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SUNGO

SUNGO Energy Technology RSDi-2 2-in-1 Rapid Shutdown Devices Data Gateway



Specifications

- Product Name: 2-in-1 Rapid Shutdown Devices SUNGO RSDi-2 & Data Gateway SUNGO GTC
- Rapid Shutdown Devices Model: SUNGO RSDi-2
- Data Gateway Model: SUNGO GTC
- Operating Voltage: AC90-264V
- Maximum RSDi-2 Units per GTC: 50
- GTC Waterproof Rating: IP67

Product Overview

The SUNGO RSDi-2 is a rapid shutdown device with data monitoring capabilities that works in conjunction with the SUNGO GTC data gateway. It provides module-level rapid shutdown functionality and monitors the operating parameters of PV modules. Document version: SUNGO-RSDi-2>CIM-V1-2024 EN Release Date: 2024.7

Product Overview

2-in-1 Rapid Shutdown Devices SUNGO RSDi-2

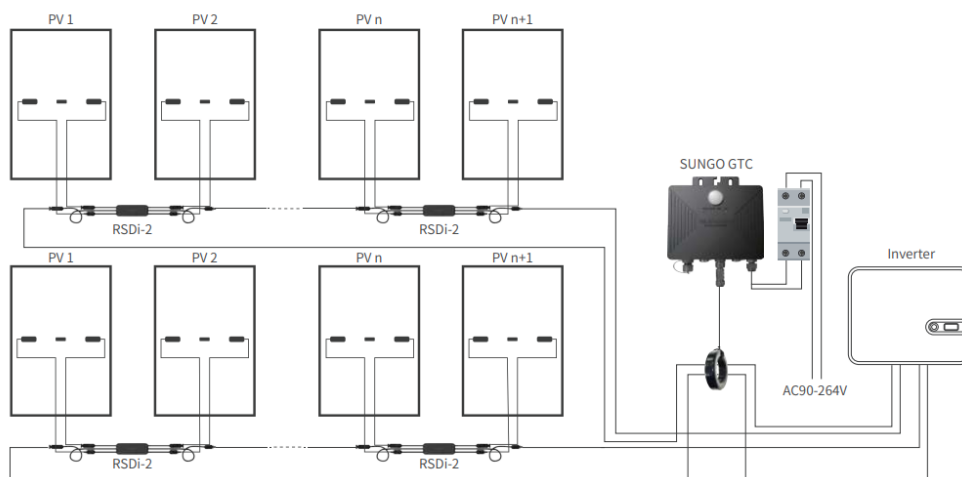


Data Gateway SUNGO GTC



The SUNGO RSDi-2 is a rapid shutdown with data monitoring, matching the data

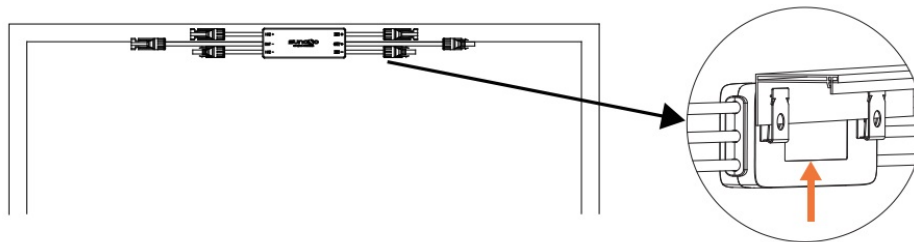
gateway GTC, with a module-level rapid shutdown function that monitors the operating parameters of the PV modules and reports the operating status of the PV modules.



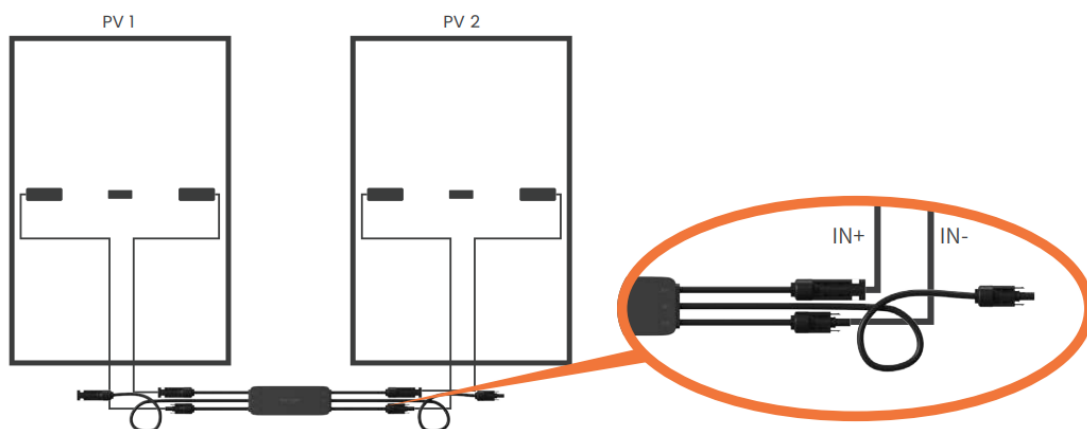
Connection Diagram

SUNGO RSDi-2 Product Installation

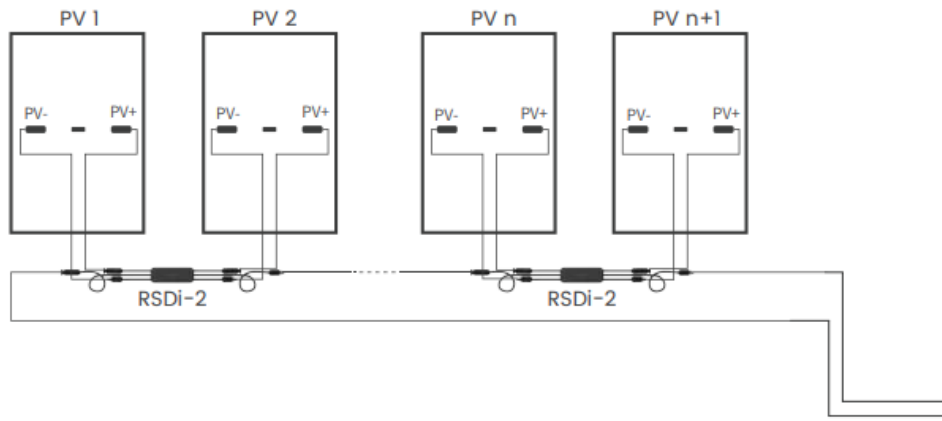
- Install the RSDi-2 by snapping the RSDi-2 upward onto the PV module frame



- Connect IN+ and IN- of RSDi-2 to the positive and negative terminals of the first and second PV module junction boxes respectively, and so on.



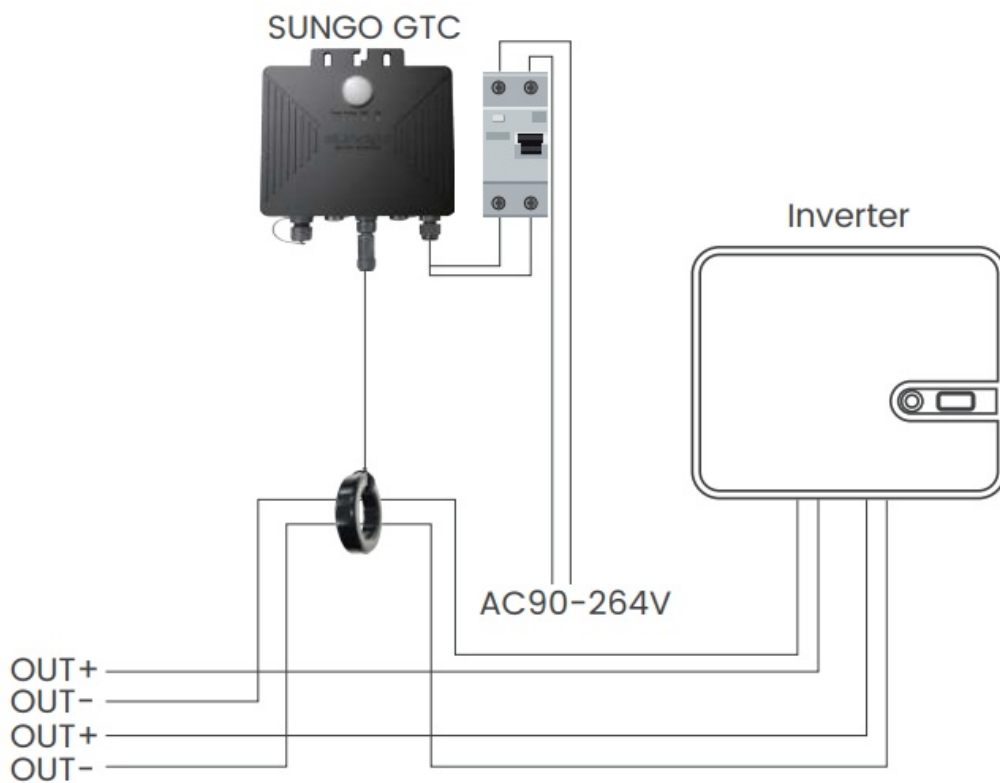
- Connect two adjacent RSDi-2 output ports in series and then connect them near to the inverters with a homemade DC extension cable.



SUNGO GTC Installation

• Step 1. Data gateway connectivity

- Install the GTC near the inverter.
- Connect the OUT+ of the last rapid shutdown to the PV+ of the inverter.
- Connect the OUT- of the first rapid shutdown through the magnetic ring of the GTC to the PV- of the inverter.
- After confirming that the connection is correct GTC connects the MCB and then connects it to the AC.



The GTC itself is IP67 waterproof and can be used without a distribution cabinet.

The AC input line is connected to the AC power using the L16-2 waterproof connector.

- Check that the structural mounts are secure and that all screws are tightened.
- Check that all cables are connected with the correct polarity and that the connections are firm and reliable to ensure that there are no short circuits.
- Confirm that the system is connected correctly, the inverter DC switch is ON, and the inverter is turned on.

Note: one GTC can take up to 50 RSDi-2.

- **Step 2.**

- Connecting the data gateway to a power source Connect the data gateway to 90-264V AC power supply. Ensure that the power indicator green light is always on, and the running indicator green light is also always on. Check whether the inverter is working normally.

- **Step 3. GTC status indication**



Four permanently illuminated status indicators from left to right (1, 2, 3, 4)

Note: Indicator status indicates

1, 2, 4 Indicator status schematic: ● Indicates normally lit ● Indicates extinguished ● Indicates blinking 3 Indicator status schematic: ● Indicates normally lit ● Indicates extinguished ● Indicates blinking	
 None of the four indicator lights are lit Wrong or faulty circuit connection	 1 on 2 off 3 on 4 on Turn off the RSD, the network is connected normally
 1, 2 on 3, 4 off Start RSD, network not connected	 1 on 2 blinking 3 blinking 4 blinking Search RSD self-test
 1, 2 on 3 off 4 on Start the RSD, the network is connected normally	 1 on 2Blinking 3on 4 on or off Search RSD self-test successful
 1 on 2 off 3 on 4 off RSD off, network not connected	 1 on 2 off 3 blinking 4 on or off Search RSD self-test failed

• Step 4. GTC Entry Rapid Shutdown Device

- The GTC needs to enter the address of the rapid shutdown devices it manages, otherwise it can't communicate and upload the rapid shutdown device's data normally. There are two ways to enter rapid shutdown devices: automatic and manual. When there is only one GTC in the field, you can use the automatic, but if there are more than one GTC in the field, you must execute the manual.

Auto Entry Rapid Shutdown Device (GTC=1 pcs)

Press the middle button of GTC to let the Running light always on, let the RSD light go out, after 5 seconds and then long press the button, GTC enters into the automatic recording mode, release the button, the indicator light 234 flashesback and forth waiting for about 10 minutes the Running indicator light flashes to indicate the success of the automatic recording, press the button again to the Running indicator light is always on, the rapid shutdown device is working normally. If the indicator light 3 blinking means that this automatic recording failed please check the line and re-execute the step, if three times are not successful please contact the relevant technical personnel.

Manual Entry Rapid Shutdown Device (GTC>1 pcs)

Note: If the automatic entry function is used, it will cause conflicts by duplicating the respective managed rapid shutdown devices in multiple GTCs in the field, axi you cnty need to re-execute the qæration of rmanually . (Manual entry of rapid shutdown devices is for recording the field rapid shutdown devices into different GTCs)

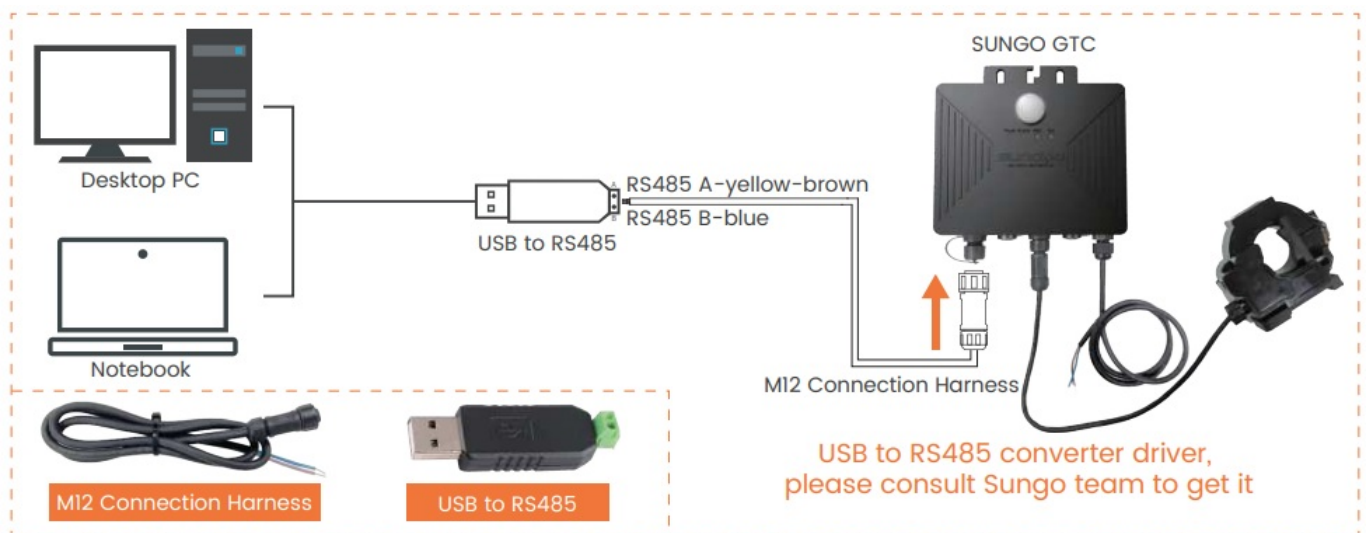
Process

Recommended application process:

1. First power up the GTC.
2. Use the USB to RS485 cable to connect GTC and the computer
3. Select the corresponding serial port
4. Read MAC Addr and Version, if normal display, represents the current connection is normal, otherwise check whether the cable is properly connected.
5. Enter the RSDi-2 code into the List list, and then click Write to write it to GTC; there are two ways to enter the code as follows
 1. Through Import button, recognize the selected picture to import.
 2. Enter the number manually through the keyboard, and note that each number is separated by a comma.
6. Monitor the current status of the rapid shutdown through To Monitor.

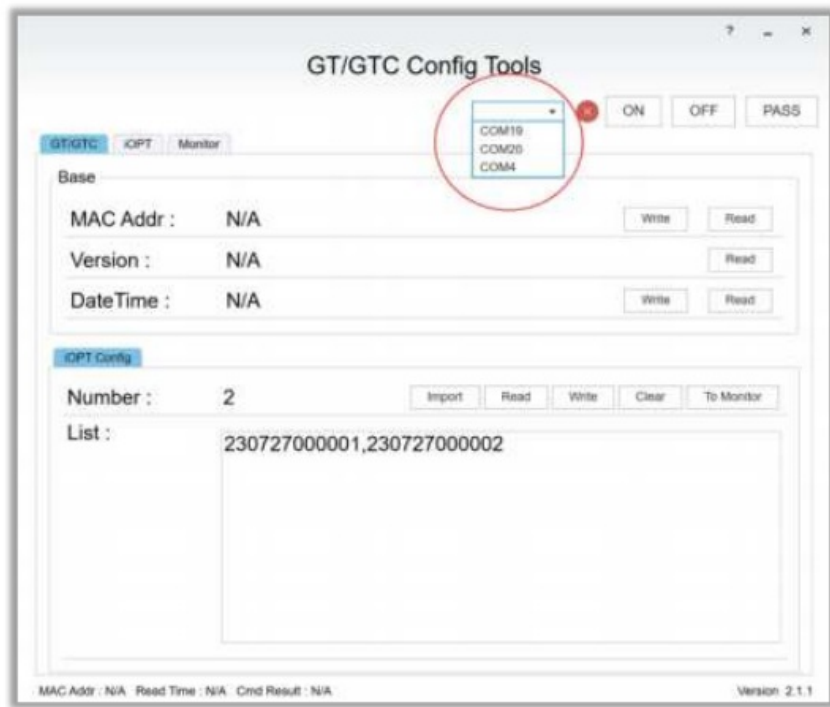
Wiring

- Use USB to RS485 to connect the GTC to the computer, the connection is shown below:

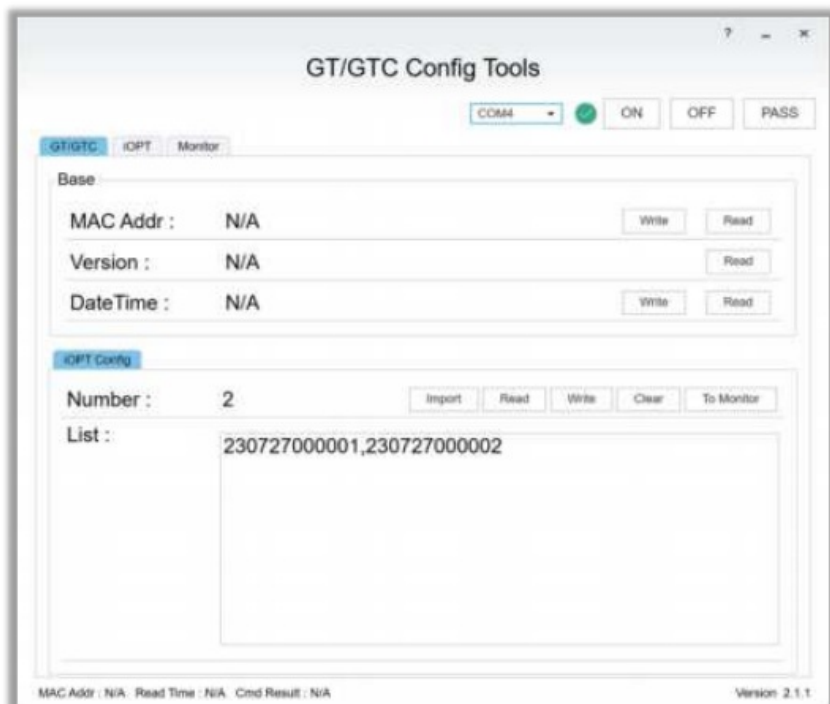


Description

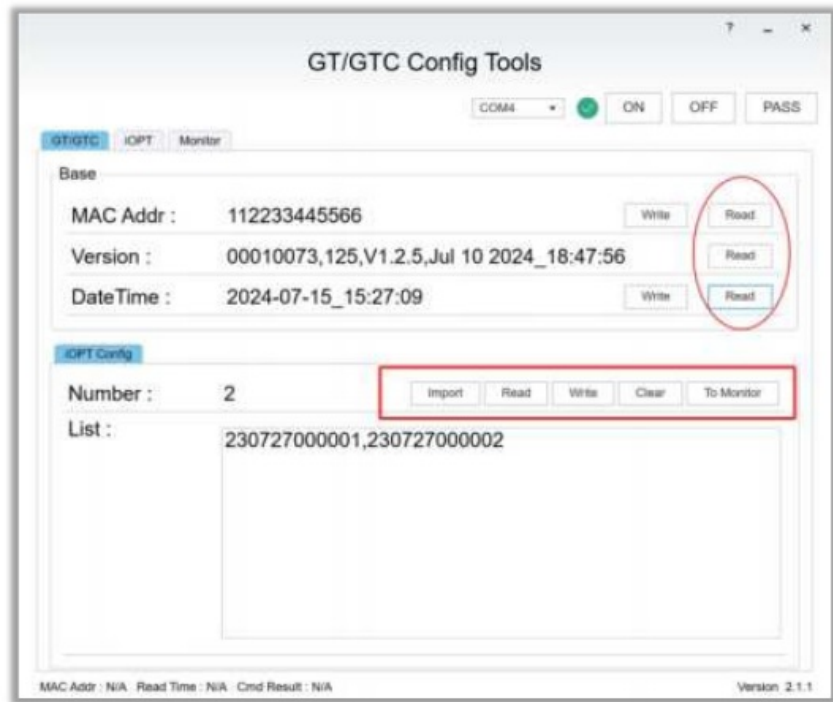
- Select the corresponding serial port
-



After success, the green circle is as follows



- Description of GTC functions



1. OMAC Addr

- Click Read to read the address of GTC, and click Write to write the address in the left input box to GTC.

2. Version

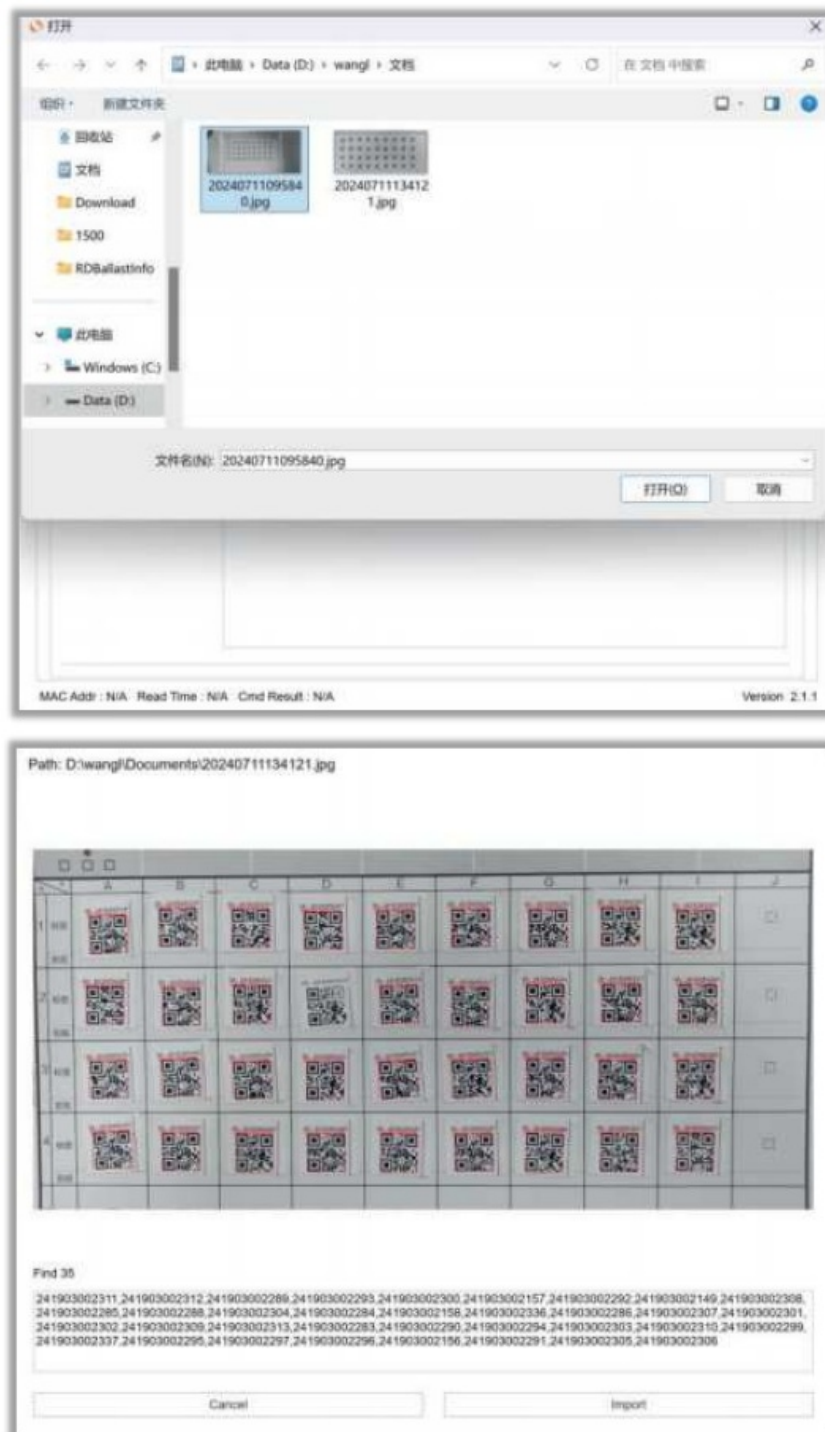
- Click Read to read the software version number of GTC.

3. DateTime

- Click Read to read the time of GTC, and click Write to write the system time into GTC.

4. RSDi-2 Config – Import

- Click Import to import the RSDi-2 code through the image, as follows
- Click Import to import the recognized codes into the List box.



5. RSDi-2 Config – Read

- Click Read to read the RSDi-2 list of the current GTC configuration.

6. RSDi-2 Config – Write

- Click Write to write the RSDi-2 list to GTC.

7. RSDi-2 Config – Clear

- Click Clear to delete all the RSDi-2 in GTC.

8. RSDi-2 Config – To Monitor

- Click Monitor to display the RSDi-2 in List on the Monitor page.

Read single RSDi-2 working parameters function description

GT/GTC Config Tools

COM1 [ON] [OFF] [PASS]

GT/GTC OPT Monitor

Base

MAC Addr : 230727000001 [Read]

Comm : N/A IN Voltage : N/A

State : N/A Out Voltage : N/A

Temp : N/A Out Current : N/A

Error : N/A Out Power : N/A

Statistics

SKU : N/A Version : N/A

Run Time : N/A Recv Cnt : N/A

On Time : N/A Offline Time : N/A

Engery : N/A Offline Cnt : N/A

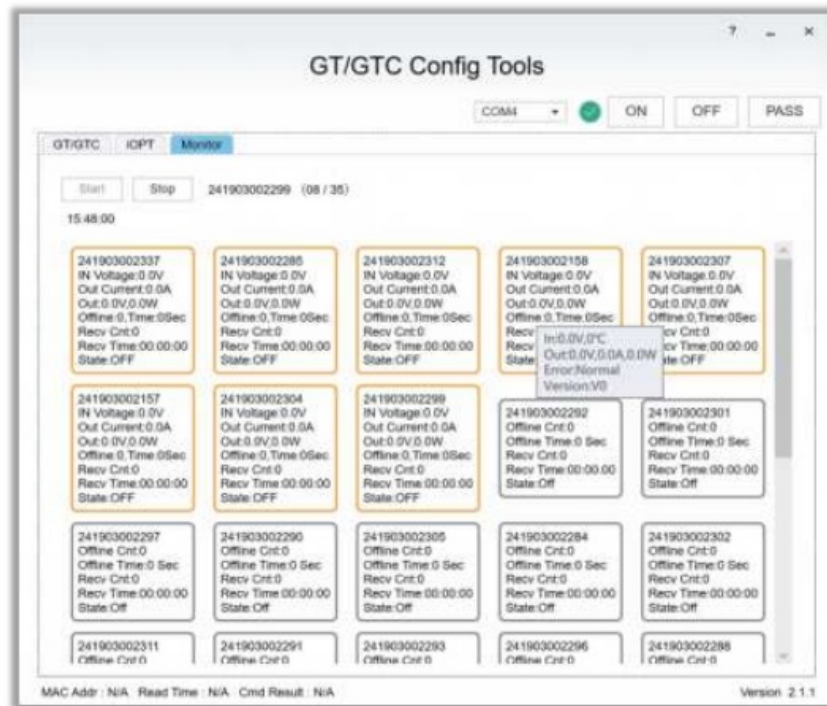
Recv Time : N/A

MAC Addr: N/A Read Time: N/A Cmd Result: N/A Version 2.1.1

Input the RSDi-2 number you need to read, click Read to read its current status.

- Comm: communication status, Online stands for online, Offline stands for offline.
- State: current state, ON working, OFF closed.
- Temp: current temperature, Celsius degrees
- Error: current fault, Normal stands for normal.
- IN Voltage: input voltage
- Out Voltage Output Voltage
- Out Current: Output Current
- Out Power Output Power
- SKU: Product Model
- Run Time Run Time
- On Time: Working Time
- Engery: Power Generation
- Recv Time: Receive Time

Monitor Function Description



Click Start to start monitoring, the software will refresh the status of RSDi-2 in List regularly.

GTC distribution network (APP2.0 instructions for use)

- Step 1. Download APP and register account



Scan the QR code to download APP



Open the APP to register an account

- Step 2. Creation of PV power plants



Click to create a power station

- Step 3. Filling in power plant information

10:39

← Plant Information Save

Business Type

PVS

Name of the plant

Please enter the nam...

Location

Please select the location of the plant

Plant Type

Commercial and Industrial ...

Grid Connection Type

Self-consumption with Sur...

Optional

Just fill in the information according to your own power station

- Step 4. Scanning the data collection gateway



Click the drop-down menu in the upper right corner, click “Add Logger”, and scan the QR

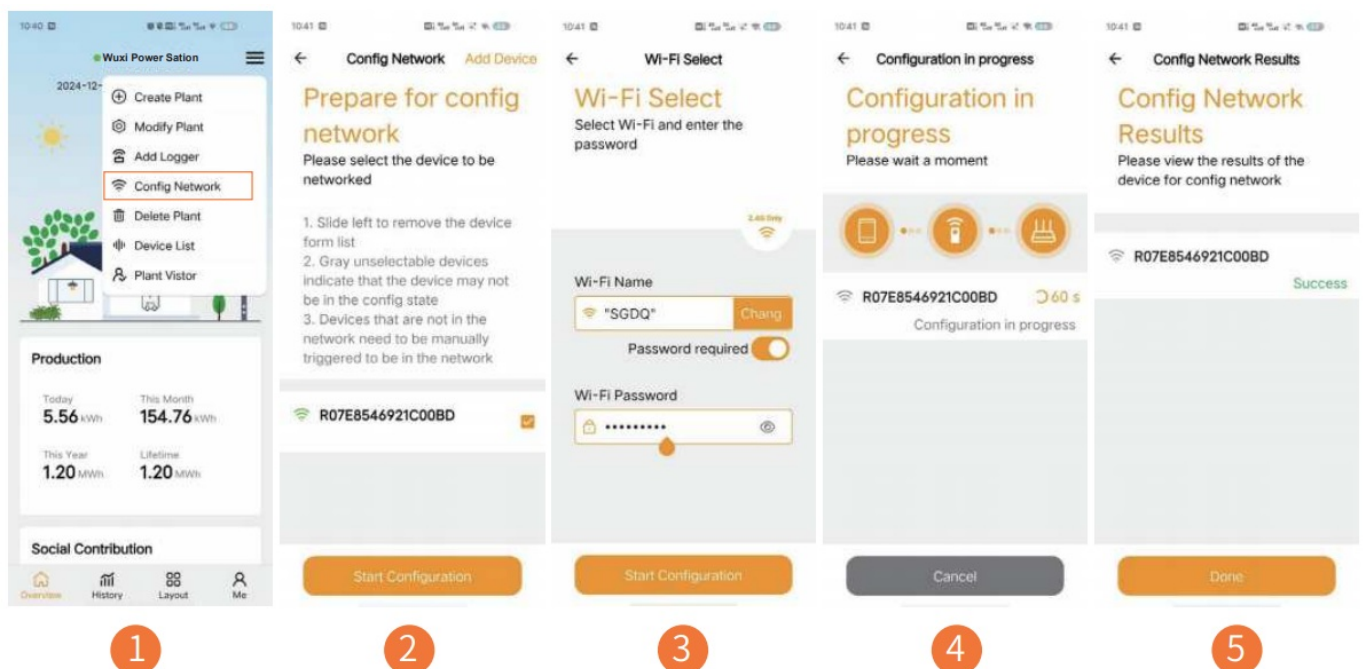
code of the WIFI serial number on the left side face of the Data Gateway GTC

WIFI Serial Number:
XXXXXXXXXXXXXXXXXX



Example of QR code
on the left side of GTC

- Step 5. GTC WIFI distribution network



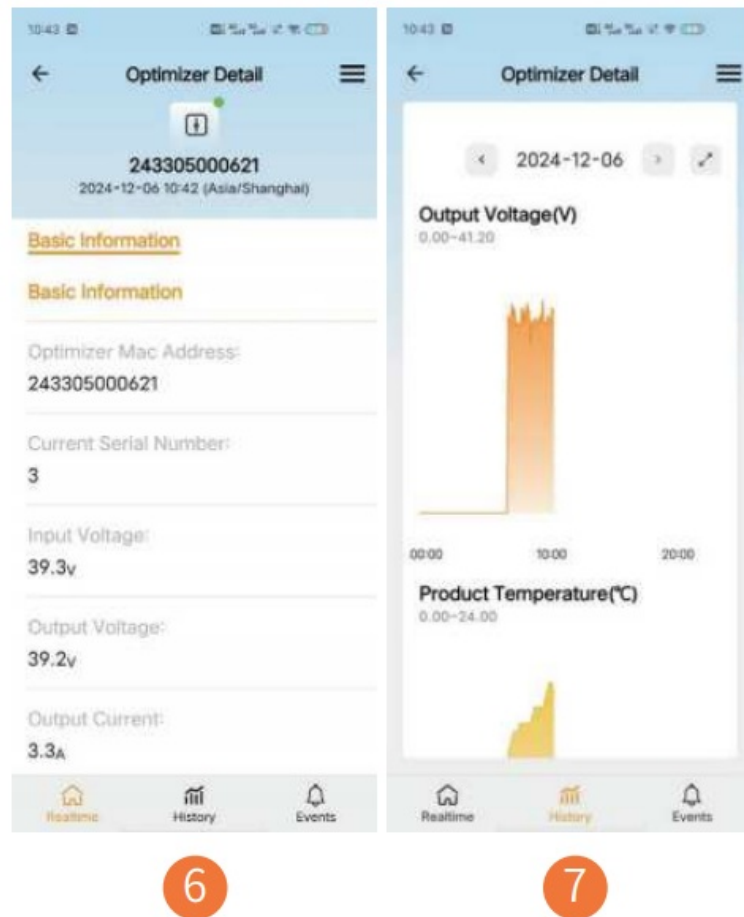
First, click on the drop-down menu in the upper right corner of the “Overview” page, and then click on “Configuring Network”. Operate according to the indicated process. It will be okay as long as the successful network configuration is displayed

- Step 6. Optimizer(RSD) Details

1.

Click on the drop-down menu in the upper right corner on the “Overview” page, and then click on “Device List”

2. Click on the “Logger” column to enter the collector details page
3. Click on the “Optimizer Controller” under “Logger Details” to enter the “Optimizer Gateway Detail” page
4. Click on “Sub Devices” and you can see the optimizer serial number
5. Click on the arrow on the right side of the optimizer serial number to enter the “Optimizer Detail(RSD Detail)” page
6. The device information will be displayed on the “Optimizer Detail(RSD Detail)” page



7. Click on the “History” icon at the bottom to view the graphical display of the “Optimizer Detail(RSD Detail)” (showing input voltage, output voltage, temperature, output current and output power)
- Step 7. Observation of the status of the power station

1. Return to the “Overview” page and you can see the basic information about the power

generation of the power station

2. Click on “History” on the right side of the “Overview” in the APP and you can see the peak power of the power station
3. Click on “Layout” on the right side of “History” in the APP and you can see the status of the photovoltaic modules
4. Click on “Display Curves” and you can see the power curve of the modules
5. Long-press on the “Photovoltaic Module Graph” and the detailed information of the modules will be displayed

- Step 8: Layout modifications

- Click on the small icon here to modify the layout
- Click on the small icon here. There will be a dotted grid to facilitate the layout
- Click on “Edit”
- You can modify the angle of the components. Save it after the modification is completed

- Other functions

- Add visitor's email address
- Switch perspectives, that of professional consultants and end users All the above steps are operated based on end users

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FAQs

What is the maximum number of RSDi-2 units that can be connected to one GTC?

One GTC can accommodate up to 50 RSDi-2 units.

Documents / Resources

	SUNGO Energy Technology RSDi-2 2-in-1 Rapid Shutdown Devices Data Gateway [pdf] Installation Guide RSDi-2, GTC, RSDi-2 2-in-1 Rapid Shutdown Devices Data Gateway, RS Di-2, 2-in-1 Rapid Shutdown Devices Data Gateway, Shutdown Devices Data Gateway, Devices Data Gateway, Data Gateway, Gateway
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References

- [User Manual](#)

 SUNGO Energy Technology

 2-in-1 Rapid Shutdown Devices Data Gateway, Data Gateway, Devices Data Gateway, gateway, GTC, RSDi-2, RSDi-2 2-in-1 Rapid Shutdown Devices Data Gateway, Shutdown Devices Data Gateway, SUNGO Energy Technology

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