

SG30/50/110CX Inverters Commission Complete Guide (with Logger1000 and EyeM4)

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.

Version	Revision History	Created by	Date
1.0	Draft version	AU Service Team	24 th Dec 2020
1.1	Issued for Approval	AU Service Team	19 th Feb 2021
1.2	Issued for Approval	AU Service Team	28 th Jul 2021
2.0	Issued for Approval	AU Service Team	14 th 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.

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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.

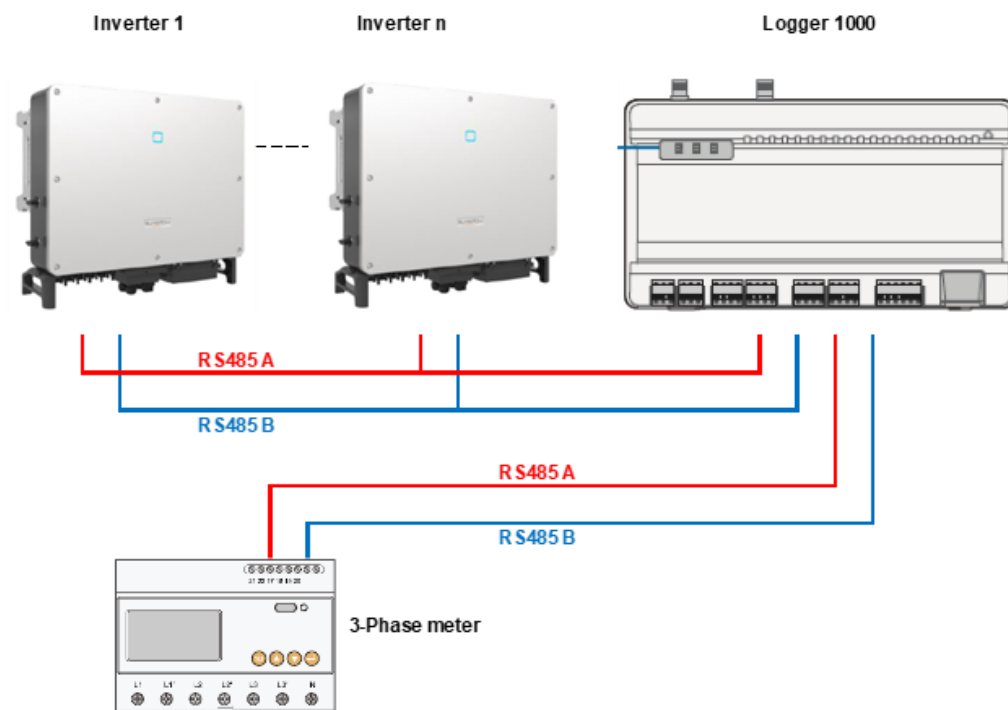
Inverters communicate on the A1/B1 (Com1) channel, and meters on the A2/B2 (Com2) channel.

Please use the following checklist for quick commissioning:

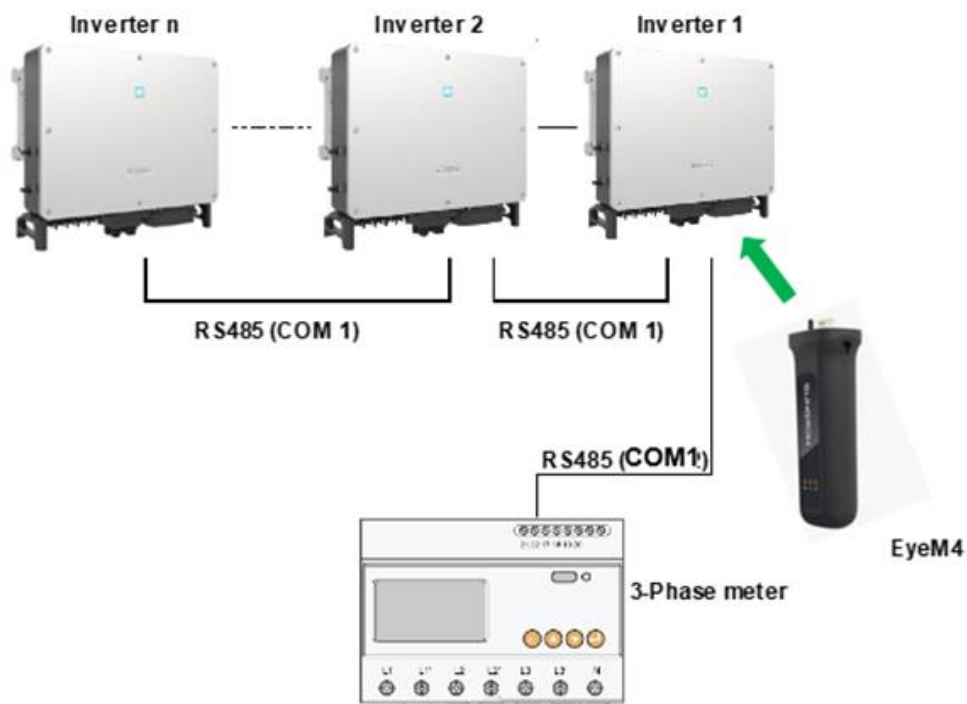
Procedures		Yes/No
RS485 connection	RS485 communication cables installed correctly between inverters/ inverters to Logger1000/ meter to the logger1000 or the inverter has EyeM4 by terminal blocks?	
	RS485 communication cables installed correctly between energy meter DTSD1352-C/1(6)A to Logger1000/ to 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



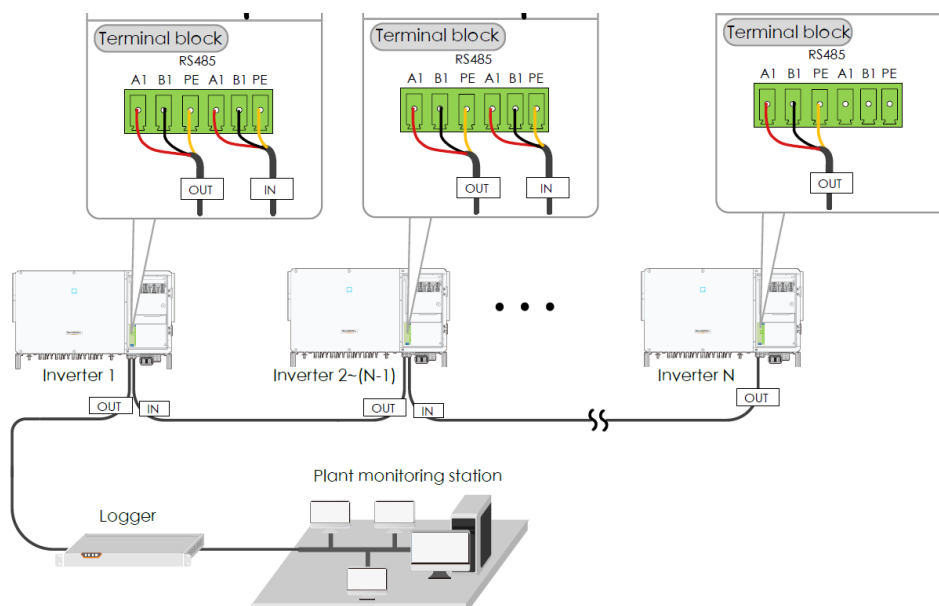
Daisy-Chain using Logger1000



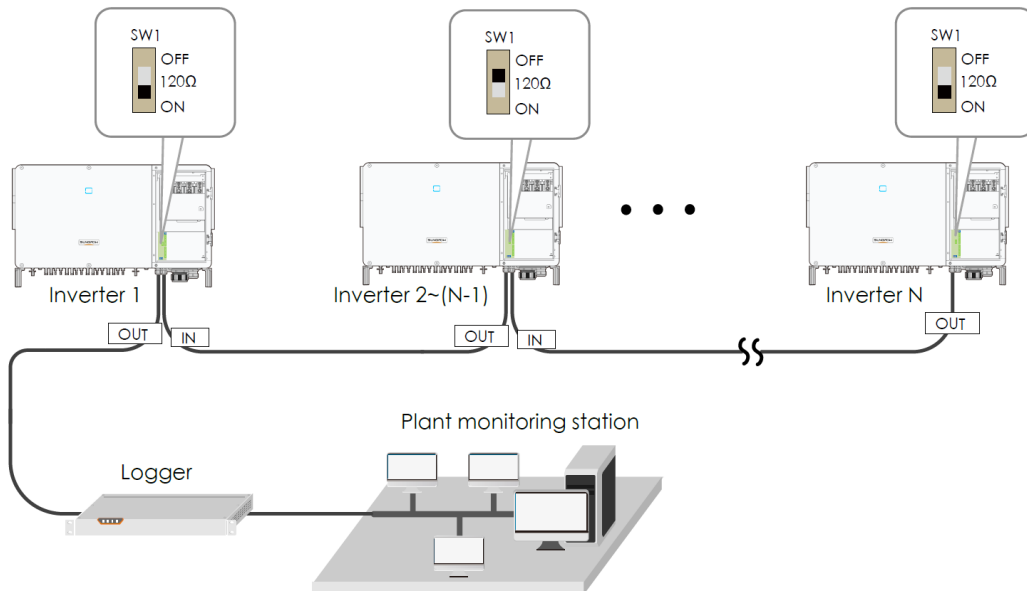
Daisy-Chain using EyeM4 Dongle

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.



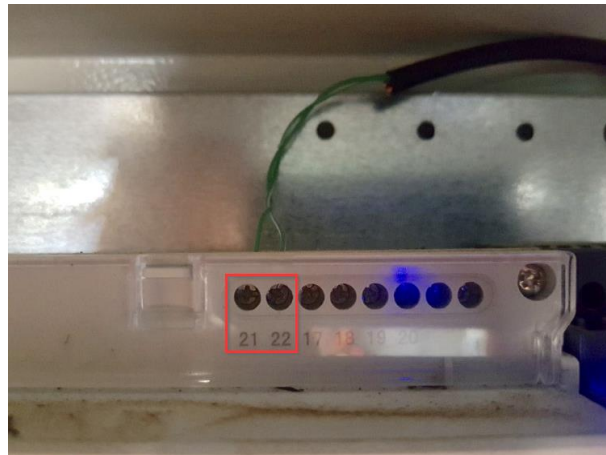
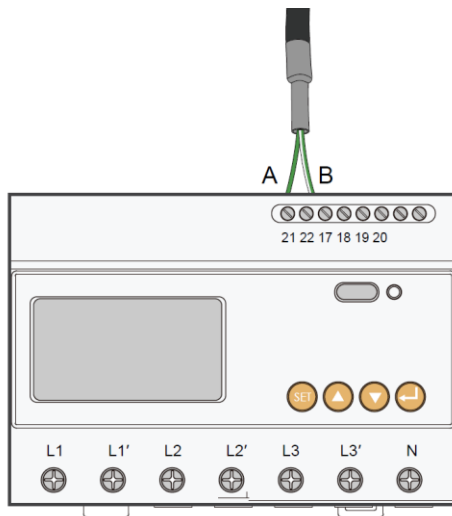
2.2 Energy Meter Connection

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:

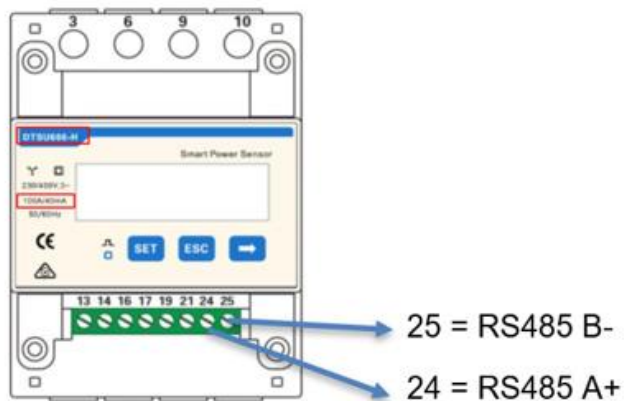
- Terminal 21 = RS485+ A
- Terminal 22 = RS485- B
- Connects to A2/B2 on Logger/inverter



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.

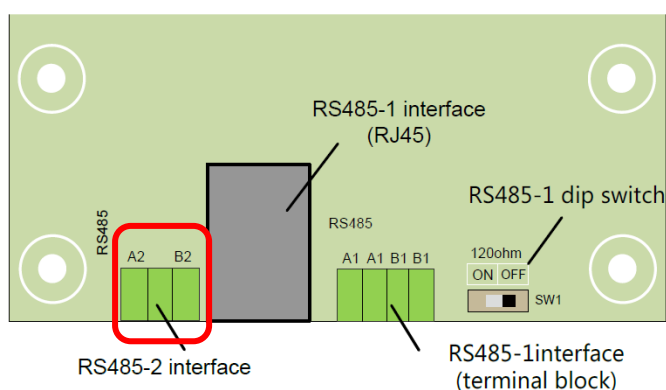


On the logger1000 side, A1 and B1 are terminals to connect with the inverter which display as **COM1** on the Logger1000 web portal; A2 and B2 are the terminals to connect with the energy meter, they are shown as **COM2** on the portal.

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).



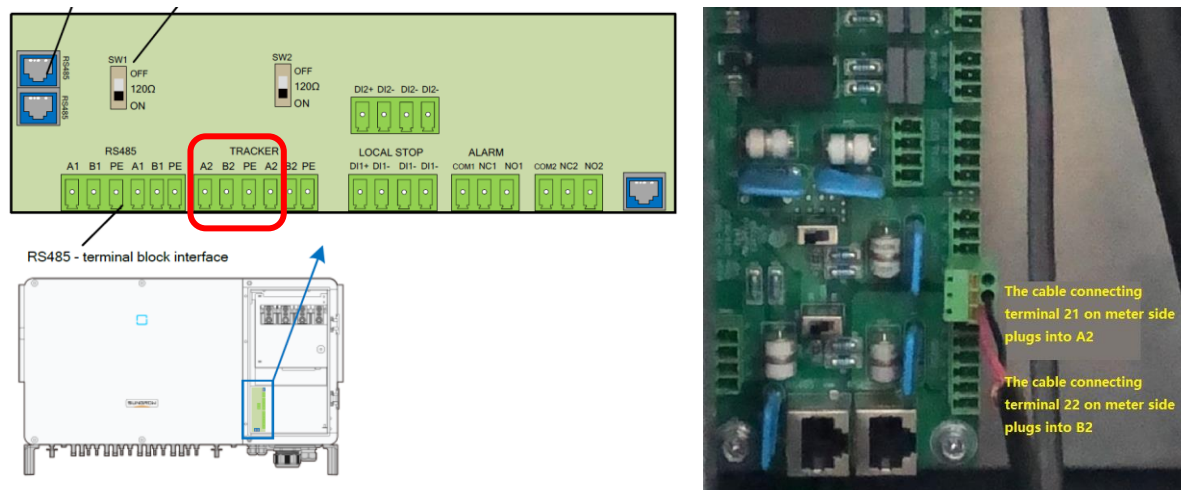
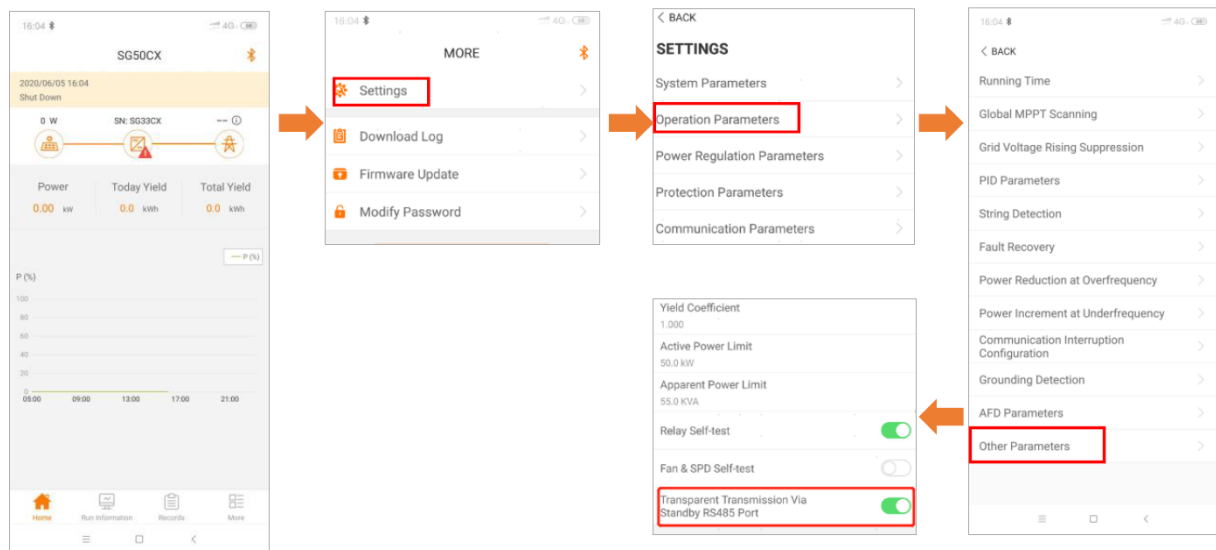


Figure 1.4.1 RS485 connections in the inverter (SG30/50CX and SG110CX)

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.



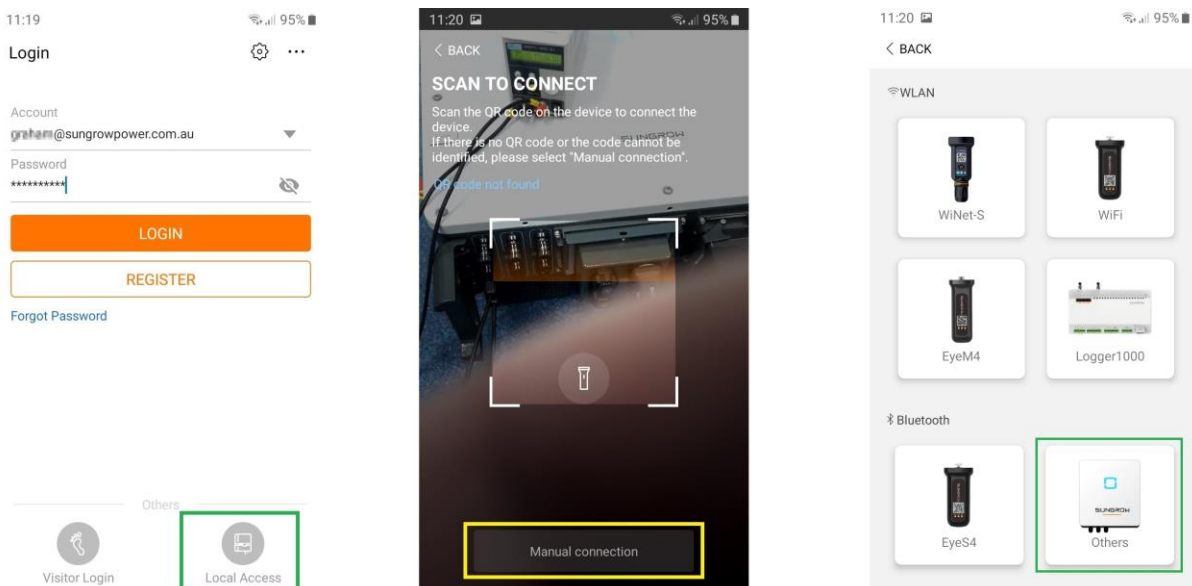
3 Initialise the inverter(s):

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'

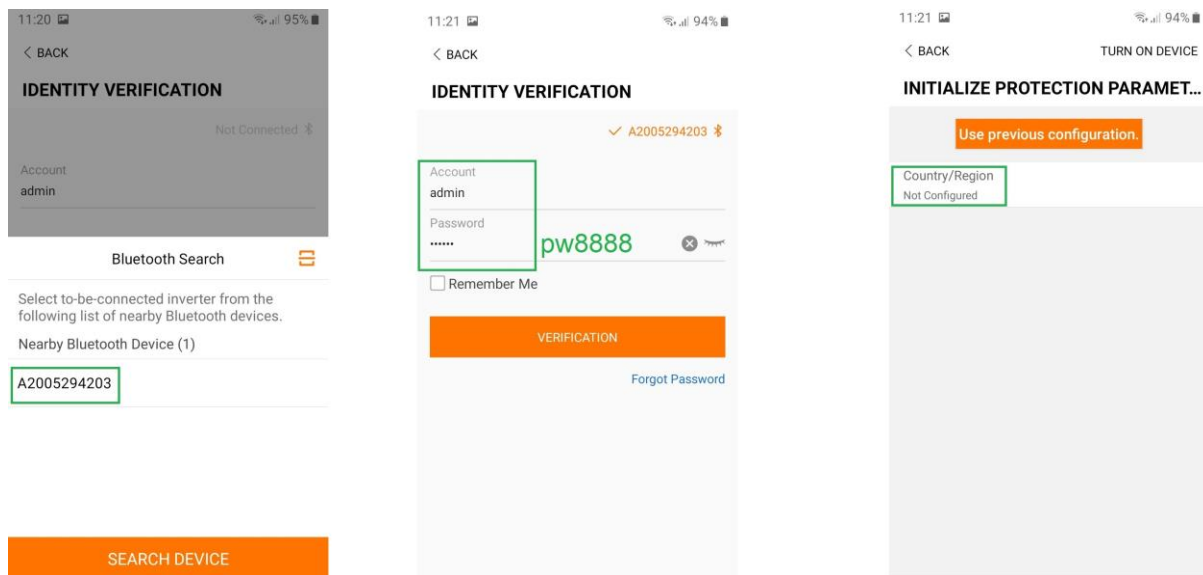


The App will scan for nearby inverters

When you see the serial number, tap it

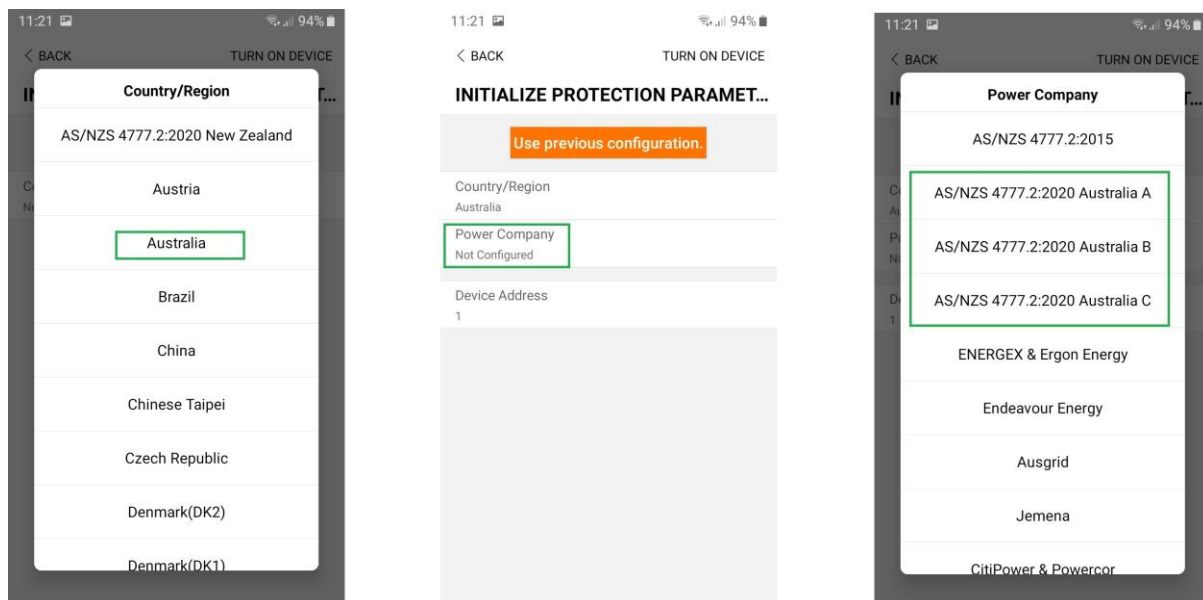
Log in as “admin” and password is pw8888

Tap ‘Country/Region’

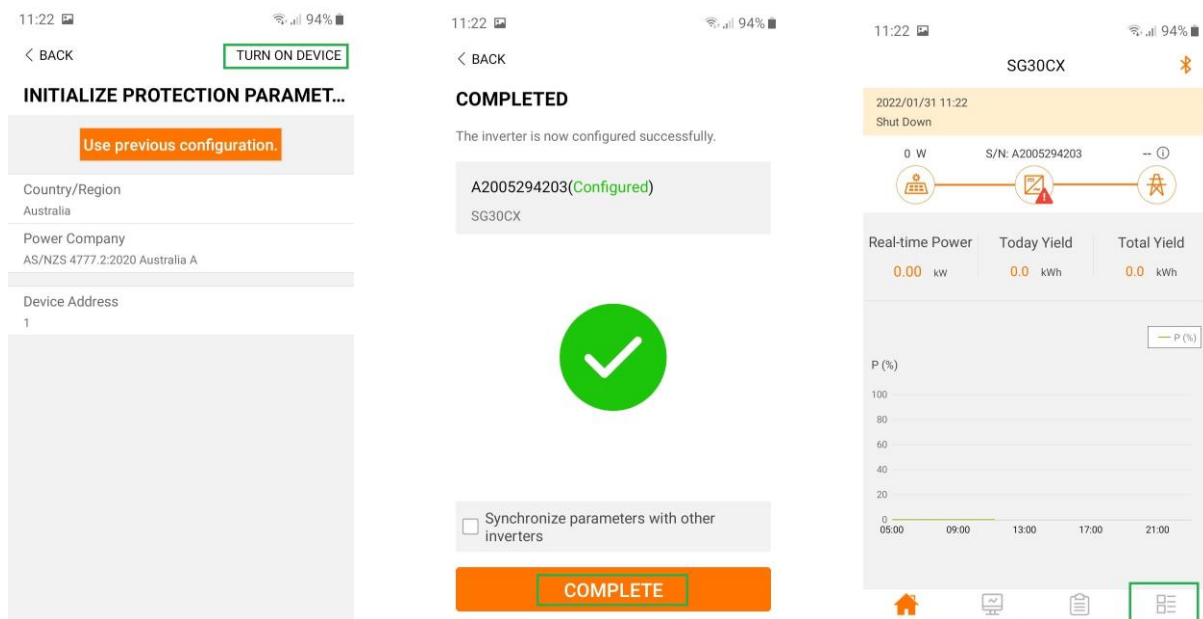


Select Australia (or New Zealand)

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

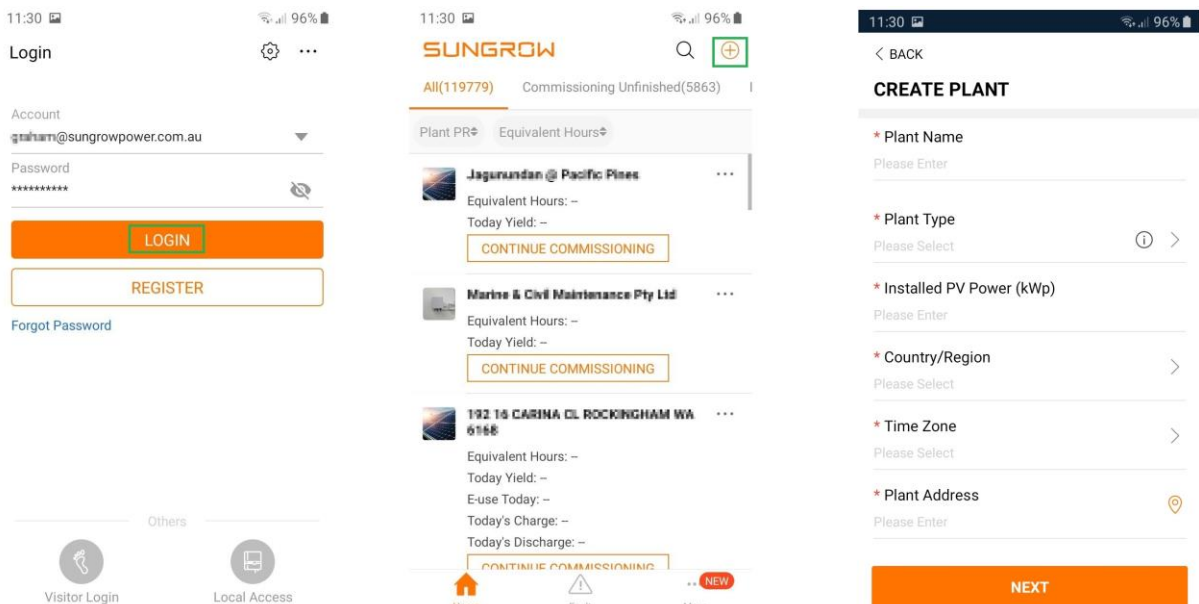


4 Create a plant on iSolarCloud:

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

11:32 95%

< BACK

Owner's Email Address
test@sungrowpower.com.au

Enter new owner email address or existed owner email address in iSolarCloud system. ✓

Postal Code
3164

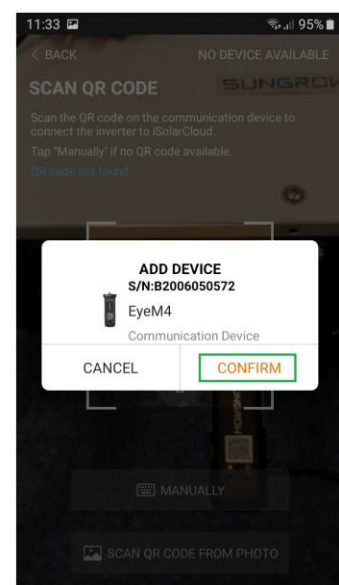
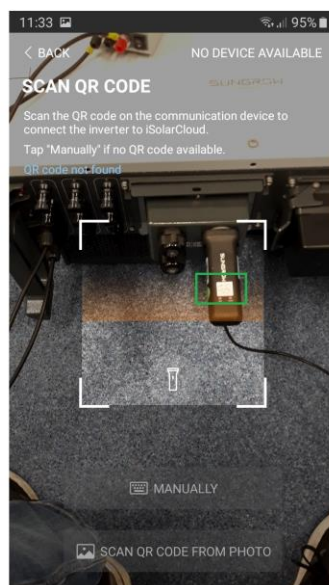
Plant Image
+

Feed-in Tariff(AUD/kWh)
Please Enter

More Configurations

How to duplicate the plant information with one click >

NEXT

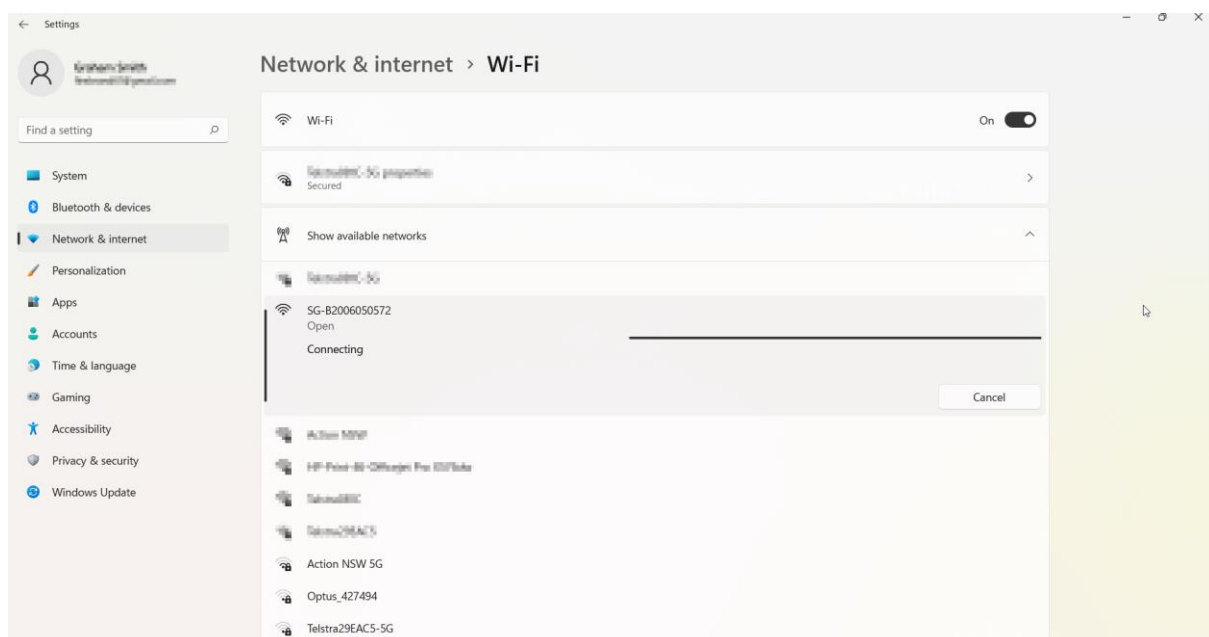


The plant will be created, and you now commission the dongle (for Logger1000 instructions, please refer to the Logger1000 documentation)

5 Commission the EyeM4 Dongle

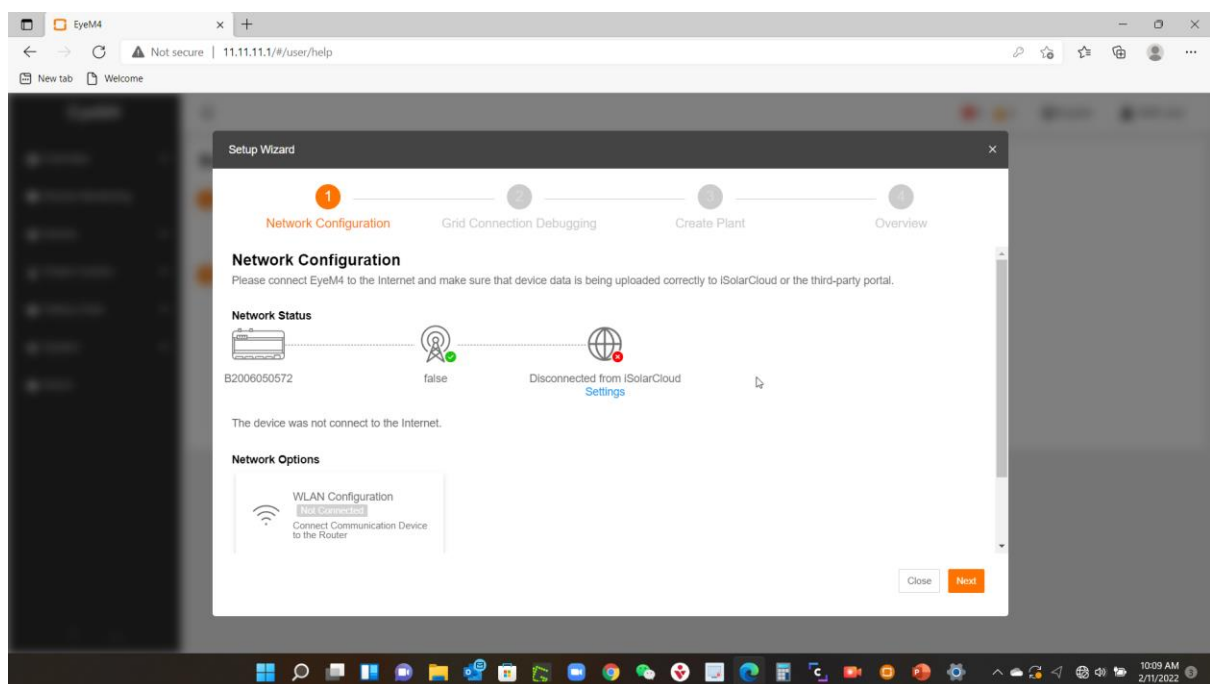
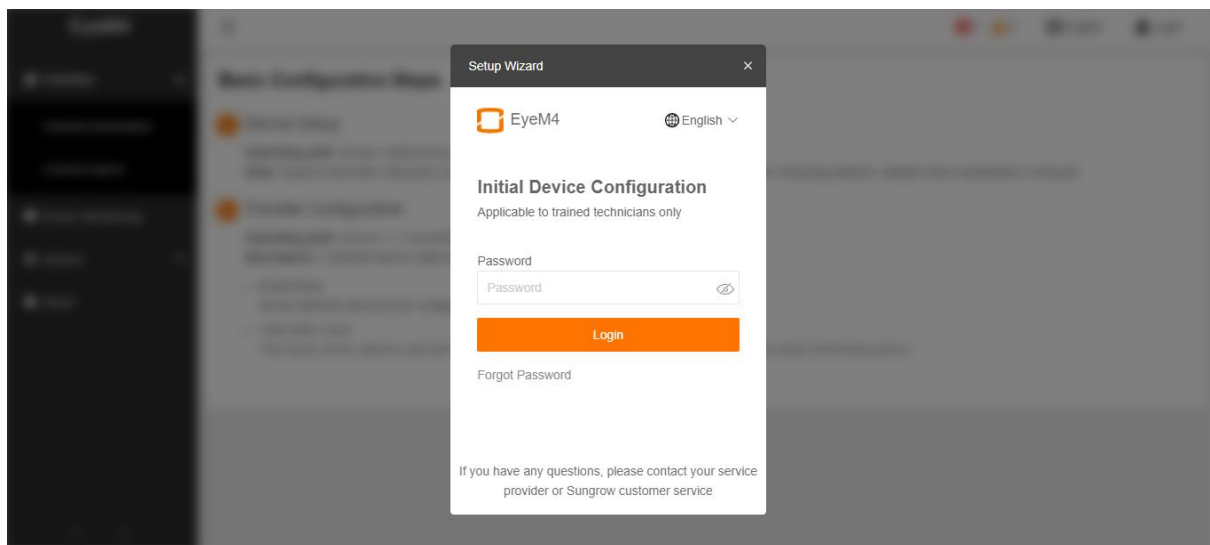
It is best to use a laptop to commission the dongle

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

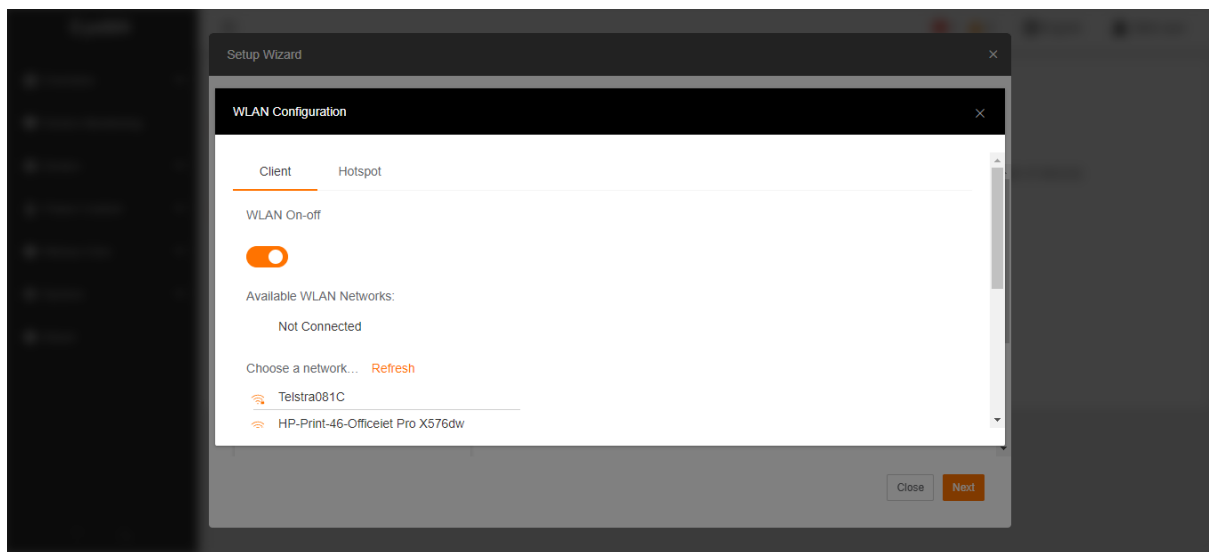
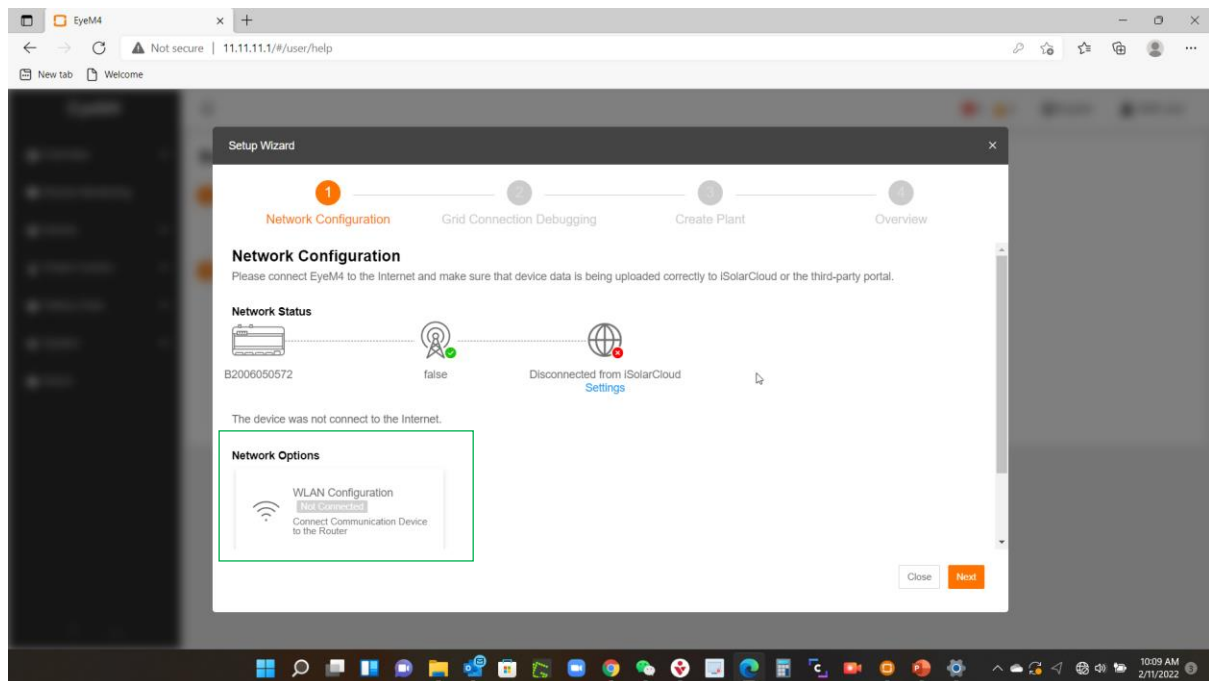




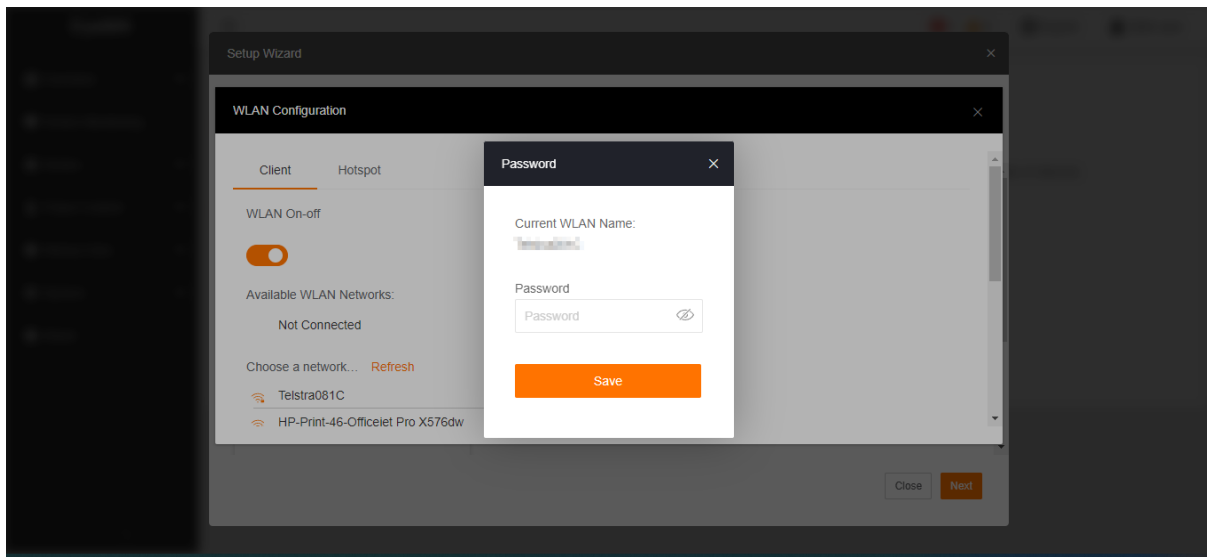
Open any browser and type 11.11.11.1 into the address bar. This will take you to the login screen. The password is pw1111



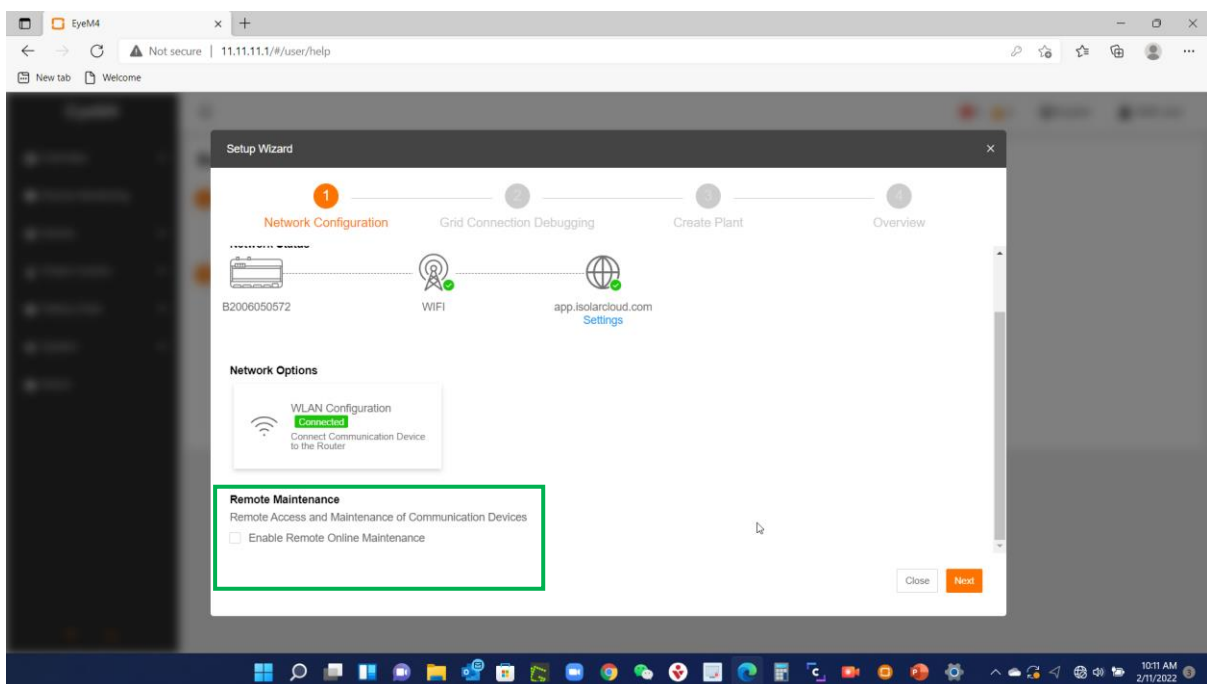
To set the WiFi connection, select “network options, switch on the WiFi, and scan for networks



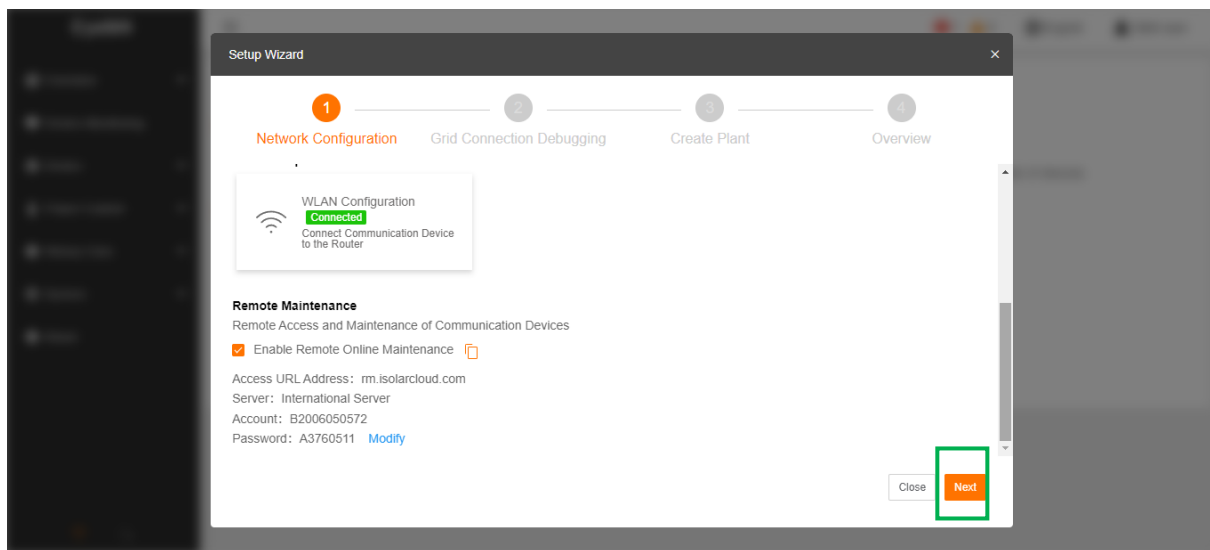
Select the customer's WiFi network and enter the password



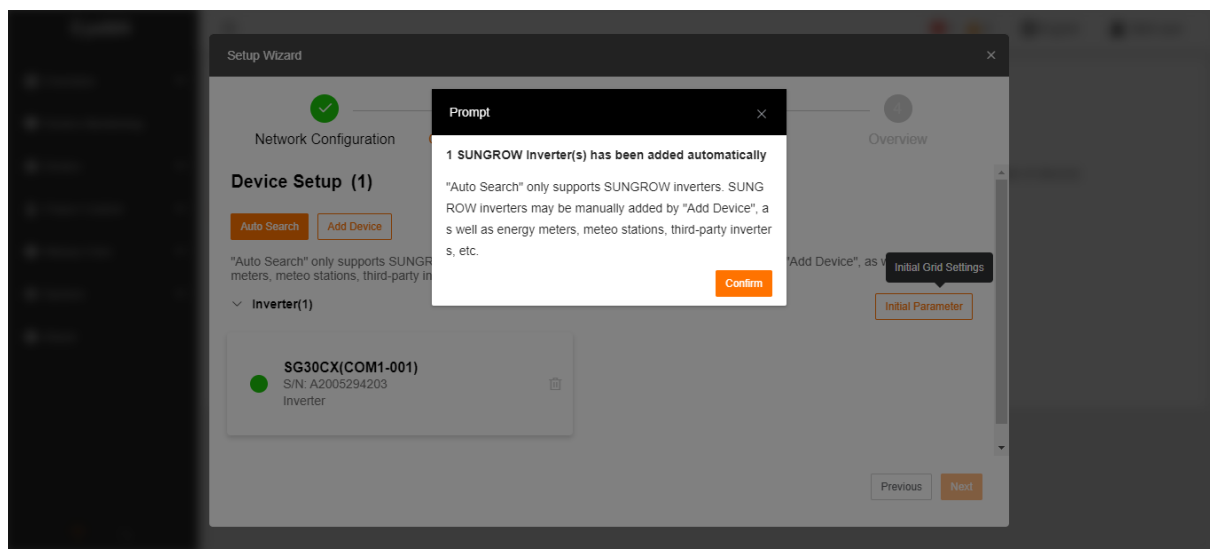
Scroll down and check the 'Remote Maintenance' box



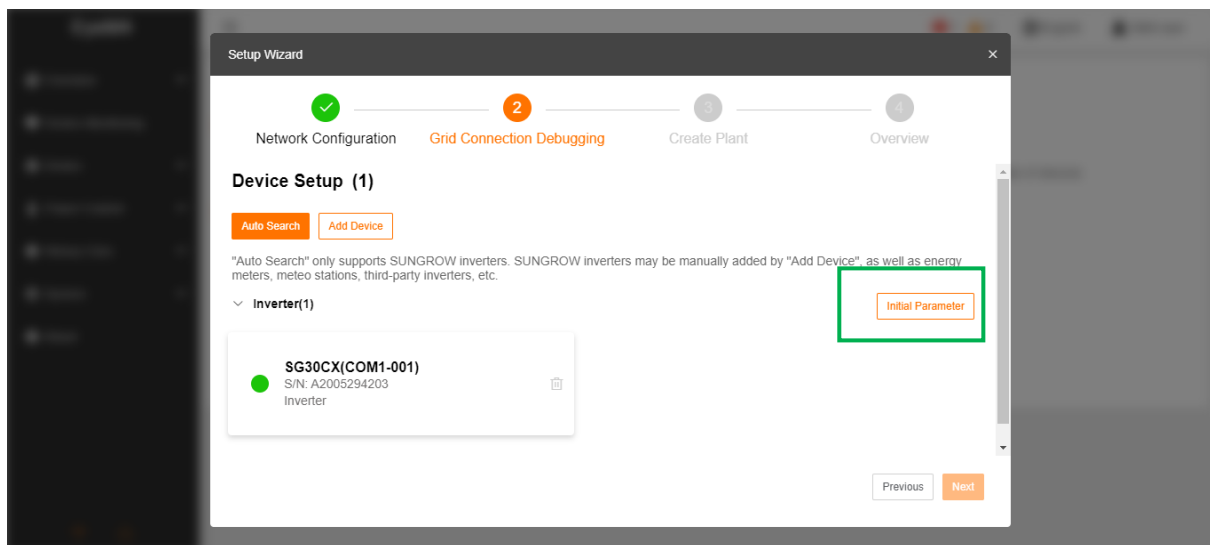
Click 'NEXT'



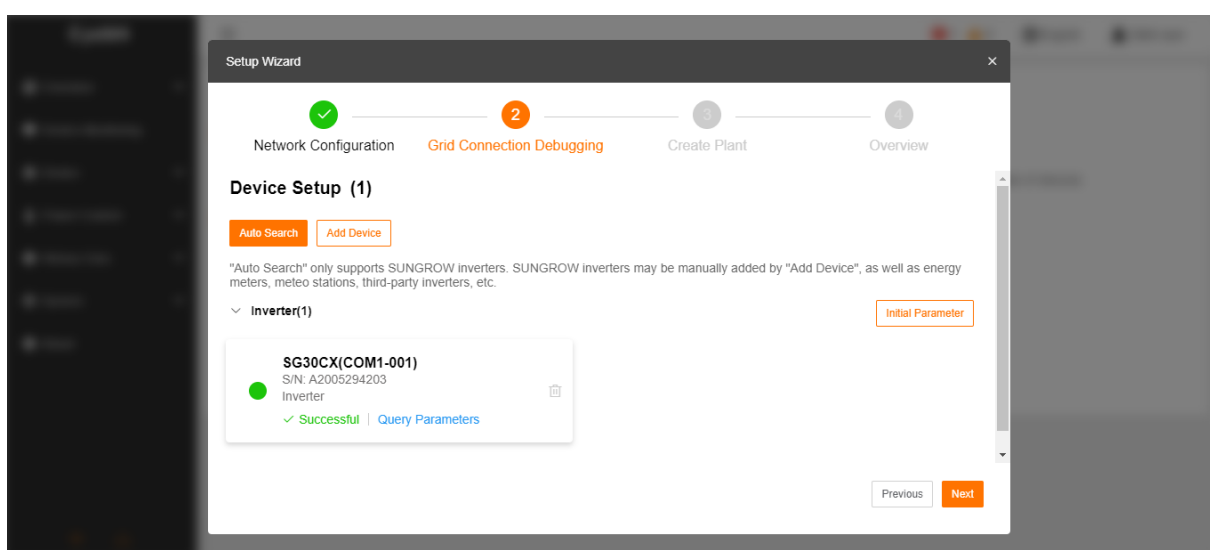
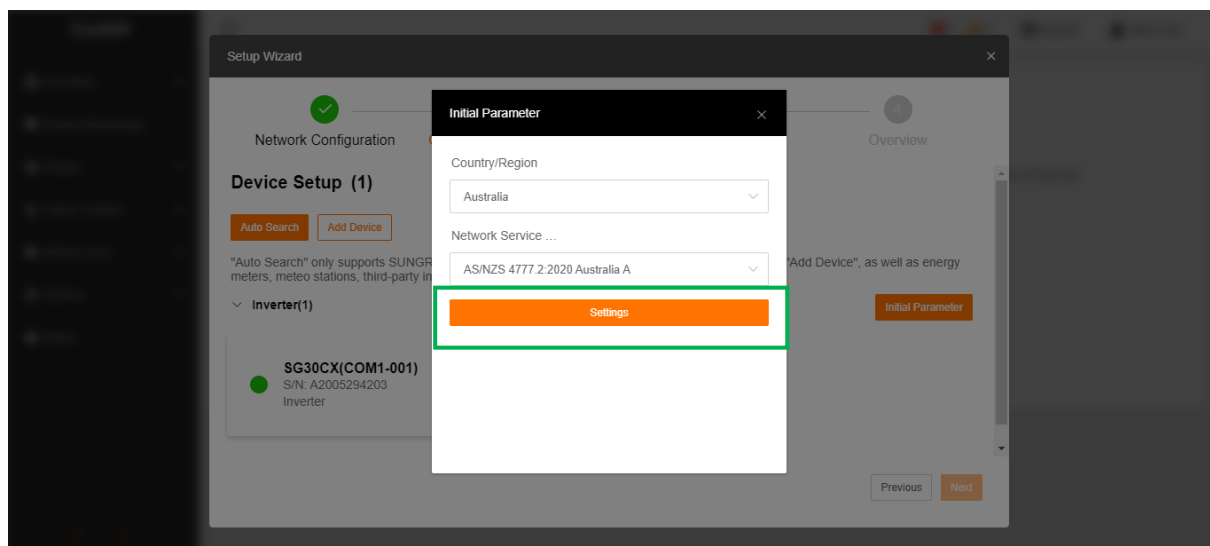
The dongle will automatically scan for connected inverters (RS485). Confirm



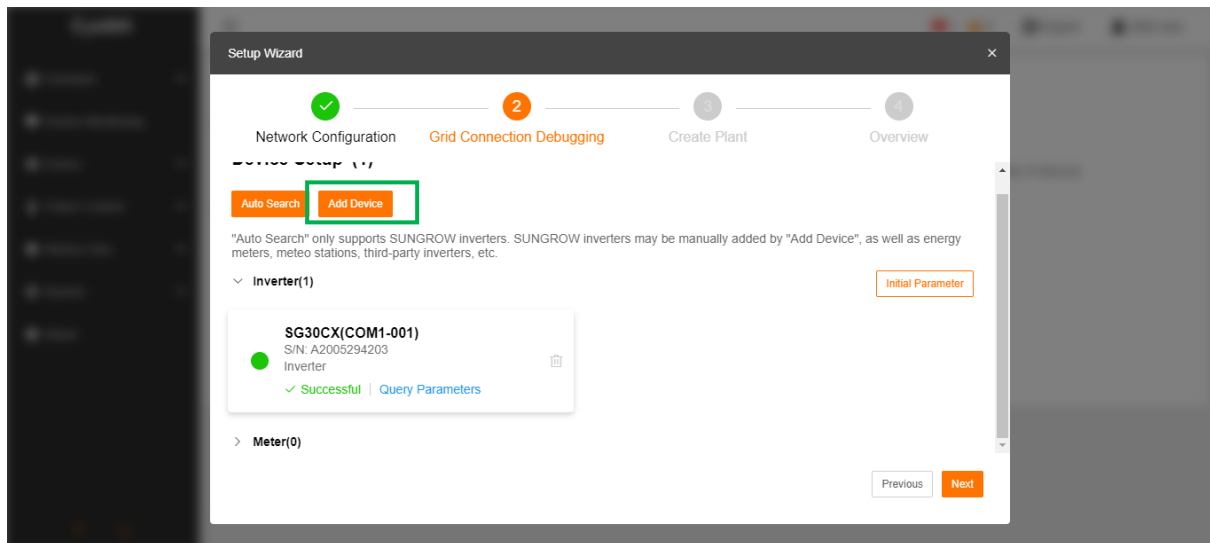
Ensure all inverters are connected and click on the “Initial Parameters” box



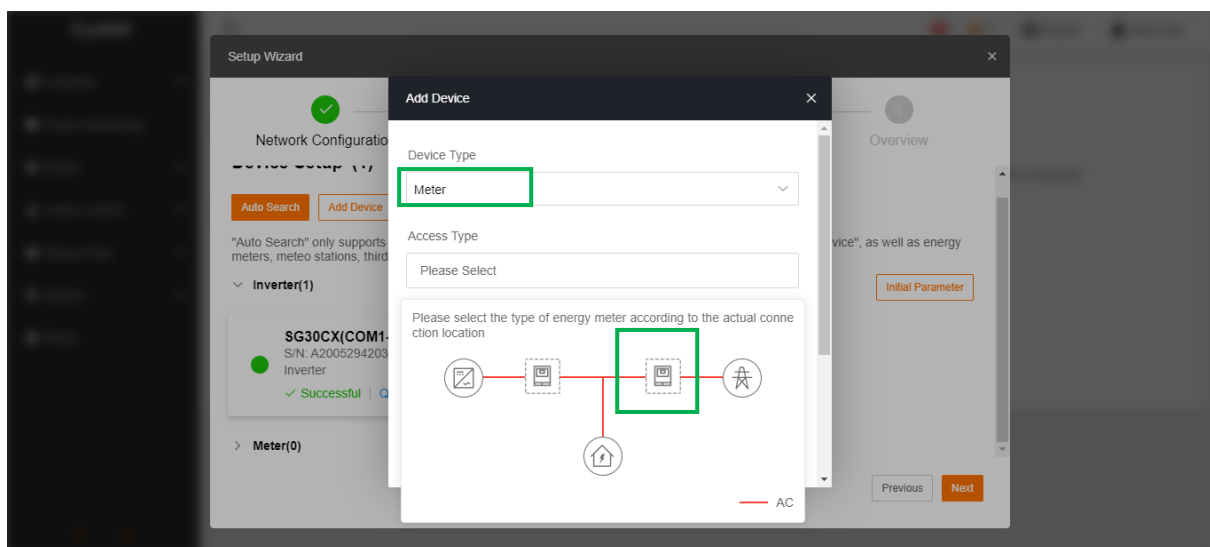
Click "Settings" in the pop-up box and check the result

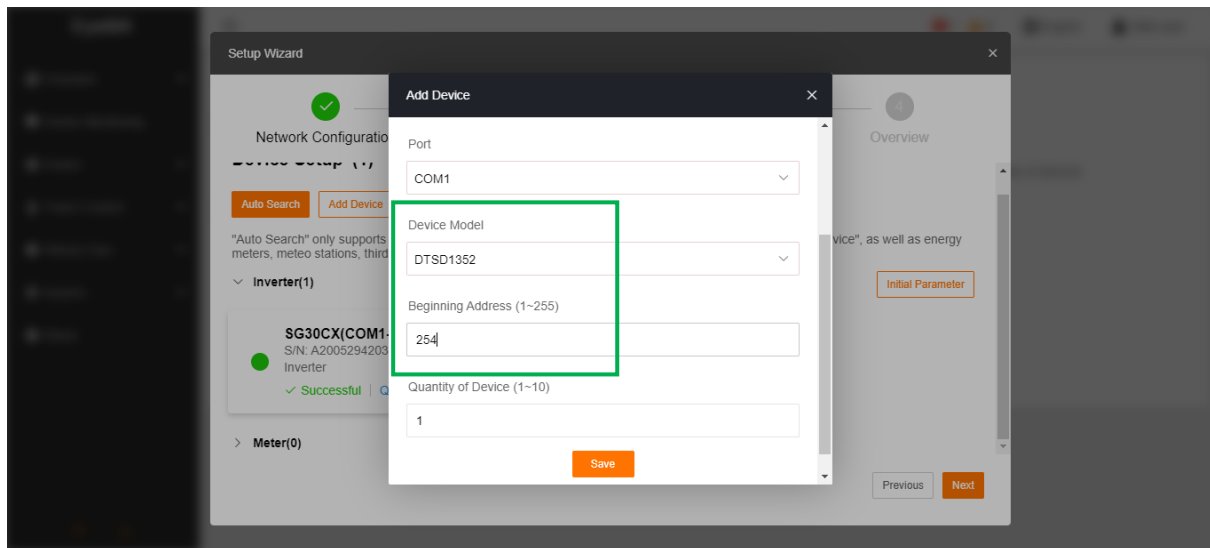


If there is a meter connected, click the “Add Device” box

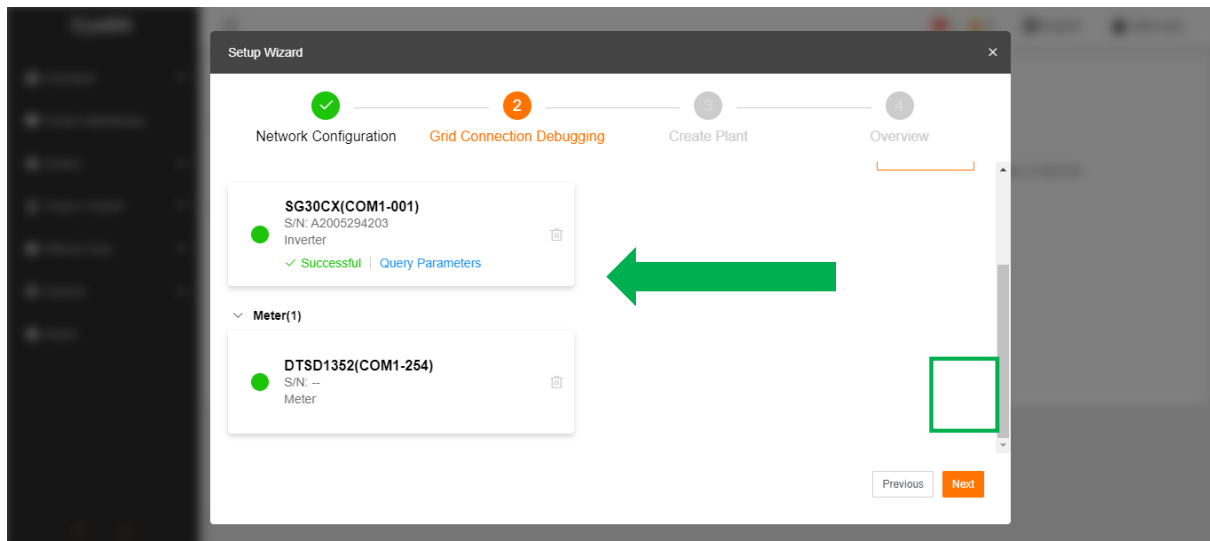


Select as appropriate for the meter from the drop-down boxes, and check that it has connected (RS485). Then click ‘Next’





*Refer Appendix 2 if the meter does not appear



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

Setup Wizard

Network Configuration Grid Connection Debugging **Create Plant** Overview

Create Plant

Please fill in the plant information, once completed, plants will be automatically set up in iSolarCloud for designated installers or property owners.

* Plant Name Demo SG30CX * Plant Type Commercial Plant * Installed Power(Wp) 30000

* Country/Region Australia * Time Zone (UTC+10:00) Canberra, Melbourne, S Plant Address 89-91 Victoria St. Smithfield NSW 2164

NMI

Connect Installer

Skip Previous Next

The overview can be downloaded. Then click “Complete”

Setup Wizard

Network Configuration Grid Connection Debugging Create Plant **Overview**

Overview

Initial Report

EyeM4

Device S/N	B2006050572
Version	M_EyeM4_V01_V01_A

Device Information

Device Name	Device S/N	Grid-connected Details
SG30CX(COM1-001)	A2005294203	Australia-AS/NZS 4777.2:2020 Australia A

Previous Complete

EyeM4

Overview General Information Current Alarms Device Monitoring Device Power Control History Data System About

Shortcut Menu

Setup Wizard System Maintenance

Data Index

0.00 kWh Daily Yield 0.00 kWh Total Yield

0.00 kW Real-time Active Power 0.00 kW Max. Adjustable Active Power

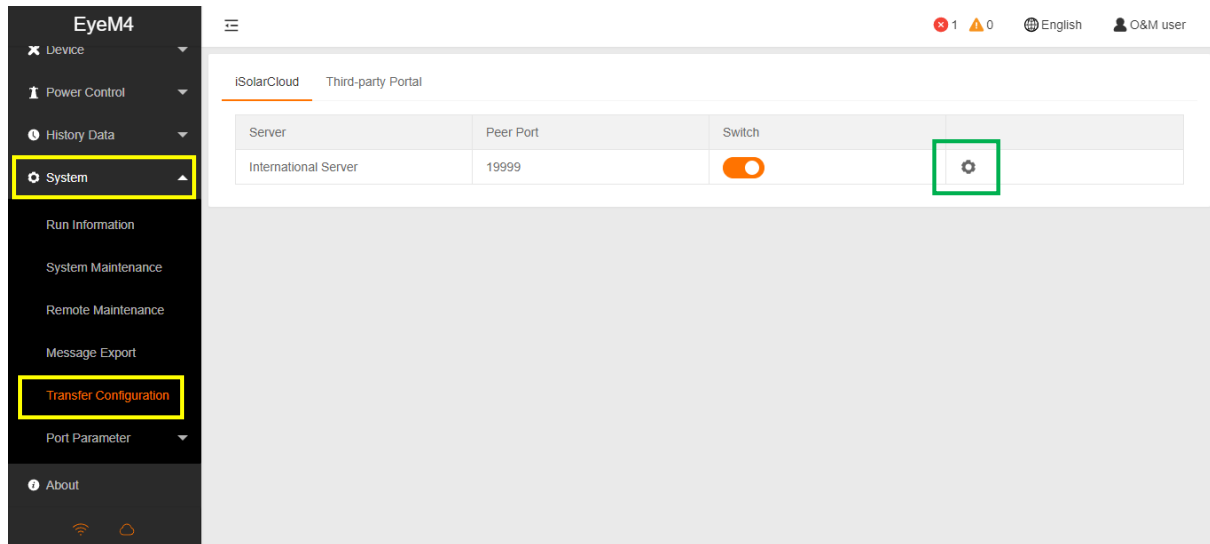
0 Piece Offline Device 2 Piece Online Device

Inverter Realtime Values (Off-grid 1, On-grid 0)

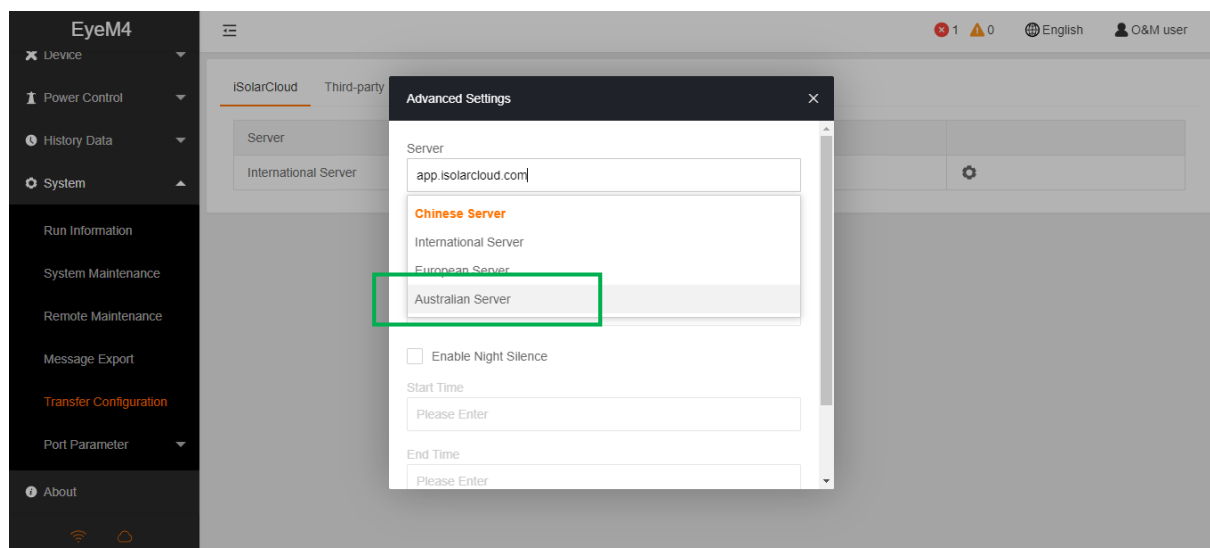
Device Name	Device Model	Status	Daily Yield(kWh)	Active Power(kW)	Reactive Power(kvar)
SG30CX(COM1-001)	SG30CX	Shut Down	0.0	0.00	0.00

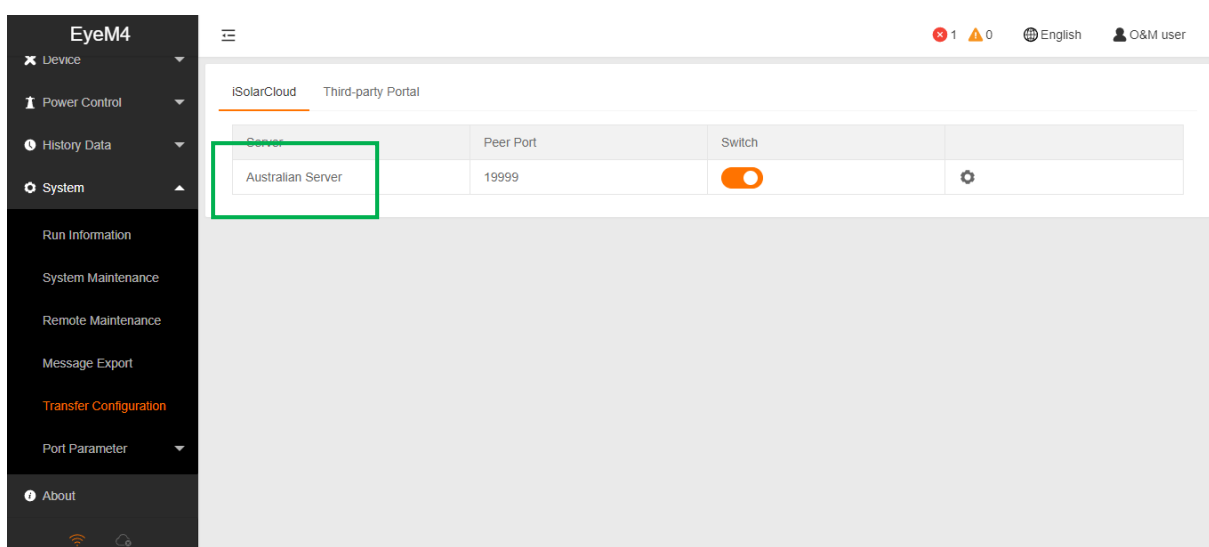
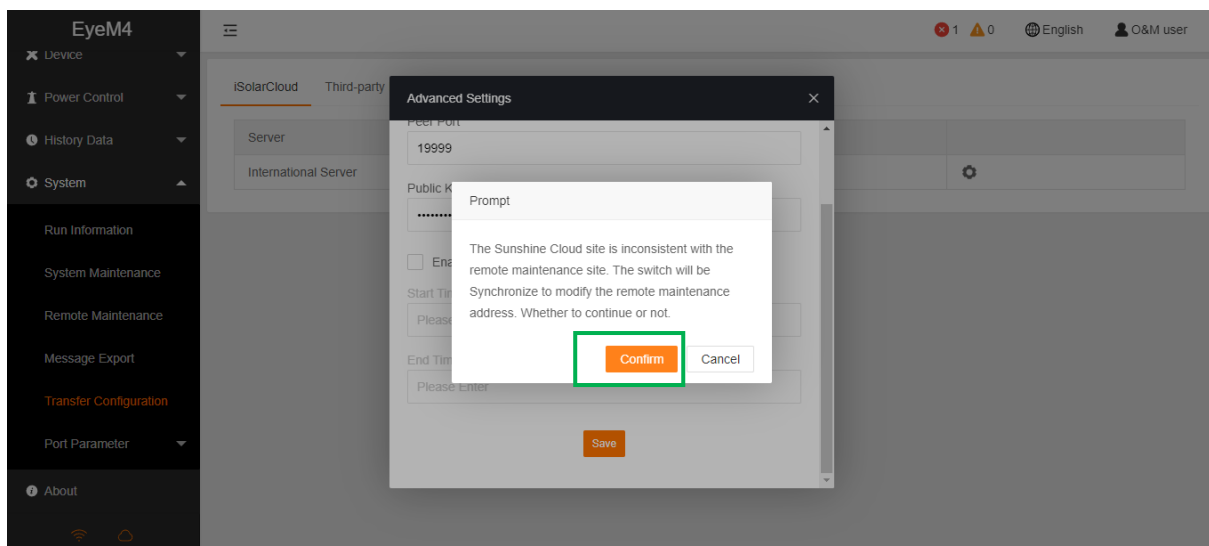
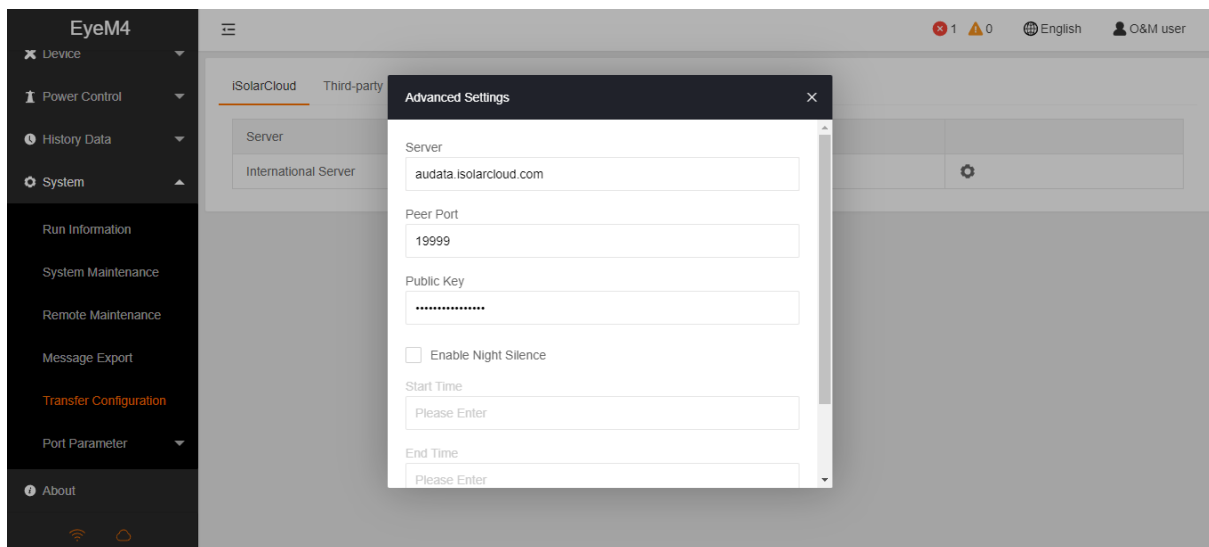
There are a couple of more steps.

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

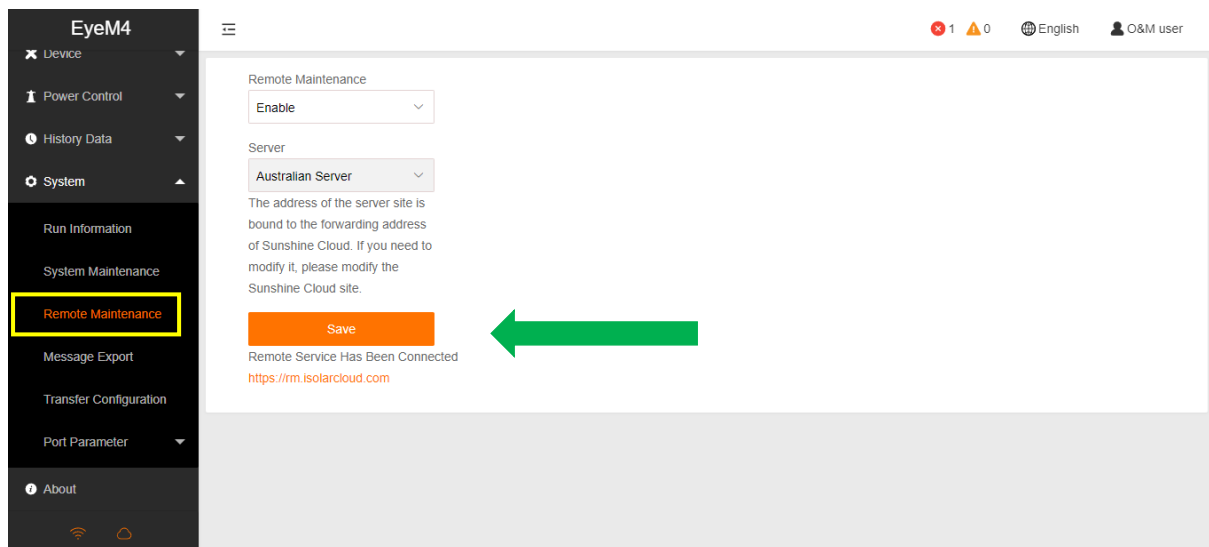


From the drop-down box, select “Australian Server and confirm

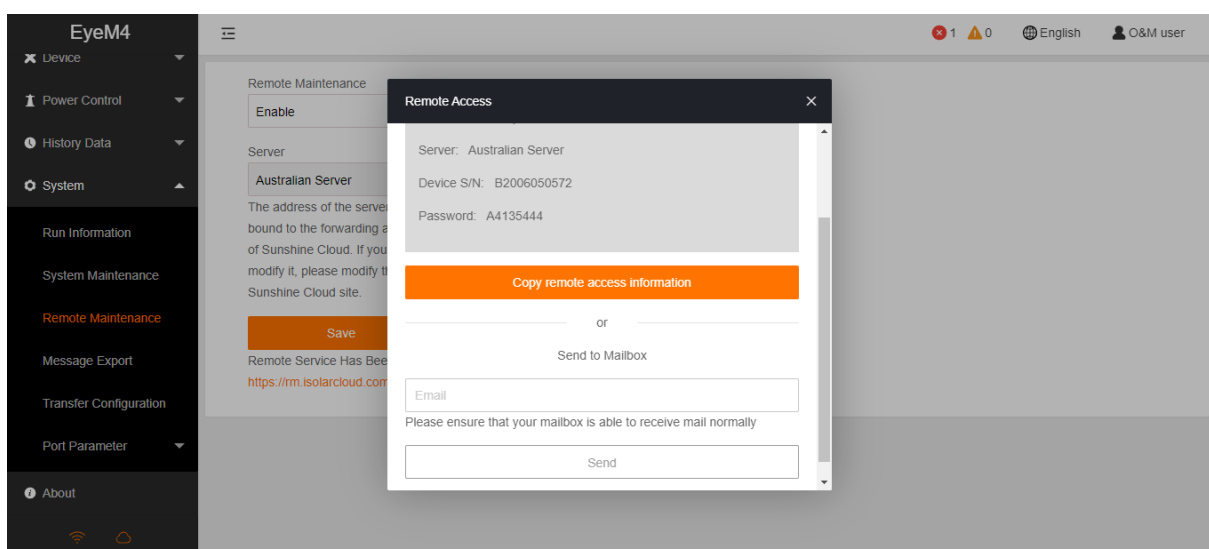
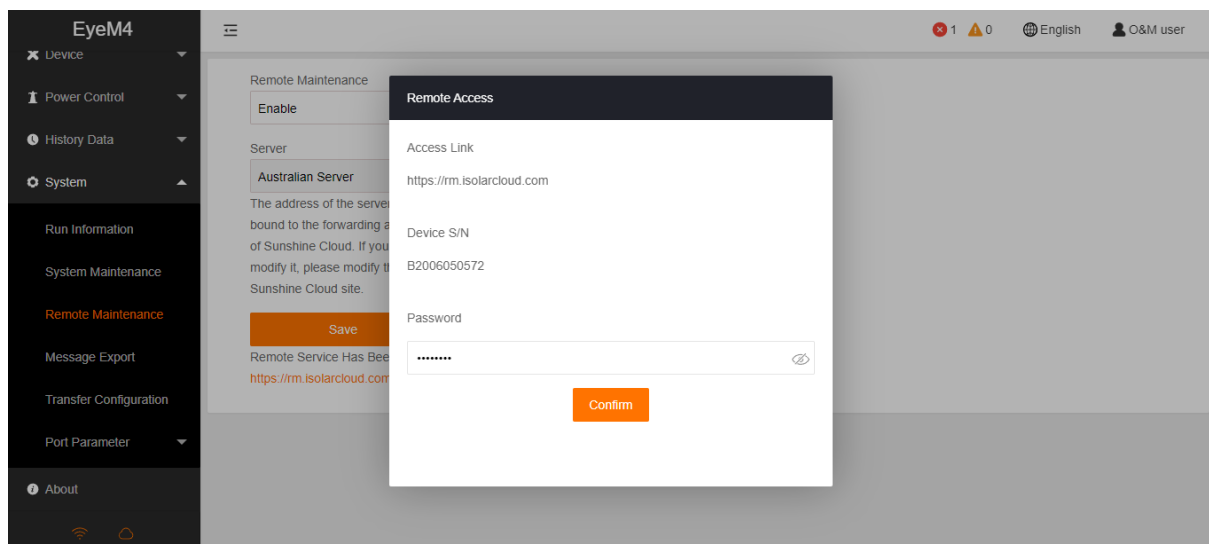




Go to “Remote Maintenance, confirm and save



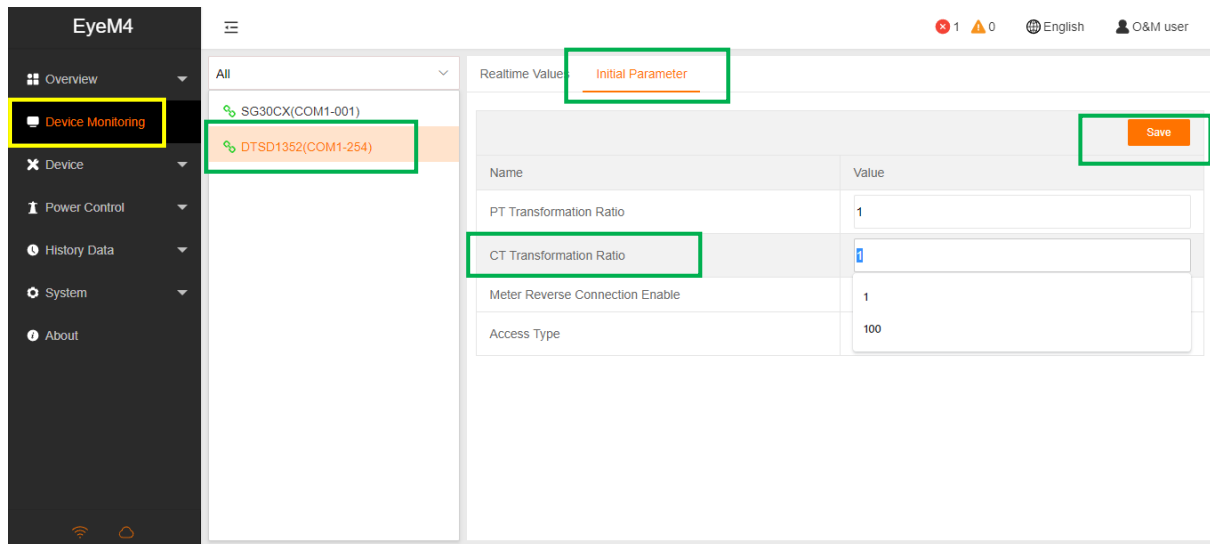
Confirm and then copy password info



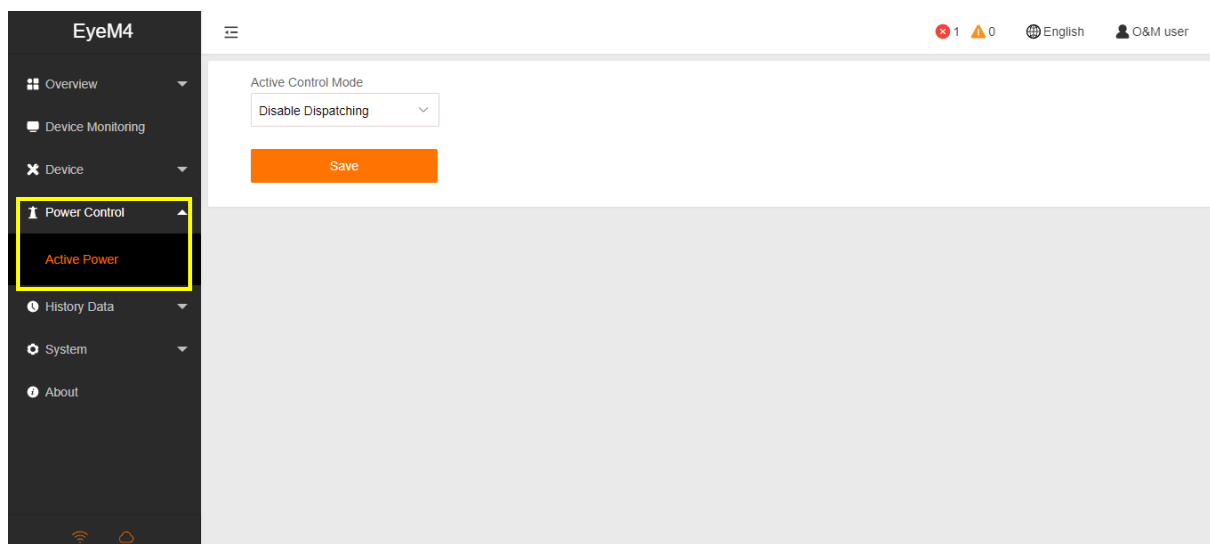
6 Setting the CT ratio and export control

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

EyeM4

Overview
Device Monitoring
Device
Power Control
Active Power
History Data
System
About

Active Control Mode
Local Power Control

Power Limit in Case of Meter Communication Anomaly (%)
100.0

Control Method
Closed-loop Control

Select energy meter/transformer
DTSD1352(COM1-254)

Wiring mode
Direct connection

Start after communication recovery
Enable

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

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

EyeM4

Overview
Device Monitoring
Device
Power Control
Active Power
History Data
System
About

Total active power control

Control Cycle (5-60)S
10

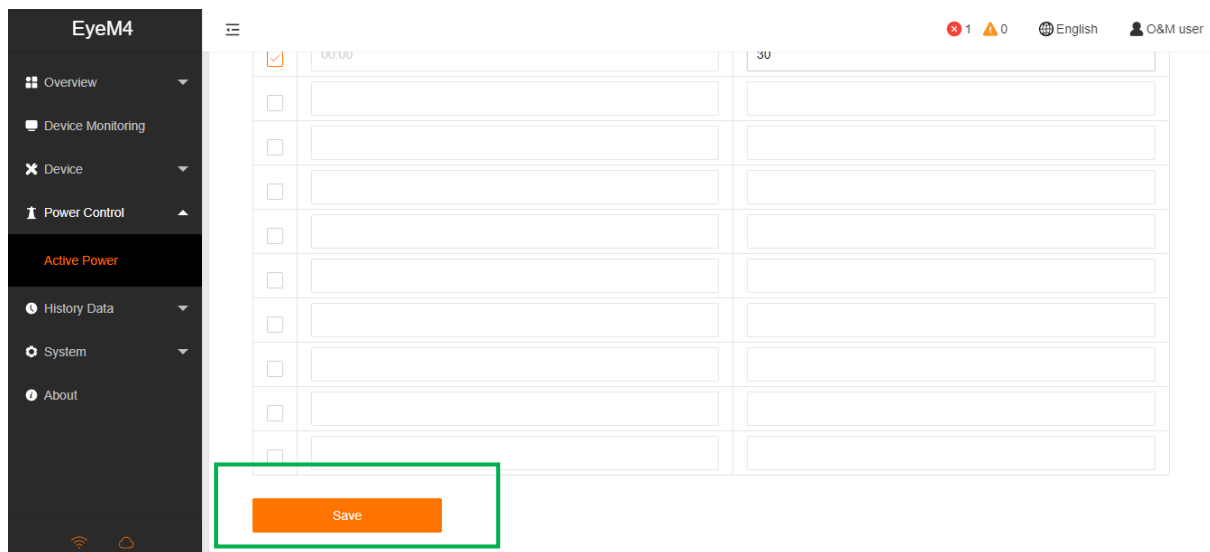
Instruction Type
kW

Fixed Value of Active Power(kW)
30

Start Time
00:00

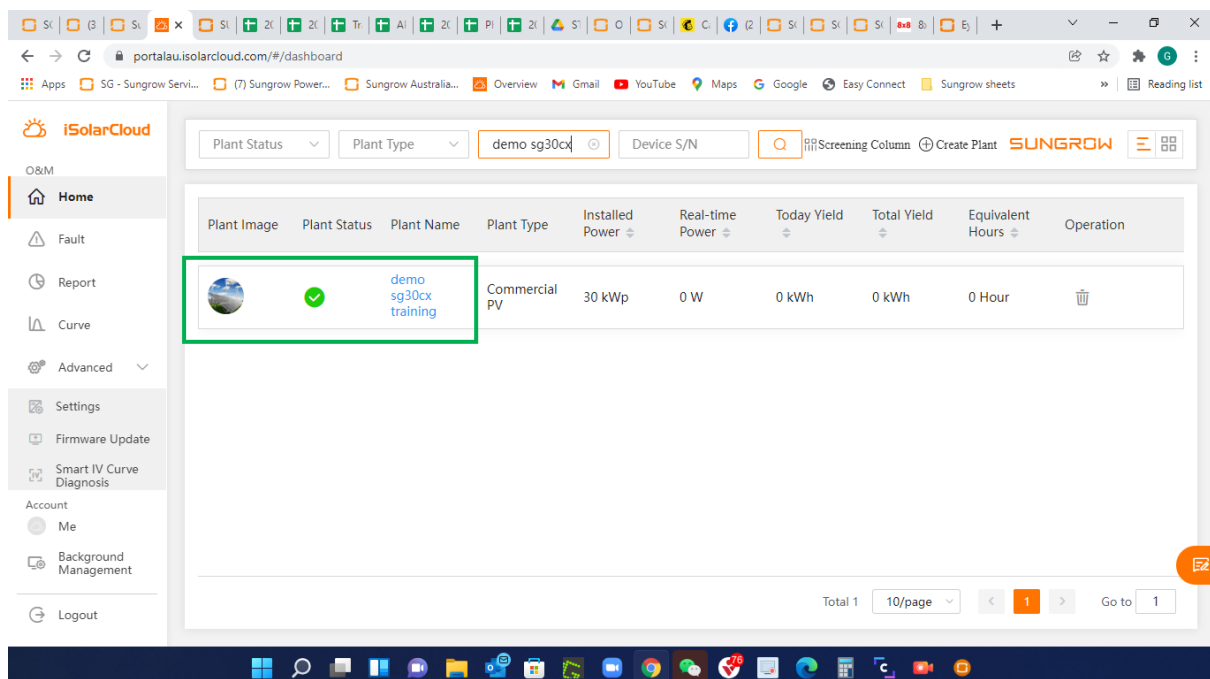
Clear Data

Scroll down and SAVE

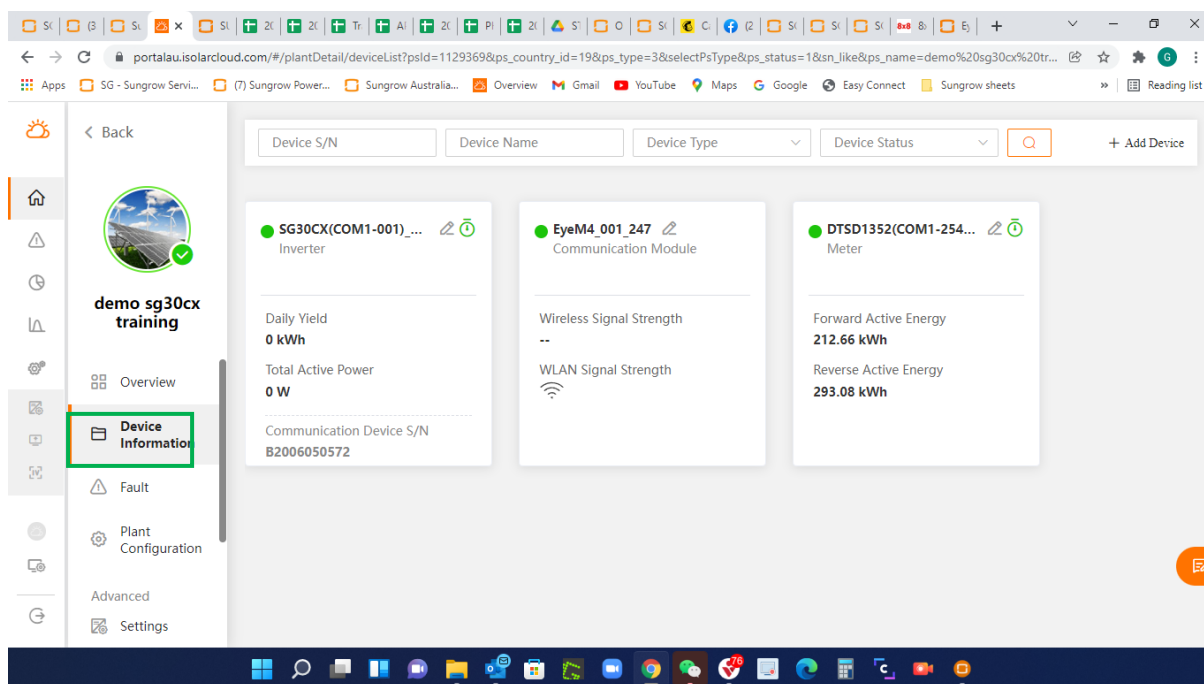


7 Check the plant on iSolarCloud:

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

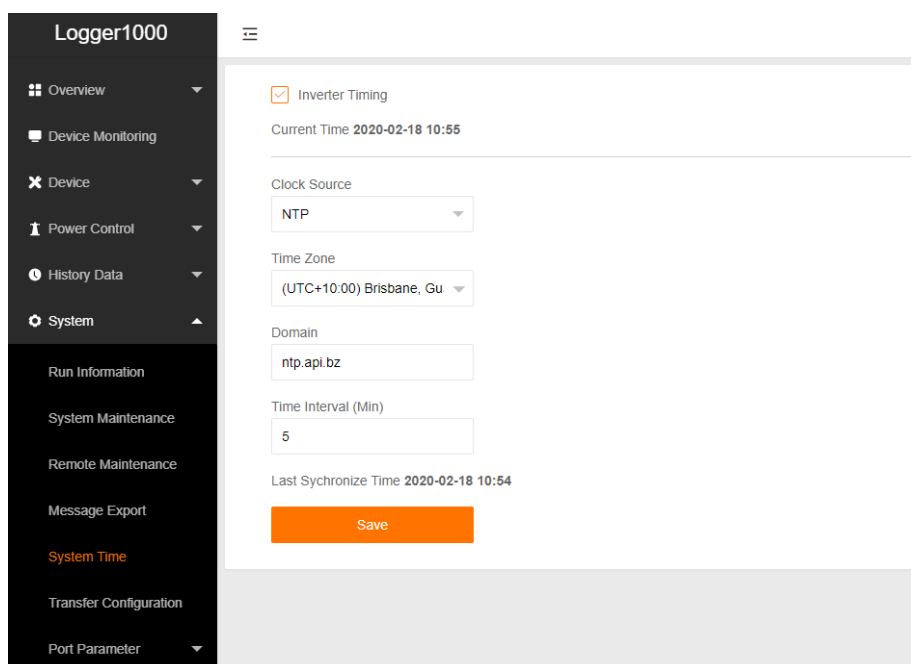


Open the plant, and select “Device Information” and check that you can see all inverters/meters



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**

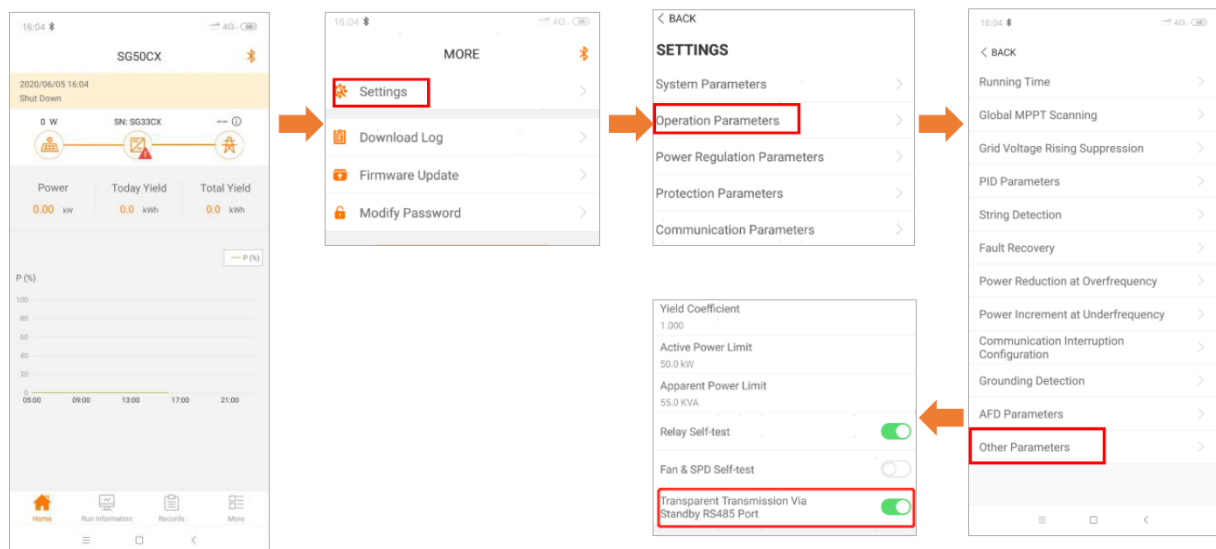


Appendix 2 Enable the meter RS485

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.