

User Manual

Single-Phase Microinverter

S800S / S450S



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 side of the equipment 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.

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.

NOTICE

Danger to life from electric shock due to lethal voltage!

- All electrical connections must be in accordance with local and national standards.
- Only with the permission of the local utility grid company, the inverter can be connected to the utility grid.

Inverter

The warning label on the inverter body are as follows.



Disconnect the inverter from all the external power sources before maintenance!



Do not touch live parts for 10 minutes after disconnection from the power sources.



Burn danger due to hot surface that may exceed 60 °C.



Danger to life due to high voltages!
Only qualified personnel can open and maintain the inverter.



Read the user manual before maintenance!

DANGER

Danger to life from electric shocks due to live voltage

- Do not open the enclosure at any time. Unauthorized opening will void warranty 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 and set the DC load-break switch of the inverter to OFF. Wait 10 minutes for the internal capacitors to discharge. Verify that there is no voltage or current before pulling any connector.

WARNING

All the warning labels and nameplate on the inverter body:

- must be clearly visible; and
- must not be removed, covered or pasted.

CAUTION

Risk of burns due to hot components!

- Do not touch any hot parts (such as the heat sink) during operation. Only the DC switch can safely be touched at any time.

NOTICE

Only qualified personnel can perform the country setting. Unauthorized alteration 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; and
- wear a grounding wristband before touching any connectors.

EU Declaration of Conformity

within the scope of the EU directives



The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

Radio Equipment Directive 2014/53/EU (RED)

Low Voltage Directive 2014/35/EU (LVD)

Electromagnetic compatibility 2014/30/EU (EMC)

Restriction of the use of certain hazardous substances 2011/65/EU and 2015/863/EU (RoHS)

SUNGROW confirms herewith that the products described in this document are in compliance with the fundamental requirements and other relevant provisions of the abovementioned directives. The entire EU Declaration of Conformity can be found at support.sungrowpower.com.

The communication module that comes with the inverter and the technical parameters of wireless communication are listed in the table below. The model of the communication module actually delivered shall prevail. The EU Declaration of Conformity for the communication module can be found at support.sungrowpower.com.

Microinverter(WIFI):

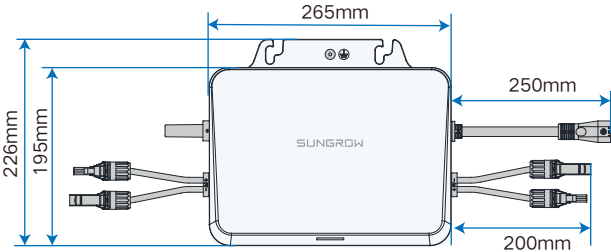
Radio technology	WLAN 802.11b/g/n20/n40
Radio spectrum	2412 MHz ~ 2484 MHz
Maximum transmission power	≤ 21 dBm

Technical parameters listed above apply to EU countries only.

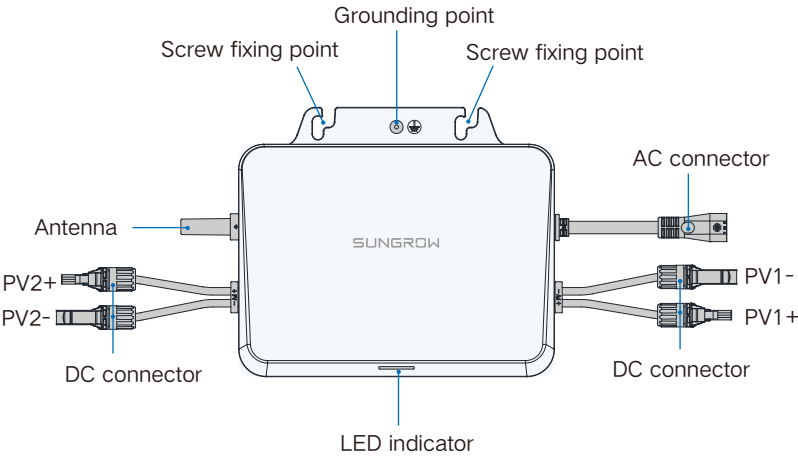
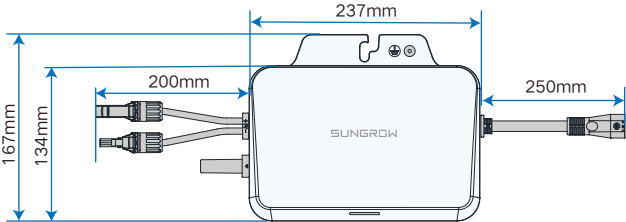
Product Overview

Models intended for balcony PV systems: S800S, S450S

S800S:



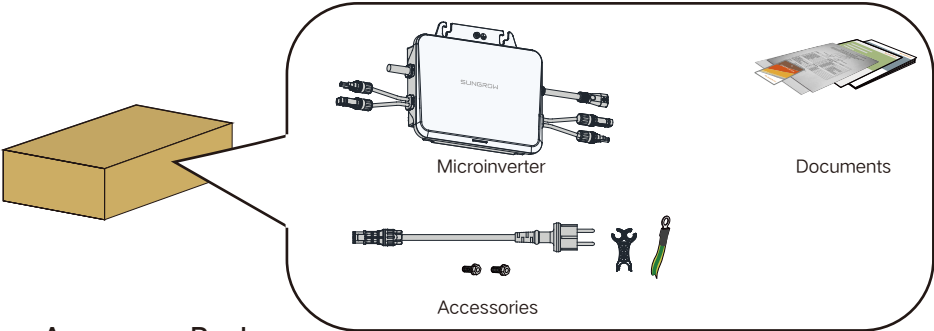
S450S:



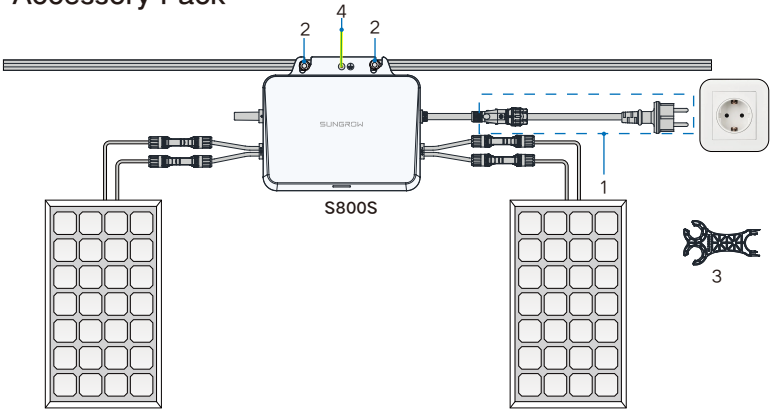
Specifications of PV modules compatible with the Microinverter:

	S800S	S450S
Recommended PV module power range	375W-570W	
Max. PV input voltage	60V	
Max. PV input current	16A * 2	16A * 1

Scope of Delivery



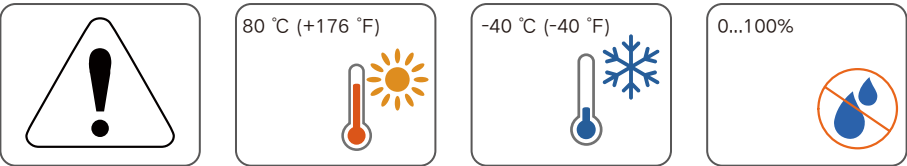
Accessory Pack



S800S Accessory Pack	Item	Specifications and Quantity	Description
1	Cable with Schuko wall plug	10m, 10A, 1 pcs	Used to connect the Microinverter to the wall socket, thus allowing current output for grid connection
		20m (optional)	You may choose the cable with a length of 20m if the Microinverter is located further away from the wall socket
2	Screw	M8, 2 pcs	Used to fix the Microinverter
3	Connector disconnect tool	1 pcs	Used to disconnect the connector between cables
4	Grounding cable (with screw)	1 pcs	Used for external grounding of Microinverter

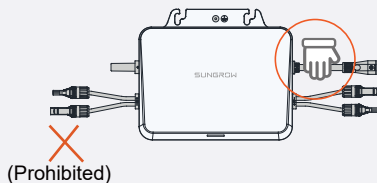
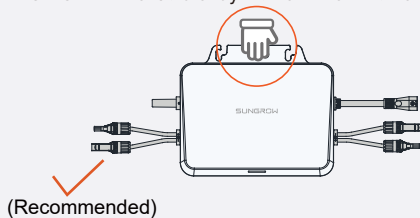
Note: Accessories provided for S450S and S800S are the same, except that only 1 screw is provided for S450S.

Mounting Location

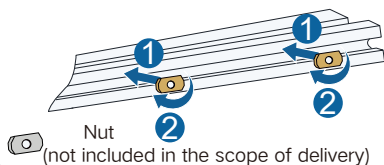


Mounting and Wiring

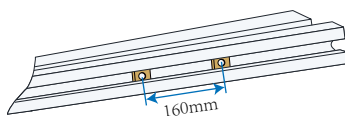
- Do not lift the cable by hand when handling the device.



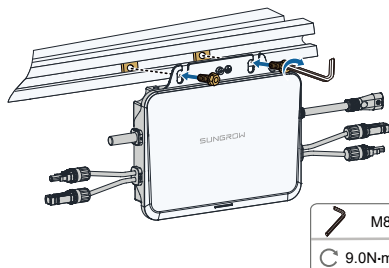
- 1 Fit the nuts.



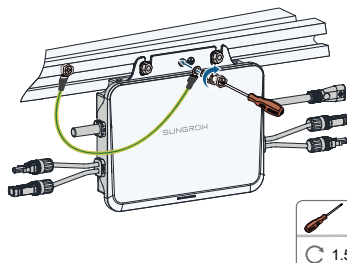
- 2 The distance between the nuts is shown below.



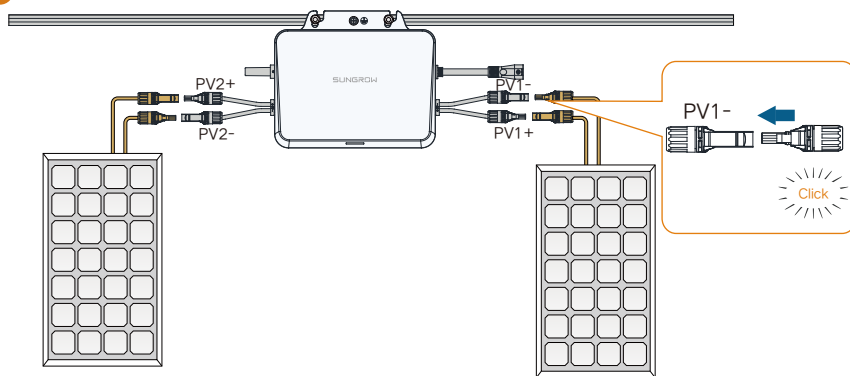
- 3 Fix the Microinverter with M8 screws.



- 4 Connect the grounding cable.

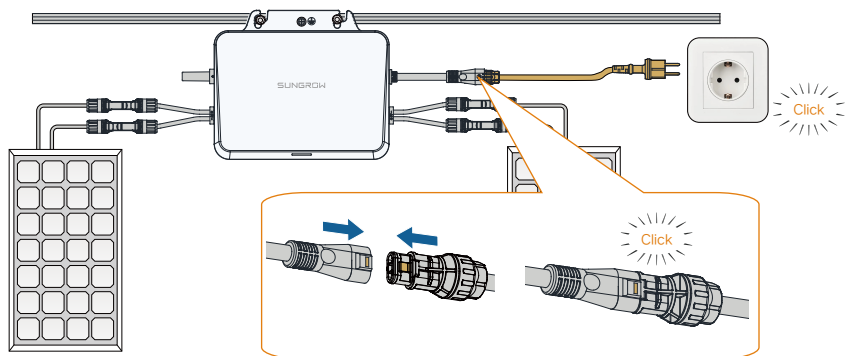


- 5 Connect the PV cables.



For the safety of the PV system and the users, a PV module must be connected to PV1 on the Microinverter.

- 6 Fit the wall plug, and put it into the socket.

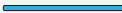




The wall plug is designed up to the German standard. Before use, it is suggested to check if it complies with the applicable local standard.

Commissioning

1. Turn on the main AC circuit breaker in the house.
2. Check the LED indicator. If nothing normal, proceed with the configuration on iSolarCloud.

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

Configuration on iSolarCloud

Step 1 Install the iSolarCloud App

The iSolarCloud App is a software for users to configure running parameters for the inverter. You may download the App in the following two ways:

1. Search for iSolarCloud in App Store, Google Play or other application stores, and download the App by following the onscreen instructions.
2. Scan the QR code below with a phone and download the App.



Step 2 Login

Open the iSolarCloud App. Tap "Local Access" on the login screen, and scan the QR code on the Microinverter. Then, enter the account "user" and password "pw1111", and tap "Verification".

1



2



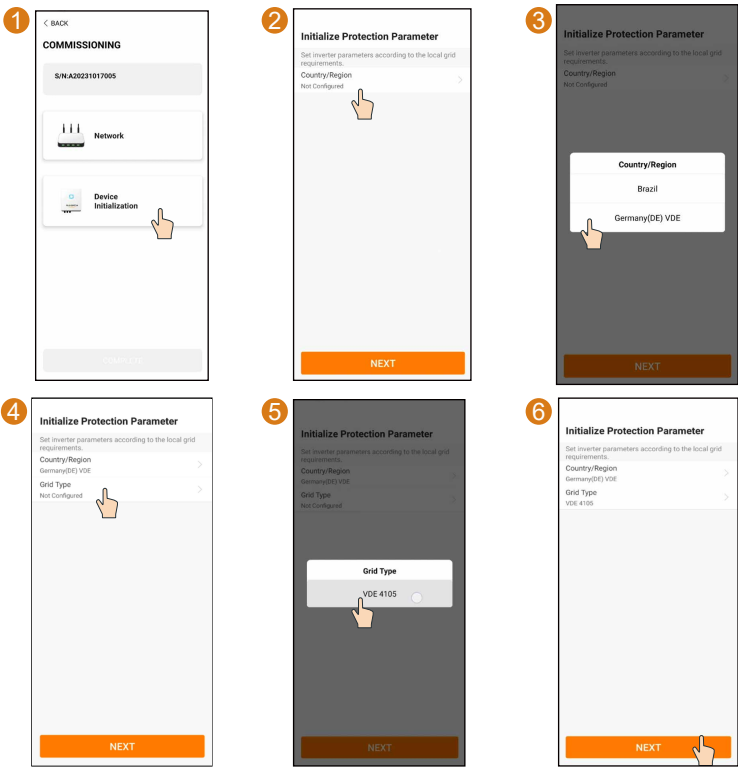
3





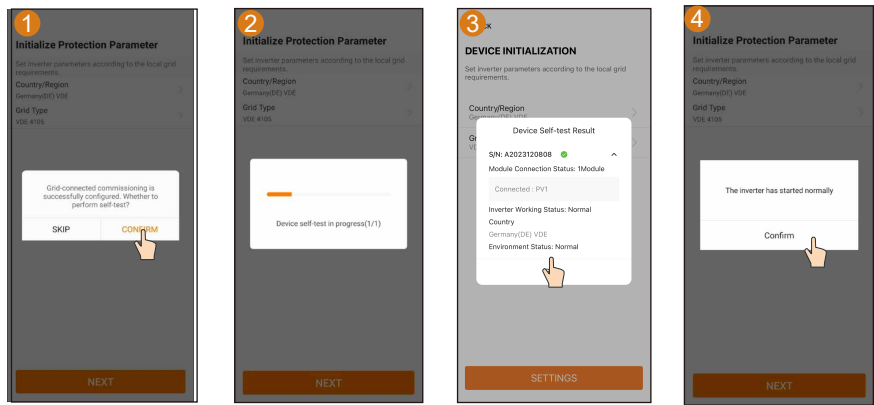
Step 3 Device Initialization

To get the inverter connected to the grid, the grid-connection requirements specified in the local standards must be met. Tap "Device Initialization", and select the "Country/Region" and "Grid Type" based on the actual situation.



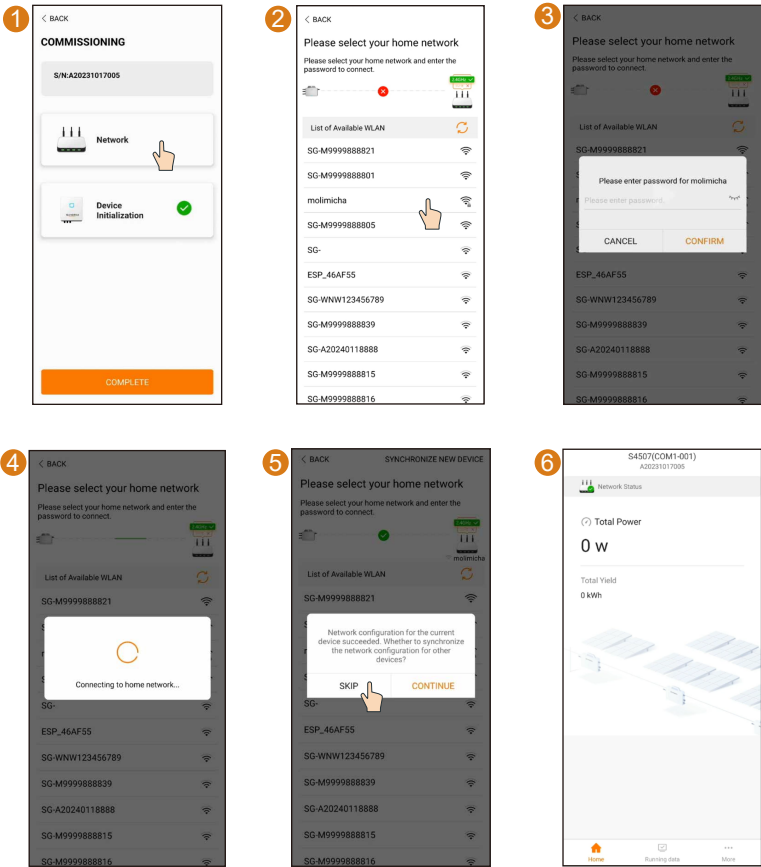
Step 4 System Check

A system check will be performed on the connection of PV modules, inverter working status, country/region setting, and environment to ensure the device can work normally. After the system check is completed, tap "boot", and the Microinverter will start up.



Step 5 Network Connection

Tap "Network", select the home network, and enter the password to connect the device to the network. After the device has accessed the home network, you can view the plant data on the iSolarCloud App.

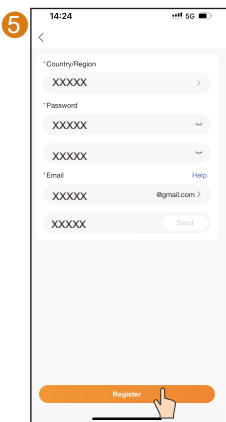
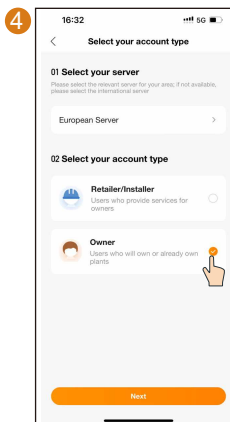
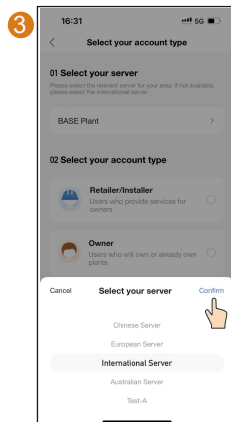
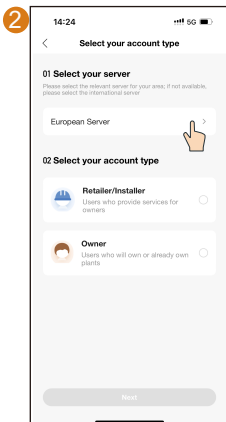
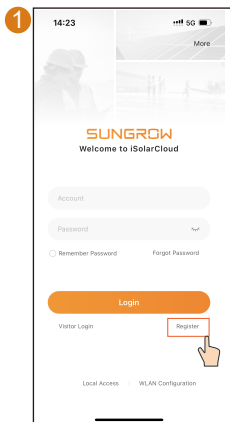


Remote Monitoring

To monitor in real time the device's power generation data remotely, you need to create a plant and add the device to the plant for management. Step-by-step instructions are provided below:

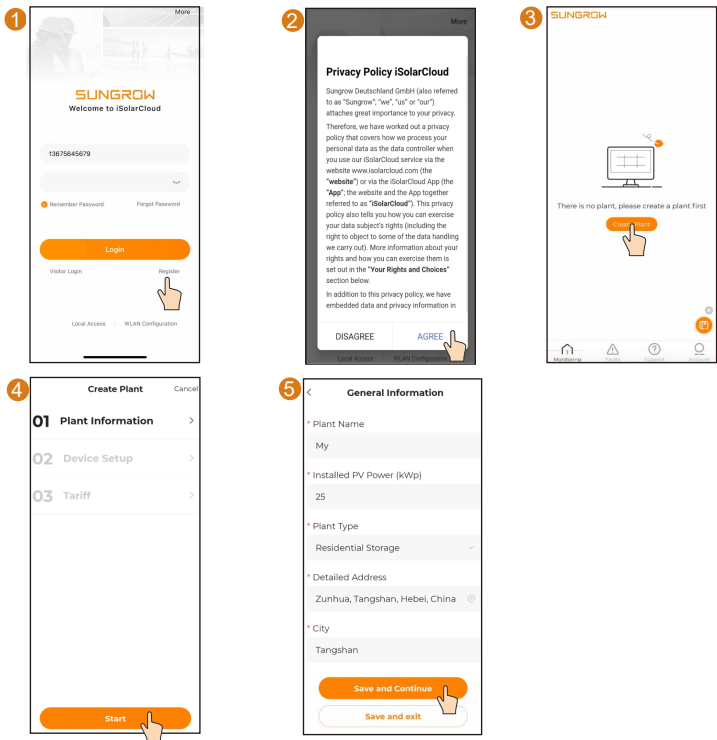
Step 1 Create an Account

Open the iSolarCloud App, and tap "Register" on the login screen. Then, select the "Server" and type of account and fill in the required information to create an account.



Step 2 Complete Plant Information

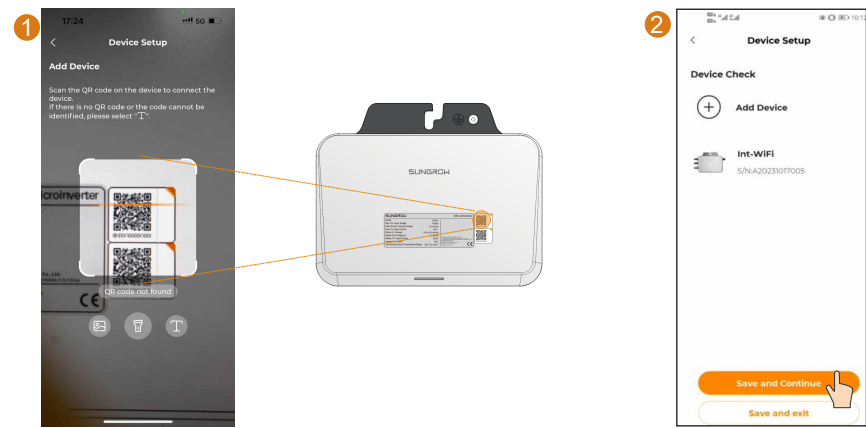
Log in to your iSolarCloud App account, and tap "Create Plant". Complete the plant information, and save.



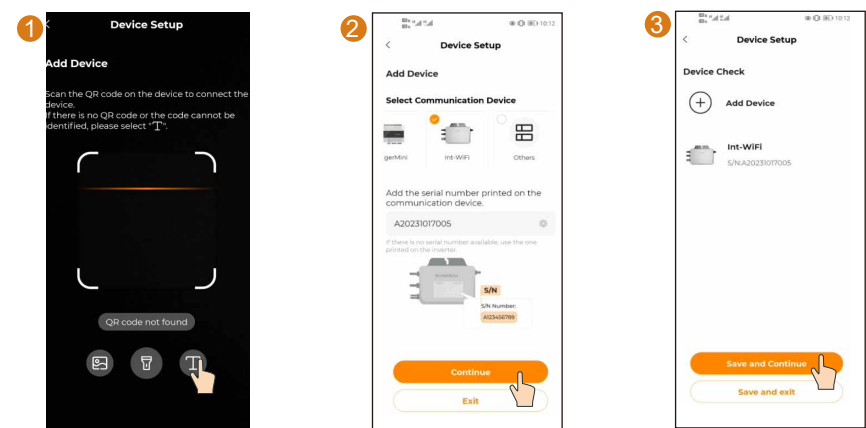
Parameter	Description
Plant Name	Enter the plant name.
Installed PV Power (kWp)	Enter the installed power.
Plant Type	Select the plant type.
Detailed Address	The location of the plant.
City	The city where the plant is located.
Postal Code	The postal code of the place where the plant is located.
Country/Region	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.

Step 3 Add Device

Option 1: Scan the QR code on the device, and add it to the plant.

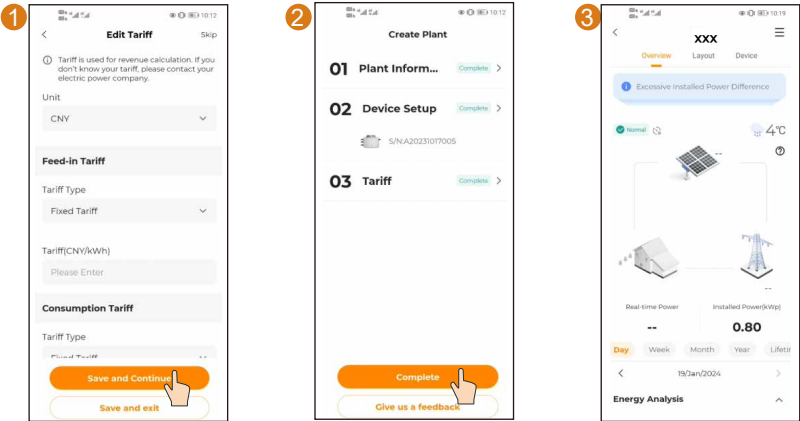


Option 2: Tap “T”. Then, select the Microinverter, enter the device S/N, and save.



Step 4 Set Tariffs

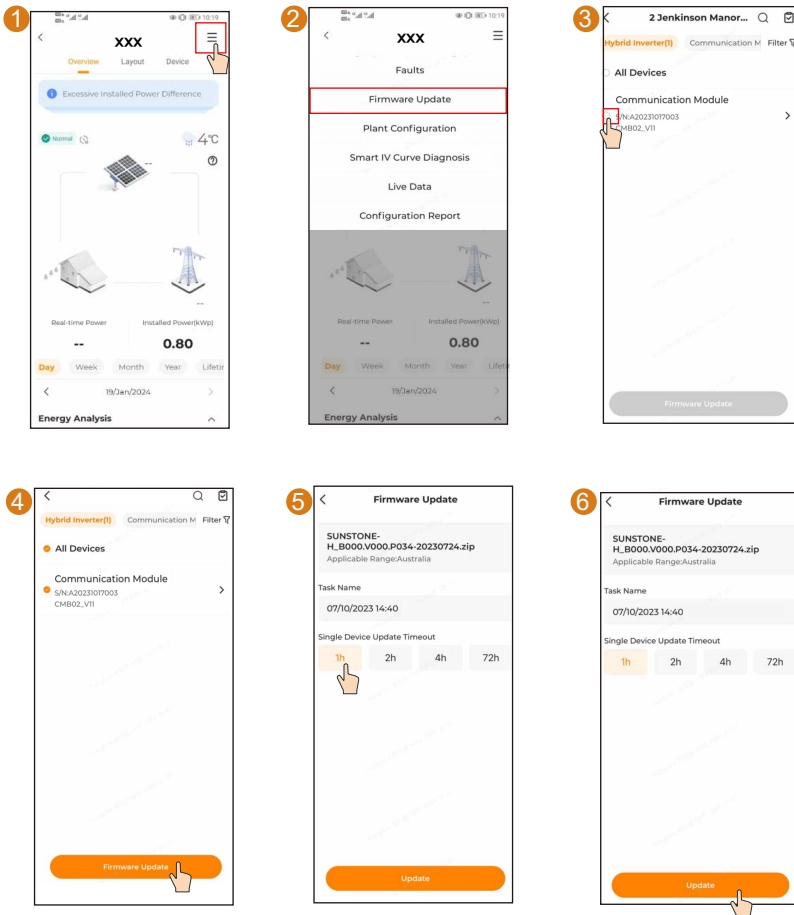
Set "Feed-in Tariff" and "Consumption Tariff", and save. Then, tap "Complete". A plant will then be created.



Firmware Update

Firmware update is required the first time the device is installed.

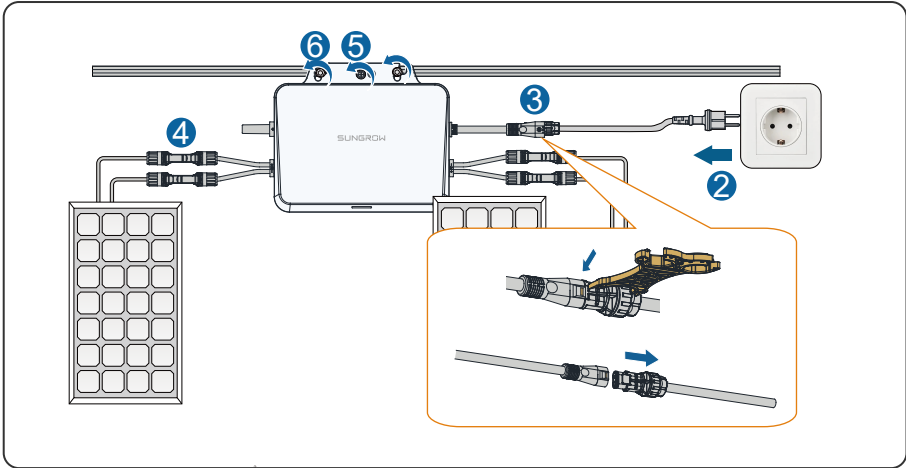
In the upper right corner of the screen, choose $\equiv \rightarrow$ “Firmware Update”. Select the device, and tap “Firmware Update”. Then, set the “Single Device Update Timeout” (e.g., 1h), and tap “Update”.



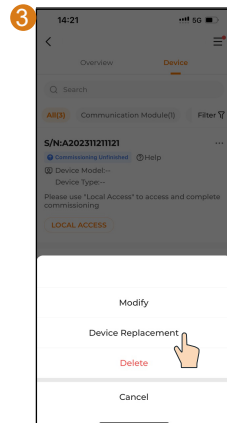
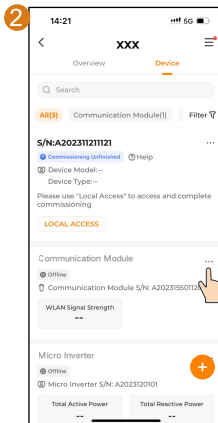
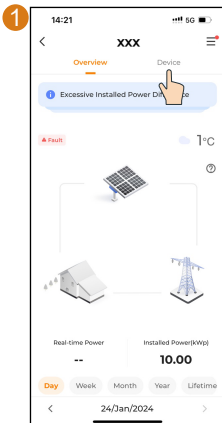
Single Device Update Timeout: If the time of firmware update exceeds 1h, there will be an update timeout message. In such a case, please repeat the firmware update steps.

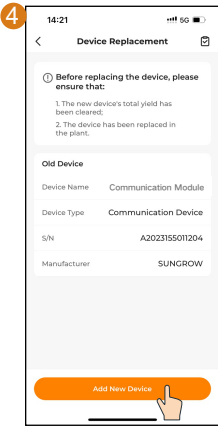
Device Removal and Replacement

1. Turn off the main AC circuit breaker in the house.
2. Pull out the wall plug.
3. Disassemble the AC connector using the disconnect tool.
4. Disconnect the DC connector.
5. Remove the grounding cable.
6. Unscrew the fixing screws using a proper tool.



7. Replace the Microinverter. Then, complete the mounting and wiring of the new device by referring to the instructions in "Mounting and Wiring".
8. After the device has been replaced on site, you will need to replace the device on iSolarCloud. Open the App, tap the plant, and choose "Device" -> tap *** -> "Device Replacement" -> "Add New Device". Then, add the new device by referring to Step 3 in "Remote Monitoring", and tap "Start Replacement" to complete replacement.







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

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Sungrow Power Supply Co., Ltd.

www.sungrowpower.com