



HORIZON



POWER

Quick Reference Guide

SGD + Fronius Installation

1. Fronius compatible devices

Here are the Fronius inverters compatible with the Horizon Power Smart Connect Solar program.

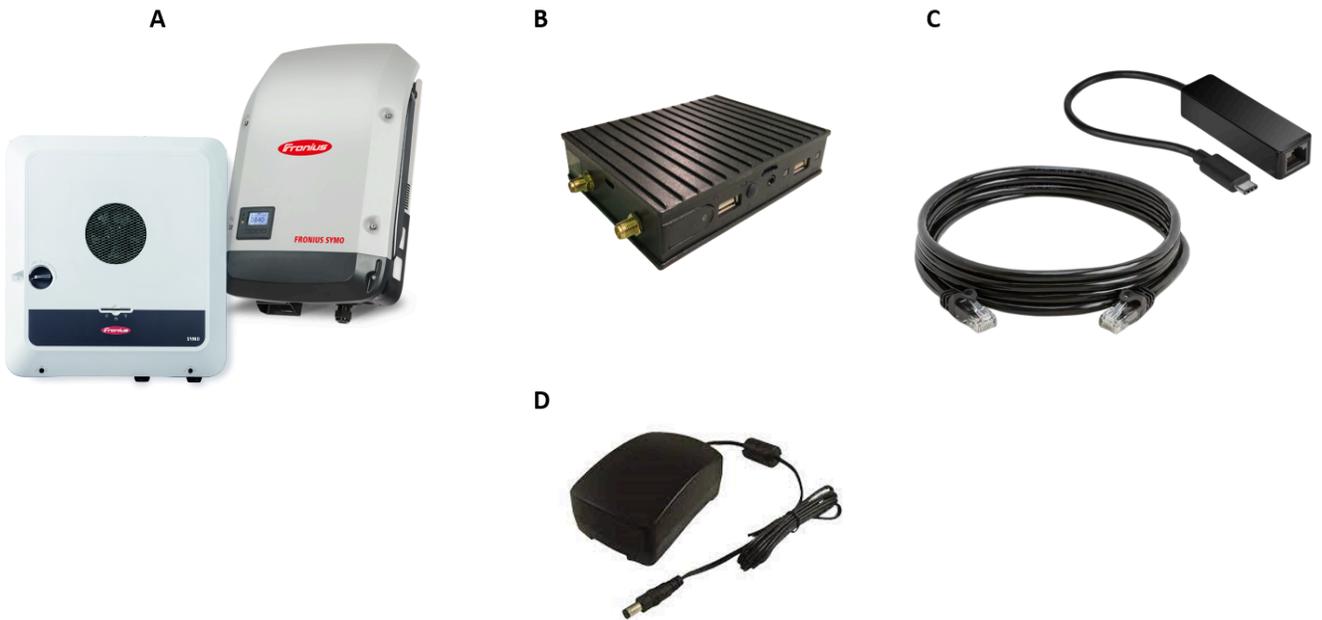
Model	Size in KW	No Of Phases	Equipment Category
Eco 25.0-3-S (AS4777-2 2020)	25	3	Grid Connect PV Inverter
Eco 27.0-3-S (AS4777-2 2020)	27	3	Grid Connect PV Inverter
Primo 3.0-1 (AS4777-2 2020)	3	1	Grid Connect PV Inverter
Primo 3.5-1 (AS4777-2 2020)	3.5	1	Grid Connect PV Inverter
Primo 3.6-1 (AS4777-2 2020)	3.68	1	Grid Connect PV Inverter
Primo 4.0-1 (AS4777-2 2020)	4	1	Grid Connect PV Inverter
Primo 4.6-1 (AS4777-2 2020)	4.6	1	Grid Connect PV Inverter
Primo 5.0-1 (AS4777-2 2020)	5	1	Grid Connect PV Inverter
Primo 5.0-1 AUS (AS4777-2 2020)	4.6	1	Grid Connect PV Inverter
Primo 5.0-1 SC (AS4777-2 2020)	5	1	Grid Connect PV Inverter
Primo 6.0-1 (AS4777-2 2020)	6	1	Grid Connect PV Inverter
Primo 8.2-1 (AS4777-2 2020)	8.2	1	Grid Connect PV Inverter
Primo GEN24 10.0 (AS4777-2 2020)	10	1	Multiple Mode Inverter - PV Only
Primo GEN24 10.0 Plus (AS4777-2 2020)	10	1	Multiple Mode Inverter - PV and Battery
Primo GEN24 3.0 (AS4777-2 2020)	3	1	Multiple Mode Inverter - PV Only
Primo GEN24 3.0 Plus (AS4777-2 2020)	3	1	Multiple Mode Inverter - PV and Battery
Primo GEN24 3.6 (AS4777-2 2020)	3.68	1	Multiple Mode Inverter - PV Only
Primo GEN24 3.6 Plus (AS4777-2 2020)	3.68	1	Multiple Mode Inverter - PV and Battery
Primo GEN24 4.0 (AS4777-2 2020)	4	1	Multiple Mode Inverter - PV Only
Primo GEN24 4.0 Plus (AS4777-2 2020)	4	1	Multiple Mode Inverter - PV and Battery
Primo GEN24 4.6 (AS4777-2 2020)	4.6	1	Multiple Mode Inverter - PV Only
Primo GEN24 4.6 Plus (AS4777-2 2020)	4.6	1	Multiple Mode Inverter - PV and Battery
Primo GEN24 5.0 (AS4777-2 2020)	5	1	Multiple Mode Inverter - PV Only
Primo GEN24 5.0 Plus (AS4777-2 2020)	5	1	Multiple Mode Inverter - PV and Battery
Primo GEN24 6.0 (AS4777-2 2020)	6	1	Multiple Mode Inverter - PV Only
Primo GEN24 6.0 Plus (AS4777-2 2020)	6	1	Multiple Mode Inverter - PV and Battery
Primo GEN24 8.0 (AS4777-2 2020)	8	1	Multiple Mode Inverter - PV Only
Primo GEN24 8.0 Plus (AS4777-2 2020)	8	1	Multiple Mode Inverter - PV and Battery
Symo 10.0-3-M (AS4777-2 2020)	10	3	Grid Connect PV Inverter
Symo 12.5-3-M (AS4777-2 2020)	12.5	3	Grid Connect PV Inverter
Symo 15.0-3-M (AS4777-2 2020)	15	3	Grid Connect PV Inverter
Symo 17.5-3-M (AS4777-2 2020)	17.5	3	Grid Connect PV Inverter

Symo 20.0-3-M (AS4777-2 2020)	20	3	Grid Connect PV Inverter
Symo 3.0-3-M (AS4777-2 2020)	3	3	Grid Connect PV Inverter
Symo 3.7-3-M (AS4777-2 2020)	3.7	3	Grid Connect PV Inverter
Symo 4.5-3-M (AS4777-2 2020)	4.5	3	Grid Connect PV Inverter
Symo 5.0-3-M (AS4777-2 2020)	5	3	Grid Connect PV Inverter
Symo 6.0-3-M (AS4777-2 2020)	6	3	Grid Connect PV Inverter
Symo 7.0-3-M (AS4777-2 2020)	7	3	Grid Connect PV Inverter
Symo 8.2-3-M (AS4777-2 2020)	8.2	3	Grid Connect PV Inverter
Symo GEN24 10.0 (AS4777-2 2020)	10	3	Multiple Mode Inverter - PV Only
Symo GEN24 10.0 Plus (AS4777-2 2020)	10	3	Multiple Mode Inverter - PV and Battery
Symo GEN24 3.0 (AS4777-2 2020)	3	3	Grid Connect PV Inverter
Symo GEN24 3.0 Plus (AS4777-2 2020)	4.5	3	Multiple Mode Inverter - PV and Battery
Symo GEN24 4.0 (AS4777-2 2020)	4	3	Grid Connect PV Inverter
Symo GEN24 4.0 Plus (AS4777-2 2020)	4	3	Multiple Mode Inverter - PV and Battery
Symo GEN24 5.0 (AS4777-2 2020)	5	3	Grid Connect PV Inverter
Symo GEN24 5.0 Plus (AS4777-2 2020)	5	3	Multiple Mode Inverter - PV and Battery
Symo GEN24 6.0 (AS4777-2 2020)	6	3	Multiple Mode Inverter - PV Only
Symo GEN24 6.0 Plus (AS4777-2 2020)	6	3	Multiple Mode Inverter - PV and Battery
Symo GEN24 8.0 (AS4777-2 2020)	8	3	Multiple Mode Inverter - PV Only
Symo GEN24 8.0 Plus (AS4777-2 2020)	8	3	Multiple Mode Inverter - PV and Battery

2. Hardware & Software Checklists

Hardware

- A Fronius SnapINverter / GEN24
- B Horizon Power Secure Device Gateway 'SGD'
- C SGD Power Supply
- D Ethernet cable + Ethernet/USB adapter



Software

Ensure you have a user account with installer accreditation for the following applications:

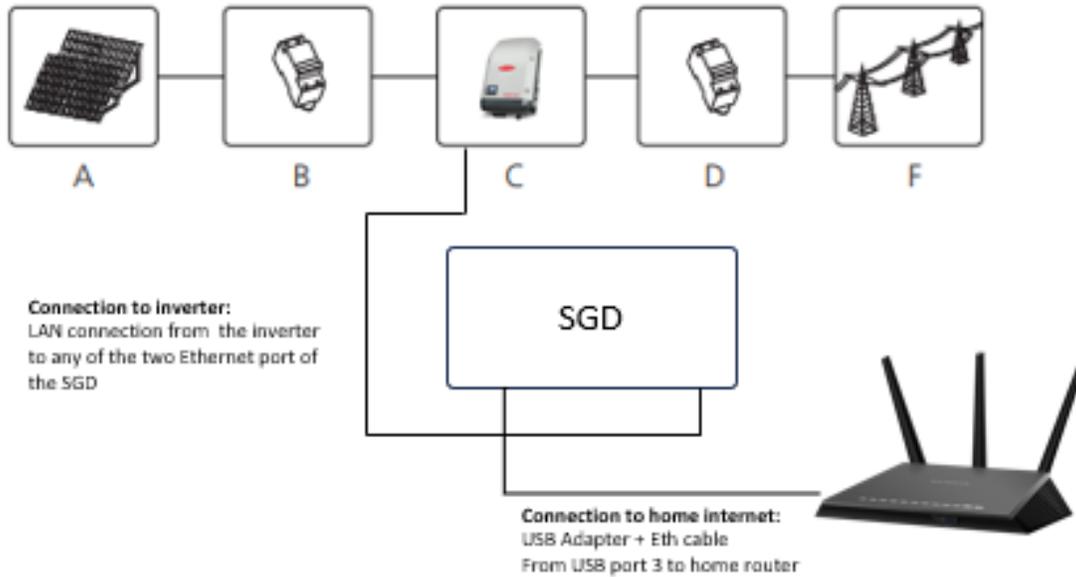
Fronius Inverter WebUI: Installer access to the local interface (Service(SnapINverter) / Technician (GEN24).

Stormcloud (SwitchDin): Ensure you pass the HP Installer accreditation to get installer permissions open on the user account you create on this app.

3. Physical connection

Behind the meter configuration overview

Here is the overview of the physical connections you need to establish between devices



Position	Description
A	PV modules
B	DC load circuit breaker
C	Inverter
D	AC load circuit breaker
F	Utility grid

Mount the SGD

Start by mounting the SGD on a DIN Rail using the pre-fitted DIN Rail mounting bracket.



DIN rail mounting bracket

Connect to Home Internet

Then connect the SGD to the internet by plugging the USB-Ethernet adapter with a CAT 6 cable from the home router into the USB port number 3 as shown here.

Please be aware that there is no other USB port that will accept any Internet traffic.



**For home internet
connect USB-Ethernet adapter here ONLY**

Connect to Fronius inverter

Connect a Cat 6 cable between any of the Ethernet ports and the SGD and the Fronius ETH port.

NOTE: **Only** use a hard-wired LAN (Ethernet) connection on the inverter.



Connect Ethernet (CAT6) from device

Connect the main 4G antenna

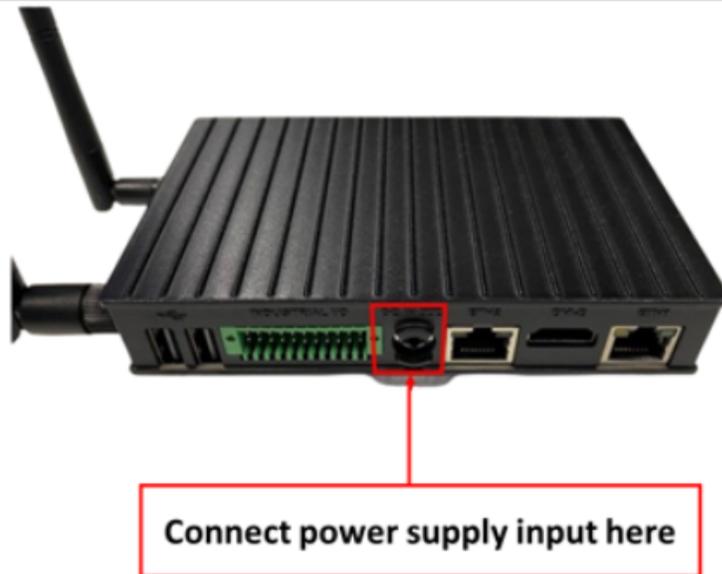
Make sure you connect the main 4G antenna to the WLAN-B connection as shown here.



Connect main 4G antenna here

Power up the SGD

Ensure you connect the power supply as below.

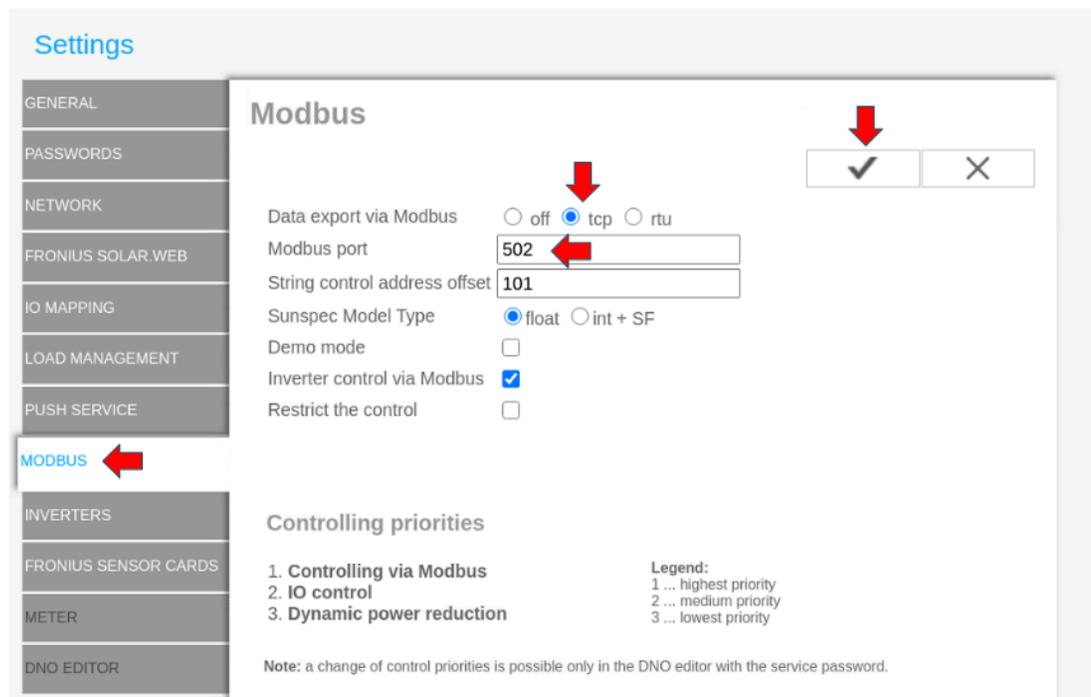


4. Fronius inverter settings

4.1 SnapInverter:

Enable Modbus TCP and Port 502

1. Access Fronius WebUI via web browser **192.168.250.181**.
2. Login as **Service**.
3. Go to Settings > Modbus, select tcp, enter '502' for Modbus port and tick to confirm settings



Failsafe mode

Ensure that the default value for export limitation is set to 0.

The failsafe setting is a protection when the communication between SGD and inverter is lost, the inverter runs at default settings to not go over the limitation value.

Set Export Limitation Fallback Limit

1. Use Dynamic Power Reduction available in “DNO editor”.
2. Set Dynamic power reduction to “Limit Entire System.”
3. Set Maximum Grid Feed-in Power to the desired fallback value i.e. 0 W.

The screenshot shows a sidebar menu on the left with the following items: NETWORK, FRONIUS SOLAR.WEB, IO MAPPING, LOAD MANAGEMENT, PUSH SERVICE, MODBUS, INVERTERS, FRONIUS SENSOR CARDS, METER, and DNO EDITOR. A red arrow points to the DNO EDITOR item. The main content area is titled 'Dynamic power reduction' and features a red arrow pointing to the 'Limit Entire System' radio button. Below this, there are two input fields: 'total DC power of the system: 2800 Wp' and 'Maximum Grid Feed-In Power: 1500 W'. A checkbox labeled 'Reduce inverter power to 0% if meter connection has been lost.' is also present. At the top right, there is a confirmation dialog with a checkmark and an 'X' button, with a red arrow pointing to the checkmark.

Set Controlling Priorities

1. Set Controlling via Modbus as **Priority 1**
2. Set Dynamic power reduction as **Priority 2**
3. Set IO control as **Priority 3**

The screenshot shows the same sidebar menu as the previous image, with a red arrow pointing to the DNO EDITOR item. The main content area is titled 'Controlling priorities' and features a red arrow pointing to a priority selection interface. This interface consists of three numbered items: '1. Controlling via Modbus', '2. Dynamic power reduction', and '3. IO control'. Each item has a small square icon with a downward arrow. A legend on the right side explains the priority levels: '1 ... highest priority', '2 ... medium priority', and '3 ... lowest priority'. At the top right, there is a confirmation dialog with a checkmark and an 'X' button, with a red arrow pointing to the checkmark.

Inverter region setting

Ensure you set the country to Australia and the region to **C** for Horizon Power.

The grid code on snap inverters can only be changed on the local inverter interface.

Set Grid Code

Open “**Access Code**”

Press the 3rd button **5-6 times**



Access Code Menu

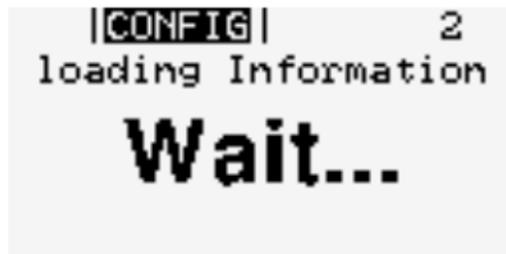


Enter **73887**

+/- button changes the number and enter will go to the next number

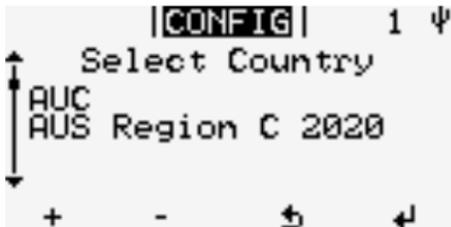


Loading settings

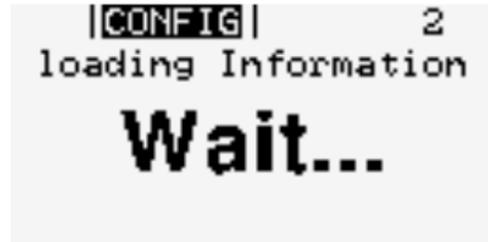


“AUC” - **AUS Region C 2020** as grid code.
Confirm with “Enter”

+/- button changes the grid codes



Settings will be loaded and the inverter will reboot



NOTE: If “AUC” is not available in the setup please update the firmware.

Ramp Rate Settings

Open “Access Code”

Press the 3rd button **5-6** times

Access Code menu

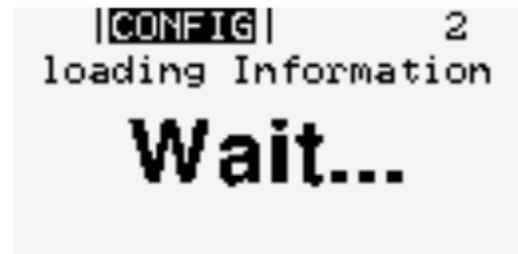


Enter **77634**

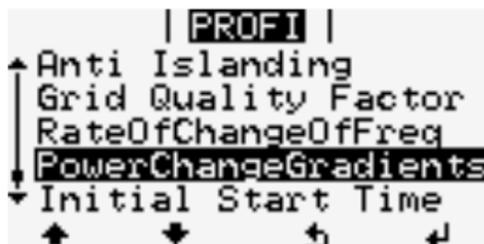
+/- button changes the number and enter will go to the next number



Loading settings



Open "Power Change Gradients"



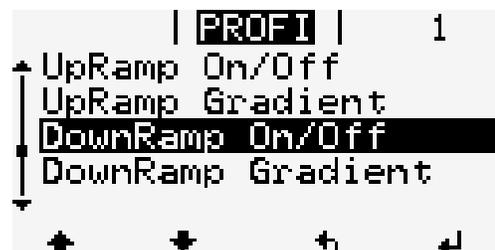
Open "UpRamp On/Off"



Turn "OFF"



Open "DownRamp On/Off"



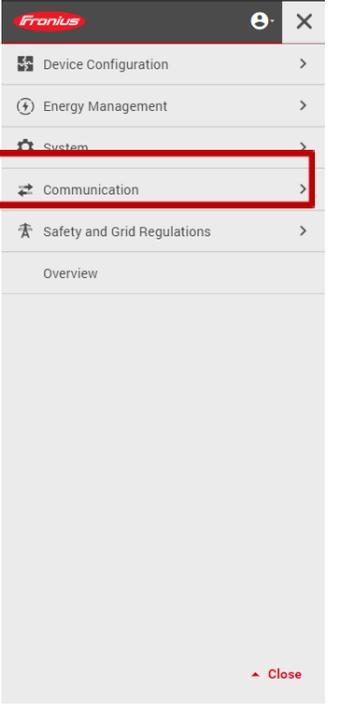
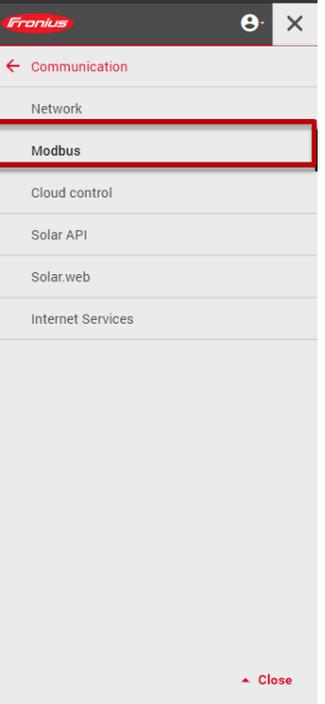
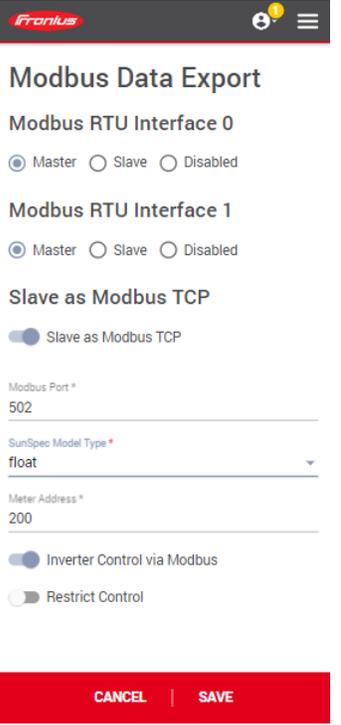
Turn "OFF"



4.2 GEN24

Enable Modbus TCP and port 502

1. Access Fronius WebUI via web browser **192.168.250.181**.
Or Solar.Start app recommended.
2. Login as **Technician**.

Go to Communication		Go to Modbus	<ul style="list-style-type: none">● Activate “Modbus TCP”● Modbus Port “502”● SunSpec Model Type “float”● Activate “Inverter Control via Modbus”● “SAVE”
	→		→ 

Failsafe mode

Ensure that the default value for export limitation is set to 0.

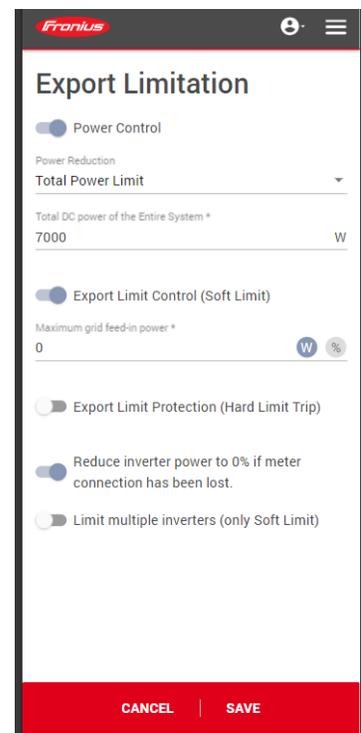
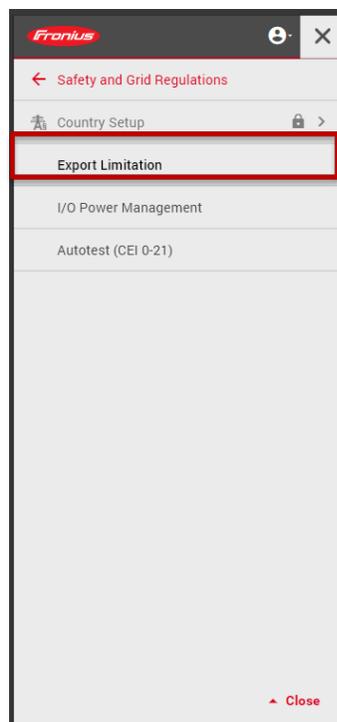
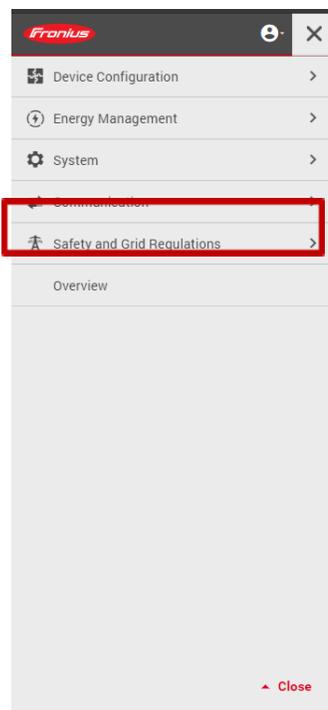
The failsafe setting is a protection when the communication between SGD and inverter is lost, the inverter runs at default settings to not go over the limitation value.

Set Export Limitation Fallback Limit

Safety and Grid Regulations

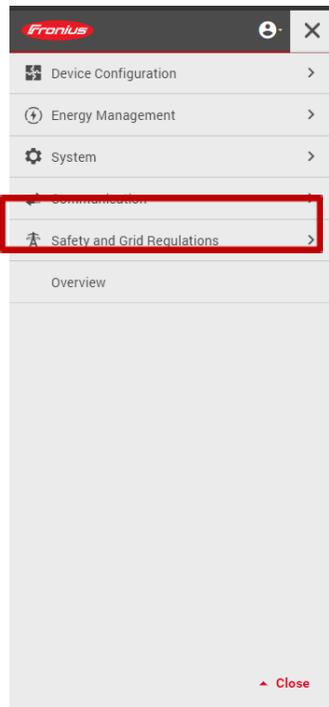
Export Limitation

- Activate “Power Control”
- Activate “Export Limit Control (Soft Limit)” set 0
- Activate “Reduce inverter power to 0% if the meter connection has been lost”
- “SAVE”

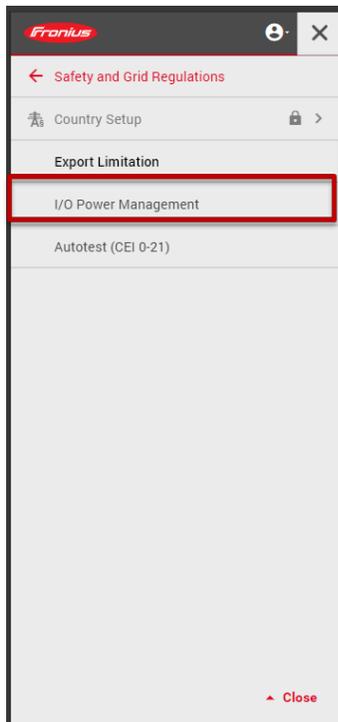


Set Control Priorities

Safety and Grid Regulations

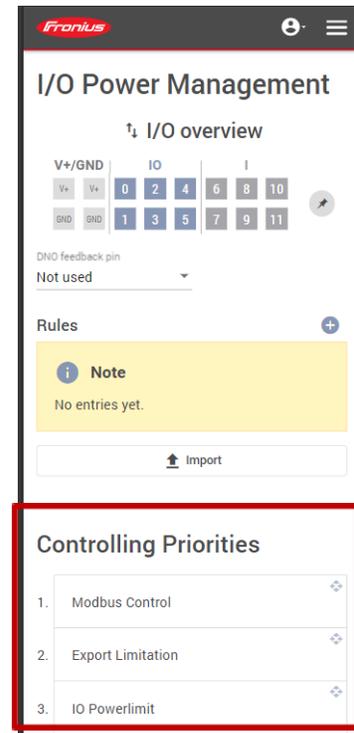


I/O Power Management



Set Controlling Priorities

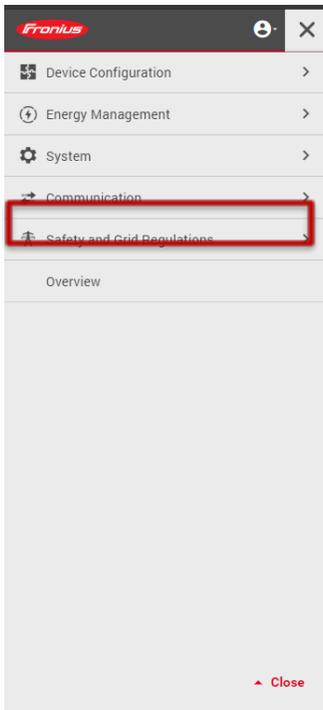
- o 1. Modbus Control
- o 2. Export Limitation
- o 3. IO Powerlimit



Inverter region setting

Ensure you set the country to Australia and the Region to C for Horizon Power.

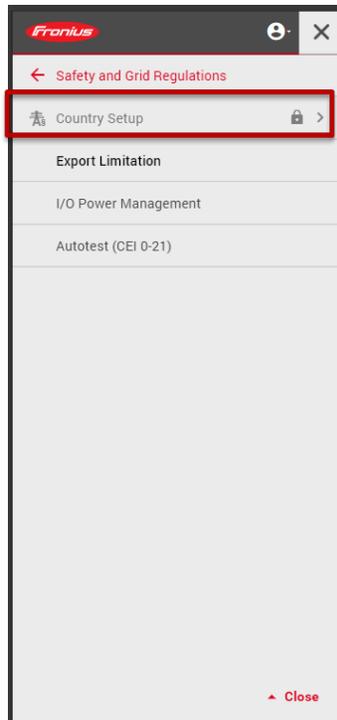
Safety and Grid Regulations



Country Setup

Code "77634"

Country Setup Selection

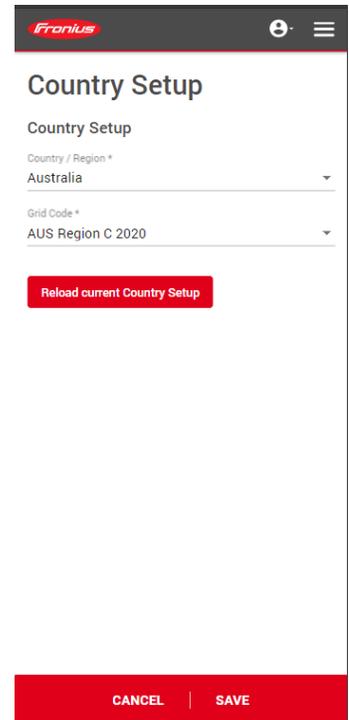


Country Setup

"Australia"

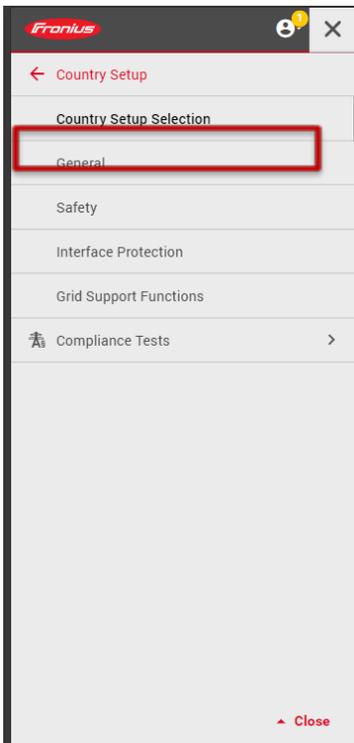
"AUS Region C 2020"

"SAVE"

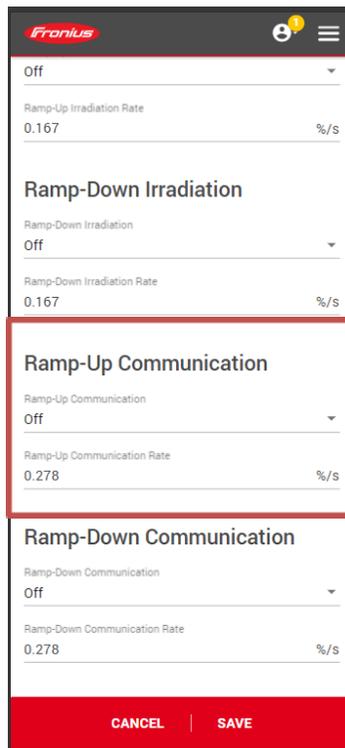


Ramp Rate Settings

Country Setup
- General



Ramp-Up Communication
OFF



4. Commissioning the SGD

Open the Stormcloud application and sign in.

Please follow this [link](#) if you are creating your user account. You must ensure you have permissions on this account opened by SwitchDin.

Your username is an email address. (Password is CASE sensitive)

If two-factor authentication has been enforced, you will receive a passcode valid for 300 seconds in your email inbox to finish logging in to the SwitchDin portal.



Vodafone AU WiFi 10:41 am

stormcloud™

Username

Password

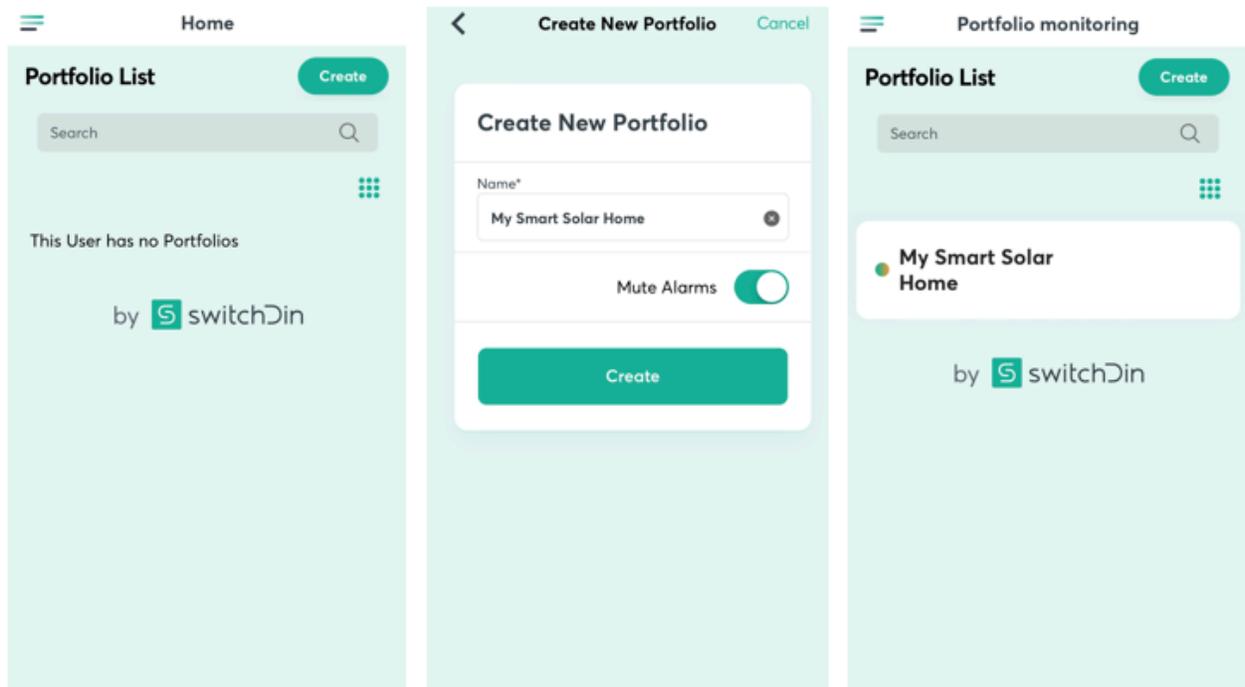
Sign In

Create account > Forgot password? >

by  switchDin

Create a portfolio

On first signing into the application, you can create a folder regrouping all the sites where you install SGDs. We call this folder a portfolio. As an installer, feel free to use the name of your business or area.



Create a unit

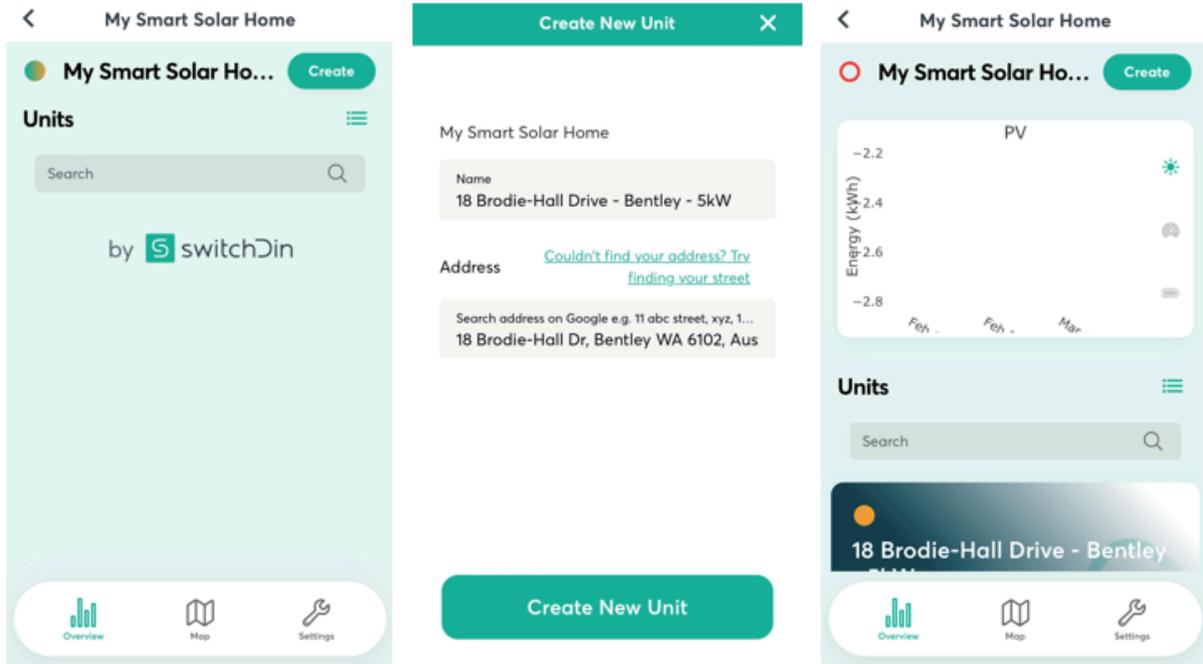
Tap on your portfolio to create your first unit. Tap on 'Create' in the top right corner.

In the Unit Name field, please use the following naming convention:
Street address or significant place name - Town - Inverter size (kW)

For example:

1. 12 Test Road - Onslow - 5kW
2. Broome Test School - Broome - 25kW

Then enter the address in the Street Address field and tap Create New Unit.

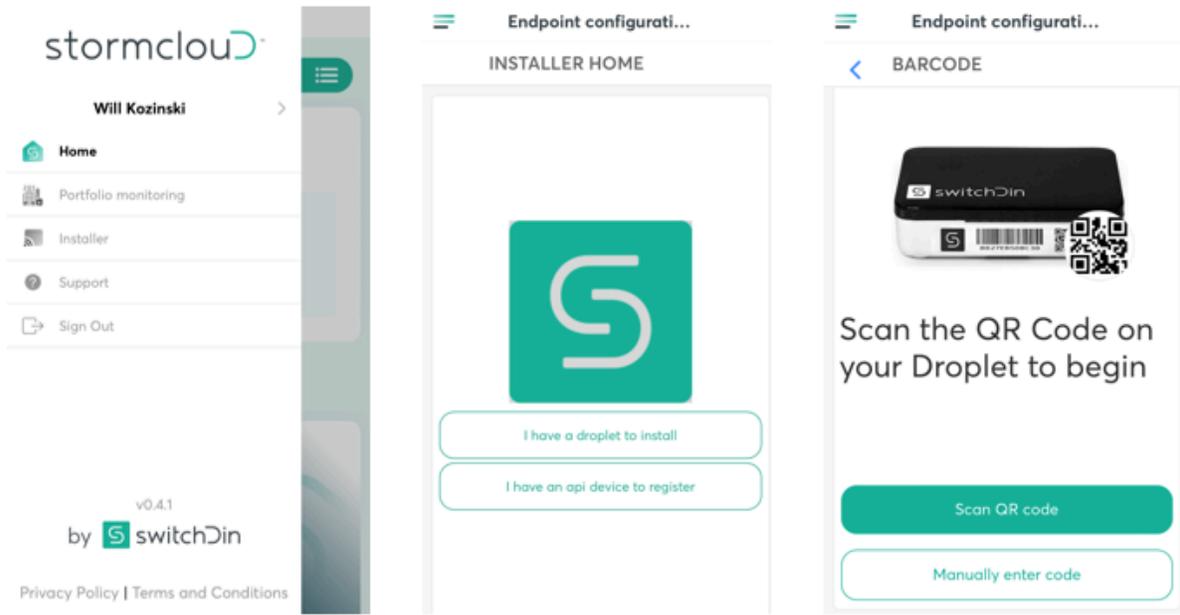


Add the SGD to the unit

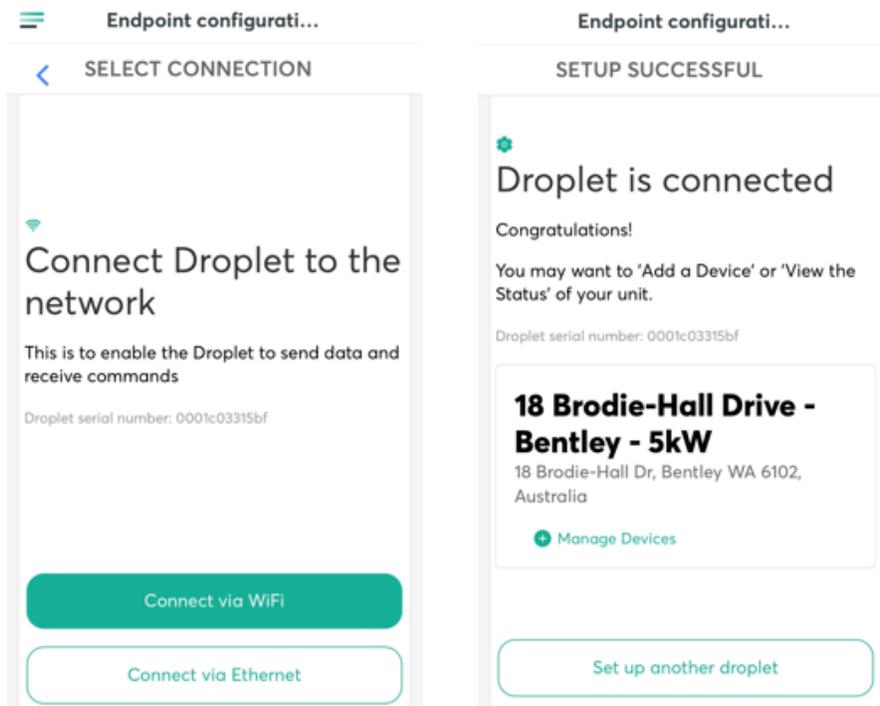
Start the Installer application from your mobile application's top left menu bar.

Select 'I have a droplet to install'

Scan the QR code on the SGD or manually enter the serial number (located below the bar code on the SGD). If you cannot reach the QR code or serial number on the SGD, it can also be found on the packaging it arrived in.

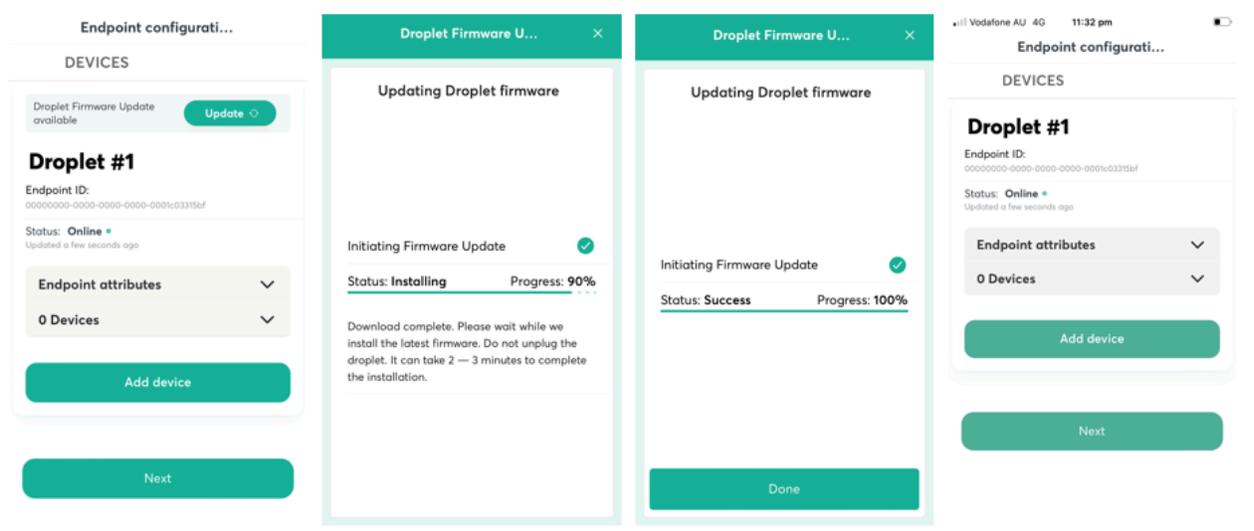


Then select 'Connect via Ethernet' as you should have plugged the USB/ETH adaptor into the local LAN and port USB3 of the SGD.



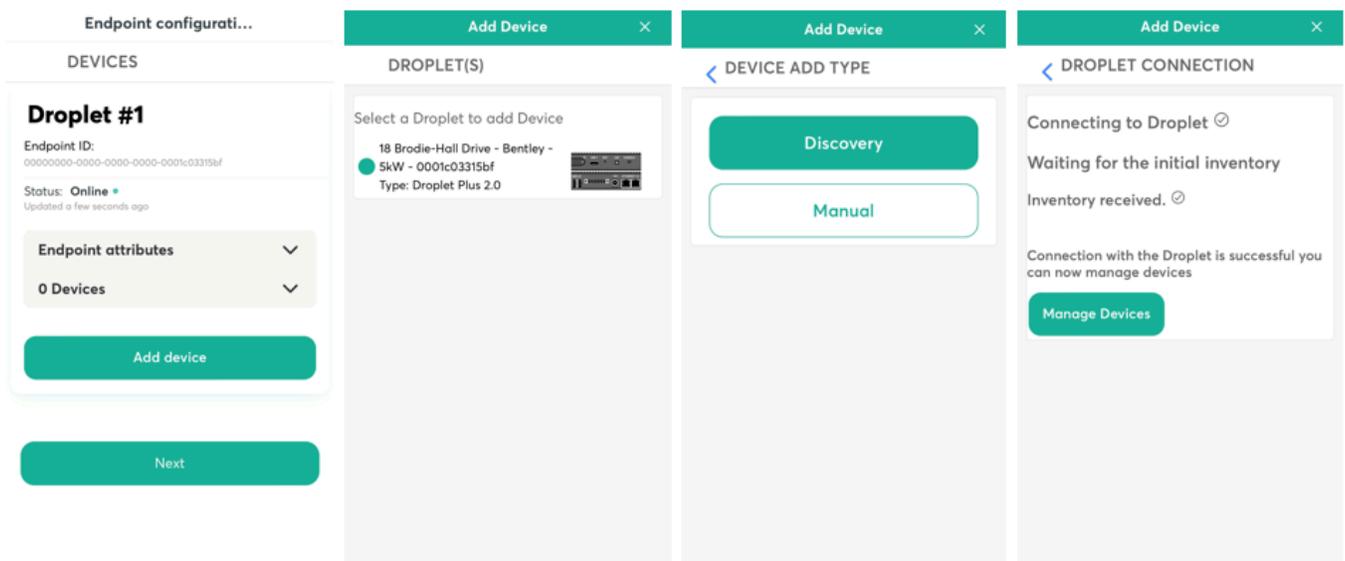
Update firmware

Select 'Manage Devices' and tap at the top of the screen to download the latest firmware update if available.



Manage Devices

Tap on Add device, tap on the droplet you want to select, then tap on 'Discovery'. Tap on 'Manage Devices'



Tap the settings button in front of the USB port you have used to connect the inverter to the SGD. Then select the model/type of inverter. Specify if you have a grid or load meter.

Optional: If you have connected a smart meter, you will configure it from selecting the other USB port you have used.



Add the Horizon Power Controller

Now that a device has been added to the SGD, you will be able to tap on 'Add Controller'. Select 'Horizon Power Controller' from the drop-down menu then 'Create'.

