SOLAR RELAY

INVERTER CONTROL
with SUNWAYS

STS 3-6KTL

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IMPORTANT..PLEASE READ

The CATCH Solar Relay 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 Solar Relay installation manual:

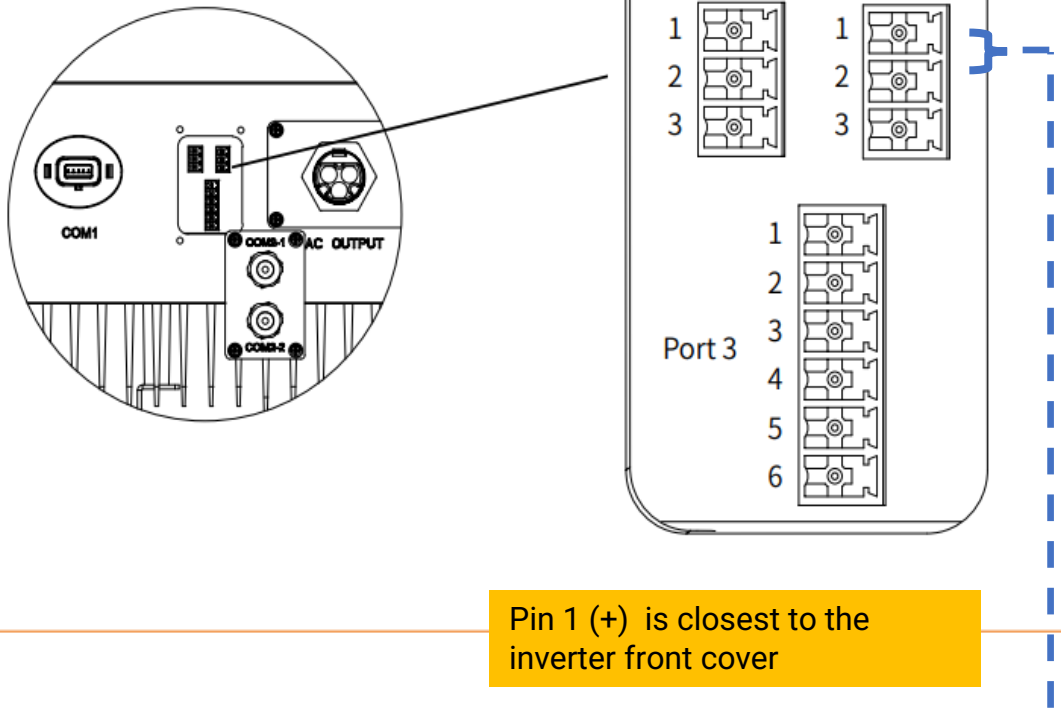
The manual outlines how to setup the CATCH Solar Relay to control loads. It also outlines circuit breaker requirements, how to use the CATCH Configurator App, etc.

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

Wiring Instructions

CATCH Solar Relay 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.

Connecting RS485 to the Inverter



Pin 1 (+) is closest to the inverter front cover

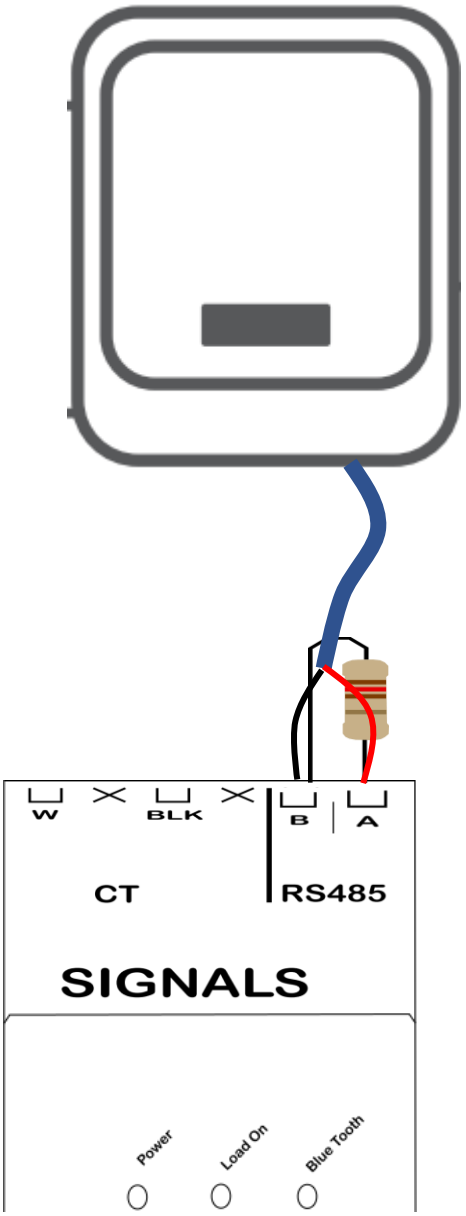
Pin 1 (Meter+) => Catch Solar Relay RS485 A

Pin 2 (Meter-) => Catch Solar Relay RS485 B

The image above is the bottom of the NS GEN3 Series inverter.

1. Remove bottom plate.
2. Using the green connectors supplied. Connect the RS485 cable to pin 1 and pin 2 as shown above..

Connecting the RS485 Wires to CATCH Solar Relay



Ensure the data cable is rated for the voltages it will be in close proximity to.
A 120 Ohm terminating resistor may be required at the CATCH Relay terminals as shown in the diagram below if the cable run is longer than 10m.

Inverter Setup

Change the Modus Address to 1

`General Settings` → `Modbus Addr`

Change the Modbus Address to
1

Set the Export Limit

`Advanced Settings` → `Export Limit`

The default password is `1111`.

Set the Sys Control Mode

Setting the System Control mode to hard means the inverter will disconnect if there is a communications problem between the inverter and meter.

`Advanced Settings` → `Sys CtrlMode`

The default password is `1111`.

Change this to **HARD**

SOLAR RELAY Setup

The screen below is from the CATCH Power Configuration App. The App can be downloaded from Google Play Store or the Apple iStore.

IMPORTANT

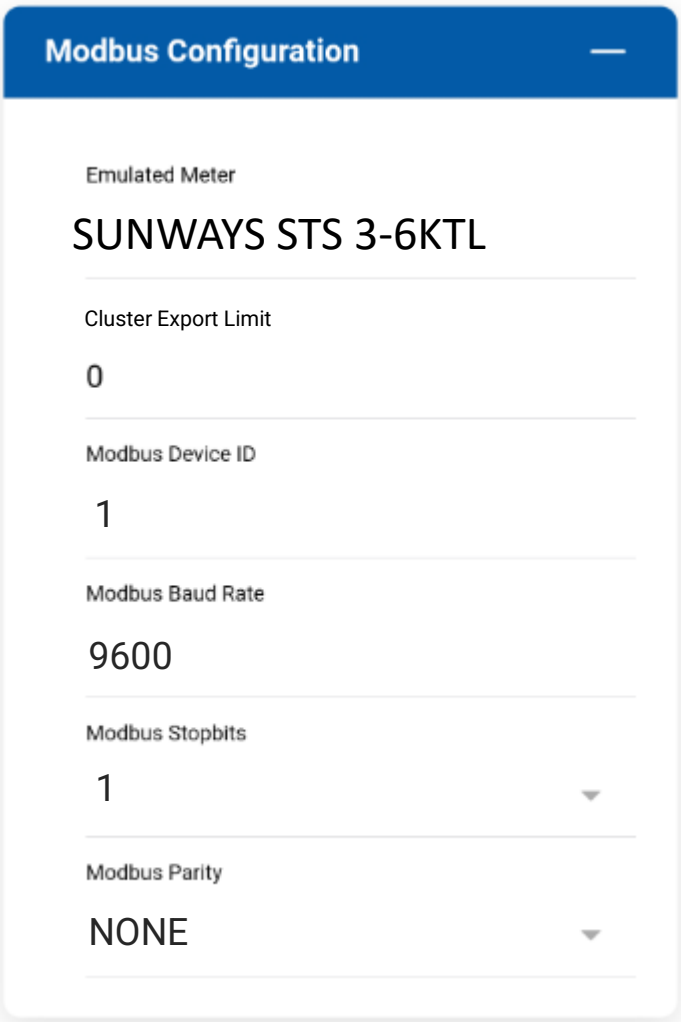
DO A FIRMWARE UPGRADE BEFORE YOU BEGIN

We are adding new inverters, and new control features all the time. Your relay firmware is most likely out of date already. Follow the onscreen instructions and perform a firmware update before you continue on

SOLAR RELAY Setup

Navigate to the Configuration screen and expand the Modbus Configuration section. Fill it out using the details below.

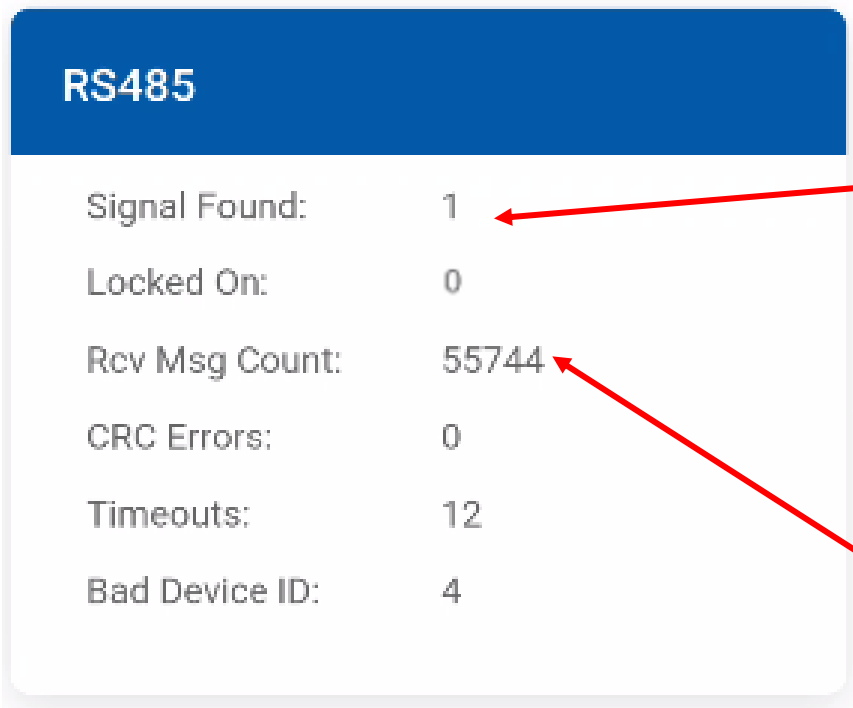
Save your changes.



Checking the status of the RS485 interface

Within the CATCH Power app if you navigate to the bottom of the Live Data screen you will see something similar to the screen below.

The RS485 Status Can be used to confirm correct operation



Indicates the inverter is transmitting data on the RS485 cable.

If this is zero it means the inverter is not communicating or there is a break in the cable.

This number continually counts the number of successful messages. This number will continue to rise if communications the link is good.

Set an Export Limit

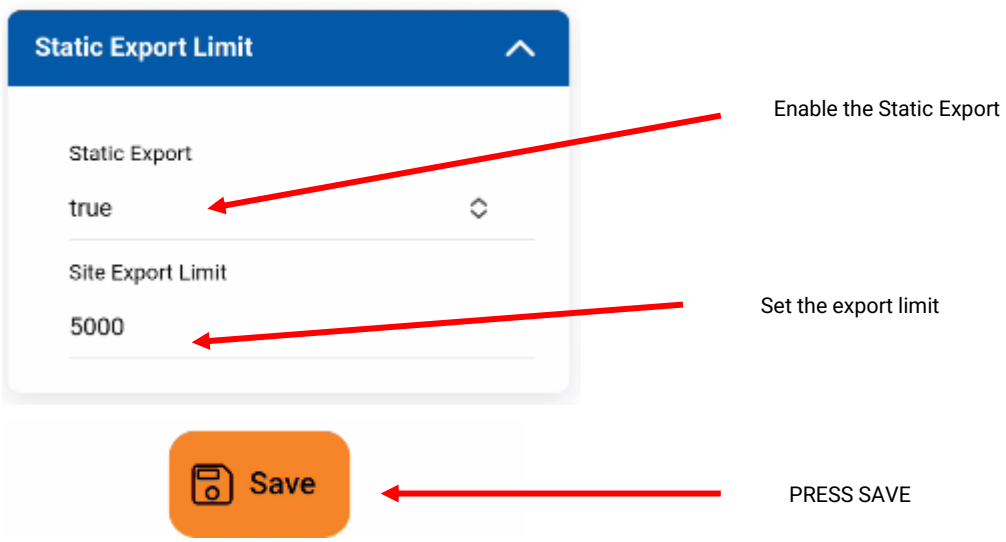
The SUNWAYS Integration requires that an export limit be set in the Configurator. A site can be defined as having a STATIC or DYNAMIC export.

A STATIC export is where the DNSP has given you a fixed export limit the site must adhere to. A DYNAMIC export is where you have opted in for the Flexible/Dynamic export connection.

Setting a STATIC EXPORT

In the Configurator navigate to **Device Settings**

And open the **Static Export limit** section. In the below example the site export limit has been set to 5000W (5kW)



1

The static export limit has been set.

Set an Export Limit…continued

The SUNWAYS Integration requires that an export limit be set in the Configurator. A site can be defined as having a STATIC or DYNAMIC export.

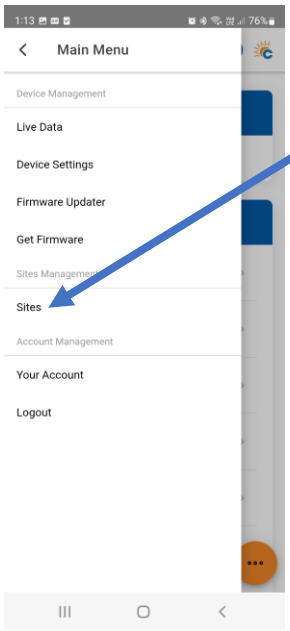
A STATIC export is where the DNSP has given you a fixed export limit the site must adhere to. A DYNAMIC export is where you have opted in for the Flexible/Dynamic export connection.

Setting a DYANMIC EXPORT

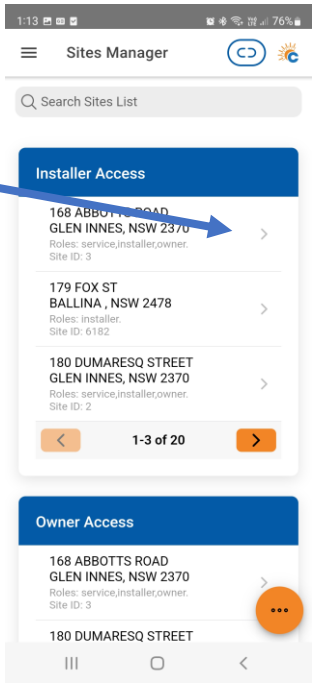
The following requisites are required before beginning this step:

- The Solar Relay is connected to the local WiFi
- The Solar Relay is registered with the MONOCLE.

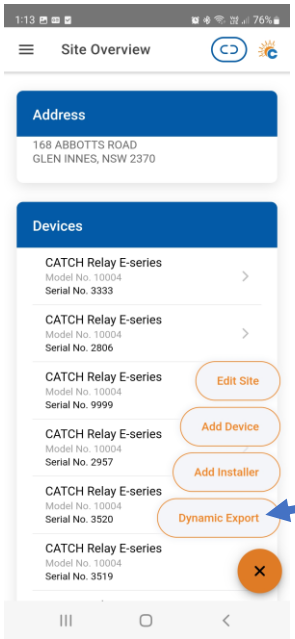
(See the Electricians Guide for details)



1. On the left menu choose "**Sites**"



2. Choose the site of interest



3. Tap on the 3 dots at the bottom right and choose "**Dynamic Exports**"

1. Enable Export Control

2. Enter the customers NMI.

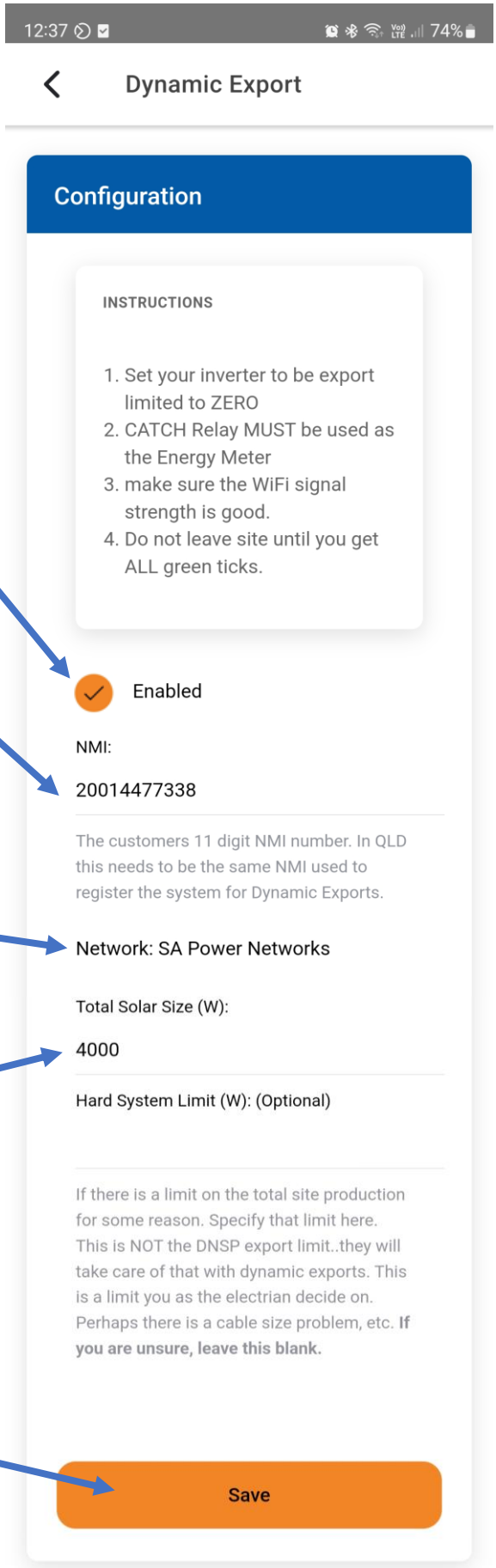
This needs to be the 11 digit NMI, if you have been dealing with your DNSP they may have only wanted the first 10 digits..But we need the 11th digit

If the NMI is correct the name of the DNPS should appear here.

3. Tell us the Solar Size

This needs to be specified in Watts, and is the TOTAL amount of solar on site as defined by inverter ratings.

4. Press Save.



The screen Auto refreshes. The last refresh time is here

It may take a few minutes, but you need all crosses to turn GREEN.

The default and active export limits for the site are shown here: