EyeM4 (WiFi) Commissioning Quick Guide (SG30/50/110CX Inverters)

Disclaimer

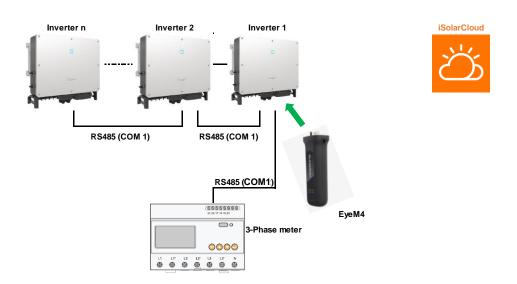
The material in this document has been prepared by Sungrow Australia Group Pty. Ltd. ABN 76 168 258 679 and is intended as a guideline to assist solar installers for troubleshooting. It is not a statement or advice on any of the Electrical or Solar Industry standards or guidelines. Please observe all OH&S regulations when working on Sungrow equipment.

This quick guide is to be read in conjunction with the Sungrow's User Manuals and SG30/50/110CX inverters as example for demonstration.

For export control and load consumption, an energy meter (DTSD1352-C/1(6)A with external CT) needed to be connected.

The energy meter and inverters are connected via daisy-chain RS485 as per standard RS485 topology.

Up to 10 devices can be connected with an EyeM4 (WiFi) Dongle. The EyeM4 and an energy meter **only can be connected in the first or the last inverter** when inverters are connected together via daisy-chain.



Please use the following checklist for quick commissioning:

Procedures		Yes/No
RS485 connection	RS485 communication cables installed correctly to inverters by terminal blocks? RS485 communication cables installed correctly on the first or the last inverter to energy meter DTSD1352-C/1(6)A by terminal blocks?	
iSolarCloud App	Important: Enable RS485 Port for Inverter via iSolarCloud App	
EyeM4 web portal setup	 EyeM4 Setup via WLAN (11.11.11.1; password: pw1111) Update to the latest firmware for export control feature (click here) Auto search inverters Add the energy meter and adjust CT Transformation Ratio Set up export control if required 	
Setup Online Monitoring	Create a solar plant via iSolarCloud APP via an installer account	
Remote maintenance	Connect the customer's home WiFi network Enable International Server Update iSolarCloud serve domain	

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EyeM4 (WiFi) Commissioning (click here)

Click here for Local Firmware Update Procedure, otherwise, you cannot add energy meter for export control.

Click here to download EyeM4 (WiFi) firmware



RS485 Connection

Recommend that RS485 can be connected by terminal blocks for more than one inverter.

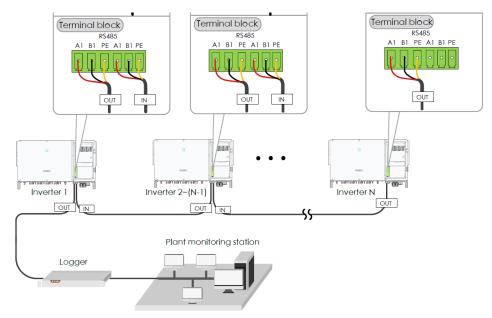


Figure 1 The RS485 can be wired direct to terminal block

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.

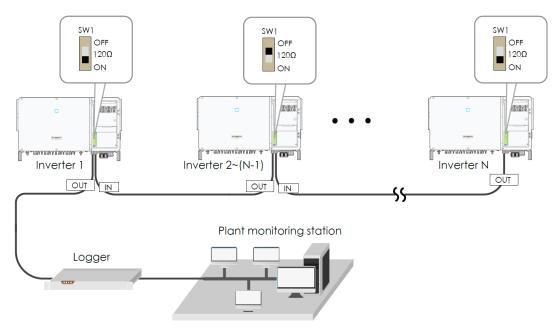


Figure 2 termination resistors (120 Ohm)

Energy Meter to Inverter 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.

Where RJ45 is used, the corresponding pinouts to RJ45 are Pin 3 (White-green) to RS485- B and Pin 6 (Green) to RS485+ A:

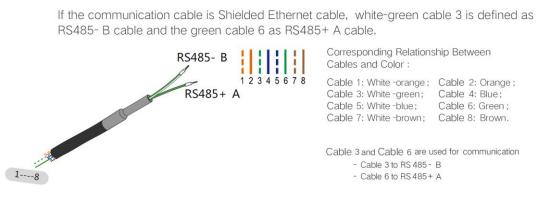
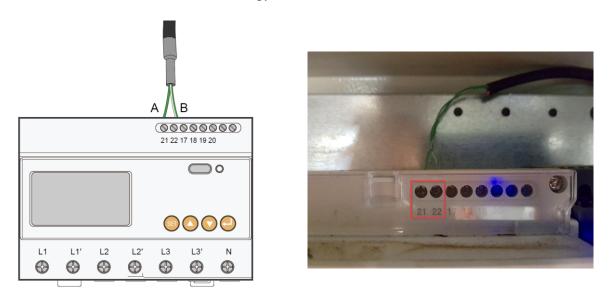
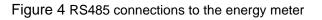


Figure 3 Meter RS485 pin-outs

Terminal 21 to Green cable (RS485+ A) and terminal 22 to White / Green cable (RS485- B) on the DTSD1352 energy meter side. The following figures shows the meter cable connection on the energy meter.





Important: Connect the energy meter RS485 to A2/B2 (TRACKER) terminals in the inverter that has the EyeM4 dongle.

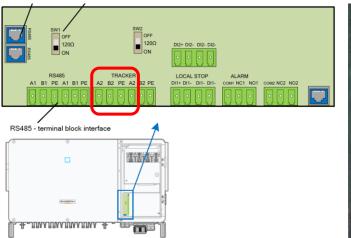




Figure 5 RS485 connections to the inverter

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 \$		4G- CMD	16:04 \$		4G. (M)	< BACK			16:D4 8	=== 4G. (III)
	SG50CX	*		MORE	*	SETTINGS			< BACK	
2020/06/05 16:04 Shut Down			🔅 Setting	IS	>	System Parameters	>		Running Time	
0 W	SN: SG33CX	🛈				Operation Parameters	>		Global MPPT Scanning	
<u></u>			Downlo	bad Log	>	Power Regulation Parameters	>		Grid Voltage Rising Suppression	
Power	Today Yield	Total Yield	Firmwa	are Update	>	Protection Parameters	>		PID Parameters	
0.00 kw	0.0 kWh	0.0 kWh	🔓 Modify	Password	>	Communication Parameters	1		String Detection	
		P (%)				Communication Parameters	/		Fault Recovery	
◦ (%)									Power Reduction at Overfrequency	
80						Yield Coefficient			Power Increment at Underfrequence	y >
60						Active Power Limit			Communication Interruption Configuration	
0 05:00 09:00	13:00 17:00	21.00				Apparent Power Limit			Grounding Detection	
0530 0930	1300 1700	2100				55.0 KVA Relay Self-test		(AFD Parameters	
) I	Other Parameters	
						Fan & SPD Self-test	\bigcirc			
	isimation Records	More				Transparent Transmission Via Standby RS485 Port			= 0 <	
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Figure 6 Enable RS485 Port



EyeM4 web portal setup

Access EyeM4 web portal

Use a smart device or laptop under Wi-Fi function to search for the $SG^{*********}$ (10 digits number) network that corresponds to the Dongle serial number.



Figure 7 WiFi connection

Open a web browser and enter IP address (11.11.11.1) and password: pw1111 to access below EyeM4 web page.

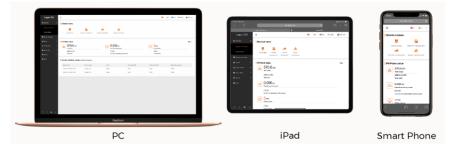


Figure 8 Connection options

Then you can log in the account (please contact Sungrow for password) via the right top corner login button. When you log in for the first time, a help window will pop up for instruction.

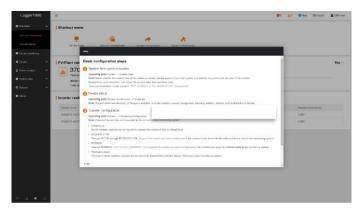


Figure 9 The Welcome Screen

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Auto search inverters

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

Meanwhile, you can confirm the communication status for each device under **Communication status** section. Green icon indicates the connection works and red icon means no connection between EyeM4 and other device.

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Inverter lag		NO. SN \$		Device model \$		Interface ≑		Modbus address 💠		
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History data •		2 T20190116003		SG-Inverter 207		COM1		1		
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About										

Figure 10 Search device

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 Device Monitoring Device 	No.	SN	Device Name	Device Model	Port ≑	Device Address \$	Forwardin g IP ≑	Com Status	Operatio n			
	1		SG110CX(COM1-002)	SG110CX	COM1	2	2	%	٥			

Figure 11 Check Inverter connection status

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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 (Select 'Meter' and auto add 'COM1' and 'DTSD1352' and the change device address to 254)

Add Device	×
Device Type	
Please Select	^
Please Select	
String Inverter	
Meterfm	
2	
Device Type	-
Meter	-
Port	
COM1	~
Device Model	- 1
DTSD1352	~
Beginning Address (1-255)	- 1
254	
Device Quantity (1-10)	- 1
1	
Save	

Figure 12 Add meter information

Check that the meter is connected.

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• Overview -	Auto	Search	Add Device									Delete
Device Monitoring		No.	SN	Device Name	Device Model	Port \$	Device Address \$	Forwardin g IP ≑	Com Status	Operatio n		
X Device		1	ACROSSIN-CO	SG110CX(COM1-002)	SG110CX	COM1	2	2	8	0		
Device List		2		DTSD1352(COM1-254)	DTSD1352	COM1	254	3	8	٥		
Firmware Update												
Inverter Log												
AFD Activation												
T Power Control -												
 History Data 												
 System 												
About												

Figure 13 Check Meter connection status



Add CT Transformation Ratio

Navigate to '**Device Monitoring**' and select DTSD1352. If the ratio is 200/5, then enter value 40.

		😒 0 🛕 0 🕜 Help 💮 English 💄 O&M user
Overview All	Realtime Values Initial Parameter	
General Information	COM1-001)	Save
Current Alarms	Name	Value
Device Monitoring	PT Transformation Ratio	1
Cevice	CT Transformation Ratio	Enter desired value
Power Control	Access Type	Gateway Electricity Meter
History Data 👻		
System 👻		
About		
- m (;		

Figure 14 CT ratio

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'

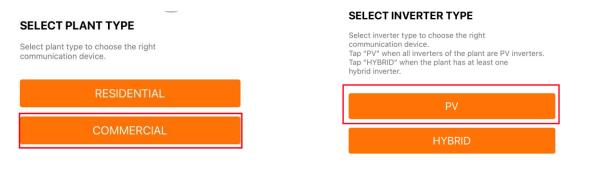
If it is 50 kW inverter and need export control to 20 kW as an example, then enter 'Fixed Value of Active Power' to 20 kW.

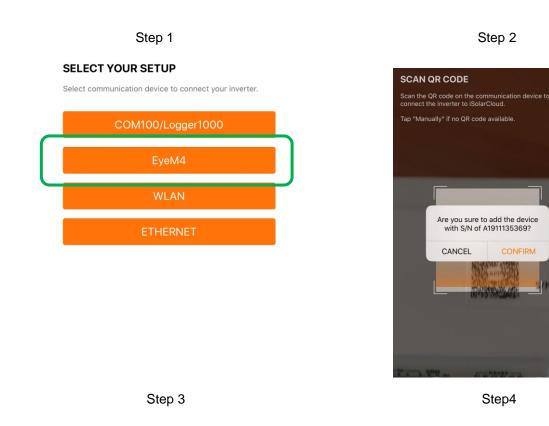
A data Castra Mada		
😫 Overview 👻 Active Control Mode		
Local Power Control		
Communication abnormality output (%)		
Power Control Control Method		
Active Power		
Select Meter		
Reactive Power DTSD1352(COM3-001)		
Emergency Button Wiring mode		
History Data Direct connection		
Start after communication recovery		
Enable		
About Start delay after communication recovery (0–120)s		
60		
	🕀 English 🔒 🔒	D&M user
Feed-in stop		
Device Monitoring Control Cycle (5-60)S		
5		
X Device V		
Power Control		
Active Power		
	Clear Data	
Reactive Power Start Time Fixed Value of Active Power(kW)		
Emergency Button 20.0		
History Data 23:59 20.0		

Figure 15 Set the export limit

Set up online monitoring

The iSolarCloud is available for the EyeM4 online monitoring. You need to create an iSolarCloud account first, then you can create a plant to link with EyeM4 via the mobile APP.Create Plant -> Commercial -> PV-> EyeM4 -> Scan the QR Code





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

Open a web browser and enter IP address (11.11.11.1) and password: pw1111 to access below EyeM4 web page

Login the account and select the **System** on the left tool bar, then click **Port Parameters**. There is an option for the WiFi, select WiFi and enable the WiFi On-off. It will pop up the available WiFi networks. **Choose the customer network and enter the password**, it will display Available WLAN Networks when it is connected successfully.

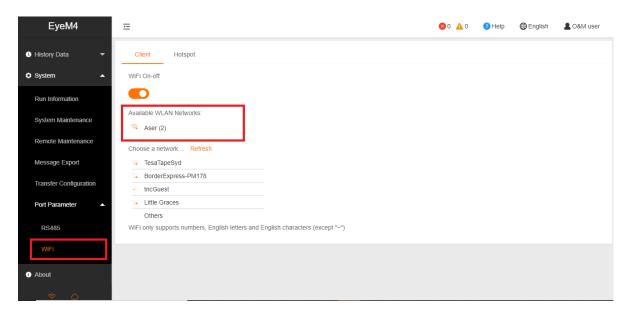


Figure 16 Set the WiFi connection

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

EyeM4	Ξ	0 😒	A 0	Help	English	LO&M user
Device monitoring X Device	Remote Maintenance					
T Power Control 🔻	Remote Service Address					
C History Data 🗸	International Server					
System	Save					
Run Information	Remote Service Has Been Connected					
System Maintenance						
Remote Maintenance						
Message Export						
Transfer Configuration						
Port Parameter 🔹						
About						
🛆 lh. 🗟						

Figure 17 Enable Remote Maintenance

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

	Ξ		⊗ 0	🔥 0 🕜 Help	English C&M user
Power Control	iSolarCloud IEC104 MODBUS	Third-party Portal			
🕚 History Data 🛛 👻	Server Domain	Peer Port	Switch		
🌣 System 🔺	api.isolarcloud.com.hk	19999		0	
Run Information					
System Maintenance					
Remote Maintenance					
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System Time					
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 About 					
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Figure 18 Confirm the domain is correct

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After the above settings are finished, you can go back to the Remote Maintenance and check if there is an information indicating the EyeM4 connect with iSolarCloud server. Meanwhile, you can find a cloud icon at the bottom left corner, it means the EyeM4 is on iSolarCloud when the icon lights up.

EyeM4	Ξ	🔇 0 🛕 0 🕜 Help 🜐 English 💄 O&M user
🗘 System 🔺	Remote Maintenance	
	Enable 👻	
Run Information	Remote Service Address	
System Maintenance	International Server V	
Remote Maintenance	Save	
Message Export	Remote Service Has Been Connected 244d1aa8a65.connect.isolarcloud.com.hk	
Transfer Configuration		
Port Parameter		
RS485		
Mobile Network		
WiFi		
J About		
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Figure 19 Check the system connecting with iSolarCloud

If you have any questions, please take photos testing on site and contact Sungrow Service Department on 1800 786 476 or email to service@sungrowpower.com.au, Monday- Friday 9am - 5pm (AEDT).