CONTROL

6 Channel

An Electricians Guide

We all know Electricians are absolute legends, but even legends need some guidance from time to time.

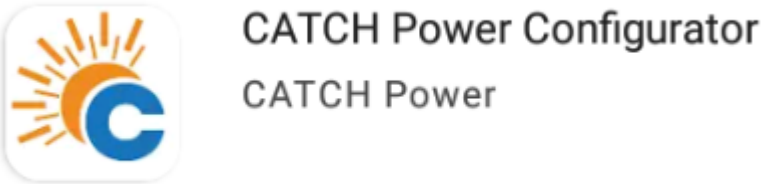
This guide was written by electricians for electricians. It is designed to help you unlock the power of the CATCH Control **6 Channel**.

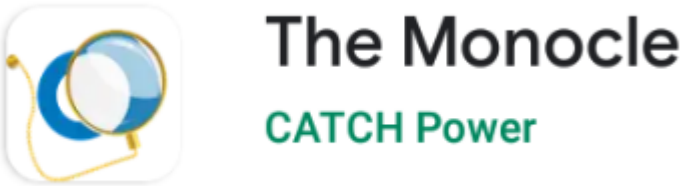
CATCH Power
A trademark of Project H Pty Ltd
180 Dumaresq Street
Glen Innes
NSW 2370
Australia
Ph: +64 2 5700 5717
W: www.catchpower.com.au
E: sales@catchpower.com.au

Before Getting to Site

1 - Getting the right software on your phone.

You will need **BOTH** of these.. Download them from your phone's app store.





The "**CATCH Power Configurator"** is used for setting up the hardware while you are on site.

"The Monocle" is the CATCH Power monitoring platform used by you and your customer for consumption monitoring and load control

"My Fleet Manager" is where you can log in to view your fleet of installations from the office. This platform is available on the computer and provides historic site data while allowing you to monitor and make changes to your sites remotely. Log in with your installer log in at https://myfleet.edde.world

ARE YOU UP FOR THE CHALLENGE?

Throughout this manual we assume you are a **CUTTER** quality electrician. If you are scratching your heading wondering how to download an app onto your phone you may want to give this job to somebody else…it only gets more technical from here.

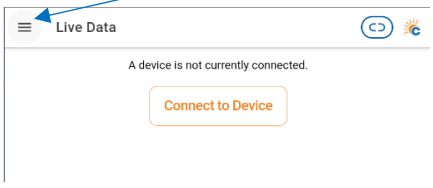
Before Getting to Site

2 – Create your Configurator Account

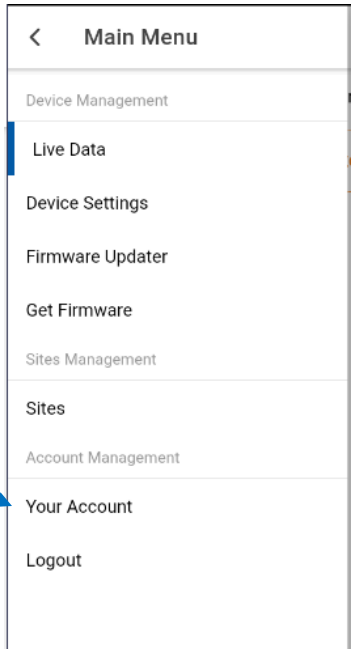
CATCH Power Configurator
CATCH Power

Use the CATCH Power Configurator App on your phone for this…open it.

1. Click on the menu button on the top left.



2. Click Here

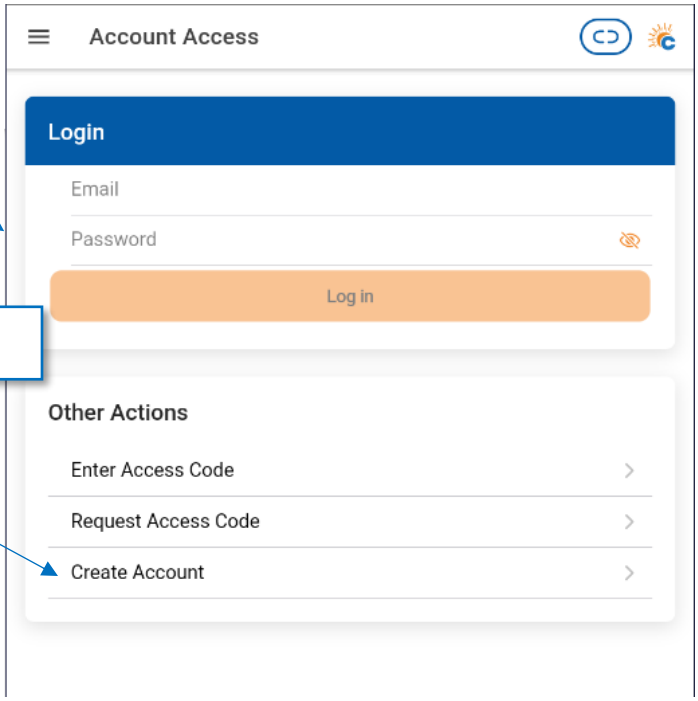


Before Getting to Site

2 – Create your Configurator Account…Cont'd

3. If you already have a Configurator account put the username and password in here.

4. Need to create a new Account?



SUGGESTION!!

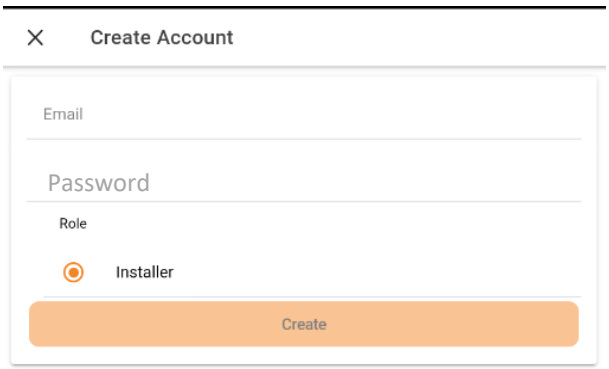
If you have multiple contractors doing work for you then we suggest you create a single company wide account and have everybody log in using that account..

we aren't NETFLIX, we are happy for you to share.

Before Getting to Site

2 – Create your Configurator Account…Cont'd

5. You know what to do here… Username and password please.



AND YOU ARE DONE…
OFF TO SITE WE GO.

IMPORTANT!!

Check your email address before pressing save…an incorrect email address is going to mean you miss out on heaps of cool features…

AUTO LOGIN

The configurator will keep you logged in for a few days, but for security reasons it will ask you to re-login every now and then, so you need to store the username and password away somewhere. You might be cutter Spec, but you're not superman/woman, you will forget the login details for sure.

Hardware Installation Overview

Before getting started with the details. Lets go over some of the features of the 6 Channels Device:

- Works with Single Phase, 3 Phase, or split phase.
- Has 6 measurement channels that can all be configured to measure different things.
- There is a 240V AC Output designed to drive a contactor.
- There is a dry contact output designed to control a small relay coil or be connected to a set of DRM terminals.

The installation process is broken down into 4 steps:

1. **Getting power to the unit.**
   This is different depending on whether you are installing single, split, or 3 phase…so pay attention to this.
2. **CT Placement.**
   There are 6 of these that can be used. Its easy to make mistakes here, so make sure you follow the process outlined in this section.
3. **Load Control.**
   Connecting the loads to the relay.
4. **Inverter Control.**
   Connecting any solar inverters you may have to the relay.

Hardware Installation Overview

There are a few things to Note:

When talking about multi phase electrical installations electricians are used to using Red/White/Blue or Phase 1/2/3 for referencing the different phases.

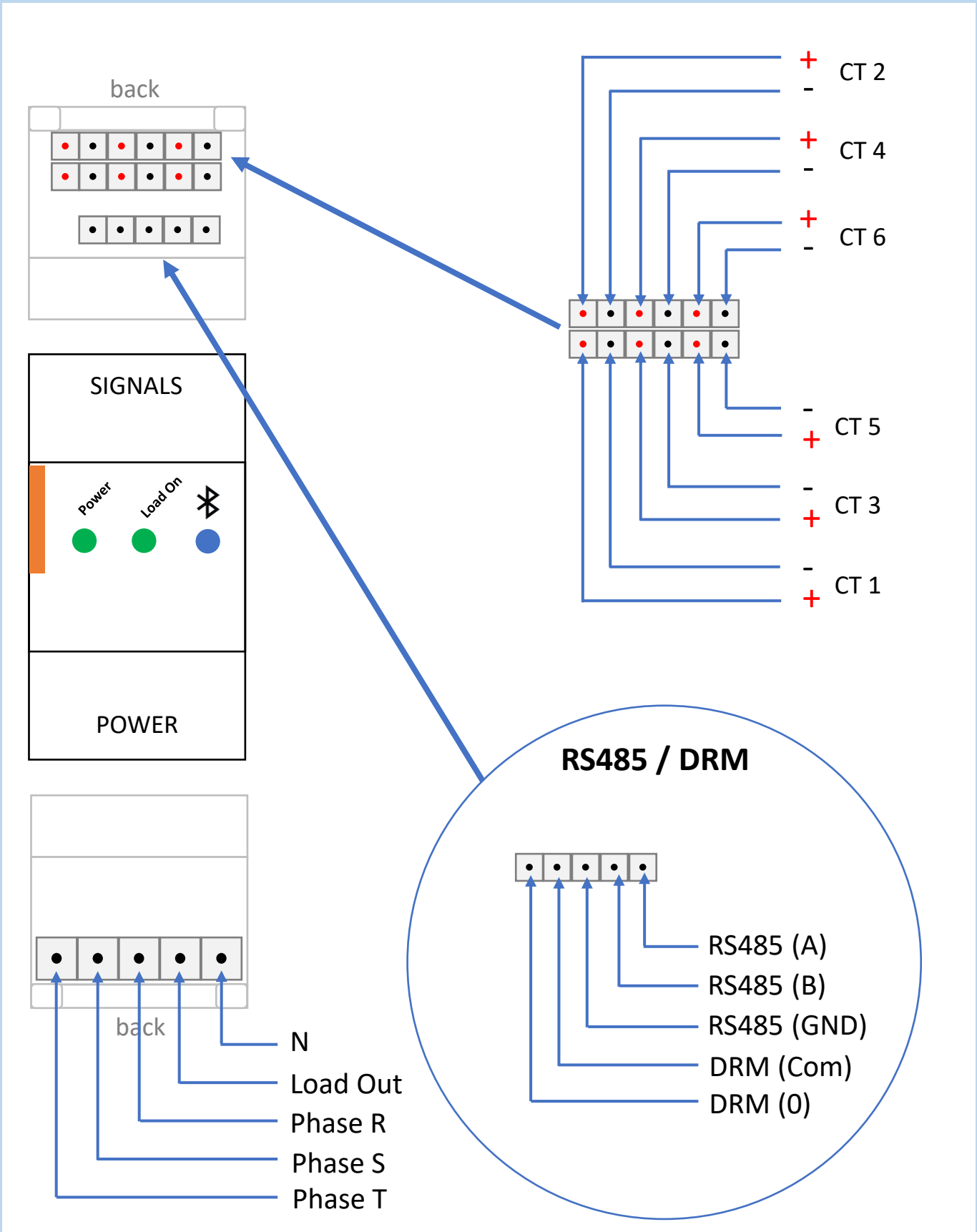
WE DO NOT USE THAT TERMINOLOGY.

All through this document you will see references to Phase R/S/T, and that is how we refer to the different phases. It is the same thing as what you would typically be used to but it's just a little more relevant in an international setting.

Phase Rotation:
Phase rotation is not important when installing CATCH Control. It does not matter which phase is plugged into the R/S/T terminals. Phase rotation can be clockwise or anticlockwise…we don't care.

Phase Matching:
THIS IS VERY IMPORTANT..
Phase matching refers to ensuring the CTs that are measuring current are on the correct phases. We will have much more to say about this later. But for now, know your biggest headache is likely to be Phase Matching your CT's

Hardware Installation
Physical Connections

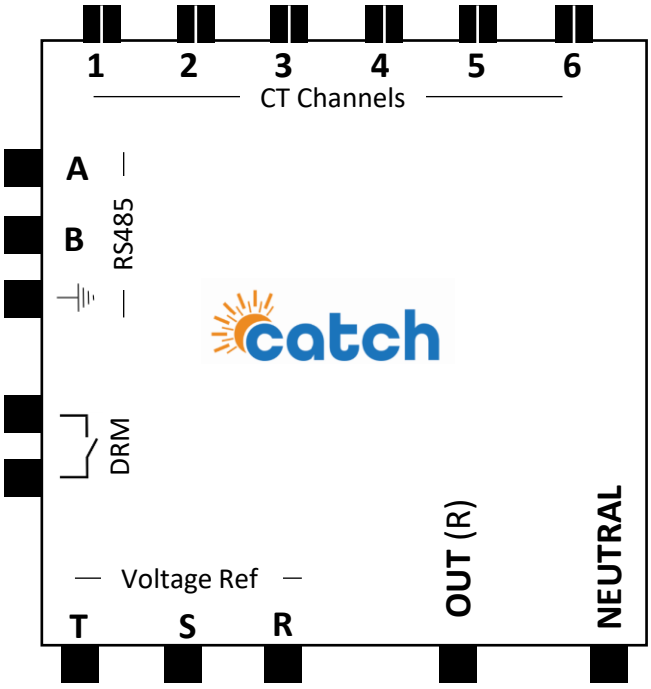


Hardware Installation
Logical Connections

The previous page showed you where the connection ports are physically located for terminating on the CATCH Control 6CH device. However, that image makes it too hard to explain what is happening.

We will use the below LOGIC connection diagram for the rest of this document to describe how to wire the unit and what it is cable of.

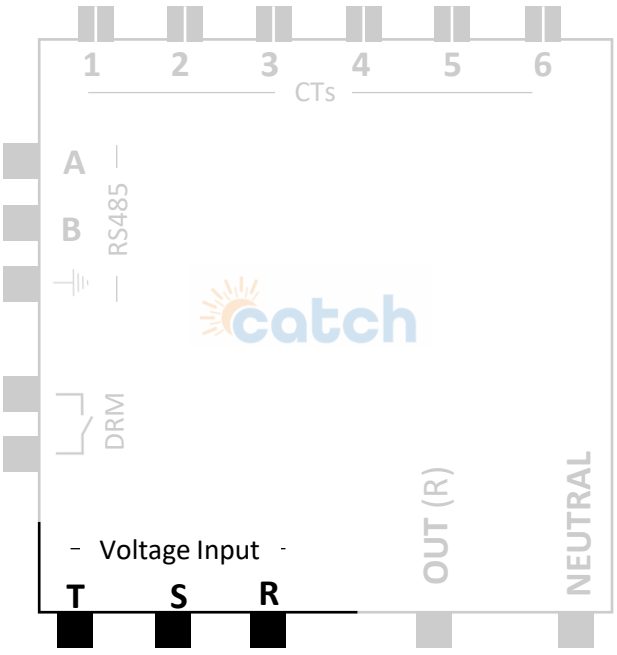
As a Cutter Spec electrician I'm sure you can join the dots.



Hardware Installation Connections

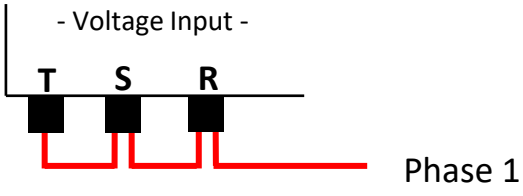
Voltage Input:
The voltage input terminals are where CATCH Control measures voltage used to calculate power.

Voltage Input pin (**R**) is also used to as a source of power for the CATCH Control and also to send power to the OUT(R) pin when needed.



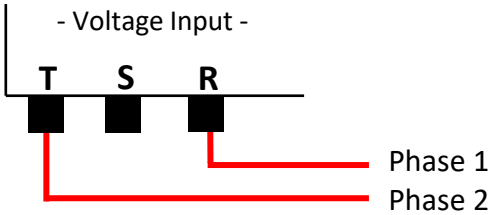
These pins get connected differently depending on whether you are single phase / split phase / 3 Phase

Single Phase

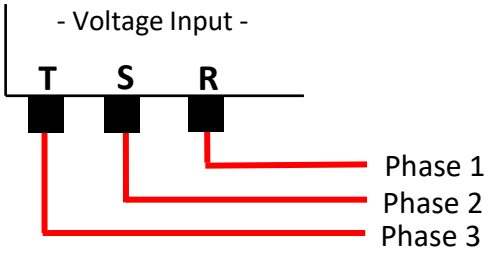


Split Phase

In a split phase configuration
DO NOT USE Ref **S**



3 Phase

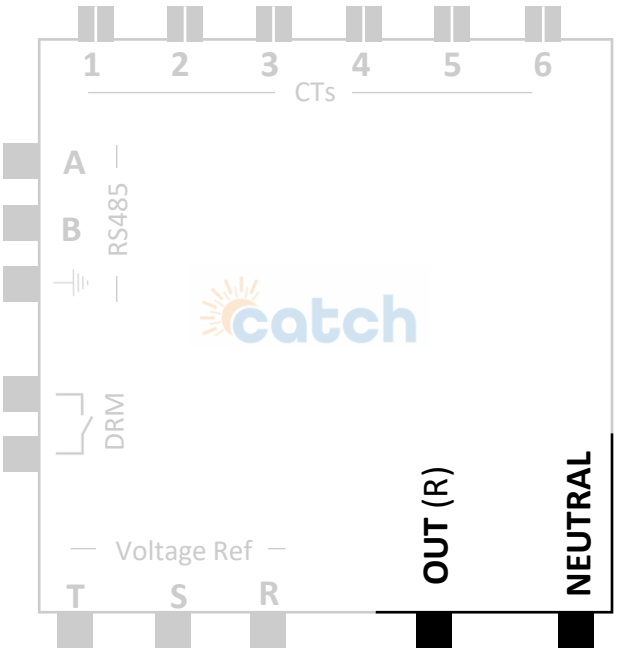


Hardware Installation Connections

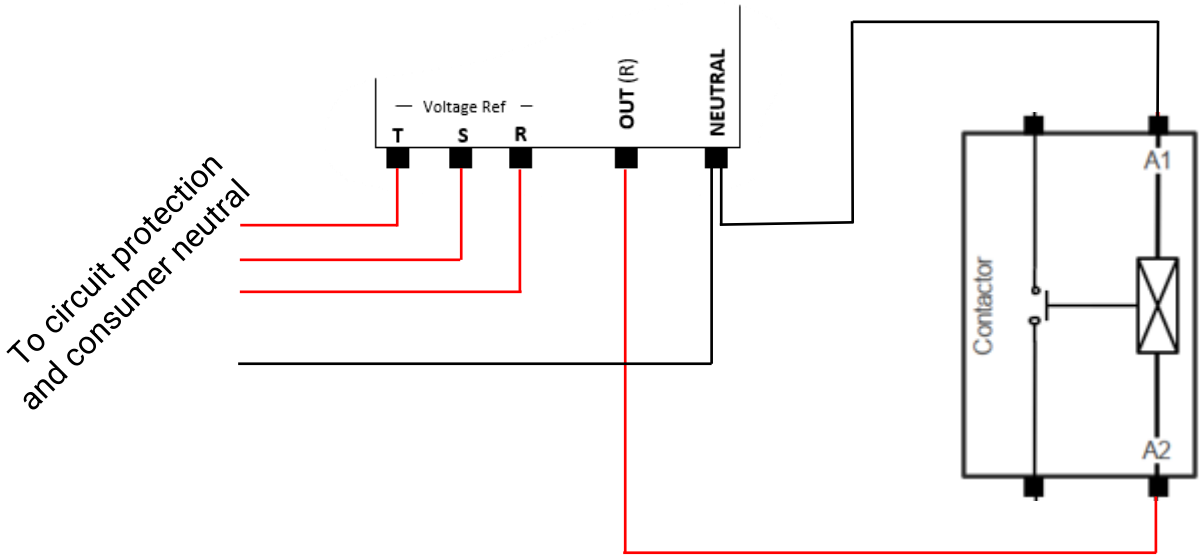
OUT (R):
This is a 240V AC Output that can be used to drive a contact coil.

It is connected to voltage ref (R) via a solid-state switch.

IT IS NOT DESIGNED TO CARRY LARGE LOADS.



A typical connection to a contact is shown below. This is a typical 3 phase site. Note that the Neutral connector is shared.

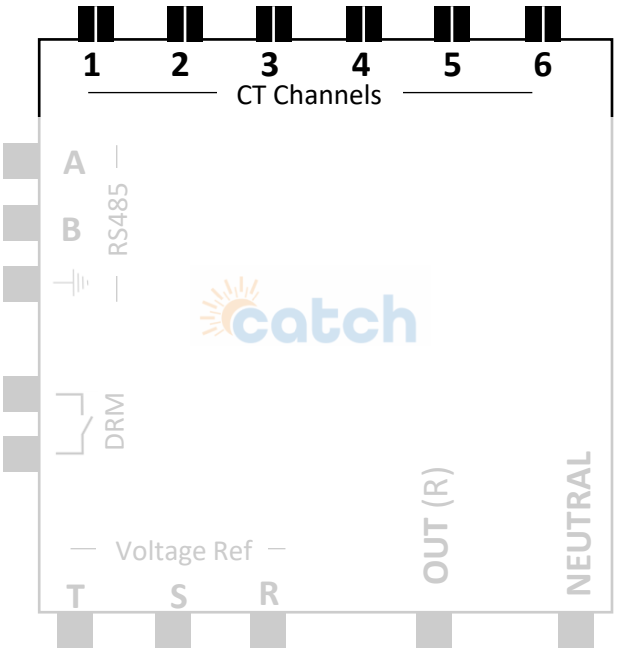


IMPORTANT!!

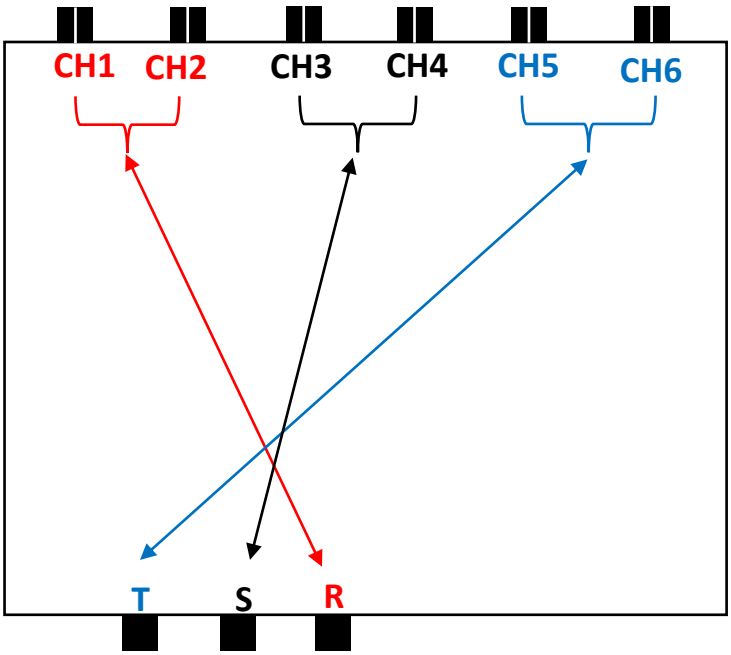
OUT (R) is connected to the contactor A1/A2 COIL terminals..not the Load terminals…you will create smoke if OUT (R) is connected to the load.

Hardware Installation Connections

CT channels:
The CTs on the 6 channel device can be mapped to do what ever you need, however there are some things to note so you don't fall into CT hell.



By default, the CT channels are phase matched to the below phase voltage channels. This can be changed in the configurator app if needed, buts it is best to keep them as defaults if you can.



Hardware Installation Connections

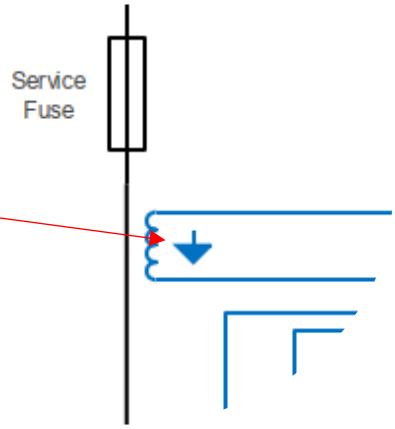
CTs…CONTINUED:

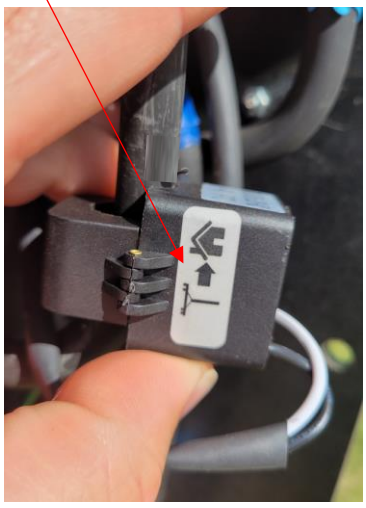
- Only use compatible CT’s supplied by CATCH Power.
- The CT’s should ALWAYS be placed on the active Wire, never the Neutral.
- Always terminate the CT into the Device BEFORE clamping it around the wire.
- Label your CTs as you go..6 CT’s are difficult to sort through after installation.
- As you install each CT perform a PULL test on each wire to make sure there is a good electrical connection.
- The stripped end of the CT wires is the PERFECT length for the connector…don’t cut them, solder them or fold them.. (even if you think it would be better if….) don’t do it. All you need to do is push down on the terminal latch and push the wire in. There should be no exposed conductor, push it all the way in.
- If you don’t need all the CT’s you don’t have to install them into the Unit.

Hardware Installation Power & CT's

- Only use compatible CT's supplied by CATCH Power.
- The CT's should ALWAYS be placed on the active Wire, never the Neutral.
- Always terminate the CT into the Device BEFORE clamping it around the wire.

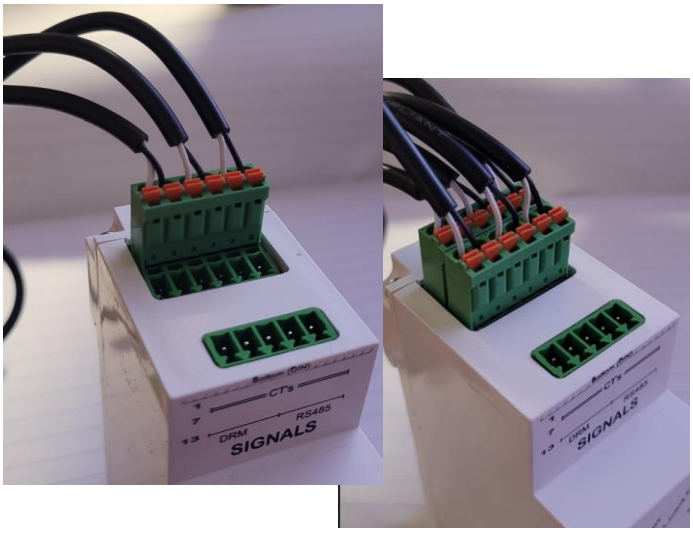
Make sure the arrow on your CT is pointing in the same direction as the arrows in the circuit diagram





From left to right the wires go white/black as shown.

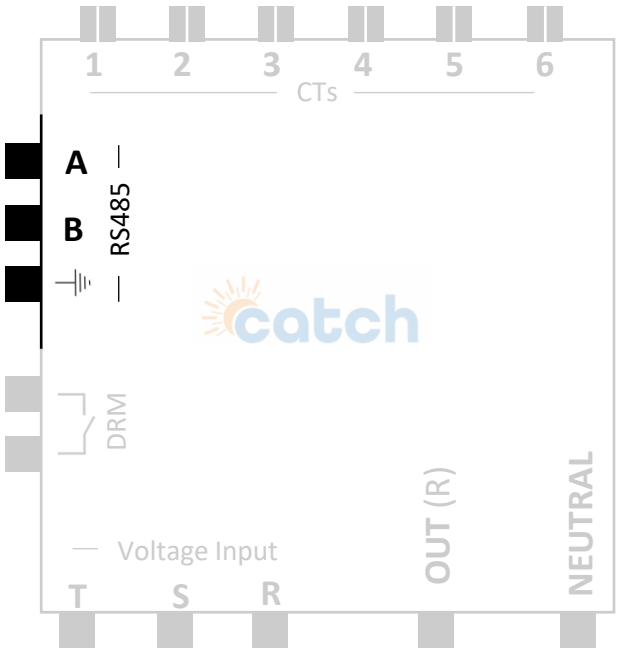
Every CT wire has its own terminal.



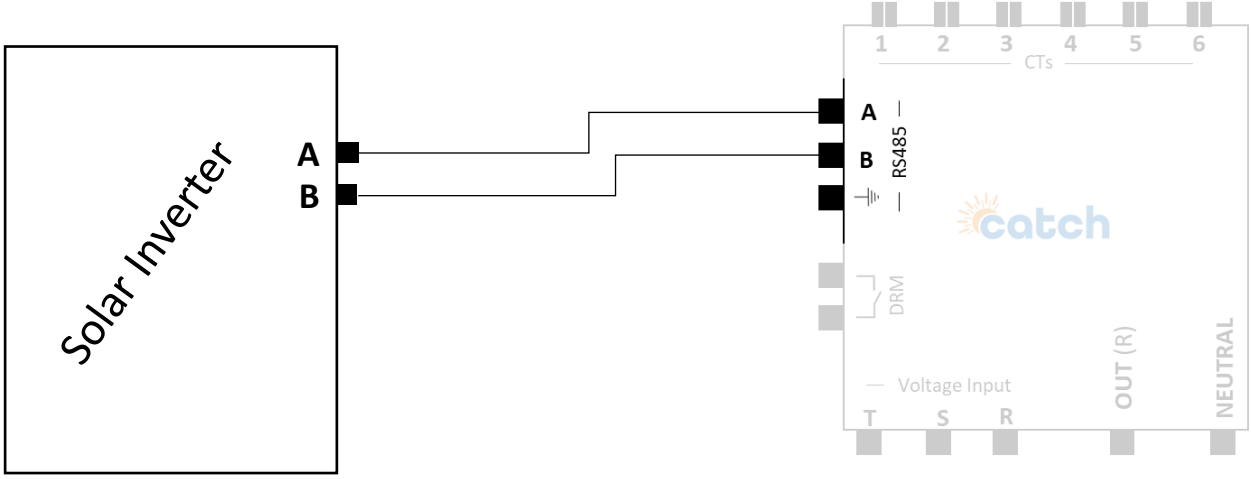
Hardware Installation
RS485

The 6 Channel CATCH Control acts as An RS485 slave device.

The RS485 interface can be used to query measurement data and control load outputs, but the interface is typically used to allow the CATCH Control to act as the energy meter for a wide range of Solar Inverters.



For details on specific RS485 inverter connections visit the Catch tech docs page. www.catchpower.com.au/tech-docs



Hardware Installation TS485

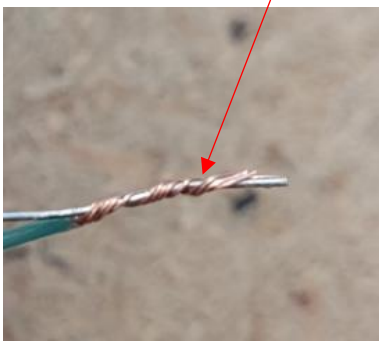
The RS485 interface is MODBUS over RS485. Good RS485 installation techniques are required to ensure a reliable connection.

The highlights are below:

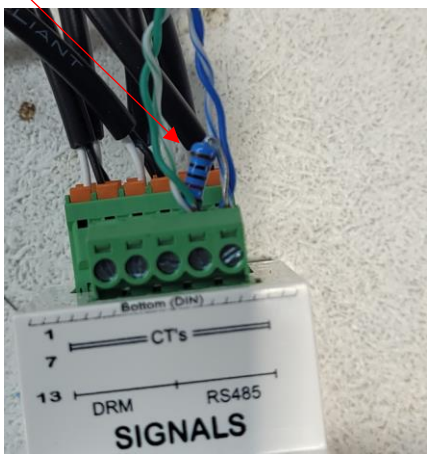
- Use CAT6 or equivalent cable. The voltage rating needs to be 600V or better as it is being run through the switchboard.
- Use a twisted pair as the A and B conductors (ie Blue and Blue Strip).
- Keep the cable away from large current carrying conductors if possible.
- For runs longer than 10m terminate the Solar Relay end with the 120 Ohm resistor supplied in the box.

When terminating with the resistor follow the technique below.

1. Twist the cable around the resistor legs as shown



2. Bend one side of the resistor lead over as shown for a clean termination

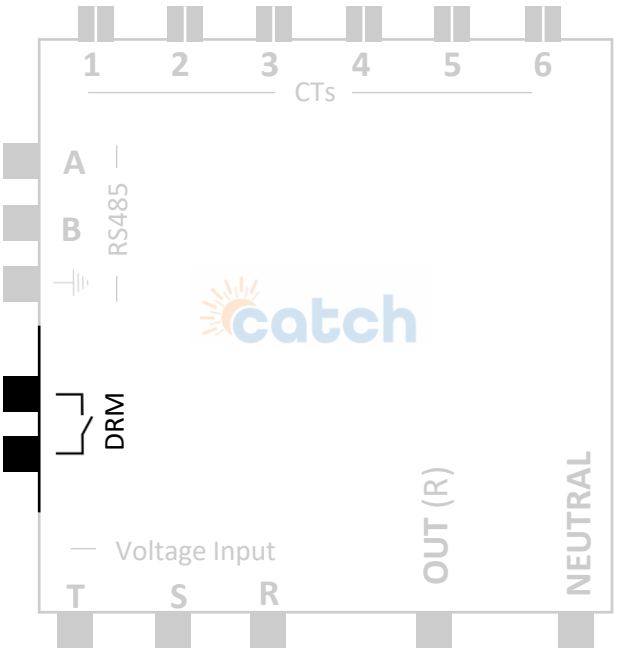


Hardware Installation
LOAD CONTROL - DRM

DRM:
The DRM terminals are a solid state relay (SSR) giving a dry contact used for control of a load.

The CATCH Control 6CH DRM switch can be used to switch small loads directly or to drive a DC coil relay for control of larger loads.

Part 1 provides the specifications for the DRM solid state switch. Part 2 provides some applications and examples of using the DRM switch to control loads.



Part 1: DRM solid state switch specifications.
The DRM switch is AC or DC tolerant (non-polarized terminals). It is an isolated (floating) switch.

The solid state switch will fail if the following absolute maximum ratings are exceeded.

Absolute maximum ratings:
- Voltage rating: 48 V peak (33.9 V AC rms or 48V DC).
- Current rating: 400 mA peak (282 mA AC rms or 400 mA DC).
- Isolation voltage rating (between SSR input & output contacts: 5000 V.

Electrical Characteristics:
- On state resistance: 2.5 Ω (maximum).

IMPORTANT!!

Switching inductive loads (including relay coils) without a freewheeling diode will result in voltages in excess of the absolute maximum rating (SMOKE!).

Hardware Installation
LOAD CONTROL - DRM

Part 2: DRM load control implementation

The DRM solid state switch can be used to control/switch loads in one of two ways.

Implementation 1: Direct control of a small loads

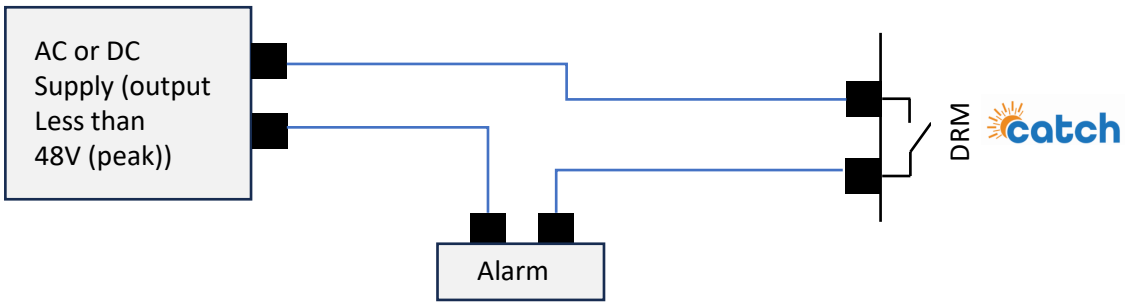
The DRM can switch a small AC or DC load with ratings less than the absolute maximum specifications provided in part 1. Examples include:

- 24V DC or AC LED.
- 24V DC alarm.
- Signalling a Demand Response Mode (DRM) to a device with a DRM interface (such as an air-conditioner).

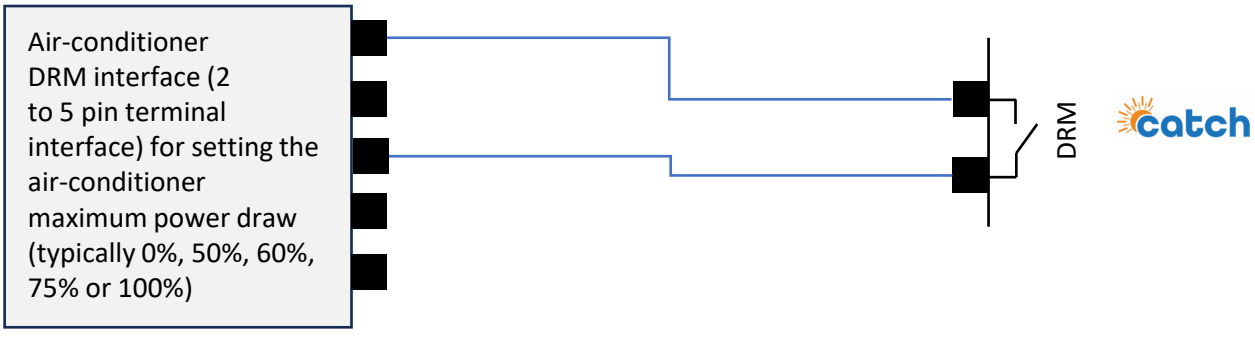
IMPORTANT!!

- Small inductive **AC** loads **cannot** be controlled directly.
- Small inductive **DC** loads may be controlled directly if a freewheeling diode is implemented across the inductive load (see implementation 2).

Application 1 example – Control of an AC or DC Alarm using DRM output



Application 2 example – Controlling an air-conditioner using the DRM output connected to the DRM interface of the air-conditioner



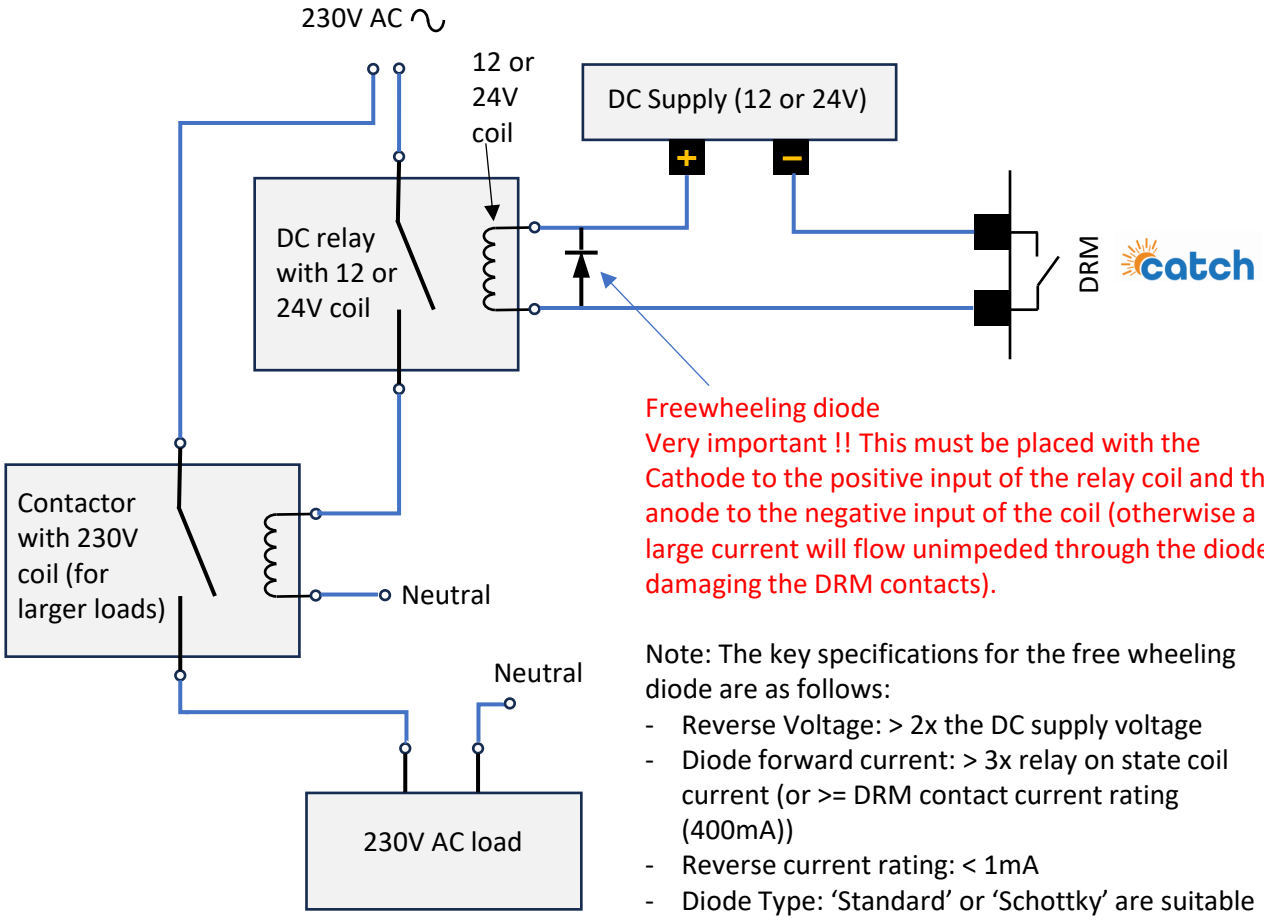
Hardware Installation
LOAD CONTROL - DRM

Part 2: DRM load control implementation… CONTINUED

Implementation 2: Indirect control of a large loads using DRM output and a DC relay

The DRM can switch larger loads indirectly using a DC relay. The relay **must** have a coil which can be excited with a DC source and **must** also be excited with a DC source. A freewheeling diode **must** be implemented across the inductive DC coil.

Application 3 example – Indirect control of large load using the DRM output and a relay with a DC coil (note it may be difficult to source a DC relay which can switch large loads and therefore an additional contactor may be required (as shown below)).

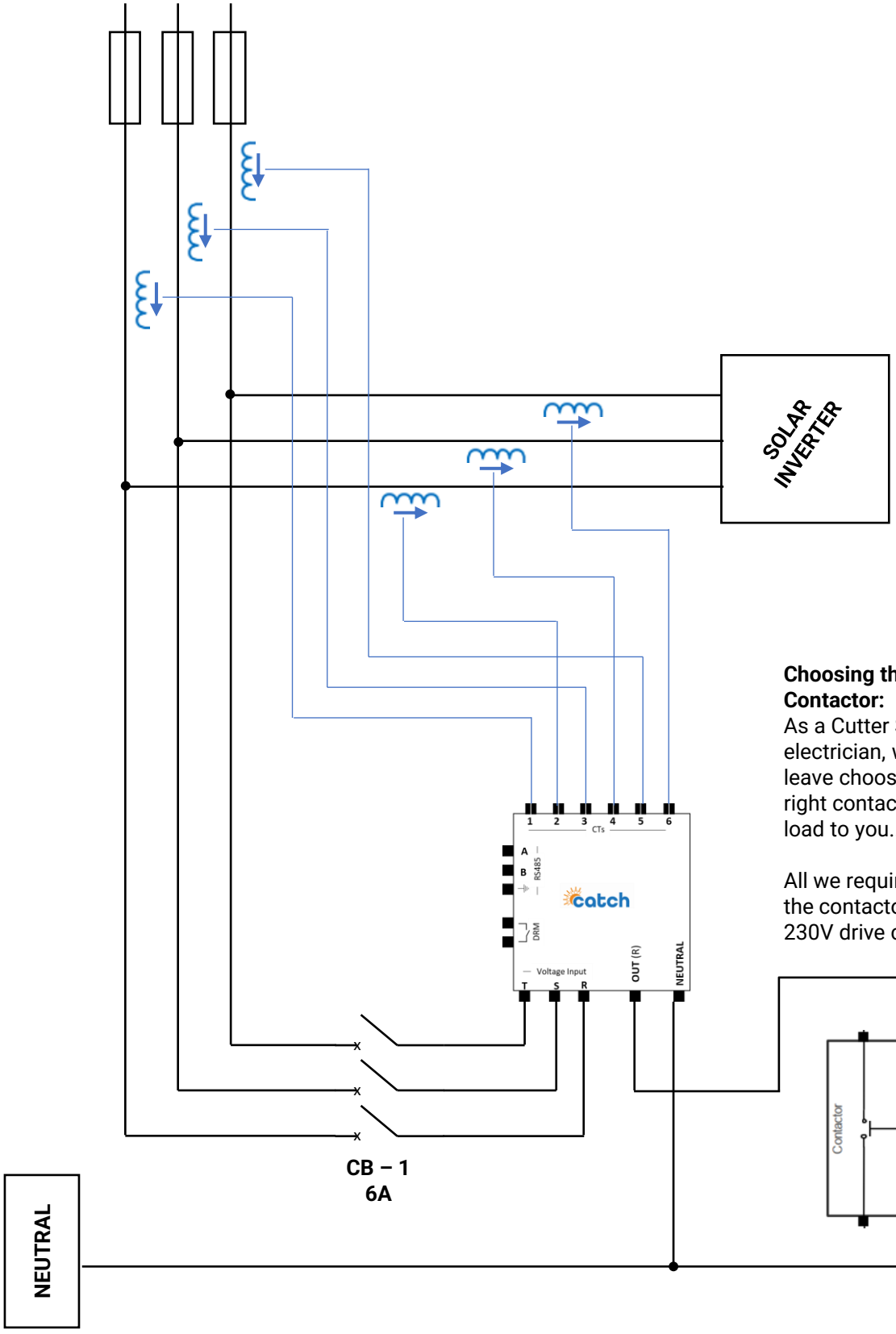


Freewheeling diode
Very important !! This must be placed with the Cathode to the positive input of the relay coil and the anode to the negative input of the coil (otherwise a large current will flow unimpeded through the diode damaging the DRM contacts).

Note: The key specifications for the free wheeling diode are as follows:

- Reverse Voltage: > 2x the DC supply voltage
- Diode forward current: > 3x relay on state coil current (or >= DRM contact current rating (400mA))
- Reverse current rating: < 1mA
- Diode Type: 'Standard' or 'Schottky' are suitable
- Forward Voltage: < 2V
- Example: Vishay – BAW27 (60V reverse, 600mA)

Typical Installation 3 Phase



Choosing the right Contactor:
As a Cutter Spec electrician, we will leave choosing the right contactor for your load to you..

All we require is that the contactor has a 230V drive coil.

COMMISSIONING

Even legends make mistakes..
Don't leave site without testing the installation

CATCH Power Configurator
CATCH Power

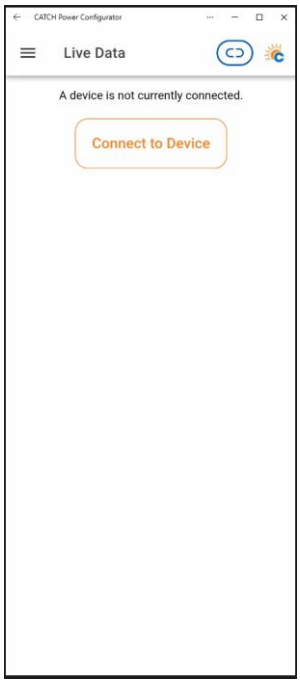
Test 1 – Apply power to the CATCH Solar Relay

Did smoke come out?
If no, congratulations you have passed test 1.

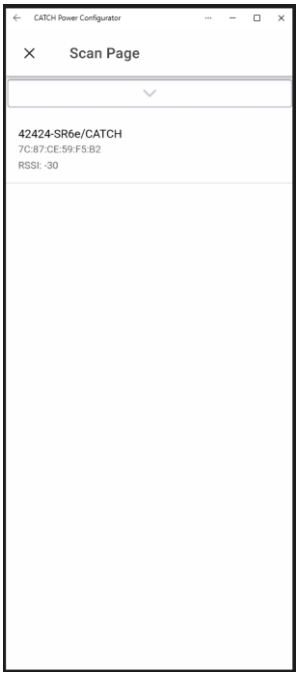
But in all seriousness.. When power is applied to the Solar Relay the Power and Bluetooth light will flash on and off for about 20sec, then just the power light will stay on.

The rest of the tests will be done from within the CATCH Configurator App.

Open the Configurator and connect to your device. As shown below



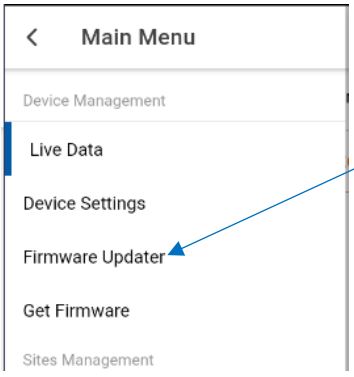
Press the connect button. The serial number will appear in the list



COMMISSIONING

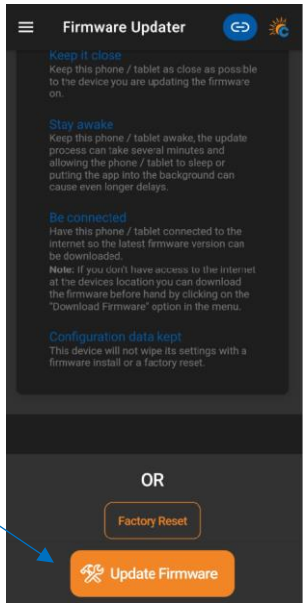
FIRMWARE UPGRADE

Things change quickly.. And CATCH Power is no different. By upgrading your firmware, you ensure your device has all the bells and whistles.



1. Use the top left menu to go to the firmware upgrade screen

2. Start the firmware Update



READ THE TIPS FOR UPDATING

There is a little story on the firmware update screen… read it. It will help make your firmware upgrade process seamless.

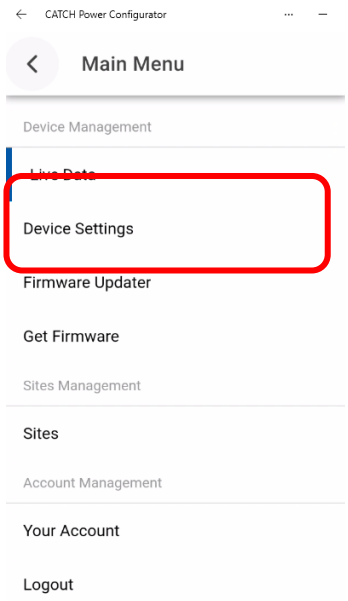
COMMISSIONING

CT Configuration

SETUP

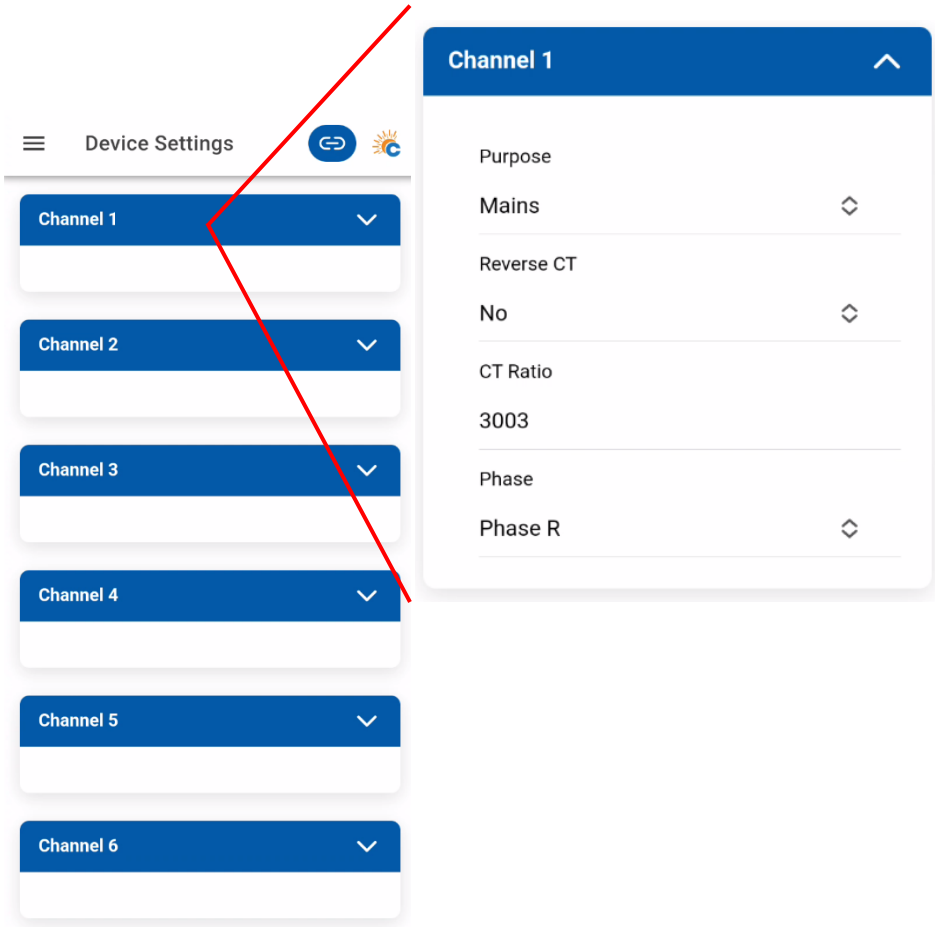
COMMISSIONING

CT Configuration



Navigate to the **Device Settings** page to start the process of configuring the CT's.

All 6 CTs need to be configured. Click on the down arrow to open up the configuration for that particular CT.



COMMISSIONING

CT Configuration

PURPOSE:
Every CT needs to be allocated a **Purpose**. We have 3 purposes that can be used.

MAINS:
A Mains CT is one that is monitoring the export and import on the property.

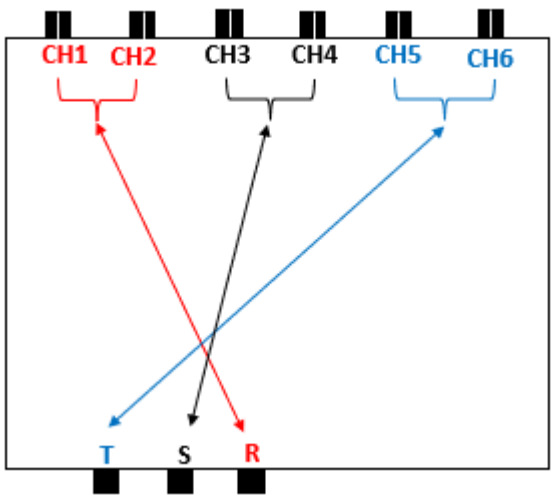
SOLAR:
A Solar CT is one that is monitor some form of solar.

OTHER:
These CT's measuring generic loads such as hot water services, heating circuits, etc.

Reverse CT:
This is the same as switching the physical CT around in the switchboard. You wont need to change this. You and the CATCH support team can change this setting remotely which is very handy if you notice the CT was around the wrong way after you have left site.

CT Ratio:
If you are using a non standard CT the CT ratio can be adjusted, however don't do that. Use the standard CATCH CT's and leave this as 3003.

Phase:
The voltage phase this CT is mapped to. If you are on a split phase site you will need to remap CT 3 & 4 away from Phase S because phase S cannot be connected in a split phase configuration.



Default CT Channel Mapping

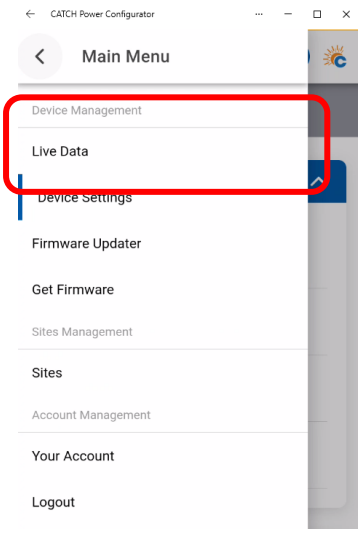
COMMISSIONING

CT Configuration

CHECK

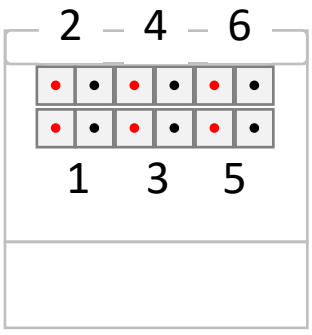
COMMISSIONING

CT Configuration



Navigate to the **Live Data** page to start the process of checking your CT's.

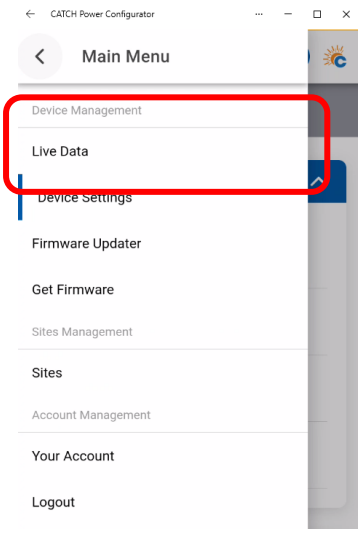
Remember your CT channel numbers are as shown below.



An Example of a MAINS configured CT Channel. This is Channel 1.

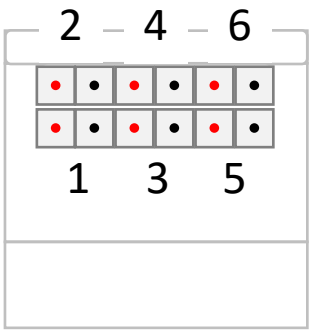
COMMISSIONING

CT Configuration



Navigate to the **Live Data** page to start the process of checking your CT's.

Remember your CT channel numbers are as shown below.



An Example of a MAINS configured CT Channel. This is Channel 1.

COMMISSIONING

CT Configuration

Understanding if your CT's are installed correctly can take a bit of practice. Some helpful tips are outlined below

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.

Zero reading

Amps:	0.00	A

Very HIGH

Amps:	480	A

Current reading but no power:
This typically means the CT needs to be remapped to a phase that has a voltage on it. You will get this type of problem in split or single-phase environments where not all voltage inputs are being used.

Power:	0.03	kW
Amps:	12.0	A

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.

Power:	1.54	kW
Amps:	12.0	A
Power Factor:	0.56	
VA:	3.00	kVA
VAR:	1.32	kVAR

COMMISSIONING

CT Configuration

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:

1. 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.

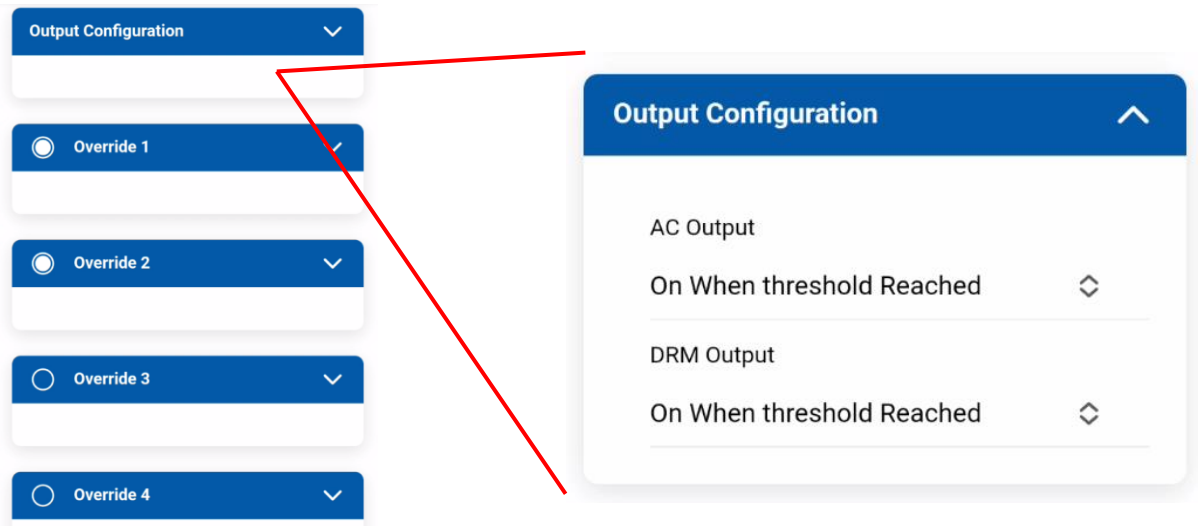
COMMISSIONING

Load Control

SETUP

COMMISSIONING

Load Control



Decide how you want your outputs to operate.

On when threshold Reached:
is equivalent to a normally open switch.

The Contact is not energized until a certain criteria is met, then it is energized.

The DRM output is open circuit until the criteria is met then it becomes a closed switch.

Off when threshold Reached:
is equivalent to a normally closed switch.

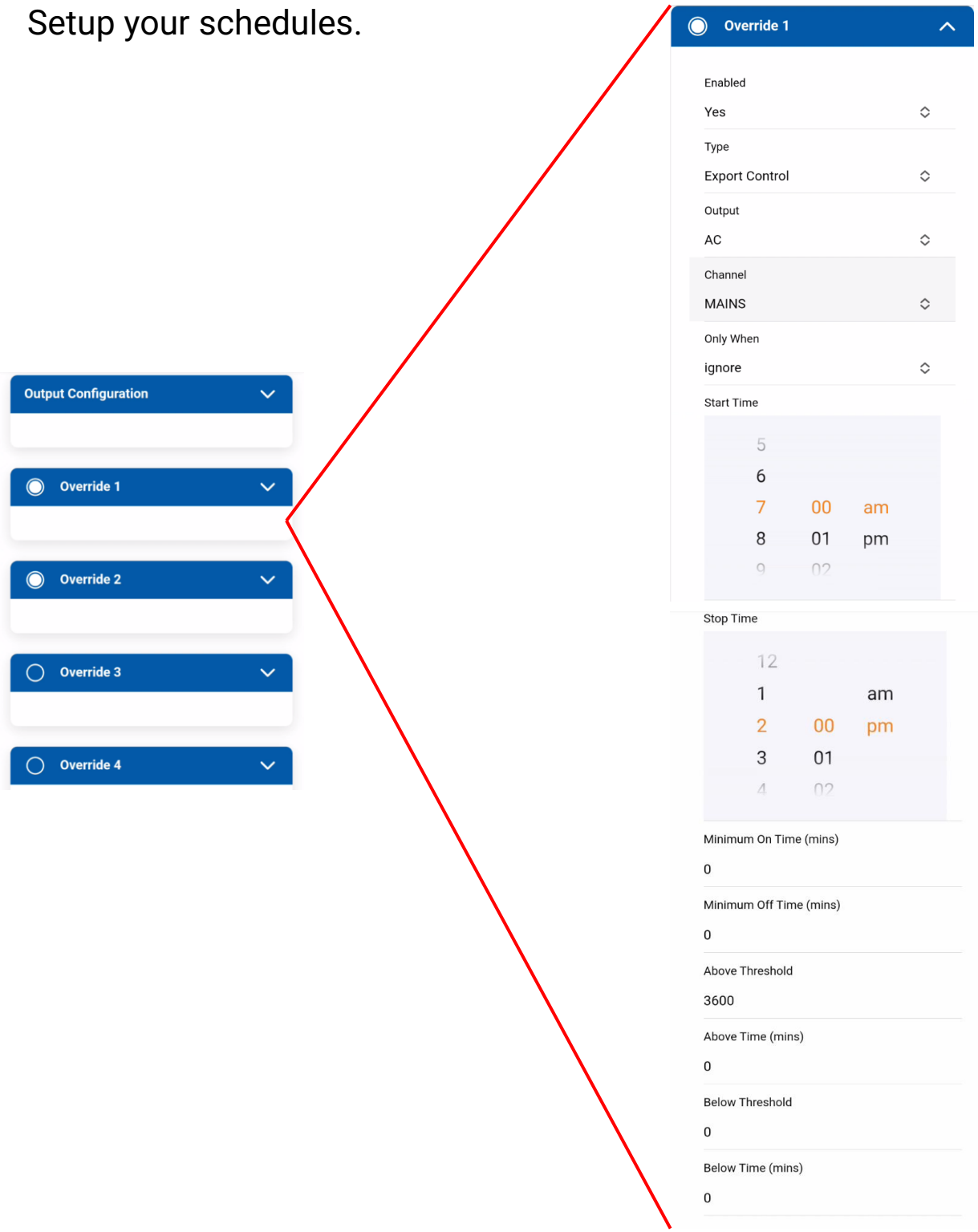
The Contact is energized until a certain criteria is met, then it is deenergized.

The DRM output is a closed circuit until the criteria is met then it becomes an open switch.

COMMISSIONING

Load Control

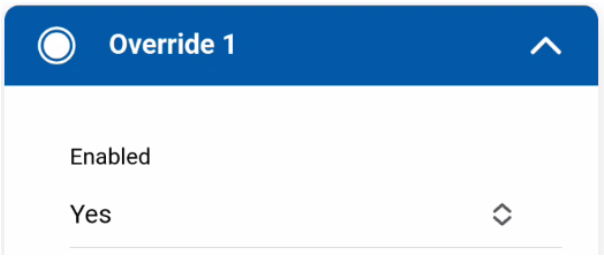
Setup your schedules.



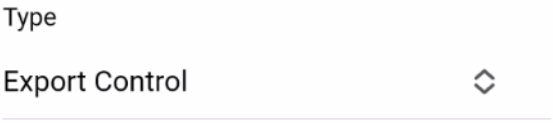
COMMISSIONING

Load Control

Schedules Setup:



Yes**:** The schedule is active.
No: Schedule is not active.
All currently active scheduled will have a solid circle in their title.



The type of control scheme to apply. Valid options are:

Export Control:
When using Export control a channel is monitored for power and when power goes above and below a particular threshold the output is triggered.

Turn On: The output is turned on.

Turn Off: The output is turned off.

Top Up:
This is a special mode that provides a guaranteed run duration for a day. This mode is used as a safe guard when controlling hot water to ensure there is enough heating of the hot water even on cloudy days. (see hot water scheduling example below for a example of Top Up implementation).

Voltage Controlled:
The output is turned on and off based on voltage thresholds.

Frequency Controlled:
The output is turned on and off based on grid frequency thresholds.

Current Controlled:
The outputs are turned on or off based on the current flowing through a ct channel.

COMMISSIONING

Load Control

Schedules Setup..continued:

Output

AC

Which output should this override be controlling.

Channel

MAINS

When Export control or Current Control are chosen as a control scheme they need to CT channel to use as a measurement reference. This is where you set the channel. You can choose on one of the 6 CT channels, plus two special channels.

Channel 1-6:
The override will used this channel for the threshold measurements.

MAINS:
All CT's with the purpose of MAINS will be summed together and used as the measurement reference.

SOLAR:
All CT's with the purpose of SOLAR will be summed together and used as the measurement reference.

Only When

ignore

A value of ignore means this override will run when the time and thresholds dictate. This is a stand-alone override.

If you choose an override, all the conditions of this override must be met, plus the chosen other threshold must be running.

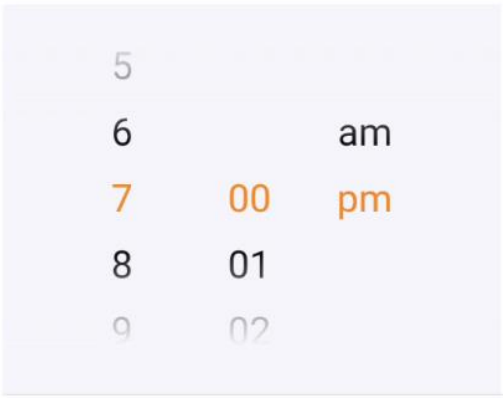
Note you need to make sure you don't link to another override that is controlling the same output, this will result in this override never running.

COMMISSIONING

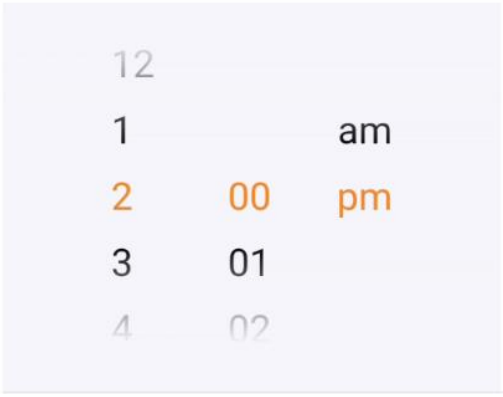
Load Control

Schedules Setup..continued:

Start Time



Stop Time



The time period that this override should be considered.

If the end time is greater than the start time it is assumed the period for this override is with in the same day.

If the end time is less than the start time it is assume the override starts today at the designated start time and ends tomorrow at the specified end time.

When overrides for the same output overlap in time period the override with its start time closest to the current time is considered the active override.

COMMISSIONING

Load Control

Schedules Setup..continued:

Minimum On Time (mins)

0

When the conditions of this override result in the output being activated, this defines how long the output has to stay active before it can be turned off.

Minimum Off Time (mins)

0

When the conditions of this override result in the output being turned off, this defines how long the output has to stay off before it can be activated again.

Above Threshold

3600

Above Time (mins)

0

When the measurement value has been above this number for the number of (*above time*) minutes the specified output should activate. In the above example the number is power (3600W), so the override type would have been Export Control

Below Threshold

0

Below Time (mins)

0

When the measurement value has been below this number for the number of (*Below time*) minutes the specified output should turn off.

COMMISSIONING

Load Control

Some Scheduling Examples:

Hot Water Control:

The home owner is a large user of hot water, however they have a very large solar system. It has been decided there needs to be at least 4hrs of heating, and if it couldn't be done with the solar they want it done at 10pm because electricity is very cheap then.

Override 1

Start Time: **7am** Stop Time: **2pm**

Type: **Export Control** output: **AC** Channel: **MAINS** Only When: **Ignore**

Minimum On Time: **5min** Minimum Off Time: **0min**

Above Threshold**: 3600** Above Time**: 5 min**
Below Threshold**: 0** Below Time**: 0 min**

Override 2

Start Time: **10pm** Stop Time: **2am**

Type: **Top Up** output: **AC** Channel: Only When: **Ignore**

Minimum On Time: **0min** Minimum Off Time: **0min**

Above Threshold**: 0** Above Time**: 0 min**
Below Threshold**: 0** Below Time**: 0 min**

Override 1 is set so that when the hotwater element size is being exported to the grid by the solar system for 5min the hot water turns on. We have specified the 5min because we don't want the HW to come on until the solar is really ready to handle it. The min run time is there is that the hot water does not rapidly switch on and off, the 5 minutes gives the solar plenty of time to ramp up and handle the load.

Override 2 is Topup and is set for 4hrs starting at 10pm. Note the Topup time period defines the total duration we want the hot water to have heated. If 50% of the 4hrs was already managed during the day then the topup mode will start at 10pm and only run for 2hrs.

COMMISSIONING

Load Control

Some Scheduling Examples:

Hot Water Control + Air Conditioner Control:

The hot water requirements are the same as the previous example, except this time the home owner wants the air conditioner to run on surplus solar ALL DAY.

Override 1

Start Time: **7am** Stop Time: **2pm**

Type: **Export Control** output: **AC** Channel: **MAINS** Only When: **Ignore**

Minimum On Time: **5min** Minimum Off Time: **0min**

Above Threshold**: 3600** Above Time**: 5 min**
Below Threshold**: 0** Below Time**: 0 min**

Override 2

Start Time: **10pm** Stop Time: **2am**

Type: **Top Up** output: **AC** Channel: Only When: **Ignore**

Minimum On Time: **0min** Minimum Off Time: **0min**

Above Threshold**: 0** Above Time**: 0 min**
Below Threshold**: 0** Below Time**: 0 min**

Override 3

Start Time: **7am** Stop Time: **2pm**

Type: **Export Control** output: **DRM** Channel: **MAINS** Only When: **Override 1**

Minimum On Time: **0 min** Minimum Off Time: **5 min**

Above Threshold**: 1500** Above Time**: 5 min**
Below Threshold**: 0** Below Time**: 0 min**

Override 3 has been tied to the Hot water override. It is harder to find the energy to turn on the large 3.6kW hot water load than it is to find 1.5kW for the Air conditioner so we only allow it to run after the hot water has turned on.

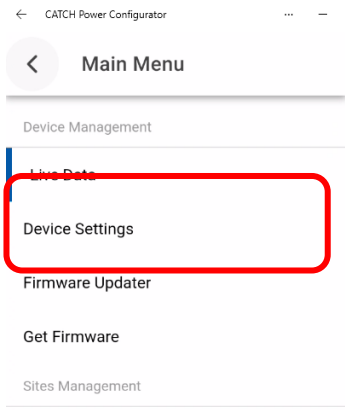
COMMISSIONING

Energy Meter

SETUP

COMMISSIONING

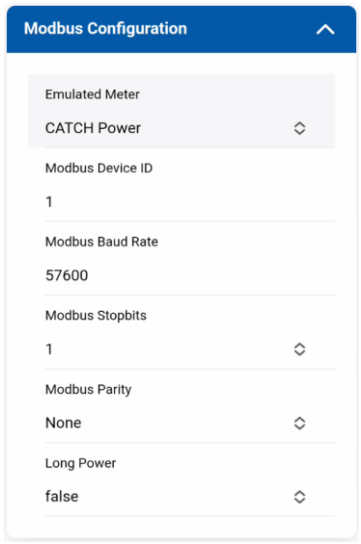
Energy Meter



Navigate to the **Device Settings** page to start the process of configuring the Energy Meter

The CATCH power tech docs page has more details on how to setup for specific inverters, but the process is pretty much identical across all inverters that we act as the energy meter for.

- Connect the RS485 interface as per the inverter requirements.
- Choose the energy meter in the Emulated Meter drop down box.



All of the modbus RTU parameters will default for the specified inverter so there is no need to change anything.

COMMISSIONING

Energy Meter

CHECK

Testing the Installation

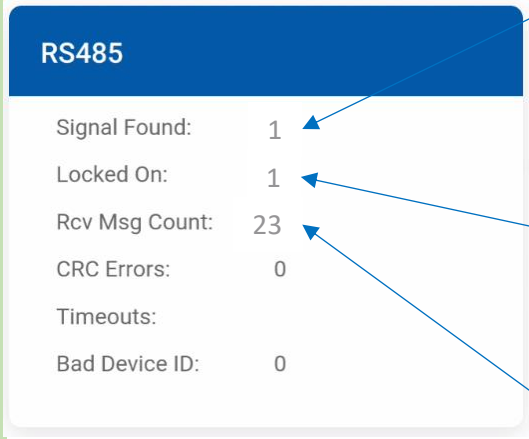
Energy Meter

Step 1 – make sure your inverter is on and configured for an energy meter.

You will know if the RS485 is or is not working because the inverter will have a fault code on it.

If your inverter is not detecting the energy meter the steps below can help you trouble shoot.

Step 1 – Navigate to the Live data screen on the Configurator.



(1) Indicates a signal has been found. This means the cable is good.
If the number is 0 check to make sure there are no breaks in the cable, everything is connected to where it should be and the inverter is setup to use an energy meter.

(1) Indicates rs485 is working correctly.
If the number is 0 check to make sure the Modbus configuration on the invert and relay are correct.

Successful Message count
This will steadily increase

WELL DONE…
If the RS485 looks like the screen above all is good.

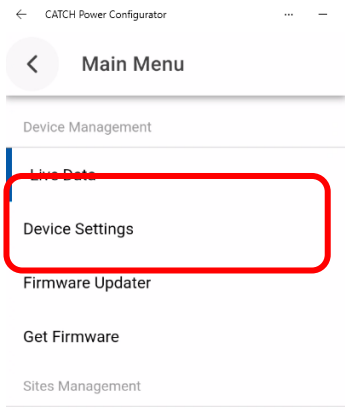
COMMISSIONING

WiFi Connect

SETUP

COMMISSIONING

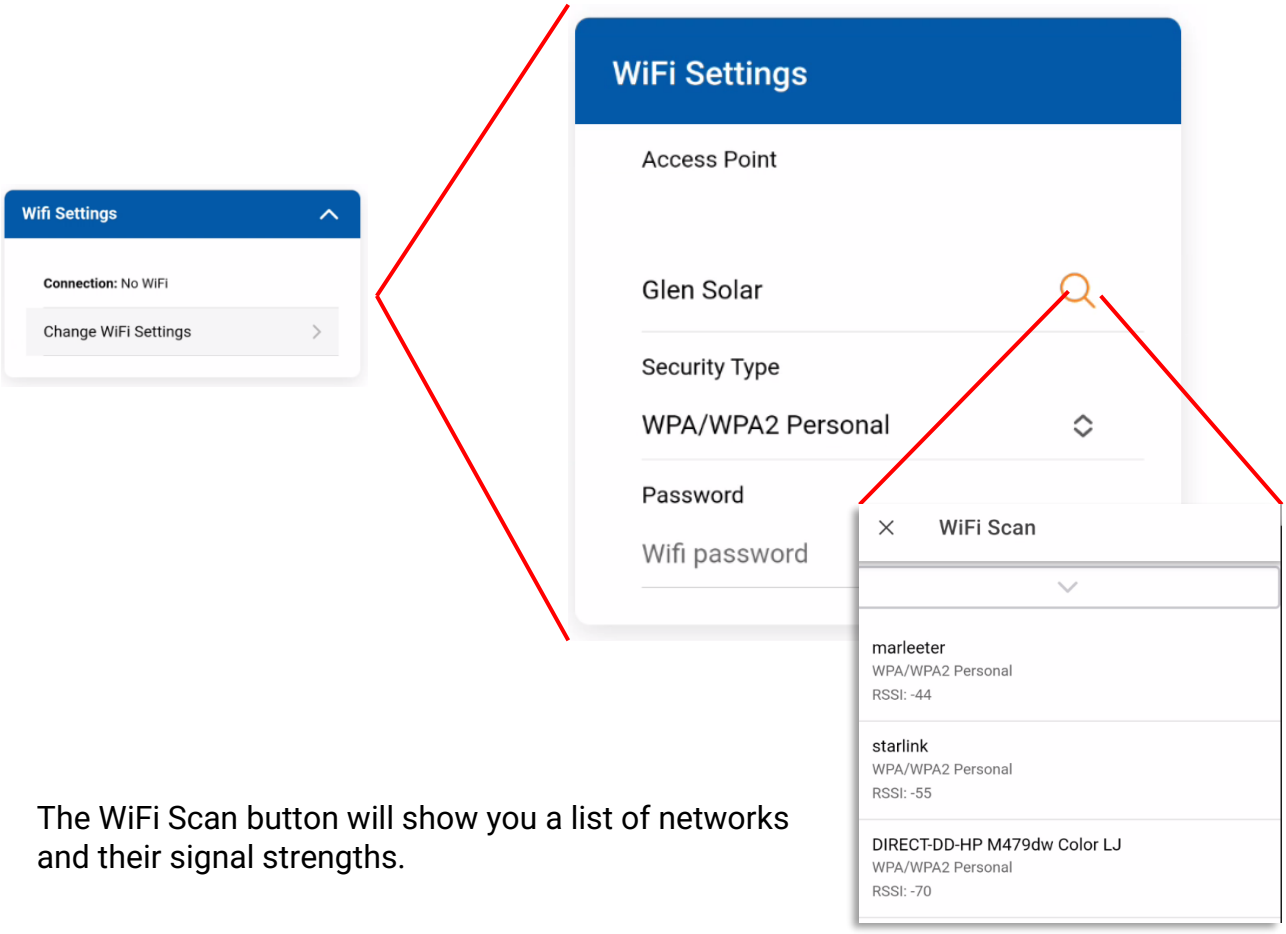
WiFi Connect



Navigate to the **Device Settings** page to start the process of configuring the WiFi settings

All CATCH Control devices should be connected to the internet, it is not a mandatory requirement, but is strongly recommended.

CATCH Control uses the owners WiFi system to connect to the internet. Click on WiFi settings and enter the access point name and password.



The WiFi Scan button will show you a list of networks and their signal strengths.

COMMISSIONING

WiFi Connect

A Quick discussion on WiFi Signal Strength

-30dB to -60dB : Good Strong signal
-60dB to -70dB : Average Signal
-70dB to -80dB : Weak and potentially troublesome signal
-90dB : All most no signal

Small changes in the signal strength matter:
Every -3dB is a halving of the signal strength.
As an example. -60dB is twice as strong as -63dB. And 10x stronger than -70dB.

To ensure trouble free operation of the CATCH Control, ensure the Wi-Fi signal just outside the switchboard is at least
-64dB or better.

How can you check the signal quality?

The best option is to use a Wi-Fi signal checker. There are many of them available for your phone. One that we use regularly is show below. It will give you the signal strength in dB.

WiFi Analyzer
olgor.com Tools
Everyone
Contains ads
This app is available for all of your devices

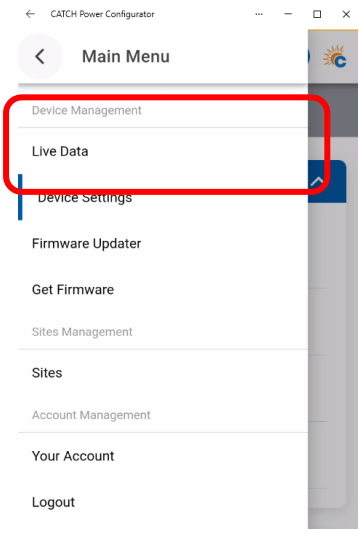
COMMISSIONING

WiFi Connect

CHECK

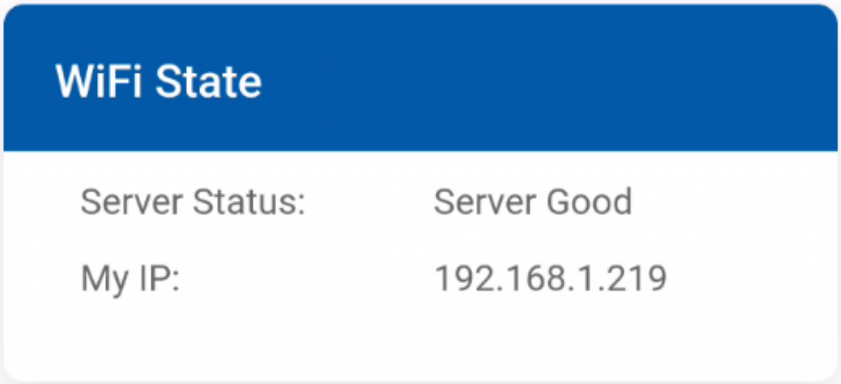
COMMISSIONING

WiFi Connect



Navigate to the **Live Data** page to start the process of checking WiFi status

Scroll to the bottom of the page and check the WiFi State.



There are a number of different statuses that can appear here:

Server Good:
The Solar Relay has connected to the internet.

IP Assigned:
The Solar Relay has connected to the local network, but cannot connect to the Internet. This could mean a weak WiFi signal, or port 443 on the customers router is blocked.

WiFi:
Connection to the WiFi router was successful, but the DHCP server did not allocate an IP address. You may need to configure a static IP.

No WiFi:
Cannot connect to the WiFi router. The SSID and password could be wrong, or a weak signal.

Testing the Installation

WELL DONE…

All of your hardware is installed correctly

Configuration

For the Monocle

Summary of Steps

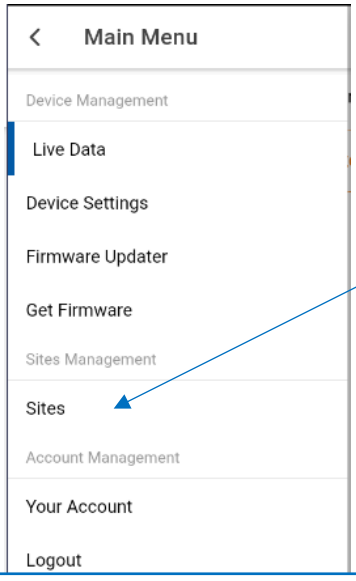
1. Create a new Site
2. Attach the Solar Relay to the site
3. Activate the Solar Relay WiFi so that it can send and receive messages.

Configuration

For the Monocle

CATCH Power Configurator
CATCH Power

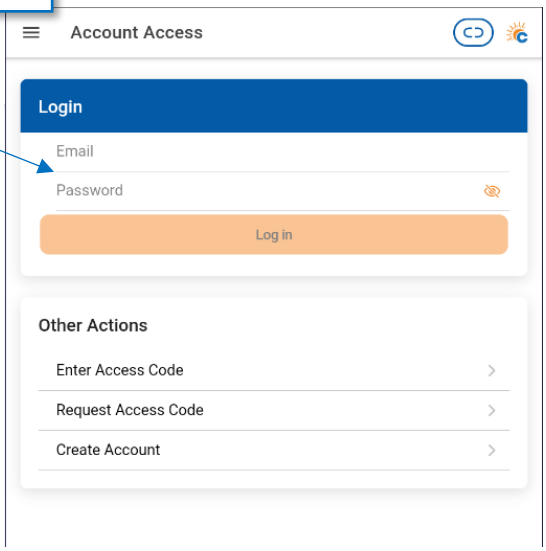
Use the CATCH Power Configurator App on your phone for this… open it.



1. Click Here

2. If you haven't already done so log in..

Remember the account you created back at the office.



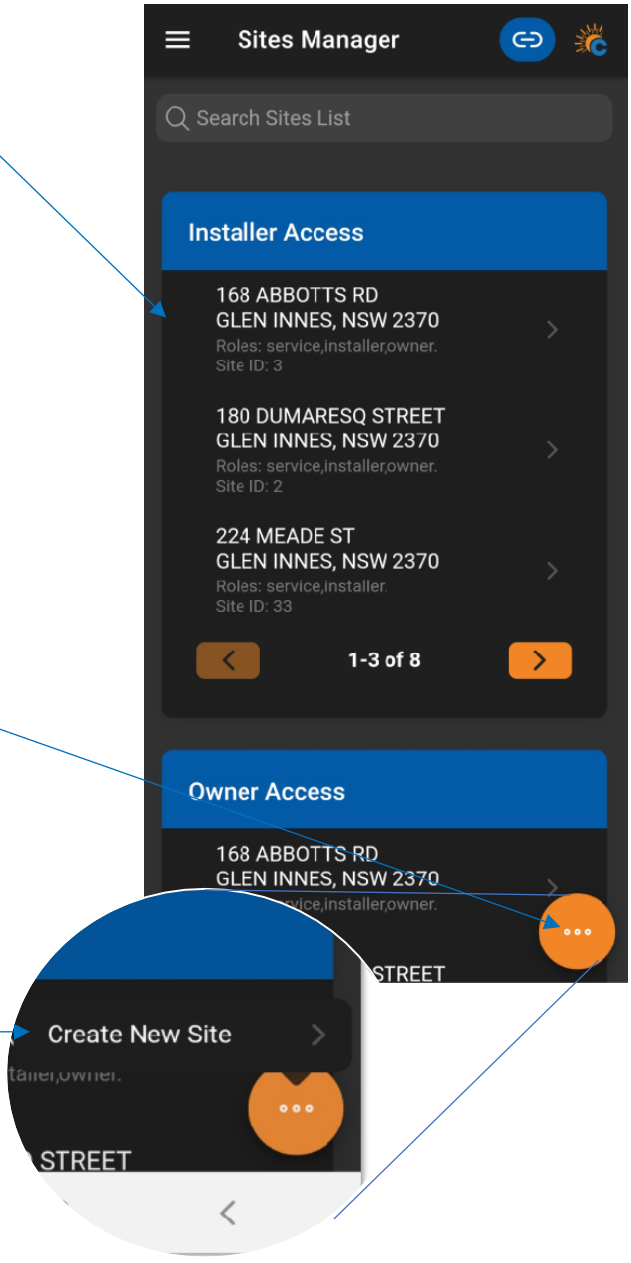
Configuration

For the Monocle

This is the list of sites you are registered as an installer for.

This is the **ACTION** button. When you want to create/delete/add something you will likely find it on the action button.

Tap the action Button and choose
Create New Site



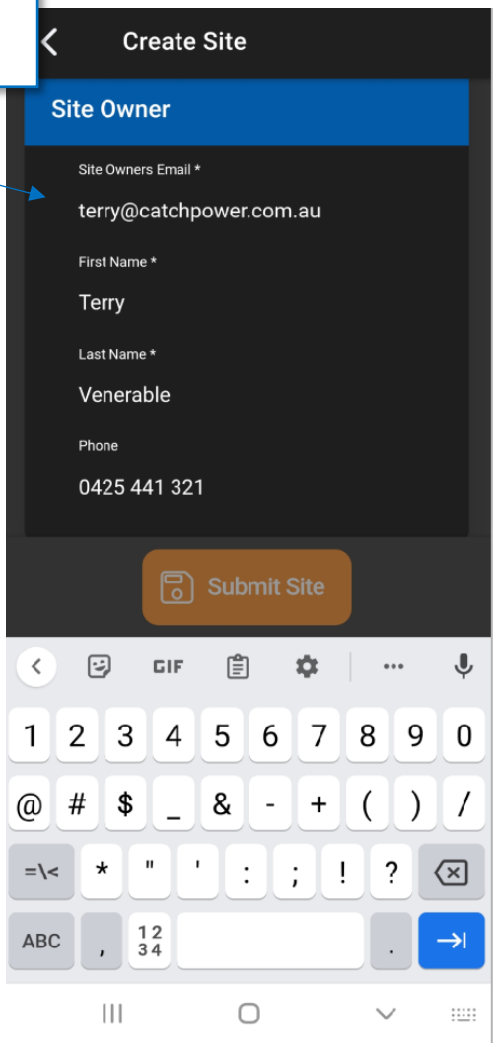
Configuration

For the Monocle

Creating the Site

1. This is your customers email address **DON'T GET THIS WRONG**.

An email will be sent to this email address with instructions on how to register for the MONOCLE



Fill in the rest of the information and press

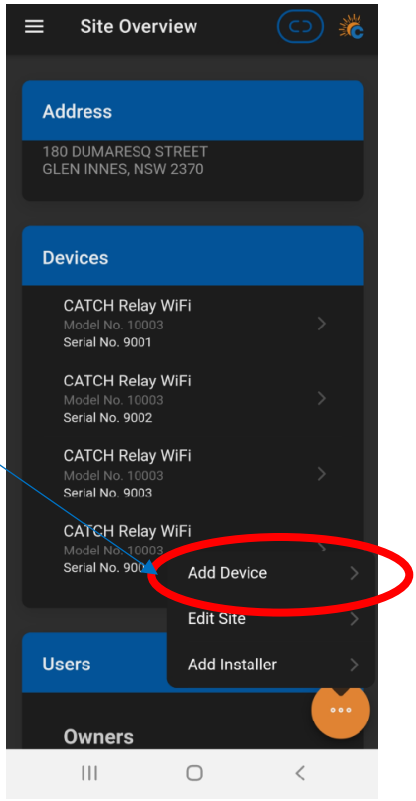
Submit Site

Configuration

For the Monocle

Attach the Solar Relay to the Site

1. Press the action button and choose **Add Device**



This particular site already has 4 Solar relays attached to it.. but we are adding one more.

Configuration

For the Monocle

Attach the Solar Relay to the Site

1. Type in device serial number and model

if you are connected to the device via Bluetooth these values will default for you.

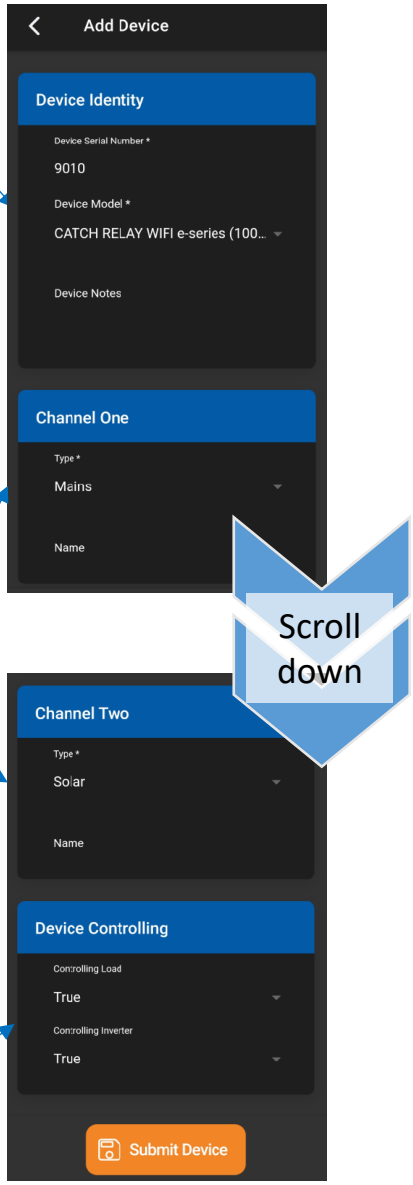
2. Specify the channel types

as we have already discussed, Channel One will most likely be Mains and Channel 2 will be Solar.
If you have followed the wiring instructions above, then assign the channel as shown.

3. Control Settings

Controlling Load: true if you have a contactor and load connected.

Controlling Inverter: true if the RS485 is connected to an inverter.



Press “Submit Device”
And you are done..
the Monocle has been configured.

Configuration

For the Monocle

At this point you have create the site and attached the device, and all of this information has been sent to the MONOCLE.

As part of the site creation process, an email has been created and sent to the customer (remember the site Owner email address). The instructions for how the customer can get access to the MONOCLE are in that email.

The email to the customer will contain an **access token** the customer will need in order to register themselves as the owner of the site you have just created.

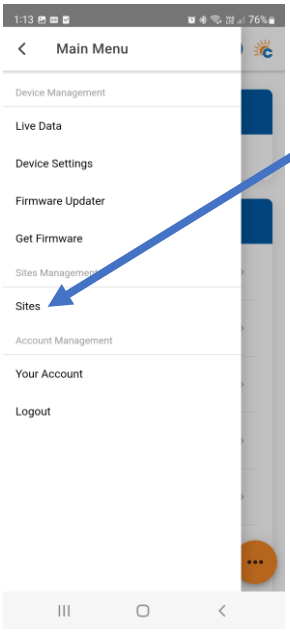
The last thing for you to do is connect the Solar Relay to the customers WiFi
and
check everything looks ok in the MONOCLE.

Dynamic / Flexible Exports

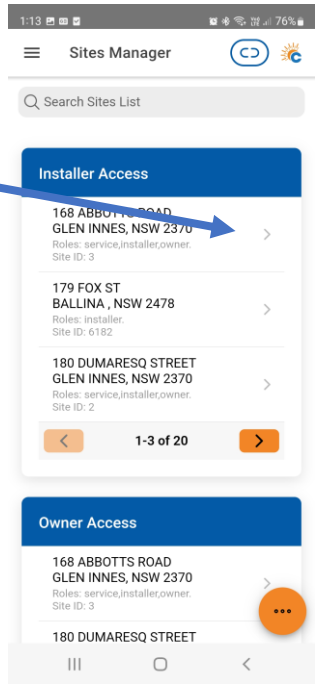
The following requisites are required before beginning this step:

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

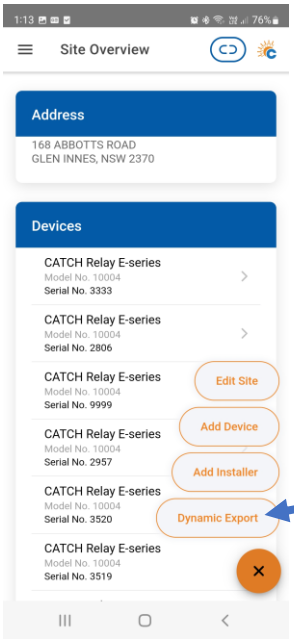
(See Previous Steps for details)



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**"

Dynamic / Flexible Exports

1. Enable Export Control

2. Enter the customers NMI.

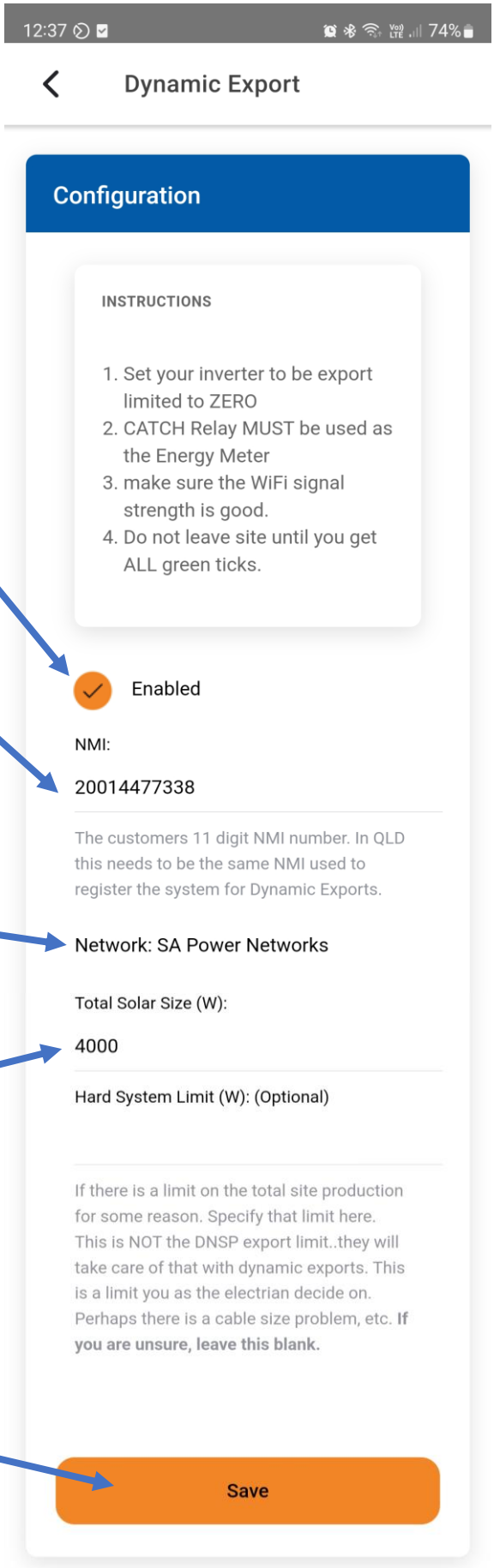
This needs to be the 11 digit NMI, if you have been dealing with your DNSP they may have only wanted the first 10 digits..But we need the 11th digit

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.

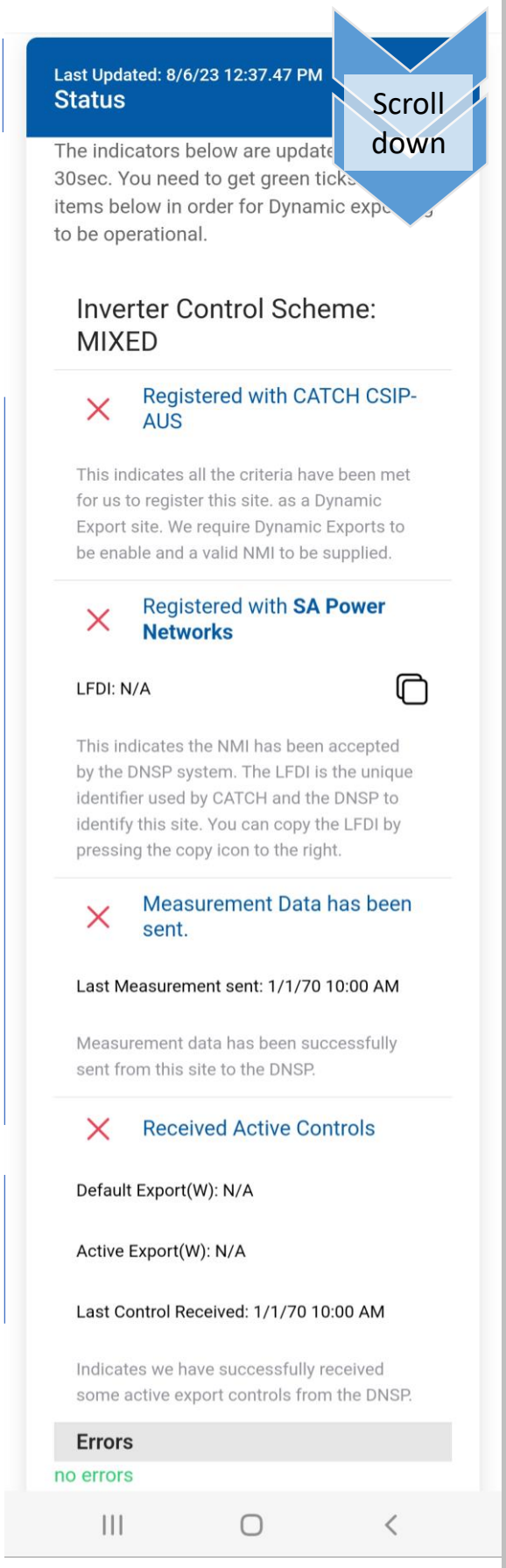


Dynamic / Flexible Exports

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:



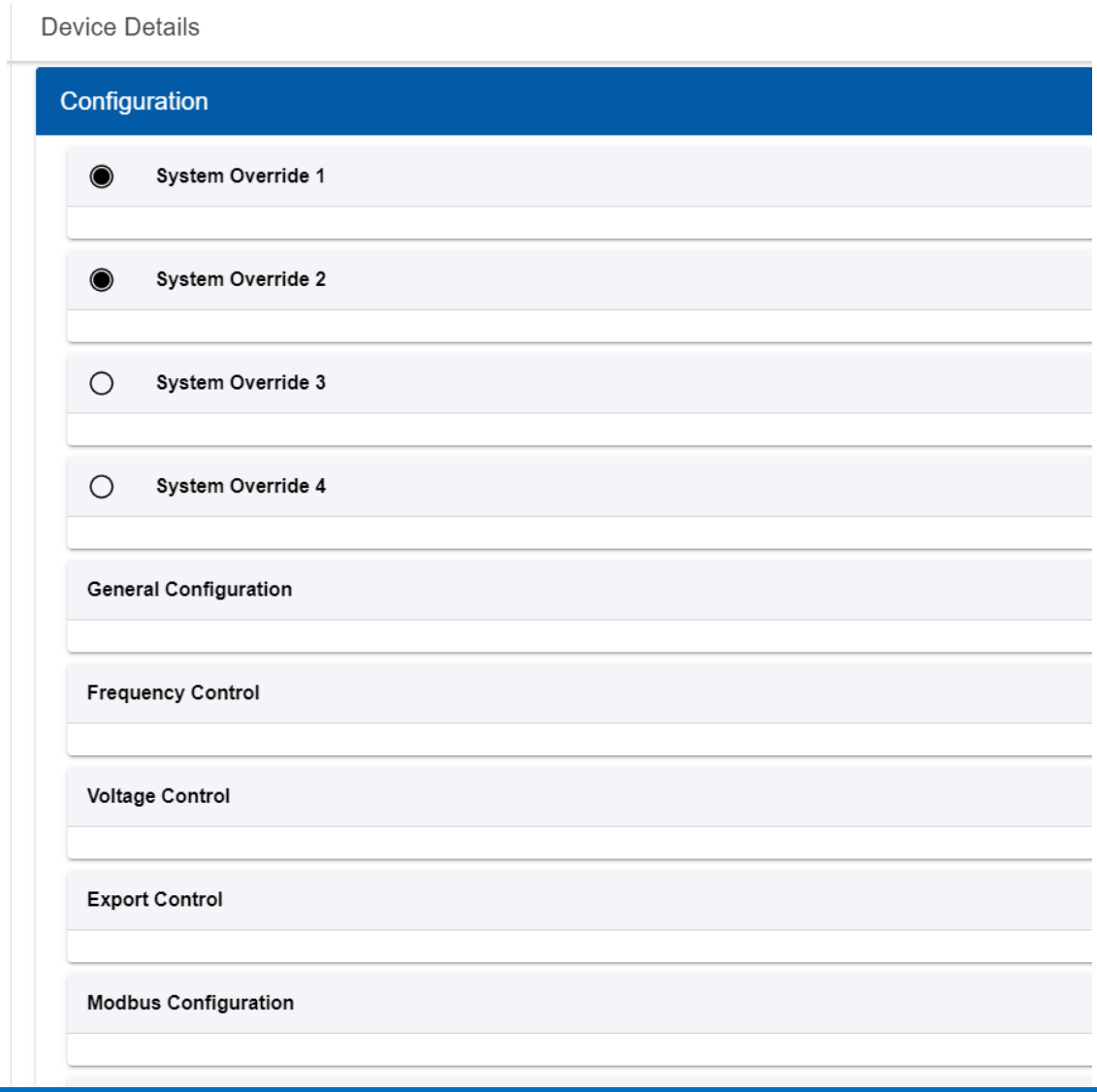
AND WE ARE DONE…

“My Fleet Manager”

Remote Control of your Fleet

Access your fleet of installations at
https://myfleet.edde.world

1. Log in using the same installer “log in” you use for The Configurator App.
2. Make changes to your sites from the computer. Access a site remotely and change the configuration, monitor the historic consumption data, view the version of the firmware, check the WiFi signal strength and more.



DIAGNOSTICS, REMOTE CHANGES & MONITORING

“My Fleet Manager”

Remote Control of your Fleet

Device Details

Identity

Serial#	[redacted]
FW Ver	3072
Type	CATCH Relay E-series
Device time	3:16 pm
Details	phase 1

Override Control

ON OFF

RELEASE

Runtime: 108 mins

Please Note: Turning a device on or off here is overriding the devices own logic. This will remain in place until the release button is activated.

Watt Hour Data

Ch1 Exported	-10341 Wh
Ch1 Imported	46 Wh
Ch2 Exported	-13147 Wh
Ch2 Imported	0 Wh

DIAGNOSTICS, REMOTE CHANGES & MONITORING

“My Fleet Manager”

Remote Control of your Fleet

Connection Status (ONLINE)

Status	ONLINE
RS485 Signal Found	1
RS485 Inverter Lock	1
RS485 Received Packets	3958

Wifi Information

WiFi SSID	Optus_[redacted]
WiFi PWD	**********
Local IP	[redacted]
RSSI	0 dB

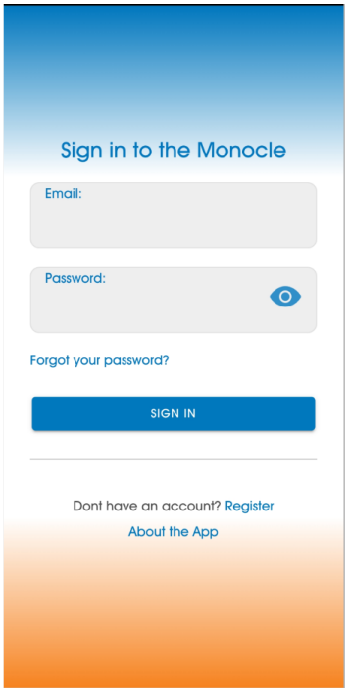
DIAGNOSTICS, REMOTE CHANGES & MONITORING

The MONOCLE

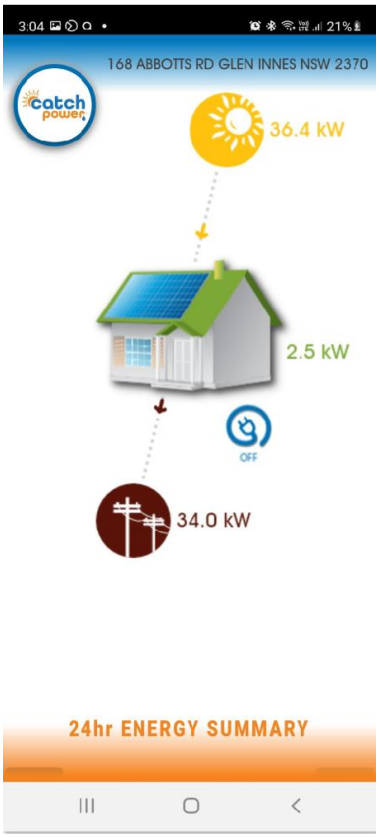
The last step is to check the MONOCLE and make sure everything looks ok from the customers point of view.

1. Open the MONOCLE and press Login

2. Use the username and password created back in the office for the configurator



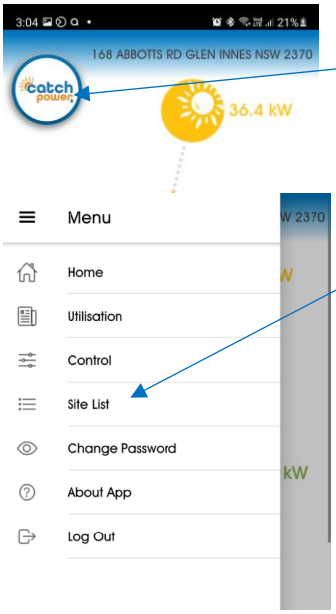
The MONOCLE



If this is your very first Monocle site, the site should open as the default site, and the data should be displayed as shown here.

If you have more than one site you may need to go and find it.

Change Sites on the Monocle.



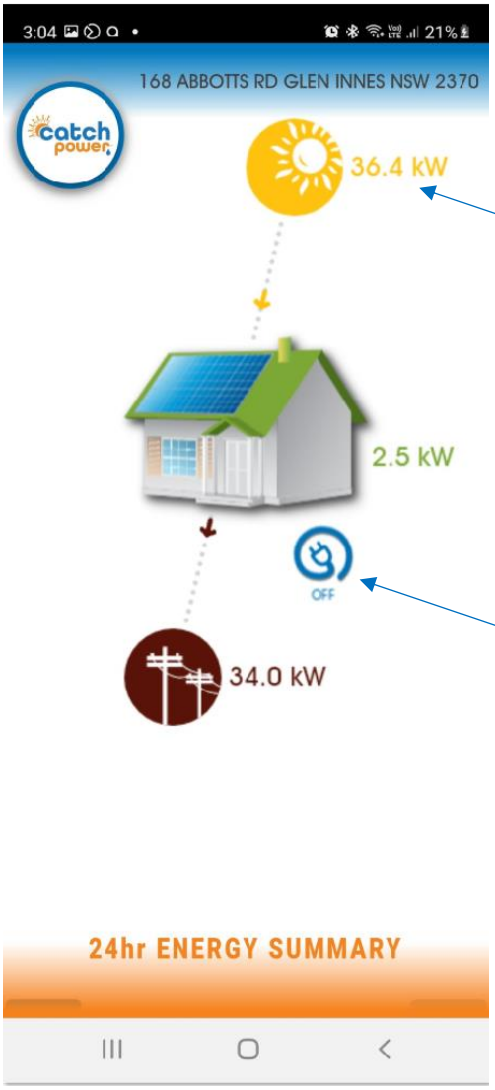
1. Press the menu Button

2. Choose Site List

The MONOCLE


168 ABBOTTS RD GLEN INNES NSW 2370
AVAILABLE SITES
Search Sites List
180 DUMARESQ STREET GLEN INNES NSW 2370
168 ABBOTTS RD GLEN INNES NSW 2370
Owner: Not Available
GREEN TEST SITES GLEN INNES NSW 2370
1-3 of 8
3. Search for your site address
4. Expand the desired sites details
5. Tap the Site Jump Button

The MONOCLE



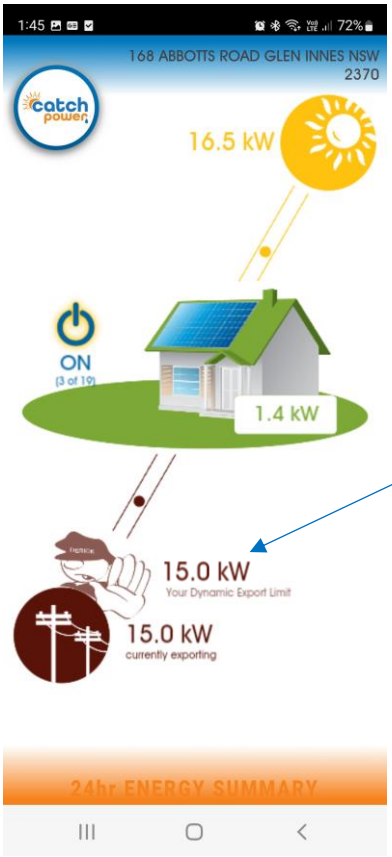
Things to Check

1. Make sure the power numbers look correct.

2. If there is a load connected. Use this button to turn it on and off.

The MONOCLE

Dynamic / Flexible Exports



If the site is participating in a DNSP dynamic / Flexible Exports program then Derick the Dynamic Gateway control should be present, letting you know the current site export limit. The current site Export limit is 15kW

Adding an EV Charger

The technical term for an EV Charger is **E**lectric **V**ehicle **S**upply **E**quipment (or EVSE for short).

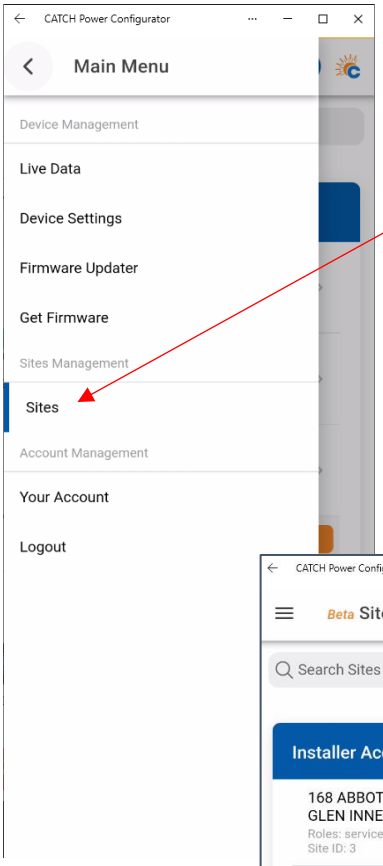
You can't just get any old EVSE. The EVSE needs to be OCPP compliant and support the *Smart Charging* profile.

You can go to our website for a list of EV Chargers that we have tested and know will give you trouble free charging.
http://www.catchpower.com.au/evse

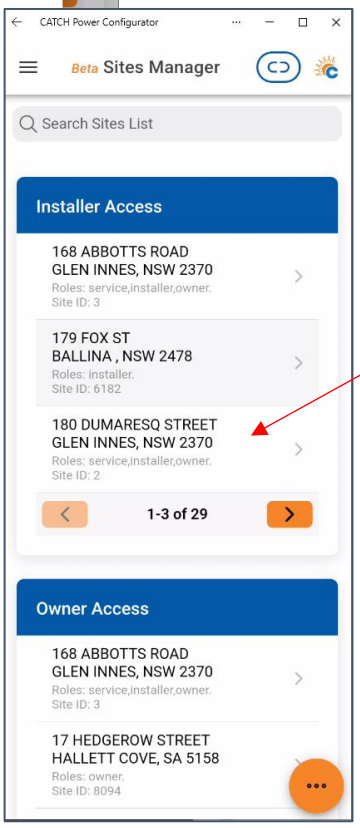
Adding an EV Charger

1 – Adding the EV Charger to the CATCH Site

- Open the “**CATCH Power Configurator”,** Log in with your installer account.



Open the menu and click on the **Sites** menu Option

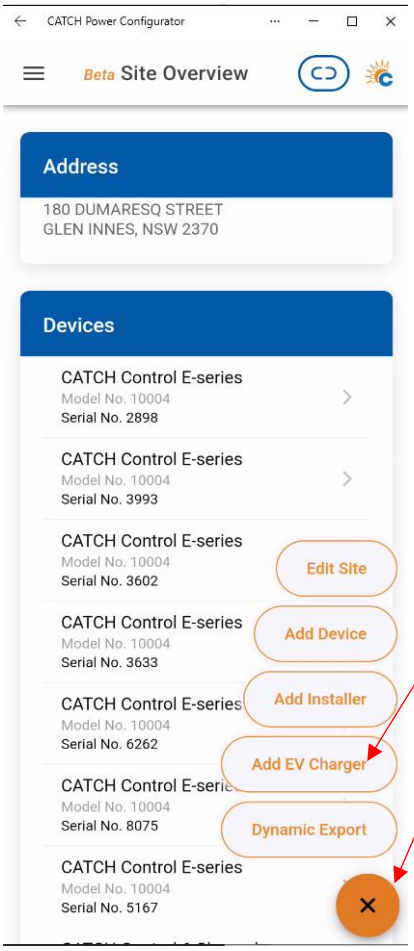


Click on the Site you wish to register he EV Charger against.

Note: This is a new Site you will need to create it by pressing the orange button in the bottom right.

Adding an EV Charger

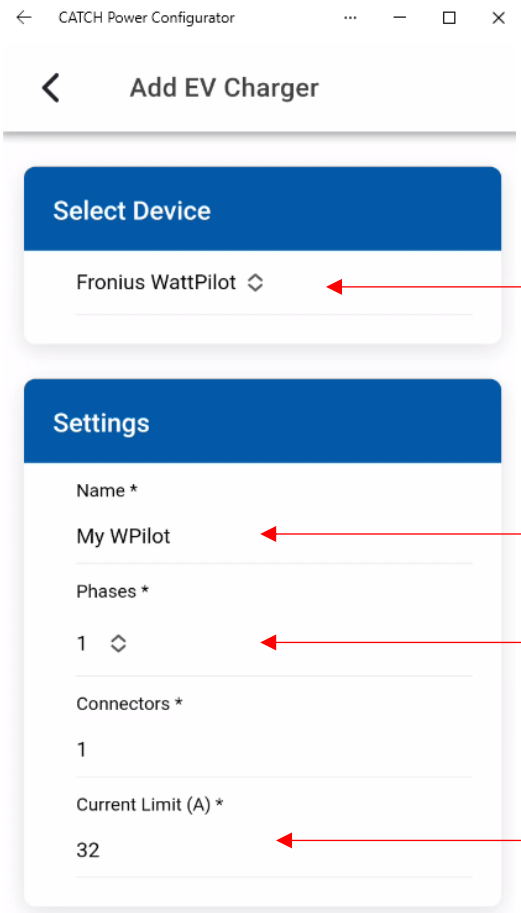
1 – Adding the EV Charger… continued



Click on the orange circle in the bottom right. Then click on **Add EV Charger**

Adding an EV Charger

1 – Adding the EV Charger… continued



Choose the inverter Brand. If your brand is not there Choose Generic OCPP.

Give it a name

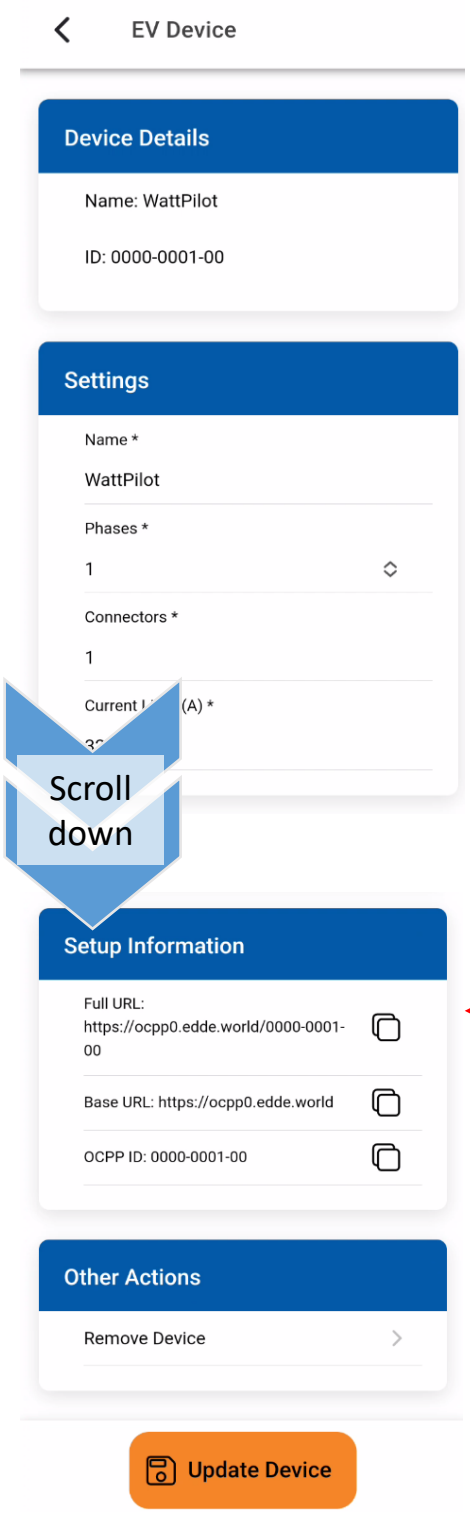
Is it single or 3 phase

This will limit the per phase charging current to this value.

Add the Device

Adding an EV Charger

1 – Adding the EV Charger… continued



You will need one of these URLs to be entered into the EV Charger Setup. Press on the square on the right hand side to copy the value.

See your EV charger installation guide on how to enable OCPP.