SOLAR RELAY

INVERTER CONTROL
with GOODWE

NS Series

GEN 3

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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:

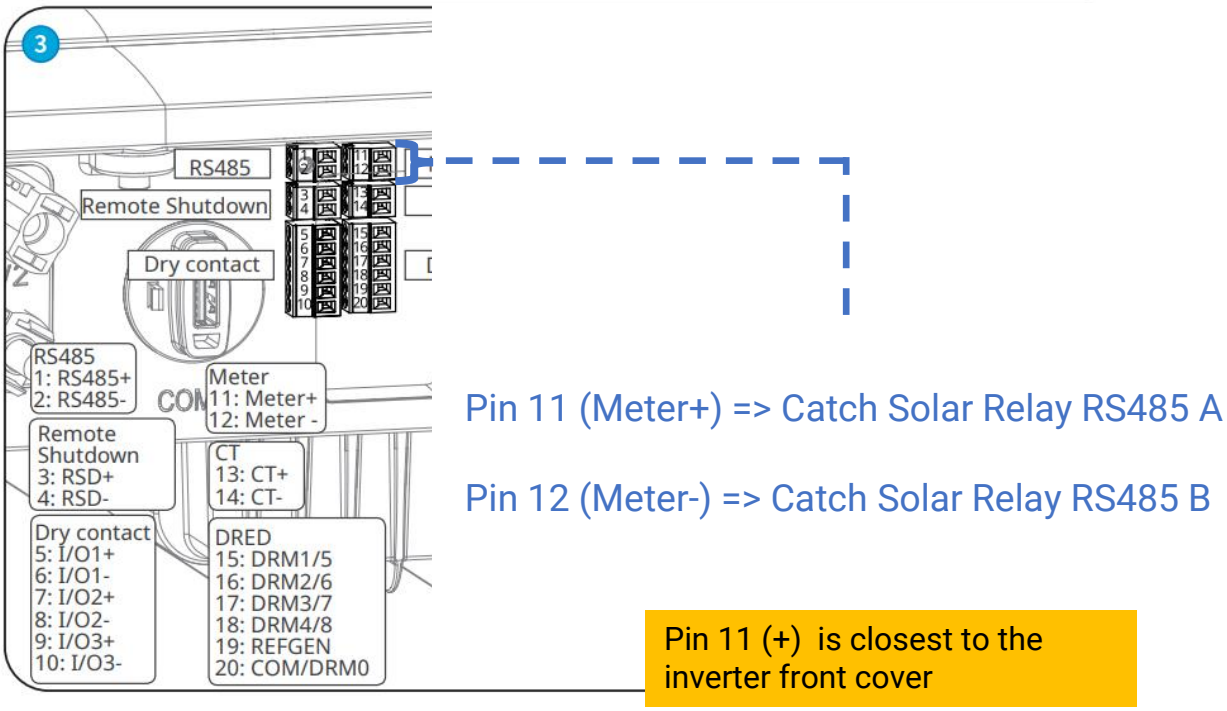
The manual outlines how to setup the CATCH Solar Relay to control loads. It also outlines circuit breaker requirements, how to use the CATCH Configurator App, etc.

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.

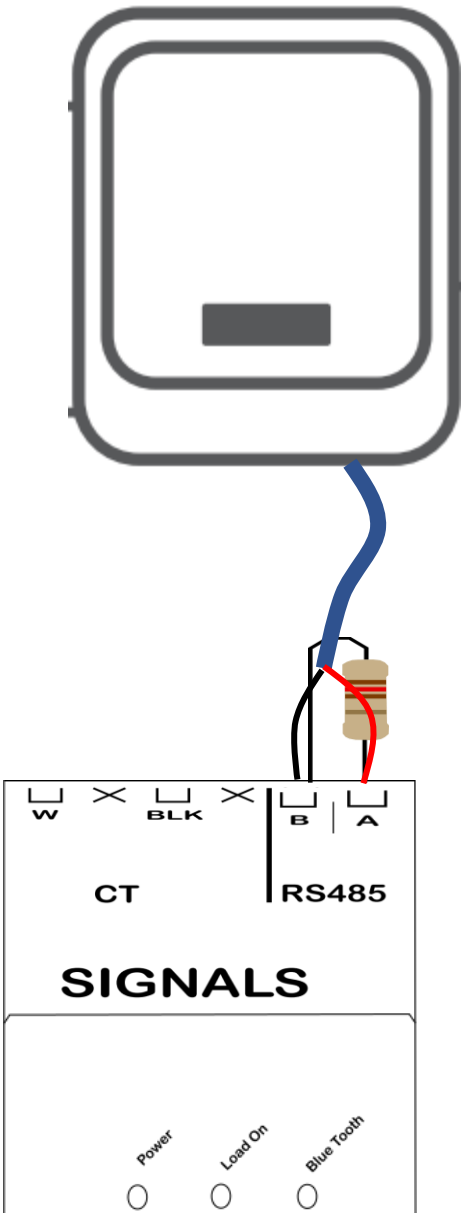
NS Series



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 either pin 11 & 12 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

The link below walks you through the process of configuring the GOODWE inverter for export limiting.

https://www.youtube.com/watch?v=dnfvOa1H6w0

Turn Power Limit On/Off

1. Navigate to the `Power Limit OFF` menu option using short presses.
2. Long press on the button until the password screen appears. The default password is `1111`.
3. Use longer 2sec presses to get to the last digit of the password then don't press anything for 10sec. Eventually you will move onto the Power Limit menu option.
4. Short press to change the Power Limit option from off to On.
5. Don't press anything for 10sec. Eventually it will go back to the main screen.

Power limiting is now turned on. The next step is to set the actual export limit.

Set the Power Limit

1. Navigate to the Set `Power Limit` menu option using short presses.
2. Long press on the button until the password screen appears. The default password is `1111`.
3. Use longer 2sec presses to get to the last digit of the password then don't press anything for 10sec. Eventually you will move onto the Power Limit menu option.
4. Use short presses to change the Power Limit digits and 2sec presses to move to the next digit.
5. Don't press anything for 10sec. Eventually it will go back to the main screen.

You have now set the power limit.

Inverter Setup..Continued

The power limit is expressed as a percentage. For example:
If you are configuring a 5kW inverter, and the export limit is 3kW, the export limit should be set to `100*3kW/5kW = 60%`

IMPORTANT!!

RESTART THE INVERTER NOW!!!

- Shutdown the A/C
- Shutdown the DC
- Wait for the screen to go blank.

Power the inverter back up…

The inverter will not connect to the relay unless it has been restarted..

Important GOODWE characteristics to note

- Consumption data does not get sent to the GOODWE monitoring portal. Regardless of whether you are using the CATCH Solar Relay or the GOODWE CT, no consumption data is displayed on the portal. The Goodwe HomeKit is required for this.

- If there are multiple inverters on site. The Goodwe inverter ignores all export limits until it reaches its own export limit power output.

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

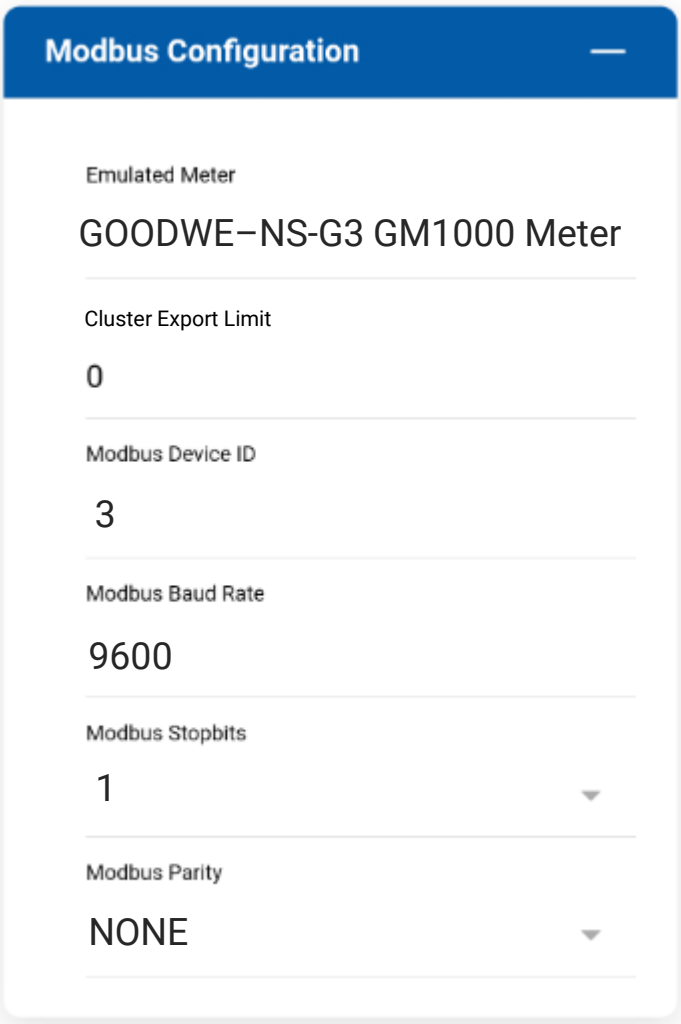
DO A FIRMWARE UPGRADE BEFORE YOU BEGIN

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.

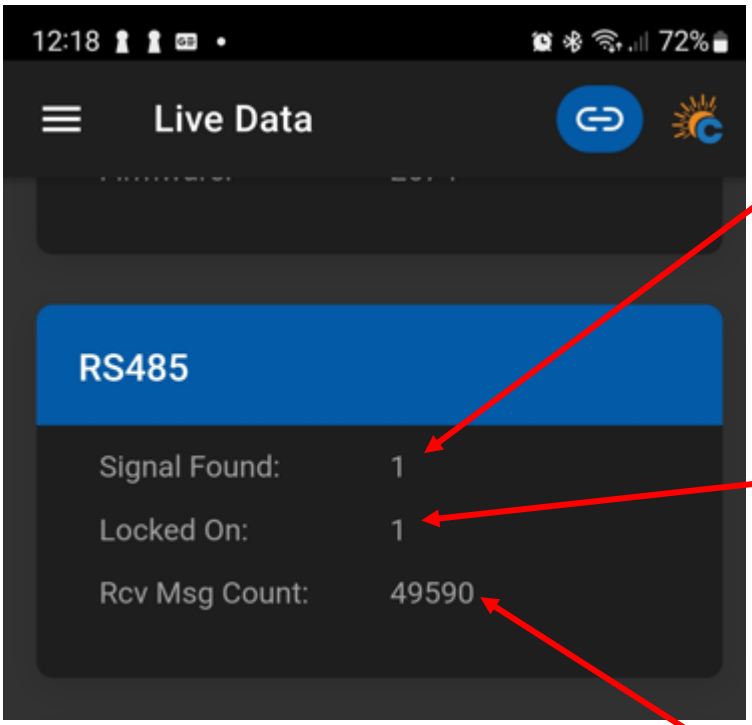
Save your changes.



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 indicates the inverter and the CATCH Relay are talking the same language.

If this is zero it is likely you have not chosen the correct meter when configuring the relay or the +ve and –ve wires are crossed over.

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

DYNAMIC / FLEXIBLE EXPORT CONTROL

THE FOLLOWING ONLY NEEDS
TO BE FOLLOWED IF YOU ARE ENABLING
DYNAMIC / FLEXIBLE EXPORTS

DYNAMIC / FLEXIBLE EXPORT CONTROL

RTU Control

DYNAMIC / FLEXIBLE Export Control

NO NATIVE MONITORING

If you choose to use RTU Control for this inverter, the inverter monitoring platform will not work

NO BATTERIES

RTU Control cannot be used on Hybrid inverters that have a battery connected.

1. Log into the inverter using the SolarGo commissioning app

SolarGo
GoodWe Technologies Co., Ltd.

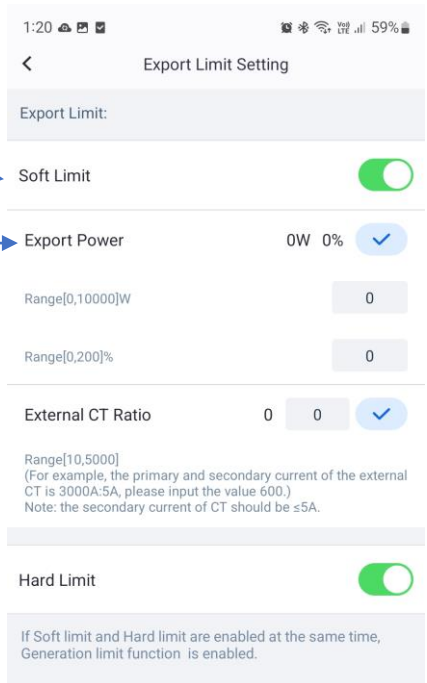
2. Navigate to
Advanced Settings ->Export/Power Limit Settings

3. Setup the inverter as Shown

Soft limit ON

Export limit to ZERO

Hard Limit ON



DYNAMIC / FLEXIBLE EXPORT CONTROL

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SUNSPEC Configuration

GOODWE Does not support
SUNSPEC over modbusTCP

DYNAMIC / FLEXIBLE EXPORT CONTROL

REGISTER SITE

DYNAMIC / FLEXIBLE Export Control

DYNAMIC / FLEXIBLE EXPORT CONTROL

Follow the Configuration steps in the Electricians Guide to register the site for the MONOCLE, and for Dynamic / Flexible Exports

DYNAMIC / FLEXIBLE EXPORT CONTROL