TSun Talent-MG2-WP Microinverter Monitor System User Manual

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TSun Talent-MG2-WP Microinverter Monitor System

Product Information

Talent-MG2 Monitoring System
The Talent-MG2 Monitoring System is a microinverter and monitoring device designed for renewable energy. It comes in two models, Talent-MG2-WP and Talent-MG2-GP, and is manufactured by TSUNESS Co., Ltd. The system has a remote active power control function, DRM function, and zero export control function. It also has technical features such as Wi-Fi and GSM connectivity, an RS485 port, and an SD card slot. The Talent-MG2-WP model has a Wi-Fi configuration feature, while the Talent-MG2-GP has a SIM card slot for GSM connectivity. The system comes with a monitor device, antenna, adaptor bracket, and packing list.

Technical Data

Model	Talent-MG2-WP	Talent-MG2-GP
Communication to Microinverter		
Signal	2.4G RF	
Maximum Distance(Open Space)	100m	
Monitoring Data Limit	99 panels	
Communication to Server		
Sample Rate	Per 15 minutes	
Signal	Wi-Fi (802.11b/g/n)	GSM (850/900/1800/1900MHz)
Communication to Meter		
Signal	RS485	
Maximum Distance (RS485 Cable)	500m	
Power Supply (Adapter)		
Type	External plug-in adapter	
Input Voltage/Frequency	100 to 240V AC / 50 or 60Hz	
Output Voltage/Current	5V DC / 2A	
Power Consumption	2.5W(typical), 5W(maximum)	
Mechanical Data		
Ambient Temperature(℃)	-20~+55	
Dimensions (W*H*D mm)	200*101*29	
Weight (kg)	0.2	
Mounting System	Wall mounting / Desktop mounting	
Indicator Light	4 LED	

Product Usage Instructions

1. **Read Me First:** Before proceeding with the installation, read the user manual carefully and ensure that only a qualified technician installs the Talent-MG2 Monitoring System.
2. **Warning:** Only qualified personnel should install, troubleshoot, or replace the monitoring system. Check the unit for any transport or handling damage before installation. All repairs should be carried out using only qualified spare parts, which must be installed in accordance with their intended use and by a licensed contractor or authorized TSUNESS service representative.
3. **Contact:** If you have any technical problems about the product, contact the TSUN Service line.
4. **Packing List:** The system comes with a monitor device, antenna, adaptor bracket, and packing list.
5. **Product Appearance:** The Talent-MG2 Monitoring System has various technical features, including power LED, communication LED (server), communication LED (inverter), alarm LED, SD card slot, SIM card slot (only for Talent-MG2-G), antenna (Wi-Fi/GPRS), and RS485 port. It also has a DRM port (for Australia), Ethernet port, USB port, reset hole, power port, antenna (2.4G), and installation hole.
6. **Installation:** To install the system, follow these steps:
    - Take two antennas out from the box and screw them into the Wi-Fi/GPRS port and 2.4G port. Note: While

installing Talent-MG2-GP, there are a GSM antenna and a 2.4G antenna. Do not insert the antenna to the wrong port.

- Install the microinverter and the monitoring device.
- Establish an account.
- Network for the monitoring system.
- Create a Plant.
- Edit the system layout.
- Confirm the loads' capacity for CT and Meter.
- Install the meter and CT.
- Connect the meter to the RS485 port of monitor device.
- Set zero export function on the monitor platform.

Read Me First

Dear customer, thank you for choosing the TSOL-M Series micro inverter from TSUNESS. We hope you will find our products meet your needs for renewable energy. Meantime, we appreciate your feedbacks regarding our products. This manual contains important instructions for Talent-MG2 Monitoring System. For safety, only qualified technician, who has received training or has demonstrated skills can install Talent-MG2 Monitoring System under the guide of this document.

Warning

- Only qualified personnel should install, troubleshoot, or replace the monitoring system.
- Before installation, check the unit to ensure absence of any transport or handling damage, which could affect insulation integrity or safety clearances.
- All repairs should be carried out using only qualified spare parts, which must be installed in accordance with their intended use and by a licensed contractor or authorized TSUNESS service representative.

Contact

If you have technical problems about our products, contact the TSUN Service line.

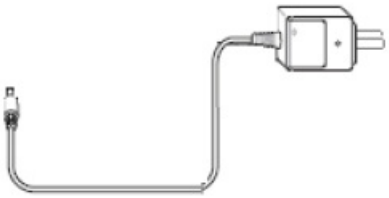
Talent-MG2 Monitoring System

The Monitor Device is the key component in Talent-MG2 monitoring system. It is the relay station of the monitoring system, which operates between the microinverters and the Monitoring Server. The Monitor Device communicates with the microinverters in the system via 2.4G RF wireless to collect the data and status of the microinverters in the system. At the same time, Monitor Device connects to the Internet through WIFI (Talent-MG2-WP) or GPRS (Talent-MG2-GP), which realizes the information exchange with the monitoring service and sends all the running data of microinverters and status of the system to the monitoring server. It receives the control commands from the monitoring server and sends the data to the microinverters in the system to achieve remote operation and maintenance.

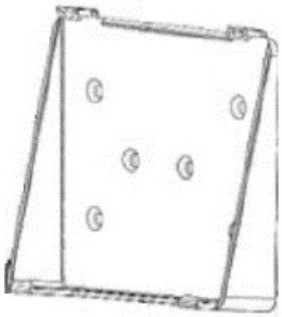
Packing List

a

b



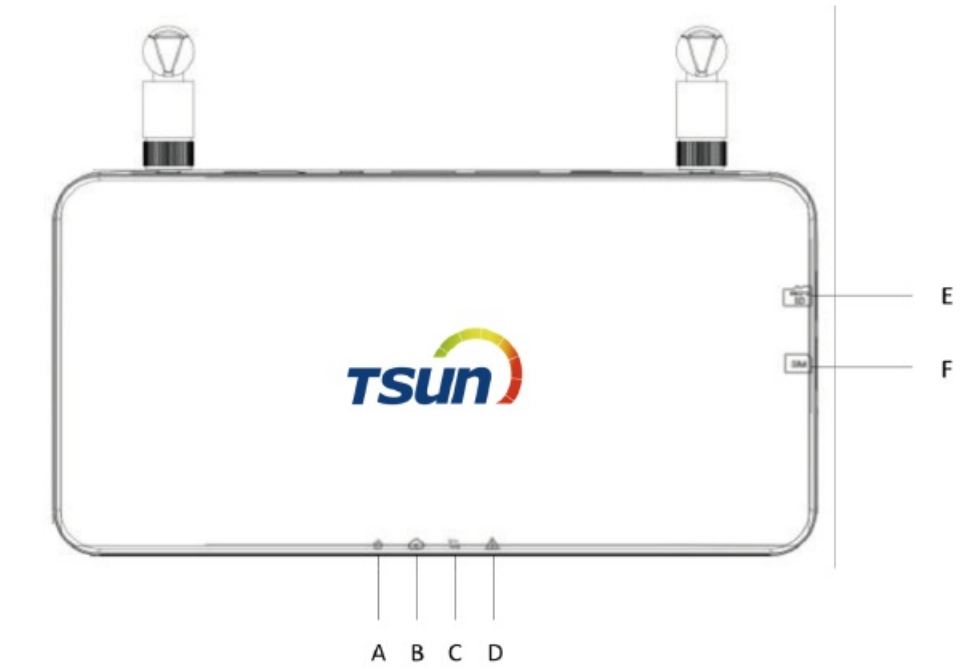
c

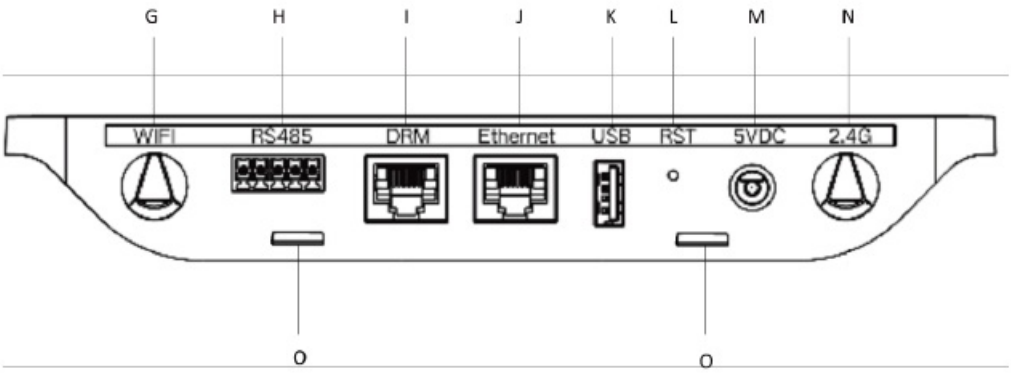


d

Object	Description	Quantity
a	Monitor Device	1
b	Antenna	2
c	Adaptor	1
d	Bracket	1

Product Appearance

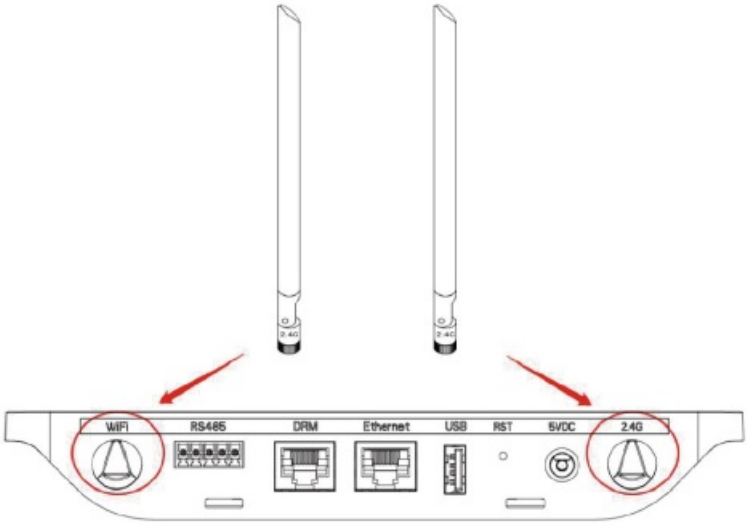




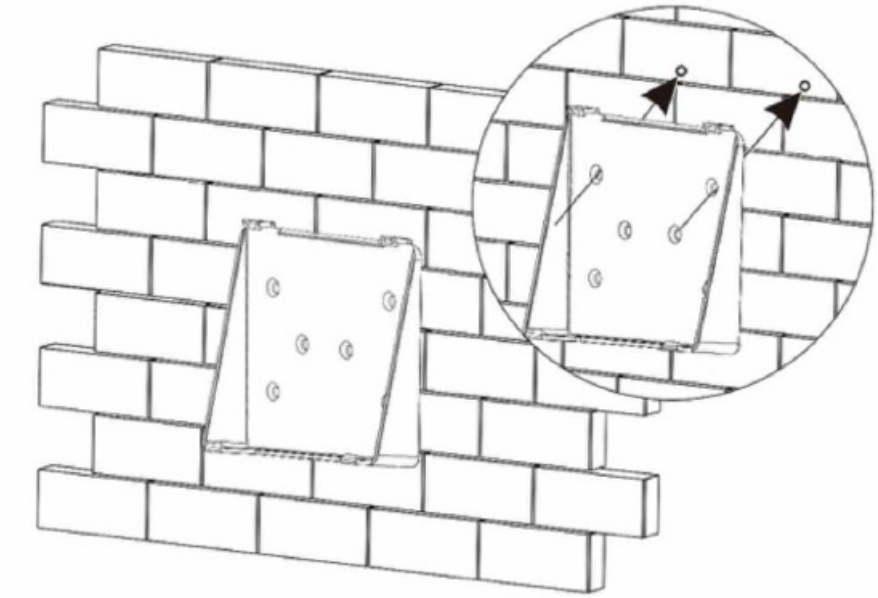
Object	Description	Object	Description
A	Power LED	I	DRM Port (For Australia)
B	Communication LED (Server)	J	Ethernet Port
C	Communication LED (Inverter)	K	USB Port
D	Alarm LED	L	Reset Hole
E	SD Card Slot	M	Power Port
F*	SIM Card Slot	N	Antenna (2.4G)
G	Antenna (Wi-Fi/GPRS)	O	Installation Hole
H	RS485 Port		

Installation

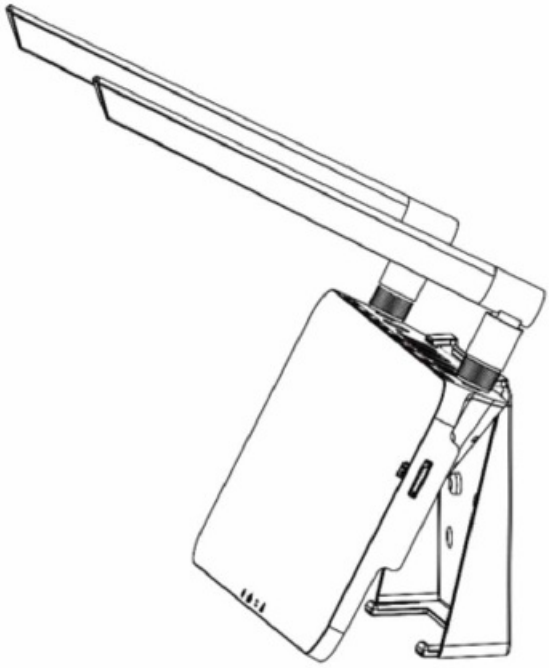
1. Take two antennas out from the box, screw the antenna into the Wi-Fi/GPRS port and 2.4G port.
   Note: While installing Talent-MG2-GP, there are a GSM antenna and a 2.4G antenna. Do not insert the antenna to the wrong port.
   Note: While the monitor device is installed inside the metal box or under the metal / concrete roof, extended 2.4G cable or 2.4G sucker antenna will be suggested.



2. Insert the SIM Card into the SIM Card Slot, press the SIM Card in until you heard “Click” (only for Talent-MG2-GP).
3. Screw the bracket on the wall and use at least two screw holes (one from each side) to fix the bracket (the M4 screws need to be prepared by installer).



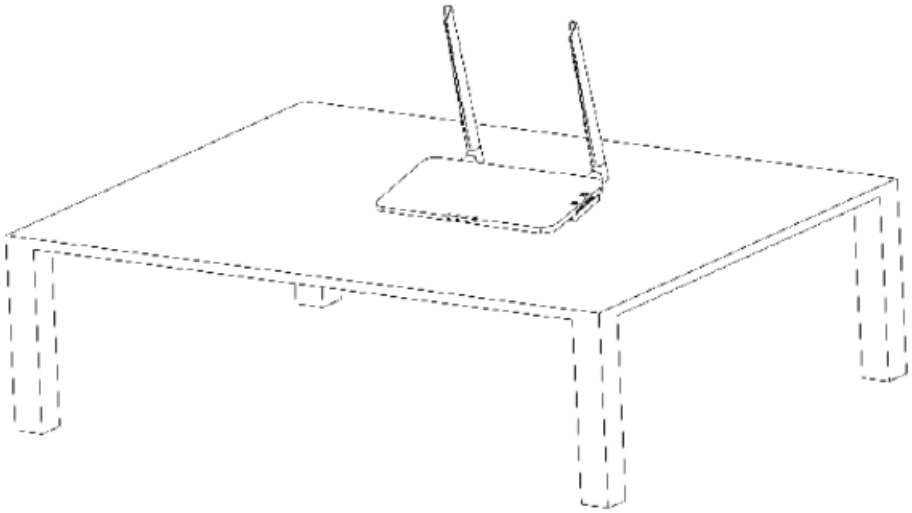
4. Match the bracket’s upper buckle with monitor device. Then match the bracket’s lower buckle by gently press the lower side of the monitor device until hear the“Click”.



Note: Make sure the antennas are vertical to the wall.

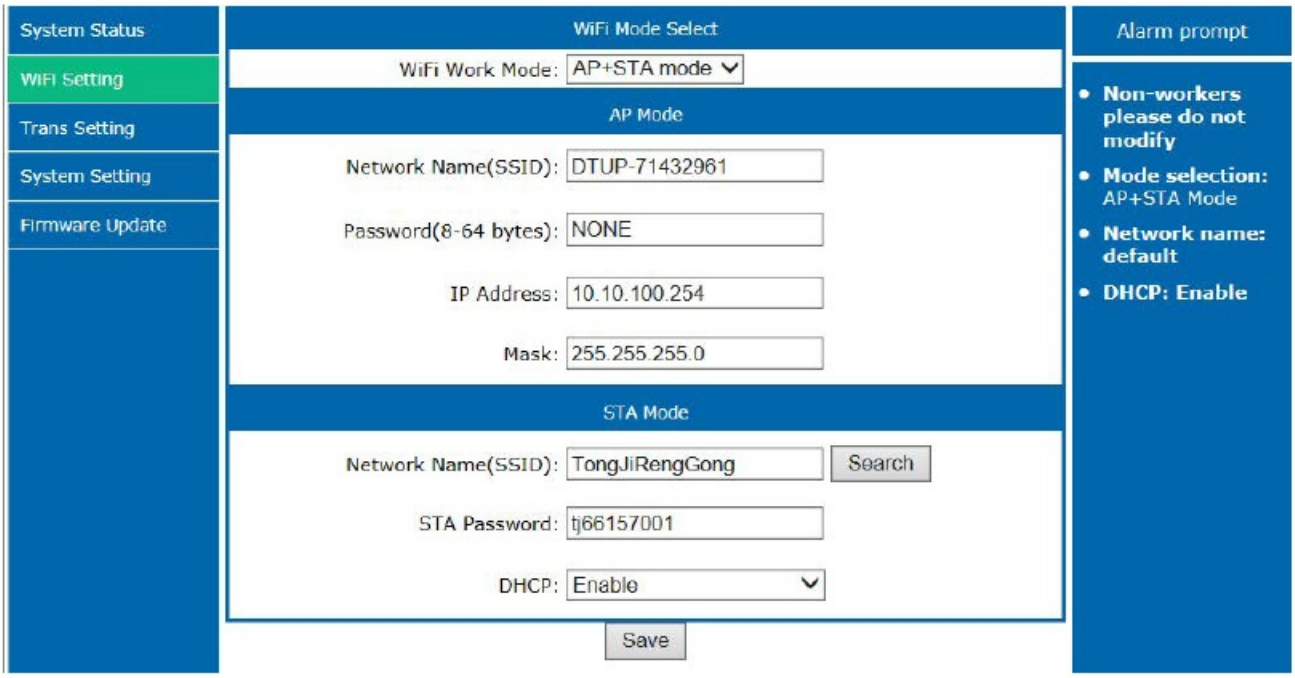
5. **Power on the monitor device.**

   Note: Monitor device could also be put on the table. Make sure the antennas are vertical to the table.

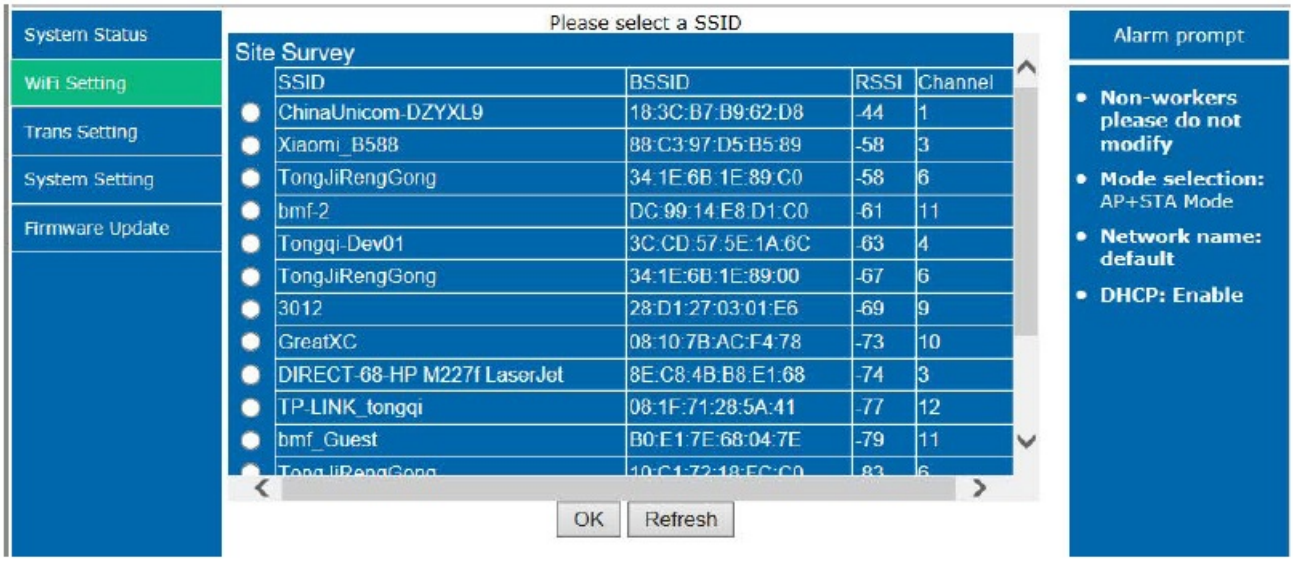


Wi-Fi Configuration (Only Talent-MG2-WP)

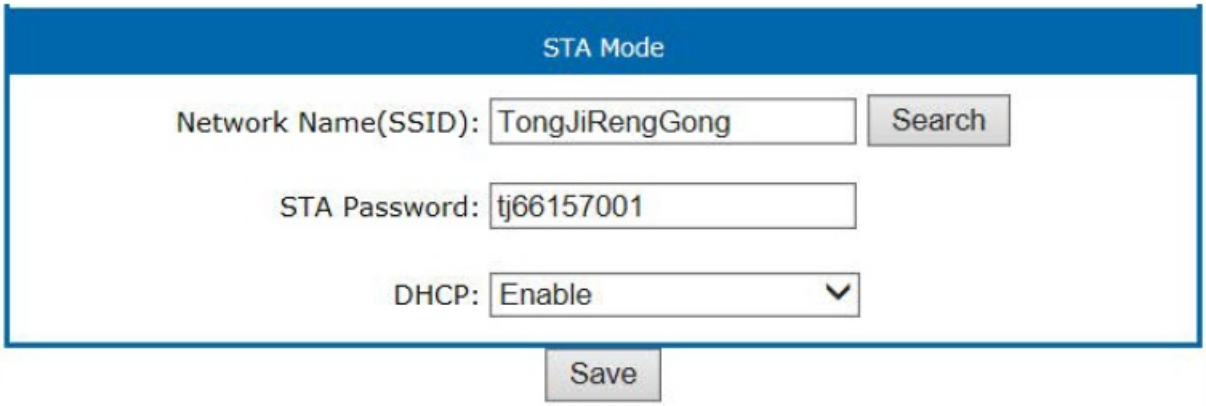
1. Connect the wireless name of MG2-W via computer or mobile phone.
2. Open the browser and enter 10.10.100.254 to open the Wi-Fi configuration page. The username and password are ‘admin’ by default.
3. Click the Wi-Fi parameter menu on the left menu bar to enter the Wi-Fi parameter configuration.



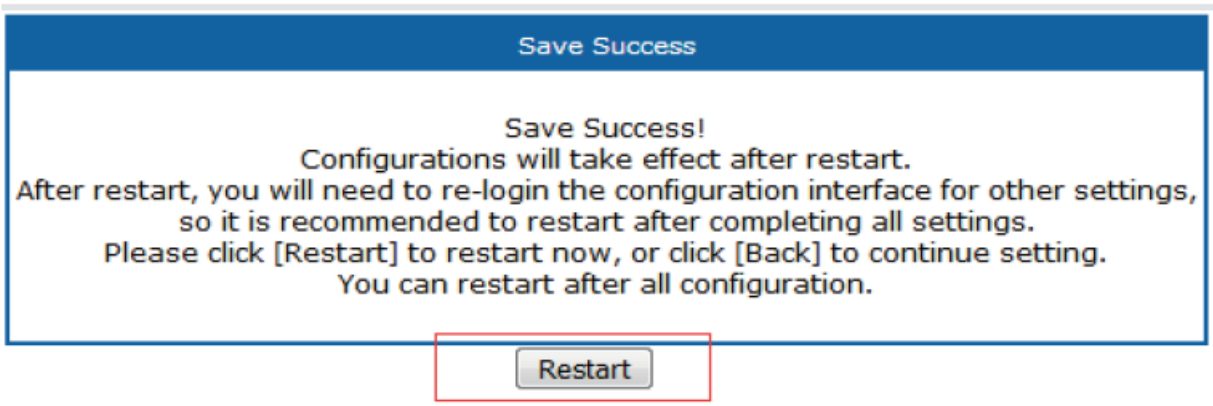
4. Click the search button in the lower right corner, select the Wi-Fi name to be connected to the monitoring device.



5. Enter the password and click Save.

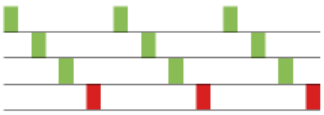


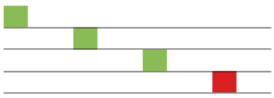
6. Click Restart.



LED Description

LED Mark	LED Color	Explanation
⏻		Monitor device power on or power off
☁		Network communication
⇄		Microinverter communication
⚠		Fault State

LED	Status	Description
All LEDs		Firmware upgrading

		Starting up
		Power on
		Power off
		Communicating with Server
		Internet disconnected
		Internet connected, Server disconnected
		Communicating with all microinverters
		Some microinverters disconnected
		No ID (Please do Networking)
		Normal
		Monitor device alarm
		Microinverter alarm
		Meter alarm

the official website of TSUNESS www.tsun-ess.com .

Website Configuration

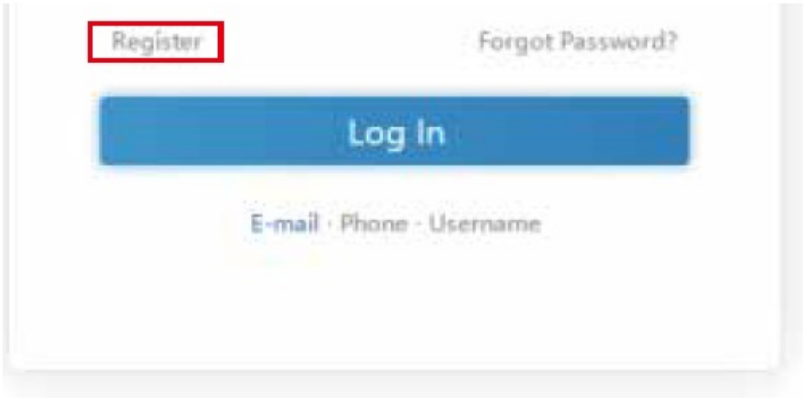
Step 1: Install the microinverter and the monitoring device

1. Install the microinverter system. Please read the Quick Installation Guide or the User Manual of microinverter on **www.tsun-ess.com/downloads** before installation.
2. Install the monitoring device. Connect the power adapter into the socket
3. Make sure the microinverter system and the monitoring device are working well.

Step 2: Establish an account

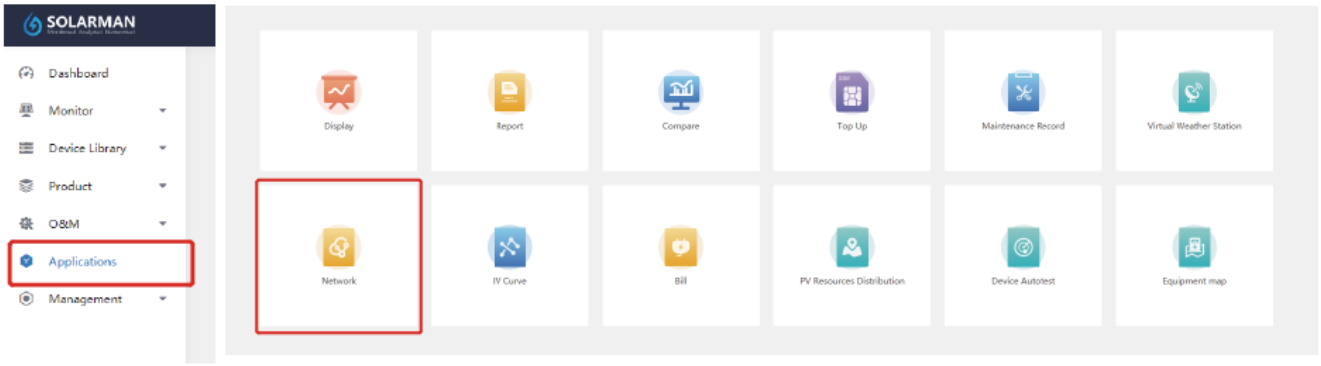
1. Visit the monitor website pro.solarmanpv.com directly. Or enter this monitor website by the official website of TSUNESS **www.tsun-ess.com**.

2. Click the “Register” button and register a new account.

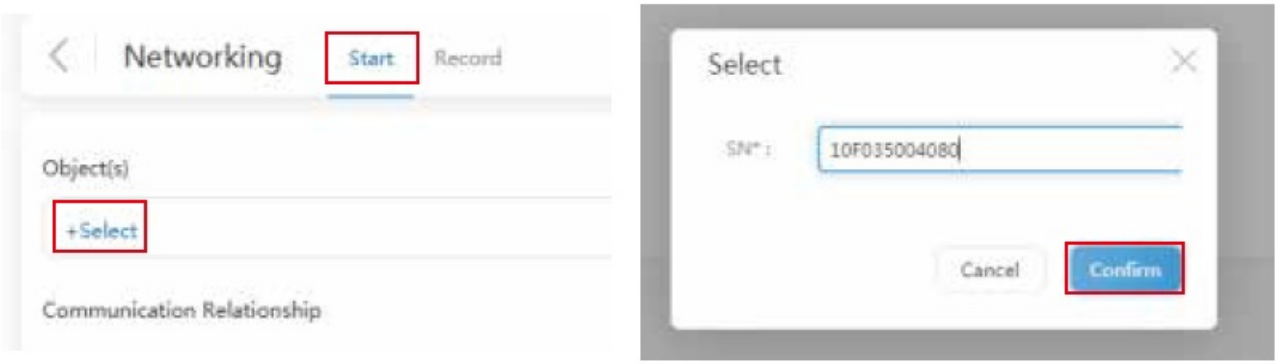


Step 3: Networking for the monitoring system

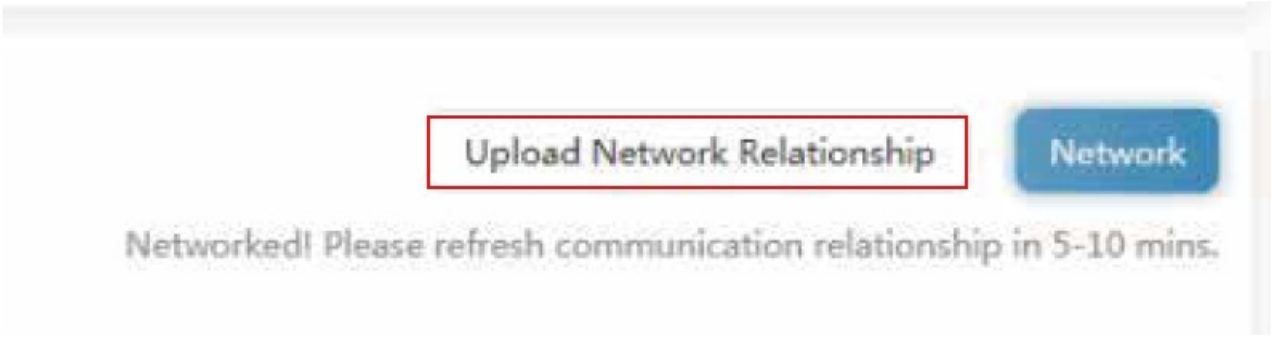
1. Login to the platform and find the “Network” page by Applications → Network. (Please make sure that the monitoring device has already connected to the server.)

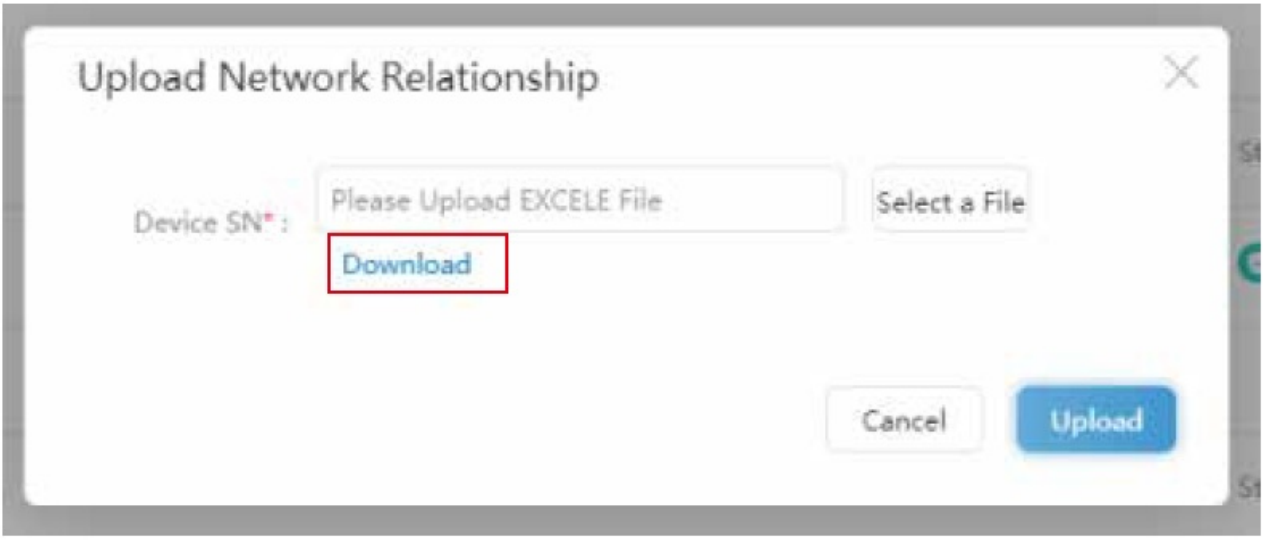


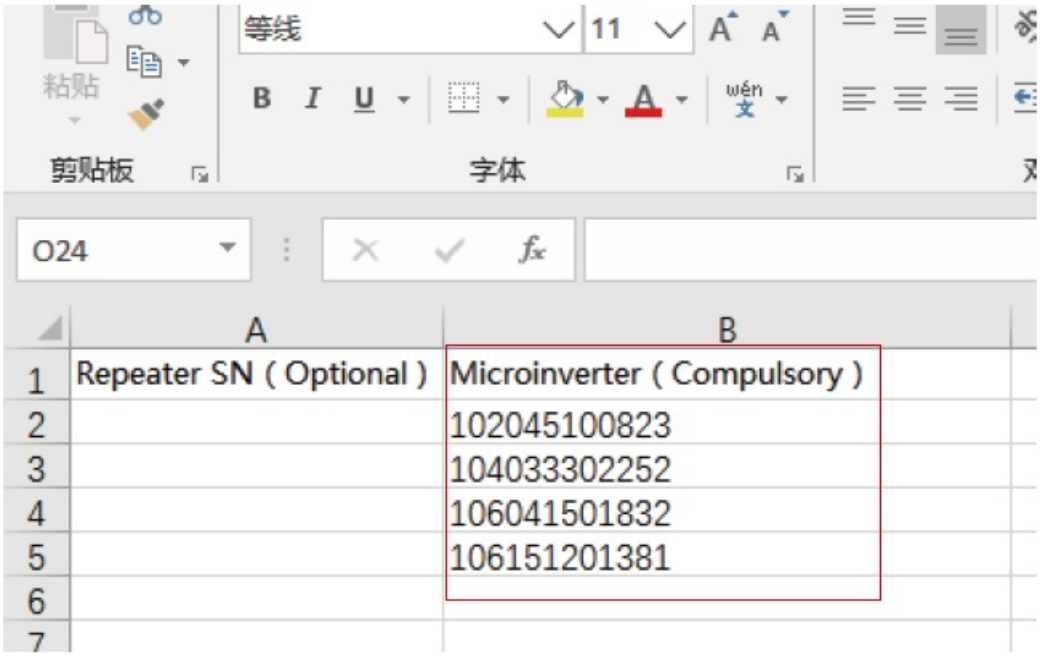
2. Click “+Select” to input the SN of monitoring device.

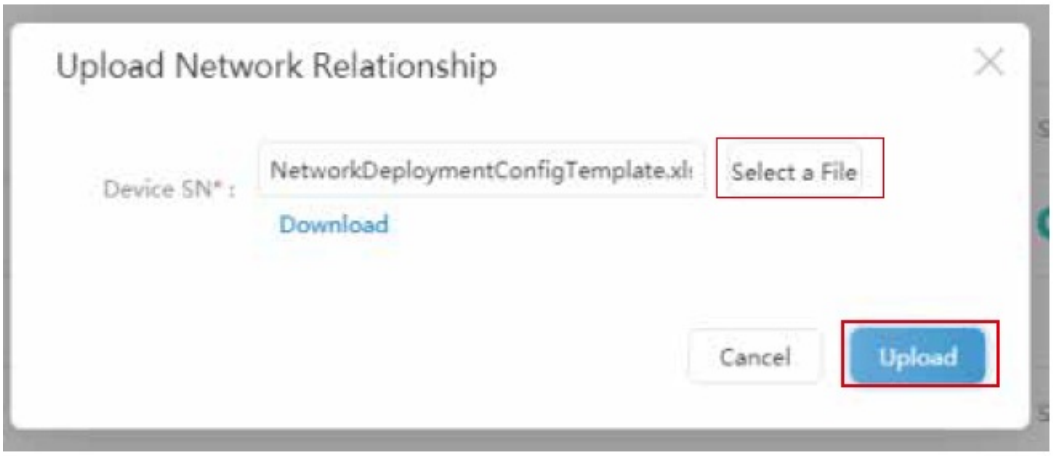


3. Click “Upload Network Relationship” to download the template file. After editing the file, click “Select a File” to upload file.



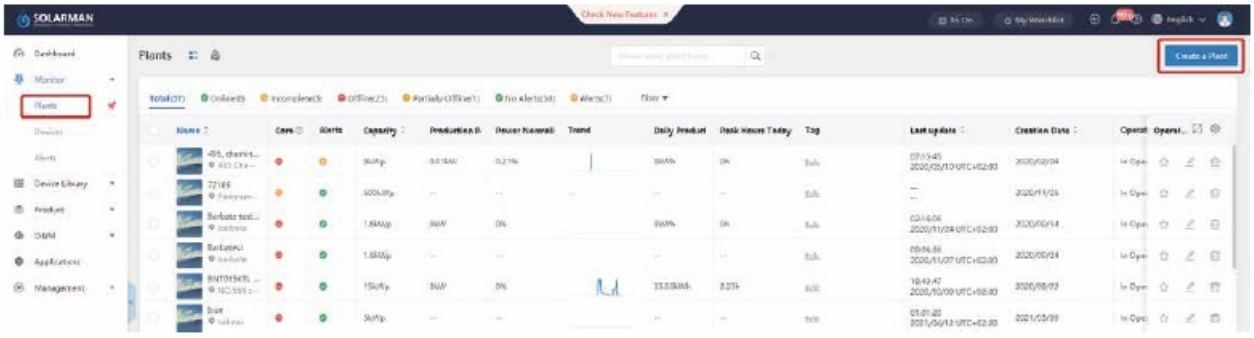






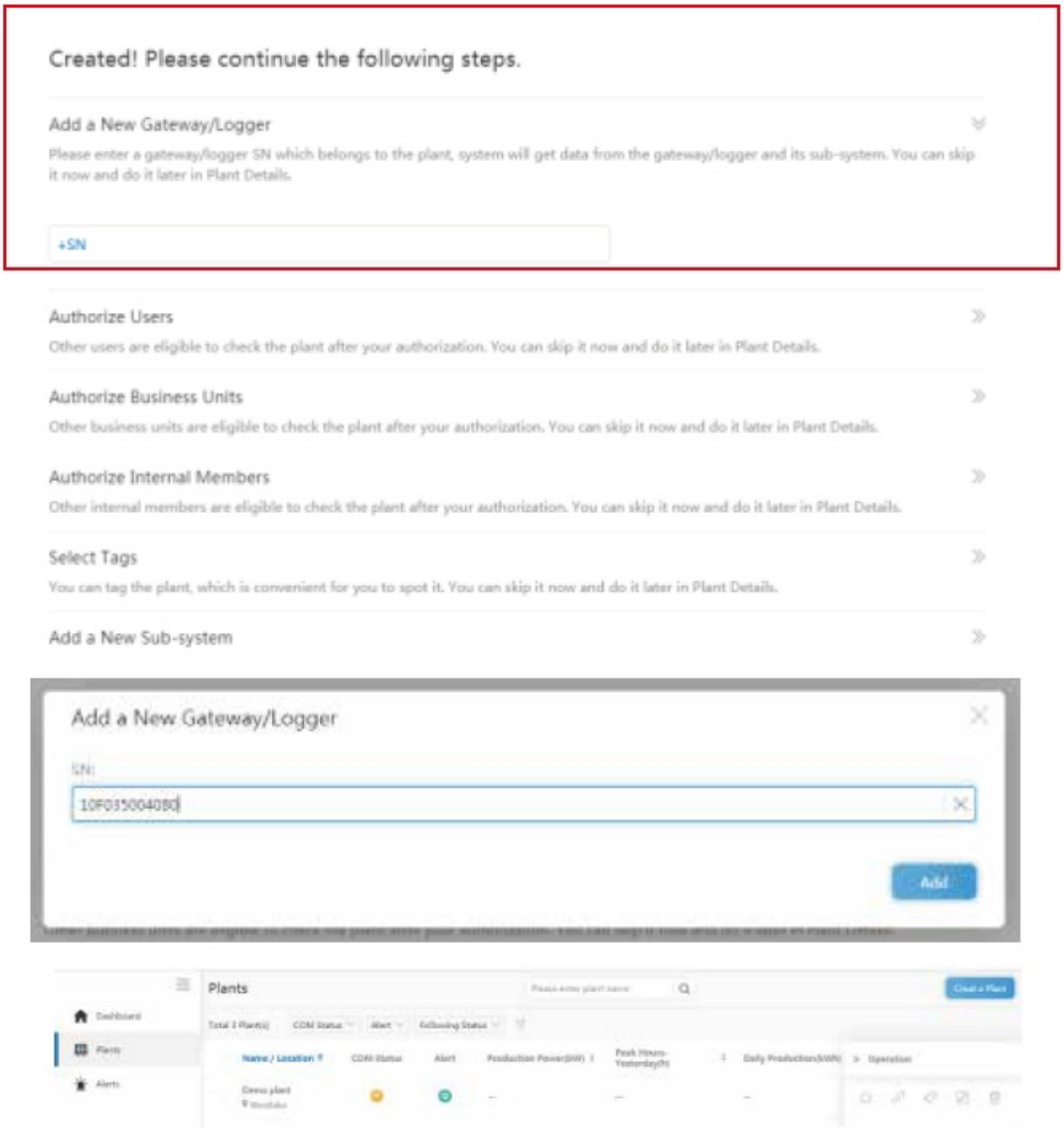
Step 4: Create a Plant

1. Find the “Plants” page by Monitor → Plants. Click ‘Create a Plant’ to create a new plant.



2. Input basic information, system information, yield information and owner information in this page.

3. Click “Save” and add a monitoring device in this plant. Click “add a New Gateway/Logger” and input the SN of the monitoring device.

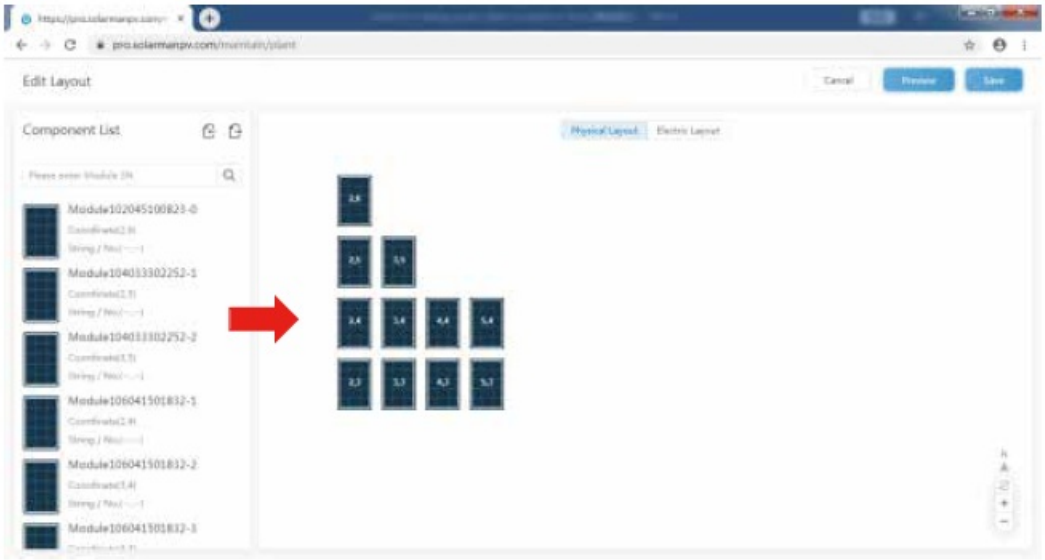


4. All the plants can be viewed and managed in “Plants” page.

Step 5: Edit the system layout

1. Find the “Plants” page by Monitor → Plants → “plant name” . Then enter the “Layout” page and click “Click here to edit system layout”.

2. Drag the components to the right side to finish the physical layout.



Remote active power control function

In some countries, it might require that the generating plants should be equipped with a logic interface (input port) in order to cease output active power or limit active power to a regulating level. This logic input can be RS485 port, Ethernet port, etc. Talent-MG2-WP/GP provide RTU Modbus protocol over RS485 port for this remote active power control. For more information, please refer to “Modbus implementation Technical Note”.

DRM function

DRM port is provided to support several demand response modes as below by connecting external control device with a standard RJ-45 connector. For Talent-MG2-WP/GP, it can support DRM0/5/6/7/8 if used with TSUN microinverters.

Mode	Requirement
DRM0	Operate the disconnection device
DRM1	Do not consume power
DRM2	Do not consume at more than 50% of rated power
DRM3	Do not consume at more than 75% of rated power AND Source reactive power if capable
DRM4	Increase power consumption (subject to constraints from other active DRMs)
DRM5	Do not generate power
DRM6	Do not generate at more than 50% of rated power
DRM7	Do not generate at more than 75% of rated power AND Sink reactive power if capable
DRM8	Increase power generation (subject to constraints from other active DRMs)

Zero export control function

To maintain the safety and quality level of the grid network, some countries’ local grid authorities limit the PV generated power exporting to the grid. Zero export function can meet this requirement and help users install a bigger PV system without violating export regulations.

Step 1: Confirm the loads’ capacity for CT and Meter
Make sure the CT/Meter range can cover the maximum loads power or PV system generating power. There are 3 types of CHINT meter and different types of CT that you can choose base on the actual installation requirement.

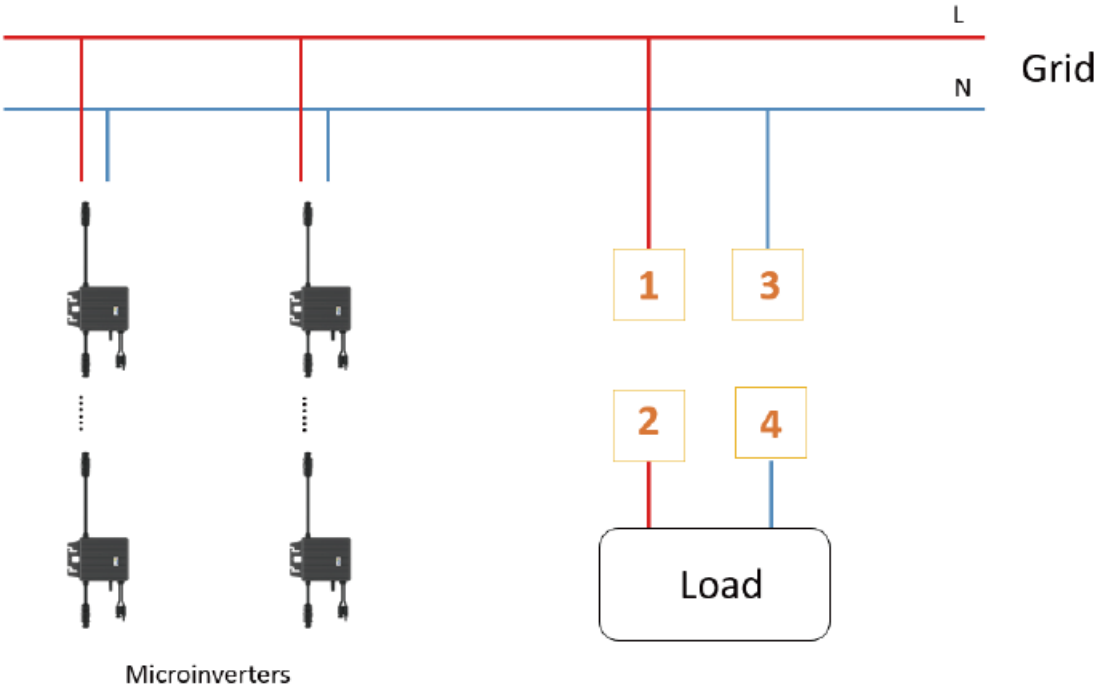
Meter Model	Type	SN	Description
DDSU666(60A)	Single Phase	10C011XXXXXX	Direct connect, NOT via any kind of CT
DTSU666(80A)	Three Phase	10C013XXXXXX	Direct connect, NOT via any kind of CT
DTSU666(5A)	Three Phase	10C012XXXXXX	Compatible with 100A/5A, 300A/5A, and 600A/5A CT

Grid Type	Meter Model
Single Phase System (230V)	DDSU666(60A)
Three Phase System (230V/400V)	DTSU666 (100A/5A,300A/5A, 600A/5A), DTSU666 (80A)
Split Phase System (120V/240V)	
Three Phase System (120V/208V)	

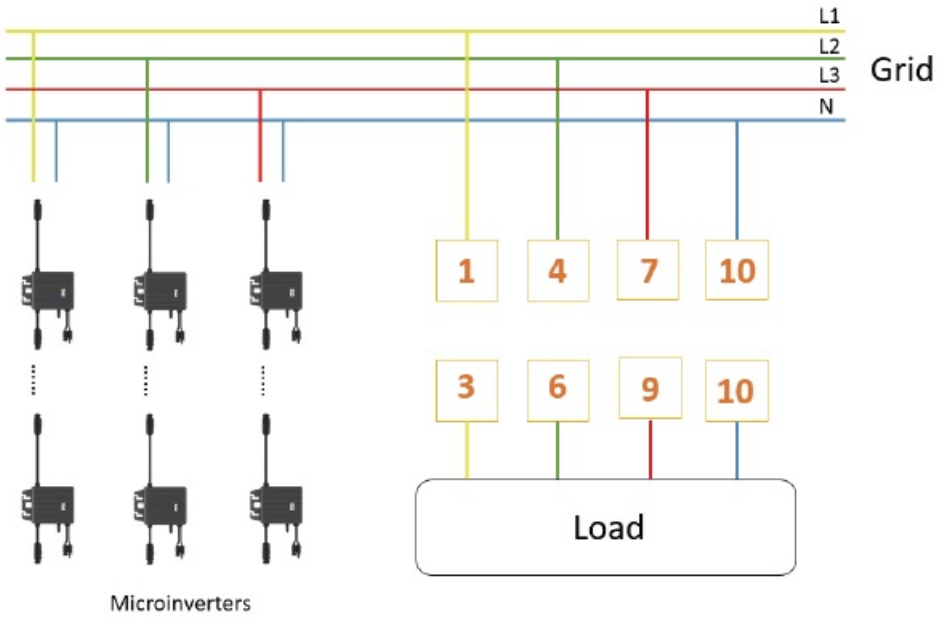
Note: There are several versions of CHINT meters in the market. The protocol in the meter is customermized for different inverter manufacturers. Please buy the CHINT meters from TSUN to ensure the usage of Zero Export Function.

Step 2: Install the meter and CT
CHINT DDSU666 Single Phase Meter (Direct connect)

Port 1	input port, connect to the L line;
Port 2	output port, connect to the L line;
Port 3	connect to the N line;
Port 4	connect to the N line;
Port 24	connect to the A port of RS485 port
Port 25	connect to the B port of RS485 port



CHINT DTSU666 Three Phase Meter (Direct connect)

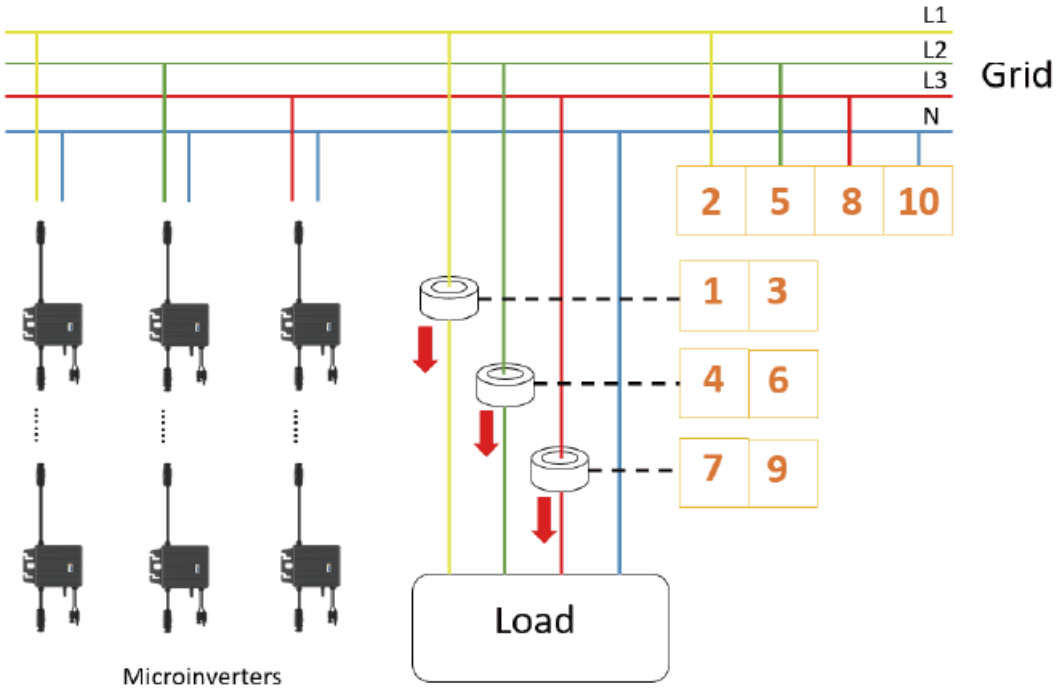


Port 1	input port, connect to the L line of phase A;
Port 3	output port, connect to the L line of phase A;
Port 4	input port, connect to the L line of phase B;
Port 6	output port, connect to the L line of phase B;
Port 7	input port, connect to the L line of phase C;
Port 9	output port, connect to the L line of phase C;
Port 10	connect to the N line;
Port 24	connect to the A port of RS485 port
Port 25	connect to the B port of RS485 port

CHINT DTSU666 Three Phase Meter (Via CT)

Port 1	connect to the red wire of CT in Phase A;
Port 2	connect to the L line of phase A;
Port 3	connect to the black wire of CT in Phase A;
Port 4	connect to the red wire of CT in Phase B;
Port 5	connect to the L line of phase B;
Port 6	connect to the black wire of CT in Phase B;
Port 7	connect to the red wire of CT in Phase C;
Port 8	connect to the L line of phase C;
Port 9	connect to the black wire of CT in Phase C;
Port 10	connect to the N line;
Port 24	connect to the A port of RS485 port
Port 25	connect to the B port of RS485 port

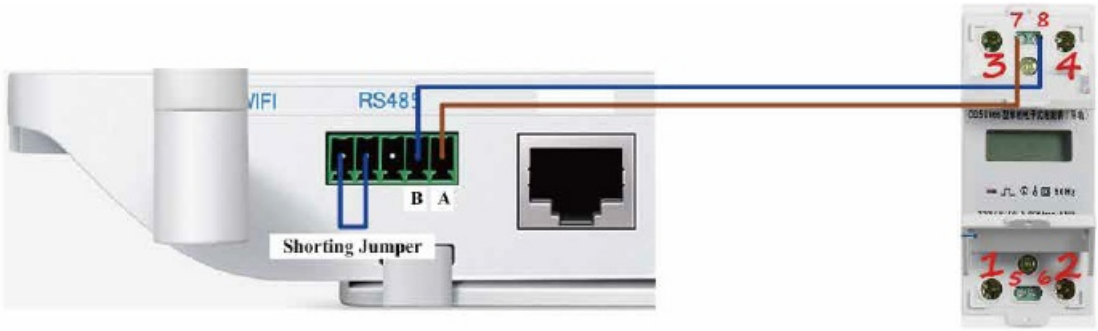
Make sure the CT (Current Transformer) has been installed in the right direction, otherwise will affect the current readings and Meter function. Meter install on the Load side, the CT arrow pointed to the Loads.



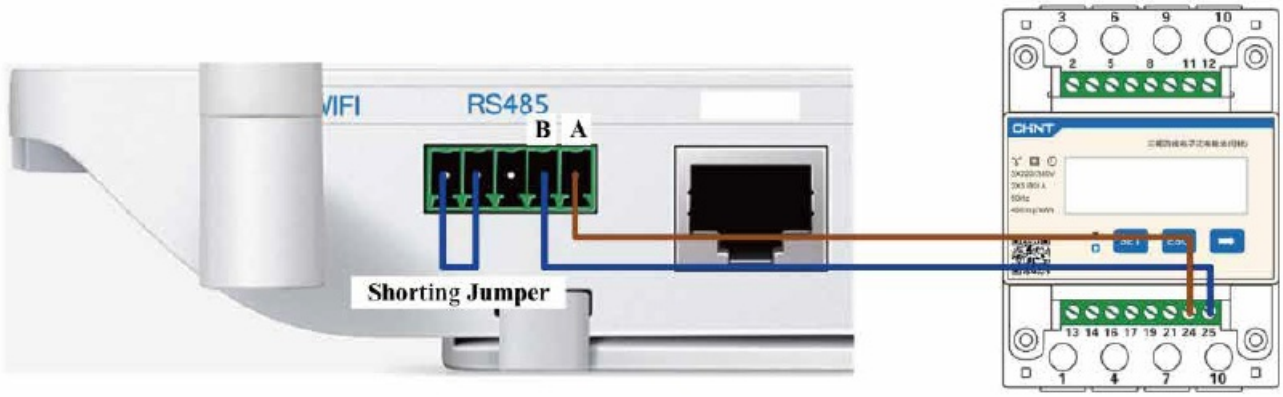
Step 3: Connect the meter to the RS485 port of monitor device
The picture below indicates the RS485 A Port and B Port on the monitor device.

When the RS485 cable length is more than 200m, use the shorting jumper on the first two ports from the RS485 port.

- For CHINT Single Phase Meter:

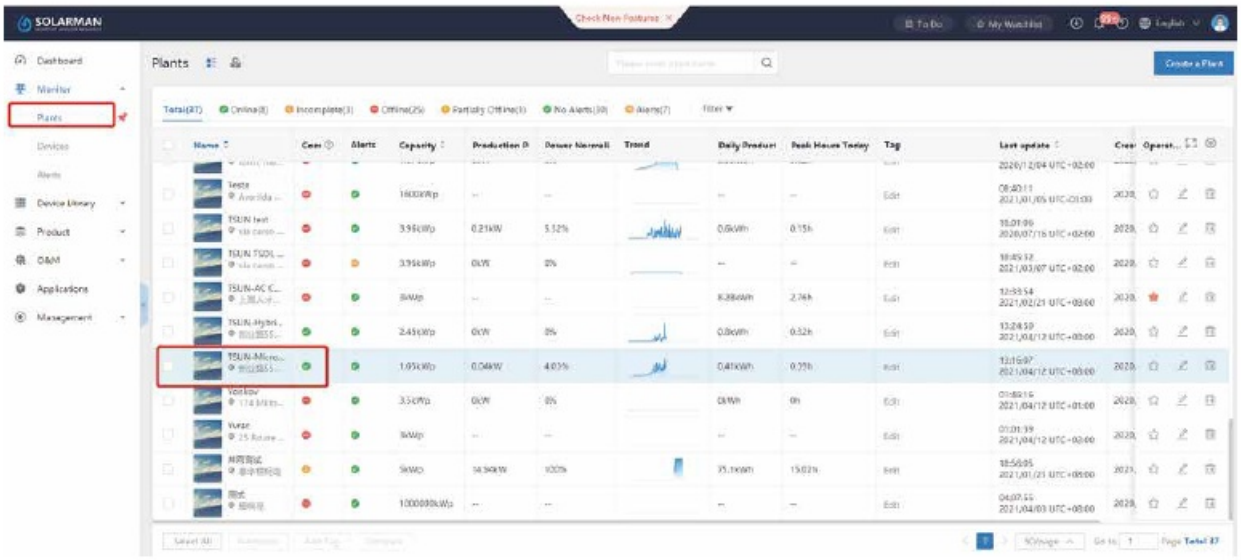


- For CHINT Three Phase Meter:

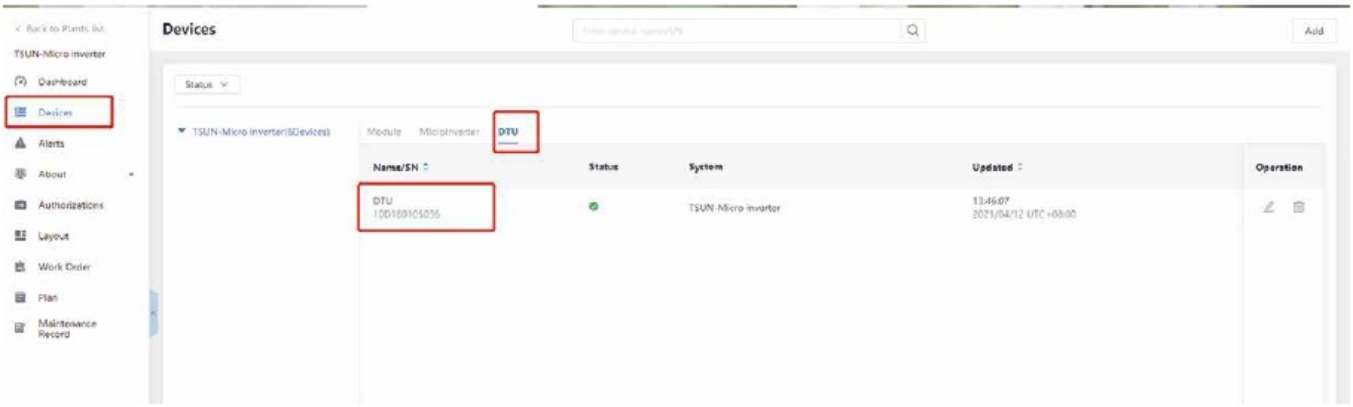


Step 4: Set zero export function on the monitor platform

Login to the platform and find the “Solar Plant” page by Monitor → Plants. Click it and enter the “Solar Plant” page.

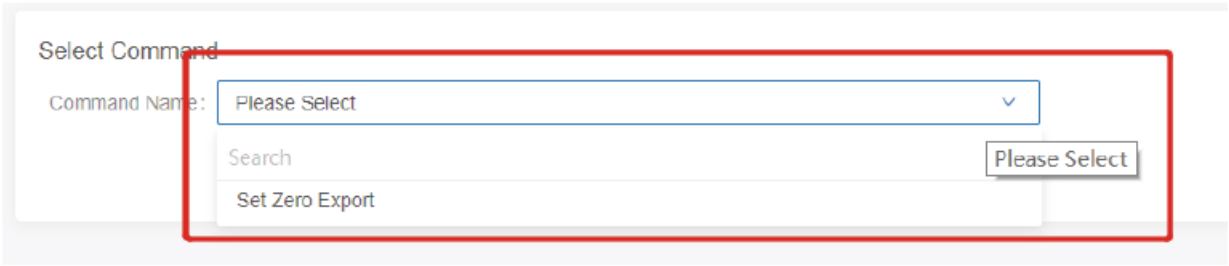


Find the “DTU” page by Device → DTU. Click it and enter the “DTU” page.

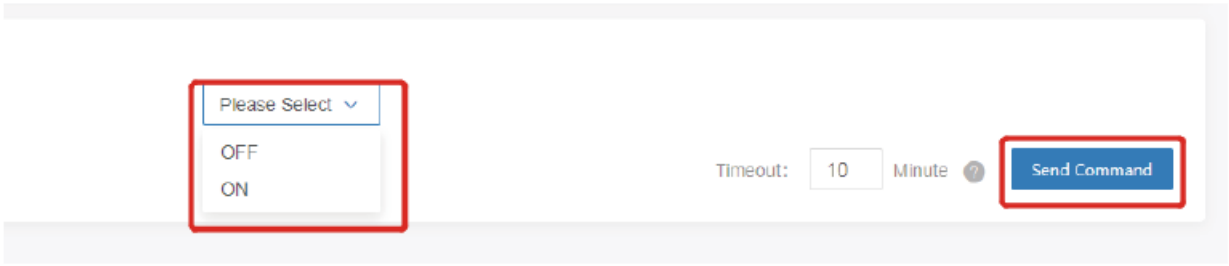


There is a “Device Control” button on the right-up conner. Click it and enter the “Device Control” page.

Choose the “Set Zero Export” Command.



Choose the “ON” Command. Click “Send Command” button.



If the command is sent, it will show “Succeeded” in the page. Otherwise, it will show “Failed”.

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Documents / Resources

	**TSun Talent-MG2-WP Microinverter Monitor System** [pdf] User Manual Talent-MG2-WP, Talent-MG2-GP, Talent-MG2-WP Microinverter Monitor System, Microinverter Monitor System, Monitor System

References

- ESS | K-12 Education Staffing & Management Solution
- pro.solarmanpv.com