3-Phase Inverter iSolarCloud Commissioning Guide

Disclaimer

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The 3-phase grid-connected 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 (**5kW to 20kW 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.

MORE		Login 🔅
		Account
8 Profile		Password
WLAN Configuration		LOGIN
📙 Local Access	>	REGISTER
G My Service Provider		Forgot Password
⑦ FAQs		Torgot Password
Settings		
		Others
Home Fault	More	Visitor Login Local Access

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	O		Account admin	
	_		Password	0 0
😣 Bluetooth			Remember Me	
L		-	L	OGIN
				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. *

< BACK	BOOT	< васк СО	VIPLETE
INITIALIZE PROTECTION PARAM	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	
		Belaium	

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.

BOOT BOOT	SG10KTL-M
INITIALIZE PROTECTION PARAMETER	2020/02/25 16:47 Standby
ADOPT THE PREVIOUS SETTINGS	0 W SN: A1810071474
Country (Region)	<u>ش</u>
	Power Today Yield Total Yield 0.00 kw 0.0 kwh 0.0 kwh
-	- F (3
	80
	60
	40
	0
	05:00 09:00 13:00 17:00 21:00
	Hander Hurr Helpenation Records Marre

Figure 4 Home Page

Step 3: Date and Time Settings

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

	MORE	8	< BACK
	0 Bort		SYSTEM PARAMETERS
	🖞 Shutdown		Date Setting 2020-02-25
Communication Parameters Communication Parameters Coperation Parameters Coperation Parameters Covern Advanced Settings Advanced Settings Coce/Remote Control Local/Remote Control Local/Remote Coco/Remote Control Local/Remote Coco/Remote Coco/Remo	O System Palameters	5	Time Setting
Coperation Parameters Protection Parameters Advanced Bettinge Advanced Bettinge Mone Parameters Mone Parameters Codobium Codobiu	Communication Parameters	2	10.54
	Coperation Parameters		Total Viold Compensation 0 www
Advanced Bertinge Advanced Bertinge Advanced Bertinge Bosenioad Log Coddourt Coddou	Protection Parameters		Basting Data its
	Advanced Settings	2	
	O More Parameters		Reset All Settings
	Download Log		Local/Remote Control
Modily Password Device Restart	Firmware Update		LbCal/Remune
COGOUT Device Type Solocitum	Modily Password		Device Restart
G 🔍 🕮 💶 🗤	LOGOUT		Device Type Schok Tu-M
	@ @ @		5.N

Figure 5 Date and Time

Step 4: Protection Parameters

To set the relevant grid protection parameters, click on "Protection Parameters".

MORE	*	< BACK	EXPOR
Boot		PROTECTION PARAM	IETERS
Shutdown		Country (Region) Australia	
System Parameters		Protection Level	
Communication Parameters		Second Level	
Operation Parameters	>	AC Under-voltage Level 1 F 180.0 V	Protection Value
Protection Parameters	>	AC Over-voltage Level 1 Pr 260.0 V	otection Value
Advanced Settings	>	AC Under-frequency Level	1 Protection Value
More Parameters		47.00 Hz	
Download Log		Grid Overfrequency Level 1 52.00 Hz	Protection Value
Firmware Update		AC Under-voltage Level 1 F 1.50 s	Protection Time
Modify Password		AC Over-voltage Level 1 Pr 1.50 s	otection Time
LOGOUT		AC Under-frequency Level	1 Protection Time
		Grid Overfrequency Level 1 0.20 s	Protection Time
kame Aur Internation ABCORD3	SACKAR		

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} (∨)	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	ý						
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-frequen	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 8 Grid Parameters**

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

Step 5: Power Factor [Pf] / Reactive Power Control [Q(u)]

The Volt-Var and pf settings can be configured through "Active and Reactive Power" under "Operation Parameters". To adjust the setting, click on "Reactive Adjusting Switch".

MORE	*	< BACK		< BACK	SAV
O Boot		OPERATION PARAMETERS		ACTIVE AND REACTIVE POV	VER
U Shutdown		Active and Reactive Power	>	Limited Power	0
System Parameters		Running Time Parameters	>	Pac Limit	
Communication Decomptors		LVRT Parameters		110.0 %	
Communication Parenteeus		HVRT Parameters		Speed Control	
Operation Parameters	2	Underfrequency Rising		Active Power Rising Speed	
Protection Parameters		Overfrequency Derating		16 %/min	
Advanced Settings	> 💼	Grid Overvoltage Active	> 📥	Active Power Decline Speed 16 %/min	
More Parameters		ISO Parameters			-
Developed Law		MPPT Global Scanning Parameters		Fault Soft Start	
Download Log		Frequency Change Protection Setting		Power Increase Speed 16 %/min	
Firmware Update		Grid Voltage Suppression		Denselies Adjustics Duringh	
Modify Password		PID Control		Off	
LOGOUT		Grid Connection Condition		PF 1,000	
				Reactive Power Limit	
Nome Aux Information ARCONDS	AADDAG				

Figure 9 Active and Reactive Power

Select "**Pf**" for a certain power factor or "**Q(u)**" to adjust the Volt-Var settings. The different voltage and reactive power ratio can be entered according to the local DNSP's requirement.

< васк	COMPLETE	< BACK	SAVE	< BACK	COMPLETE	< BACK SAVE
REACTIVE ADJUS	STING SWITCH	Speed Control	0	REACTIVE ADJU	STING SWITCH	Reactive Adjusting Switch
Off		Active Power Rising Speed		Off	~	Reactive Response
Pf	~	Active Power Decline Speed		Pf		Reactive Response Time
Qt		30 Turrini		Qt		10.0 s
Q(P)		Factor	-	Q(P)		Q(U)_V1 207.0 V
Q(U)		PF		Q(U)		Q(U)_V2 220.0 V
	-	0.9			-	Q(U)_V3 240.0 V
		CANCEL CONFIRM				Q{U}_V4 258.0 V
		Reactive Response Time				Q(U)_Q1 -44.0 %
		PP				Q(U)_Q2 0.0 %
		1000	1000			Q(U)_Q3 0.0 %
		Active Power Setting Keeping				Q(U)_Q4 60.0 %
		mexicitie movies secting weaping.		0.00		

Figure 10 Reactive Adjusting Switch



Step 6: 10-Min Overvoltage Setting

The 10-min over-voltage setting can be adjusted under "Advanced Settings".

MORE	*	< BACK	< BACK
D Boot		ADVANCED SETTINGS	10-MIN OVERVOLTAGE PROTECTION
5 Shutdown		String Detection	10-min Overvoltage Protection
System Parameters		DC Component	Protection Value
Communication Parameters		10-min Overvoltage Protection	Recovery Value
Operation Parameters		Grid Imbalance Protection	253.0 V
Protection Parameters	>	Feed-in Power Limitation	
Advanced Settings	>	Other Parameters	-
G More Parameters	>		
Download Log			
Firmware Update			
Modify Password			
LOGOUT			
6 Ø 8			

Figure 11 10-Min Overvoltage Protection

The protection level can be adjusted and set according to the local DNSP's requirement.

Step 7: Feed-In Limitation and CT Ratio

If the inverter needs to be export limited, it can be set using "**Feed-in Limitation**" under "**Advanced Parameters**". ***

MORE	*	< BACK
Boot		ADVANCED SETTINGS
Shutdown		String Detection
System Parameters		DC Component
Communication Parameters		10-min Overvoltage Protection
		Grid Imbalance Protection
Operation Parameters		Phase Frequency Difference
Protection Parameters	>	Feed-in Power Limitation
Advanced Settings	>	Other Parameters
More Parameters	>	
Download Log		
Firmware Update		
Modify Password		
LOGOUT		
	MORE	

Figure 12 Feed-In Limitation

***If a Sungrow Smart Meter has been installed for just consumption monitoring purposes, the Feed-In Limitation Setting must be enabled for the inverter to detect the meter. Click <u>here</u> for more information.



The feed -in limitation value is the export limit amount and the feed-in limitation ratio is the ratio of the allowed limit to the total rating of the inverter. ****



Figure 13 Feed-In Settings

**** For example, if a 10kW inverter needs to be export limited to 5kW, the Feed-In limitation Value = 5kW and the Feed-In Limitation Ratio = 50%.

If a DTSD1352-C meter with external CTs has been used (SG15/20KTL-M), the CT ratio settings will appear under "**Feed-In Limitation**" settings and can be set accordingly.

FEED-IN LIMITATION	
Feed-in Limitation	
Feed-in Limitation Value 8.60 kW	
Feed-in Limitation Ratio 43.0 %	
Current Transformer External	2
Current Transformer Output Current 5 A	
Current Transformer Measuring Range	

Figure 14 CT Ratio

If the issue persists after following above procedures, please take photos testing on site and contact Sungrow Service Department on 1800 786 476 or email to service@sungrowpower.com.au.