EyeM4 (WiFi) Commissioning Quick Guide (SG30/50/110CX Inverters)

Disclaimer

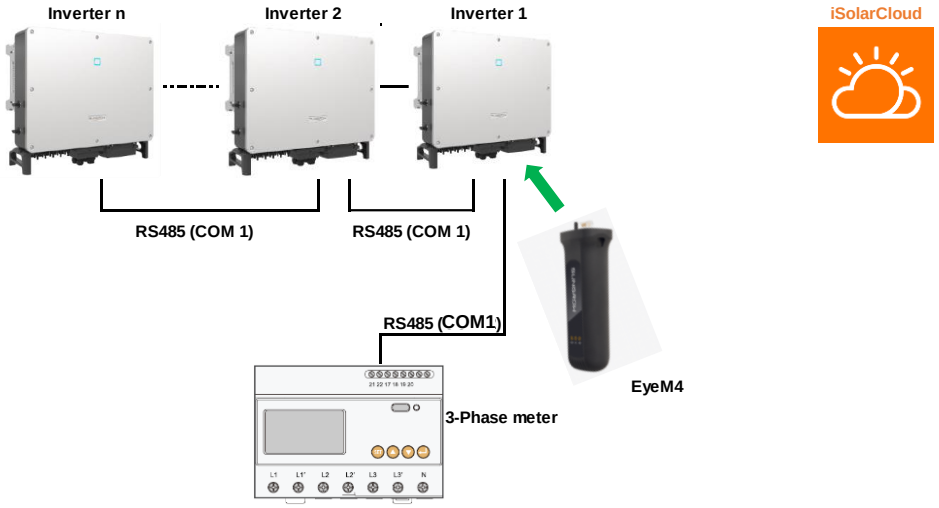
The material in this document has been prepared by Sungrow Australia Group Pty. Ltd. ABN 76 168 258 679 and is intended as a guideline to assist solar installers for troubleshooting. It is not a statement or advice on any of the Electrical or Solar Industry standards or guidelines. Please observe all OH&S regulations when working on Sungrow equipment.

This quick guide is to be read in conjunction with the Sungrow's User Manuals and SG30/50/110CX inverters as example for demonstration.

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

The energy meter and inverters are connected via daisy-chain RS485 as per standard RS485 topology.

Up to 10 devices can be connected with an EyeM4 (WiFi) Dongle. The EyeM4 and an energy meter **only can be connected in the first or the last inverter** when inverters are connected together via daisy-chain.



Please use the following checklist for quick commissioning:

Procedures		Yes/No
RS485 connection	RS485 communication cables installed correctly to inverters by terminal blocks?	
	RS485 communication cables installed correctly on the first or the last inverter to energy meter DTSD1352-C/1(6)A by terminal blocks?	
iSolarCloud App	Important: Enable RS485 Port for Inverter via iSolarCloud App	
Setup Online Monitoring	Create a solar plant via iSolarCloud APP via an installer account	
EyeM4 web portal setup	EyeM4 Setup via WLAN (11.11.11.1; password: pw1111)	
	Update to the latest firmware for export control feature (click here)	
	Auto search inverters	
	Add the energy meter and adjust CT Transformation Ratio	
	Set up export control if required	
Remote maintenance	Connect the customer's home WiFi network	
	Enable International Server	
	Update iSolarCloud serve domain	

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EyeM4 (WiFi) Commissioning (click here)

Click here for Local Firmware Update Procedure, otherwise, you cannot add energy meter for export control.

Click here to download EyeM4 (WiFi) firmware

RS485 Connection

Recommend that RS485 can be connected by terminal blocks for more than one inverter. All RS485 wiring is connected in “daisy-Chain” fashion where RS485A+ is A1 and RS485B- is B1.

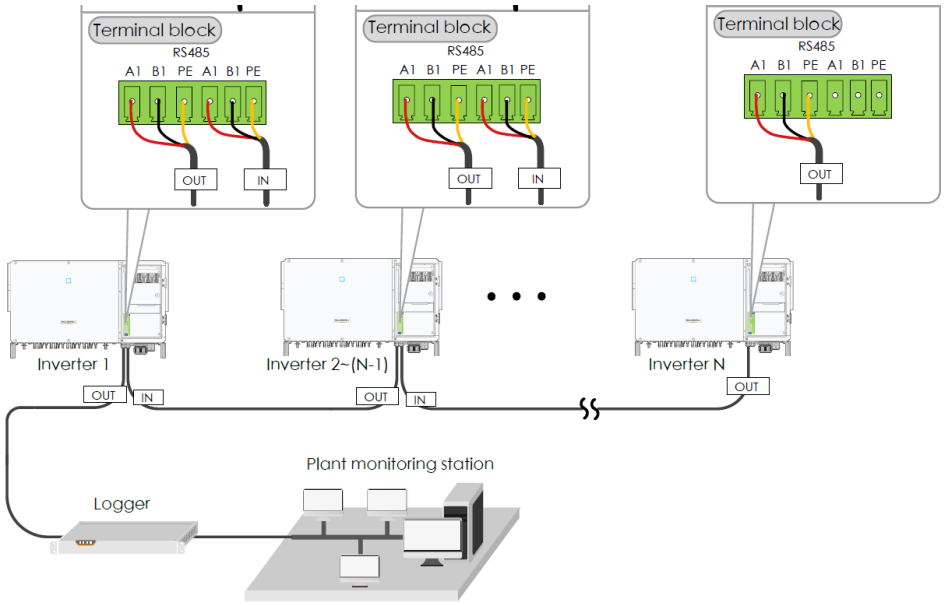


Figure 1 The RS485 can be wired direct to terminal block

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.

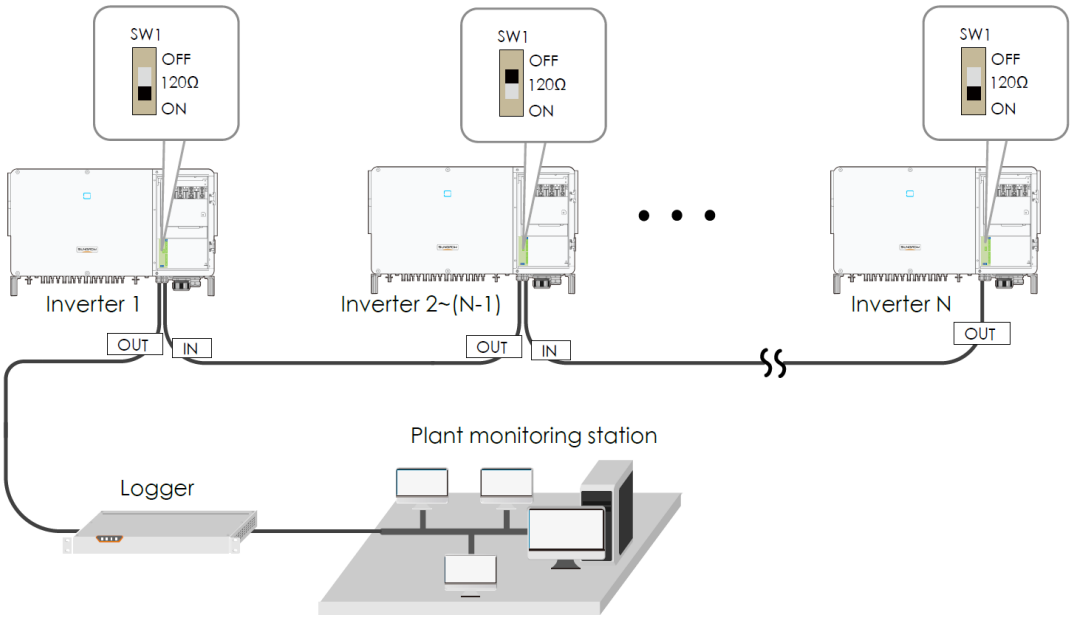


Figure 2 termination resistors (120 Ohm)

Energy Meter to Inverter Connection

For installations where the supply is larger than 80 Amps - the site electrician will need to calculate the CT ratio required as per the installation. The CT ratios can be set within the EyeM4 interface.

(For supplies smaller than 80 Amps, use the DTSU666 with inbuilt CT's)

Default Modbus address is 1 and the secondary current of CT should be 5A.

Please refer Meter Selection Guide for reference.

Where RJ45 is used, the corresponding pinouts to RJ45 are Pin 3 (White-green) to RS485- B and Pin 6 (Green) to RS485+ A.
This colour code is the Sungrow default for 3-phase energy meters

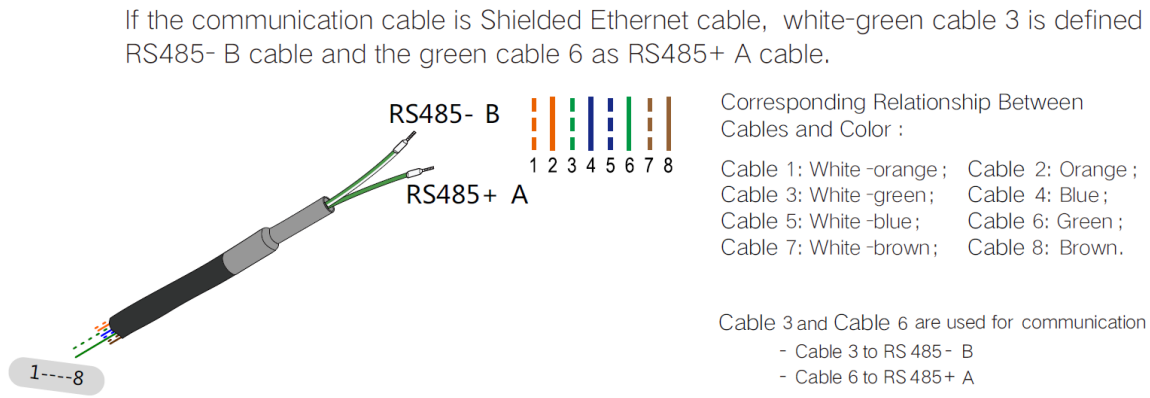


Figure 3 Meter RS485 pin-outs

Meter side connection:

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

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

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

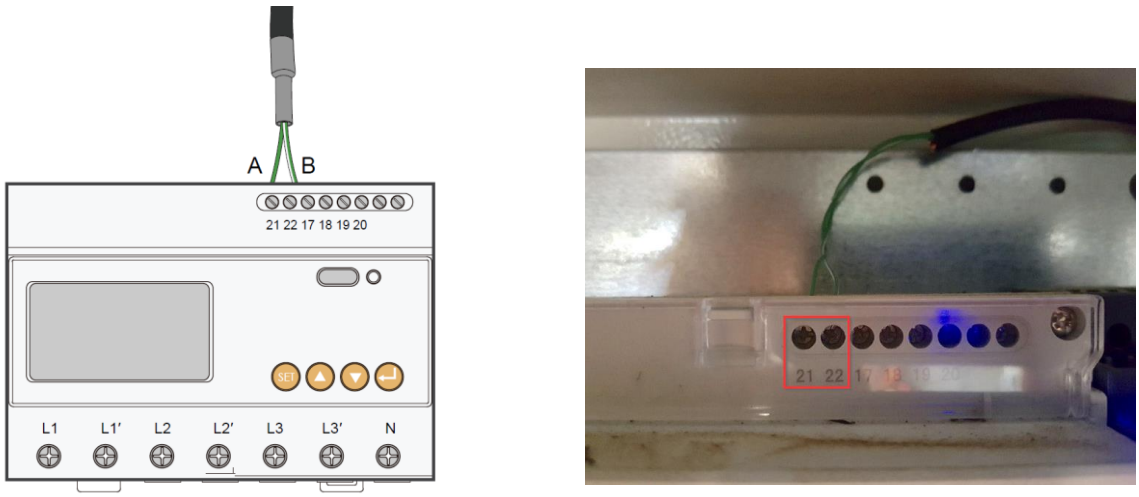


Figure 4 RS485 connections to the energy meter

Important: 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).

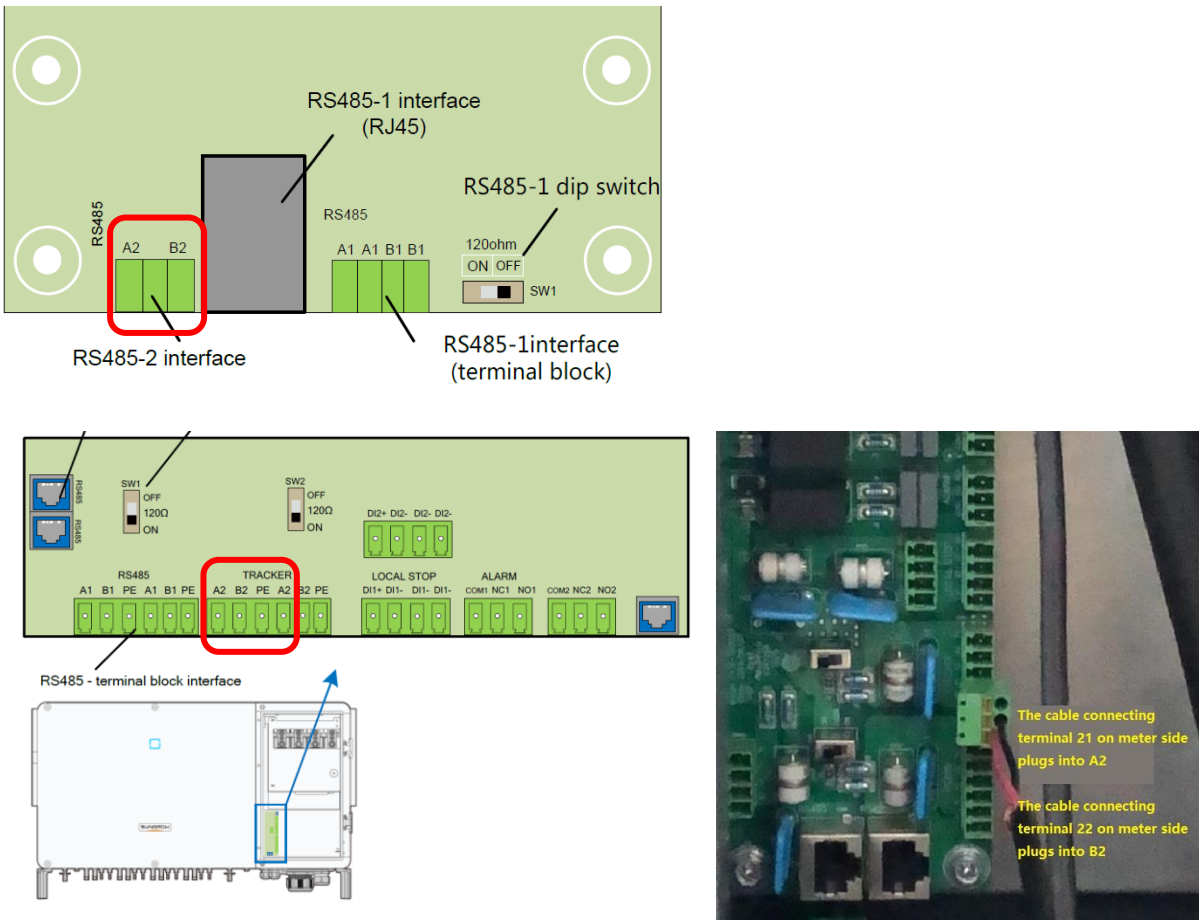


Figure 5 RS485 connections in the inverter (SG30/50CX and SG110CX)

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.

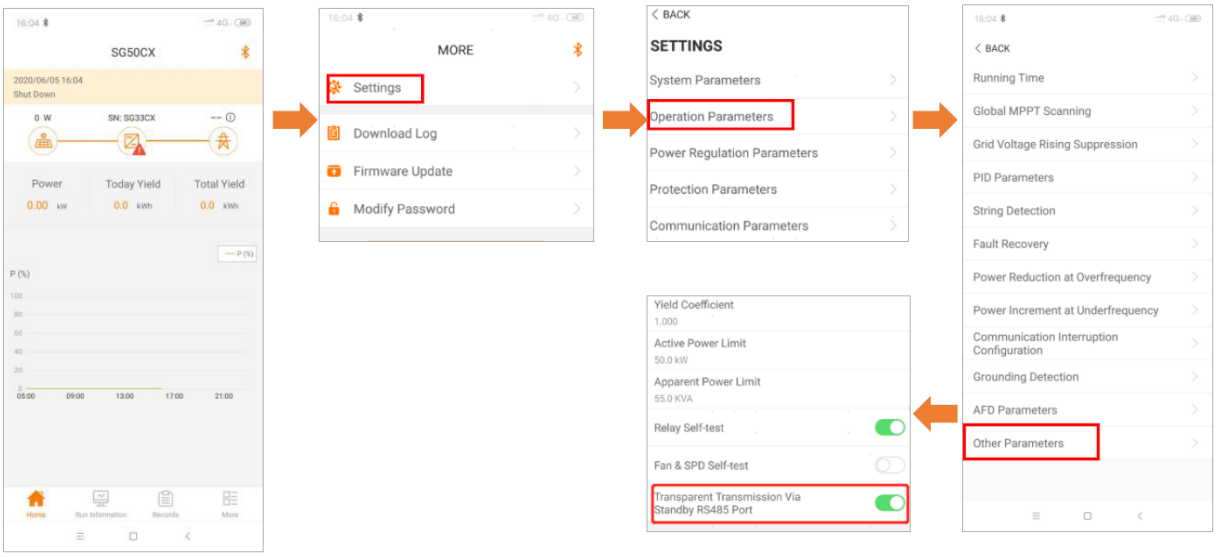
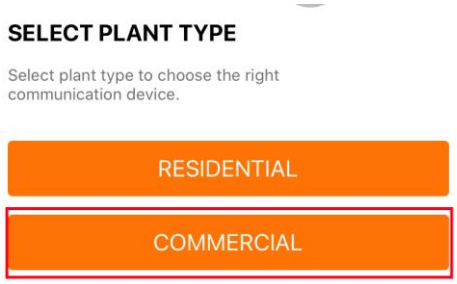


Figure 6 Enable RS485 Port

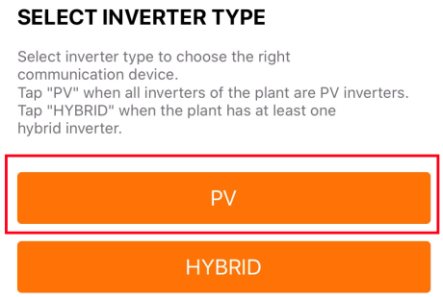
Create Plant in iSolarCloud

The iSolarCloud is available for the EyeM4 online monitoring. You need to create an iSolarCloud account first, then you can create a plant to link with EyeM4 via the mobile APP.

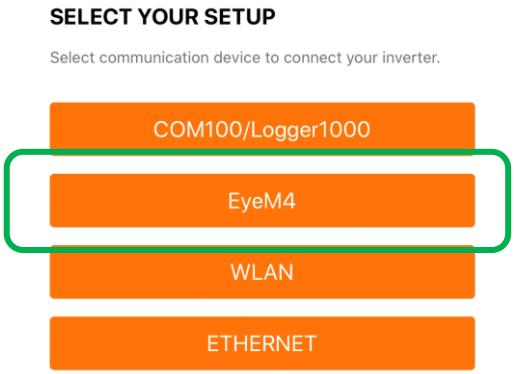
Create Plant -> **Commercia**l -> **PV**-> **EyeM4** -> **Scan the QR Code**



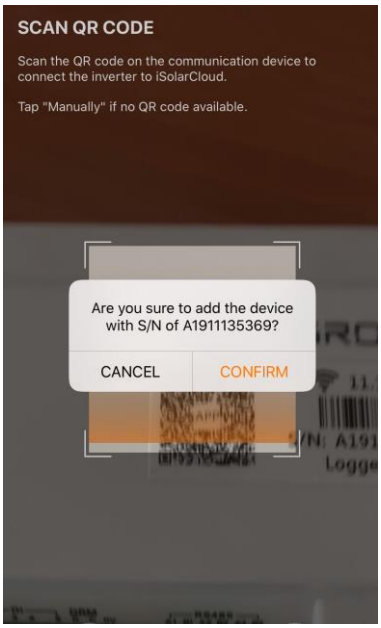
Step 1



Step 2



Step 3



Step4

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

After the account and plant are created successfully

Access EyeM4 web interface

Use a smart device or laptop under Wi-Fi function to search for the *SG*********** (10 digits number) network that corresponds to the Dongle serial number.

Figure 7 WiFi connection

Open a web browser and enter IP address (11.11.11.1) and password: **pw1111** to access below EyeM4 web page.

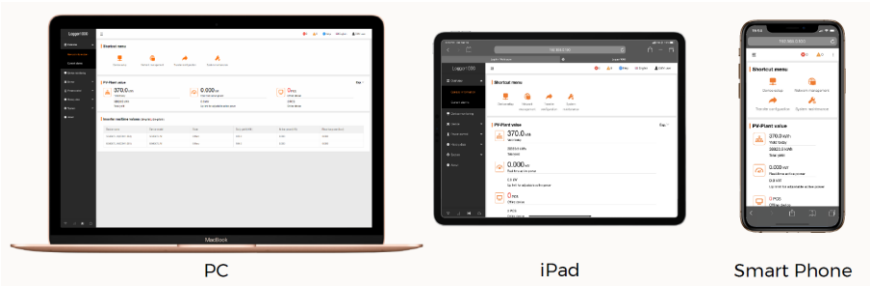


Figure 8 Connection options

Then you can log in the account (please contact Sungrow for password) via the right top corner login button. When you log in for the first time, a help window will pop up for instruction.

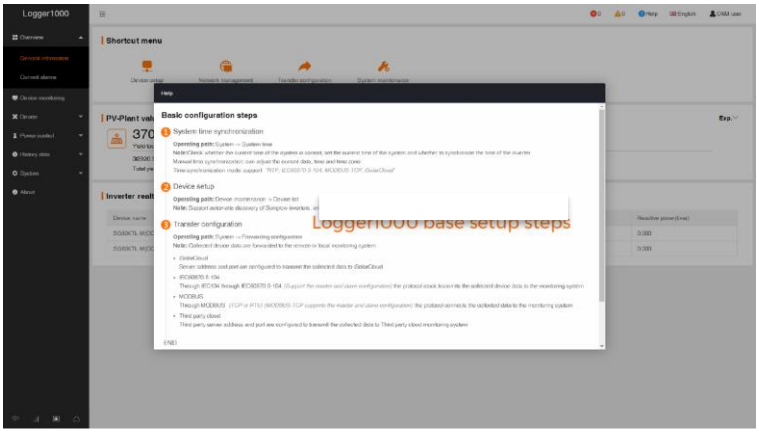


Figure 9 The Welcome Screen

Overview of main interface

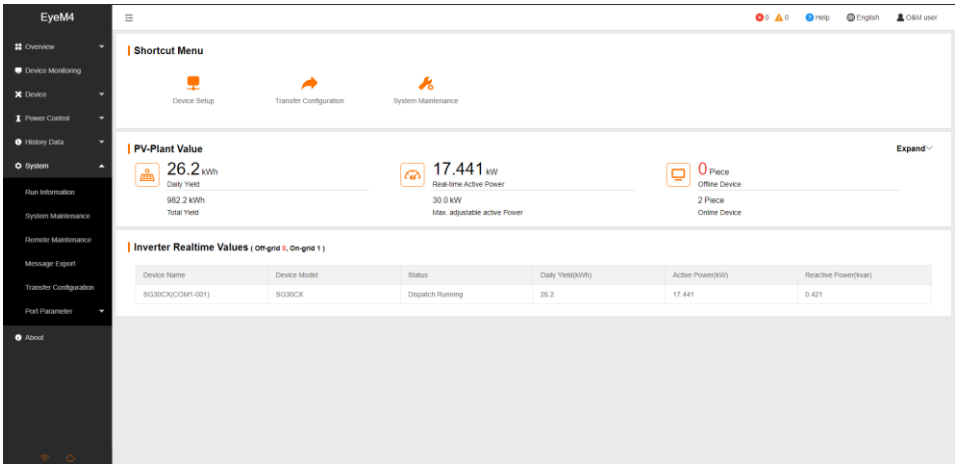


Figure 10 Overview screen

Scanning for devices (Inverters):

Navigate to **'Device'** and click '**Device List**' section and click **'Auto search'** (inverters only at this point). The connecting devices will be display under 'Device List' section if connection is correct. Sungrow's inverters will be automatically detected as long as they are correctly connected and energised. Allow the search to complete.

Meanwhile, you can confirm the communication status for each device under **Communication status** section. Green icon indicates the connection works and red icon means no connection between EyeM4 and other device.

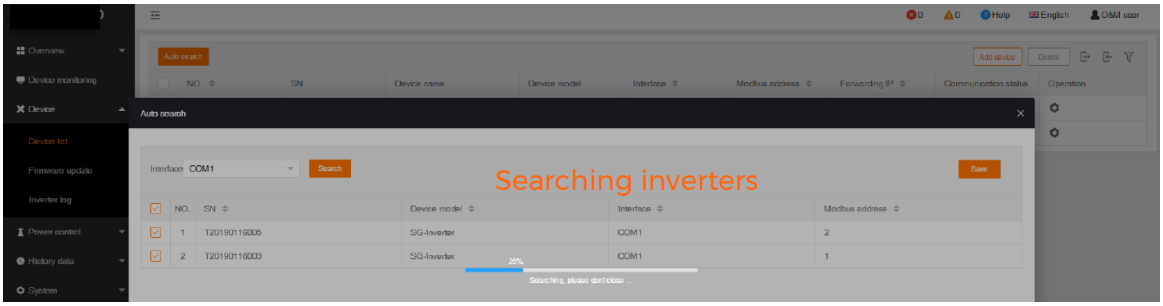


Figure 11 Search device

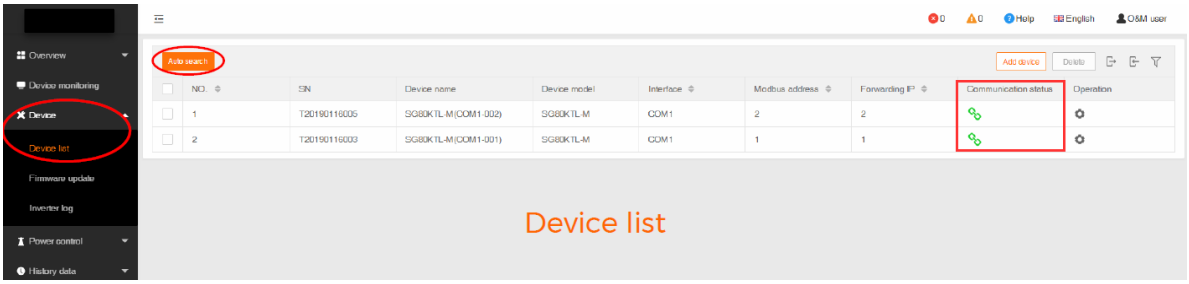


Figure 12 Check Inverter connection status

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 (Select 'Meter' and auto add 'COM1' and 'DTSD1352' and the change device address to 254)

Ensure the Port is COM 1

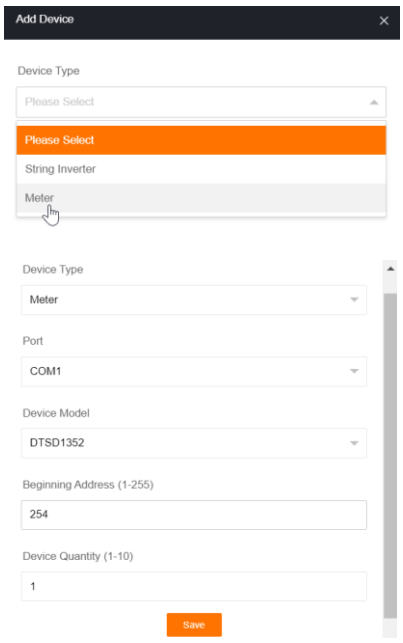


Figure 13 Add meter information

Check that the meter is connected.

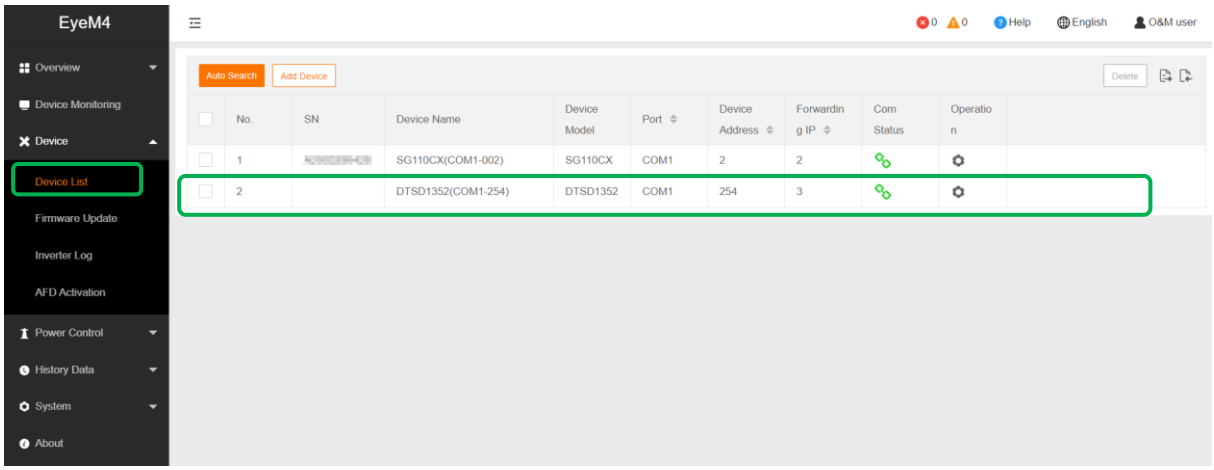


Figure 14 Check Meter connection status

Add CT Transformation Ratio

Navigate to **'Device Monitoring'** and select DTSD1352. If the ratio is 200/5, then enter value 40.

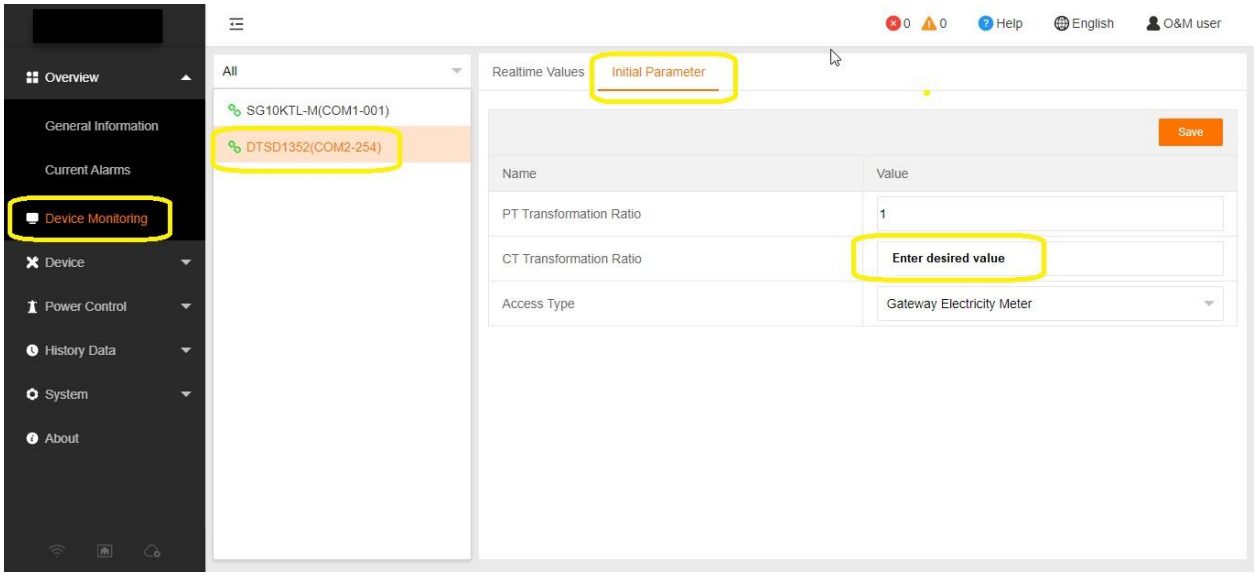


Figure 15 Set CT ratio

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'**

If it is 50 kW inverter and need export control to 20 kW as an example, then enter 'Fixed Value of Active Power' to 20 kW.

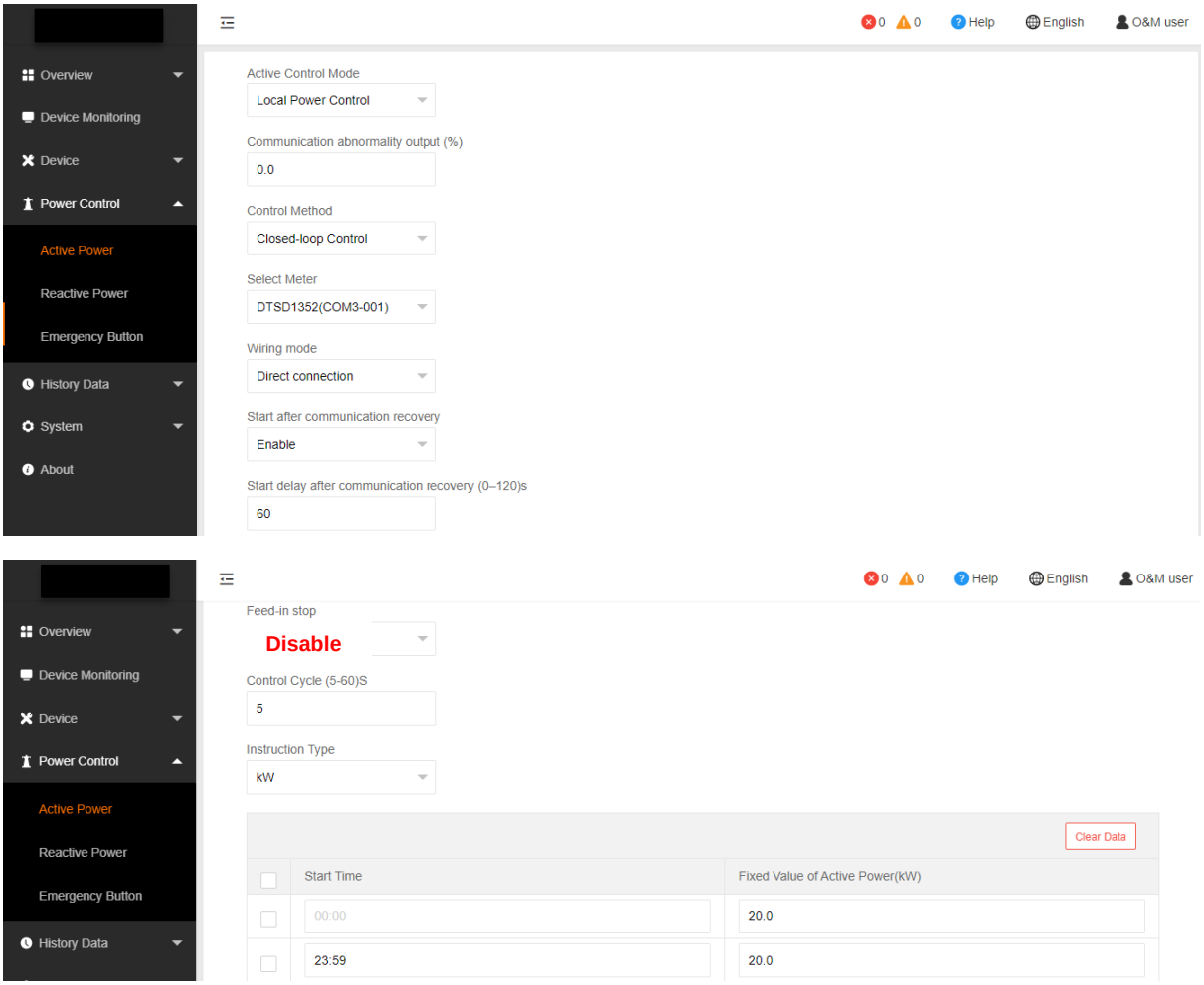


Figure 16 Set the export limit

After the initial settings are finished, the remote monitoring and remote-control function are needed to be confirmed set correctly.

Select the **System** on the left tool bar, then click **Port Parameters**. There is an option for the WiFi, select WiFi and enable the WiFi On-off. It will pop up the available WiFi networks. **Choose the customer network and enter the password**, it will display Available WLAN Networks when it is connected successfully.

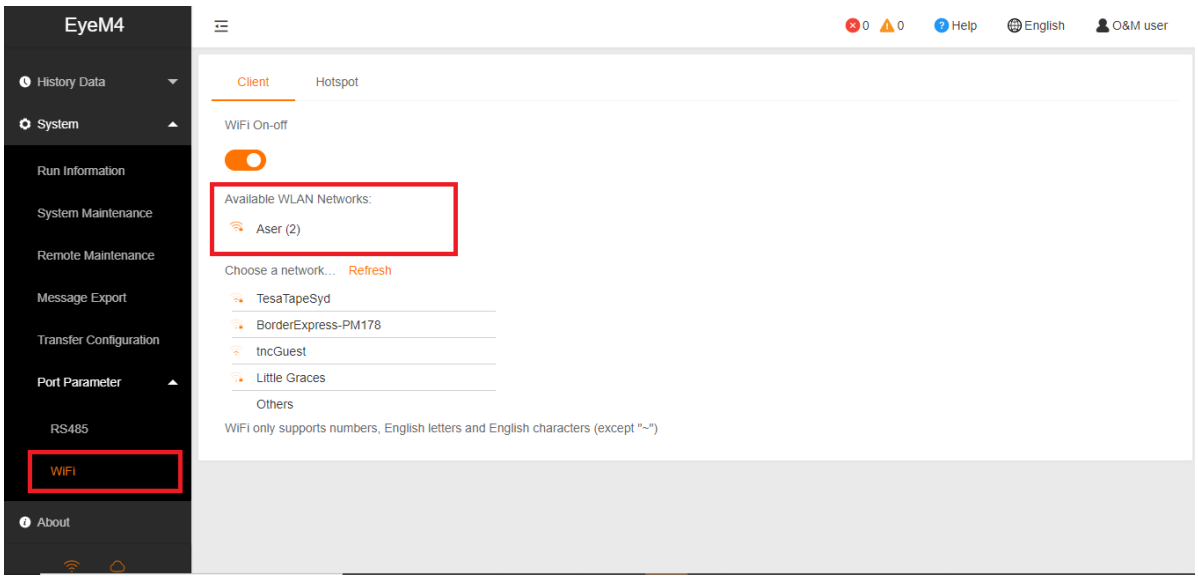


Figure 17 Set the WiFi connection

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

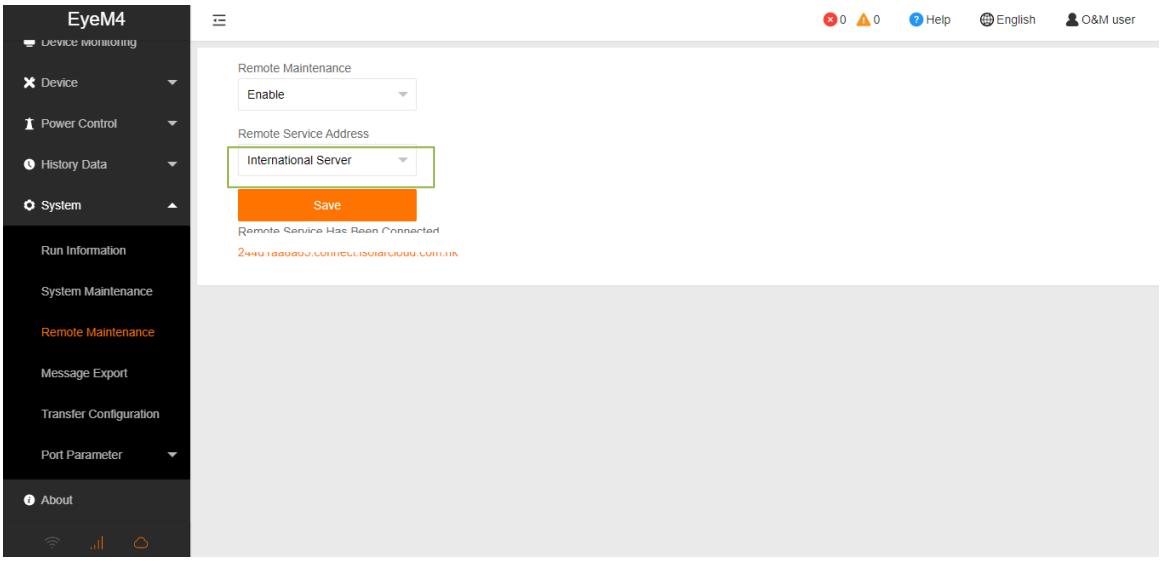


Figure 18 Enable Remote Maintenance

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

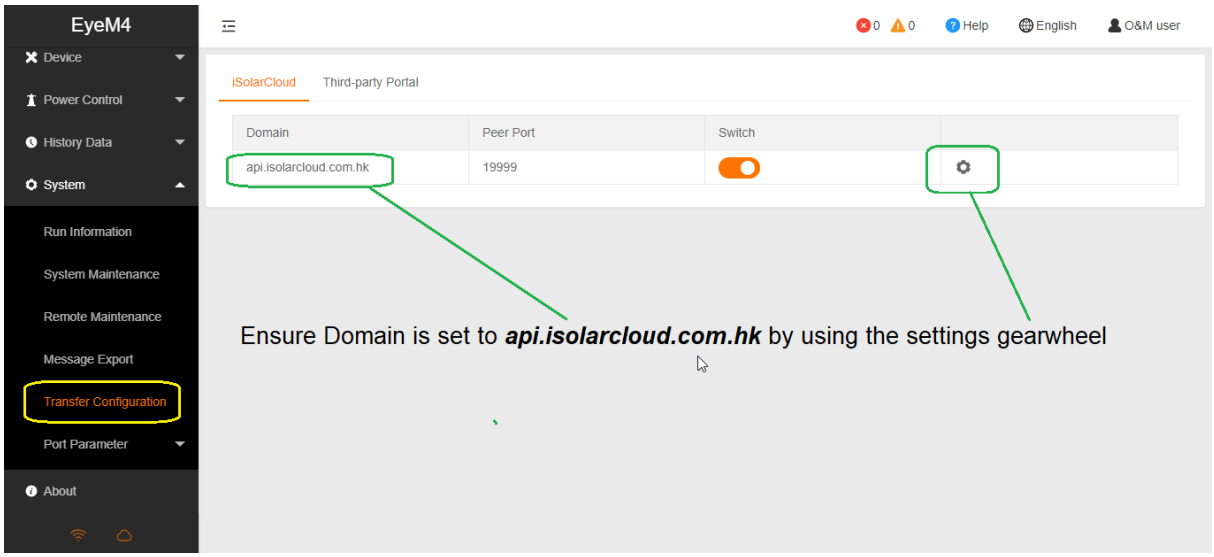


Figure 19 Confirm the domain is correct

After the above settings are finished, you can go back to the Remote Maintenance and check if there is an information indicating the EyeM4 connect with iSolarCloud server. Meanwhile, you can find a cloud icon at the bottom left corner, it means the EyeM4 is on iSolarCloud when the icon lights up.

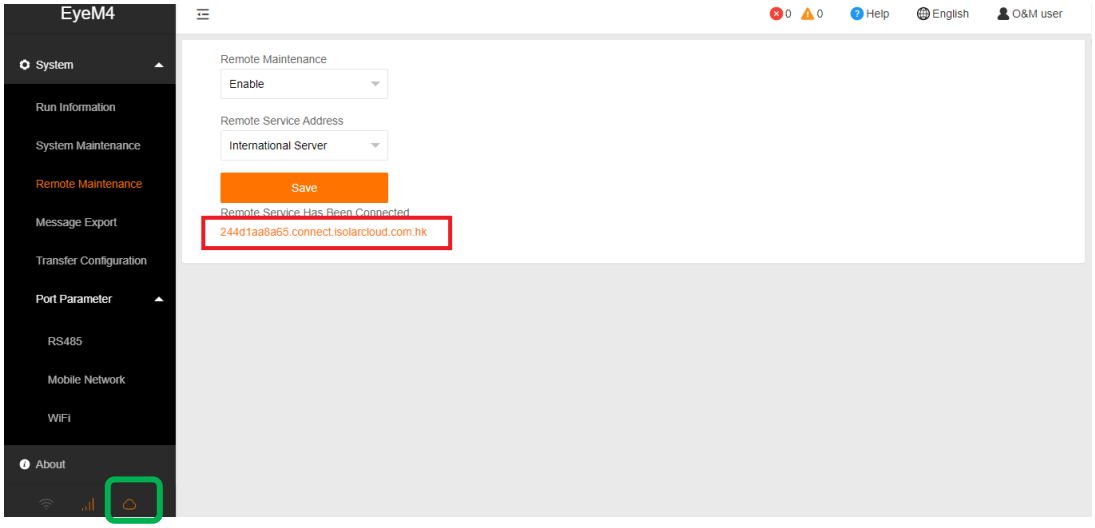


Figure 20 Check the system connecting with iSolarCloud

If you have any questions, please take photos testing on site and contact Sungrow Service Department on 1800 786 476 or email to service@sungrowpower.com.au, Monday- Friday 9am - 5pm (AEDT).