CX Series Inverters Commissioning Guide

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.

The CX series inverters range does not have a screen and needs to be configured using the iSolarCloud App. This document explains the steps of commissioning the inverter (**30kW, 50kW and 110kW range**) and mentions how to set other major parameters using the local access function of the iSolarCloud App.

Step 1: Local Login

Login to the inverter locally by clicking "**Local Access**" under "**More**" or on the bottom right of the home page and select the "**Bluetooth**" connection option.
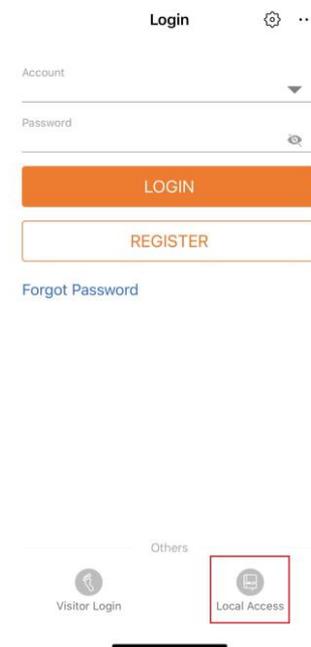
Figure 1 Local Access Login

A list of nearby inverters will appear. Simply select the **SN of the inverter** you wish to commission. Once selected and connected, the SN will be visible on the top right with

a tick next to it. You can then proceed to login as the "**admin**". Please contact Sungrow Service Department for the password.
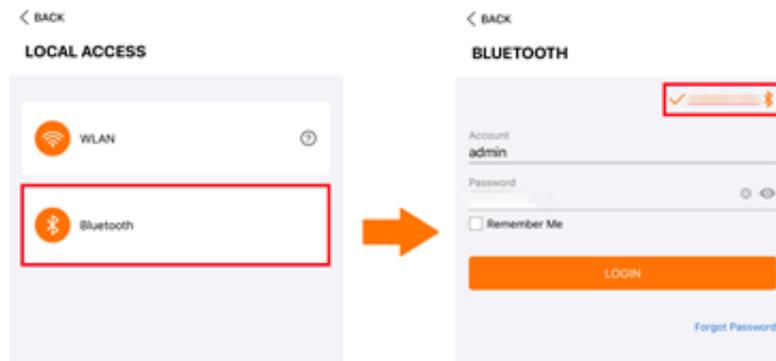
Figure 2 Bluetooth Login

Step 2: Initial Configuration

Once logged in via Bluetooth for the first time, the "**Initial Protection Parameter**" option will appear. Here, the country can be set to "**Australia**". Selecting Australia will set the protection parameters according to the AS/NZS 4777 standard. *
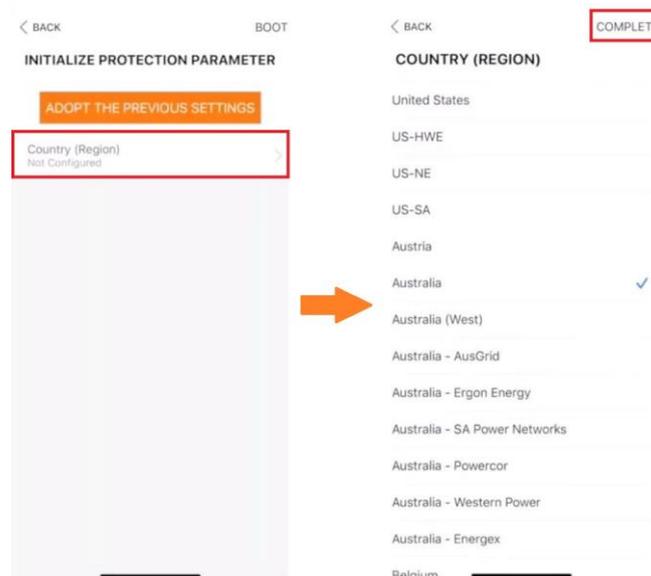
Figure 3 Initial Configuration

*****Please note that the specific grid settings are currently unavailable.**

After selecting the country, press "**Boot**" to finalise the initial protection parameter. Once booted, the app will redirect to the homepage of local login where the inverter's

performance can be viewed. All the other settings can be configured under the "**More**" tab.
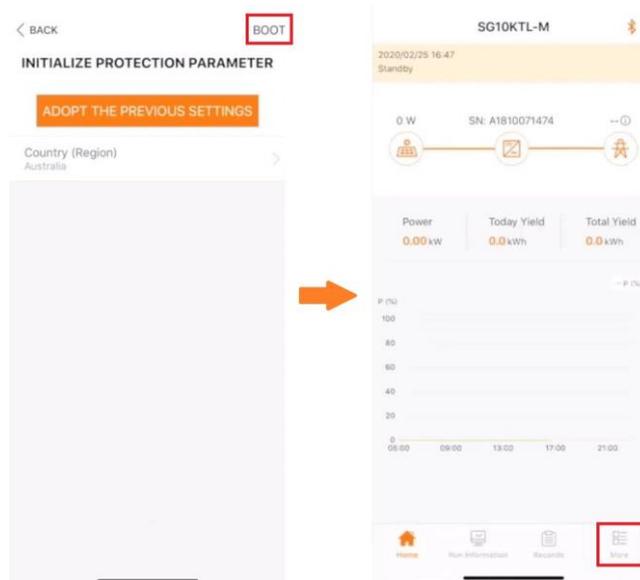
Figure 4 Home Page

Step 3: Date and Time Settings

Date and Time can be configured under "**System Parameters**".
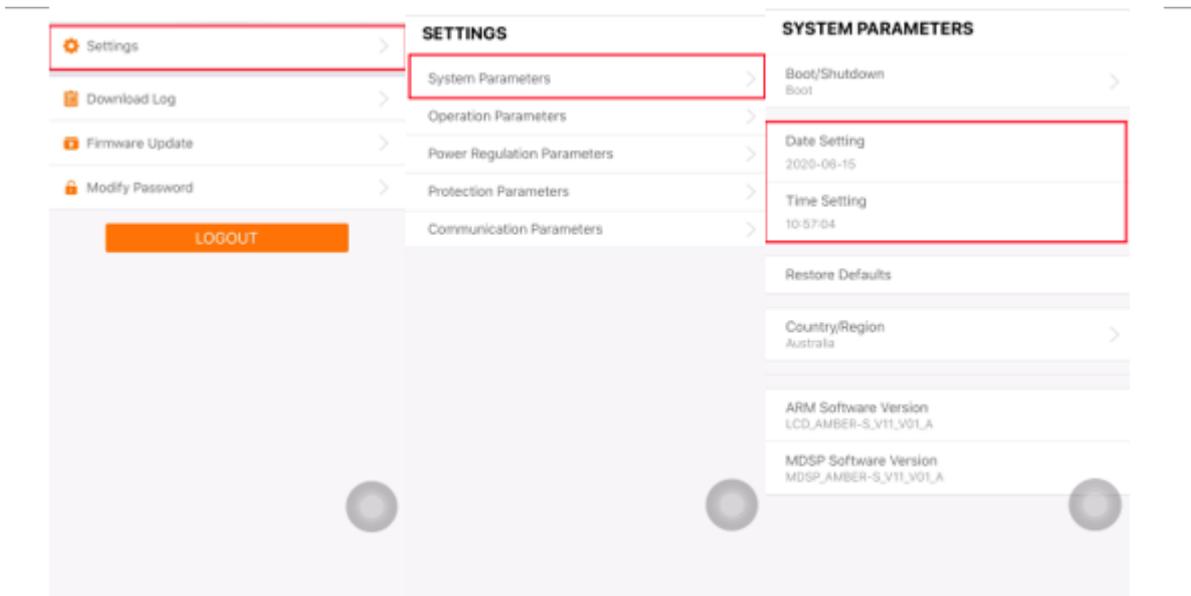
Figure 5 Date and Time

Step 4: Protection Parameters

To set the relevant grid protection parameters (Value and trip time for under/over voltage and frequency), click on "**Protection Parameters**".
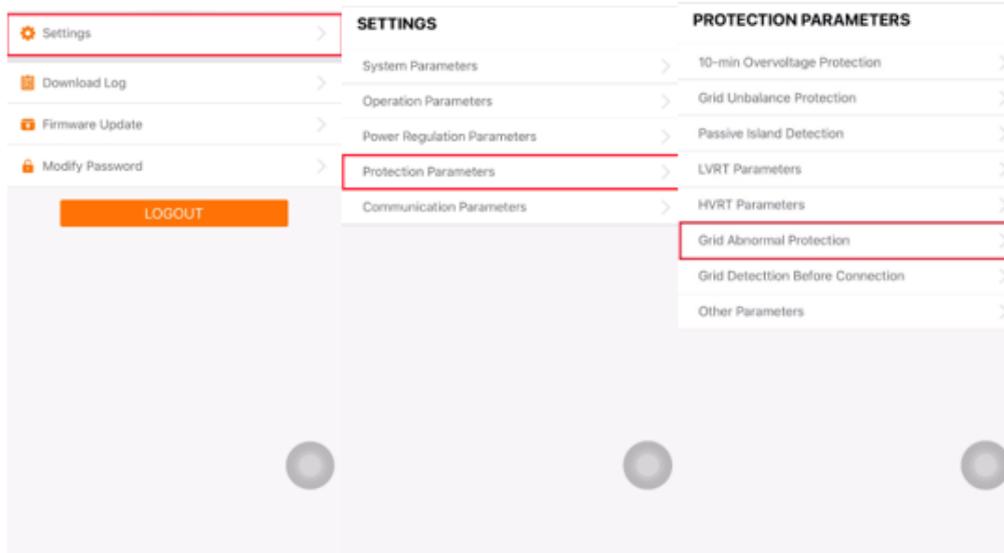
Figure 6 Protection Parameters

Please refer to the following images for the relevant protection parameters.

Grid company Code	Company
AG	AusGrid, NSW
EE	Ergon Energy, QLD
EG	Energex, QLD
PN	SA Power Networks,SA
PC	Powercor,VIC
WP	Western Power,WA

Figure 7 Grid Code

Parameter	Default	AG	EE	EG	PN	PC	WP
Over-voltage							
1-V_{max} (V)	260.0	260.0	260.0	260.0	260.0	260.0	260.0
1-Time (s)	2.0	1.80	1.80	1.80	1.80	1.80	1.80
2-V_{max} (V)	265.0	265.0	265.0	265.0	265.0	265.0	265.0
2-Time (s)	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Under-voltage							
1-V_{min} (V)	180.0	200.0	180.0	180.0	180.0	180.0	180.0
1-Time (s)	2.0	1.80	1.80	1.80	1.80	1.80	1.80
2-V_{min} (V)	180.0	200.0	180.0	180.0	180.0	180.0	180.0
2-Time (s)	2.0	1.80	1.80	1.80	1.80	1.80	1.80
Over-frequency							
1-F_{max} (Hz)	52.00	52.00	52.00	52.00	52.00	52.00	51.50
1-Time (s)	0.20	0.20	0.20	0.20	0.20	0.20	0.20
2-F_{max}(Hz)	52.00	52.00	52.00	52.00	52.00	52.00	51.50
2-Time (s)	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Under-frequency *							
1-F_{min} (Hz)	47.00	48.00	47.00	47.00	47.00	47.00	47.00
1-Time (s)	1.50	1.50	1.50	1.50	1.50	1.50	1.50
2-F_{min}(Hz)	47.00	48.00	47.00	47.00	47.00	47.00	47.00
2-Time (s)	1.50	1.50	1.50	1.50	1.50	1.50	1.50

Figure 8 Grid Parameters**

***Please refer to the relevant DNSP for the upto date standards*

Step 5: Volt-Var and Volt-Watt setting

Volt-Var Settings

1) Click "**More**" > "**Settings**" > "**System Parameters**" > **Country (Australia)**
Then go back to the **Setting** menu and select "**Power Regulation Parameters**" > "**Reactive Power Regulation**" (For example **QU**)> to input the voltage and reactive power ratio as per the requirement.
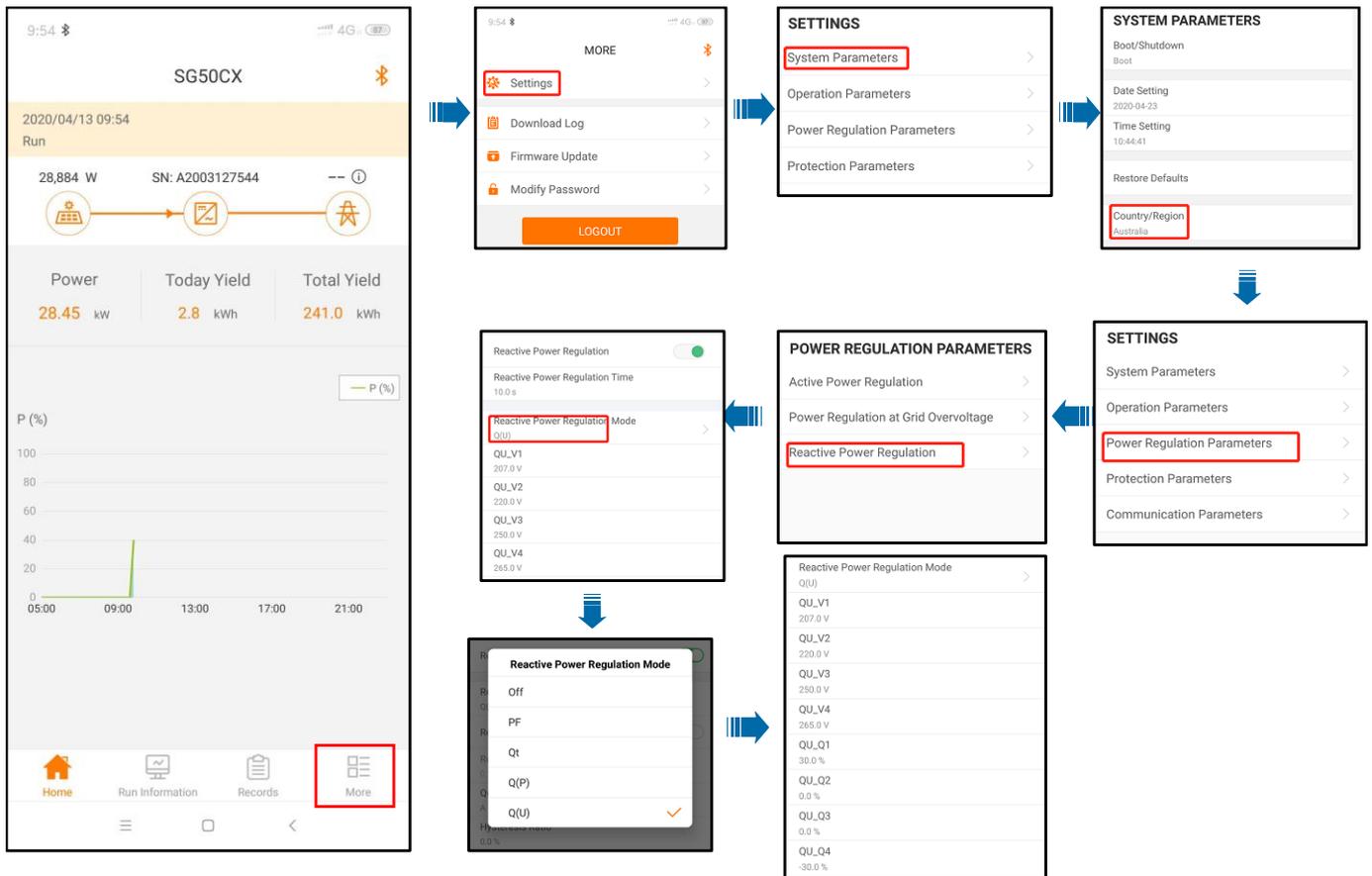
Figure 9 Volt-var settings

2) Enable the "Reactive Power Regulation Mode" to "QU" and set the reactive power value.it is only possible to enter the value in % Vars in Sungrow inverter. you get the Volt-Var settings value from the DNSP Protection settings calculator, please follow the steps below on how to enter those values on Sungrow inverters.

Reference point		Set Points	Setting Range
QU_V1 = V1	208V	QU_V1	90.4%
	44% leading	QU_Q1	**-44%**

QU_V2 = V2	220V	QU_V2	95.7%
	0%	QU_Q2	0%
QU_V3 = V3	241V	QU_V3	104.8%
	0%	QU_Q3	0%
QU_V4 = V4	253V	QU_V4	110%
	44% lagging	QU_Q4	44%

Volt-watt Settings

1) Click "**More**" > "**Settings**" > "**System Parameters**" > **Country (Australia)**
Then go back to the **Setting** menu and select "**Power Regulation Parameters**" > "**Power Regulation at Grid Overvoltage**"> to input the Voltage and active power ratio as per the requirement.
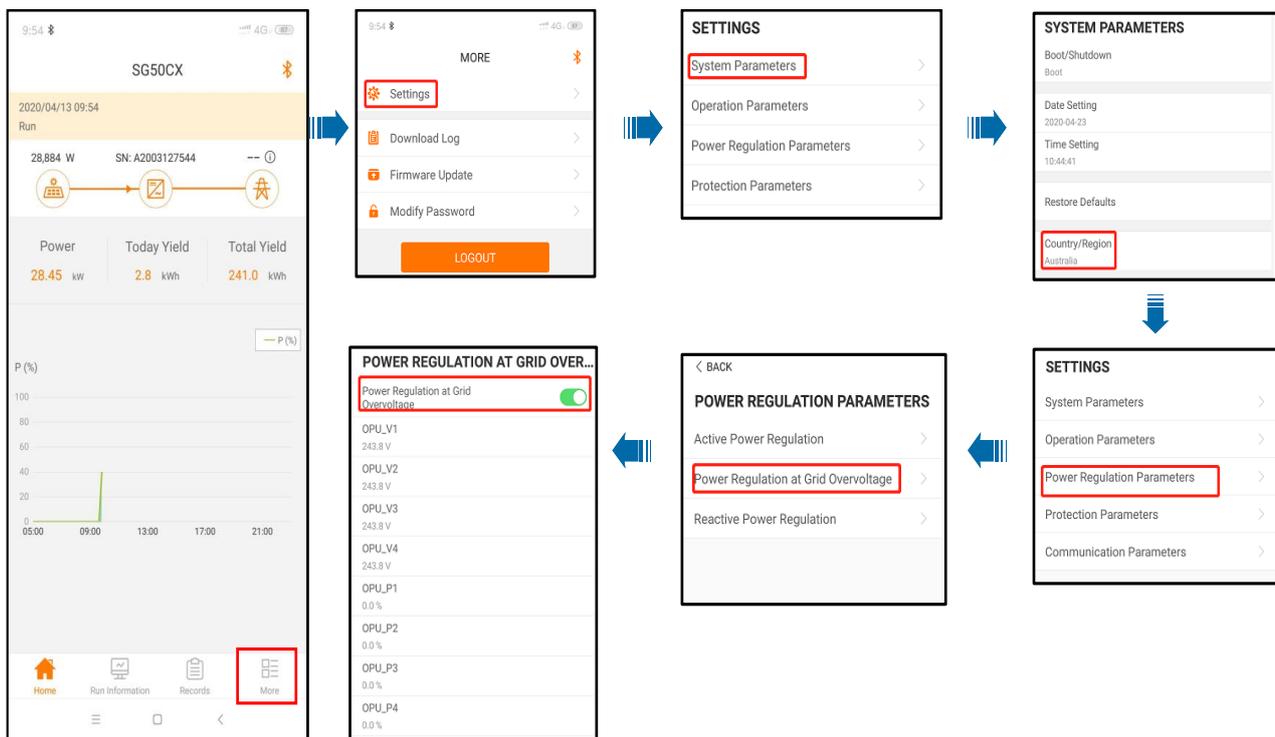
Figure 10 Volt-watt settings

2) For Volt-watt settings. it is only possible to enter the value in % Vars in Sungrow inverter. you get the Volt-Var settings value from the DNSP Protection settings calculator, please follow the steps below on how to enter those values on Sungrow inverters.

Reference point		Set Points	Setting Range
OPU_V1 = V1	207V	OPU_V1	207
	100%	OPU_P1	100%
OPU_V2 = V2	220V	OPU_V2	220
	100%	OPU_P2	100%
OPU_V3 = V3	253V	OPU_V3	253
	100%	OPU_P3	100%
OPU_V4 = V4	259V	OPU_V4	259

Step 6: 10-Min Overvoltage Setting

The 10-min over-voltage setting can be adjusted under "**Protection Parameter**".
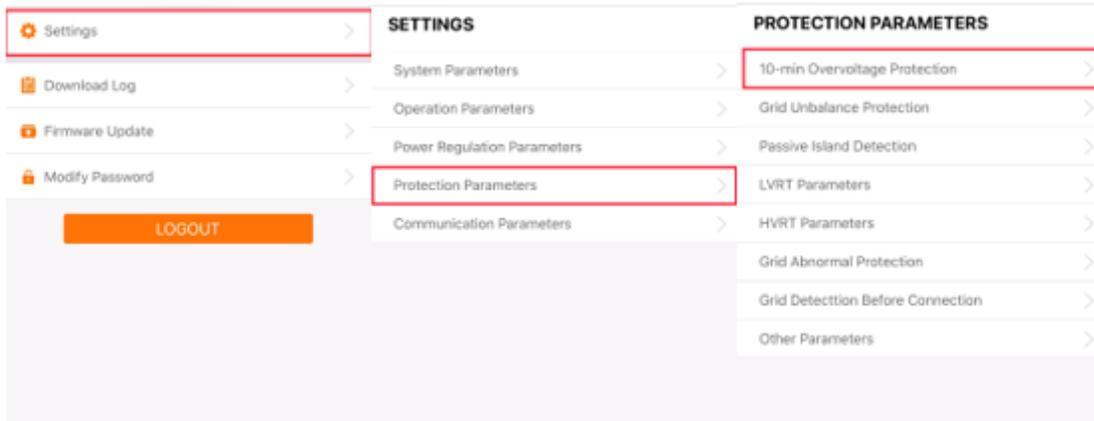
Figure 11 10-Min Overvoltage Protection

Step 7: Enable RS485 Port for Inverter via iSolarCloud App if using EyeM4

Click "More" > "Settings" > "Operation Parameters" > "Other Parameters" > Enable" transparent transmission via standby RS485 port.
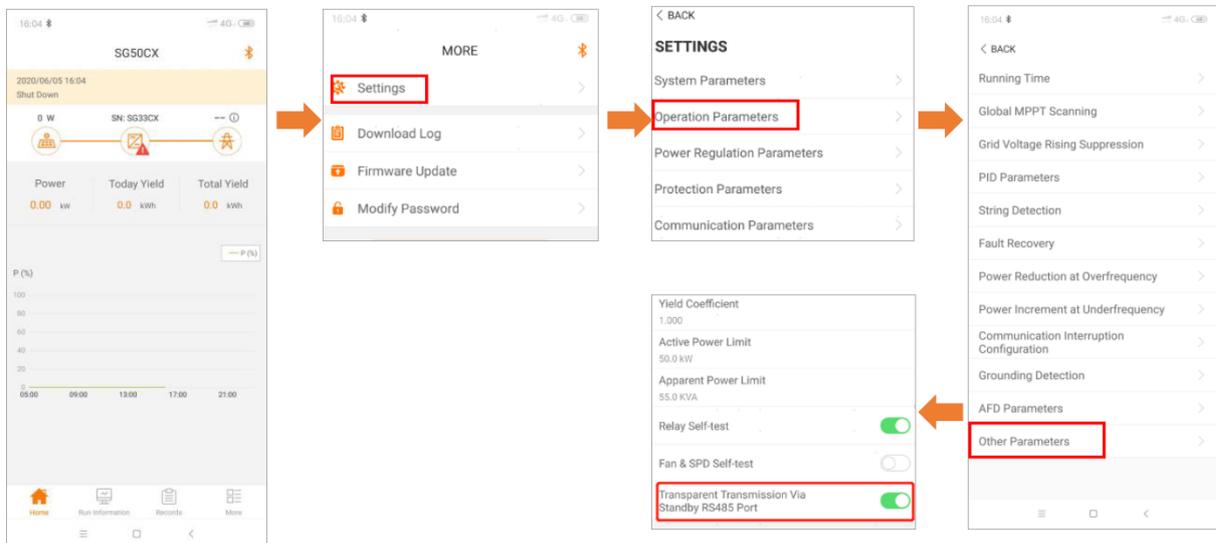
If you have any questions, please contact Sungrow Service Department on 1800 786 476 or email to service@sungrowpower.com.au.