

Quick Installation Guide

Single-Phase Microinverter

S450S-L/S1000S-L/S2000S-L



1. Contents may be periodically updated or revised due to product development. The information in this guide is subject to change without notice. In no case shall this guide substitute for the user manual or related notes on the device.
2. Make sure to read over, fully understand and strictly follow the detailed instructions of the user manual and other related regulations before installing the equipment. The user manual can be downloaded by visiting the website at <http://support.sungrowpower.com/>; or it can be obtained by scanning the QR code on the front of the microinverter or the back cover of this guide.
3. All operations can be performed only by qualified personnel, that must be trained for installation and commissioning of electrical system, as well as dealing with hazards, have knowledge of the manual and of the local regulations and directives.
4. Before installation, check that the package contents are intact and complete compared to the packing list. Contact SUNGROW or the distributor in case of any damaged or missing components.
5. The cable used must be intact and well insulated. Operation personnel must wear proper personal protective equipment (PPE) all the time.
6. Any violation could result in personal death or injury or device damage, and will void the warranty.
7. Incorporates product approved by Anatel under number 23376-23-11568.

Safety

The inverter has been designed and tested strictly according to international safety regulations. Read all safety instructions carefully prior to any work and observe them at all times when working on or with the inverter. Incorrect operation or work may cause:

- Injury or death to the operator or a third party.
- Damage to the inverter or other properties.

Please follow the safety instructions related to the PV strings and the utility grid.

Security Declaration

To learn more about the product network security vulnerability response process and vulnerability disclosure, please scan the QR code below or visit the following website:

<https://en.sungrowpower.com/security-vulnerability-management>



DANGER

- Lethal voltage!
- PV strings will produce electrical power when exposed to sunlight and can cause a lethal voltage and an electric shock.
- Only qualified personnel can perform the wiring of the PV panels.
- All electrical connections must be in accordance with local and national standards.
- Only with the permission of the utility grid, the inverter can be connected to the utility grid.
- Do not open the enclosure at any time. Unauthorized opening will void guarantee and warranty claims and in most cases terminate the operating license.
- When the enclosure lid is removed, live components can be touched which can result in death or serious injury due to electric shock.

Lethal danger from electric shock due to possibly damaged inverter

- Only operate the inverter when it is technically faultless and in a safe state.
- Operating a damaged inverter can lead to hazardous situations that can result in death or serious injuries due to electric shock.

WARNING

Risk of inverter damage or personal injury.

- Do not pull out the PV connectors and AC connector when the inverter is running. Disconnect the AC circuit breaker. Wait 10 minutes for the internal capacitors to discharge. Verify that there is no voltage or current before pulling any connector.
- Even after the microinverter has been stopped, it may still be hot and cause burns. Wait 30min until the microinverter cools down, and then perform operations on it wearing protective gloves.

All the warning labels and nameplate on the inverter body:

Must be clearly visible.

must not be removed, covered or pasted.

CAUTION

Risk of burns due to hot components!

- Do not touch any hot parts (such as heat sinks) during operation.

NOTICE

Only qualified personnel can perform the country setting.

- Unauthorized alteration of the country setting may cause a breach of the type-certificate marking.
- Risk of inverter damage due to electrostatic discharge (ESD)!
- By touching the electronic components, you may damage the inverter. For inverter handling, be sure to: Avoid any unnecessary touching.
wear a grounding wristband before touching any connectors.

MicroInverter

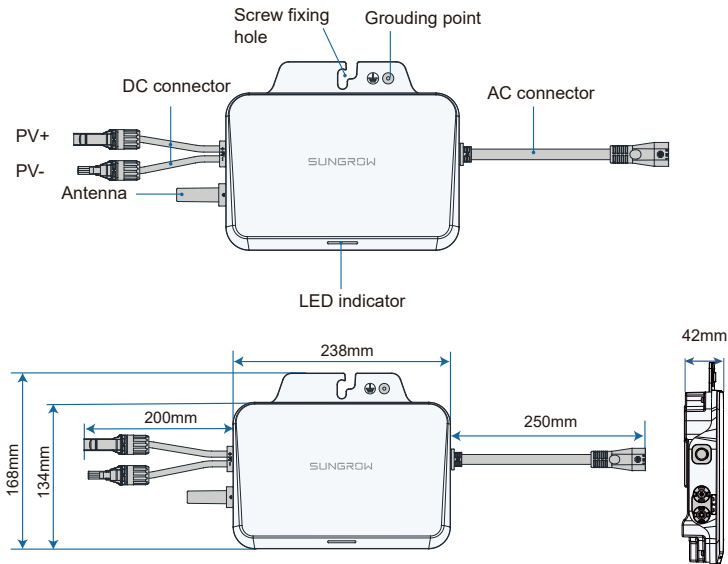
The warning label on the inverter body are as follows.

 Danger to life due to high voltages! Only qualified personnel can open and maintain the inverter.	 There is a danger from a hot surface that may exceed 60°C.
 Disconnect the inverter from all the external power sources before service!	 Danger to life due to high voltages! Do not touch live parts for 10 minutes after disconnection from the power sources.
 Read the user manual before maintenance!	 Do not dispose of the inverter together with household waste.
 CE mark of conformity. EU/EEA Importer.	 RoHS labeling The product complies with the requirements of the applicable EU directives.
 TÜV mark of conformity.	 UTE C15-712-1 Warning label for installation.
 UTE C15-712-1 Warning label for installation.	 India Standard Mark for BIS.

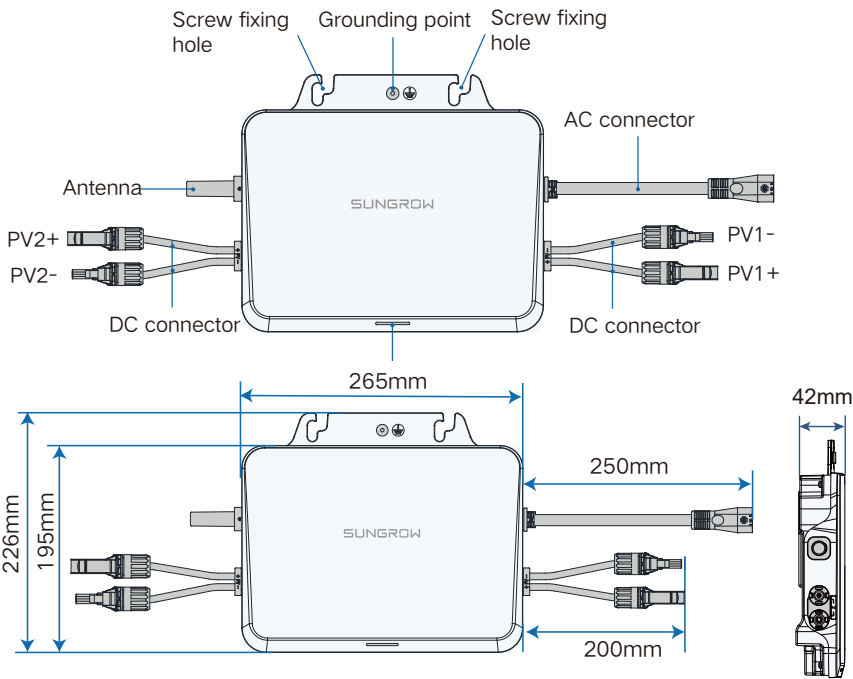
Incorporates Wireless Communication Module approved by Anatel under number 23376-23-11568.

Product Appearance&Dimensions

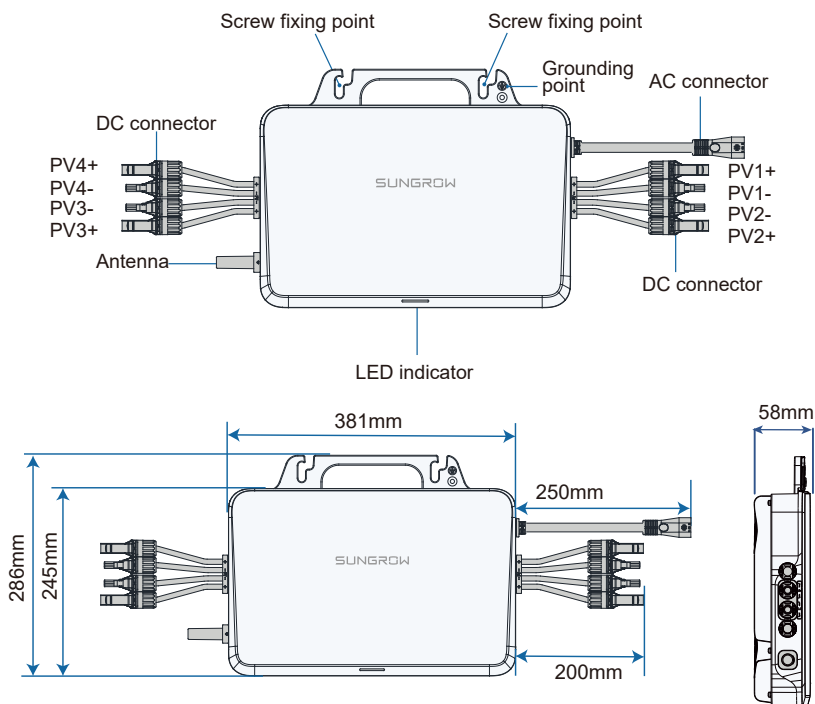
S450S-L:



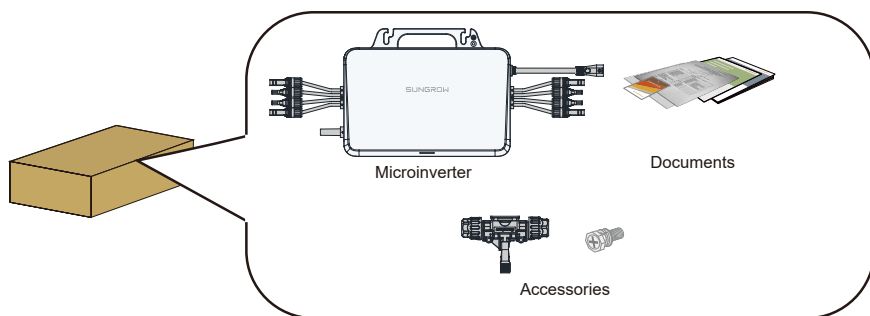
S1000S-L:



S2000S-L:

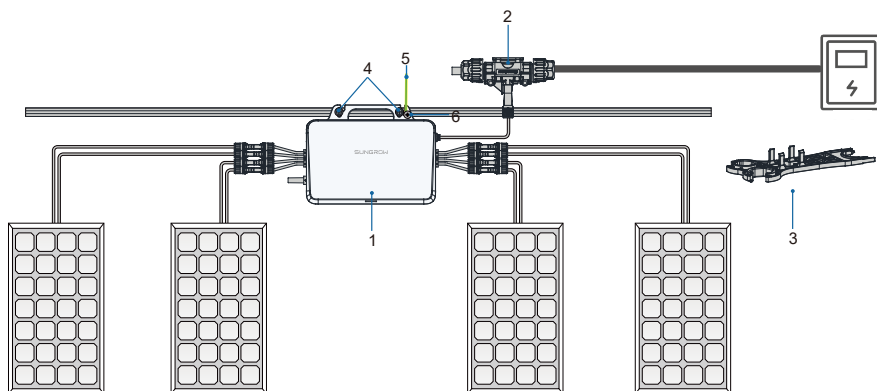


Scope of Delivery



* The images shown here are for reference. The actual product and quantity are based on delivery.

System Wiring Diagram

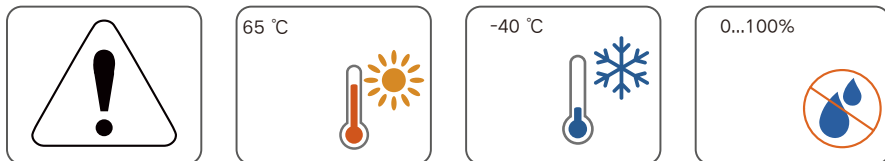


No.	Definition	Model	Description
1	Microinverter	S450S-L、S1000S-L、S2000S-L	Included in the scope of delivery as standard equipment.
2	T-type connector	/	Included in the scope of delivery. Used to connect the AC cables of two microinverters.
3	Connector disconnect tool	/	Customers need to place a separate order. Used to disconnect the T-type connector from the microinverter.
4	M8 fixing screw	M8	Prepared by users.Used to fix the microinverter.
5	Grounding cable	Recommended cross-section of the cable: 6 mm ²	Prepared by users. Used for external grounding of Microinverter.
6	Grounding screw	M4	Included in the scope of delivery. Used for external grounding of Microinverter

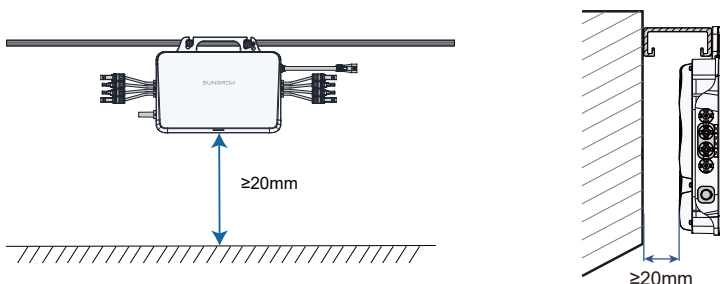
* Note: Only the power distribution box is allowed to be connected to the AC grid-connected side.

Mounting Location

The average temperature approximately 20 cm around the microinverter should be taken as its operating temperature. The temperature and humidity should meet the requirements below:

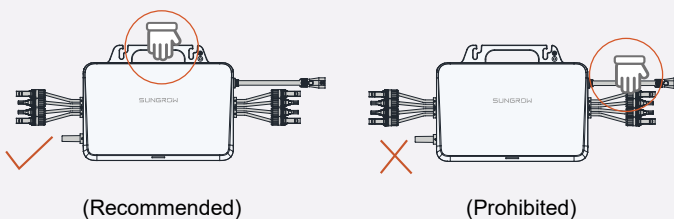


Installation Space Requirements

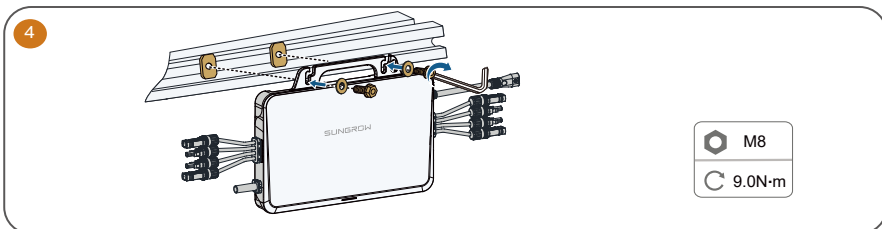
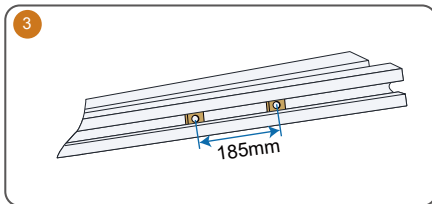
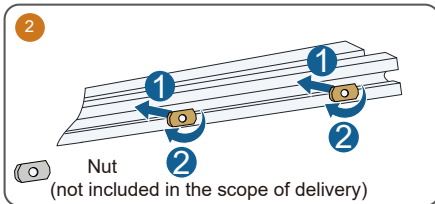


Mounting and Wiring

- Do not lift the cable by hand when handling the device. You may move the device by gripping the groove on its back.



- Remove one of the two identical QR code labels on the device enclosure, and stick it inside the dotted box on the left (if multiple microinverters are used, put their QR codes on the blank page before this Guide's back cover). This QR code is used for iSolarCloud related operations.
- The QR code on the nameplate is not intended for iSolarCloud related operations.



- Washers should be added to the M8 screws by the user separately. Washers with an inner diameter of 8.5 mm and a thickness of 2.5 mm are recommended; while the outer diameter of the washer must be greater than 24 mm.
- It is recommended that the inverter fixing screws be installed around the roof frame fixing hook.
- Do not mount the microinverter on the edge of the bracket.

Bracket edge

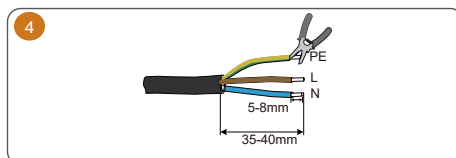
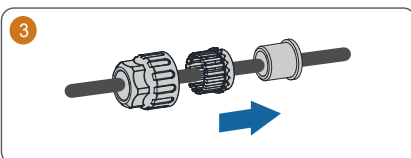
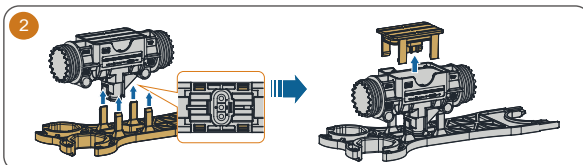
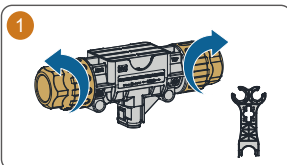


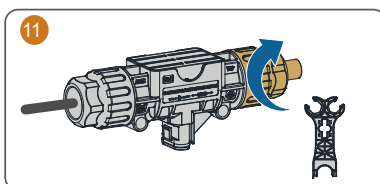
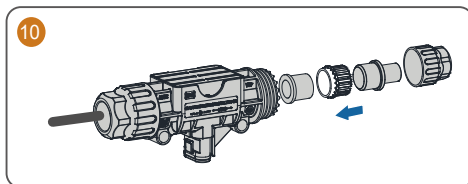
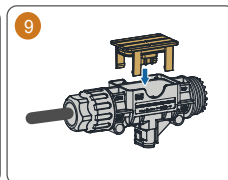
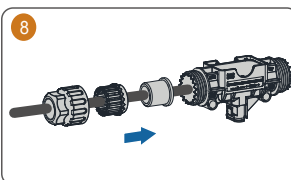
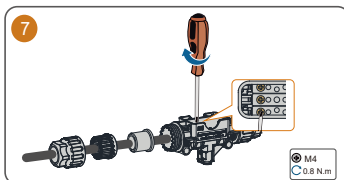
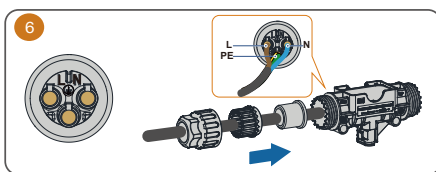
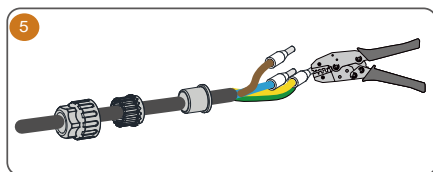
(Recommended)



(Prohibited)

Attach T-type Connector to AC Cable

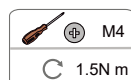
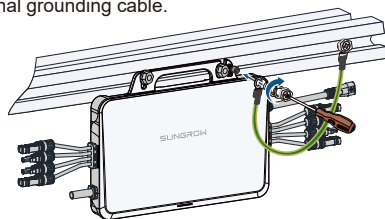




Observe the marks on the terminals when making cables and ensure the polarity is correct. Otherwise, after connecting to the power distribution box, the microinverter may not operate properly, the house's circuit may trip, and it may even result in personal injuries.

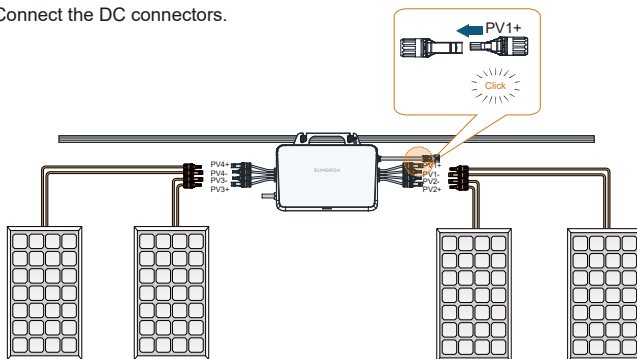
Wiring Steps

- 1 Connect the external grounding cable.



It is recommended to make a protective ground connection. Lack of protective grounding or unreliable grounding may lead to personal injuries.

2 Connect the DC connectors.



⚠ WARNING

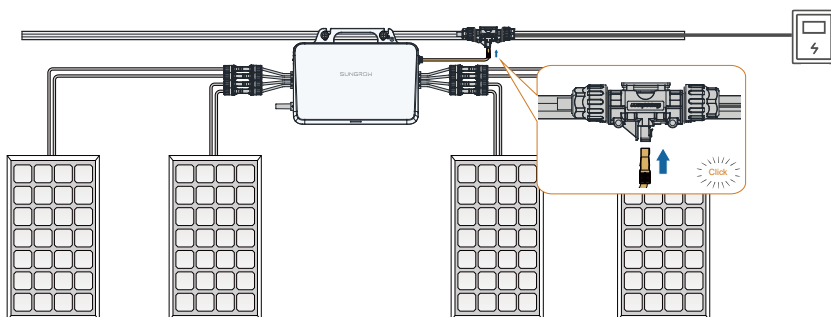
- The PV1 channel acts as the host and must be connected with PV module. If it is left unconnected, the system may report a fault and cannot operate properly.

⚠ CAUTION

Only qualified personnel can perform the country setting.

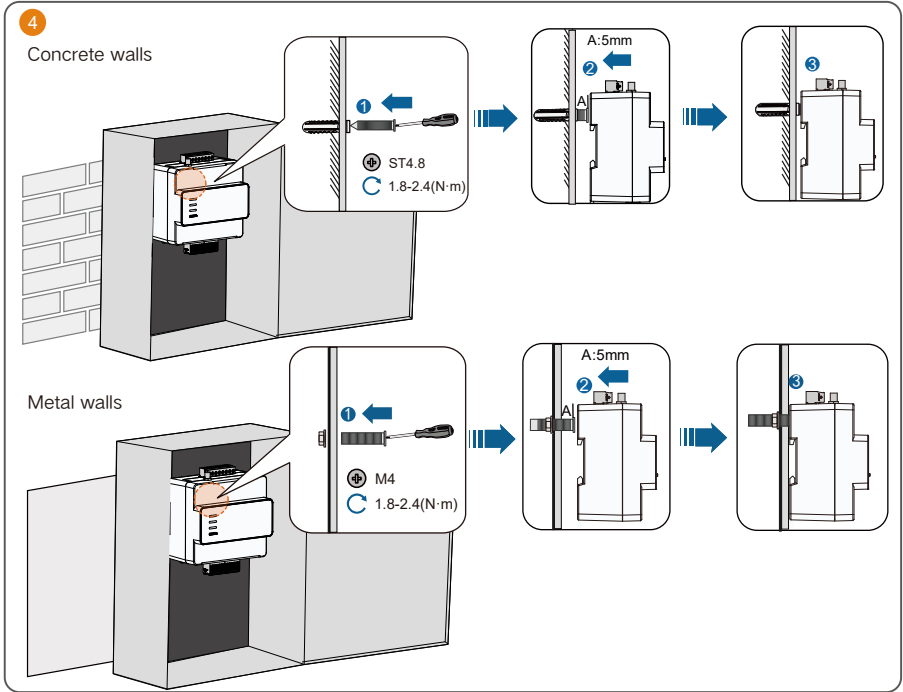
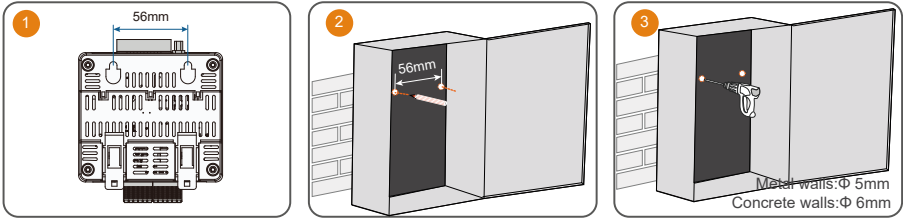
- When connecting the DC connectors, make sure the order of the connectors corresponds properly to the actual positions of PV modules at the site, to facilitate the later setup of the physical layout of the plant.
- If not all of the DC connectors of the microinverter are connected to PV modules, use IP67 waterproof plugs to close off the unused connectors. The waterproof plugs should be prepared by the user.
- The total length of the microinverter PV-side cable must be < 3 m.
- If the PV module is located too far away from the microinverter, a DC extension cable is needed. The user needs to make the extension cable first.
- Ensure the PV cables are connected with correct polarity. Otherwise, the microinverter may not operate properly.
- PV modules cannot be connected in series.

3 Connect the AC connector.

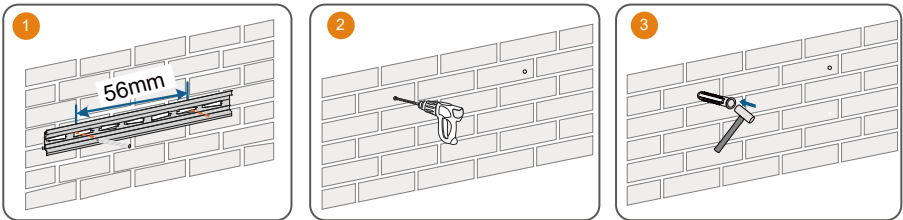


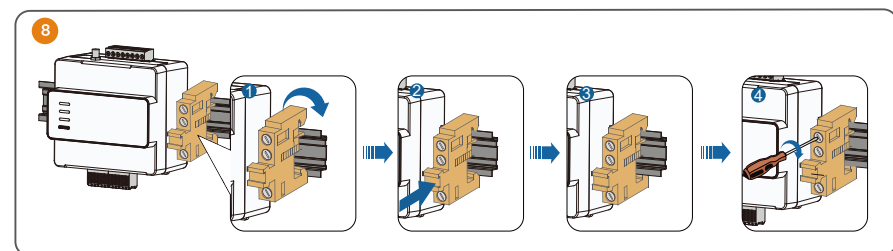
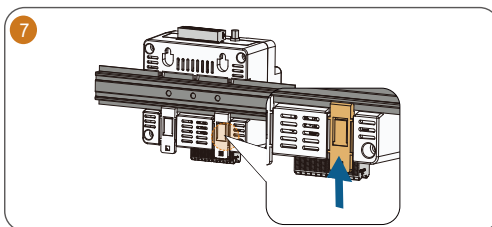
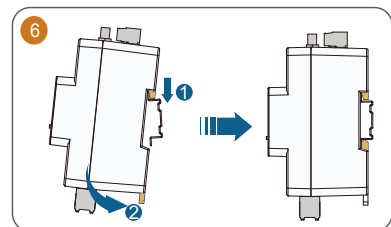
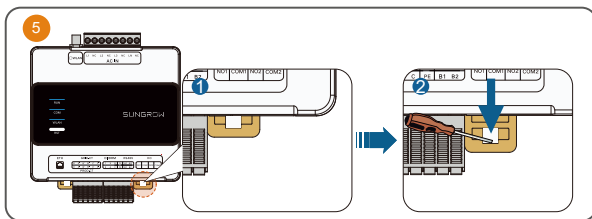
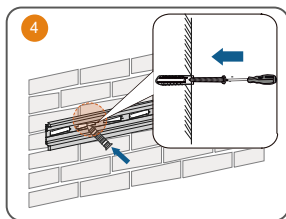
iHomeManger Mechanical Mounting (Optional)

1. Mounted on a Wall

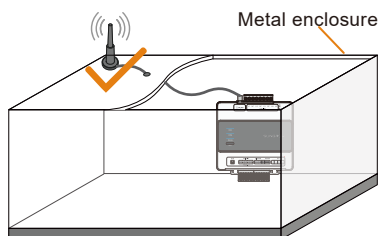
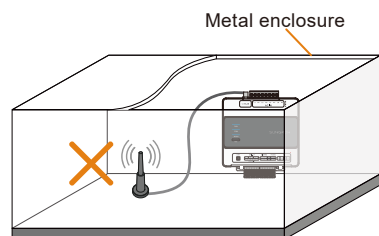


2. Mounted on a Guide Rail

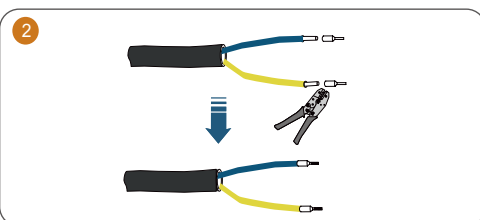
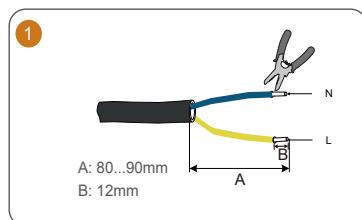




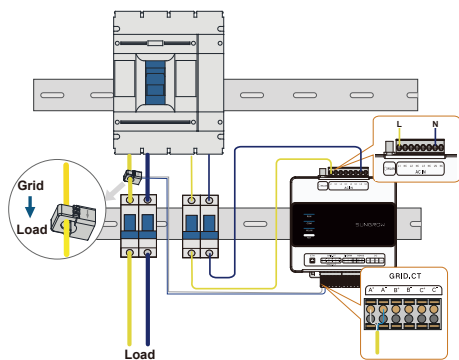
3. Antenna Installation



4.AC and GRID.CT connection

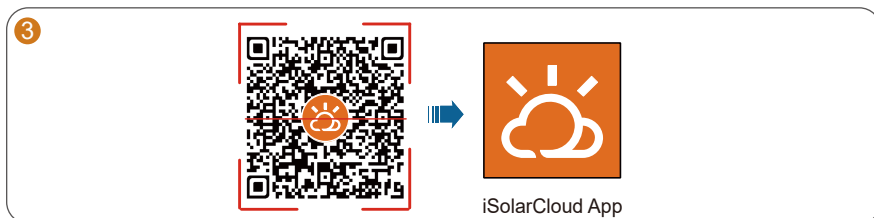
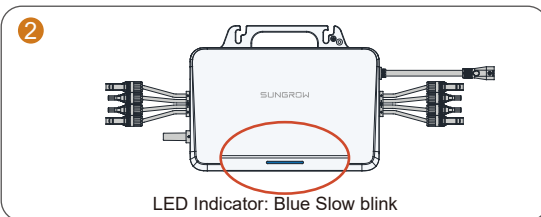
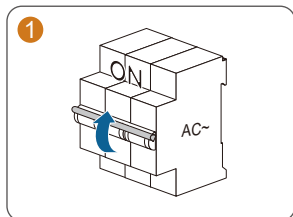


3



The iHomeManager comes with three CTs. Connect only one CT to the microinverter.

Commissioning



- To fully utilize the features of the iSolarCloud App, please grant it access to your camera, location, and network when you first open the App.
- Connect only one mobile phone to the microinverter's hotspot at a time. Otherwise, it may lead to a conflict issue.
- The S450S-L, S1000S-L and S2000S-L microinverters support the 2.4GHz band only. If the target network is not shown in the list of available home networks, check whether the 2.4GHz band is enabled for the router. You can go to the router configuration page and enable the 2.4GHz band in wireless settings. For detailed instructions, see the manual for the router .
- It is suggested to turn off auto network switching on the mobile phone so that it can stay connected to the microinverter's hotspot. Otherwise, the phone may switch to a stronger Wi-Fi signal automatically and its connection to the microinverter will be interrupted. Detailed instructions are provided below, using a Samsung mobile phone as an example:



Select your account type

1) Select your server

Please select the server name for your pool (it will be available, please select an account name)

BASE plan

2) Select your server

Retailer/Installer
Users who provide services for opening

Owner
Users who will own or ultimately own plans

Cancel **Select your server** **Go**

Discord server
Telegram server
International server
Authorization server
Test it

Retailer/installer Registration

*Country/Region
XXXXXX

*Password
XXXXXX

*Email
XXXXXX

XXXXXX Get Verification Code

Tap Get Verification Code to get the verification code.
If you cannot receive it, view help.

Company Name
XXXXXX

Code of Upper Level Installer/Retailer
XXXXXX

I have read and agreed to the Privacy Policy

10:32 cellular 100%

Select your account type

01 Select your server

Please select the internet server for your app. (first available)
Please select the international server

XXXXXX

02 Select your account type

Retailer/Installer

Users who provide services for clients

Owner

Users who will own or already own plants

Next

Legal and privacy

You must agree to our privacy policy to use SolarCloud services

- ☒ **Agree to all**
- ☒ I have read and agree to the Terms of Service and Privacy Policy
- ☒ I'd like to receive marketing information through emails and push notifications. [Read more](#)
- ☒ I want to help improve the service by sharing crash reports and analytics data. [Read more](#)

[Cancel](#) [Agree](#)

The screenshot shows the SUNDRICH app interface. At the top, the text "SUNDRICH" is displayed in orange. Below it, a message reads "There is no plant, please create a plant first". A large orange button with the text "Create plant" is visible, with a hand icon pointing at it. The bottom navigation bar contains four icons: a home icon, a plant icon, a circular arrow icon, and a magnifying glass icon.

General information

XXXXXXXXXXXXXXXXXXXX

Postal code

XXXXXXXXXXXXXXXXXXXX

* Country/region

XXXXXXXXXXXXXXXXXXXX

* Time zone

XXXXXXXXXXXXXXXXXXXX

Module model

XXXXXXXXXXXXXXXXXXXX

* Owner's email address

XXXXXXXXXXXXXXXXXXXX

I have obtained authorization from the owner to allow the current plant access to characteristic services.

Save and continue

Save and exit

Create Plant

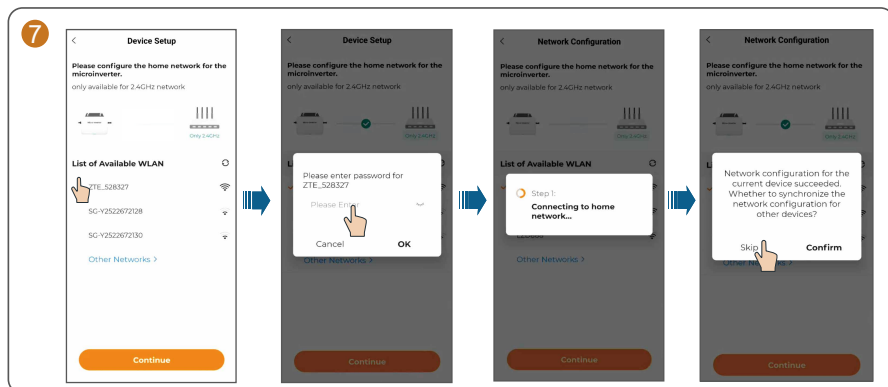
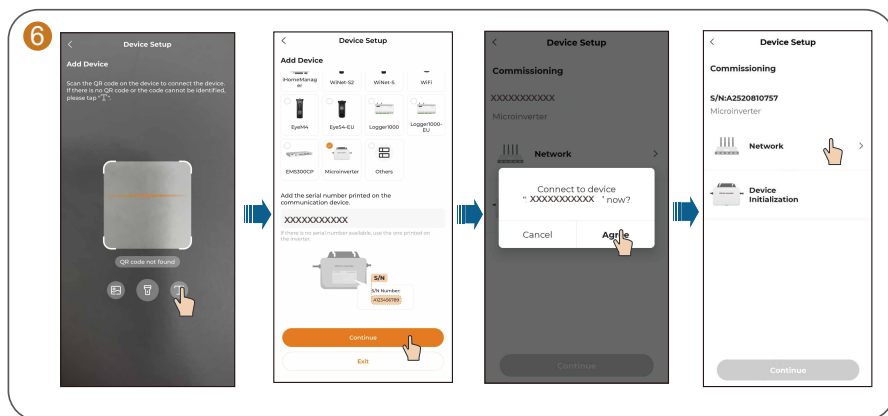
01 **Plant Information**

02 Device Setup

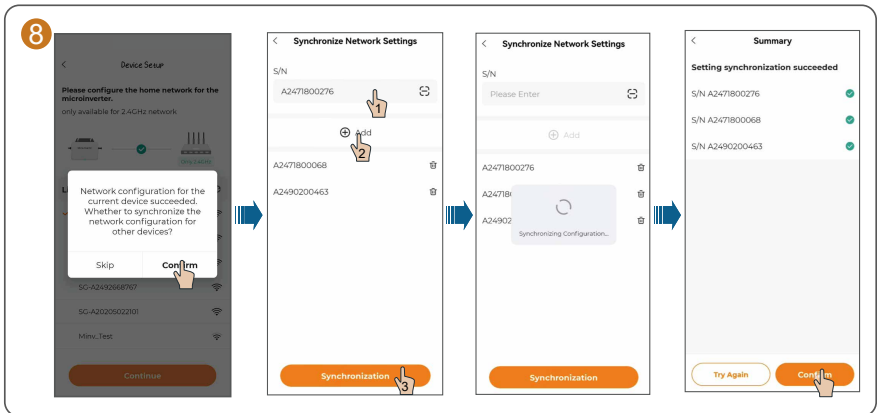
03 Tariff

Start

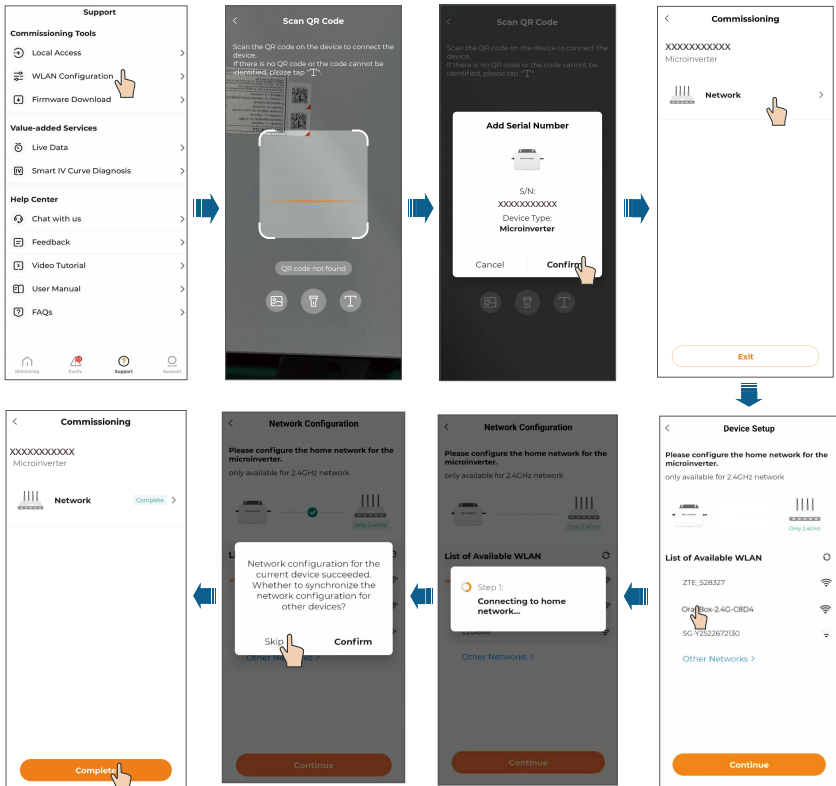
Parameter	Description
*Plant Name	Enter the plant name.
*Plant Type	Select Resident PV
*PV Installation Power (kWp)	Enter the installed power.
*Detailed Address	The location of the plant.
*City	The city where the plant is located.
Postal Code	The postal code of the place where the plant is located.
*Country/Region	The country (region) where the plant is located.
*Time Zone	The time zone of the place where the plant is located.
Module Model	The model of the PV module actually used in the plant.
*Owner's Email Address	Enter the owner's email address.
*Grid-connection Type	Set the grid-connection type for the plant.
Grid-connected Date	Shows the current date by default.
Plant Image	Upload an image of the plant.
Remark 1	Enter any remarks regarding the plant.

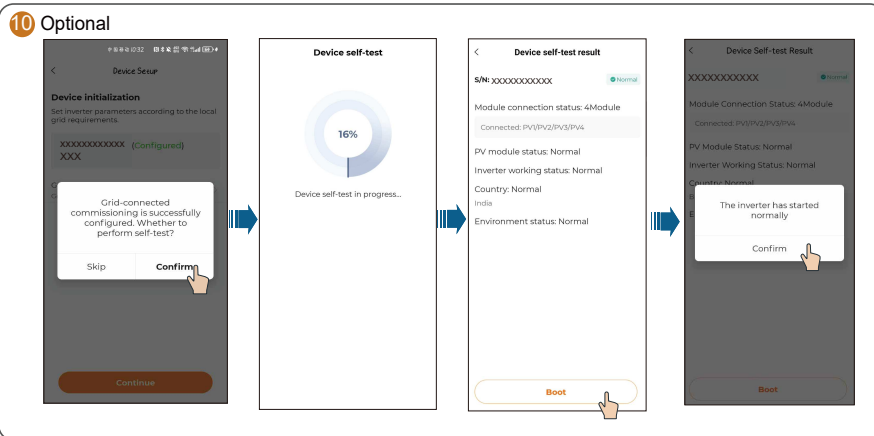
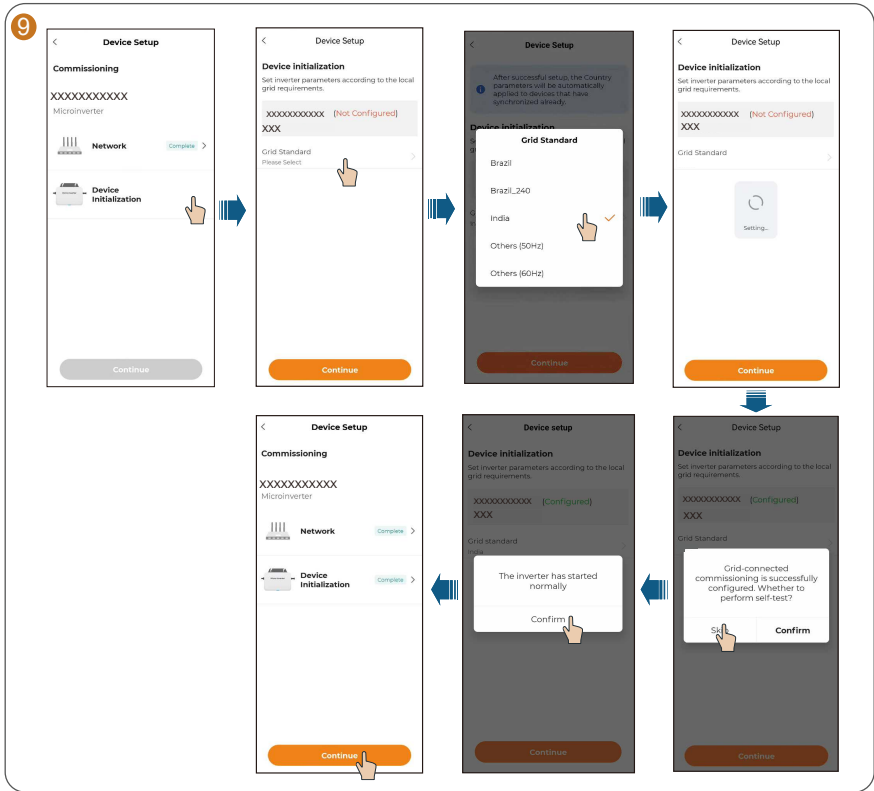


- If there is one microinverter only, you can choose "SKIP". The network configuration is then completed.
- If there are multiple microinverters, you can choose "CONTINUE" to complete the network configuration for other microinverters. For details, see Step 8.

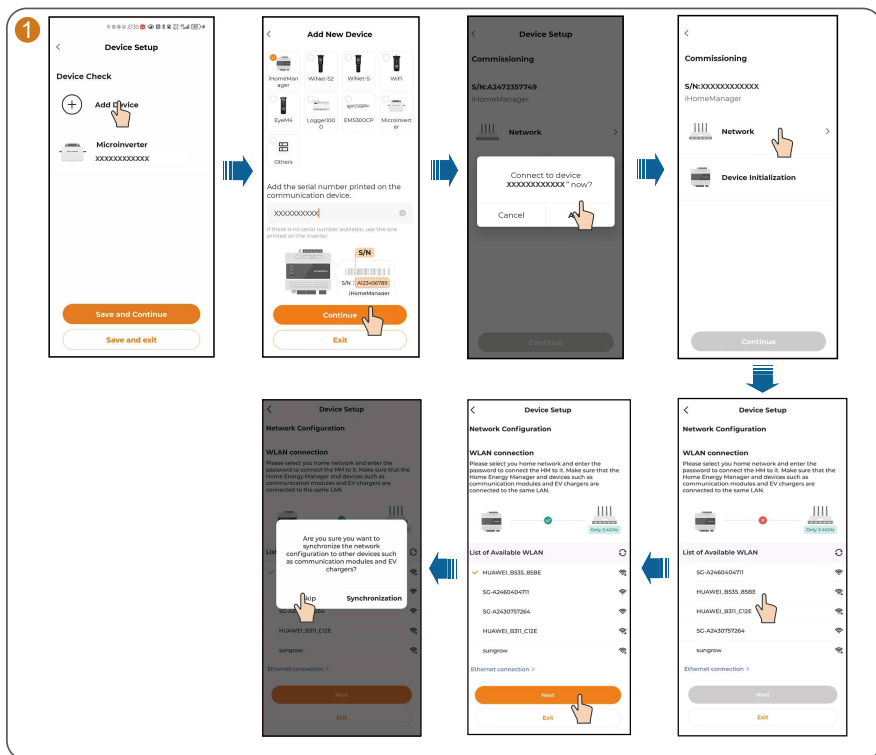


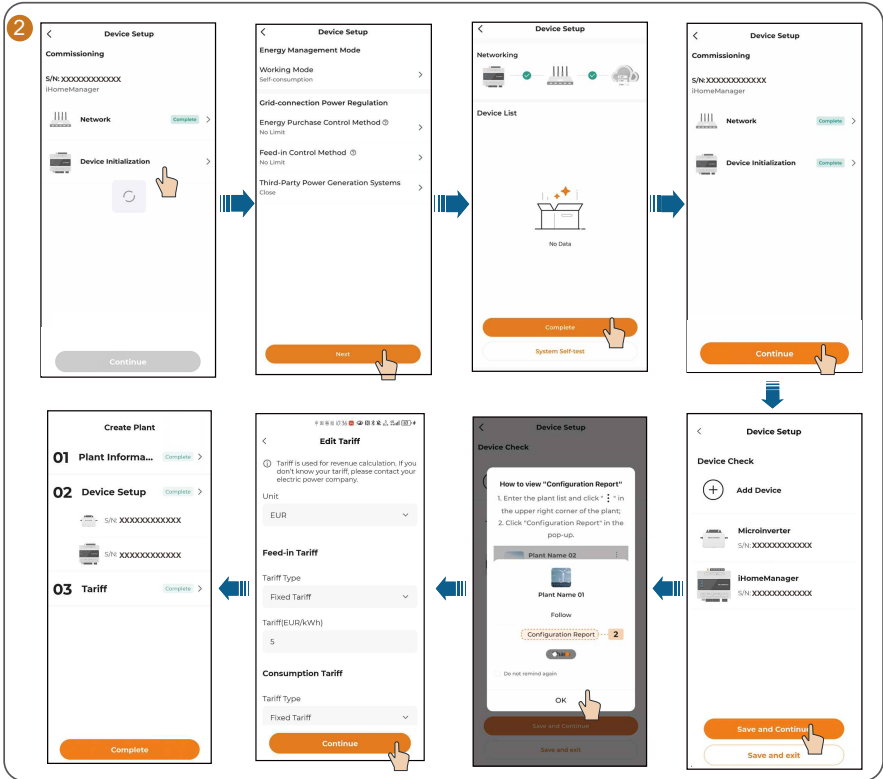
● When you replace the router, you need to set up the network connection again. Log in to the iSolarCloud App, tap the network status, and select the home network to connect to it.





If an iHomeManager is installed, choose "Add Device" at the end of Step 9 to add and configure the iHomeManager. Detailed instructions are provided below.





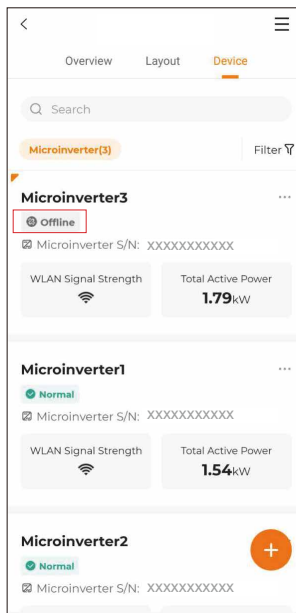
The plant that has been created will be shown on the "Monitoring" screen. You can tap a plant to check the detailed information about the plant and its devices, as shown in the figure below.



At night, since there is no light, the microinverter in the plant stops working due to the absence of power source. In this case, it does not communicate with the background and its status shows "offline". However, this does not indicate a fault in the device. Once the light conditions return to normal, with stable power source, the microinverter will start up and work again. It will then communicate with the background normally and its status will be "online". If the device stays offline for a long time or in case of other abnormal symptoms, inspect the device and its network connection.

Check Microinverter Status

Choose the "Device" tab on the top of the screen to check the devices in the plant and their status.



If a microinverter in the list remains offline for an extended period (excluding the situation that the microinverter goes offline at night, which is normal), follow the troubleshooting steps below.

1. Check that the home router network is functioning properly.
2. Check that the microinverter is using the correct password to connect to the network.
3. Determine if the signal is weak because the microinverter is too far from the router. If necessary, add a Wi-Fi extender between the microinverter and the router.

LED Indicator

Status indicator	Color	Status	Description
	Blue	Steady on	Running in on-grid state
		Blink slow	Standby or starting up
	Red	Steady on	Fault (inverter failure, update failed, etc.)
		Blink slow	Updating
	Grey	Off	Powered off

If multiple microinverters are used, paste their QR code labels below.



More information in the QR code or
at <http://support.sungrowpower.com/>

