# SG30/50/110CX Inverters Commission Complete 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 |
| 2.0 | Issued for Approval | AU Service Team | 14th Feb 2022 |

This document only applies to Sungrow Power commercial three-phase inverters (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.

This guide includes the new EyeM4/Logger1000 Interface.

## 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) or 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 (DTSU666 may be suitable in switchboards up to 80 Amps).

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

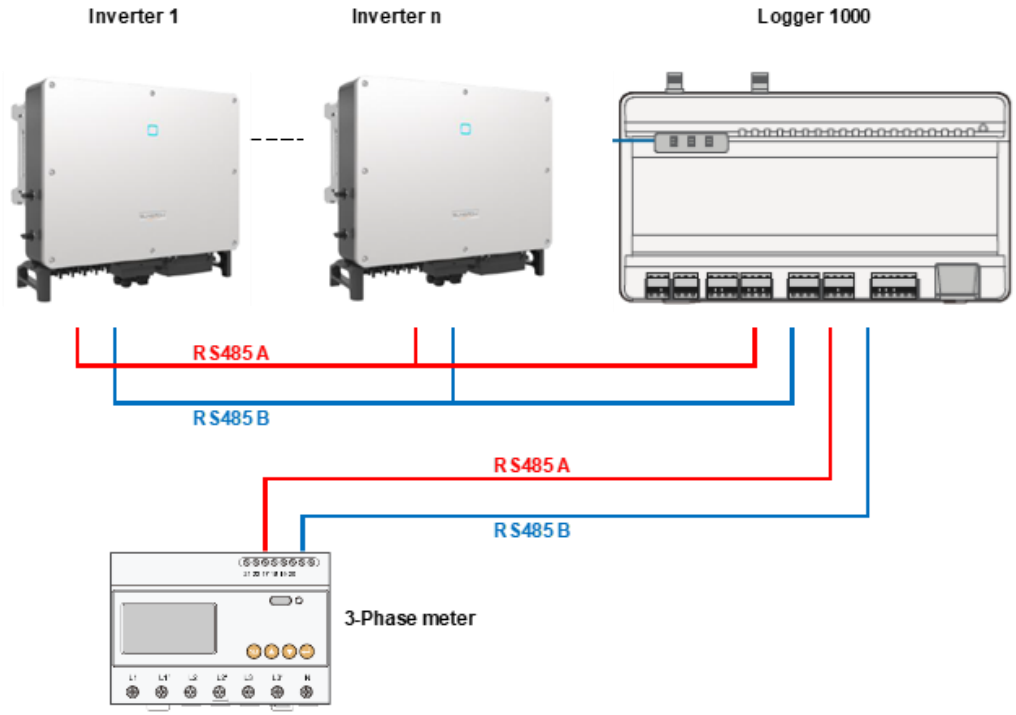
Inverters communicate on the A1/B1 (Com1) channel, and meters on the A2/B2 (Com2) channel.

Please use the following checklist for quick commissioning:

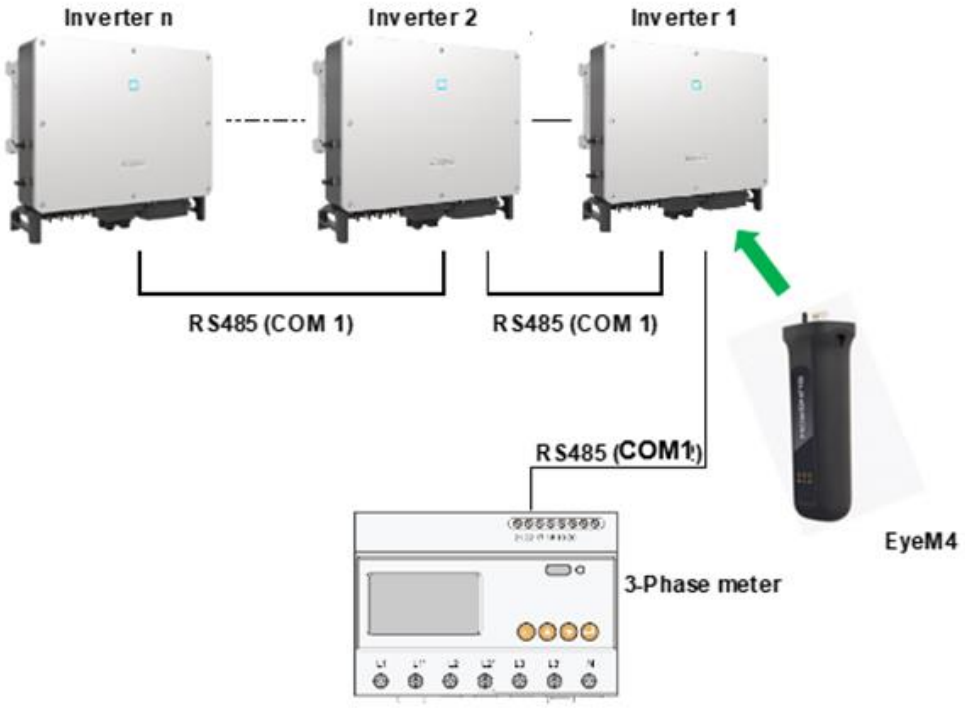
| **Procedures** | | **Yes/No** |
|---|---|---|
| RS485 connection | RS485 communication cables installed correctly between inverters/ inverters to Logger1000/ meter to the logger1000 or the inverter has EyeM4 by terminal blocks? | |
| | RS485 communication cables installed correctly between energy meter 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 (Logger1000 only) | |
| | Auto search inverters complete | |
| | Add the energy meter and adjust CT Transformation Ratio | |
| | Set up export control if required | |
| Remote | Connect to internet via Ethernet Cable/ WiFi/ 4G | |

| | | |
|---|---|---|
| maintenance | Enable Australian Server | |
| | Update iSolarCloud server domain (Australia) | |
| | Check Port Parameter for IP address (Logger1000) | |
| Setup Online Monitoring | Create a solar plant via iSolarCloud APP via an installer account | |

## 2 RS485 Connections



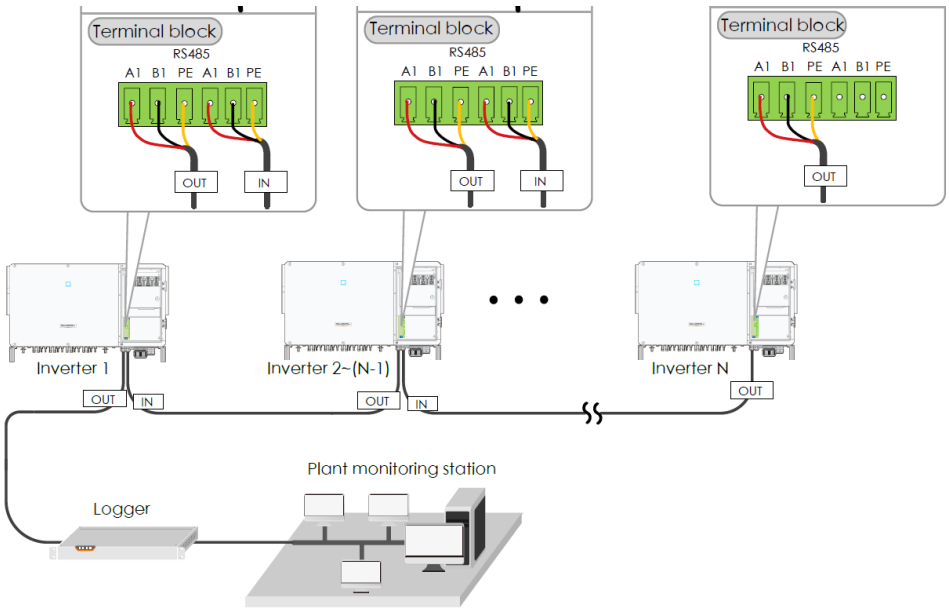

*Daisy-Chain using Logger1000*



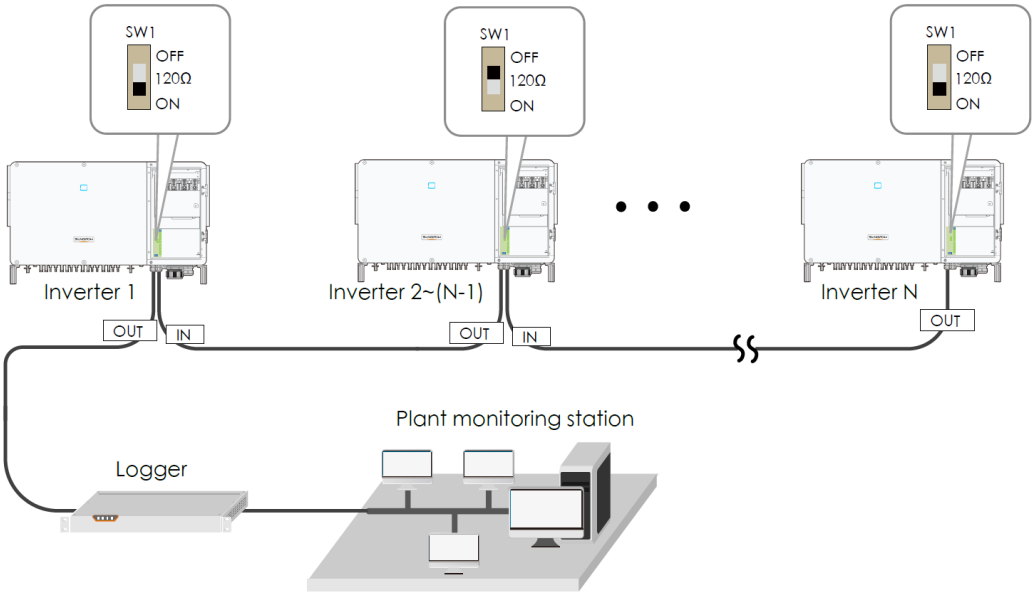

*Daisy-Chain using EyeM4 Dongle*

## 2.1 Inverter Connection (Daisy Chain)

Preferred that RS485 can be connected by terminal blocks (RJ45 also available).



Optional (Loogger1000 only): Termination resistor switches (120 Ohm) can be 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.



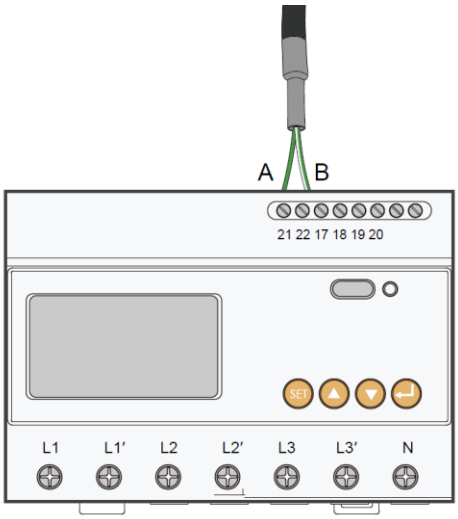

## 2.2 Energy Meter Connection

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.

**DTSD1352 energy meter connection:**

- Terminal 21 = RS485+ A
- Terminal 22 = RS485- B
- Connects to A2/B2 on Logger/inverter

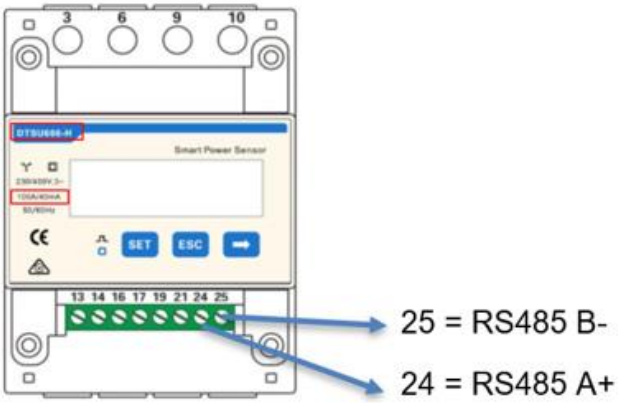




*Sungrow recommend Shielded twisted pair cable with a CSA of 0.75mm*

**DTSU666 energy meter connection:**

- Terminal 24 = RS485+ A
- Terminal 25 = RS485- B




Connect to A2/B2 terminal at Logger/Inverter

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

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

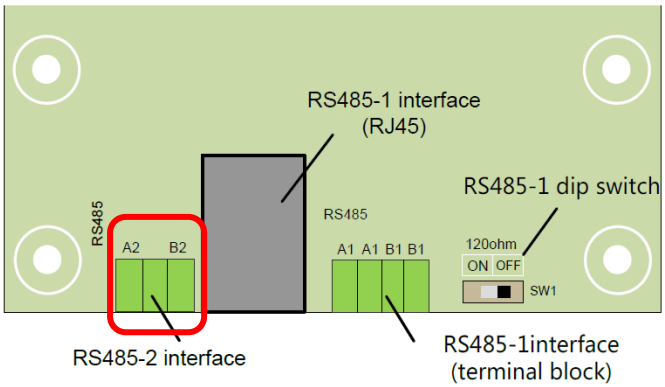
## 2.3 Connection to Logger1000

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 if using an EyeM4 dongle

**Connect the energy meter RS485 to A2/B2 (RS485-2 Interface) terminals in either the first or last inverter in the RS485 chain that will also have the EyeM4 dongle.** (Communication PCB varies between inverter models – ensure to use A2/B2).



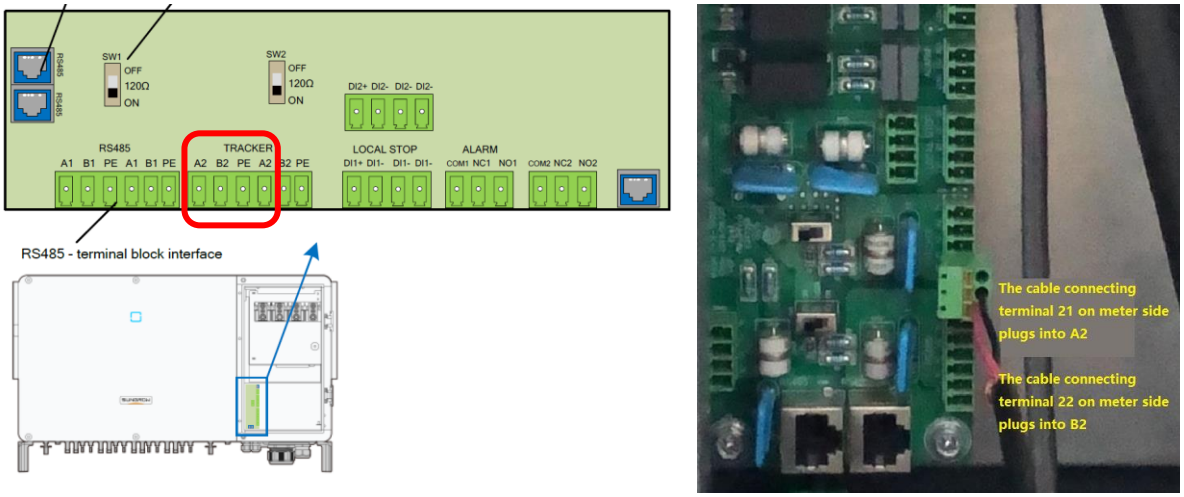
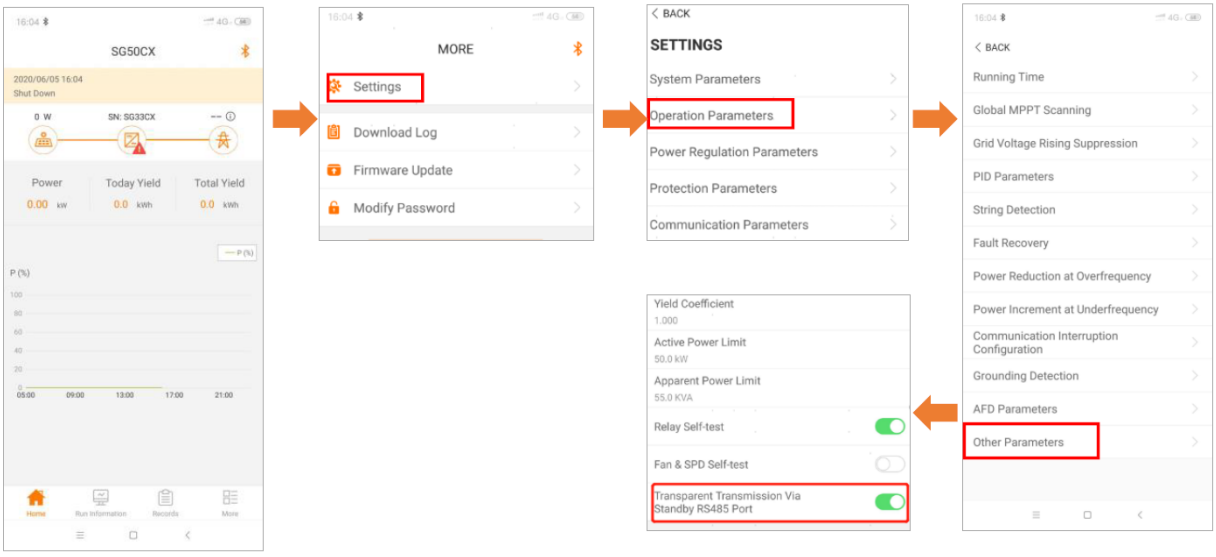



Figure 1.4.1 RS485 connections in the inverter (SG30/50CX and SG110CX)

The older firmware versions required the meter connection (A2/B2) in the inverter to be enabled. Please use the following process if the meter doesn't appear in the interface.

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.



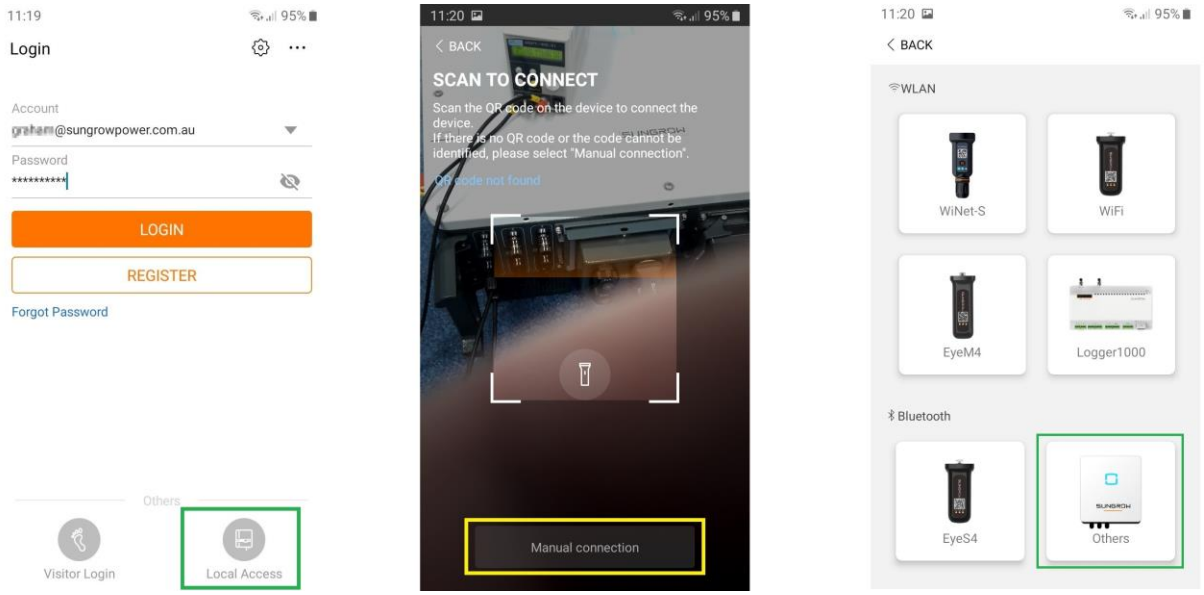

## 3 Initialise the inverter(s):

This is done by using a smart phone or tablet.

Open the iSolarCloud App and tap the ‘Local Access’ icon on the bottom left

Tap ‘Manual Connection’

Select ‘Others

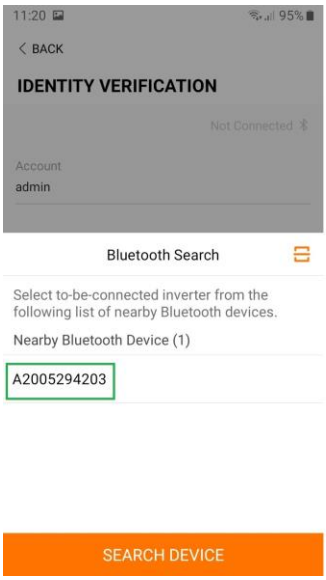


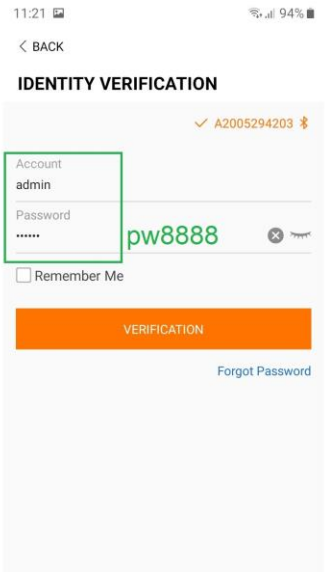

The App will scan for nearby inverters

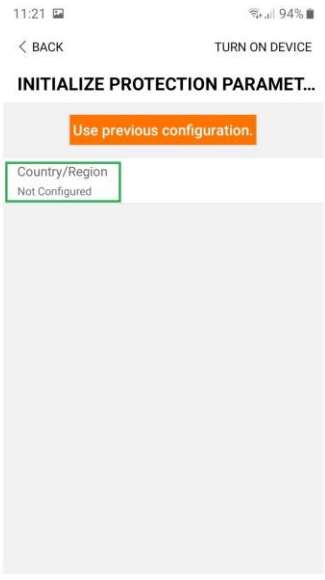
When you see the serial number, tap it

Log in as “admin” and password is pw8888

Tap ‘Country/Region’

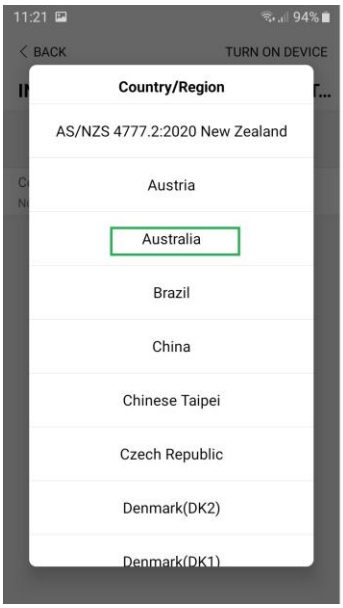


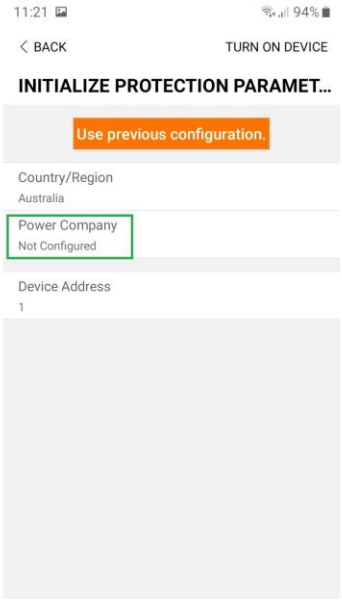



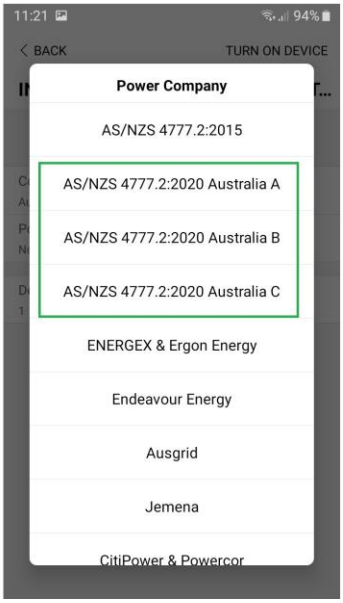




Select Australia (or New Zealand)

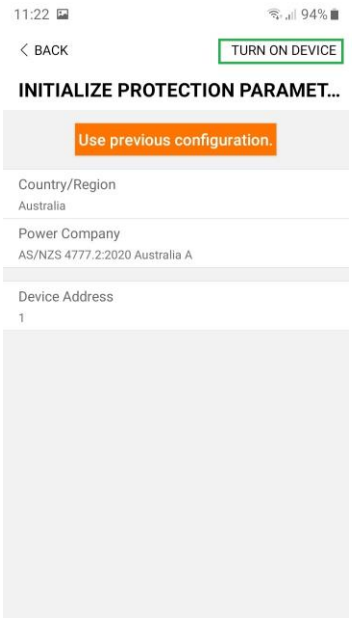
For power company, select the appropriate for your location

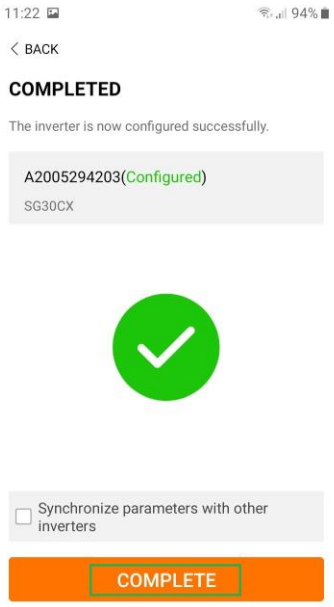


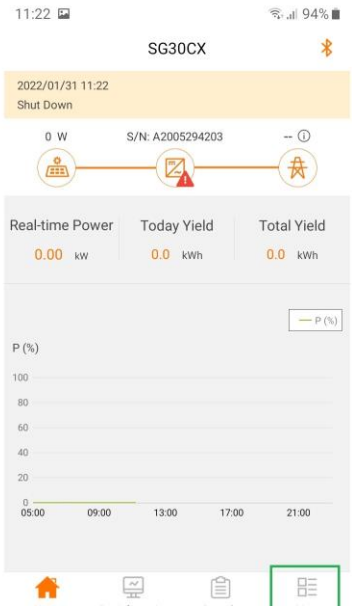




Tap “Turn On Device” icon top right corner. The inverter will go through it’s initialisation and start-up. Tis could take a couple of minutes. The App will confirm configuration and the inverter will switch on



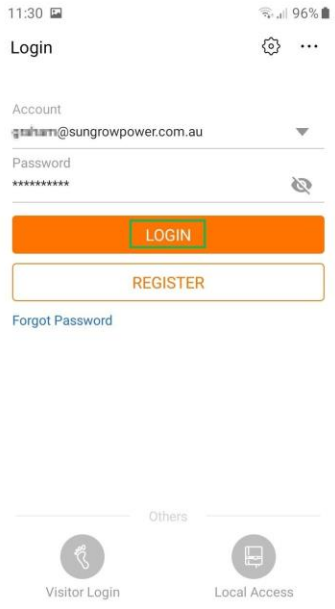



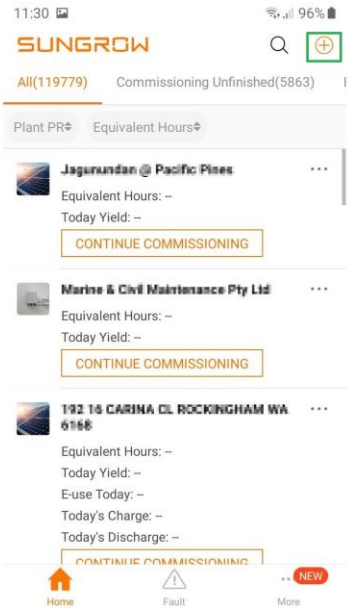

## 4 Create a plant on iSolarCloud:

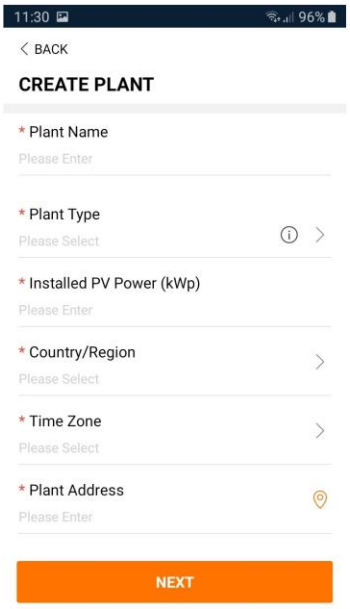
After you have logged out of the Bluetooth connection, log in to your iSolarCloud account as normal

Tap the orange + icon top right corner

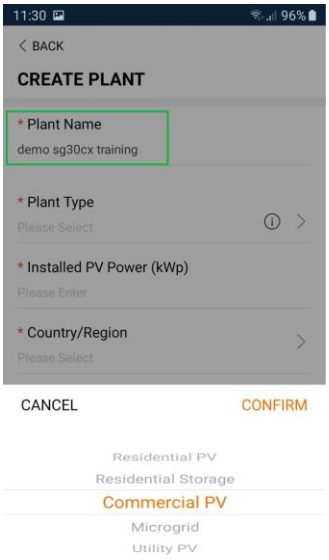
Populate all of the fields with correct information

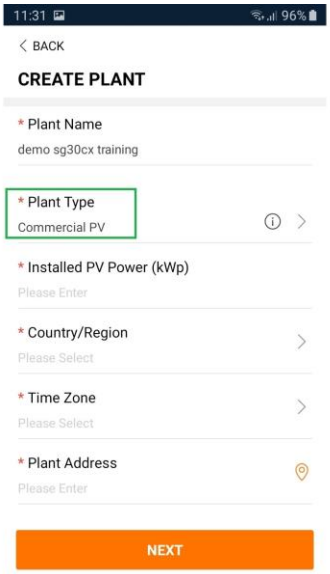


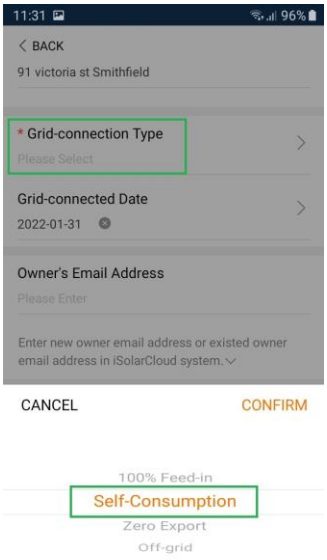



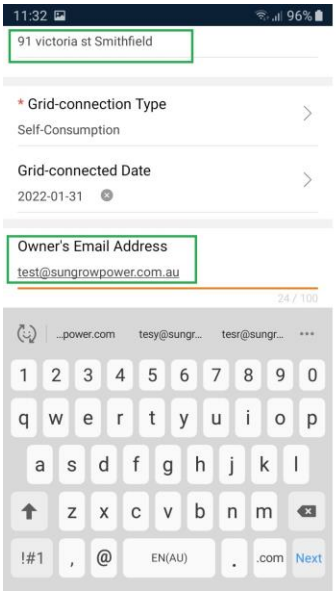

Ensure to select the correct plant type and consumption type, as this affects the iSolarCloud display

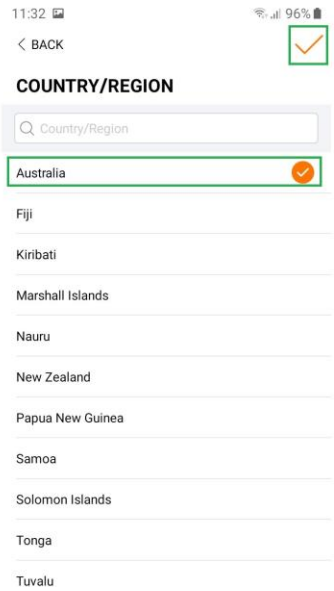


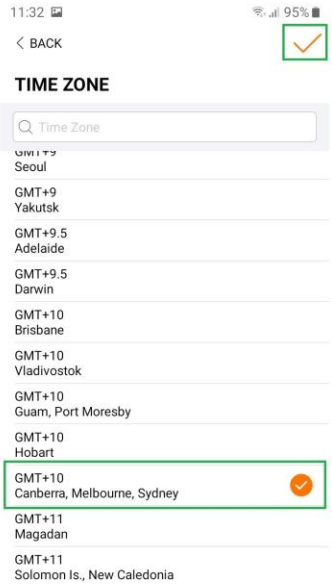



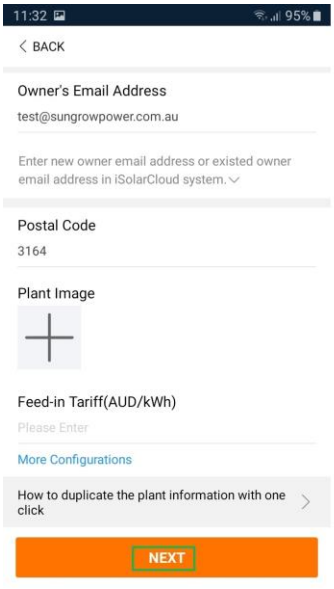

Ensure correct region and time zone

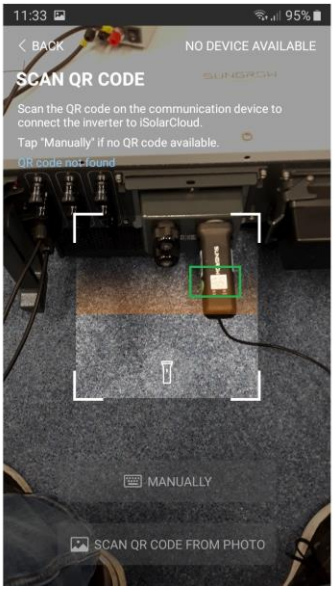


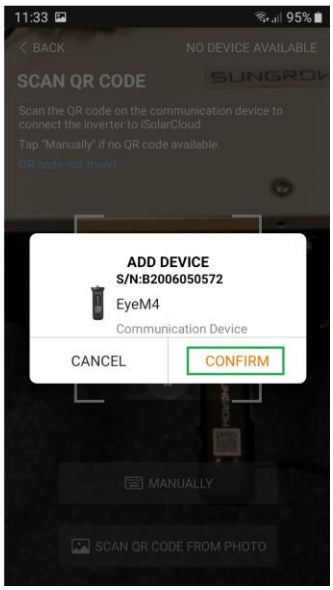




Click “Next” then scan the dongle QR code and confirm



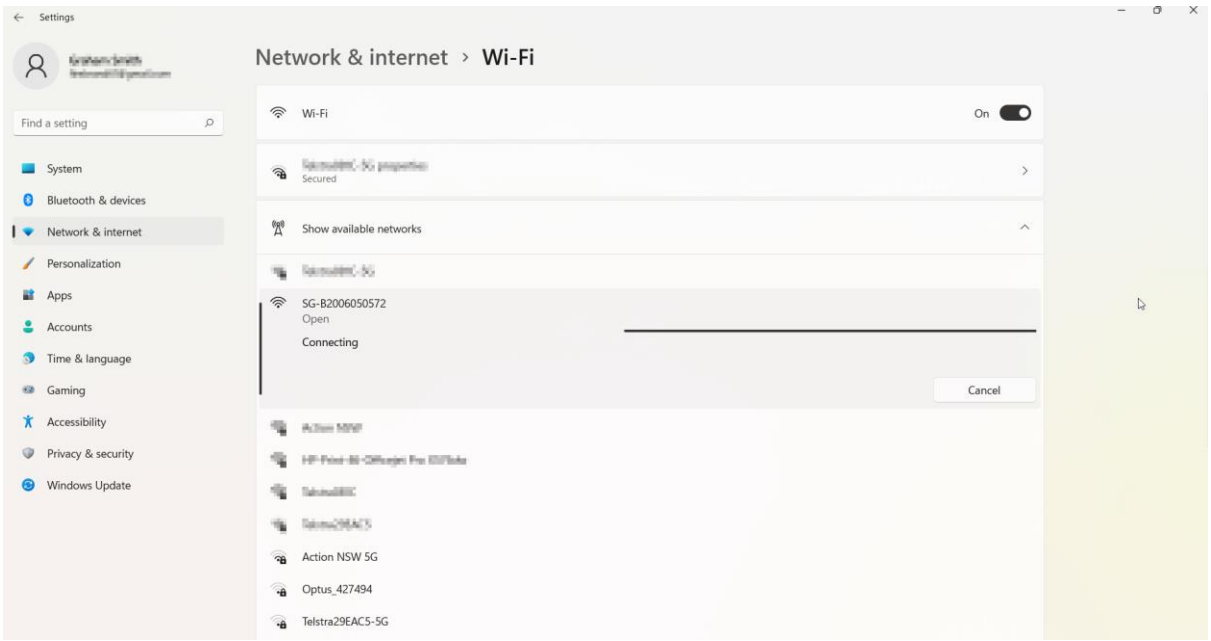




The plant will be created, and you now commission the dongle (for Logger1000 instructions, please refer to the Logger1000 documentation)

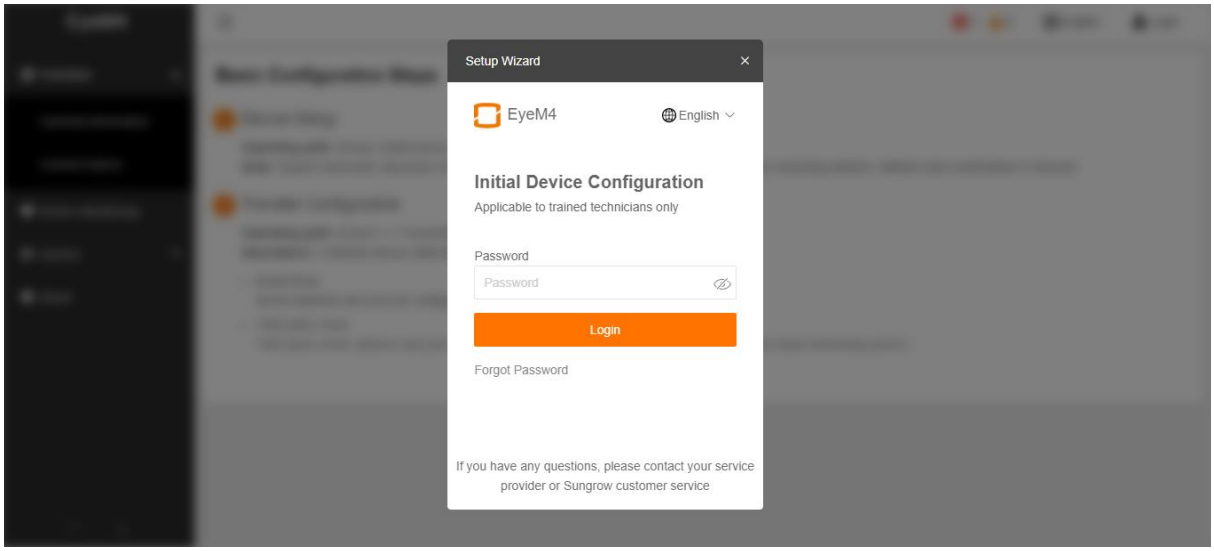
## 5 Commission the EyeM4 Dongle

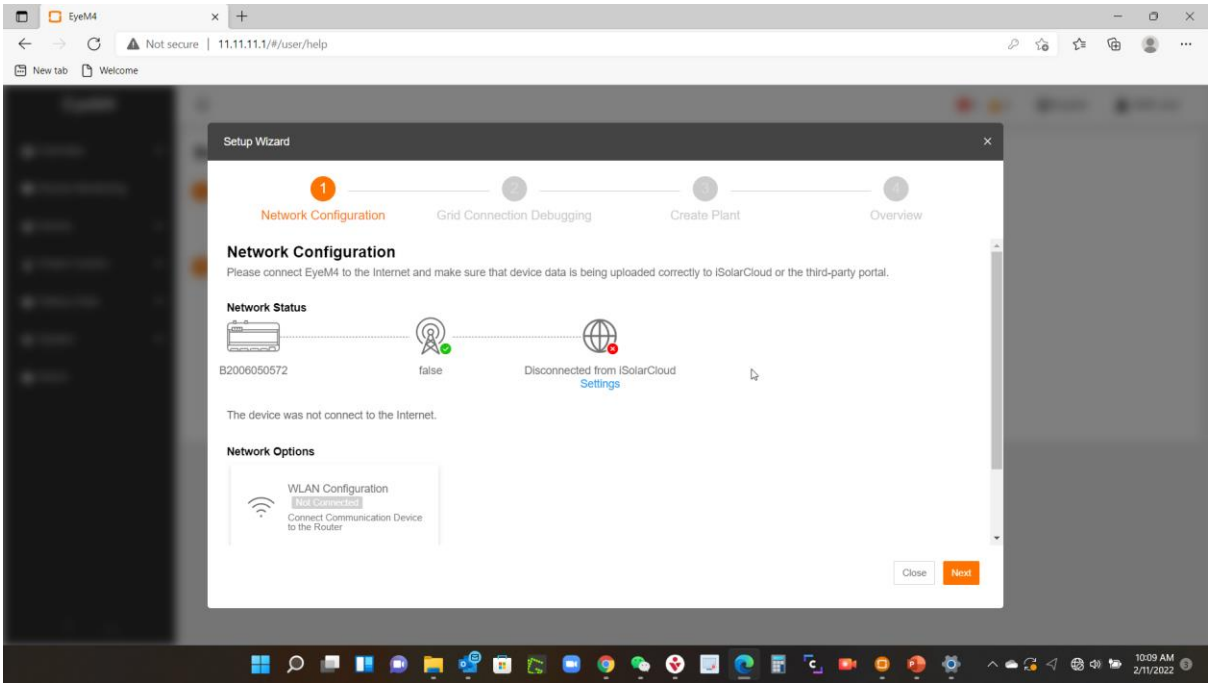
It is best to use a laptop to commission the dongle

Go to your settings and scan for WiFi networks. Connect to the SG-********** network (the serial number is the password)

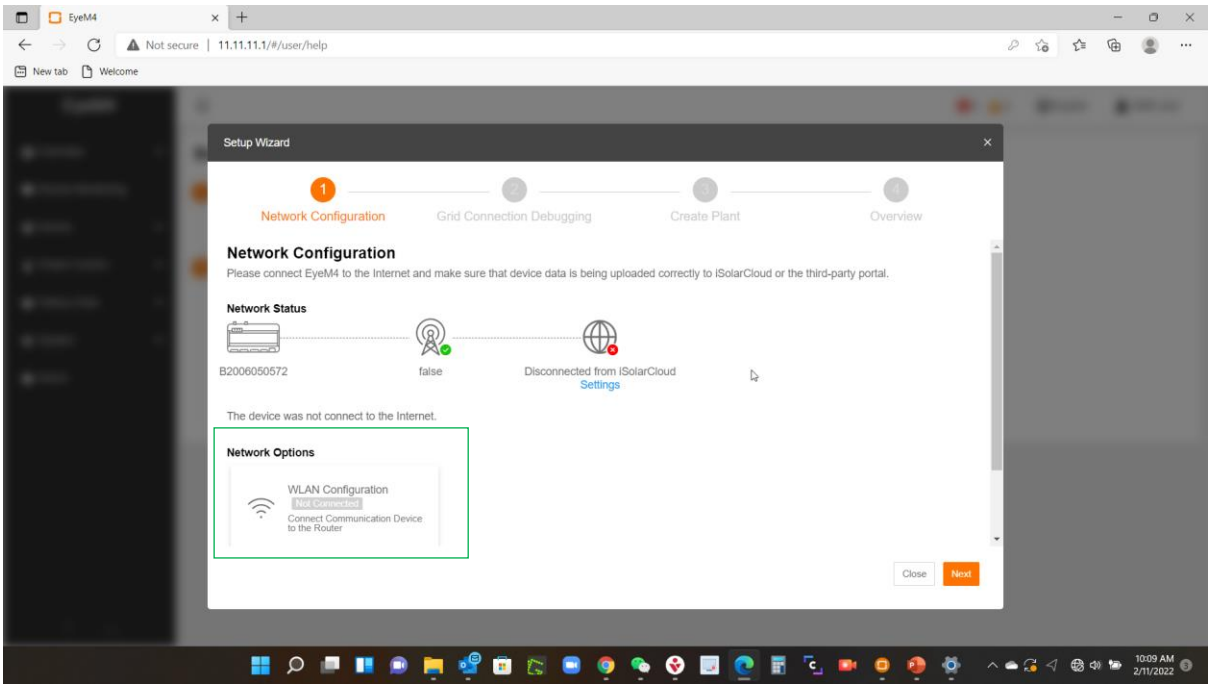


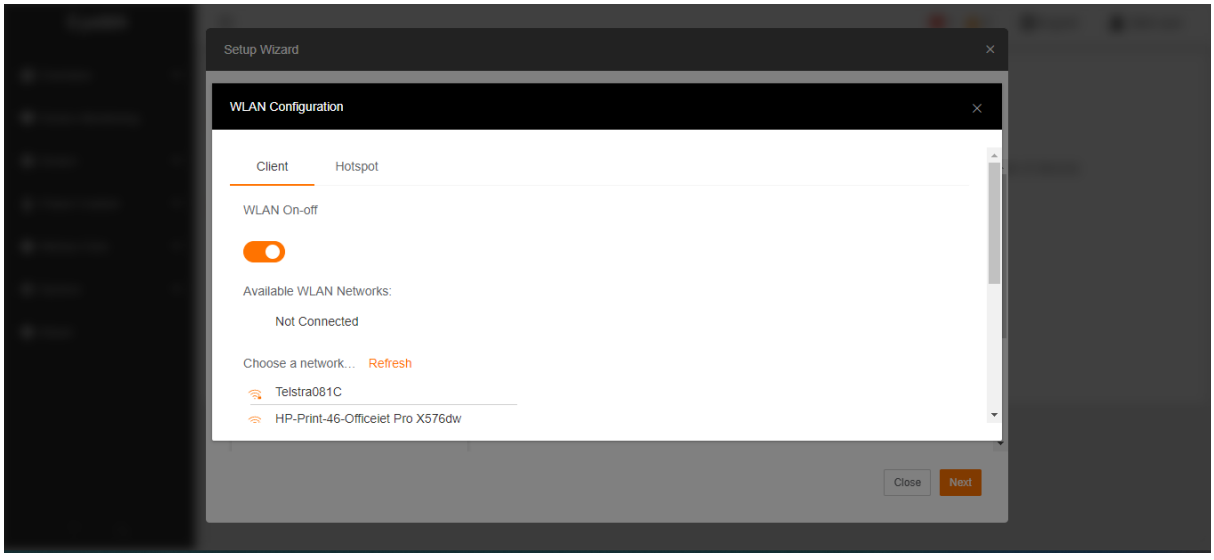

Open any browser and type 11.11.11.1 into the address bar. This will take you to the login screen. The password is pw1111



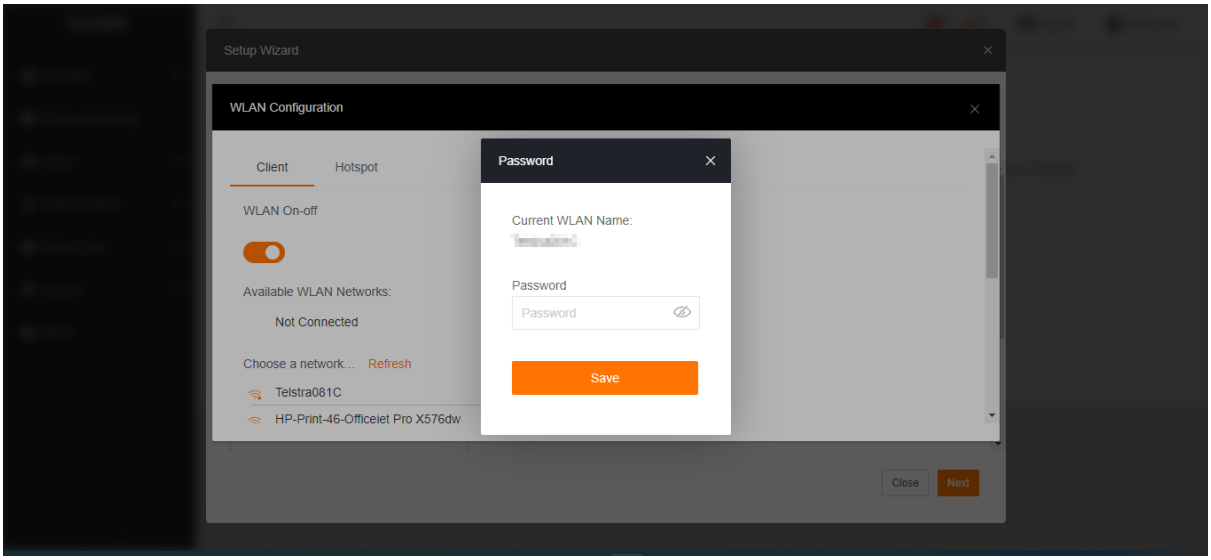



To set the WiFi connection, select “network options, switch on the WiFi, and scan for networks

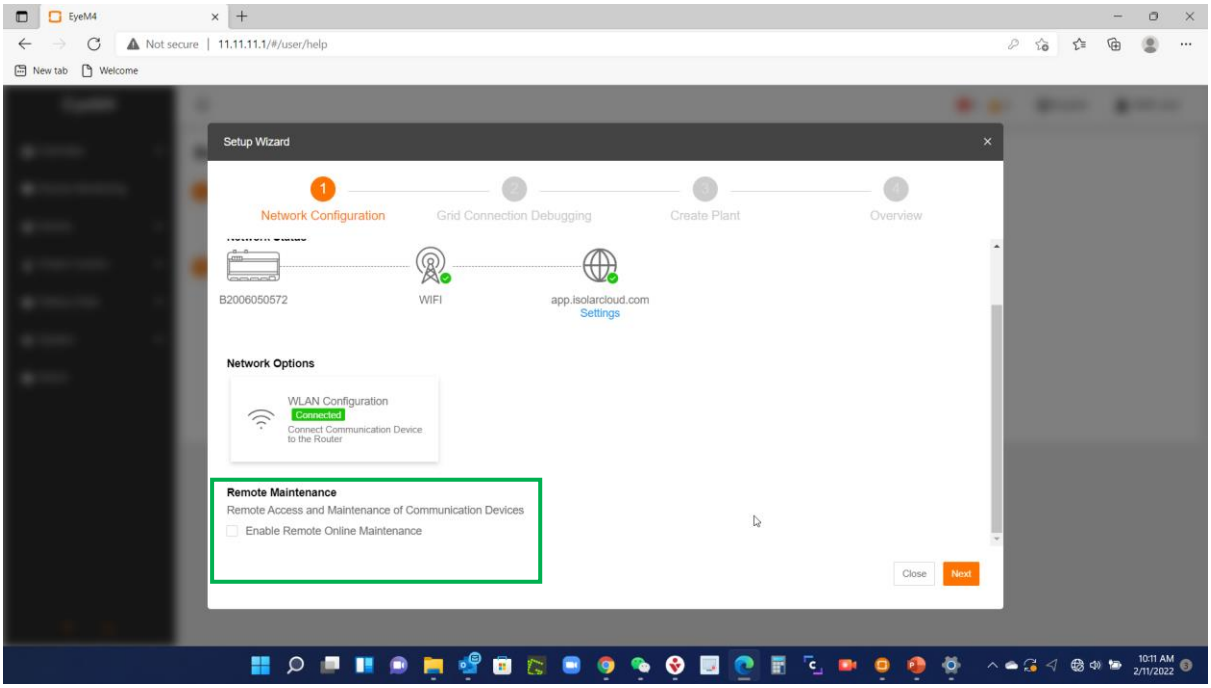


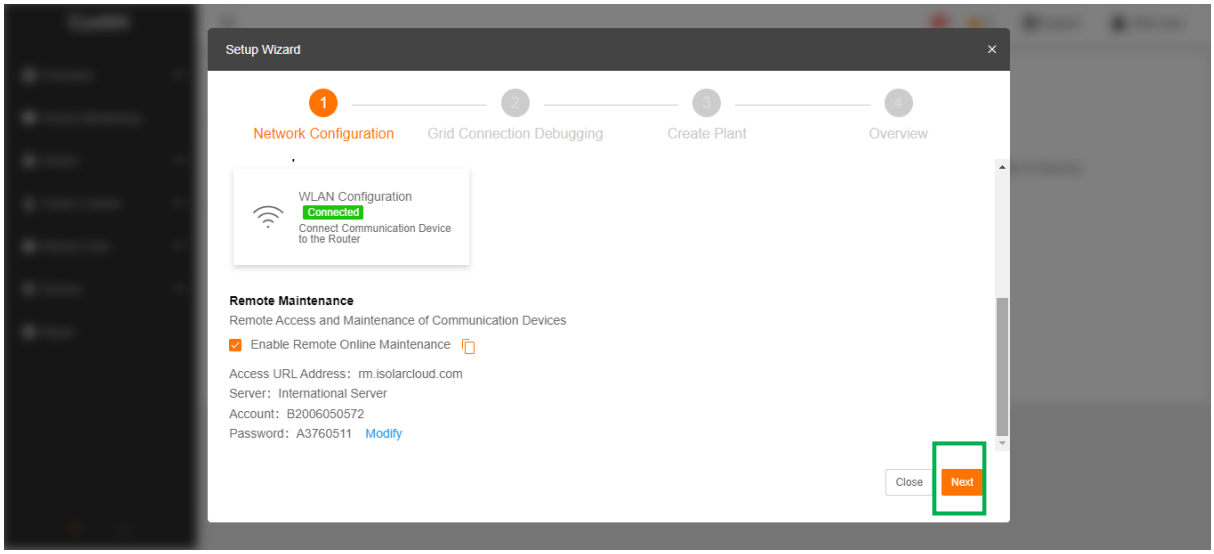

Select the customer’s WiFi network and enter the password



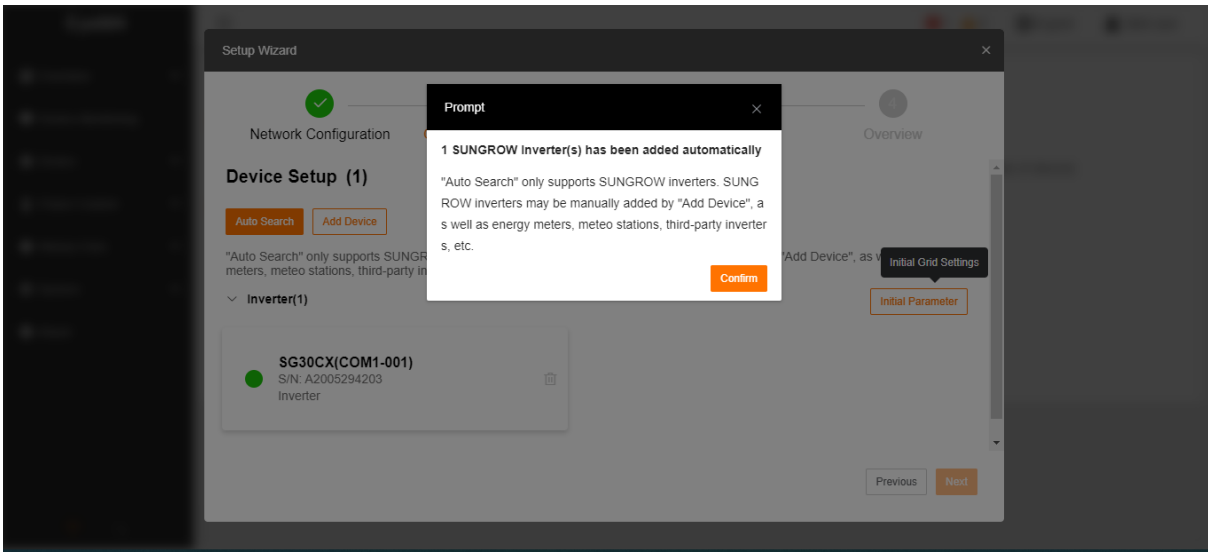

Scroll down and check the ‘Remote Maintenance’ box



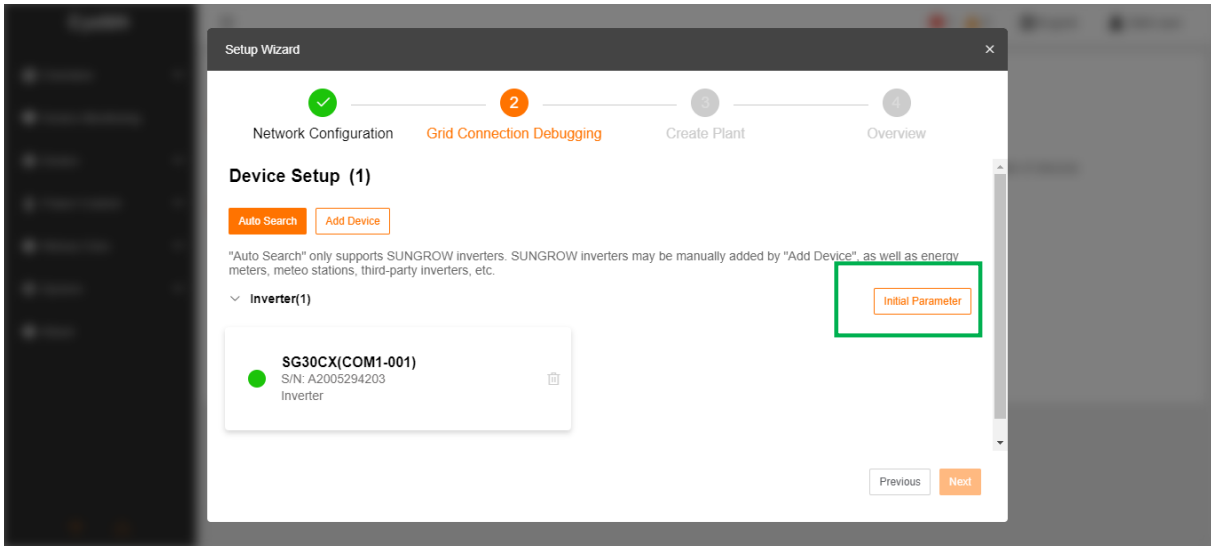

Click ‘NEXT’



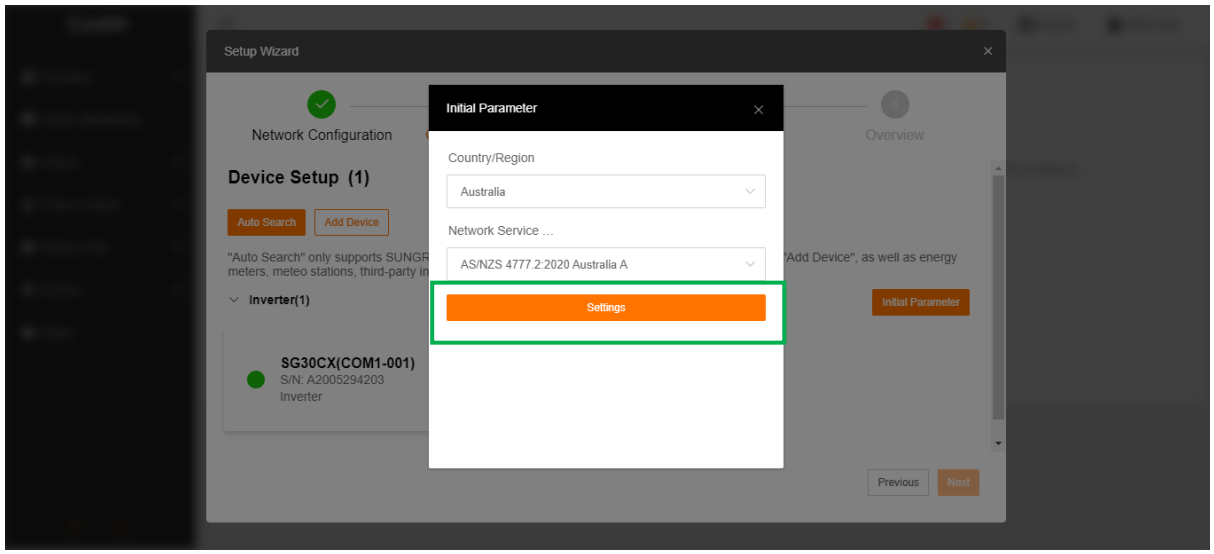

The dongle will automatically scan for connected inverters (RS485). Confirm

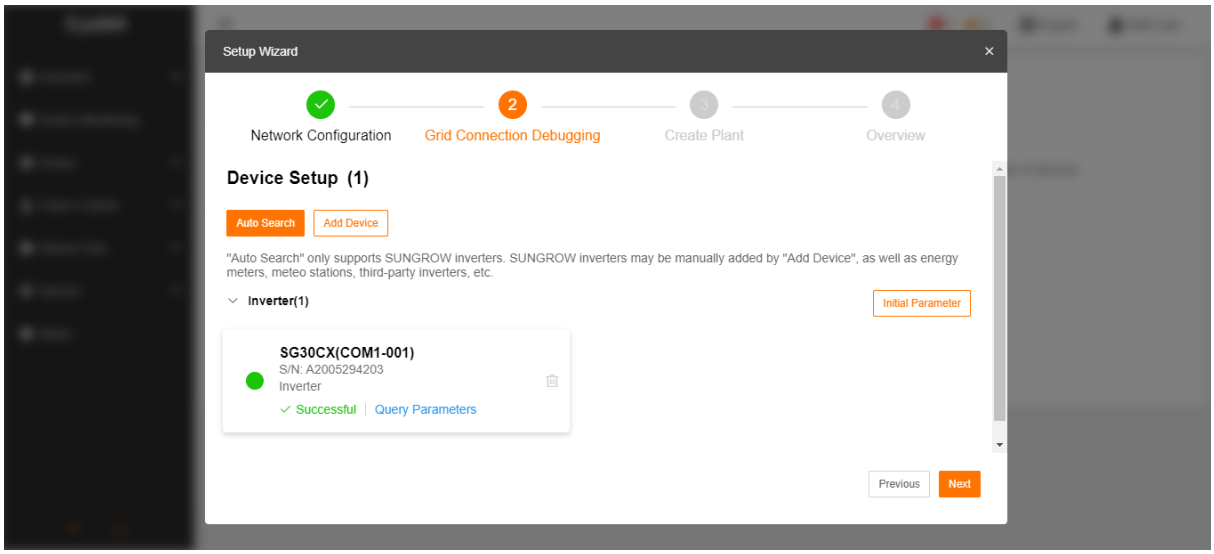



Ensure all inverters are connected and click on the “Initial Parameters” box

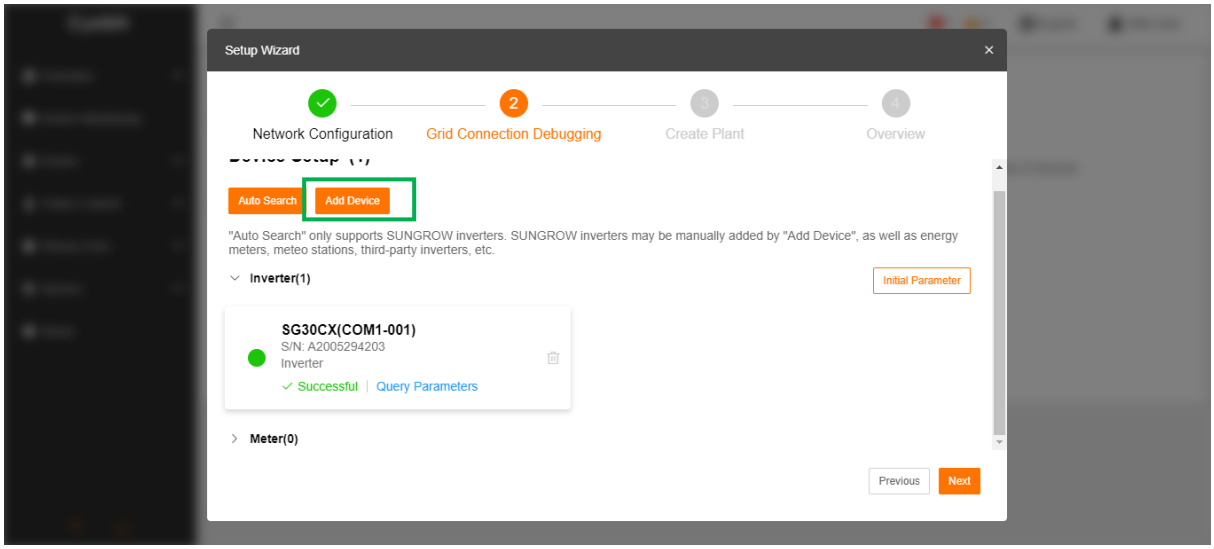



Click “Settings” in the pop-up box and check the result

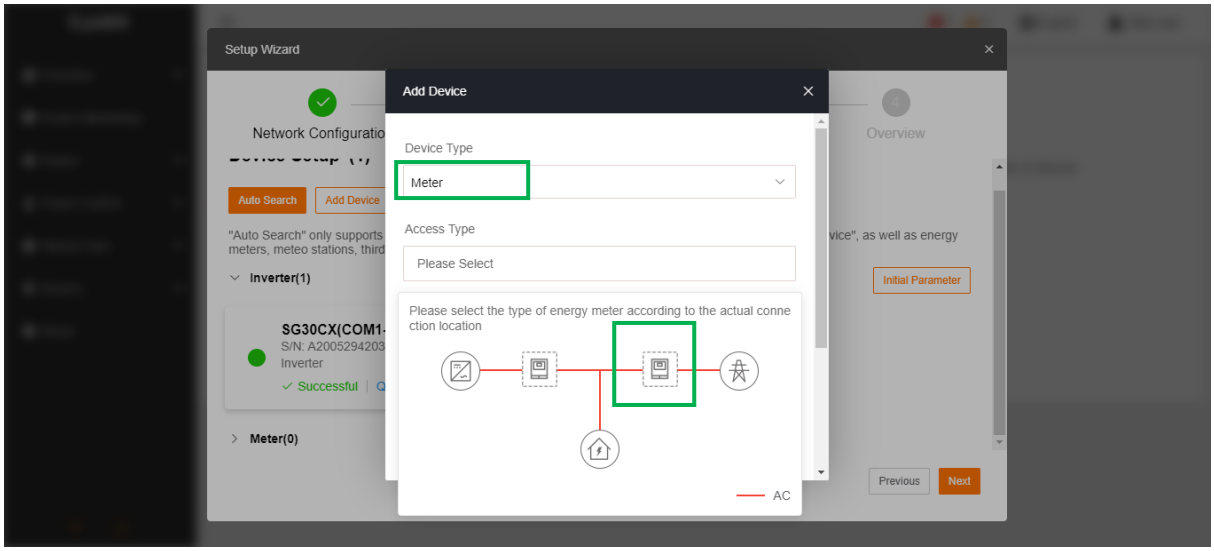


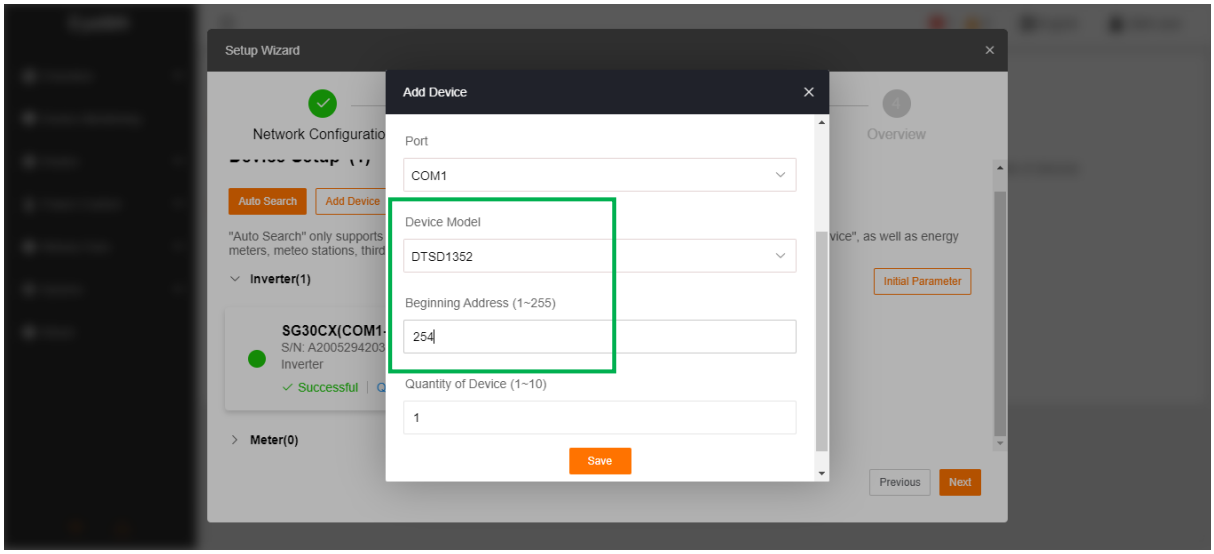



If there is a meter connected, click the “Add Device” box

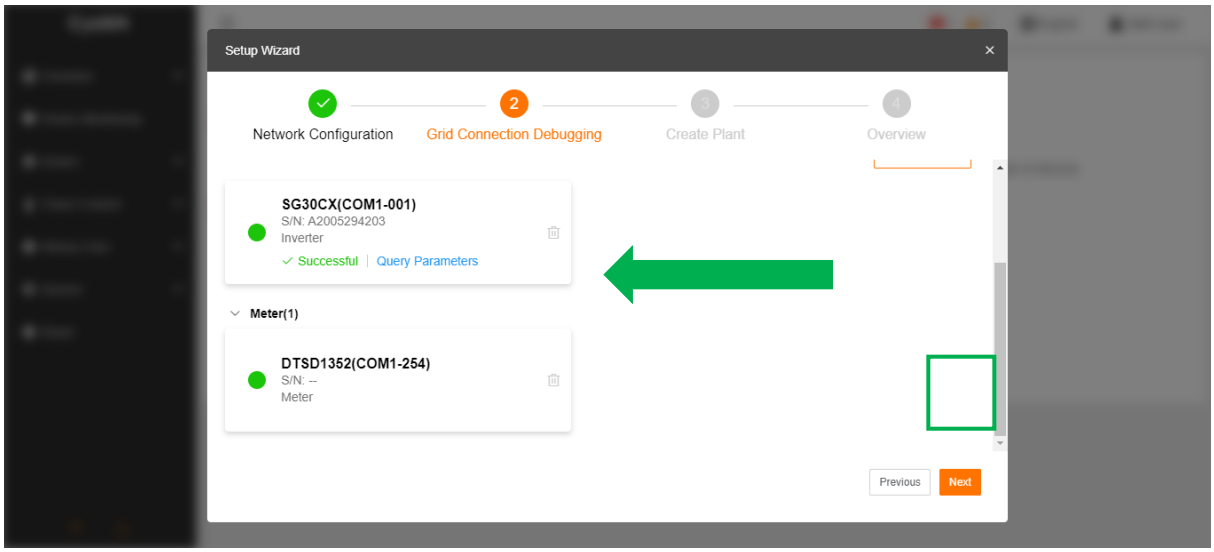



Select as appropriate for the meter from the drop-down boxes, and check that it has connected (RS485). Then click ‘Next’

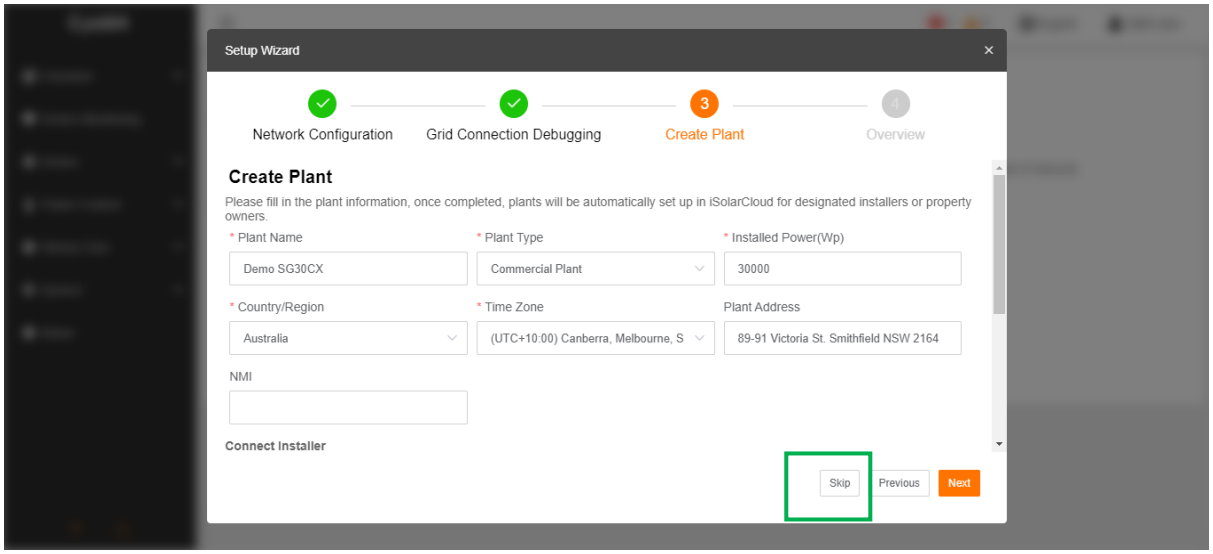




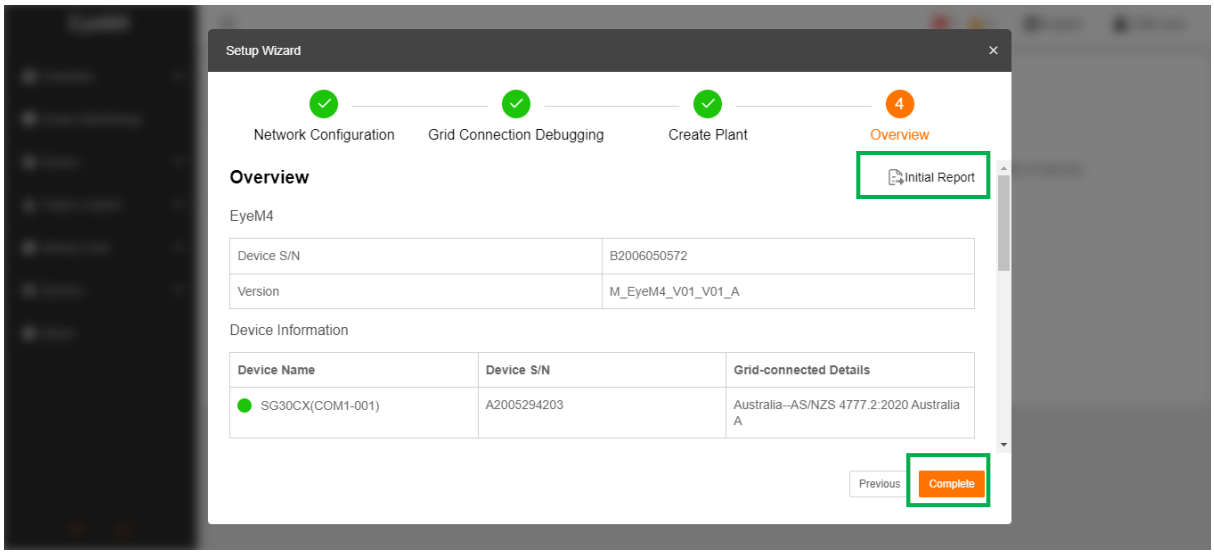

*Refer Appendix 2 if the meter does not appear

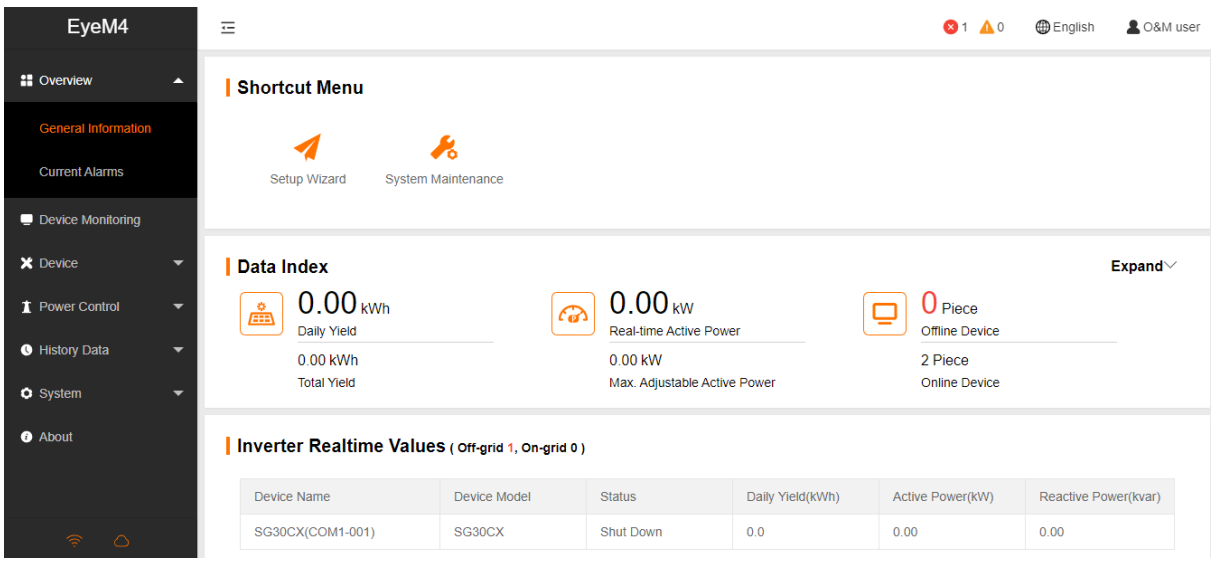



The plant has already been created on iSolarCloud. Select “SKIP”



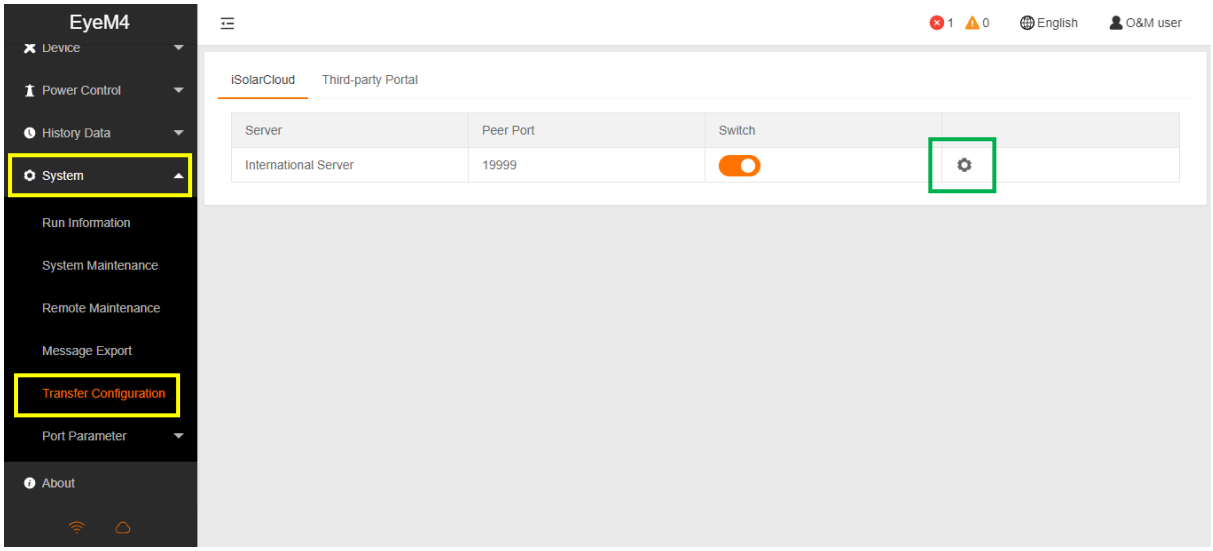

The overview can be downloaded. Then click “Complete”



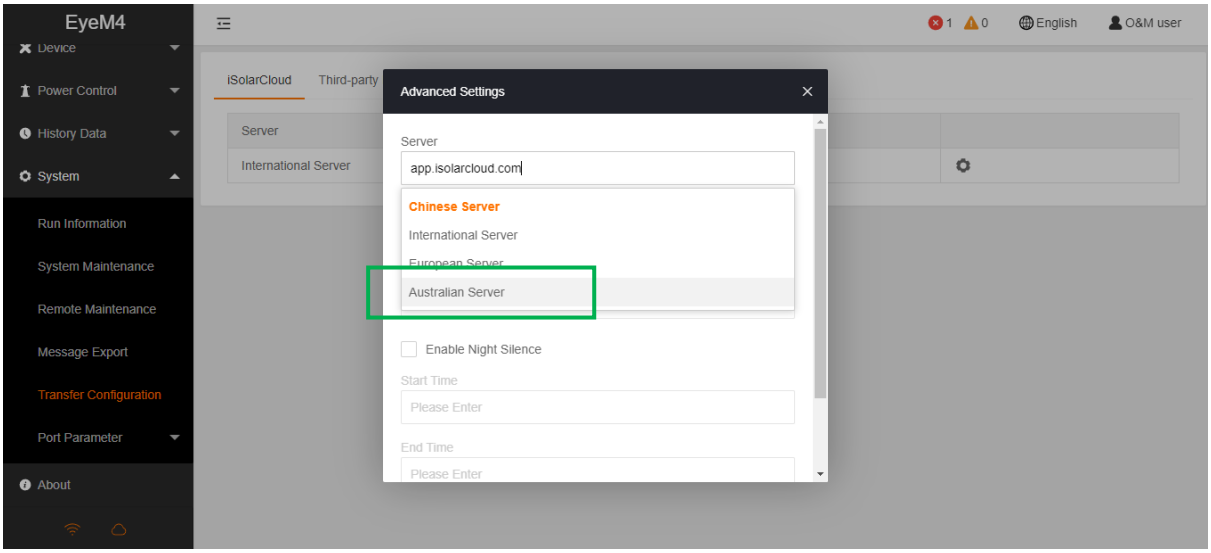



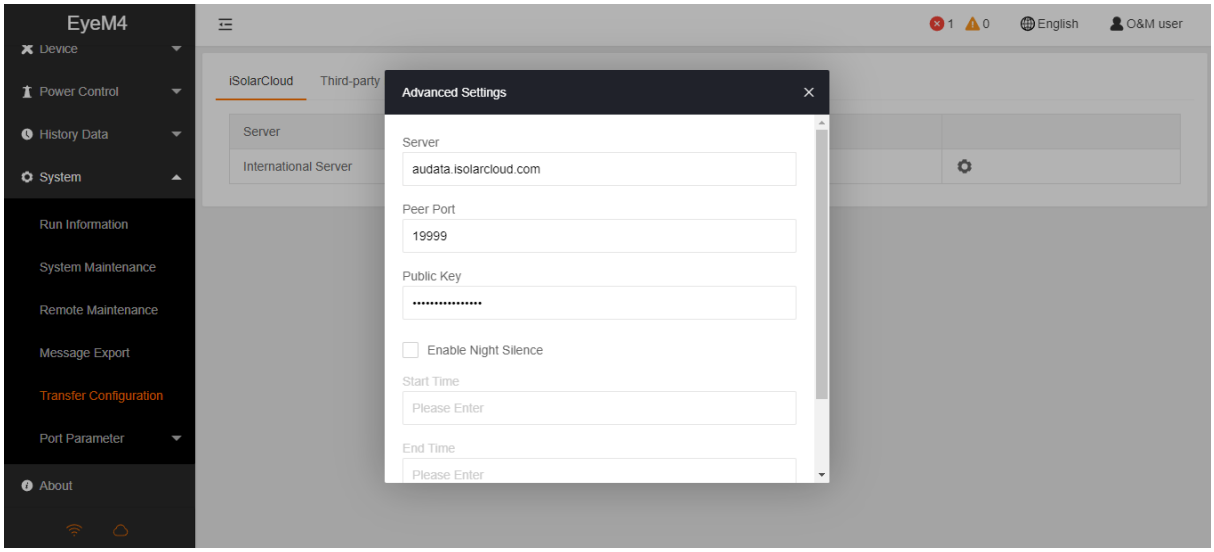
There are a couple of more steps.

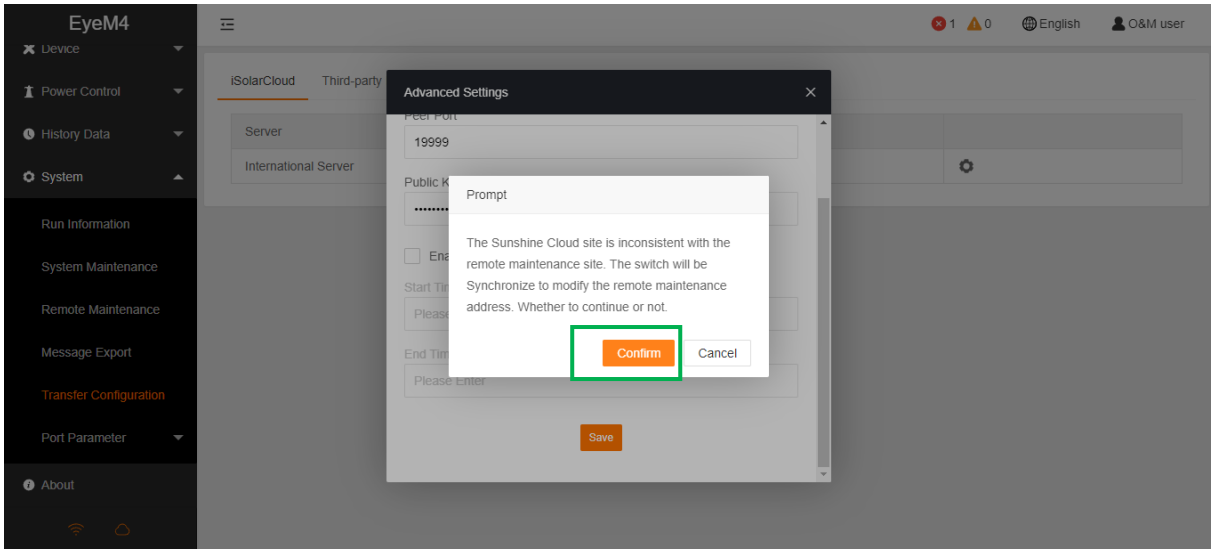
Set the server to “Australia” by selecting ***System/Transfer Configuration***, and then the settings gearwheel

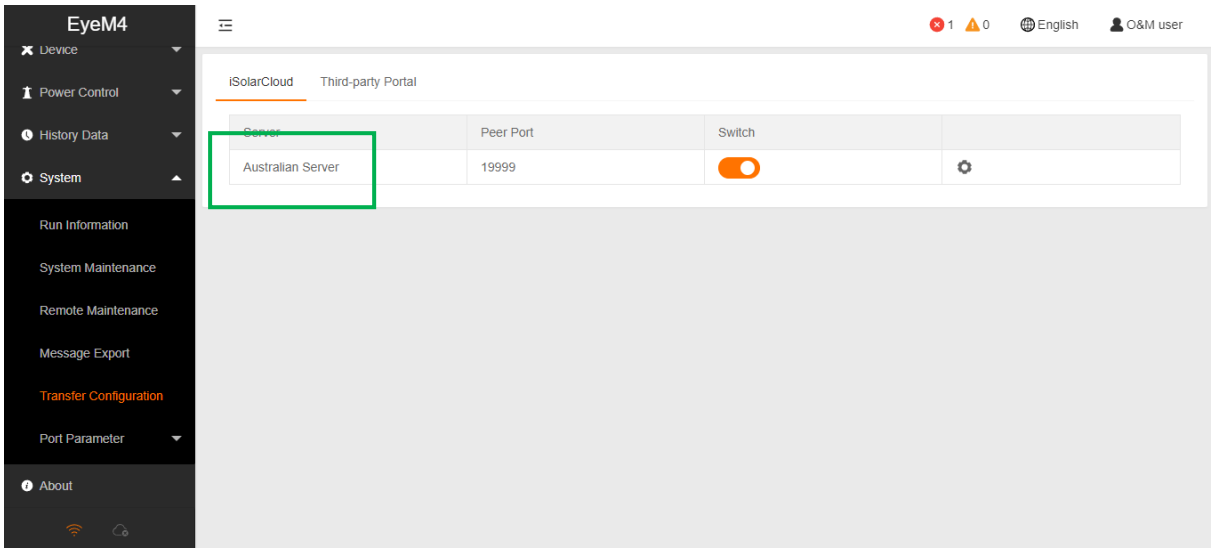



From the drop-down box, select “Australian Server and confirm

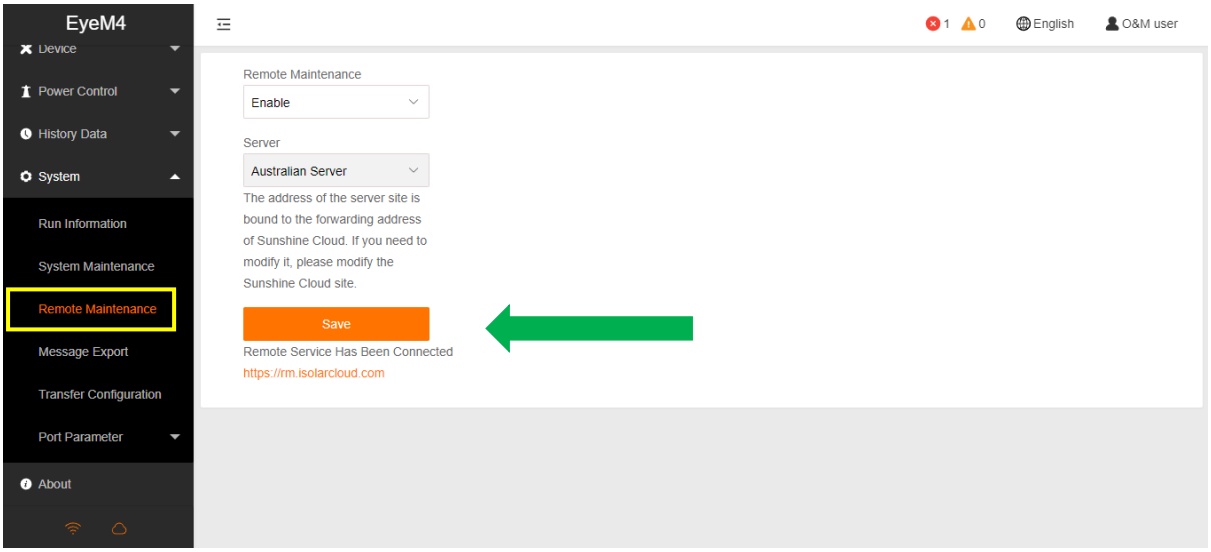




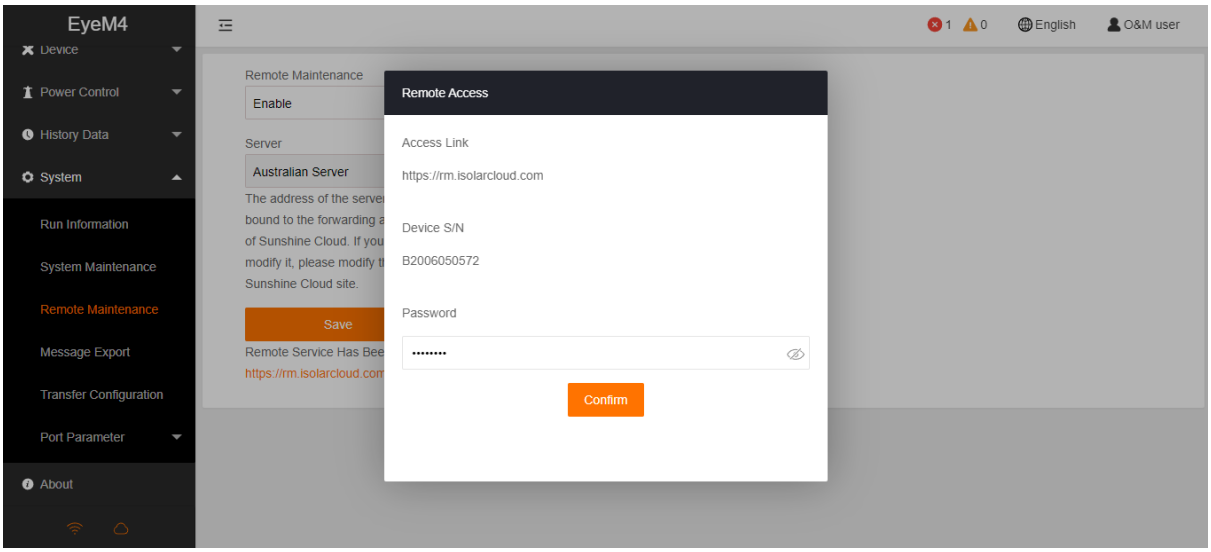



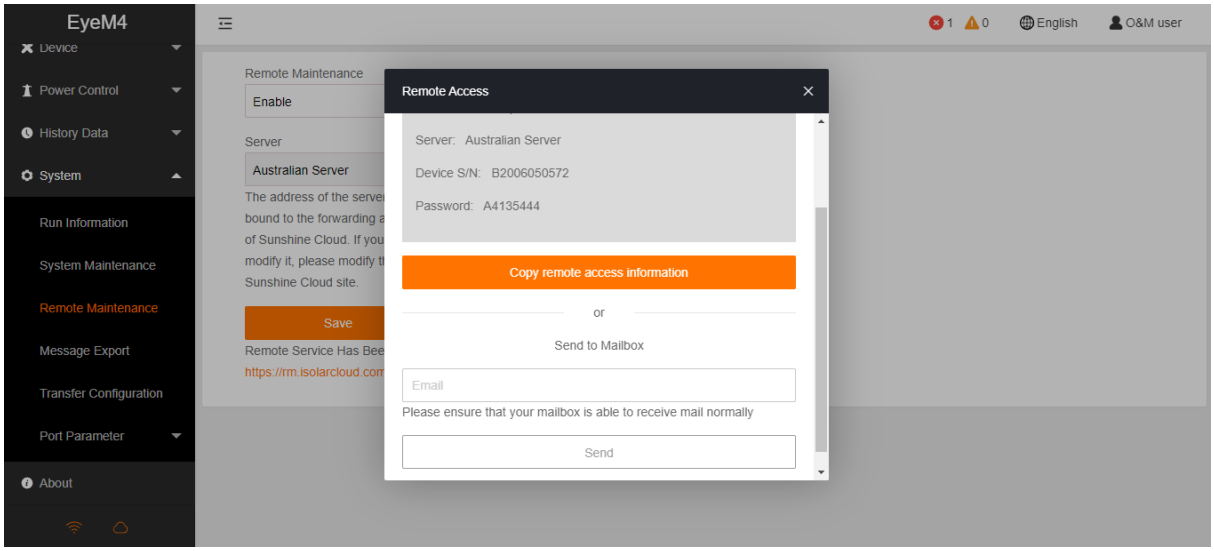




Go to “Remote Maintenance, confirm and save




Confirm and then copy password info

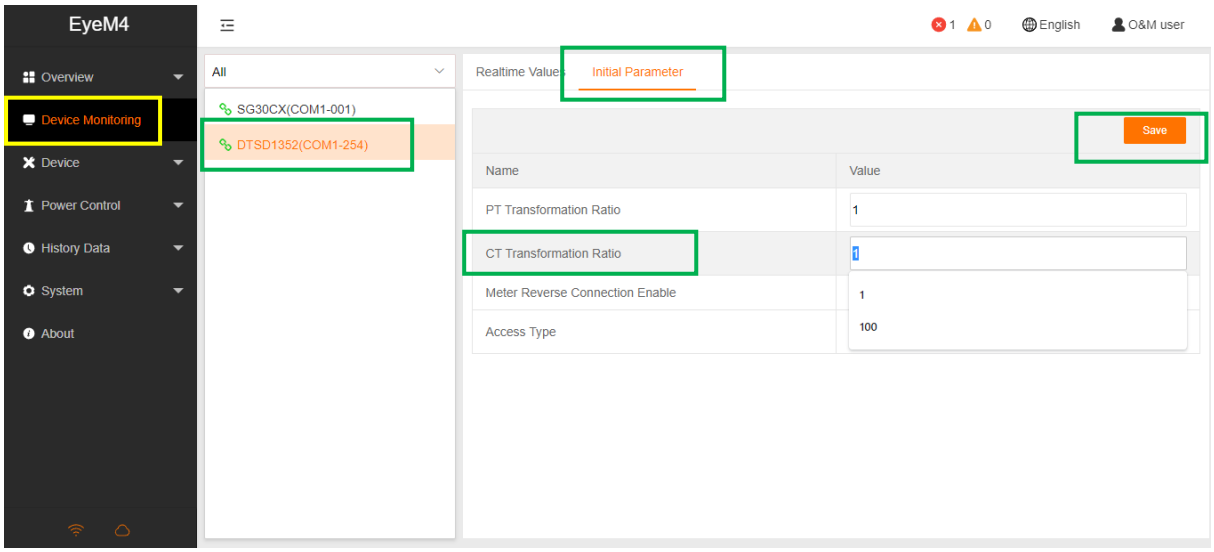


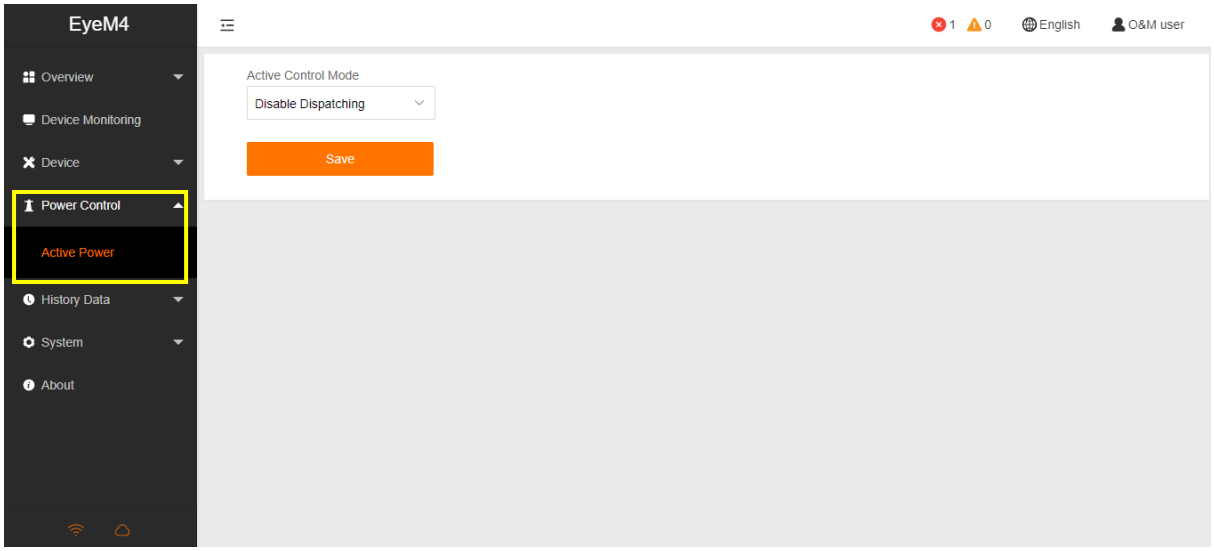
# 6 Setting the CT ratio and export control

Go to “Device Monitoring”, then select the meter, and open the ‘Initial parameter’ tab and enter the correct CT ration i.e. 100/5 = 20

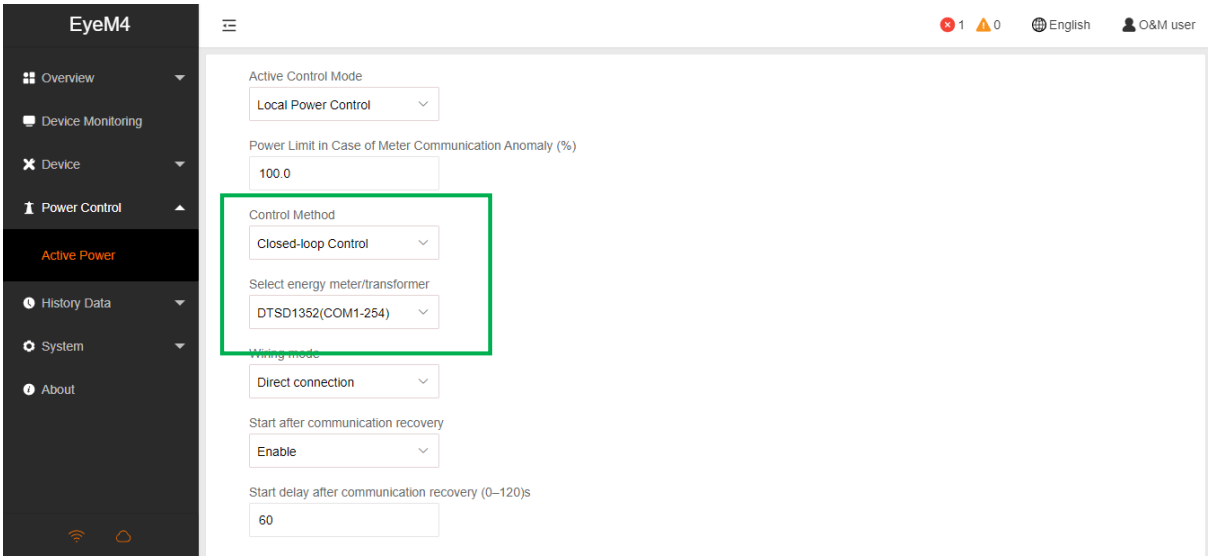
Save



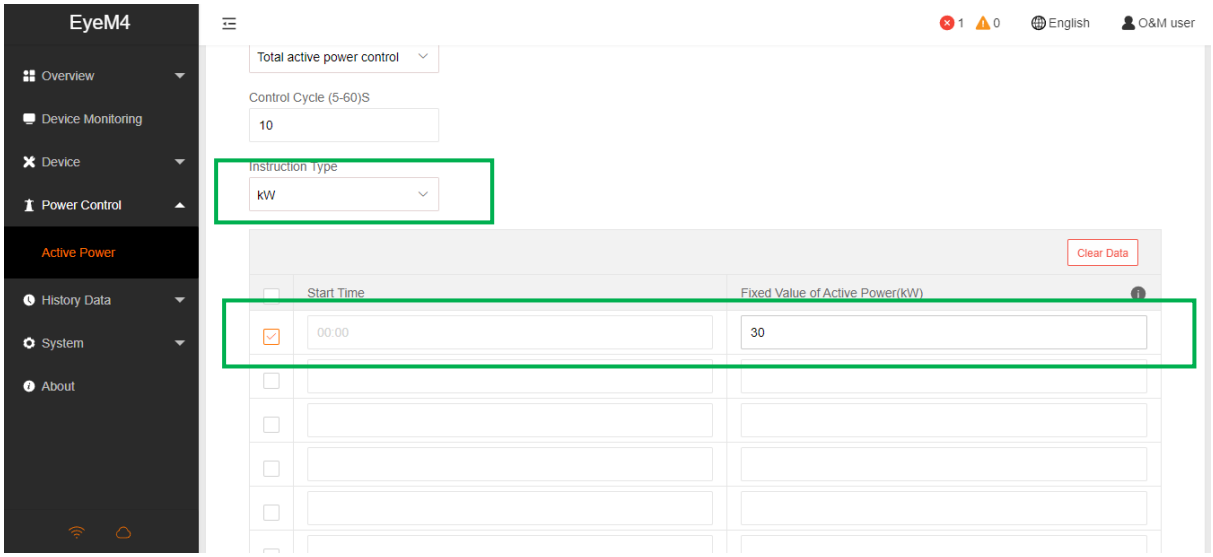

To set the export control. Select **“Power Control/Active Power”** and select “Local Power Control” from the drop-down box



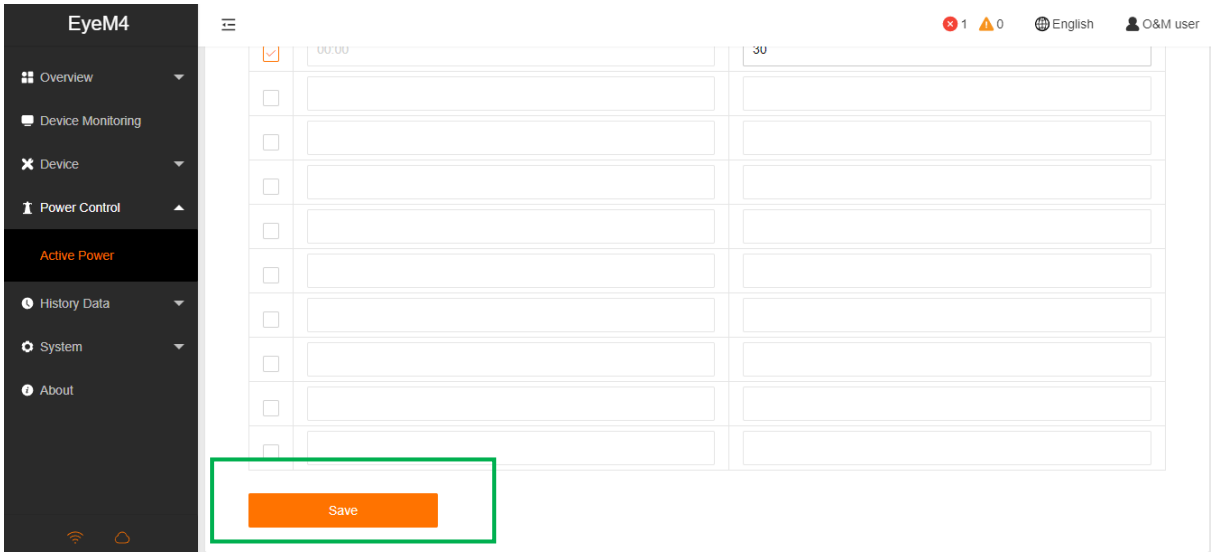

Select “Closed-Loop Control and the meter type




Scroll down and select “kW” from the ‘Instruction Type’ and enter the export value.

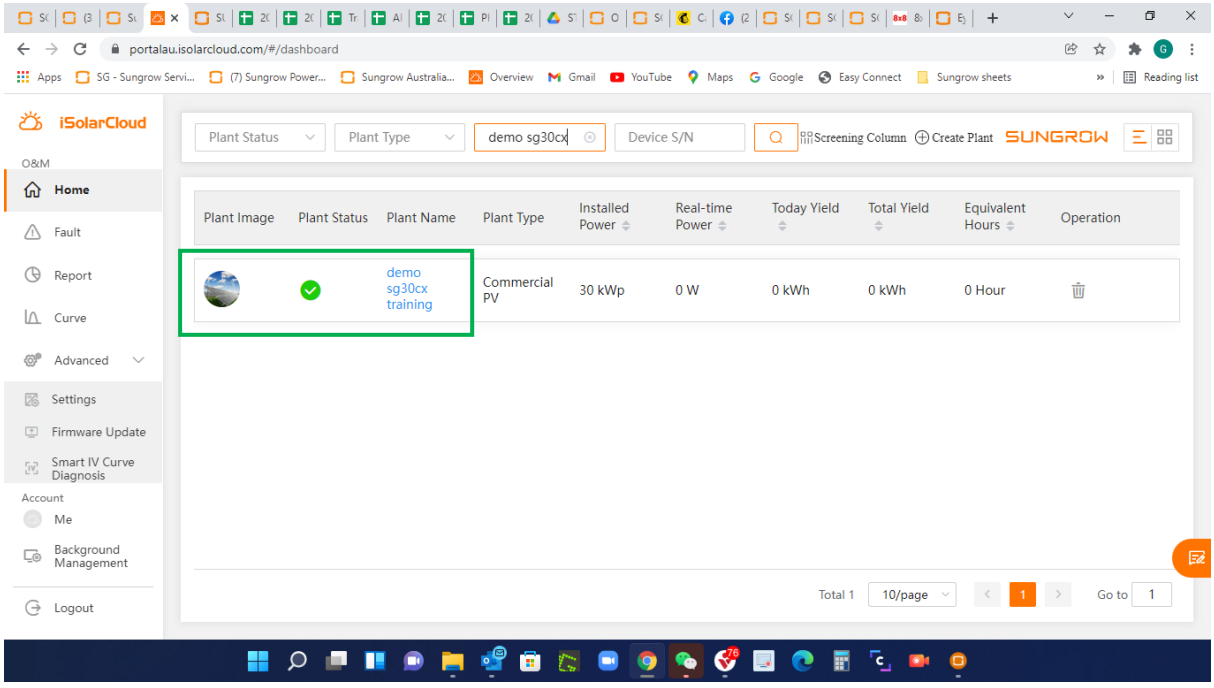



Scroll down and SAVE

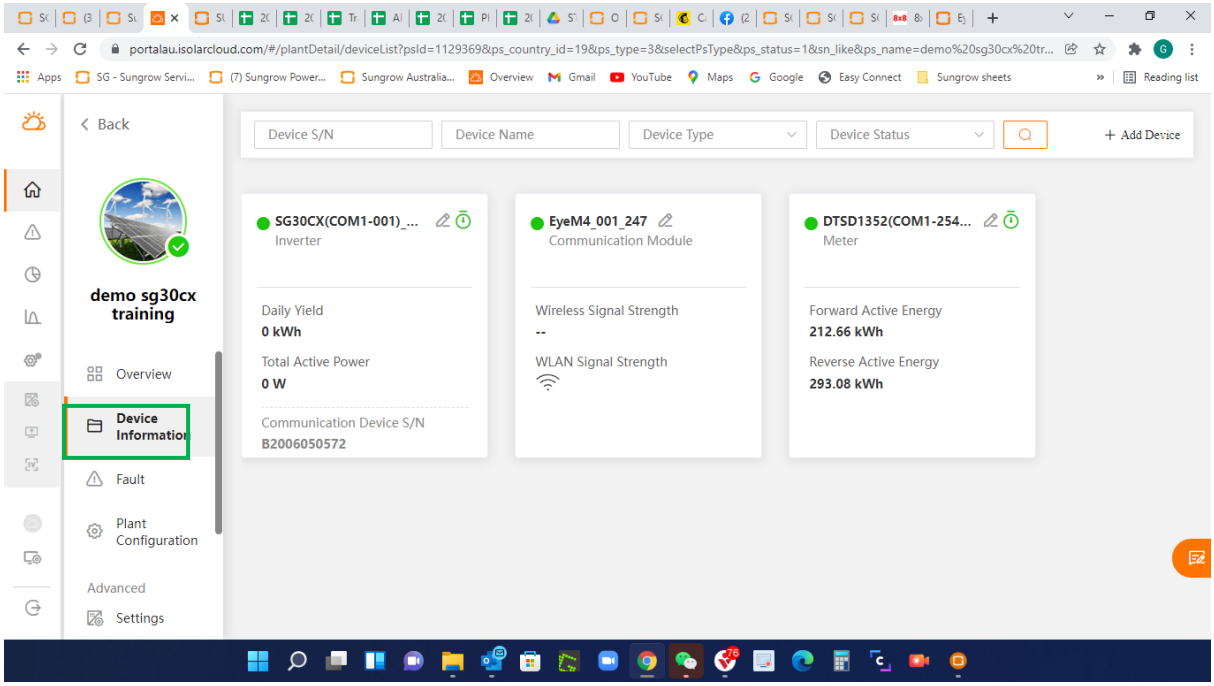



## 7 Check the plant on iSolarCloud:

The basic commissioning is now complete. Log into your iSolarCloud account and check to see if the plant is online

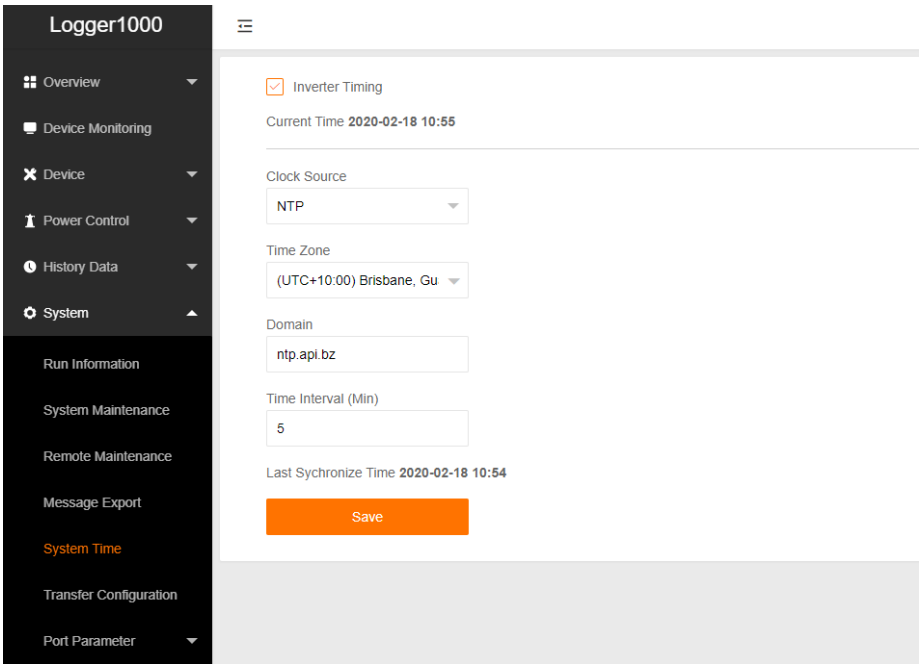


Open the plant, and select “Device Information” and check that you can see all inverters/meters




## Appendix 1 Set local time (Logger1000 only):

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

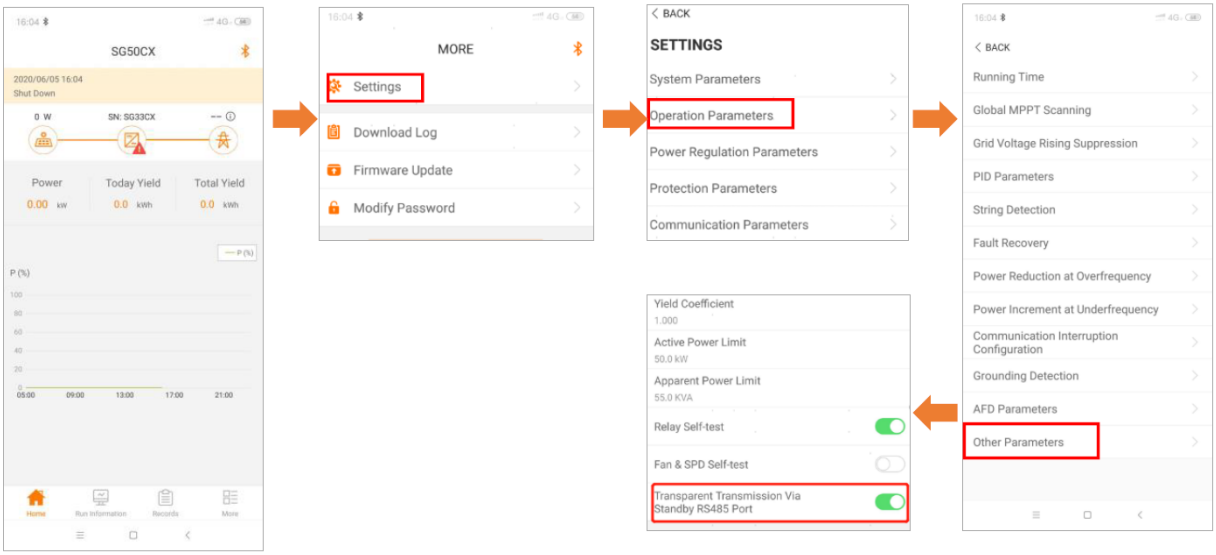


## Appendix 2 Enable the meter RS485

The older firmware versions required the meter connection (A2/B2) in the inverter to be enabled. Please use the following process if the meter doesn't appear in the interface.

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.




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