CX Series Inverters Commissioning Guide

Disclaimer

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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.

	Login	Ø	
Account			~
Password		1	õ
	LOGIN		
	PEGISTER		
Forgot Passw	rord		
Forgot Passw	Others		

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.

< BACK		< BACK	
LOCAL ACCESS		BLUETOOTH	
			×
🥱 WLAN	0	Account admin	
	_	Password	0 0
8 Bluetooth		Remember Me	
L			LOGIN
			Forgot 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. *

< васк	BOOT	< BACK	COMPLETE
INITIALIZE PROTECTION PARA	METER	COUNTRY (REGION)	
ADOPT THE PREVIOUS SETTIN	NGS	United States	
Country (Region)		US-HWE	
Not Configured	~	US-NE	
		US-SA	
		Austria	
		Australia	~
	_	Australia (West)	
		Australia - AusGrid	
		Australia - Ergon Energy	
		Australia - SA Power Networks	
		Australia - Powercor	
		Australia - Western Power	
		Australia - Energex	
		Relaium	

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.

< BACK BOOT	SG10KTL-M
INITIALIZE PROTECTION PARAMETER	2020/02/25 16:47 Standby
ADOPT THE PREVIOUS SETTINGS	0 W SN: A1810071474 ①
Country (Region) >	ش <u></u> #
	Power Today Yield Total Yield 0.00 kw 0.0 kwh 0.0 kwh
-	-P 04
	80
	40
	0 06:00 08:00 13:00 17:00 21:00
	Hame Rue information Reports

Figure 4 Home Page

Step 3: Date and Time Settings

Date and Time can be configured under "System Parameters".

O Settings		SETTINGS		SYSTEM PARAMETERS	
		System Parameters	>	Boot/Shutdown	
Download Log		Operation Parameters	>		
Firmware Update		Power Regulation Parameters		Date Setting 2020-08-15	
Modify Password		Protection Parameters		Time Setting	
LOGOUT		Communication Parameters	>	10:57:04	
	_			Restore Defaults	
				Country/Region Australia	
				ARM Software Version LCD_AMBER-S_V11_V01_A	
	-			MDSP Software Version MDSP_AM8ER-S_V11_V01_A	
			-		

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**".

O Settings	SETTINGS	PROTECTION PARAMETERS	
1 Developed and	System Parameters	> 10-min Overvoltage Protection	
Lowmoad Log	Operation Parameters	> Grid Unbalance Protection	
Firmware Update	Power Regulation Parameters	> Passive Island Detection	
G Modify Password	Protection Parameters	> LVRT Parameters	
LOGOUT	Communication Parameters	> HVRT Parameters	
		Grid Abnormal Protection	>
		Grid Detecttion Before Connection	>
		Other Parameters	
•		0	0

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

Parameter	Default	AG	EE	EG	PN	PC	WP
Over-voltage							
1-V _{max} (∨)	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} (∨)	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} (∨)	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-frequence	ÿ						
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-frequer	icy *						
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 7 Grid Code

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

 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.

Refere	Reference point		Setting Range
QU_V1 = V1	208V	QU_V1	90.4%
	44% leading	QU_Q1	-44%

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QU_V2 = V2	220V	QU_V2	95.7%
	0%	QU_Q2	0%
QU_V3 = V3	241V	QU_V3	104.8%
	0%	QU_Q3	0%
	253V	QU_V4	110%
40_11 = 14	44% lagging	QU_Q4	44%

Volt-watt Settings

 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".

🔅 Settings	\rightarrow	SETTINGS		PROTECTION PARAMETERS	
Download Log	5	System Parameters		10-min Overvoltage Protection	\geq
Contractor cog		Operation Parameters		Grid Unbalance Protection	
Firmware Update		Power Regulation Parameters		Passive Island Detection	
Modify Password		Protection Parameters	>	LVRT Parameters	
LOGOUT		Communication Parameters	>	HVRT Parameters	
				Grid Abnormal Protection	
				Grid Detecttion Before Connection	
				Other Parameters	

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.

16:04 \$		4G- (M)	16:04 \$		< BACK		16:04 # 5	4G. (#)
	SG50CX	*	MORE	*	SETTINGS		< BACK	
2020/06/05 16:04			🔅 Settings	>	System Parameters		Running Time	
0 W	SN: SG33CX	0			Operation Parameters		Global MPPT Scanning	
(<u></u>		-	Download Log	<u> </u>	Power Regulation Parameters		Grid Voltage Rising Suppression	
Power	Today Yield	Total Yield	Firmware Update	>	Protection Parameters		PID Parameters	
0.00 kw	0.0 kwh	0.0 kWh	🔒 Modify Password	>	Protection Parameters	_	String Detection	
					Communication Parameters		Fault Recovery	
P (%)							Power Reduction at Overfrequency	
100					Yield Coefficient		Power Increment at Underfrequency	
60 40					Active Power Limit		Communication Interruption Configuration	
20					Apparent Power Limit		Grounding Detection	
05:00 09:00	12:00 17:00	21:00			55.0 KVA		AFD Parameters	
					Relay Self-test		Other Parameters	
					Fan & SPD Self-test			
Home Run In	formation Becords	HE More			Transparent Transmission Via Standby RS485 Port	D	= 0 (
=						-		

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