SG30/50/110CX Inverters Commissioning Quick Guide (with Logger1000 and EyeM4)

Disclaimer

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

Contents

1	Ir	ntroduction
2	R	S485 Connections
	2.1	Inverter Connection (Daisy Chain)5
	2.2	Energy Meter Connection6
	2.3	Connection to Logger1000 8
	2.4	Connection via EyeM49
3	V	Veb Portal Setup11
	3.1	Access Web Portal11
	3.2	Set local time12
	3.3	Scan for Inverters13
	3.4	Add Energy Meter14
	3.5	Enable Remote Control16
	3.6	Internet Connection17
	3	.6.1 Connect via Ethernet Cable (Logger1000 only)17
	3	.6.2 Connect via WiFi (Logger1000 and EyeM4C)17
	3	.6.3 Connect via 4G (EyeM4A Only)18
	3.7	Add CT Transformation Ratio19
	3.8	Setup Export Control if required19
4	С	reate Plant on iSolarCloud20
5	L	lpdating the Logger1000/EyeM421

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) and 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.

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



TD_20210219_SG30-50-110CX Commissioning Guide_V1.1

Page 3 of 21

Please use the following checklist for quick commissioning:

Procedures		Yes/No					
RS485	RS485 communication cables installed correctly between						
connection	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/	Logger1000/ EyeM4 Setup via WLAN (11.11.11.1;						
EyeM4 web	password: pw1111)						
portal setup	Set the local time						
	Auto search inverters						
	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 International Server						
	Update iSolarCloud serve domain						
	Check Port Parameter for IP address						
Setup Online	Create a solar plant via iSolarCloud APP via an installer						
Monitoring	account						

2 RS485 Connections

2.1 Inverter Connection (Daisy Chain)

Recommend that RS485 can be connected by terminal blocks.

Please note SG15/20KTL-MT inverters connection is different as SG30/50/110CX inverters.



Optional: Ensure the termination resistors (120 Ohm) are 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.



TD_20210219_SG30-50-110CX Commissioning Guide_V1.1

Page 5 of 21

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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.

The corresponding pinouts to RJ45 are Pin 3 (White-green) to RS485- B and Pin 6 (Green) to RS485+ A:

If the communication cable is Shielded Ethernet cable, white-green cable 3 is defined as RS485- B cable and the green cable 6 as RS485+ A cable.



Corresponding Relationship Between Cables and Color :

Cable 1: White -orange ;Cable 2: Orange ;Cable 3: White -green ;Cable 4: Blue ;Cable 5: White -blue ;Cable 6: Green ;Cable 7: White -brown ;Cable 8: Brown.

Cable 3 and Cable 6 are used for communication - Cable 3 to RS 485 - B - Cable 6 to RS 485 + A

DTSD1352 energy meter connection:

- Terminal 21 = RS485+ A (Green)
- Terminal 22 = RS485- B (White/Green)





DTSU666 energy meter connection:

- Terminal 24 = RS485+ A (Green)
- Terminal 25 = RS485- B (White/Green)



Logger1000 connection: Connect to Logger1000 via the RS485 cable from the energy meter on RS485 port A2 and B2 if it has not been used.

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

Note: the Logger1000 and EyeM4 must be updated to the latest firmware to support the DTSU666 energy meter. To upgrade the Logger1000/ EyeM4, refer to th Part 5 of this document.

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 via EyeM4

Connect the energy meter RS485 to A2/B2 (RS485-2 Interface) terminals in the inverter that has 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)

Important: Enable RS485 Port for Inverter via iSolarCloud App

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.

16:04 \$			16:04 \$	2011 44	G - (#)	< BACK		16:04 \$::::::::::::::::::::::::::::::::::::::
	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		>	Power Regulation Parameters		Grid Voltage Rising Suppression	
Power	Today Yield	Total Yield	Firmware Upd	ate	>	Protection Parameters		PID Parameters	
0.00 kw	0.0 kWh	0.0 kWh	🔓 Modify Passw	vord	>	Communication Decomptore		String Detection	
						Communication Parameters		Fault Recovery	
P (%)								Power Reduction at Overfrequence	y >
80						Yield Coefficient		Power Increment at Underfrequen	cy >
60 40						Active Power Limit		Communication Interruption Configuration	
20						Apparent Power Limit		Grounding Detection	
05:00 09:00	13:00 17:00	21.00				55.0 KVA		AFD Parameters	
						Relay Sen-test		Other Parameters	
						Fan & SPD Self-test	2		
Home Run In	formation Records	More				Transparent Transmission Via Standby RS485 Port	C	= 0 <	
Ξ	0								

3 Web Portal Setup

The commissioning and web portal setup processes for the Logger1000 and EyeM4 are almost the same.

3.1 Access Web Portal



Open a web browser and enter IP address (11.11.11.1) to access below Logger1000/ EyeM4 web page.

Lagger1000 = Etware • Shoricut me	14			0 1	At they wanted			162 153.0 100	c)	nterternet n − n	192.108.0.100
Canod stame Contact	ing Natural Surger and	todesarijader bakaren	and the second				Logg/tr1000	Gastro-Welmann 🕹	inter 100	itrgie 🛓 08% oor	Shortcut menu
K Drove PH-Offset and Ph-offset an	e UOum Ium Y	C.000 cm	uti Gratike prove	Orcs or or anal SPCh Drive Brane		Bak Y	E Ovenine Galacia in Unitation Current alema	Shortcut menu Delanate, Nacak Teace Progenet Configuration Instructure			Dovio datup Nation i nar Dovio datup Nation i nar Torsfor configuration - Dyatem i roci
	Inter wildens (nor Will Straugers) Sector state en Rig Straugers (Normality) en Rig Straugers (Normalit	ha sec sec	NryJettitet 100 100 100 100	Abrauet () 100 100 100	Rectopedad 031 332		 A loss A loss	I Professional Constrained Service Service Constrained Constraine	-	6e."	PUP Plant value J00 ov/m The wate Out of the wate
		P	2	-				iPad			Smart Ph

Then log in the account with the password "**pw1111**" via the right top corner login button. When you log in for the first time, a help window will pop up for instruction. The device name will show on the top left corner of the page. If it is a Logger1000, it will

show Logger1000; if it is EyeM4, it will show EyeM4. All the other layouts and options will be the same.

EyeM4	Ξ					⊗ 0 <u>∧</u> 0	🕜 Help	English	LO&M user
	ame Shortcut Menu								
Device Monitoring	_								
🗙 Device 👻	Device Setup	Transfer Configuration S	System Maintenance						
1 Power Control 🗸									
History Data	PV-Plant Value								Expand~
O System	26.2 kWh		👩 17.441 kw		0 Piece				
Run Information	Daily Yield 982.2 kWh		Real-time Active Power 30.0 kW		2 Piece				
System Maintenance	Total Yield		Max. adjustable active Power		Online Device				
Remote Maintenance	Inverter Realtime Values (o	ff-grid 0, On-grid 1)							
Message Export	Device Name	Device Model	Status	Daily Yield(kWh)	Active Power(kW)		Reactive Pr	ower(kvar)	
Transfer Configuration	SG30CX(COM1-001)	SG30CX	Dispatch Running	26.2	17.441		0.421		
Port Parameter 🔻									
 About 									

3.2 Set local time

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

Logger1000	Ξ
• Overview 🔻	✓ Inverter Timing
Device Monitoring	Current Time 2020-02-18 10:55
🗙 Device 🗸 👻	Clock Source
T Power Control 🔫	NTP
🕔 History Data 🛛 🔻	Time Zone (UTC+10:00) Brisbane, Gu 💗
System	Domain
Run Information	ntp.api.bz
System Maintenance	Time Interval (Min)
Remote Maintenance	Last Sychronize Time 2020-02-18 10:54
Message Export	Save
System Time	
Transfer Configuration	
Port Parameter	

3.3 Scan for Inverters

Navigate to '**Device'** and click '**Device List**' section and click '**Auto search'**. Sungrow inverters will be automatically detected as long as they are correctly connected and energized.

Logger1000	E Or AD Other WEington										
🗱 Overview 🔻 🔻	Aubiseuto Aubiseuto										
Device monitoring	NO. \$ SN D	Device name Device model	Interface Modbus address	Envariance Ferwarding IP © Communication status Operation							
🗶 Device 🔺	Auto search			× °							
Device list				0							
Firmware update											
Inverter log	NO. SN ¢	Device model \$	Interface \$	Modbus address 💠							
I Power control ♥	1 T20190116005	SG-Inverter	COM1	2							
History data +	2 T20190116003	SG-Inverter 25%	COM1	1							
System 👻	Starting, plaza dori cker										
About											

Confirm the communication status for each device under **Communication status** section. Green icon indicates the connection works and red icon means no connection between Logger1000/ EyeM4 and the device.

Logger1000	Ξ						80	🛕 0 🕐 Help 🖽	English 💄 O&M user	
😫 Overview 🔻	Asto search							Add device	Doixte 🕞 🕞 🏹	
Device monitoring	ND. 0	SN	Device name	Device model	Interface \$	Modbus address 💠	Forwarding IP 🔅	Communication status	Operation	
X Device	1	T20190116005	SG80KTL-M(COM1-002)	SG80KTL-M	CDM1	2	2	90	0	
Device list	2	T20190116003	SG80KTL-M(COM1-001)	SG80KTL-M	GDM1	1	1	с ₀	0	
Firmware update										
Inverter log				Dovico	ict					
Power control		Device list								
C History data 🔻										

3.4 Add Energy Meter

The energy meter needs to be manually added which is same as any other 3rd party equipment.

To add the energy meter, click '**Add device**' and select a device type in the pop-up window and fill in the required information (Add device for DTSD1352/DTSU666 energy meter and device address: **254**).

If it is a DTSU666 meter and not show up in the list, you may need to update the Logger1000/EyeM4 first. Refer to the Part 5 in this document.

EyeM4
Ensure the port is COM1

Add Device	×
Device Type	
Meter	~
Port	
COM2	~
Device Model	
DTSD1352	~
Beginning Address (1-255)	
254	
Device Quantity (1-30)	
1	



3.5 Enable Remote Control

Select **System-> Remote maintenance**, enable the function and make sure the **Remote Service Address** is selected as **International Server**.

Logger1000	Ξ	80	^ 0	Help	English	C&M user
Power Control History Data	Remote Maintenance Enable					
 System 	International Server					
Run Information	Save					
System Maintenance	Remote Service Has Been Connected					
Remote Maintenance						
Message Export						
System Time						
Transfer Configuration						
Port Parameter 👻						
About						
A A A A A A A A A A A A A A A A A A A						

Then go to **System-> Transfer Configuration**, click the **Setting gearwheel** highlighted in red to change the **Server Domain**. Please make sure the domain address is **api.isolarcloud.com.hk**

Logger1000	Ξ			⊗ 0 <u>∧</u> 0	🕜 Help	LO&M user
1 Power Control 👻	ISolarCloud IEC104 MODE	BUS Third-party Portal				
History Data	Server Domain	Peer Port	Switch		_	
🗘 System 🔺	api.isolarcloud.com.hk	19999			0	
Run Information						
System Maintenance						
Remote Maintenance						
Message Export						
System Time						
Transfer Configuration						
Port Parameter 🔹						
3 About						
ê 🖬 🛆						

3.6 Internet Connection

3.6.1 Connect via Ethernet Cable (Logger1000 only)

Select System -> Port Parameter -> Ethernet.

Select **ON** for the DHCP setting and the home router could allocate a random IP address to Logger1000. When Logger1000 is successfully connected to internet

via Ethernet cable and communicate with iSolarCloud, the Ethernet port icon and the cloud icon on the left column (at the bottom) will be on.



3.6.2 Connect via WiFi (Logger1000 and EyeM4C)

Select System -> Port Parameter -> WiFi.

Turn on the WiFi switch. Choose the customer network and enter the password, it will display as Available WLAN Networks when it is connected successfully. When The Logger1000 or EyeM4C is successfully connected to internet via WiFi and

communicate with iSolarCloud, the WiFi icon and the cloud icon on the left column (at the bottom) will be on.

EyeM4	🖂 🛛 🙆 🕰 🖉 Help 🕮 English 🛓 O&M user	
🔇 History Data 🛛 👻	Client Hotspot	
♦ System	WiFi On-off	
Run Information		
System Maintenance	Available WLAN Networks:	
Remote Maintenance	Choose a network Refresh	
Message Export	😪 TesaTapeSyd	
Transfer Configuration	BorderExpress-PM178 tncGuest	
Port Parameter	🙃 Little Graces	
RS485	Others WIFI only supports numbers, English letters and English characters (except "~")	
WiFi		
 About 		

3.6.3 Connect via 4G (EyeM4A Only)

No special settings required. Make sure the EyeM4A are firmly connected and Remote Maintenance and Transfer Configuration (Section 2.5) are correctly set. When EyeM4A is successfully connected to internet via 4G and Communicate with iSolarCloud, the 4G icon and the cloud icon on the left column (at the bottom) will be on.

3.7 Add CT Transformation Ratio.

Navigate to **'Device Monitoring'** and select the meter DTSD1352. Click "Initial Parameter". If the ratio is 200/5, then enter value 40 in the CT Transformer Ratio.

Logger1000	Ξ		🙁 0 🔥 🕜 Help 🌐 English 🔒 O&M user
🖬 Overview 🔻	All	Realtime Values Initial Parameter	
Device Monitoring	% 501107L407(COM2-002)		Save
X Device -	S DTSD1352(COM1-002)	Name	Value
T Power Control 🗸		PT Transformation Ratio	1
History Data		CT Transformation Ratio	40
System 👻		Access Type	Gateway Electricity Meter 🔍
 About 			

3.8 Setup Export Control if required

Select **Power Control -> Active Power.** Then you can set all the parameters as following figures. The **Fixed Value of Active Power** is the part to set the power limit.

Note: make sure to disable 'Feed-in stop'

Example: A 50 kW inverter and need export limit to 20 kW, then enter 'Fixed Value of Active Power' to 20 kW.

Logger1000	Ξ			⊗0 🚹 0	Help	English	1
🖬 Overview 🔻	Active Control Mode						
Device Monitoring	Local Power Control	~					
	Communication abnormal	ity output (%)					
X Device 🔻	0.0						
Power Control	Control Method						
Active Power	Closed-loop Control	~					
Dogetivo Dovor	Select Meter						
Reactive Fower	DTSD1352(COM3-001)	T					
Emergency Button	Wiring mode						
History Data	Direct connection	-					
Svstem 🔻	Start after communication	recovery					
	Enable	Ŧ					
About	Start delay after communi	cation recovery (0)–120)s				
	60						

Logger1000	<u>.</u>	8 0 🔥 0	🕐 Help 🕀 English 🔒 O&M user
🔛 Overview 🔻 🔻	Feed-in stop Disable		
Device Monitoring	Control Cycle (5-60)S		
🗙 Device 🗸 👻	5		
1 Power Control	Instruction Type		
Active Power			
Reactive Power			Clear Data
Emorgoney Button	Start Time	Fixed Value of Active Power(kW)	
Emergency Bullon	00:00	20.0	
S History Data ▼	23:59	20.0	

4 Create Plant on iSolarCloud

The iSolarCloud portal is available for the Logger1000/ EyeM4 online monitoring. You need to create an iSolarCloud installer account if you do not have one, then you can create a plant to link with Logger1000/ EyeM4 via the iSolarCoud APP.

Login your account and click " \oplus " on top right corner to create a new plant.

Create Plant -> Commercial -> PV ->Scan the QR Code of Logger1000 or EyeM4.

3:31	al 🕈 📭	11:16	al 🗢 🔳	11:16	.al 🗢 🔳	11.36	
SUNGROW	Q 🕀	< BACK	X CANCEL	< BACK		< BACK	
99+ unread messages >>	×	SELECT PLANT TYPE		SELECT INVERTER TYPE		SCAN QR CODE	
Plant Status -		Select plant type to choose the right communication device.		Select inverter type to choose the righ communication device.	it.	Scan the QR code on the co connect the inverter to iSola	mmunication device to
Equivalent Hours: Today Yield:		RESIDENTIAL		Tap "PV" when all inverters of the plan PV inverters. Tap "HYBRID" when the plant has at k hybrid inverter.	it are sast one	Tap "Manually" if no QR cod	e available.
RESUMÉ COMMISSIONING		COMMERCIAL		PV		SL	JNGROW
Equivalent Hours: Today Yield: RESUME COMMISSIONING	III	•	III.,	HYBRID		Are you sure yo the device with a of A19111	a want to add serial number 35369?
Equivalent Hours: 2.26 Hour Today Yield: 11.3 kWh	4447					CANCEL	CONFIRM
Today Yield: E-use Today: Today's Charge: Today's Discharge:							
RESUME COMMISSIONING							•
Factor Factor	Mars					Manually	Lamp

Then you only need to enter the customer's basic information, and the plant will be created in a few minutes.

5 Updating the Logger1000/EyeM4

To upgrade the Logger1000/EyeM4, a laptop or a computer is required. You may contact Sungrow for assist if laptop/computer is not available on site. First get the Logger1000/EyeM4 connected to iSolarCloud (refer to Part 3.5 and 3.6 of this document) and create the plant on the portal (refer to Part 4 of this document) and follow the step below.

Ö	iSolarClo	ud	2 Q	Firmwa	re Update							
084 බ	Home	3		Comm	unicati · 4Device	Model ~ Dev	ce S/N E	0			6 Firmwa	are Update
	Fault				Plant Name	Device S/N	Device Type	Device Model	Online Status	Current Version	Device Name	Operation
0	Report			5 🗵	McKenzie Aged Care - Sandbrook	B2005085044	Communication Module	EyeM4	Online	Check Version	EyeM4_001_247	Q
IA.	Curve											
ø	Advanced	×										
25	Settings											
۲	Firmware Update	1	1									
0	Automatic update set	ings										
56	Smart IV Curve Diagno	sis										

Step 1: Log into the iSolarCloud, go to the Firmware Update.

Step 2: Search for the plant.

Step 3: Tick the plant.

Step 4: Choose the device type. If it Logger1000, choose Data Logger; if it is EyeM4 Choose Communication Module.

Step 5: Tick the device.

Step 6: Click Firmware Update and input the login password.

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