

1. Must Read Before Installation

⚠ CAUTION

When carrying out various operations of this product, the relevant equipment precautions and special safety instructions provided by SolarPilot Energy must be strictly observed.

It is strictly forbidden to open the case, disassemble and repair the product without authorization to ensure the safety of personnel. In case of such necessary services, find a trained or qualified professional technician to do it.

The operators should comply with local regulations.

⚠ WARNING

Installation or maintenance operations must follow the sequence of steps of the task, and do not change the structure and installation order of the equipment without the manufacturer's permission.

The installation, electrical connection, maintenance, troubleshooting, and replacement operations of the optimizer must be carried out by a professional electrical technician.

⚠ DANGER

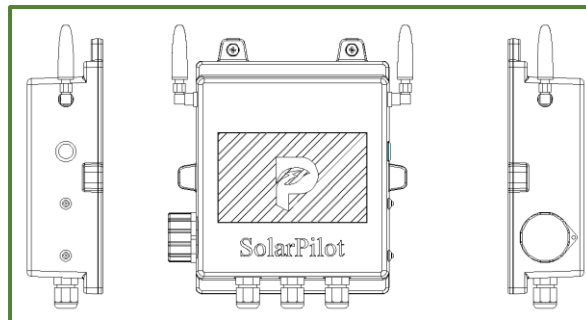
Installation, electrical connection, maintenance, troubleshooting, and replacement operations of the gateway must be carried out by a professional electrical technician.

It is forbidden to install the gateway in a location where the water can be submerged for a long time.

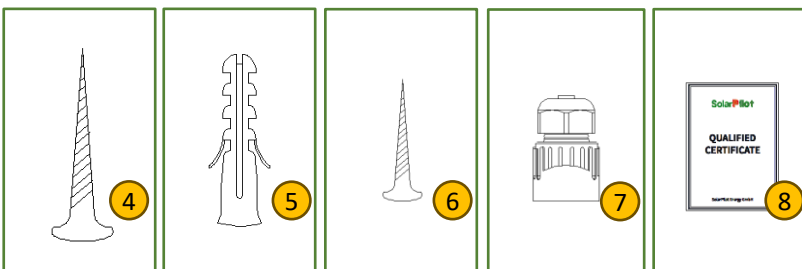
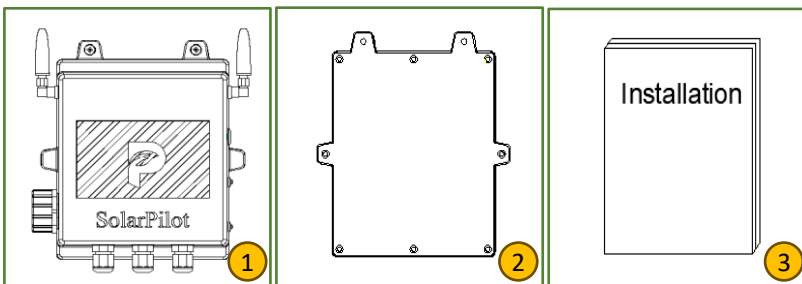
Malpractice or improper work during installation or operation might cause fire. DO NOT store flammable and/or explosive materials surrounding the areas where the gateway are installed.

2. Product Introduction

SP-Zigbee-GW series products are SolarPilot Data Acquisition products. They use a 2.4G wireless solution to collect information and data from field optimizers and send data to SolarPilot Cloud Computing Platform through Ethernet, Wi-Fi, or 4G (LTE Cat 1). Through SP-Zigbee-GW, users can obtain component-level data and alarms, and achieve remote and local shutdown. Remote operation and maintenance of photovoltaic systems can be realized anytime and anywhere on the SolarPilot data platform SP-Zigbee-GW works with SP1/SP2/SP3 series optimizers.

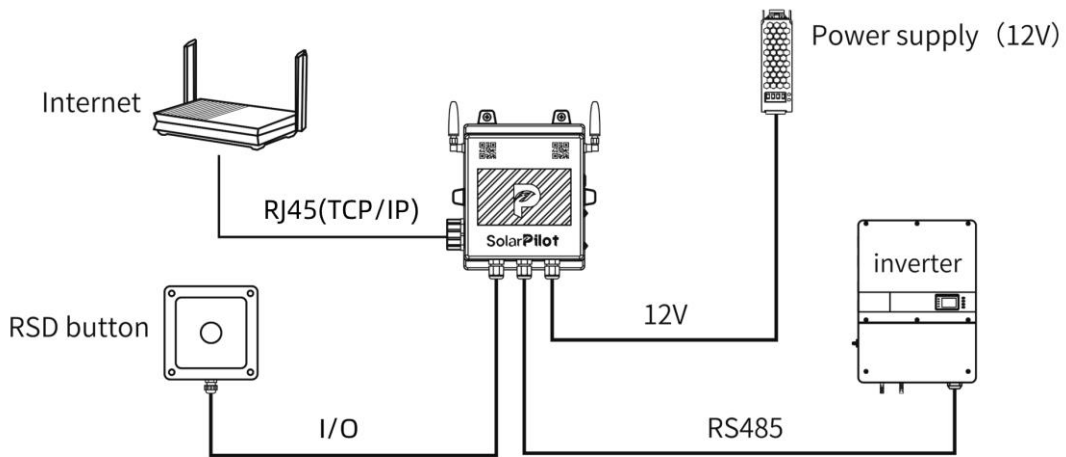


3. Supporting materials



Number	Content
1	Gateway housing
2	Gateway cover
3	Quick installation manual
4	M3.5*30 self-tapping nails
5	Plastic swells
6	3*8 self-tapping nails
7	Ethernet cable plug (The 4G version does not require a network cable)
8	Certificate

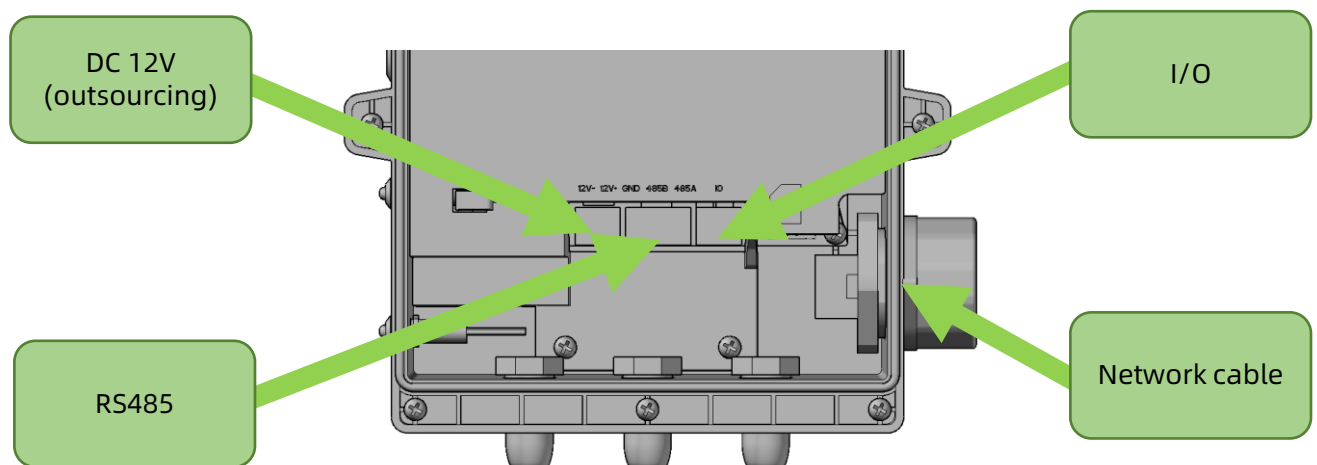
4. Wiring diagram of the gateway system



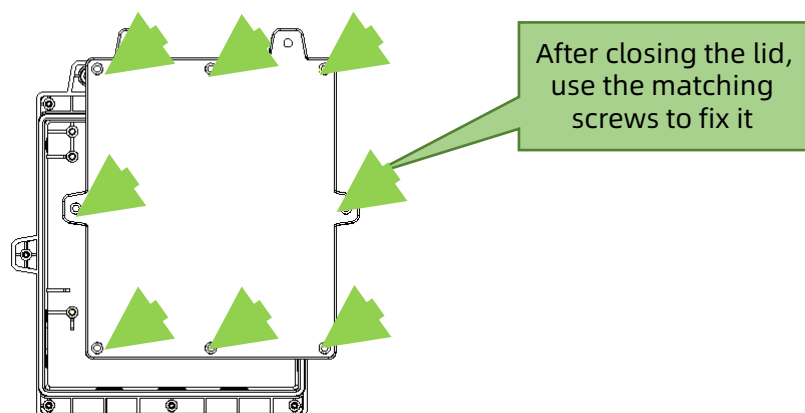
5. Gateway installation steps

① Connect the internal wiring

- Connect to a 12V power supply
- Inverter RS485 (if not required, it can not be connected)
- Access the quick break button (if not required, you can leave it unanswered)



② Box cover, fixing screws



5. Gateway installation steps

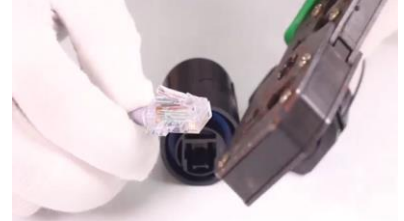
③ Networking cable (The 4G version does not require a network cable) .



Unscrew the RJ45 plug bottom cover



Insert the dialed network cable into the bottom cover



Press the mesh wire with crimping pliers



The network cable passes through the connector

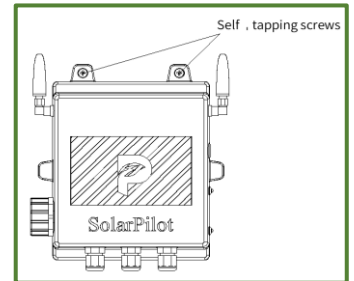
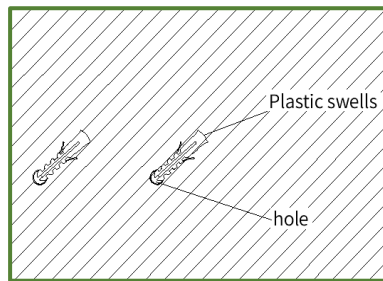
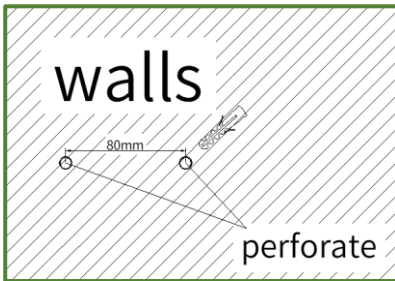


Tighten the waterproof connector

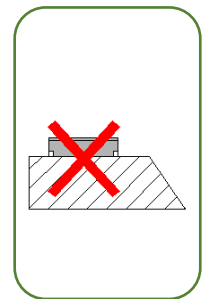
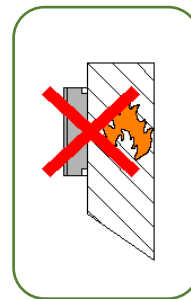
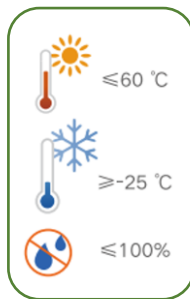
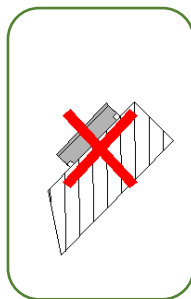
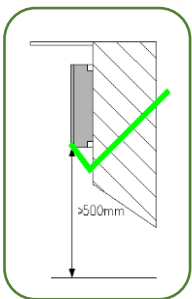


Plug in with the gateway's socket

④ Fixed gateways



Note: The maximum distance of the gateway distance optimizer is 100 meters in an open environment and 30 meters in the case of many obstacles.



6. Setup and connecting the zigbee gateway with APP

① Download the app

Method 1:

Search "SolarPilot Energy" in the App Store, Google Play or other application market on smart phone.



SolarPilot Energy APP icon

Method 2:

Scan the QR code to download the APP in right hand.

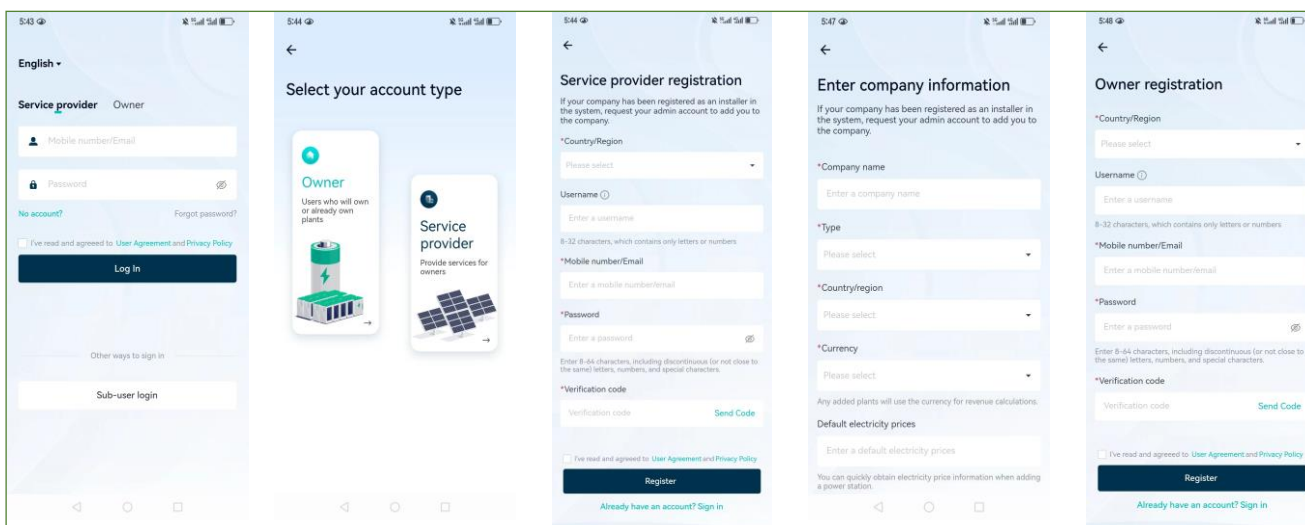


QR code for Android



QR code for IOS

② Sign up and log in



③ Create a power plant

Go to "Add Power Plant" page

Log in to the account you just registered, click [My] -> [Plant Management] -> [+] to add a new power plant.

Fill the information of the power plant

Please provide the basic information of the power plant by filling in the form, e.g. power plant name, location, area, address, installation power load, etc. After completing the form, please click the [Next] button at the bottom of the page to end this step, and continue to fill in necessary info as required e.g. plant owner.

6. Setup and connecting the Zigbee gateway with APP

④ Setup the gateway and initial set up

● Wired connection and 4G distribution network

or

After completing the authorization and confirming that the Zigbee gateway is in the network pairing mode, you can either choose to scan the barcode or QR code on the device directly, or manually enter the serial number to add it on the APP.

It will show you the loading page of "connecting device" once successfully scanned or entered SN NO.. The pairing countdown is designed within 2 minutes.

The APP will show you If pairing successfully (Figure 2 below), you can set up the device name on the current interface, and click [Done] button to enter the main device interface of the gateway.

If failing to add the gateway, the system will pop up Network Pairing Failure page, in this case please check if the device is in normal networking conditions, you can reset the gateway to get pairing mode, and re-pair it as the steps as stated above.

● Wi-Fi mode

Please use 2.4G network for configuration in all the following network distribution processes. 5G network is not currently supported.

Hold the Reset button for 3-10 seconds.

Click on the corresponding power station on the APP, enter the power station configuration equipment interface, select Add Collector.

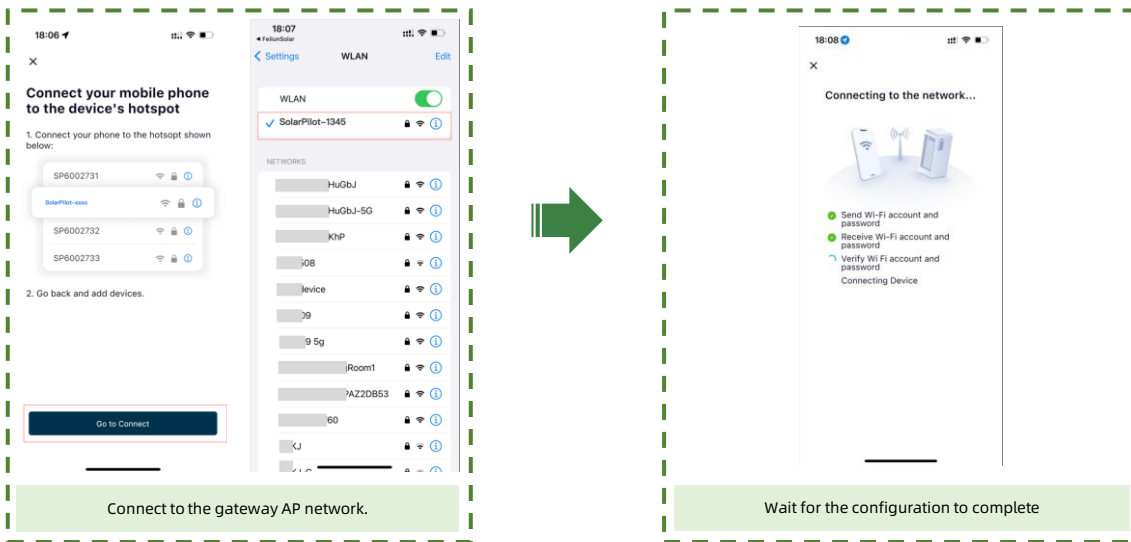
Scan or input the SN of the network gateway to be distributed. After finding the corresponding device, switch to the Wi-Fi distribution network as shown in the figure.

Confirm Wi-Fi information.

6. Setup and connecting the zigbee gateway with APP

④ Setup the gateway and initial set up

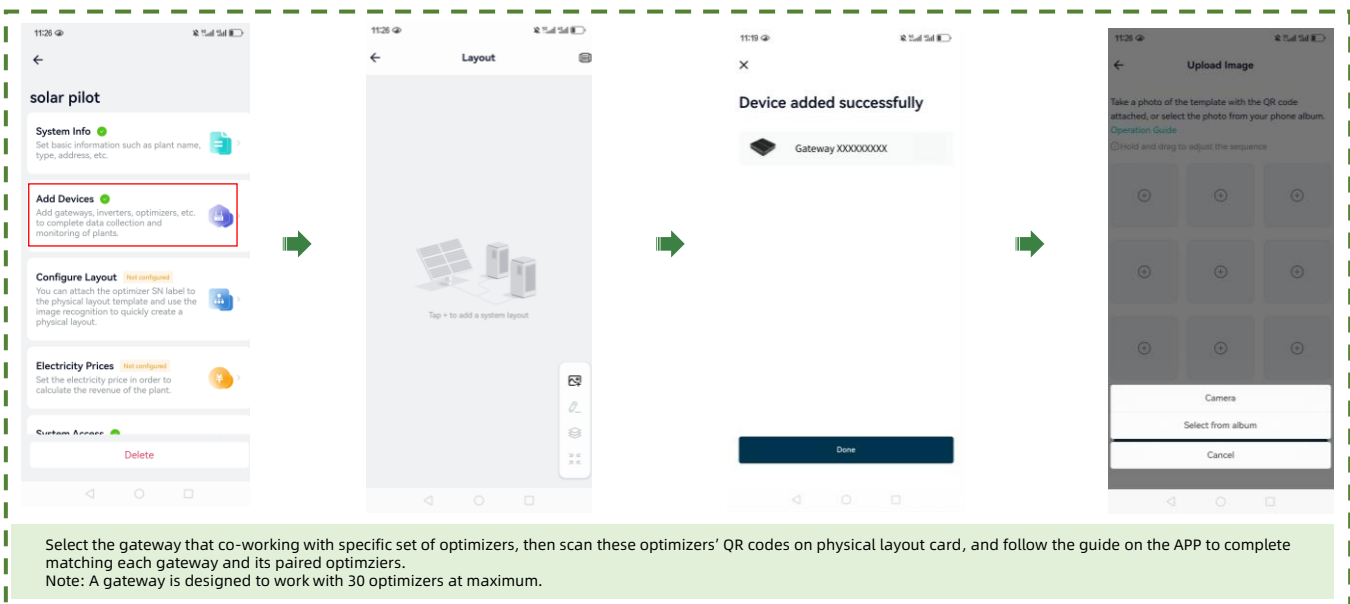
● Wi-Fi mode



Connect to the gateway AP network.

Wait for the configuration to complete

⑤ Add Optimizer Layout



Select the gateway that co-working with specific set of optimizers, then scan these optimizers' QR codes on physical layout card, and follow the guide on the APP to complete matching each gateway and its paired optimizers.
Note: A gateway is designed to work with 30 optimizers at maximum.

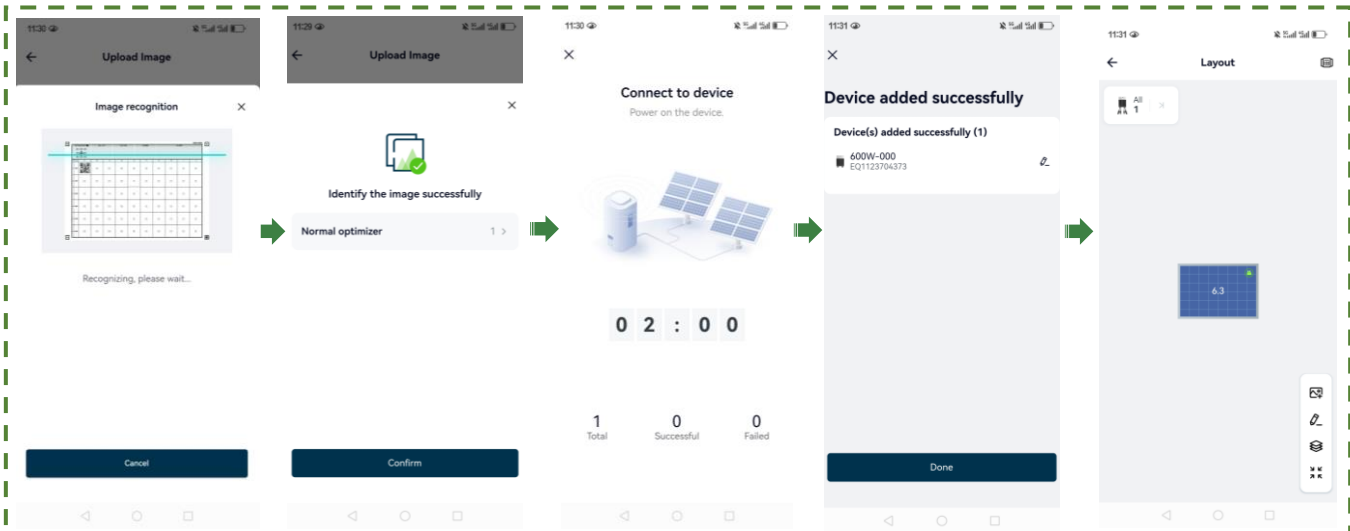


Image recognition

Recognizing, please wait...

Identify the image successfully

Normal optimizer 1 >

Connect to device

Power on the device.

0 2 : 0 0

1 Total 0 Successful 0 Failed

Device added successfully

Device(s) added successfully (1)

600W-000 EQ1123704573

Layout

6. Setup and connecting the Zigbee gateway with APP

⑥ Other configurations

The screenshots show the following steps:

- Electricity Prices:** A screen with a back arrow, a title 'Electricity Prices', and two input fields: 'Currency' (set to CNY) and 'Price per kWh'. A green box at the bottom explains: "Electricity price setting: Enter the unit price per kWh, and the system will calculate the income of the entire power station according to the unit price set here."
- System Access:** A screen with a back arrow, a title 'System Access', and a 'Service provider' section showing 'SolarPilot Installation O&M Provider'. A red box highlights an 'Add Owner' button with a subtext: "Authorize the plant to the end user, and the user can also watch the monitoring." A green arrow points to the next screen.
- Add Owner:** A screen with a back arrow, a title 'Add Owner', and a 'Save' button. It has two required fields: '*Country/Region' and '*Account'. A note below says: "If an account is not registered, the system will directly register and push it." A green box at the bottom explains: "System owner information: Enter the owner account and user name to complete the authorization process of the power plant."

7. Test the function of RSD button

(if physical rapid shutdown button is compulsory according to regulations in your country)

The RSD functional test includes local physical rapid shutdown button and remote APP rapid shutdown.

To avoid misoperation, **local physical RSD shall be activated as the first choice**, and remote APP control is optional.

Current state	Command	Execute
LOCAL Disconnected	Local command ● Restore Output	Optimizer ● Restore Output
	APP command ● Restore Output	Optimizer ● Disconnected
LOCAL Restore Output	Local command ● RSD	Optimizer ● Stop Output
	APP command ● RSD	Optimizer ● Stop Output
APP Disconnected	Local command ● Restore Output	Optimizer ● Restore Output
	APP command ● Restore Output	Optimizer ● Restore Output
APP Restore Output	Local command ● RSD	Optimizer ● Stop Output
	APP command ● RSD	Optimizer ● Stop Output