SG30/50/110CX Inverters Commissioning Quick Guide (with Logger1000 and EyeM4)

Disclaimer

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Version	Revision History	Created by	Date
1.0	Draft version	AU Service Team	24th Dec 2020
1.1	Issued for Approval	AU Service Team	19th Feb 2021
1.2	Issued for Approval	AU Service Team	28th Jul 2021

This document only applies to Sungrow Power three-phase inverters (including SG30CX, SG50CX and SG110CX) with Logger1000 or EyeM4. 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.

Contents

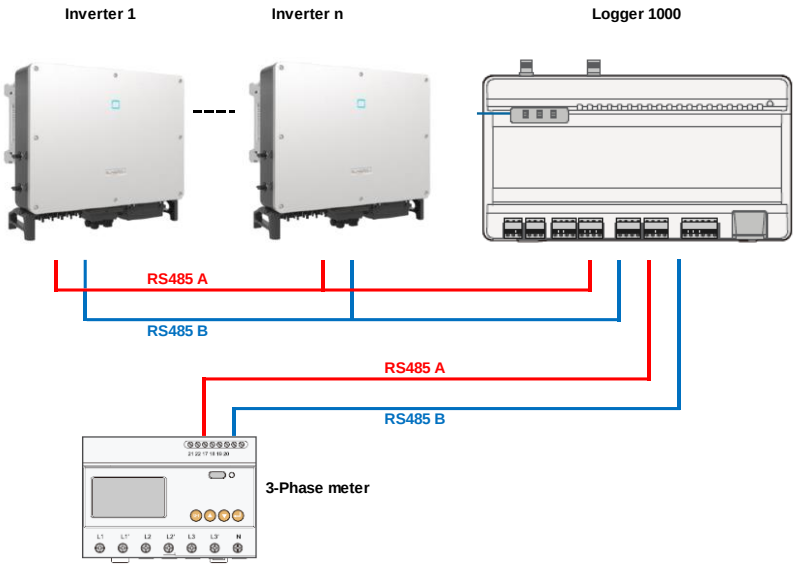
1 Introduction

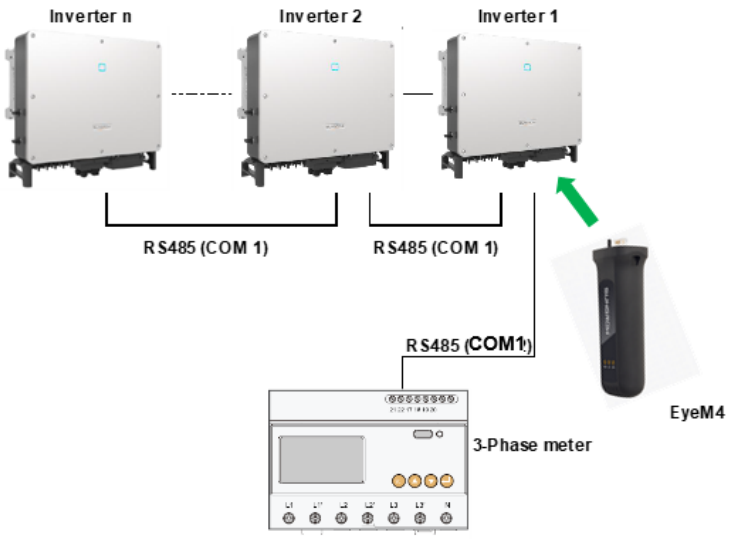
This quick guide is showing how to commission the SG30/50/110CX inverters and it is to be read in conjunction with the Sungrow's User Manuals.

Where more than one inverter, or an energy meter installed, the commissioning and iSolarCloud connection is done via a Logger1000(Up to 30 devices) and EyeM4(Up to 10 devices).

For export control and load consumption, an energy meter (DTSD1352-C/1(6)A with external CT) needed to be connected.

All of the components are connected via daisy-chain as per standard RS485 topology.





Please use the following checklist for quick commissioning:

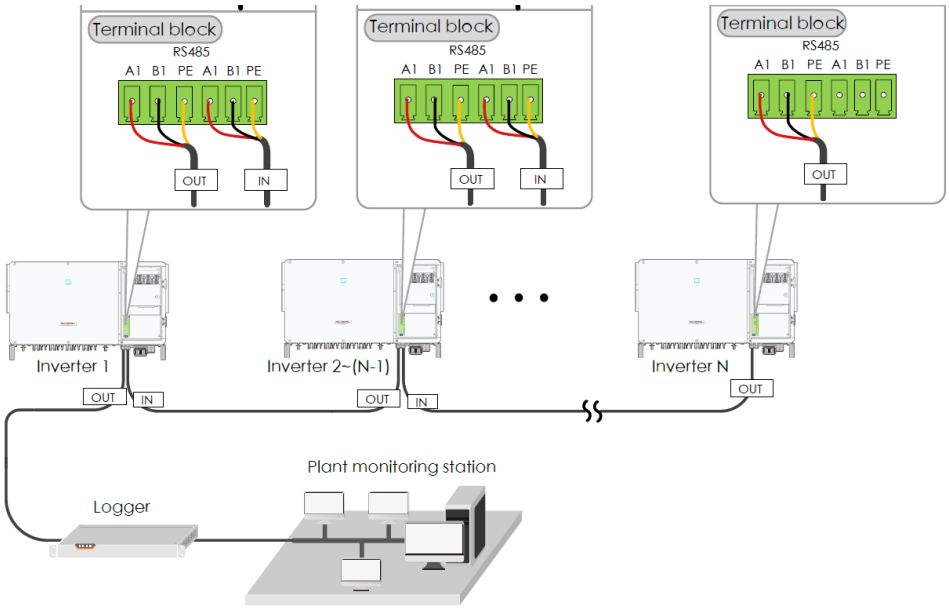
Procedures		**Yes/No**
RS485 connection	RS485 communication cables installed correctly between inverters/ inverters to Logger1000/ meter to the logger1000 or the inverter has EyeM4 by terminal blocks?	
	RS485 communication cables installed correctly between energy meter DTSD1352-C/1(6)A to Logger1000/ to the inverter has the EyeM4 by terminal blocks?	
Logger1000/ EyeM4 web portal setup	Logger1000/ EyeM4 Setup via WLAN (11.11.11.1; password: pw1111)	
	Set the local time	
	Auto search inverters	
	Add the energy meter and adjust CT Transformation Ratio	
	Set up export control if required	
Remote maintenance	Connect to internet via Ethernet Cable/ WiFi/ 4G	
	Enable International Server	
	Update iSolarCloud serve domain	
	Check Port Parameter for IP address	
Setup Online Monitoring	Create a solar plant via iSolarCloud APP via an installer account	

2 RS485 Connections

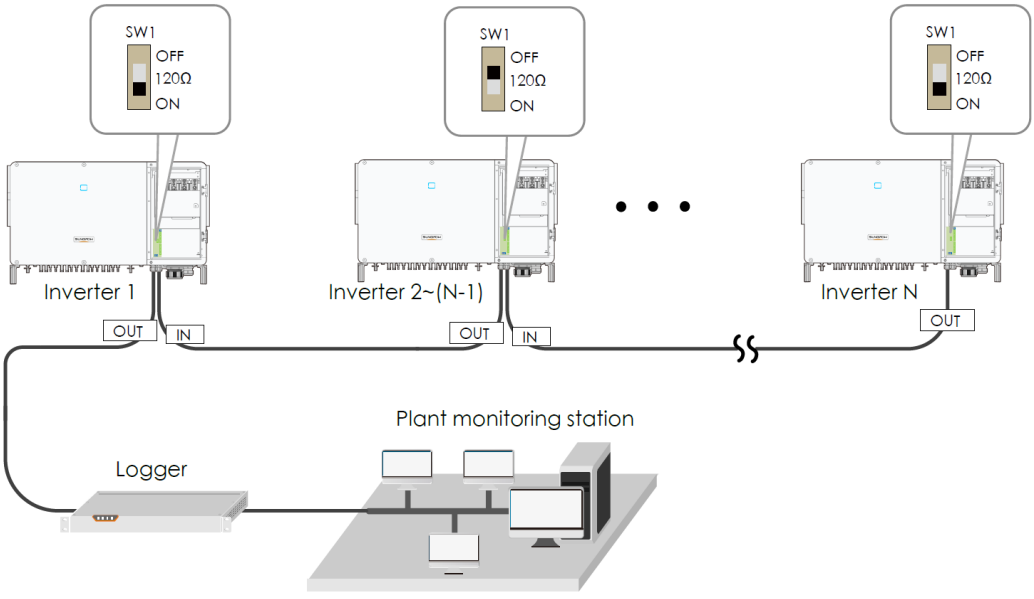
2.1 Inverter Connection (Daisy Chain)

Recommend that RS485 can be connected by terminal blocks.

Please note SG15/20KTL-MT inverters connection is different as SG30/50/110CX inverters.



Optional: Ensure the termination resistors (120 Ohm) are enabled ON (SW1) at each end of the RS485 in the inverter line (only the first and the last inverter) when more than 15 inverters are connected.

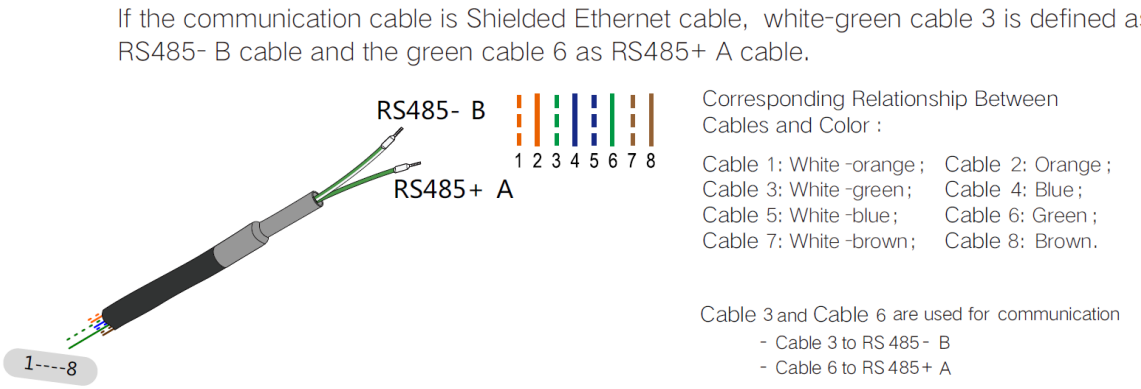


2.2 Energy Meter Connection

The site electrician will need to calculate the CT ratio required as per the installation.

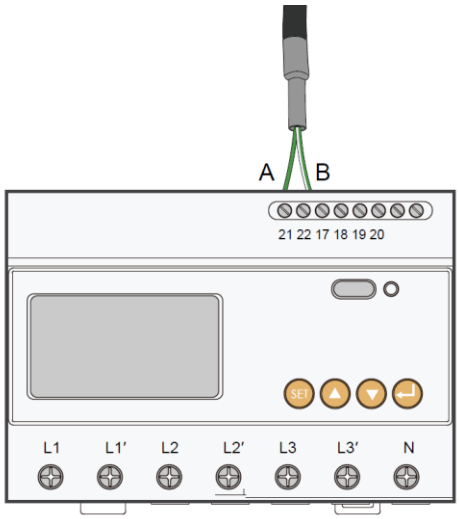
Default Modbus address is 1 and the secondary current of CT should be 5A. Please refer Meter Selection Guide for reference.

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



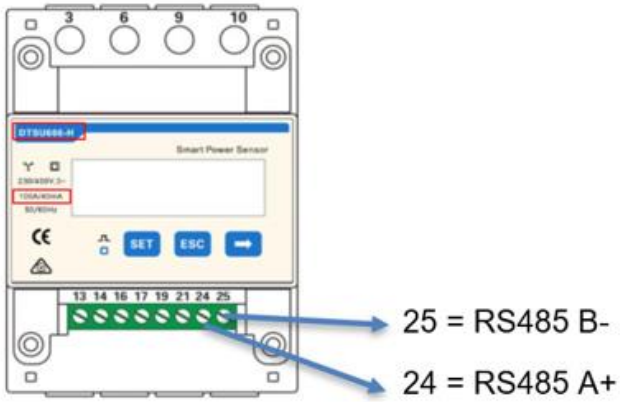
DTSD1352 energy meter connection:

- Terminal 21 = RS485+ A (Green)
- Terminal 22 = RS485- B (White/Green)



DTSU666 energy meter connection:

- Terminal 24 = RS485+ A (Green)
- Terminal 25 = RS485- B (White/Green)



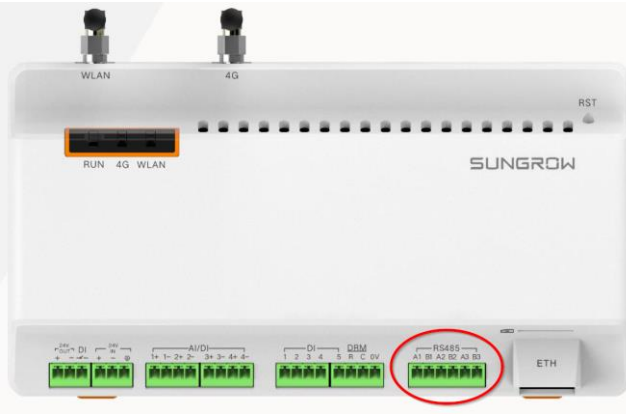
Logger1000 connection: Connect to Logger1000 via the RS485 cable from the energy meter on RS485 port A2 and B2 if it has not been used.

EyeM4 connection: Connect the energy meter RS485 to A2/B2 (RS485-2 Interface) terminals in the inverter that has the EyeM4 dongle.

Note: the Logger1000 and EyeM4 must be updated to the latest firmware to support the DTSU666 energy meter. To upgrade the Logger1000/ EyeM4, refer to th Part 5 of this document.

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.

2.4 Connection via EyeM4

Connect the energy meter RS485 to A2/B2 (RS485-2 Interface) terminals in the inverter that has the EyeM4 dongle. (Communication PCB varies between inverter models – ensure to use A2/B2).

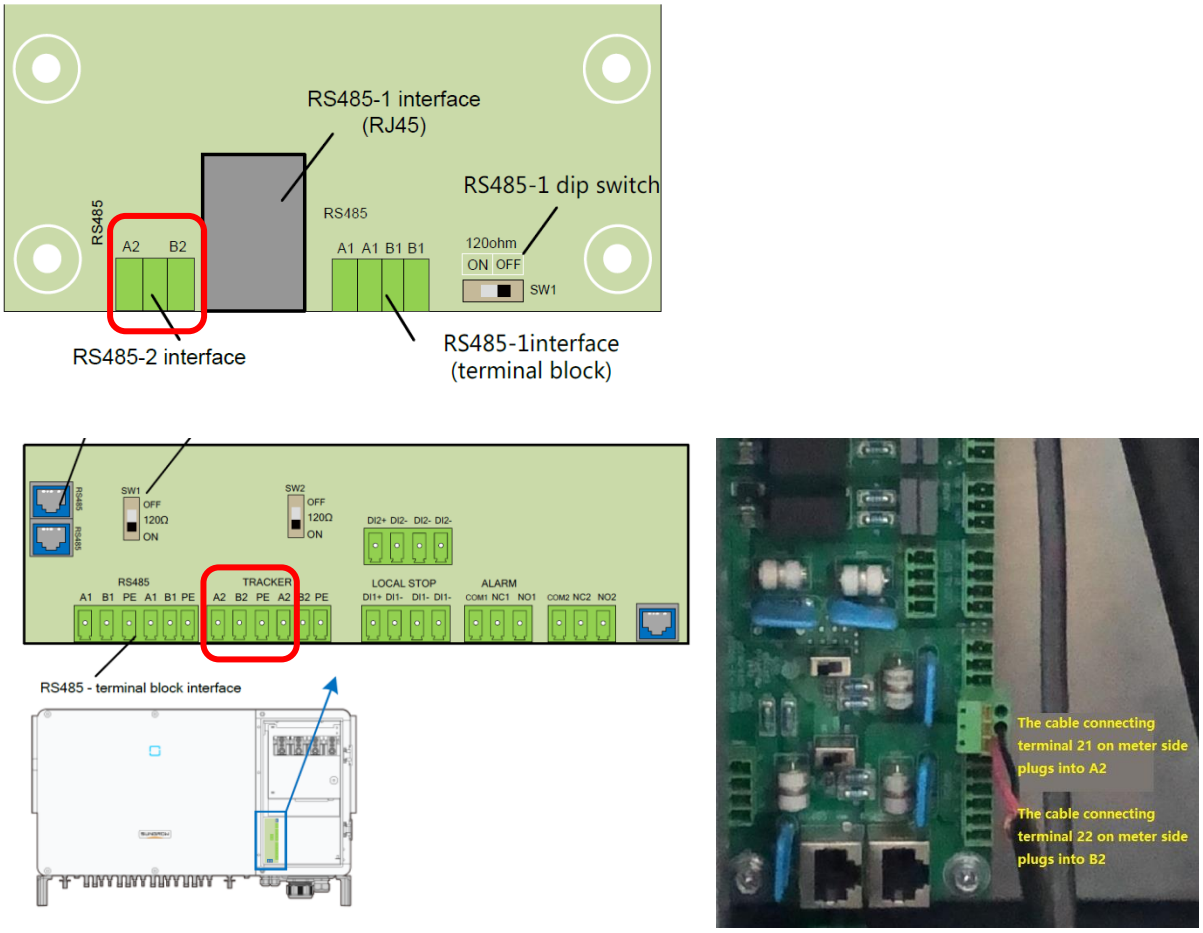
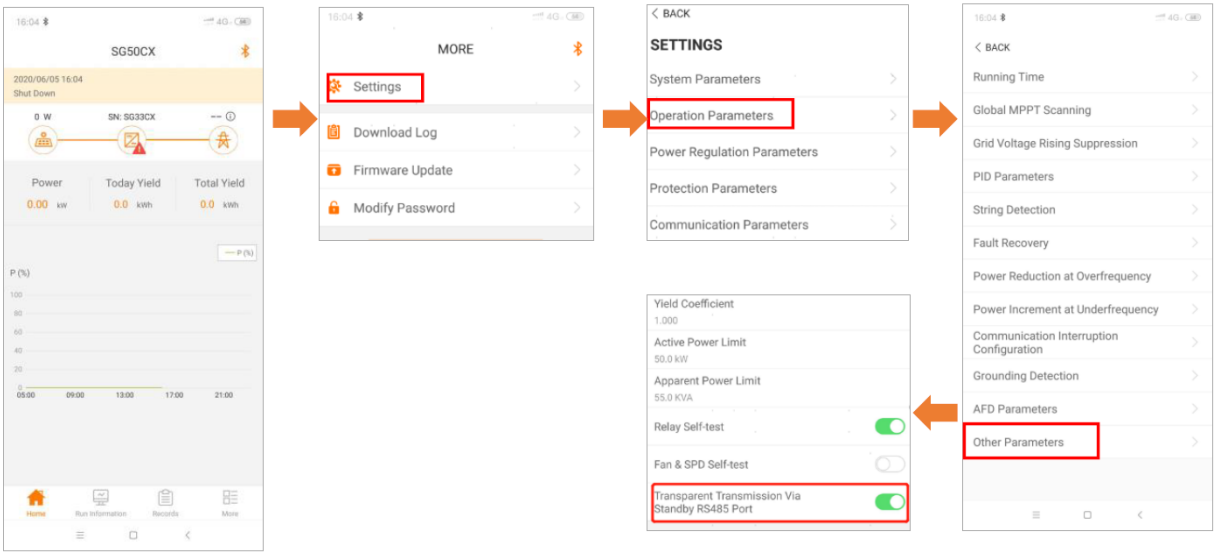


Figure 1.4.1 RS485 connections in the inverter (SG30/50CX and SG110CX)

Important: Enable RS485 Port for Inverter via iSolarCloud App

Access the iSolarCloud App via Bluetooth, once clicking Bluetooth, you will be prompted to select the Bluetooth device (Inverter SN). Click on the SN you wish to connect to and then login to the inverter. Please put in “admin” as the account and the password (pw8888).

Click "More" > "Settings" > “Operation Parameters” > “Other Parameters” > Enable” transparent transmission via standby RS485 port.

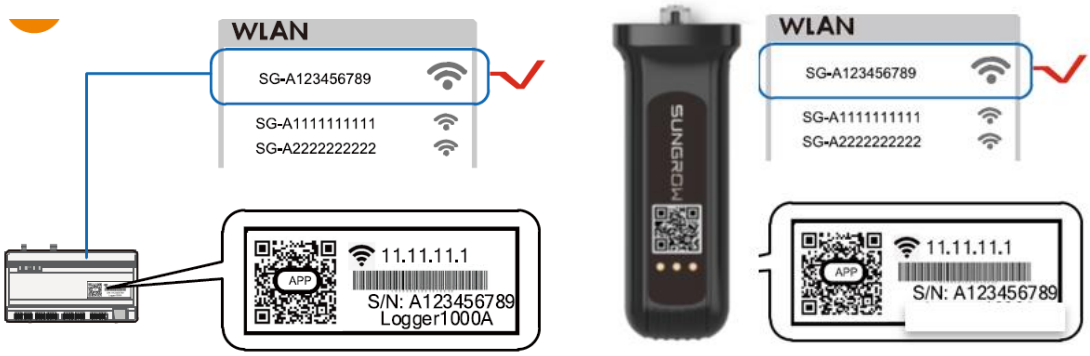


3 Web Portal Setup

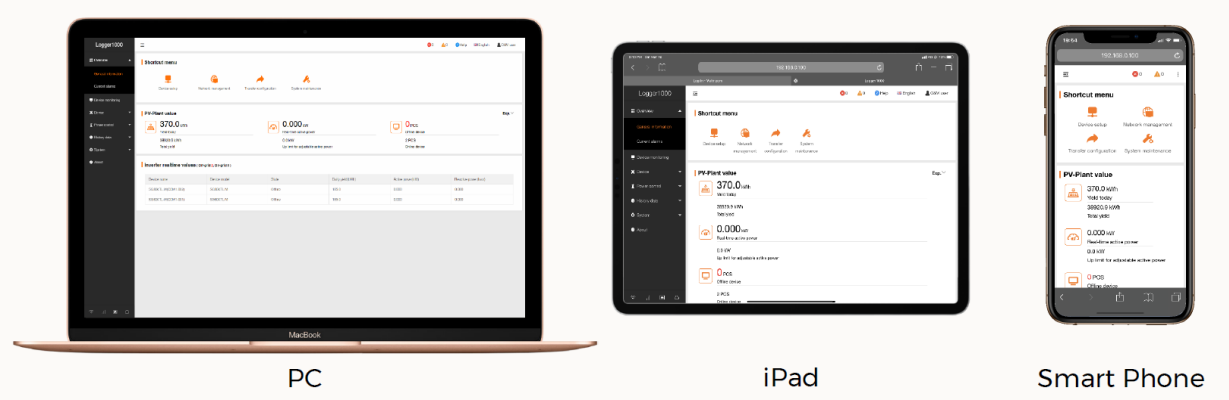
The commissioning and web portal setup processes for the Logger1000 and EyeM4 are almost the same.

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 or EyeM4 dongle serial number. Connect to the network, if a password required, use the serial number.

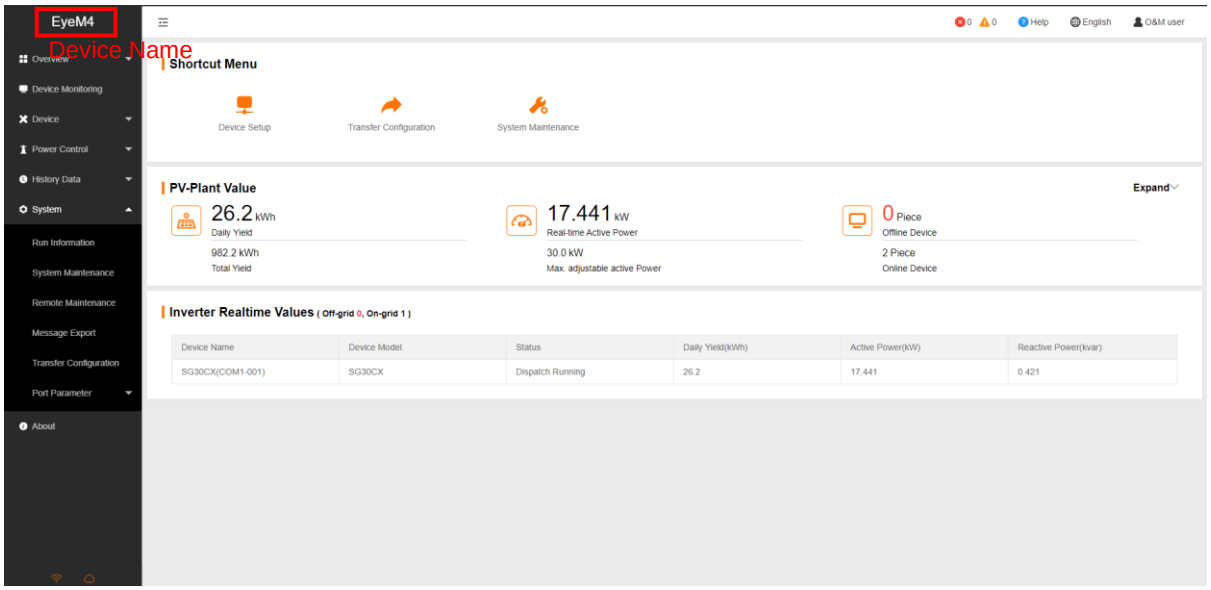


Open a web browser and enter IP address (11.11.11.1) to access below Logger1000/ EyeM4 web page.



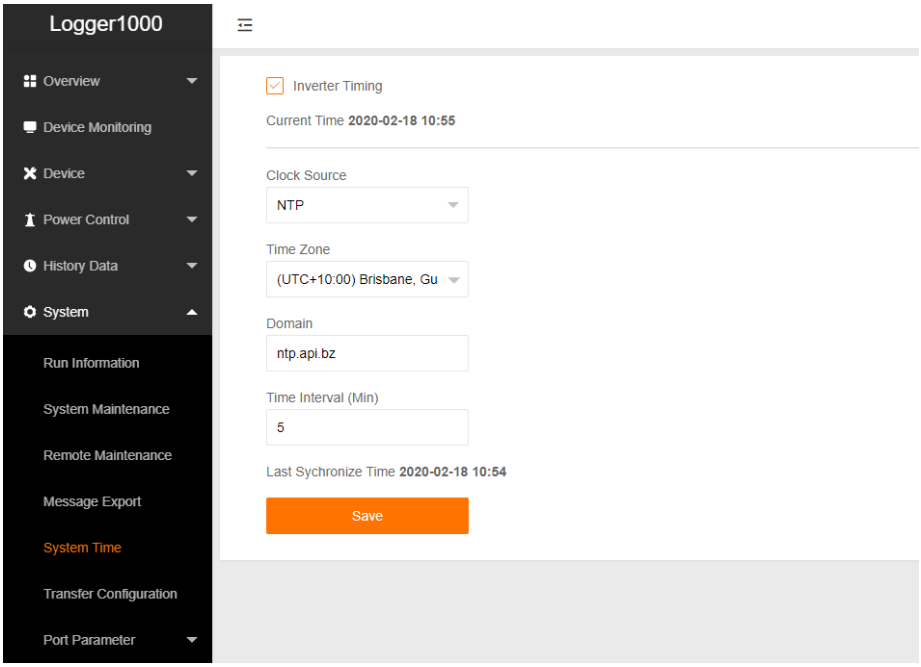
Then log in the account with the password "**pw1111**" via the right top corner login button. When you log in for the first time, a help window will pop up for instruction. The device name will show on the top left corner of the page. If it is a Logger1000, it will

show Logger1000; if it is EyeM4, it will show EyeM4. All the other layouts and options will be the same.



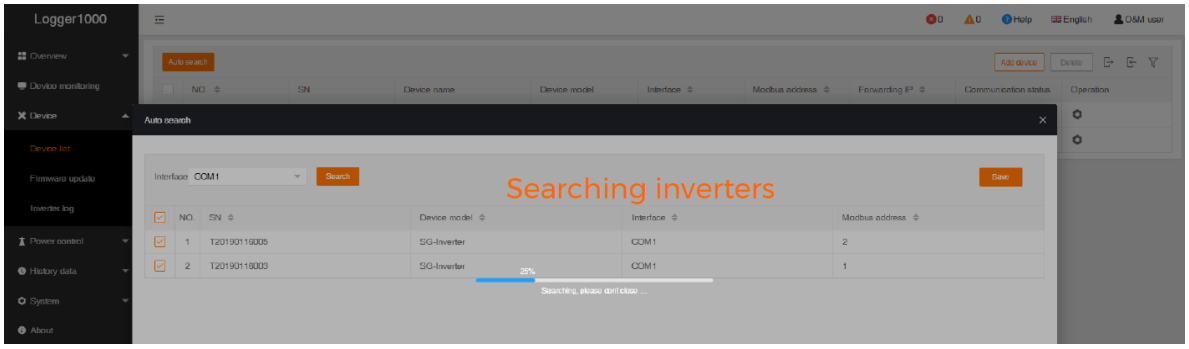
3.2 Set local time

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

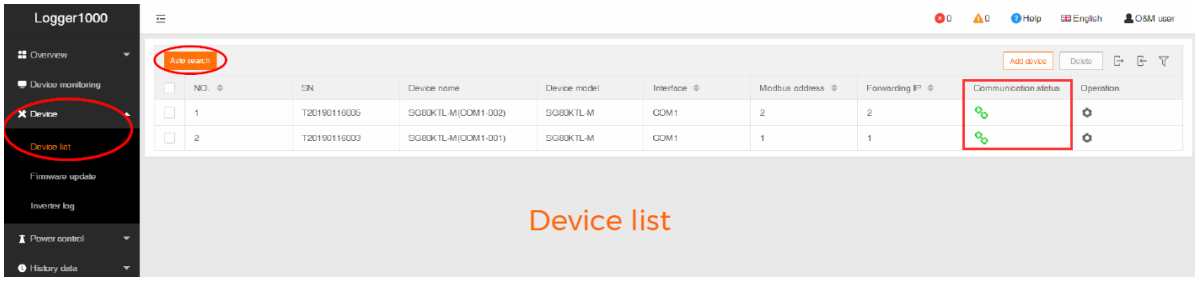


3.3 Scan for Inverters

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/ EyeM4 and the device.



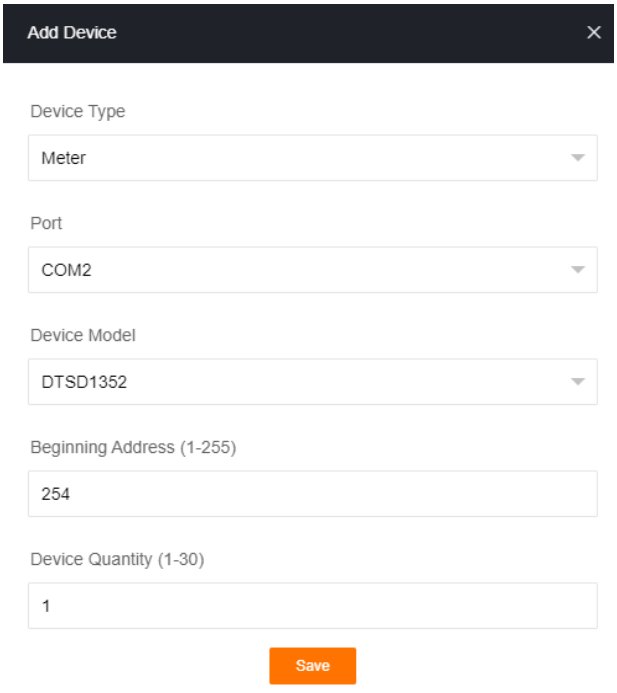
3.4 Add Energy Meter

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/DTSU666 energy meter and device address: **254**).

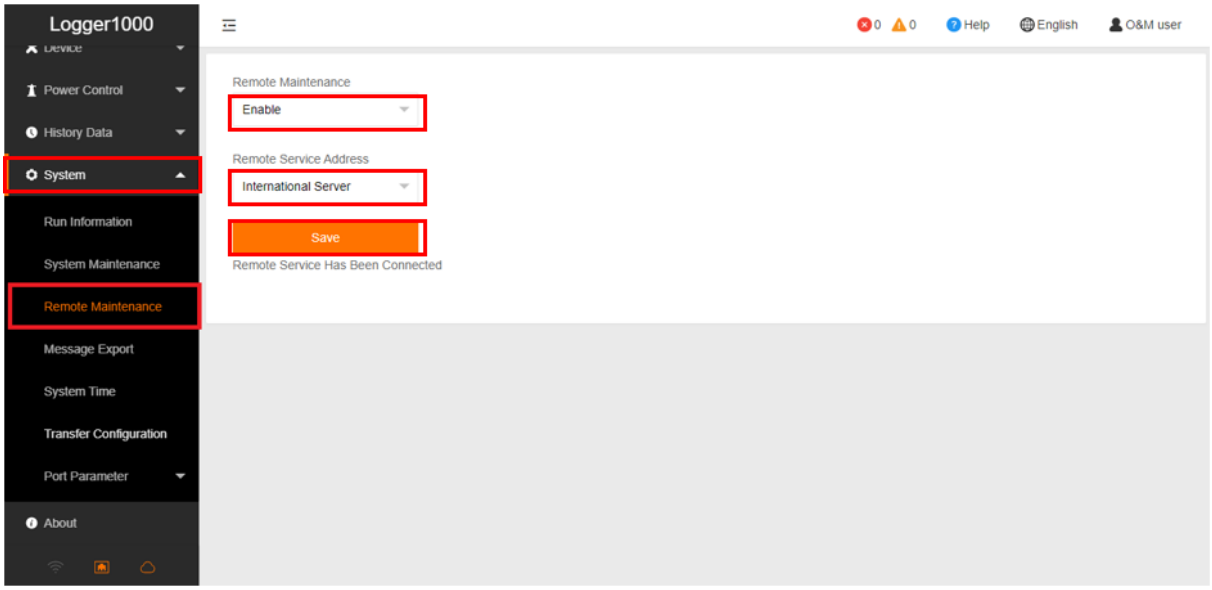
If it is a DTSU666 meter and not show up in the list, you may need to update the Logger1000/EyeM4 first. Refer to the Part 5 in this document.

Logger1000	EyeM4
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.**	Ensure the port is **COM1**

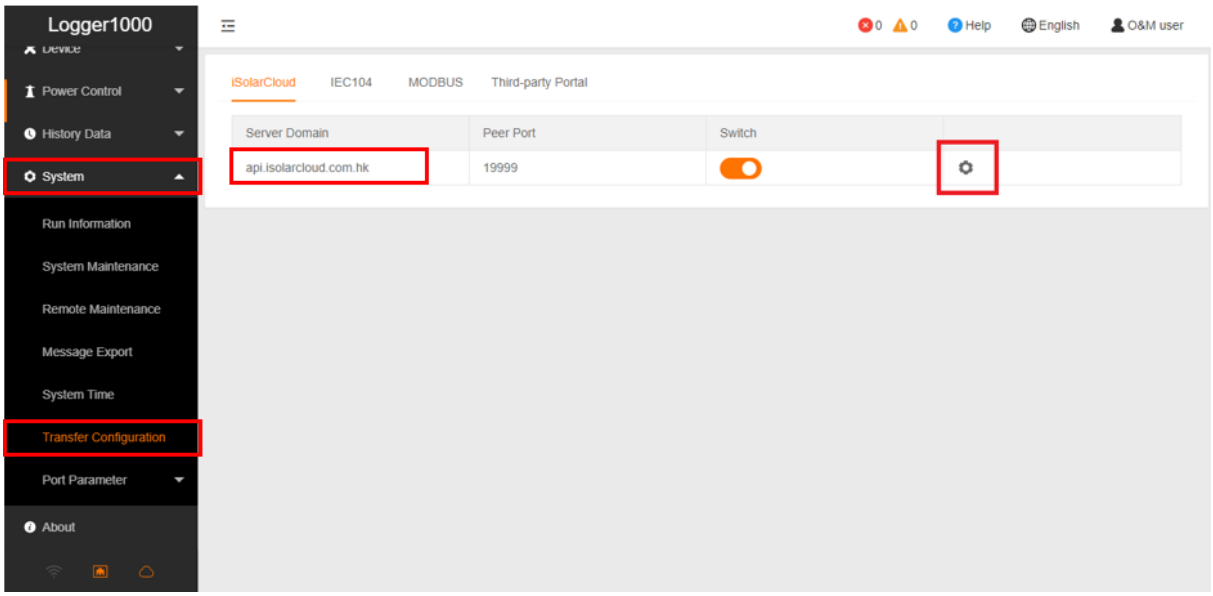


3.5 Enable Remote Maintenance

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**

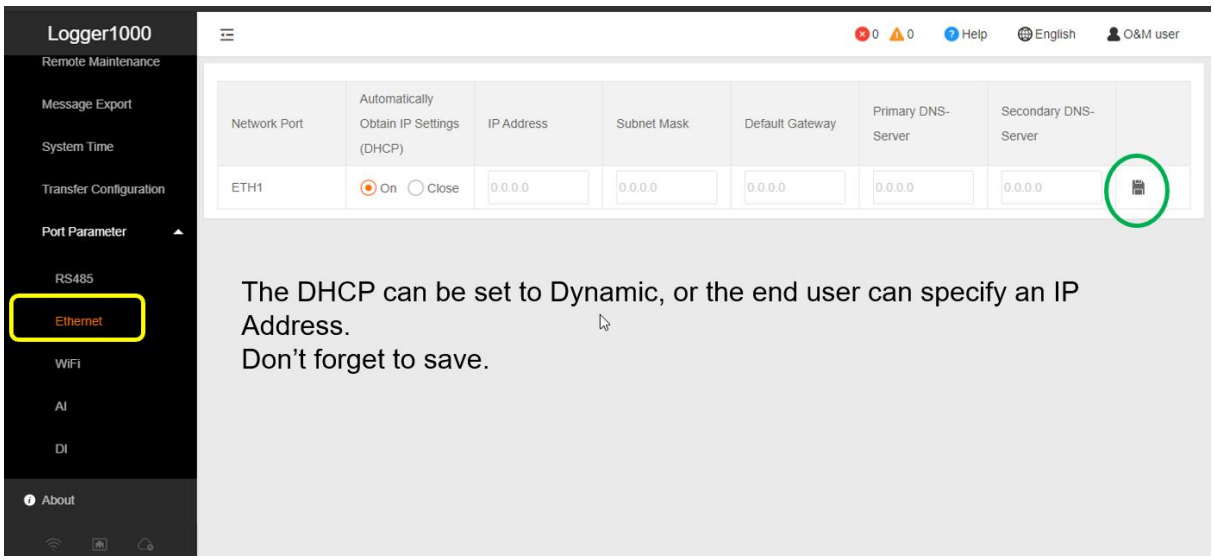


3.6 Internet Connection

3.6.1 Connect via Ethernet Cable (Logger1000 only)

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

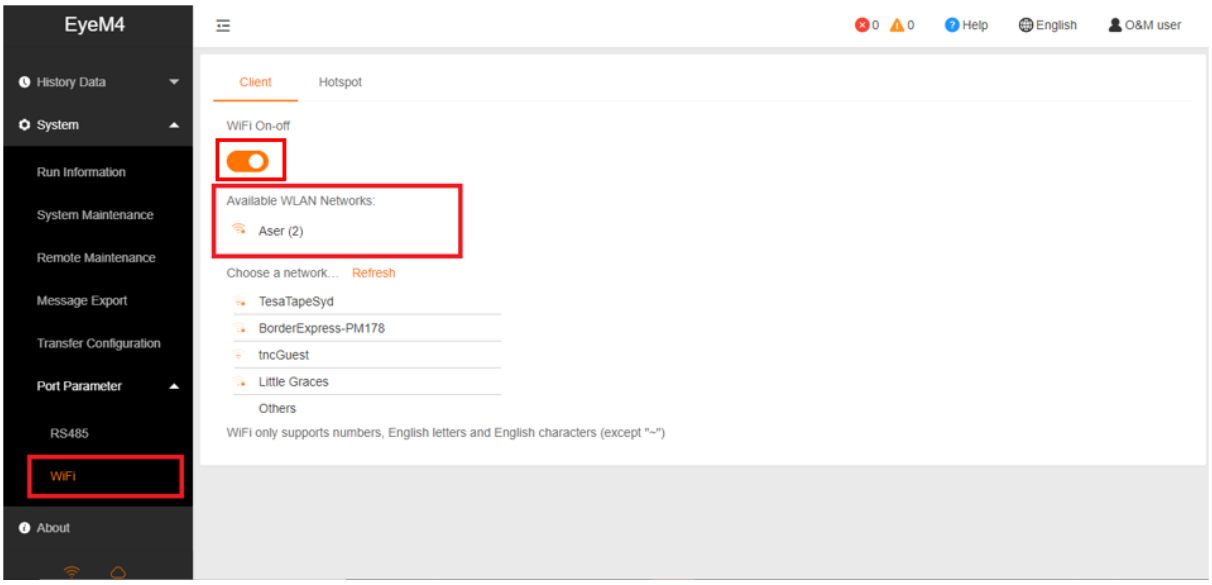
Select **ON** for the DHCP setting and the home router could allocate a random IP address to Logger1000. When Logger1000 is successfully connected to internet via Ethernet cable and communicate with iSolarCloud, the Ethernet port icon  and the cloud icon  on the left column (at the bottom) will be on.



3.6.2 Connect via WiFi (Logger1000 and EyeM4C)

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 or EyeM4C 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.

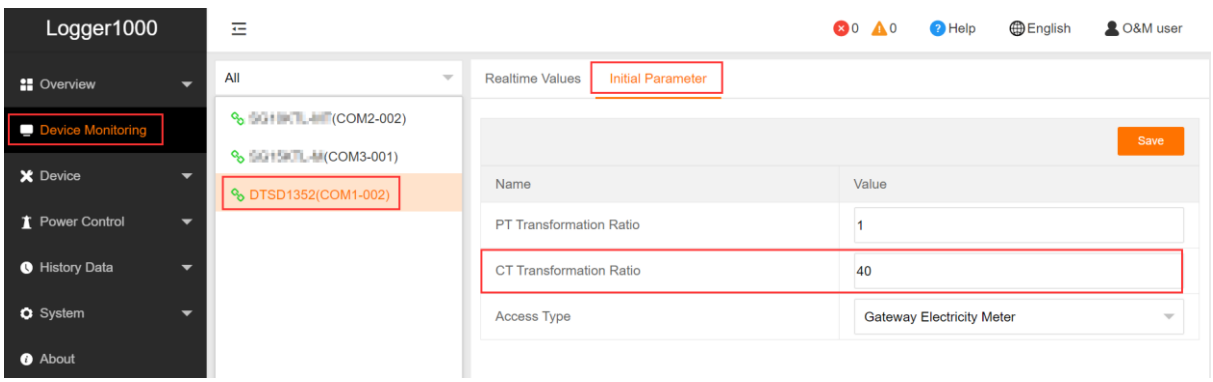


3.6.3 Connect via 4G (EyeM4A Only)

No special settings required. Make sure the EyeM4A are firmly connected and Remote Maintenance and Transfer Configuration (Section 2.5) are correctly set. When EyeM4A is successfully connected to internet via 4G and Communicate with iSolarCloud, the 4G 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.

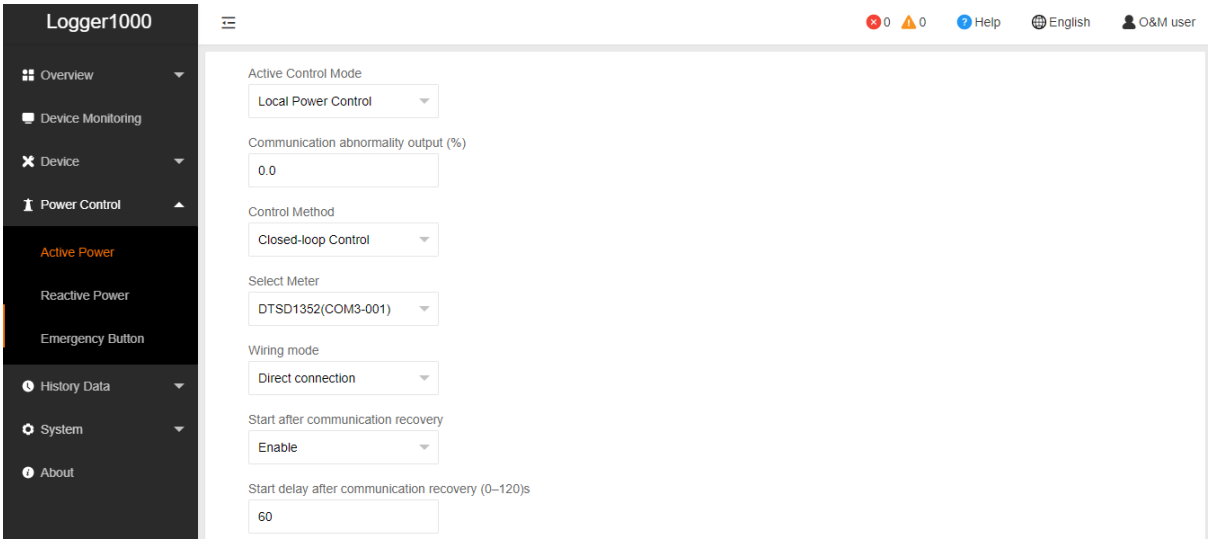


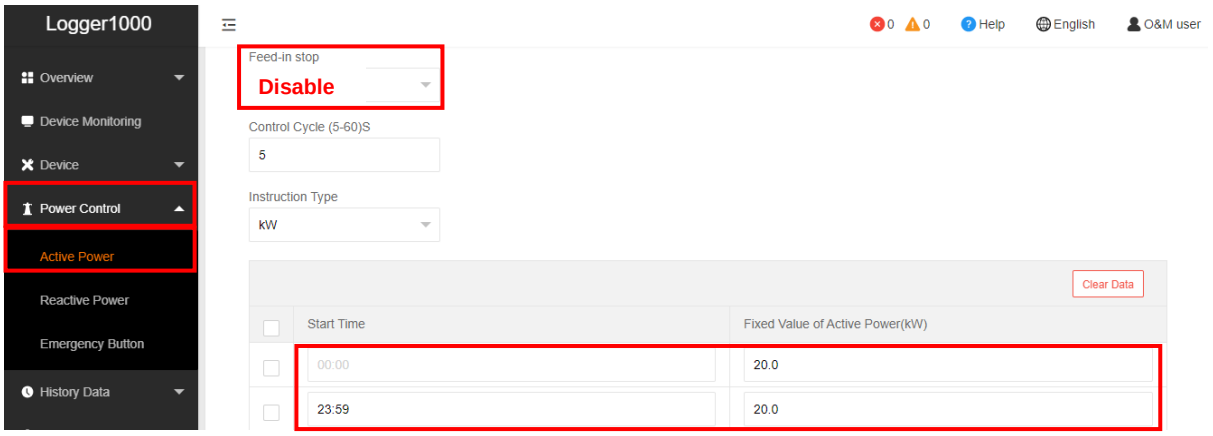
3.8 Setup Export Control if required

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.



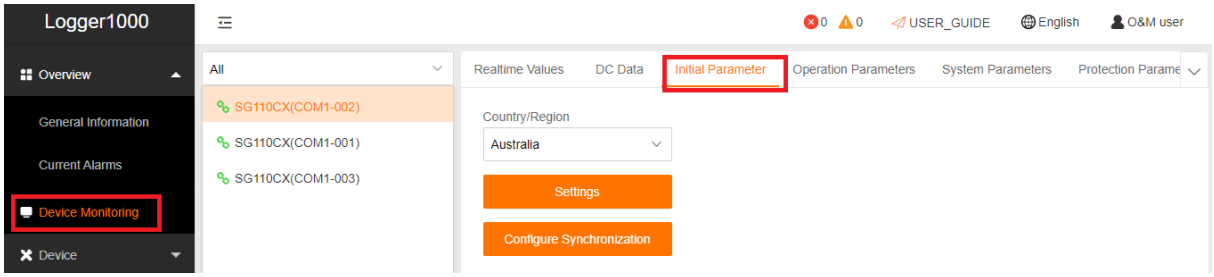


4 Initialize and Start-up the Inverters

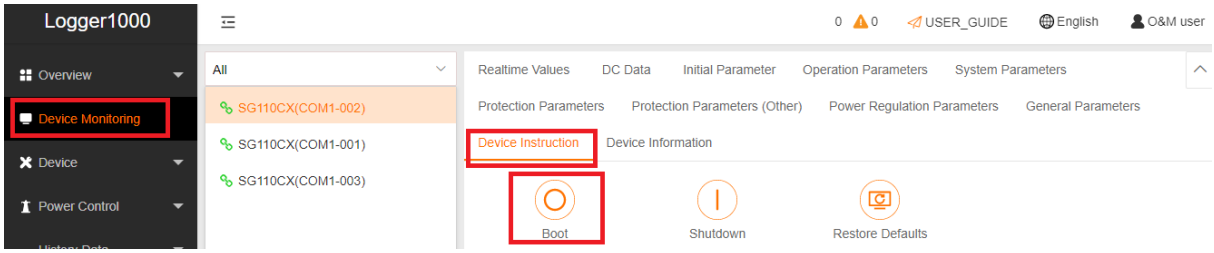
The inverters can be initialized through Logger/EyeM4 or through Local Access as normal inverters.

4.1 To initialize the inverter through Logger/EyeM4

Step 1: Go to **Device Monitoring -> Initial Parameter**. Select **Australia** and click **Settings** to save. If there are multiple inverters, click **Configure Synchronization** to configure the other inverters.



Step 2: Go to **Device Monitoring -> Device Instruction**. Click **Boot** to startup the inverter.



4.2 To initialize the inverter through Local Access

Step 1: Open iSolarCloud app and go to **Local Access.**

Step 2: Select **Bluetooth** and select the inverter.

Step 3: Login with the account "**admin**" and password "**pw8888**".

Step 4: Select the Country and DNSP.

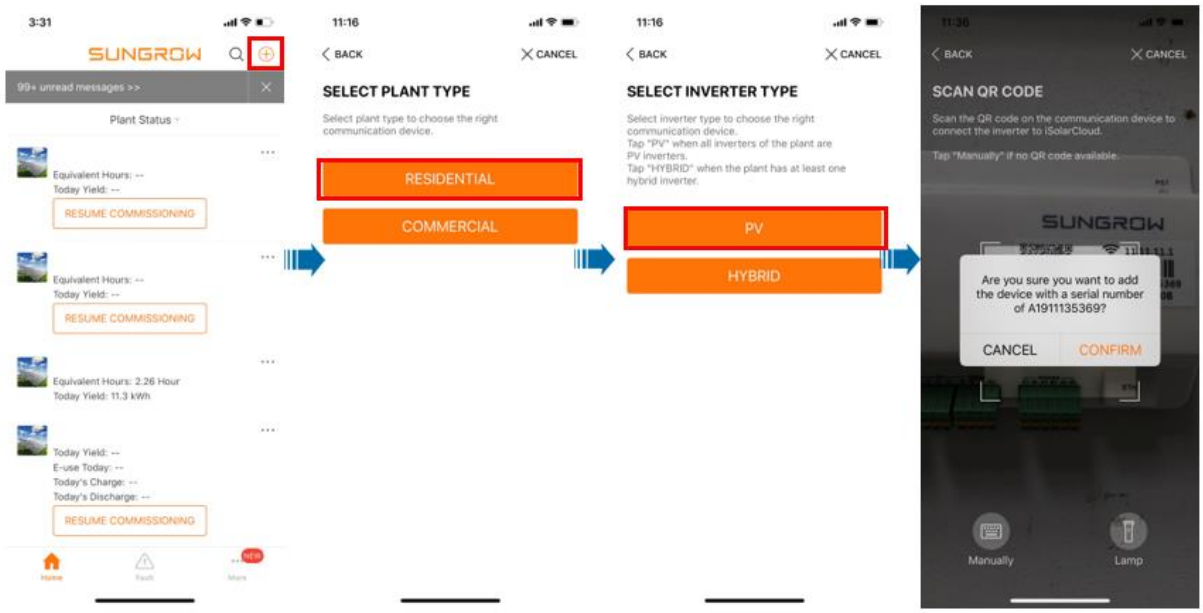
Step 5: Click "**TURN ON DEVICE**" to start up the inverter.

5 Create Plant on iSolarCloud

The iSolarCloud portal is available for the Logger1000/ EyeM4 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/ EyeM4 via the iSolarCoud APP.

Login your account and click " ⊕ " on top right corner to create a new plant.

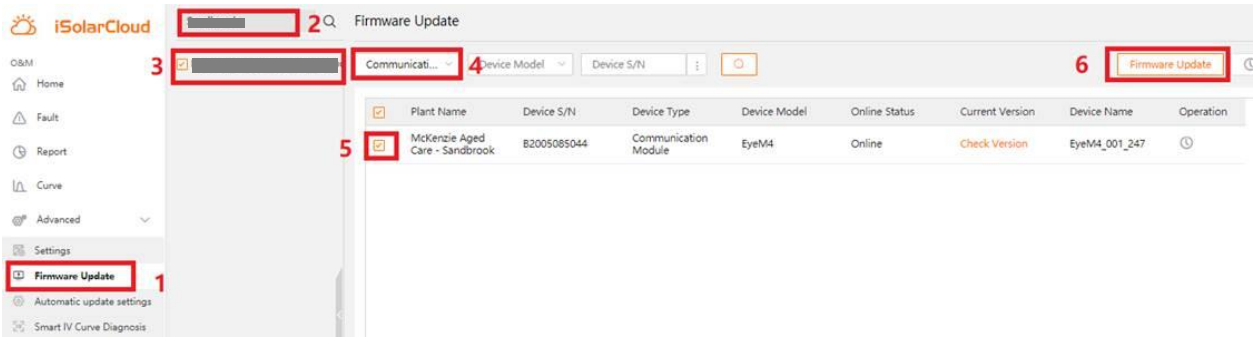
Create Plant -> Commercial -> PV ->Scan the QR Code of Logger1000 or EyeM4.



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

6 Updating the Logger1000/EyeM4

To upgrade the Logger1000/EyeM4, a laptop or a computer is required. You may contact Sungrow for assist if laptop/computer is not available on site. First get the Logger1000/EyeM4 connected to iSolarCloud (refer to Part 3.5 and 3.6 of this document) and create the plant on the portal (refer to Part 4 of this document) and follow the step below.



Step 1: Log into the iSolarCloud, go to the Firmware Update.

Step 2: Search for the plant.

Step 3: Tick the plant.

Step 4: Choose the device type. If it Logger1000, choose Data Logger; if it is EyeM4 Choose Communication Module.

Step 5: Tick the device.

Step 6: Click Firmware Update and input the login password.

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