

CATCH Control

INVERTER CONTROL with SUNGROW SGXX-RT (3 Phase)



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Installation Overview

- 1. Install the Inverter as per the Manufacturers Installation Guide.
- 2. Install the CATCH Control as per the CATCH 6 Channel Electricians Guide.
- 3. Adjust the CATCH CT wiring as show in this document.
- 4. Connect the RS485 bus between the CATCH Control and the inverter as shown in this document.
- 5. Complete the Inverter Commissioning as per Manufacturers install guide.
- 6. Modify the inverter Export limit has detailed in this document
- 7. Run the CATCH Commissioner wizard.



CATCH CT Arrangement

You will need to place CH1, CH3, CH5 onto the MAINS phases. Place CH2, CH4, CH6 onto the inverter A/C Port.





IMPORTANT..PLEASE READ

The CATCH Control works by emulating the energy meter the inverter would normally use.

This means two things are really important.

1. You need to read the inverter manual:

Make sure you understand how to setup the inverter for export control. When you read the manual it will talk about an energy meter or CT...Follow the instructions exactly as they are in the manual. If there are any changes required we will let you know further down in this document.

2. Read the CATCH Control installation manual:

The manual outlines how to setup the CATCH Control to control loads. It also outlines circuit breaker requirements, how to use the CATCH Configurator App, etc.

Once you have followed step one and two you are ready to proceed....

Wiring Instructions

CATCH Control and the inverter communicate using RS485. Connecting the two pieces of hardware requires a 2 core RS485 cable. When the RS485 cable run is greater than 20m it is recommended to use a 2 core cable designed specifically for RS485 communication, it will typically have a 120 Ohm characteristic impedance. However, for short cable runs any 2 core cable will typically do the job, as long as it is rated for the voltages it will be exposed to. The pink CBUS data cable is ideal for short cable runs.



SGRT – 3phase

RS485 Wiring Instructions continued ...

SGRT 18-pin COM2 pinout identification



Label	Description	
RSD (RSD-1, RSD-2)	For inverter emergency stop	
NS (NS-1, NS-2)	For inverter emergency stop	
DRM (D1/5, D2/6, D3/7, D4/8, R, C)	For external Demand Response Enabling Device ("AU"/ For Ripple Control	"NZ")
RS485-1 (A1, B1)	For inverter daisy chain (Cannot be used simultaneously with COM1 port for Wil	Net-S/Wit
DO (NO, COM)	External alarm interface, e.g. light indicator and/or buzze The external DC voltage should not be higher than 30 V not higher than 1 A.	er and the (
RS485-3 (B3, A3)	Reserved	
Meter (B2, A2)	Smart energy meter interface	
SGRT 18-pin COM2 plug		DRM RS485
	aller .	Power Love on Shire room
SUNGROW COM2 Pi SUNGROW COM2 Pi	n 8 (A2) -> CATCH RS485 A n 6 (B2) -> CATCH RS485 B	SOLAR relay •



Modify Inverter Export Limit

< BACK

DEVICE INITIALIZATION

Feed-in Limitation

0.00kW

0.0%

Systems 0.00 kW

Feed-in Limitation Value

Feed-in Limitation Ratio

Rated Power of Original Power Generation

Set inverter parameters according to the local grid requirements.

S/N:A22C0879602(Not Configure	ed)
SG5.0RT	
Country/Region Australia	>
Power Company AS/NZS 4777.2:2020 Australia A	>
Feed-in Limitation	
Feed-in Limitation Value 5.00 kW	
Feed-in Limitation Ratio	
Rated Power of Original Power Generat Systems 0.00 kW	tion
Device Address	
I	
SETTINGS	
< 0	111
< BACK	
FEED-IN LIMITATION	
Installed PV Power 5.00 kWp	
Zero-export per Phase	

Log into the **iSolarCloud** App using local access and set the export limit to ZERO.

Turn on Feedin

Limitation

Set the feed-in

limit value to ZERO



1. Log into the CATCH Configurator and run the Commissioner.





2. Follow the Commissioner step by Step.

Step 6: Inverter Control

choose **Sungrow 3P** as the meter. And make sure you get all green ticks.



Choose: Sungrow 3P

You need **3** green ticks.



Step 7: Channel Setup

You will need to make sure the channels are assign the way you installed them. If you followed the CT Arrangement above then the assignment will be:

MAINS: CH1, CH3, CH4

SOLAR: CH2, CH4, CH6

The CT Channel readings appear below. The wizard will attempt to check the CT's for any errors, but it is not perfect. You may get a red cross when things are correct. If you are sure you are right you can move on.

Things to Check yourself:

Bad Connection:

If there is a bad connection on one or both CT wires you will get either ZERO or VERY HIGH readings for Amps.

Lower power factor:

This typically means the CT is on the wrong phase and needs to be moved. This is only true if you have power above 500W. When there is little to no power, power factor will be low (almost zero), and this is normal. But if you have power above 500W and low power factor this is an indicator you have the CT on the wrong phase. You can either remap it in the configurator setup or physically move the CT.



Step 7: Channel Setup ED BY THE COMMISSIONE

Connected to Serial Number: 33064

INSTRUCTIONS

Channel Purpose: We automatically set the devices channels when attaching to site. This is the default setup for a Solar Relay, however these can be changed below.

Channel Name:

Channel names are optional, by default MAINS and SOLAR channels will show on The Monocle Apps chart.

More Information:

Channel names can be changed later in The Monocle App.

Channel 1 Setup		
MAINS	\$	
Channel 1 Name Enter a Channel Name (op	tional)	
Channel 2 Setup		
Channel 2 Purpose	0	
SOLAR		
Enter a Channel Name (or	otional)	
Channel 3 Setup		
Channel 3 Purpose	0	
MAINS		
Enter a Channel Name (or	otional)	
Channel 4 Setup		
Channel 4 Purpose	0	
SOLAR		
Enter a Channel Name (or	otional)	
Channel 5 Setup		
Channel 5 Purpose	0	
MAINS		
Enter a Channel Name (or	otional)	
Channel 6 Setup		
Channel 6 Purpose	0	
SOLAR		
Enter a Channel Name (or	otional)	
Channel Re	adings	
Channel 1	Channel 2	
Power: 0 W	Power: 0 W	
Power Factor: 0	Power Factor: 0	
Channel 3	Channel 4	
Power: 0 W	Power: 0 W	
Power Factor: 0	Power Factor: 0	
Channel 5 MAINS Power: 0 W	Channel 6 SOLAR Power: 0 W	
Power Factor: 0	Power Factor: 0	
CT Stat	us	
×		
THERE ARE NO POWER	READINGS FOR	٩Y
CONFIGURATIO	N ERRORS.	

Previous

Next



Step 7: Channel Setup..continued

Things to Check yourself:

Incorrect Direction:

If the CT arrow is not pointing in the right direction your power numbers will be in the wrong direction.

With CATCH Control we show exporting power as a negative number and importing power as a positive number.

Pay special attention to the sign of the power numbers of each CT. The best way to check is to follow the procedure below:

Shut down all Solar and Battery systems.

All MAINS ct's should show a POSITIVE power number.

All SOLAR ct's should read ZERO.

2. Start Up the Solar (LEAVE BATTERIES OFF)

After the inverters have started up

All SOLAR ct's should read a NEGATIVE power number.



Step 7: Channel Setup ED BY THE COMMISSIONE

Connected to Serial Number: 33064

INSTRUCTIONS

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Channel Name:

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More Information:

Channel names can be changed later in The Monocle App.

anal 1 Cat

Channel 1 Setup		
MAINS		\$
Channel 1 Name Enter a Channel	Name (optional)	
Channel 2 Setup		
Channel 2 Purpose		\diamond
SOLAR		
Enter a Channel	Name (optional)	
Channel 3 Setup)	
Channel 3 Purpose		\diamond
MAINS		
Enter a Channel	Name (optional)	
Channel 4 Setur	0	
Channel 4 Purpose		\diamond
SOLAR		
Enter a Channel	Name (optional)	
Channel 5 Setur	0	
Channel 5 Purpose		\diamond
MAINS		
Enter a Channel	Name (optional)	
Channel 6 Setur)	
Channel 6 Purpose		\diamond
SOLAR		
Enter a Channel	Name (optional)	
Cha	nnel Readings	
Channel 1 MAINS	Channel 2 SOLAR	
Power Factor:	0 Power Factor: 0	
Channel 3 MAINS Power: 0 W Power Factor:	Channel 4 SOLAR Power: 0 W 0 Power Factor: 0	
Channel 5 MAINS Power: 0 W Power Factor:	Channel 6 SOLAR Power: 0 W 0 Power Factor: 0	
	CT Status	
	×	
THERE ARE N MAINS OR SOLA	O POWER READINGS FO	R
CONFIG	GURATION ERRORS.	

Previous

Next





2. Follow the Commissioner step by Step.

Step 8: EDDE Control

choose if you want EDDE Control enabled. If you choose Yes you should have set the inverter export limit to zero in the inverter configuration earlier.

If you Choose NO here. You need to go back and set the inverter export limit to what ever is appropriate

You will need EDDE Control to be YES if you want any of the following features.

- Flexible Exports
- Inverter Control
- · Market based pricing control such as AMBER curtailment
- EV Integration

powered by The COI	ANESIDONER						
Step 6: Inverte	er Control						
onnected to Serial P	Number 3923						
Select your inver	ter below						
ESTORE-1P							
90	severed by the costress cover Step 7: Channel Setup						
	Overanted In Secial Number: 2002						
Lo							
0.00	INSTRUCTIONS						
	Channel Purpose:						
PREVIOUS	We automatically set the divice when attaching to site. This is t setup for a Solar Relay, howeve	Sten	8: FDI)F Con	itrol		
	be charged below.	otep	0. 201				
	Channel Name:						
	MAINS and 50LAR channels w The Monocle Apps chart.	, connec	ted tö Se	riai Numi	ber: 3993		
		INS	STRU	стю	NS		
				0.101			
		EDDE	E is our co	mmand	and control pla	tform, also	
		home	e to the c	ommissio	oner		
		ED					
		fol	Enab	le EDD	DE Control	?	
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		_					
			Do y	ou wan	t EDDE Con	trol?	
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2. Follow the Commissioner step by Step.

Step 9: EDDE Export Control

If you choose YES for EDDE Control we will take care of the site export limit, not the inverter.

There are 2 important things for you to do.

1. Make sure the solar CT is wrapped around the AC port of the inverter as shown Below.

The SOLAR CT is W2.



2. Make sure you configure the inverter to be ZERO exported. (You should have done that in the previous inverter configuration section)

Tell us how the export limit is to be managed.



Static: Is when the DNSP tells you there is a fixed export limit. Example the connection application might say the site is limited to 5kW. This is a static export limit.

Dynamic: When you put the connection application in you would have nominated for the dynamic connection. The DNSP will adjust the export limit based on daily requirements.

You will need the NMI to complete the dynamic connection setup.



2. Follow the Commissioner step by Step.

Step 9: EDDE Export Control..Continued

Static Export Configuration:



Dynamic Export Configuration:





2. Follow the Commissioner step by Step.

Step 9: EDDE Export Control..Continued

Dynamic Export Configuration - Continued:

Once you have filled out the required information and pressed save the follow appears and shows you how the registration for dynamic exports is progressing... You want to see all green ticks for everything to be working. The indicators below are updated every 30sec. You need to get green ticks on all items below in order for Dynamic exporting to be operational.

Inverter Control Scheme: MIXED



This indicates all the criteria have been met for us to register this site, as a Dynamic Export site. We require Dynamic Exports to be enable and a valid NMI to be supplied.



LFDI: N/A



This indicates the NMI has been accepted by the DNSP system. The LFDI is the unique identifier used by CATCH and the DNSP to identify this site. You can copy the LFDI by pressing the copy icon to the right.



Last Measurement sent: 1/1/70 10:00 AM

Measurement data has been successfully sent from this site to the DNSP.



Default Export(W): N/A

Active Export(W): N/A

Last Control Received: 1/1/70 10:00 AM

Indicates we have successfully received some active export controls from the DNSP.

Errors

no errors



2. Follow the Commissioner step by Step.

Step 10: Save Configuration

The final step is to review the configuration, and Press **SAVE**.

CONGRATULATIONS...

INSTALLATION COMPLETE.

powered by The COMMISSIONER Step 10: Save Configuration

Connected to Serial Number: 3993

Summary

Device Information Device Name: 3993-SRWe/CATCH Serial Number: 3993 Firmware Version: 8305 Wifi State: Connected Server State: Connected

Inverter Control

Signal: 🗸

Communication: 🗸

Export Control Export Type: None

Live Data

Channel 1 Live Data Channel 1 Name: Purpose: MAINS Power: 3.76 kW Power Factor: -0.94 Volts: 248.9 V Amps: 16 A Freq: 49.94 Hz VA: 4 kVA VAR: 1357 var Imported: 55.2 kWh Exported: -114.0 kWh Channel 2 Name: Growatt AC Purpose: OTHER Power: 590 W wer Factor: 0.73 3.2 A Amp VA: 0.8 kVA VAR: 1357 ar Imported: 49.0 kWh Exported: -0.3 kW PREVIOUS SAVE



Modus Settings

This is for reference purposes, the modbus RTU details are shown below. These values can be found in the CATCH Configurator

Navigate to: Device Settings -> Modbus Configuration

odbus Configuration	—
Freedow al Marker	
Emulated Meter	
SUNGROW 3Ph	~
Cluster Export Limit	
0	
Modbus Device ID	
254	
Modbus Baud Rate	
9600	
Modbus Stopbits	
1	~
Modbus Parity	
Nana	-