

3-Phase PV Inverters (5-20kW) Commissioning with Logger1000 Quick Guide

Disclaimer

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This document only applies to Sungrow Power three-phase inverters (including SG5KTL-MT, SG10 KTL-MT, SG15KTL-M, SG20KTL-M) with Logger1000. The information in this document may contain predictive statements including, without limitation, statements regarding the future financial and operating results, future product portfolio, new technology, etc. There are several factors that could cause actual results and developments to differ materially from those expressed or implied in the predictive statements. Therefore, such information is provided for reference purpose only and constitutes neither an offer nor an acceptance. Sungrow Power may change the information at any time without notice.

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1. Introduction

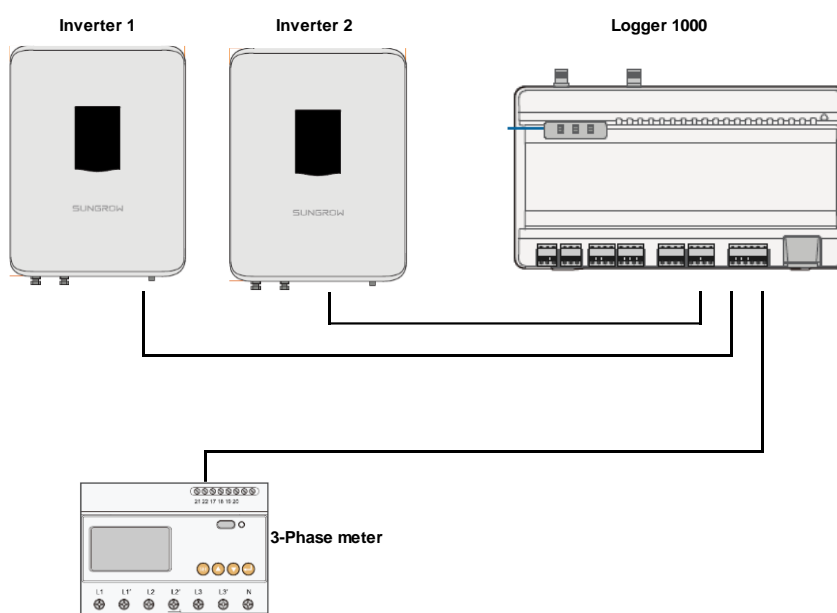
This quick guide is to be read in conjunction with the Sungrow's User Manuals and 3-phase KTL series inverters as example for demonstration.

When more than one inverter is installed, all the commissioning is done via a Logger1000. All the components are connected via daisy-chain RS485 as per standard RS485 topology.

For export control and load consumption, a 3-phase energy meter needs to be connected. Default baud rate is 9600 of the energy meter and this can be changed if necessary, by entering "System/Interface/RS485" in the Logger1000.

Shielded twisted pair with a minimum CSA of 0.75mm should be used, and the maximum total length of the cable is 1,200m (120 Ohm resistor should be terminated).

Schematic layout of equipment to the logger1000 through RS485 wiring.



Cable	Type	Recommended cross-section
RS485 communication cable	Shielded twisted pair	0.75mm ² ~1.5mm ²

NOTICE

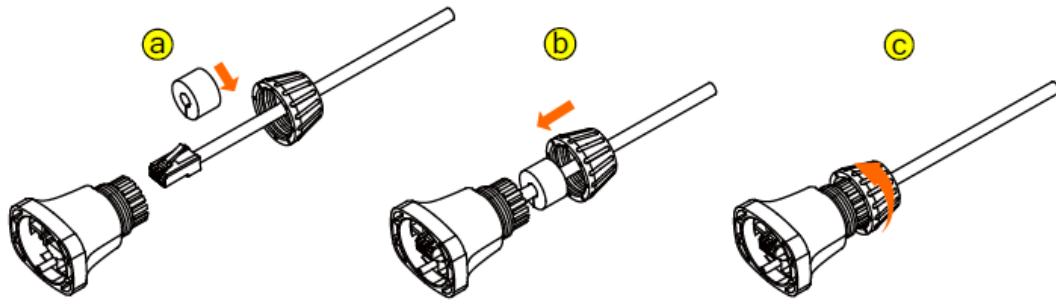
The RS485 communication cable must be the shielded twisted pair with the shielding layer single-point grounded.

2. RS485 Connections

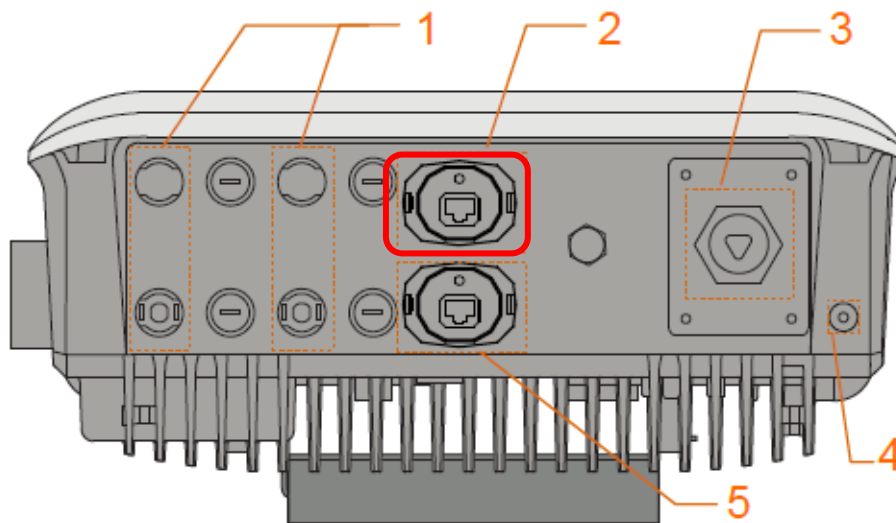
2.1 Inverter Connection (Daisy Chain)

The RS485 is connected by RJ45 connector at the inverter end and terminated cable at the logger end.

Connect the RJ45 plug to the front **COM** port on the inverter via the supplied shroud.



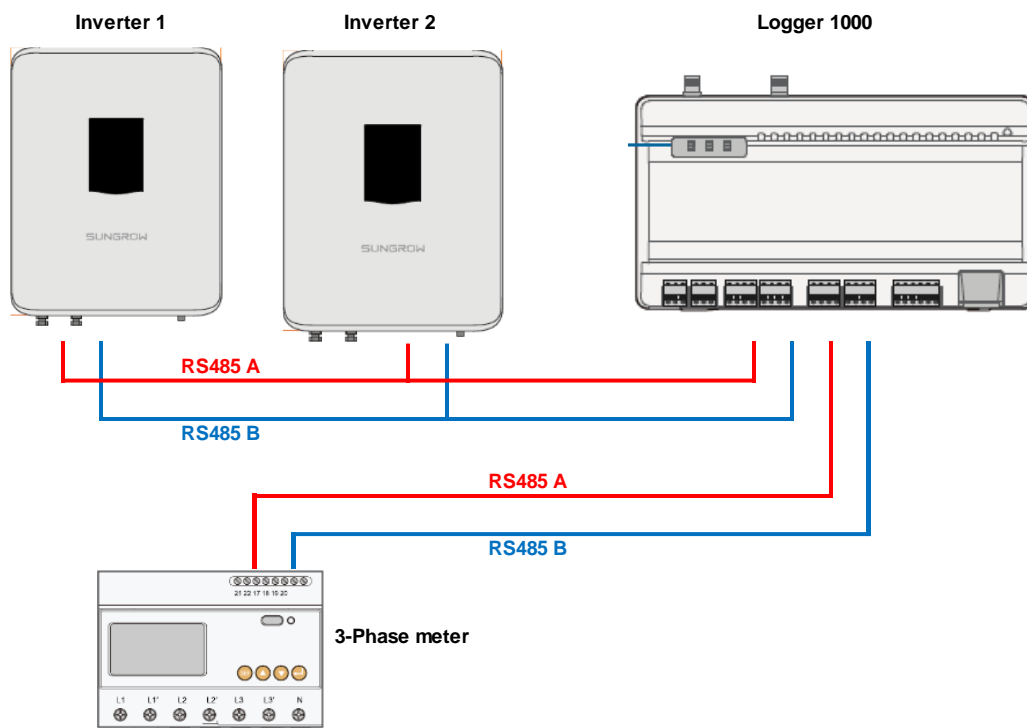
Note: Make sure to plug into the **COM** port on the inverter (Terminal 2). **DO NOT** plug into the RS485 port (Terminal 5)



As the Sungrow KTL series inverter only has one port for COM connection, if the daisy-chain RS485 connection is required, this can be accomplished by using a third party RJ45 splitter.



Note: Make sure the splitter splits 8-pin cable into two 8-pin outputs. Some of the splitters only divide 8-pin cables into two groups of 4-pin outputs which will not work.



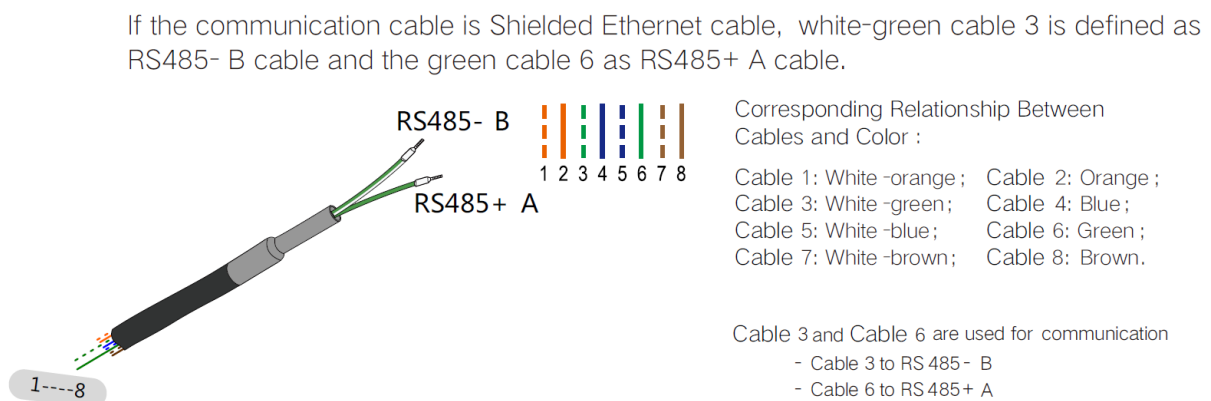
Note: Never connect the meter to the same RS485 terminals as the inverters.

2.2 Energy Meter Connection

For supplies smaller than 80 Amps, use the DTSU666 with inbuilt CTs.

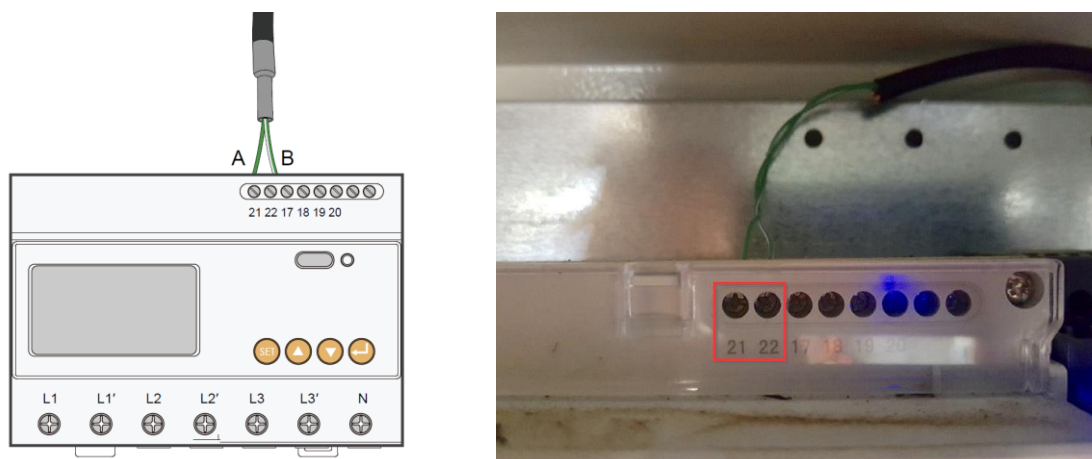
For installations where the supply is larger than 80 Amps, the electrician need to select appropriate CT ratings. The secondary current of CT should be 5A. The CT ratios can be set on Logger1000. Please refer [Meter Selection Guide](#) for reference.

The corresponding pinouts to RJ45 are Pin 3 (White-green) to RS485- B and Pin 6 (Green) to RS485+ A:



On the DTSD1352 energy meter side, terminal 21 to Green cable (RS485+ A) and terminal 22 to White / Green cable (RS485- B).

The following figures shows the meter cable connection on the energy meter.



Connect to Logger1000 via the RS485 cable from the energy meter on RS485 port A2 and B2.

2.3 Connection to Logger1000

Connect the RS485 comms from the inverter(s) via A1/B1 and the energy meter via A2/B2 (can be connect to A3/B3 if A2/B2 is occupied by inverters) to the Logger1000 as an example.

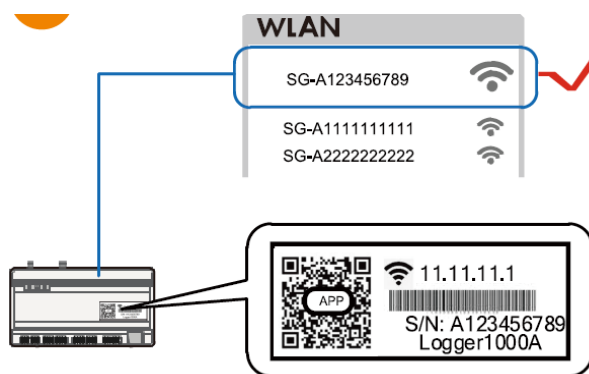


On the logger1000 side, A1 and B1 are terminals to connect with the inverter which display as **COM1** on the Logger1000 web portal; A2 and B2 are the terminals to connect with the energy meter, they are shown as **COM2** on the portal.

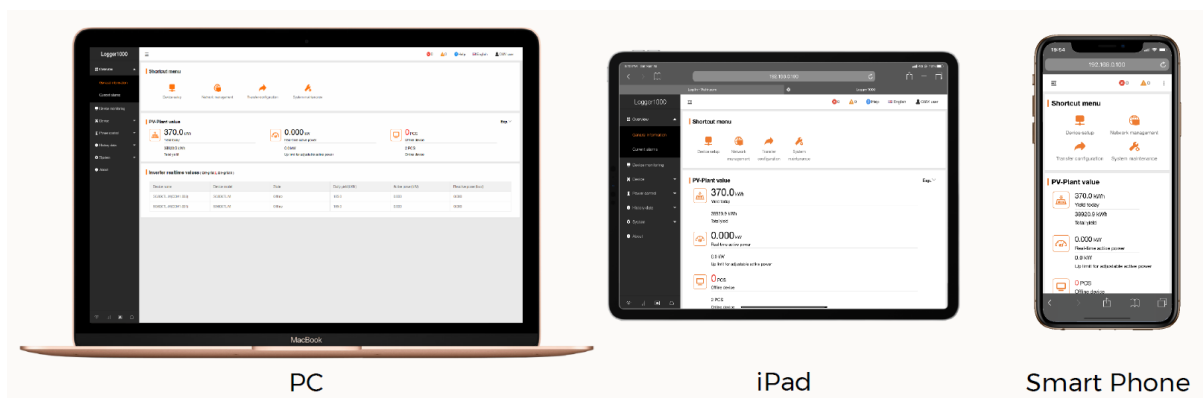
3. Web Portal Setup

3.1 Access Web Portal

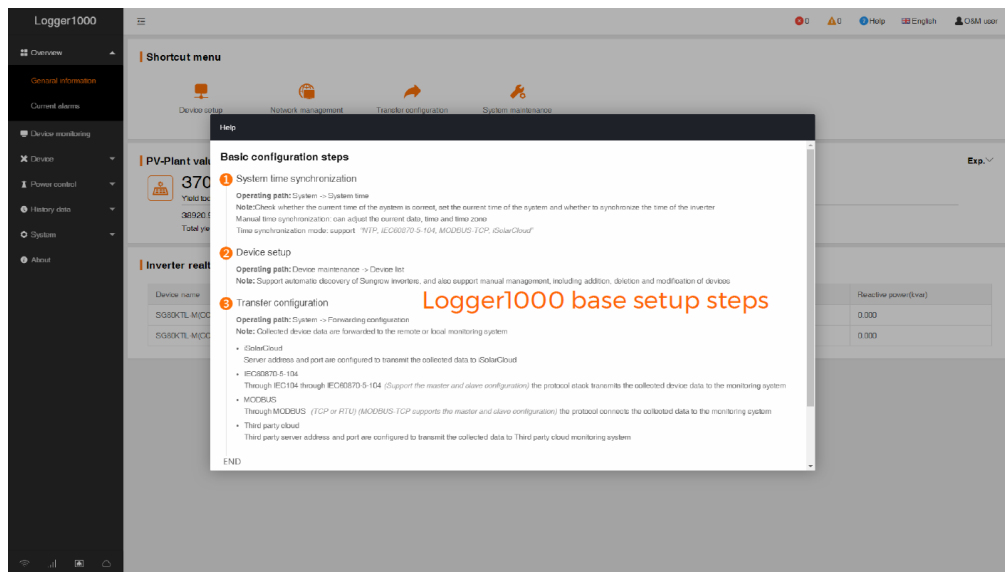
Use a smart device or laptop under Wi-Fi function to search for the SG***** (10 digits number) network that corresponds to the Logger1000 serial number. Connect to the network, if a password required, use the serial number.



Open a web browser and enter IP address (11.11.11.1) to access below Logger1000 web page.

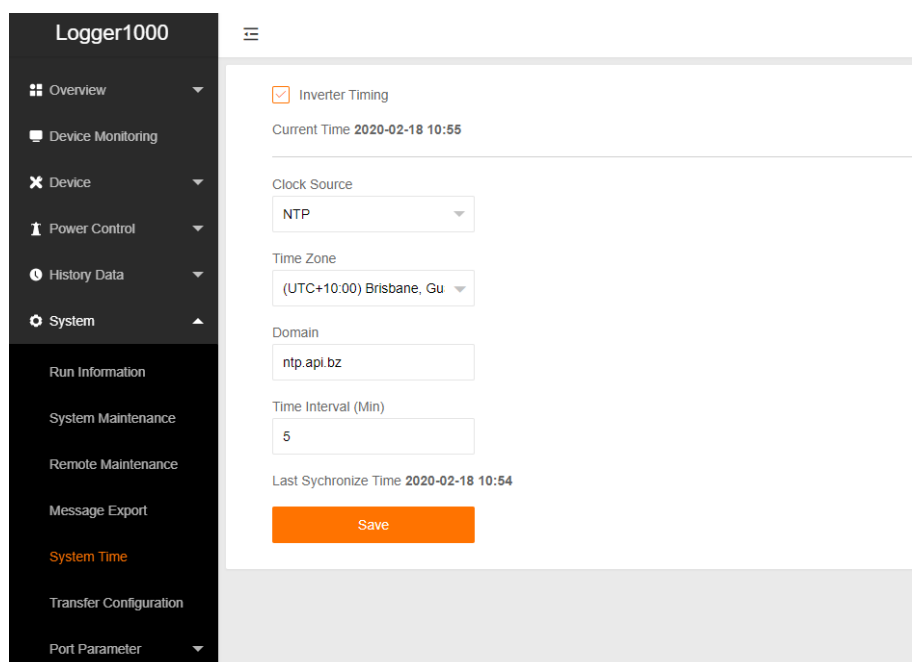


Then log in the account with the password **"pw1111"** via the top right corner login button. When you log in for the first time, a help window will pop up for instruction.



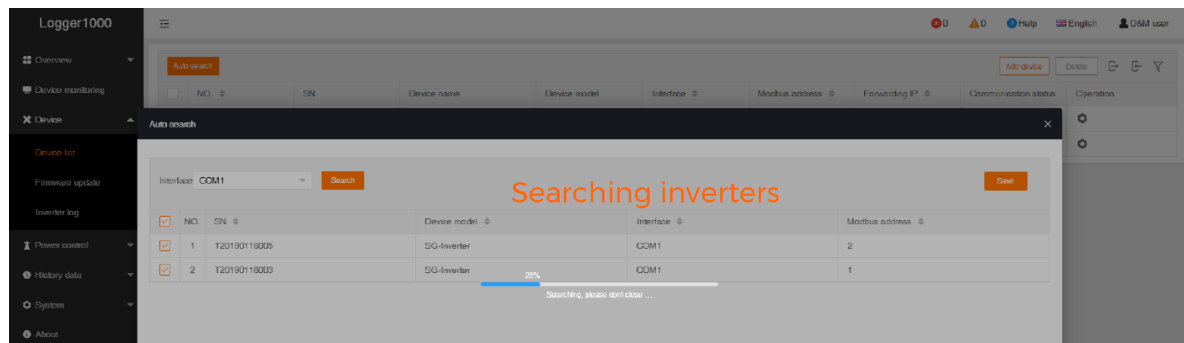
3.2 Set Local Time

Navigate to 'System Time' under System and select Clock Source to '**NTP**' and Time Zone to '**UTC+10:00**' and make sure to **Save**

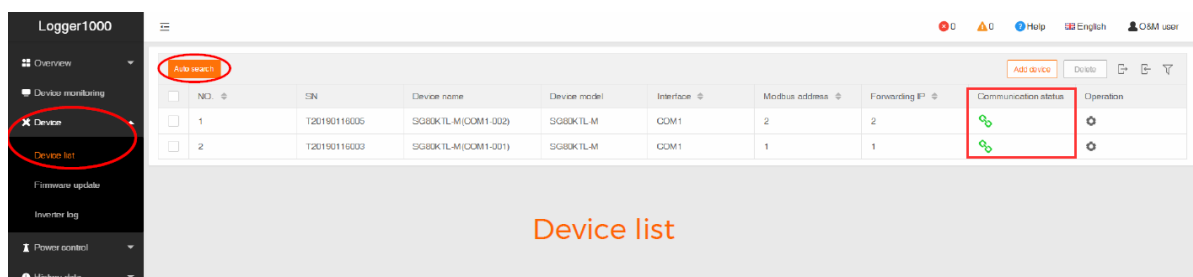


3.3 Scan for Inverters

Navigate to '**Device**' and click '**Device List**' section and click '**Auto search**'. Sungrow inverters will be automatically detected as long as they are correctly connected and energized.



Confirm the communication status for each device under **Communication status** section. Green icon indicates the connection works and red icon means no connection between Logger1000 and the device.

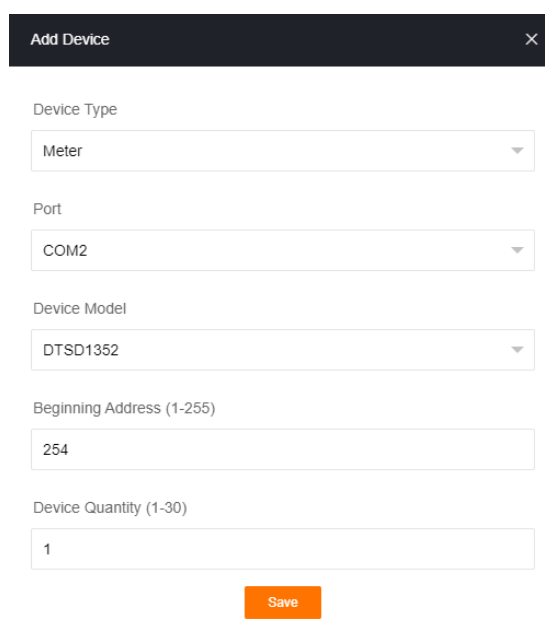


3.4 Add Energy Meter

The energy meter needs to be manually added which is same as any other 3rd party equipment.

To add the energy meter, click '**Add device**' and select a device type in the pop-up window and fill in the required information (Add device for DTSD1352 energy meter and device address: 254)

If the meter connected with **A2** and **B2** on the Logger1000, the port number on the portal is **COM2**. If the meter connected with **A3** and **B3** on the Logger1000, the port number on the portal is **COM3**.



Add Device ×

Device Type
Meter ▼

Port
COM2 ▼

Device Model
DTSD1352 ▼

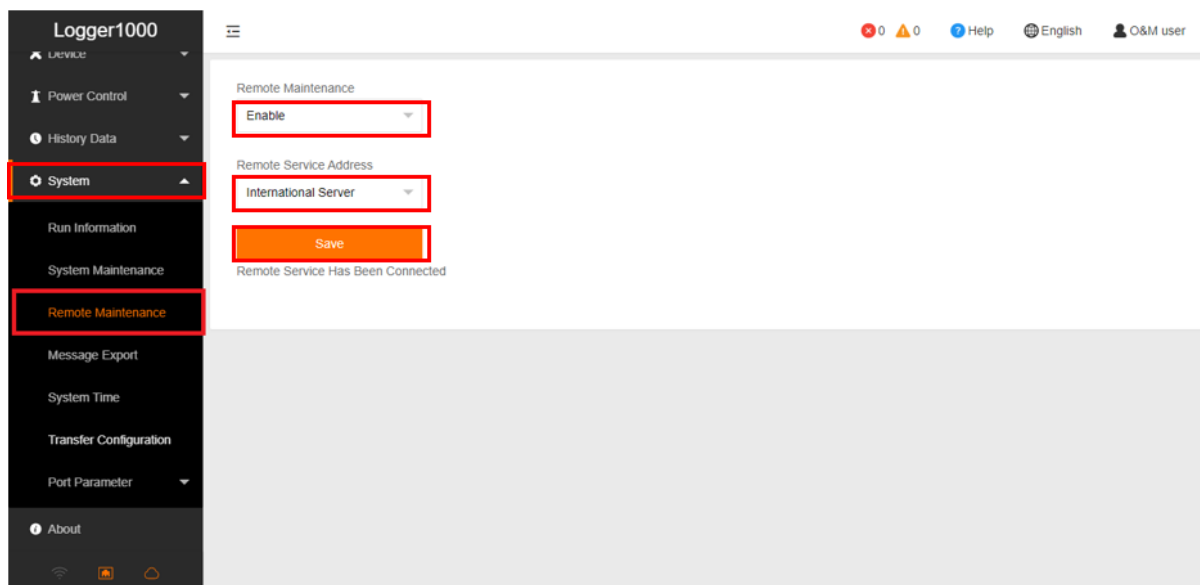
Beginning Address (1-255)
254

Device Quantity (1-30)
1

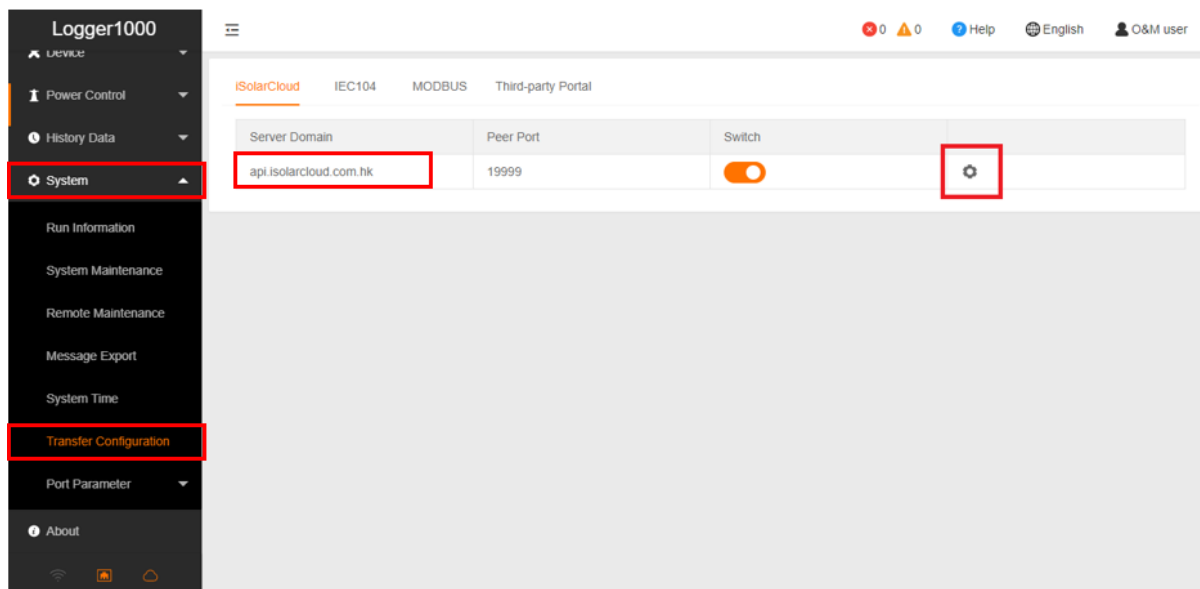
Save

3.5 Enable Remote Control

Select **System-> Remote maintenance**, enable the function and make sure the **Remote Service Address** is selected as **International Server**.





Then go to **System-> Transfer Configuration**, click the **Setting gearwheel** highlighted in red to change the **Server Domain**. Please make sure the domain address is **api.isolarcloud.com.hk**

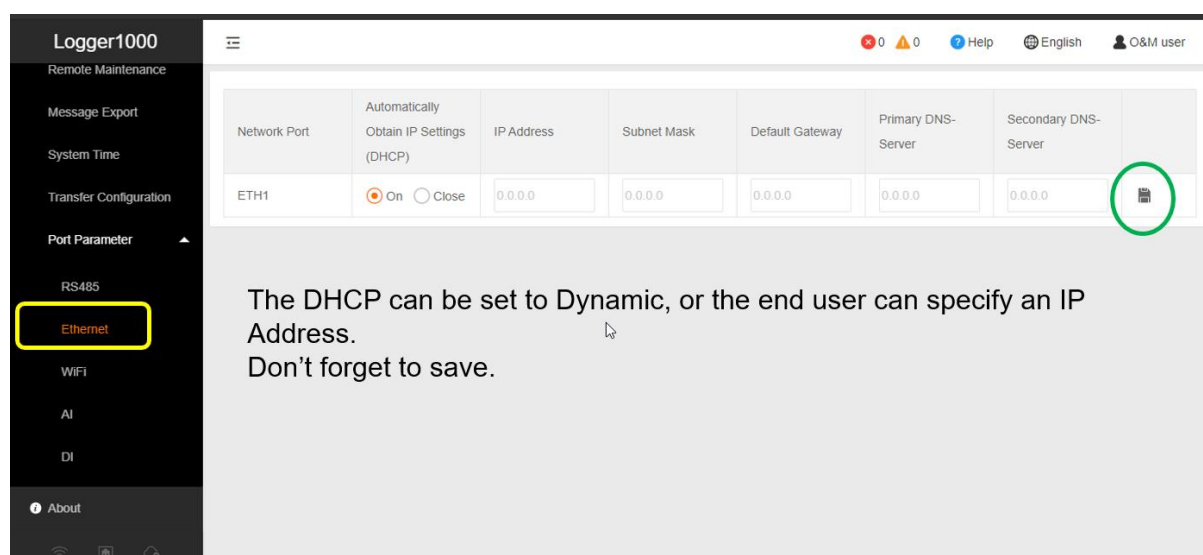


3.6 Internet Connection

3.6.1 Connect via Ethernet Cable



Select **System** -> **Port Parameter** -> **Ethernet**.

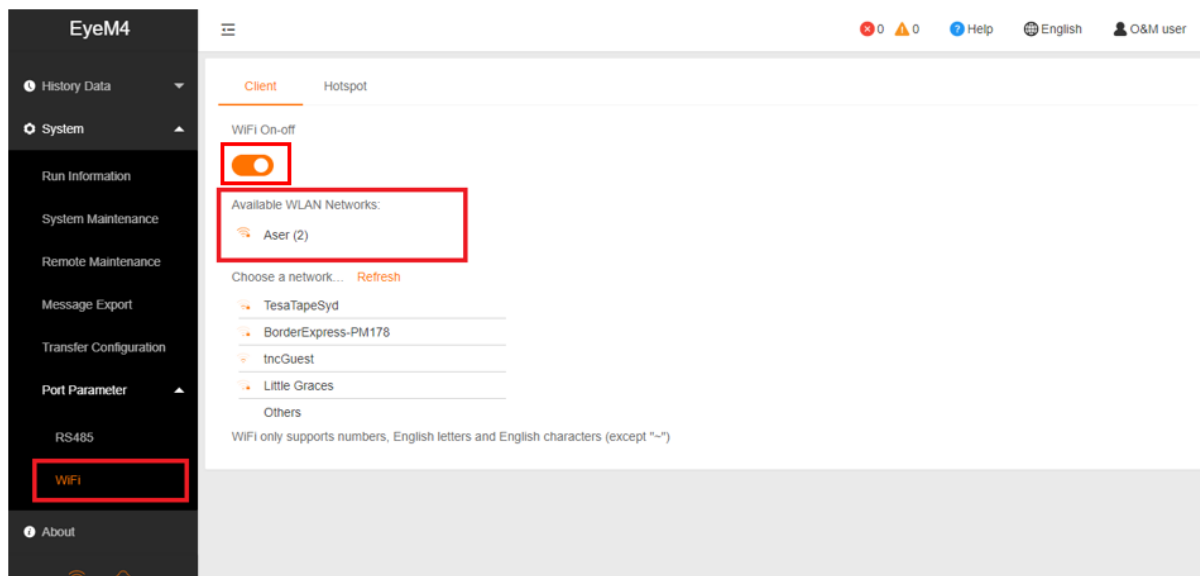
Select **ON** for the DHCP setting and the home router could allocate a random IP address to Logger1000. When Logger1000 is successfully connected to internet via Ethernet cable and communicate with iSolarCloud, the Ethernet port icon  and the cloud icon  on the left column (at the bottom) will be on.



3.6.2 Connect via WiFi

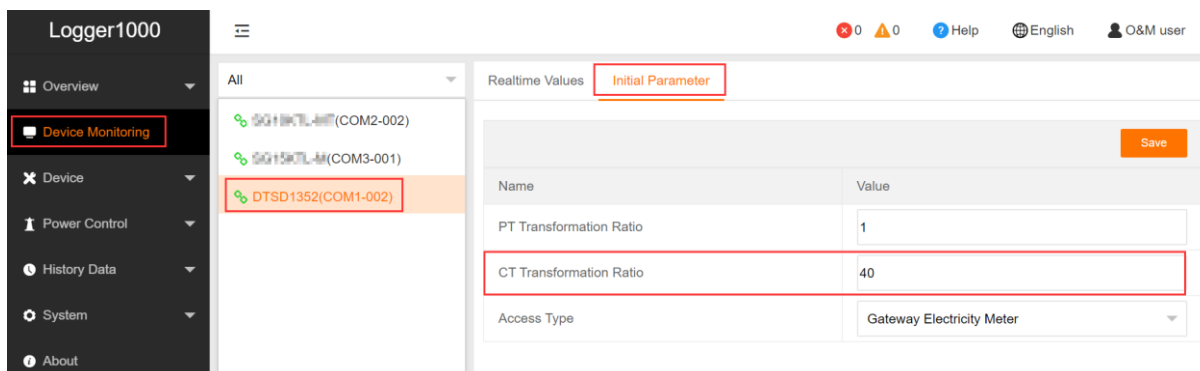
Select **System** -> **Port Parameter** -> **WiFi**.

Turn on the WiFi switch. Choose the customer network and enter the password, it will display as Available WLAN Networks when it is connected successfully. When The Logger1000 is successfully connected to internet via WiFi and communicate with iSolarCloud, the WiFi icon  and the cloud icon  on the left column (at the bottom) will be on.



3.7 Add CT Transformation Ratio.

Navigate to ‘**Device Monitoring**’ and select the meter DTSD1352. Click “Initial Parameter”. If the ratio is 200/5, then enter value 40 in the CT Transformer Ratio.

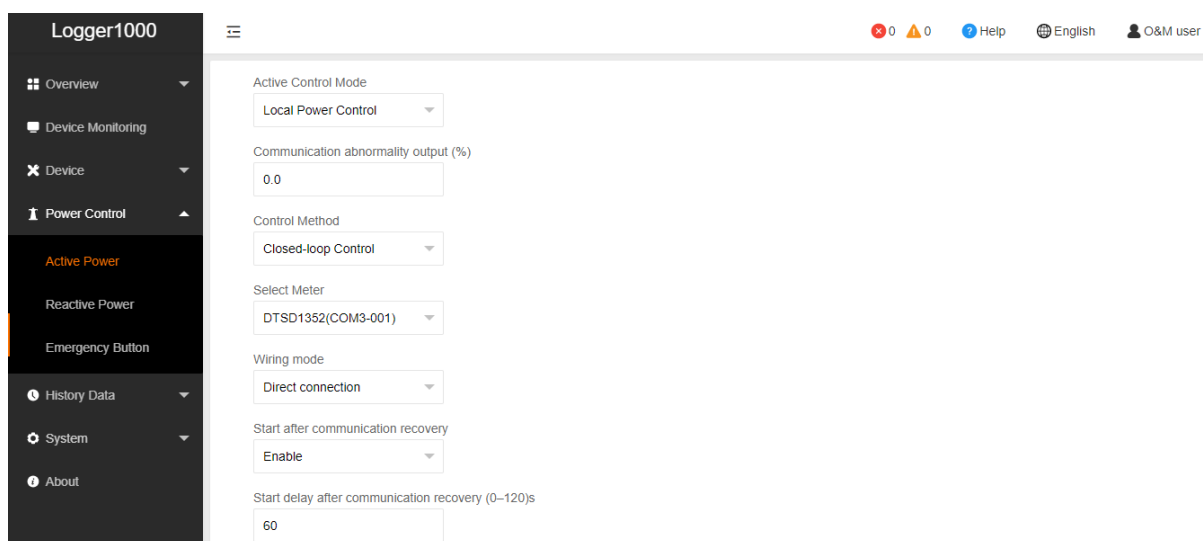


3.8 Setup Export Control if required

Select **Power Control -> Active Power**. Then you can set all the parameters as following figures. The **Fixed Value of Active Power** is the part to set the power limit.

Note: **make sure to disable 'Feed-in stop'**

Example: A 50 kW inverter and need export limit to 20 kW, then enter 'Fixed Value of Active Power' to 20 kW.



Logger1000

Overview
Device Monitoring
Device
Power Control
Active Power
Reactive Power
Emergency Button
History Data
System
About

Active Control Mode
Local Power Control

Communication abnormality output (%)
0.0

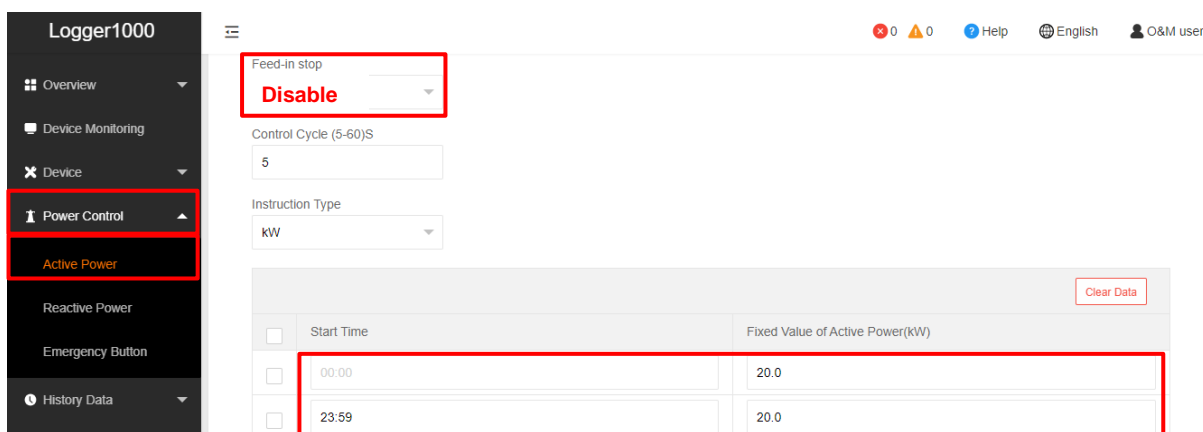
Control Method
Closed-loop Control

Select Meter
DTS1352(COM3-001)

Wiring mode
Direct connection

Start after communication recovery
Enable

Start delay after communication recovery (0~120)s
60



Logger1000

Overview
Device Monitoring
Device
Power Control
Active Power
Reactive Power
Emergency Button
History Data

Feed-in stop
Disable

Control Cycle (5-60)s
5


Instruction Type
kW

	Start Time	Fixed Value of Active Power(kW)
<input type="checkbox"/>	00:00	20.0
<input type="checkbox"/>	23:59	20.0

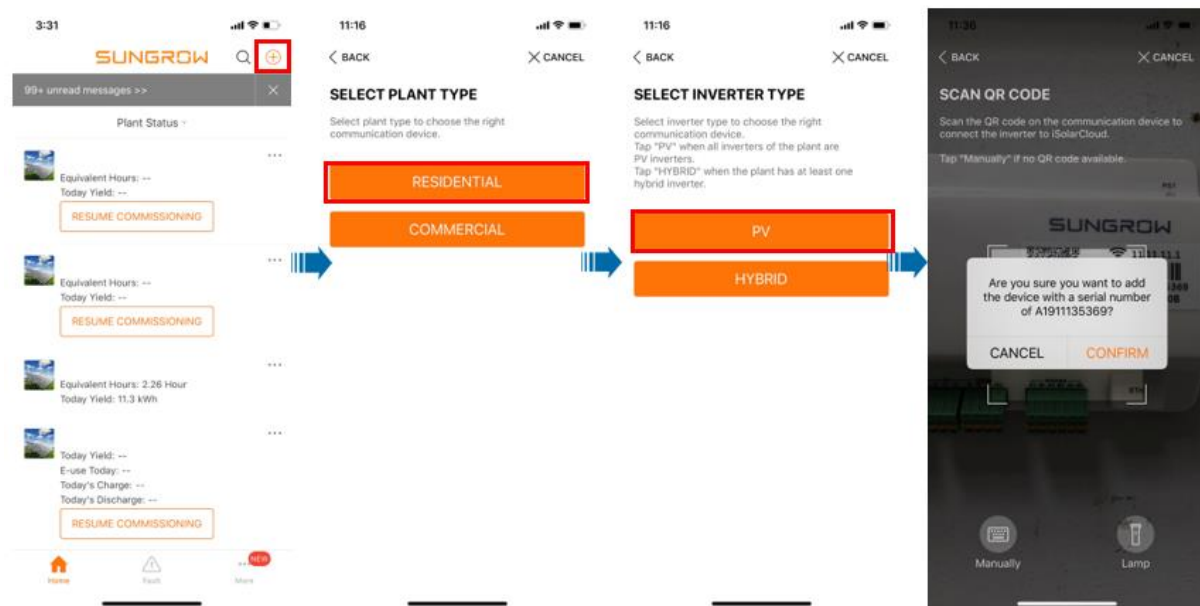
Clear Data

4. Create Plant on iSolarCloud

The iSolarCloud portal is available for the Logger1000 online monitoring. You need to create an iSolarCloud installer account if you do not have one, then you can create a plant to link with Logger1000 via the iSolarCloud APP.

Login your account and click “” on top right corner to create a new plant.

Create Plant -> Commercial -> PV -> Scan the QR Code of Logger1000.



Then you only need to enter the customer's basic information, and the plant will be created in a few minutes.

If you have any questions, please contact Sungrow Service Department on 1800 786 476 or email to service@sungrowpower.com.au.