2/-3/-4
DC connection	MC4 connector
AC connection	OT Terminal
Display	LED indicator & Bluetooth+APP
Communication connections	RS485, Optional: Wi-Fi, GPRS
Warranty Terms	5 Years (Extend to 20 Years)

Model	S6-GR1P9K03-NV-ND-AU
Max. DC input voltage (Volts)	550
Rated DC voltage (Volts)	330
Startup voltage (Volts)	60
MPPT voltage range (Volts)	50-500
Max. input current (Amps)	20/20/20
Max short circuit input current (Amps)	25/25/25
MPPT number/Max input strings number	3/3
Rated output power (Watts)	9000
Max. output power (Watts)	9000
Max. apparent output power (VA)	9000
Rated grid voltage (Volts)	1/N/PE, 230
Rated output current (Amps)	39.1
Max. output current (Amps)	39.1
Power Factor (at rated output power)	>0.99 (0.8 leading - 0.8 lagging)
THDi (at rated output power)	<3%
Rated grid frequency (Hertz)	50
Operating frequency range (Hertz)	45-55
Max.efficiency	98.0%
EU efficiency	97.1%
Dimensions	335W*510H*220D (mm)
Weight	16.1kg
Topology	Transformerless
Self consumption (night)	< 1 W
Operating ambient temperature range	-25℃~+60℃
Relative humidity	0-100%
Ingress protection	IP66
Noise emission (typical)	<40 dB(A)
Cooling concept	Natural convection
Environmental Category	Indoor and outdoor
Max.operation altitude	4000m
Grid connection standard	AS/NZS 4777.2:2020, IEC 62116, IEC 61727, IEC60068, IEC 61683, EN 50530
Safety/EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-1/-2/-3/-4
DC connection	MC4 connector
AC connection	OT Terminal
Display	LED indicator & Bluetooth+APP
Communication connections	RS485, Optional: Wi-Fi, GPRS
Warranty Terms	5 Years (Extend to 20 Years)

Model	S6-GR1P9.9K03-NV-ND-AU
Max. DC input voltage (Volts)	550
Rated DC voltage (Volts)	330
Startup voltage (Volts)	60
MPPT voltage range (Volts)	50-500
Max. input current (Amps)	20/20/20
Max short circuit input current (Amps)	25/25/25
MPPT number/Max input strings number	3/3
Rated output power (Watts)	9900
Max. output power (Watts)	9900
Max. apparent output power (VA)	9900
Rated grid voltage (Volts)	1/N/PE, 230
Rated output current (Amps)	43.0
Max. output current (Amps)	43.0
Power Factor (at rated output power)	>0.99 (0.8 leading - 0.8 lagging)
THDi (at rated output power)	<3%
Rated grid frequency (Hertz)	50
Operating frequency range (Hertz)	45-55
Max.efficiency	98.0%
EU efficiency	97.1%
Dimensions	335W*510H*220D (mm)
Weight	16.1kg
Topology	Transformerless
Self consumption (night)	< 1 W
Operating ambient temperature range	-25℃~+60℃
Relative humidity	0-100%
Ingress protection	IP66
Noise emission (typical)	<40 dB(A)
Cooling concept	Natural convection
Environmental Category	Indoor and outdoor
Max.operation altitude	4000m
Grid connection standard	AS/NZS 4777.2:2020, IEC 62116, IEC 61727, IEC60068, IEC 61683, EN 50530
Safety/EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-1/-2/-3/-4
DC connection	MC4 connector
AC connection	OT Terminal
Display	LED indicator & Bluetooth+APP
Communication connections	RS485, Optional: Wi-Fi, GPRS
Warranty Terms	5 Years (Extend to 20 Years)

9. Specifications

Model	S6-GR1P10K03-NV-ND-AU
Max. DC input voltage (Volts)	550
Rated DC voltage (Volts)	330
Startup voltage (Volts)	60
MPPT voltage range (Volts)	50-500
Max. input current (Amps)	20/20/20
Max short circuit input current (Amps)	25/25/25
MPPT number/Max input strings number	3/3
Rated output power (Watts)	10000
Max. output power (Watts)	10000
Max. apparent output power (VA)	10000
Rated grid voltage (Volts)	1/N/PE, 230
Rated output current (Amps)	43.5
Max. output current (Amps)	43.5
Power Factor (at rated output power)	>0.99 (0.8 leading - 0.8 lagging)
THDi (at rated output power)	<3%
Rated grid frequency (Hertz)	50
Operating frequency range (Hertz)	45-55
Max.efficiency	98.0%
EU efficiency	97.1%
Dimensions	335W*510H*220D (mm)
Weight	16.1kg
Topology	Transformerless
Self consumption (night)	< 1 W
Operating ambient temperature range	-25℃~+60℃
Relative humidity	0-100%
Ingress protection	IP66
Noise emission (typical)	<40 dB(A)
Cooling concept	Natural convection
Environmental Category	Indoor and outdoor
Max.operation altitude	4000m
Grid connection standard	AS/NZS 4777.2:2020, IEC 62116, IEC 61727, IEC60068, IEC 61683, EN 50530
Safety/EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-1/-2/-3/-4
DC connection	MC4 connector
AC connection	OT Terminal
Display	LED indicator & Bluetooth+APP
Communication connections	RS485, Optional: Wi-Fi, GPRS
Warranty Terms	5 Years (Extend to 20 Years)