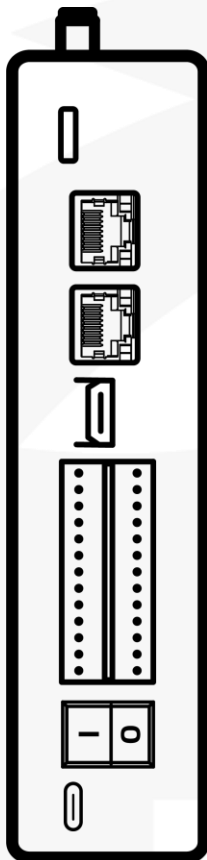


Wi-SUN Gateway

SP4-WiSUN-GW-N/G

Quick installation manual



1. Must read before installing

⚠ CAUTION

When carrying out all operations of this product, it is necessary to strictly follow the relevant equipment precautions and special safety instructions provided by SolarPilot. It is strictly forbidden to open the shell, disassemble, and repair the product to ensure the safety of personnel. For service, find a trained or qualified professional. Operators should comply with local regulations and norms.

⚠ WARNING

It is strictly forbidden to wear watches, bracelets, bracelets, rings and other easily conductive objects on the wrist during operation.

Installation or maintenance operations must be carried out in accordance with the sequence of the tasks and the structure and installation sequence of the equipment should not be changed without the permission of the manufacturer.

A certain distance should be reserved between the gateway and surrounding objects to ensure that there is sufficient space for installation and heat dissipation.

⚠ DANGER

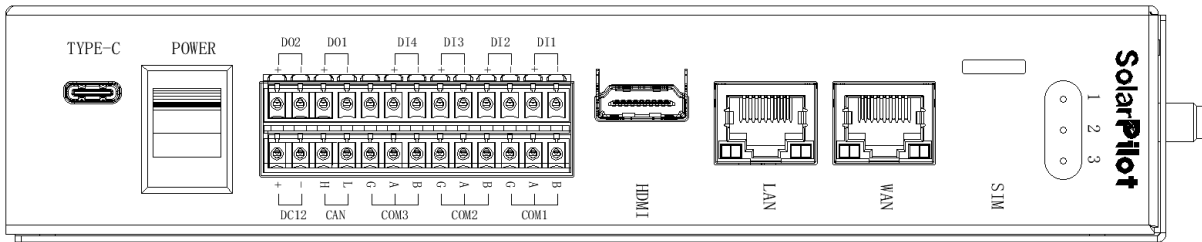
Installation, electrical connection, maintenance, troubleshooting, and replacement operations of the gateway must be carried out by a professional electrical technician.

The gateway is forbidden to be installed in a location where water can be submerged for a long time.

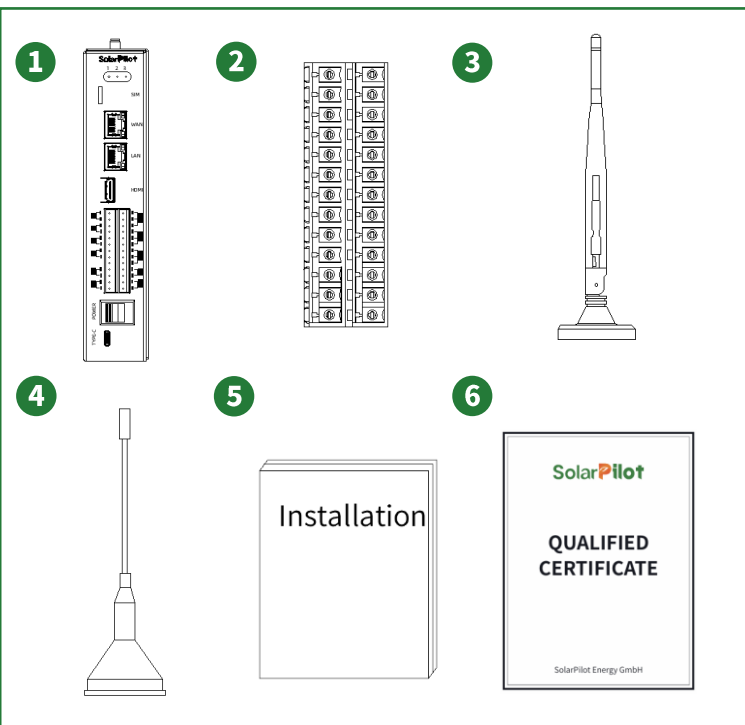
Improper operation during the installation and operation of the gateway may lead to fire, and it is forbidden to store flammable and explosive materials in the installation location area.

2. Product Introduction

SP4-1600W-A optimizer is a 1-in-2 PV optimizer, which can connect two PV modules at the same time on the input side, and continuously track the maximum power point (MPPT) of each PV module to increase the power generation of the PV system, and has functions such as module-level shutdown and module-level monitoring.



3. Supporting materials



1. Wi-SUN Gateway*1

2. Terminal block*1

3. 868MHz antenna*1

4. 4G antenna*1(only available in the 4G version.)

5. Quick installation manual*1

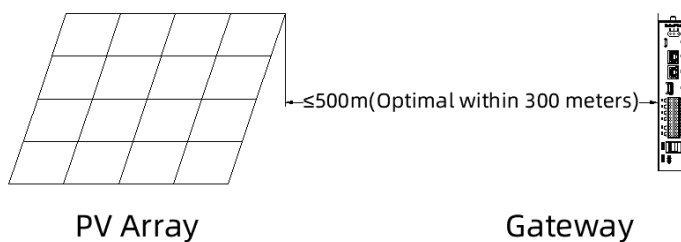
6. Certificate*1

4. Prepare the materials

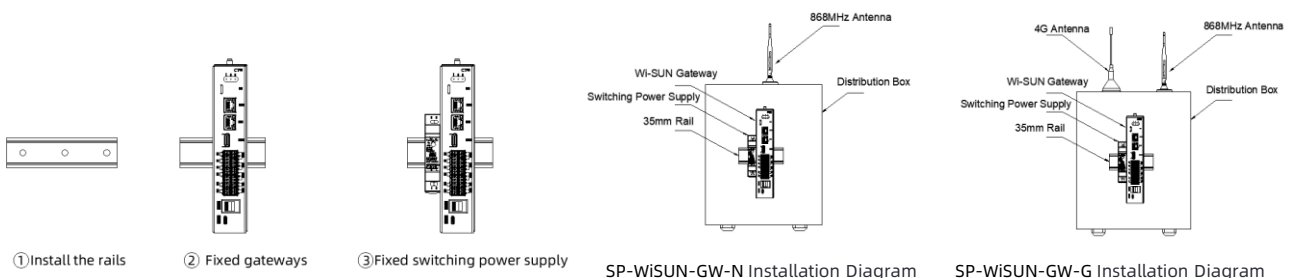
Number	Material name	Recommended specifications and models	Use	Remark
1	Switching power supplies	DC12V /20W/Rail type	Provide power to the Wi-SUN gateway	
2	Cable	Provide network for the Wi-SUN gateway	The other end is connected to the router Provide the network to the gateway	SP4-WiSUN-GW-N model required Model SP4-WiSUN-GW-G is equipped with an IoT card
3	IoT cards	The process of each sub-equipment is about 1M/day	Provide the network to the gateway	SP4-WiSUN-GW-G model required SP4-WiSUN-GW-N model backup network cable
4	Distribution box	Size \geq 250*300*160mm The protection level is IP54 or above	Install gateways and switching power supplies	Metal distribution box: The external antenna needs to be sucked on the housing Plastic distribution box: the antenna can be placed together in the box
5	Cable	ZR-YJV-0.6/1KV 3*2.5mm ²	Cables for switching power supplies are provided	
6	Power cord	BVR-0.75mm ²	Gateway power supply line	0.2~1.5mm ² or 26~16AWG Adjust the wire diameter according to the actual power supply distance
7	Communication line 1	RVSP-3*0.75mm ²	COM port wiring cable	0.2~1.5mm ² or 26~16AWG Adjust the wire diameter according to the actual power supply distance
8	Communication line 2	RVSP-2*0.75mm ²	DI/DO port wiring cable	0.2~1.5mm ² or 26~16AWG Adjust the wire diameter according to the actual power supply distance
9	Guide rail	The national standard guide rail is 35mm Length \geq 0.2m	Fixed gateways and switching power supplies	

5. Select the installation location

The Wi-SUN gateway card can be installed in the distribution box, and the distance of the optimizer from the nearest location of the distribution box shall not exceed 500m, and the distance within 300m is the best.



6. Install and fix the gateway



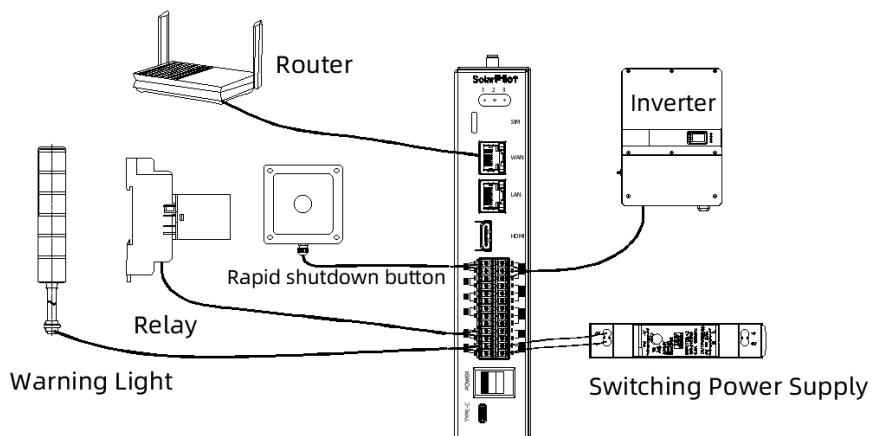
Install and fix gateway

SP4-WiSUN-GW-G antenna location mounting

SP4-WiSUN-GW-N antenna location mounting

7. Connect the gateway

Follow the wiring example in the figure below to complete the wiring. The communication interface is not completely wired according to the schematic diagram, and can be wired according to the actual situation of the project.



8. Configure the network by APP

01

Download the APP

Method 1

iPhone users: Search for "SolarPilot Smart PV" in App Store



Icon

Method 2

Android users: search for "SolarPilot Smart PV" in Android app market



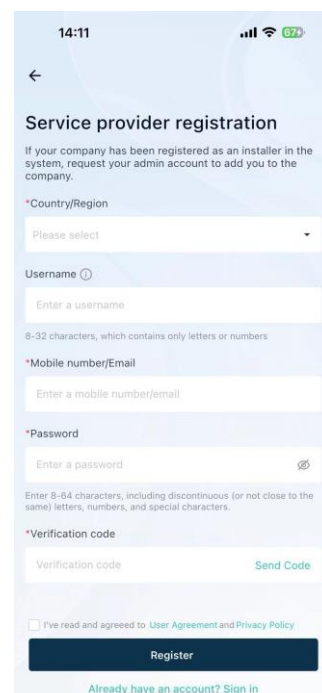
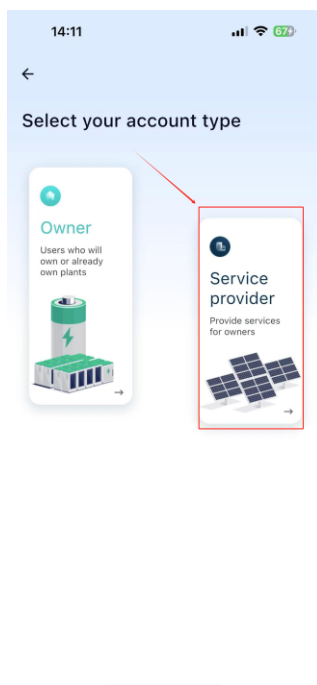
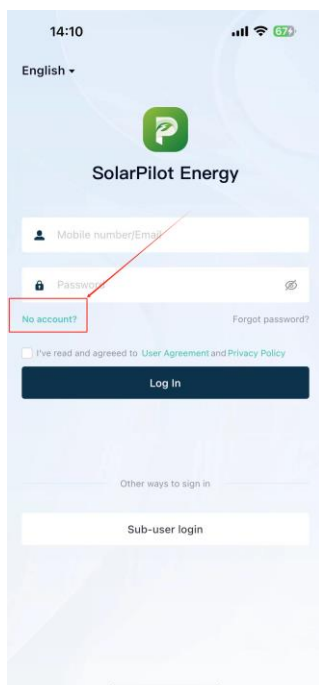
Android version



IOS version

Registration and Login

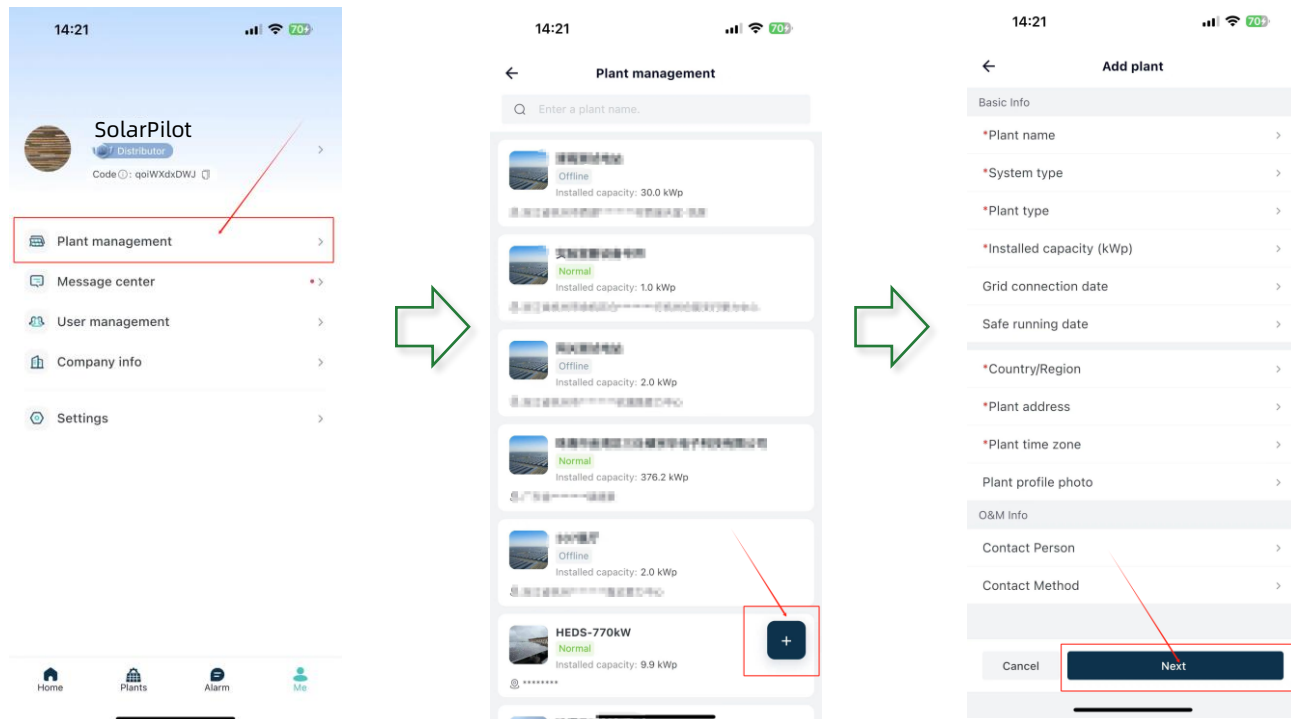
02



8. Configure the network by APP

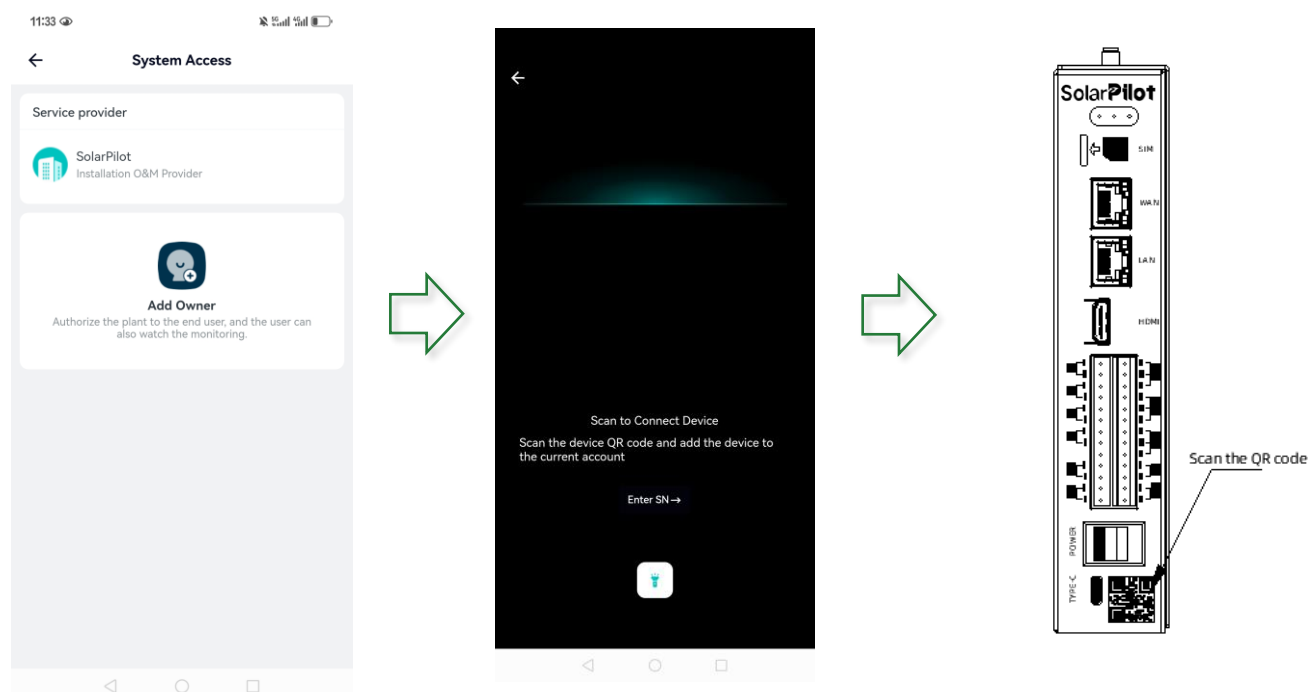
Create the power station 03

Follow the steps below to create a power station and fill in the relevant information.



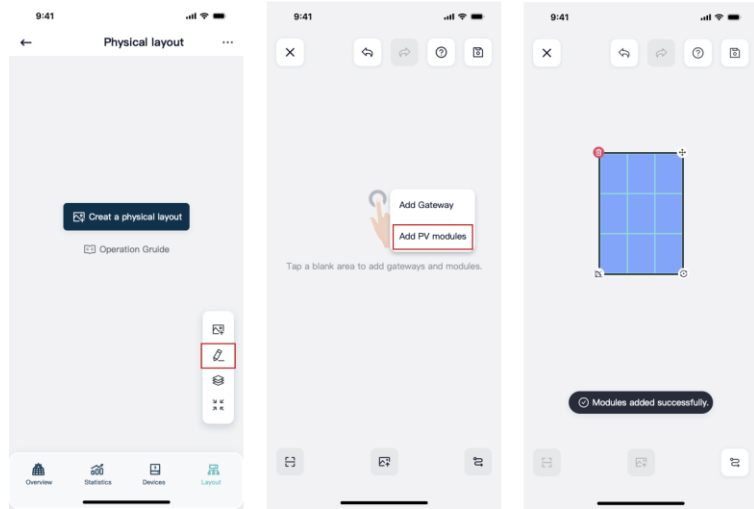
Create the power station 04

Follow the steps below to create a power station and fill in the relevant information.



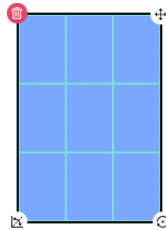
Component layout

1. Add components and gateways



After adding the gateway, you need to operate on the APP, enter the "Power Station View > Physical View", click the edit small icon to enter the manual physical layout interface, and click on the blank space to add the gateway and components

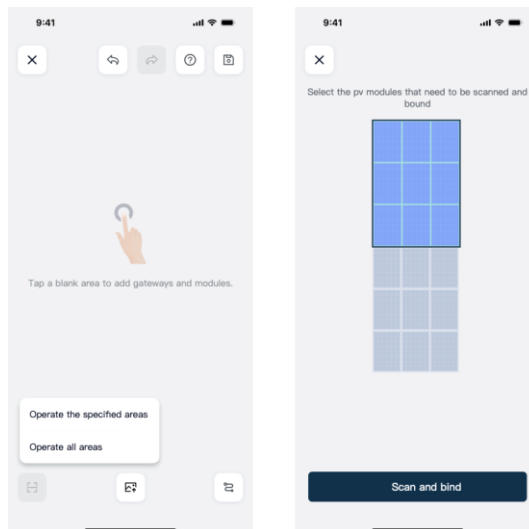
2. Adjust the position of the components



Function	Operation
Adjusting the position	Press and hold to move an inverter or PV module to an appropriate position.
Adjusting the azimuth	Press and hold to move or tap to enter the azimuth.
Adjusting the tilt angle	Tap , and enter the tilt angle of a PV module.
Deleting an inverter or PV module	Tap to delete an inverter or PV module.

Click the inverter or module to adjust the position and angle of the inverter and module, and click the [Save] icon in the upper right corner to save the data.

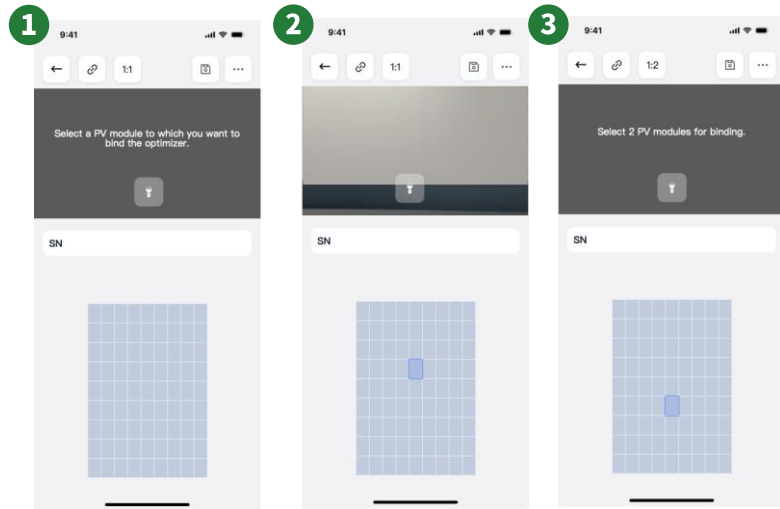
3. Binding optimizer



Click the [Scan] small icon, as shown in the figure above, select the corresponding data that needs to be scanned as needed: if the whole site has many components, and the current installation is part of it, you can select a certain area to scan the code and bind, and the system will only load the selected content into the code scanning process.

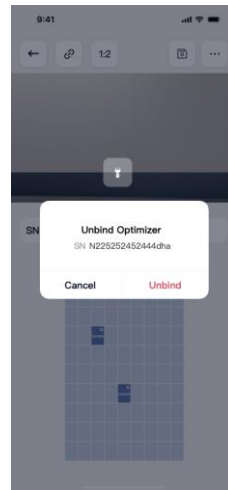
Component layout

4. Scan on the optimizer QR code



Click on the barcode icon (Figure 1) and select the optimizer-to-module configuration - 1-to-1 (Figure 2) or 1-to-2 (Figure 3). In a 1-to-2 installation, you'll be asked to select a second module connected to the same optimizer before you begin (see the red arrow in Figure 3). Start using the camera to scan the optimizer barcode sticker. After a successful scan, the serial number of the optimizer will be displayed on the screen.

5. Remove the bound SN serial number



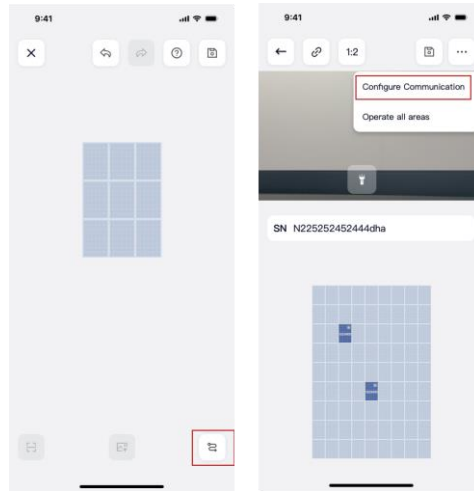
If you want to delete the serial number in the component layout, click the relevant module, and click "Unbind" in the pop-up secondary confirmation prompt.

6. Confirm completion

Once the scan is complete, confirm that all modules and inverters are assigned serial numbers.

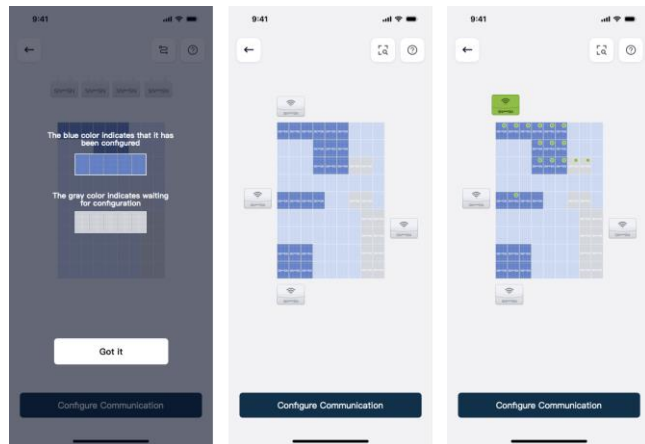
Start network configuration

1. Activate the optimizer



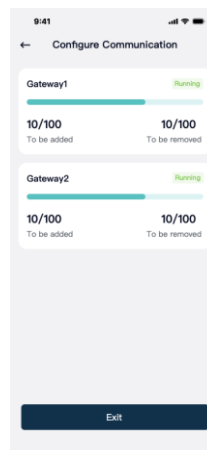
Follow the process shown in the image above to activate the optimizer.

2. Configure the gateway



Once activated, assign the configured gateway to the optimizer.

3. Start the network configuration



After the distribution is completed, click the [Configuration] button in the above figure, and the system will perform the pairing work between the optimizer and the gateway in the background.

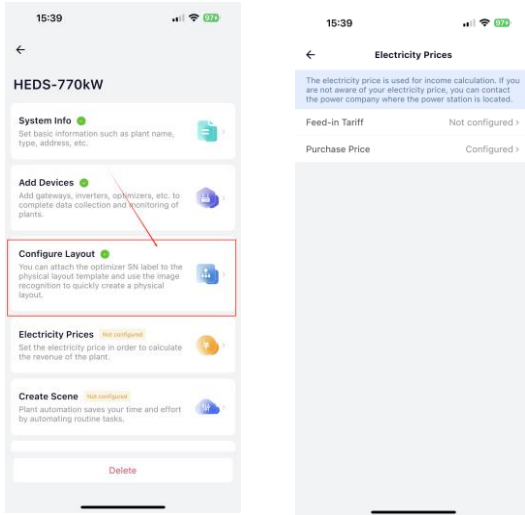
8. Configure the network by APP

Other settings

07

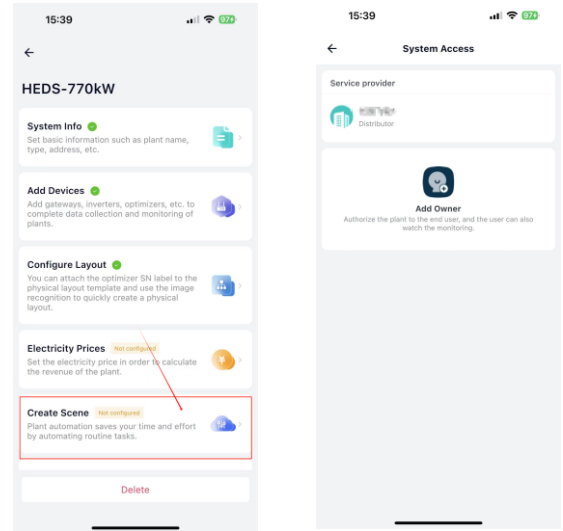
1. Electricity bill settings

Enter the revenue per kilowatt-hour of electricity, and the system will calculate the revenue of the entire power station according to the unit price set here.

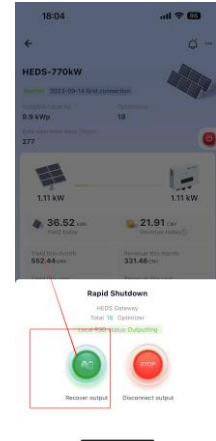
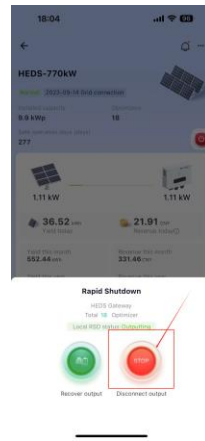
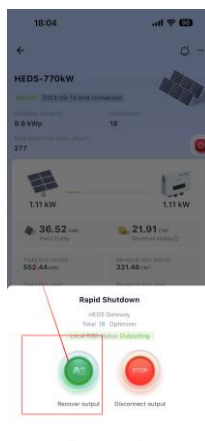


2. Owner of the power station added

Enter the owner's account and username to complete the authorization operation of the power station.



9. Quick break operation



Resume the quick-break operation

You need to issue a quick break recovery command on the APP, otherwise the PV system will not be able to operate normally (it will be turned off by default).

Quick-break test

After 5 minutes, a quick shutdown command is issued to observe whether the inverter stops working.

Resume the quick-break operation

After 5 minutes, a quick shutdown and recovery command is issued to observe whether the photovoltaic system is running and working.

10. Communication interface test

If the gateway is connected to other equipment in the south, you need to contact the sales staff or after-sales personnel of CYGIA Flywheel; The DI and DO ports of the gateway are connected to other devices, and specific control logic is done, please contact CYGIA Flywheel sales staff or after-sales personnel

If you need to use the gateway as a southbound device, you can consult the sales staff to ask for the Wi-SUN Gateway Communication Protocol, which currently supports the Modbus-RUT protocol.



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