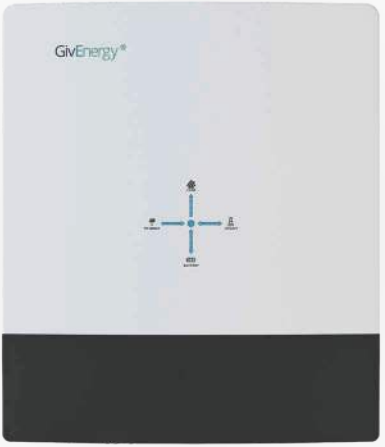
GivEnergy®



INVERTER INSTALLATION MANUAL

HY 3.6, HY 5.0

V 1.0 14/6/2024

OVERVIEW

A TRUE MULTITASKER

Battery and Solar Inverter in One

The third generation of the GivEnergy Hybrid Inverter is a battery and solar inverter in one unit.

It can be coupled directly with solar panels to generate electricity in the property during daylight hours, as well as store any excess energy for later use in our batteries to minimise export. Additionally, it will minimise import by discharging to meet demand in the property.

The Hybrid Inverter GEN 3 AU are connected to our batteries using an all-in-one plug, for an easier installation process.

Specifications

Dimensions
583H x 480W x 205D(mm)

Weight
34 Kg

Charge / Discharge Efficiency
94% / 94%

PV Max. Efficiency
97.6%

Environmental category
Suitable for outdoor and indoor installations.
Indoor installation must follow AS/NZS 5139:2019, please read it before doing any installation.

Warranty
10 years

Operational temperature
-25℃ - 60℃

Max. DC Input Power
GIV-HY-3.6-AU 5400W
GIV-HY-5.0-AU 7500W

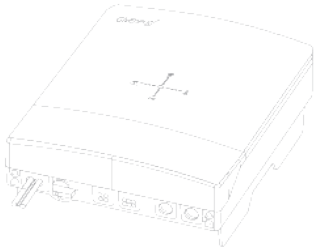
Start Up Voltage
80V

MPPT voltage range
90V-550V

BOX CONTENTS

Item	Item Name	Qty
A	Inverter	1
B	Wall Mounting Bracket	1
D	Mounting Bracket Fixings	5

A



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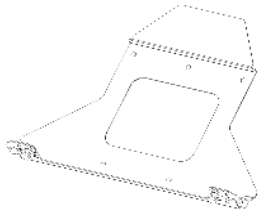


C

GENERAL INFORMATION

Introduction

All information contained in this booklet refers to the assembly, installation, commissioning, and maintenance of the AU Hybrid Inverter. Please retain this manual for future reference.

Installation Requirements

Installation of all GivEnergy equipment must be carried out by a **GivEnergy Approved Installer.**

Unit Information

The Hybrid Inverter is a battery and PV inverter in one. It is bi-directional, meaning it can charge from the grid (AC coupled) and from solar (DC coupled).

Storing the Inverter

The unit must be stored in its original packaging at temperatures between -30°C - 60°C.
Do not stack more than 4 units on top of each other.

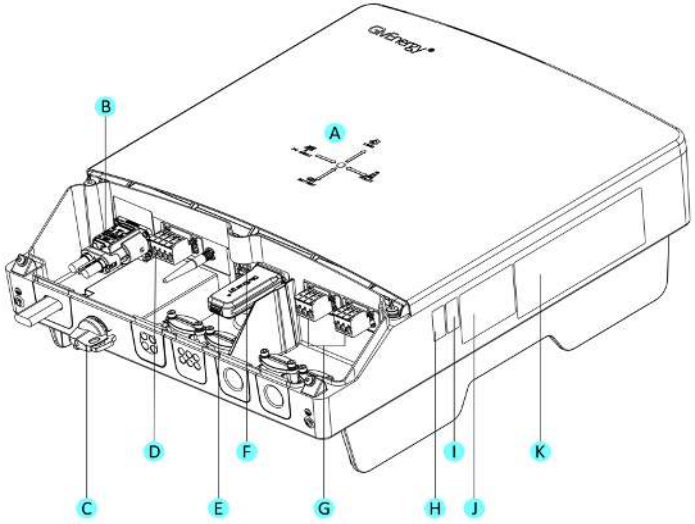
Packaging Contents

When unpacking, please check the following:

- There are no missing accessories from the packaging list
- The model and specification of the inverter's nameplate match the order specifications

If any damaged or missing parts are found, please contact GivEnergy on **1300 GIVENERGY (1300 448 363)** or email **info.aus@givenergy.com** immediately. Returns must be provided in original or equivalent packaging. The cardboard packaging is recyclable.

Item	Item Name
A	Power Flow Direction Indicators
B	All in One Battery Connection
C	PV Input Switch
D	PV Input Terminals
E	WiFi or 3G/4G Module (USB Port)
F	LC, RS485, METER, LAN, CAN, DRM
G	AC Supply Terminals (Right) and EPS Terminals (Left)
H	Serial No.
I	WiFi Serial No. and Verification Code
J	Warning Signs Label
K	Specification Label



Safety Instructions

Extra care and attention must be taken when installing and maintaining any GivEnergy equipment.
The system is capable of retaining a high voltage, even when disconnected.

- If you suspect something is wrong with the battery, contact GivEnergy on **1300 GIVENERGY (1300 448 363)** or email **info.aus@givenergy.com.**
- If any damaged or missing parts are found, please contact GivEnergy on **1300 GIVENERGY (1300 448 363)** or email **info.aus@givenergy.com** immediately. Returns must be provided in original or equivalent
- All electrical installations must be carried out by a qualified and registered Electrician and in accordance with the IEE Wiring Regulations
- During operation, the heat sink may become hot. Do not touch the heat sink at the sides, or the top of the inverter when in operation
- The inverter is designed to be connected to the grid; connecting your inverter to a generator or other power source can result in damage to the inverter or external devices
- All GivEnergy equipment must be installed by a GivEnergy Approved Installer

The inverter must be installed in an easily accessible location, the status display must be visible and not obstructed

Please ensure that the wall to be mounted on is sufficient enough to hold the weight of the inverter and battery pack

The inverter must be installed in a well ventilated area, the ambient temperature should be below 40°C to ensure optimal operation

The inverter must be installed vertically with connections always positioned at the bottom, never install horizontally, and avoid tilting the unit

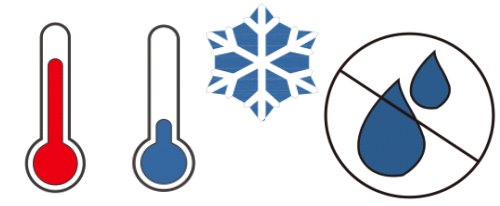
Do not install in direct sunlight or near water sources

Mount the inverter at least 3 feet above ground level (outside only)

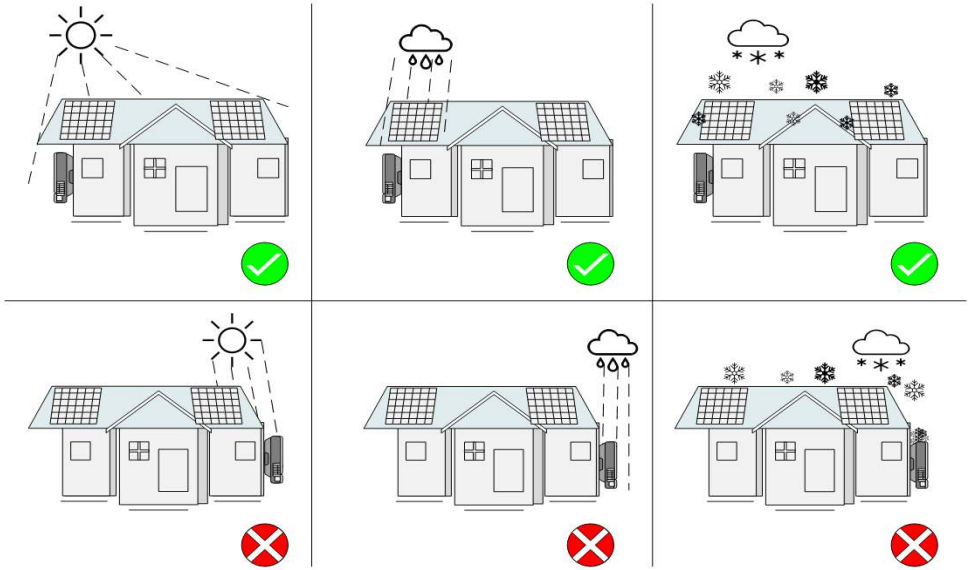
Precautions

- Only GivEnergy supplied battery cables must be used
- Only GivEnergy batteries should be connected to our inverters
- Reversed polarity will damage the inverter
- The battery must be installed in accordance with the Battery Installation Guide

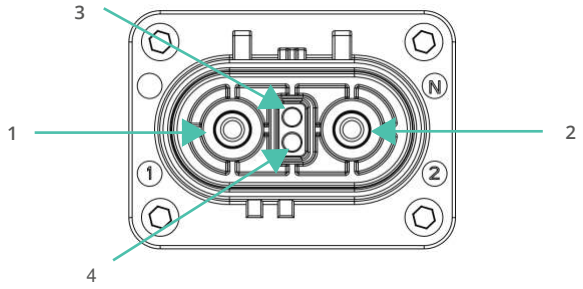
The ambient temperature for the installation of the inverter should be above - 25℃ , below 60℃ , and the humidity should be between 0% and 100%.



For outdoor installation, a rain cover should be installed above the inverter. It should be installed in a place that avoids direct sunlight and maintains ventilation.



Battery Terminal Introductions



NO	Terminal Description
1	The positive pole, connected to an battery.
2	The negative pole, connected to an battery.
3	Built-in communication terminals, CANBUS, CAN-L
4	Built-in communication terminals, CANBUS, CAN-H

PRODUCT HANDLING

This guide provides step-by-step instructions for the proper handling, transportation, and unpacking of the AU hybrid inverter. It also includes guidelines for dealing with packaging damage should it occur during transit. Please follow these instructions carefully to ensure the safety of the product and the installer.

Packing size

Packing weight

34.0 ± 0.5KG

Pallet presentation

- The GivEnergy AU batteries is presented on pallets
- Each pallet contains **16** units
- The inverters are arranged in **4** PCS per layer, and the pallets can be stacked **4** layers high

Stacking pallets

- When stacking pallets, ensure that the bottom pallet is on a flat, stable surface
- Do not stack more pallets than recommended to prevent damage to the lower batteries and to maintain stability during transport

Safe unloading of the pallets

- Use appropriate lifting equipment, such as a forklift or pallet jack, to safely unload pallets from the delivery vehicle
- Ensure that the unloading area is clear of obstacles and is on a level surface
- Exercise caution when removing pallets from the vehicle to avoid injury or damage to the batteries

Safe unloading of the pallets

- Avoid dropping or mishandling the boxes, as this can lead to damage to the batteries
- Examine the box for any symbols or labels, follow these instructions carefully to ensure the proper orientation and handling of the product delivery vehicle:

Class 9 product

This way up

Handle with care

Keep dry

Recycle

Safe transport in installer vehicles

- When transporting the batteries in an installer's vehicle, use proper securing methods, such as straps or cargo nets, to prevent movement and damage during transit
- Ensure that the batteries are positioned securely to avoid shifting while driving

Safe unloading from the van

- When unloading the product from the van, use appropriate lifting techniques to prevent strain or injury
- If possible, use a ramp or a liftgate to facilitate the unloading process

INSTALLATION

Unpacking the product

- When unpacking the product, do so in a clean and dry area
- Use appropriate tools, such as box cutters, to carefully open the packaging, be cautious not to damage the inverters inside
- Inspect the product for any visible signs of damage or irregularities. If damage is observed, document it and contact the manufacturer or supplier immediately

Disposal of packaging

- Dispose of the packaging materials responsibly. Recycle cardboard and other recyclable materials as applicable
- Follow local regulations for the disposal of non-recyclable materials
- Do not leave packaging materials in public areas or unauthorised dumping locations

Handling packaging damage

1. **Document damage**
   Before opening the packaging, take photos of any visible damage to the exterior of the boxes
2. **Inspect the batteries**
   Carefully unpack the product and inspect for any internal damage or defects
3. **Contact the supplier**
   If damage is found, contact the supplier or manufacturer immediately to report the issue and provide them with the documentation of the damage
4. **Follow supplier's instructions**
   Follow the supplier's instructions regarding the return, replacement, or repair of the damaged batteries

Remember, proper handling and care during the transportation and unpacking process are essential to ensure the safe and efficient installation of your hybrid inverter. If you have any questions or concerns, don't hesitate to contact the supplier or manufacturer for assistance.

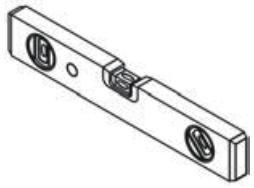
Installation Tool Requirements

For the convenience of installing the machine, the following tools are required.

Item	Item Name
A	Pencil
B	Crankshaft level
C	Diagonal Pliers
D	Ethernet cable pliers
E	Impact Drill
F	Electric screwdriver
G	Wire stripper
H	Slotted Screwdriver and Phillips Screwdriver
I	Hexgonal Screwdriver
J	Multimeter
K	Crimping Pliers

A

B



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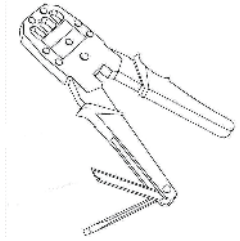

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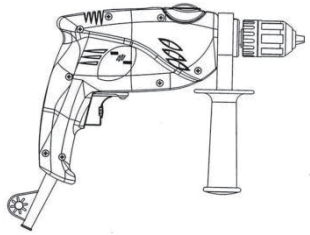

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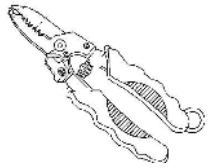

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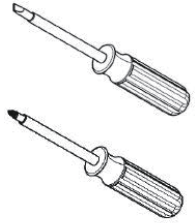

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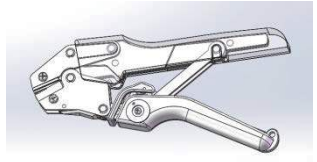
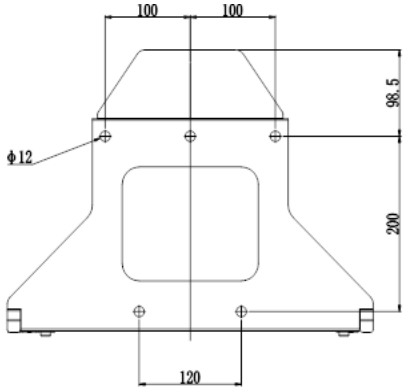
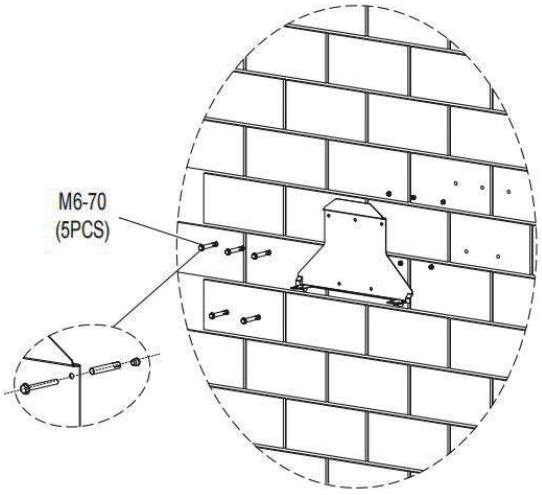


1. Wall thickness for mounting the inverter must be no less than 100mm. Place the wall mounting bracket horizontally onto the wall and mark the position of the bracket holes.

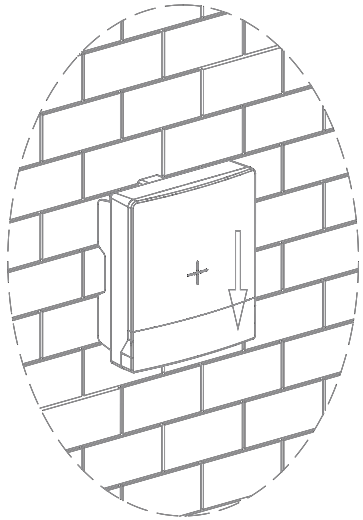


2. Drill 5 holes at the marked positions, at least 80mm deep. Fix the mounting bracket to the wall using 5 x M6x70 expansion bolts.

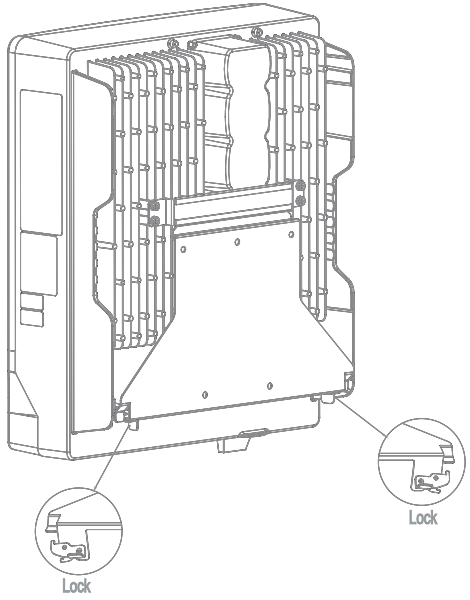
Please note: If fitting the inverter to a non-masonry wall, different fixings will be required.



3. Mount the inverter onto the mounting bracket.

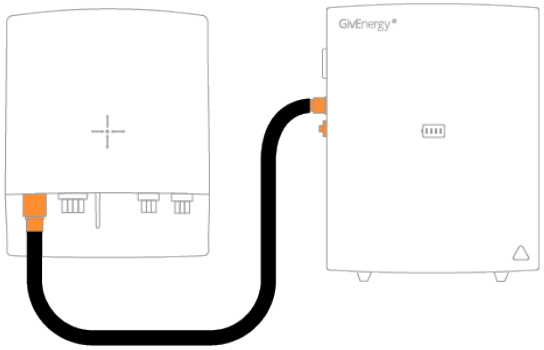


4. Hit the head of the buckle from the front to the side to prevent the inverter from being lifted off the bracket.

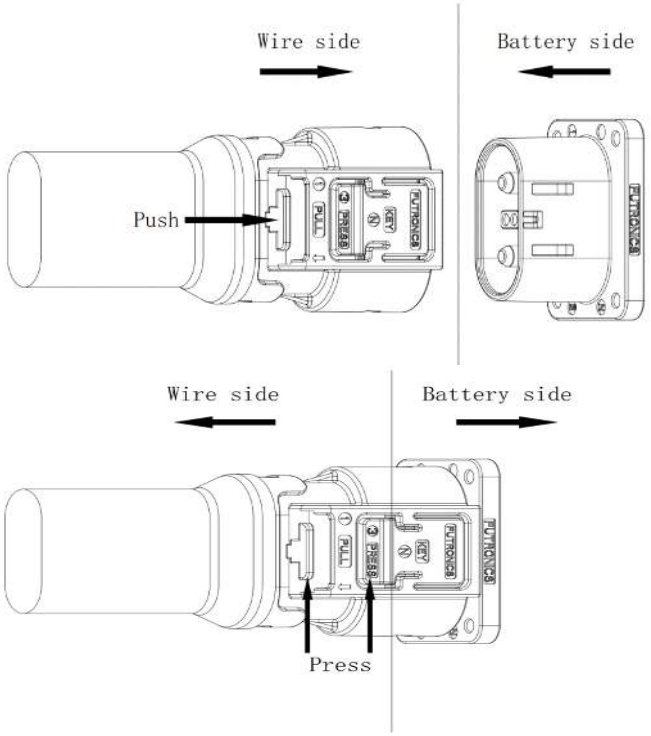


For GIV-BAT-5.12/9.5-G3 only

5A. If connecting to GIV-BAT-5.12/9.5-G3 battery, use a plug to plug cable from inverter battery terminal to the battery's terminal.



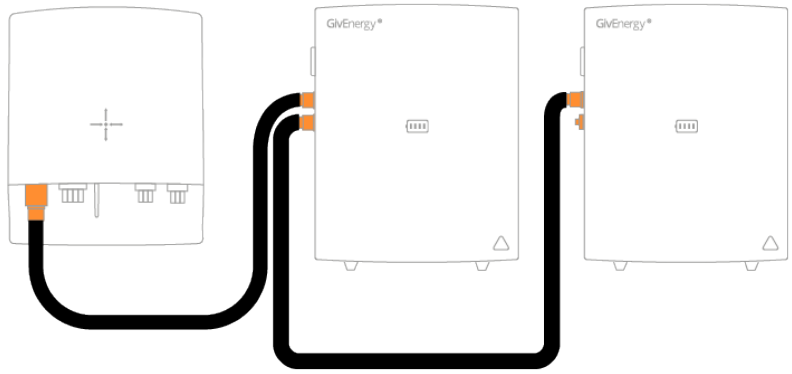
5B. Methods to plug and unplug the battery



Notes: A tool is not required to disconnect the battery connector from the inverter.

For installing additional batteries

5C. If connect multiple batteries, please connect the batteries as follows, and set the DIP switch settings depends on the battery quick guide correctly.



6. Ground wiring

The inverter is not equipped with a grounding wire, and a grounding wire needs to be made by oneself during installation.

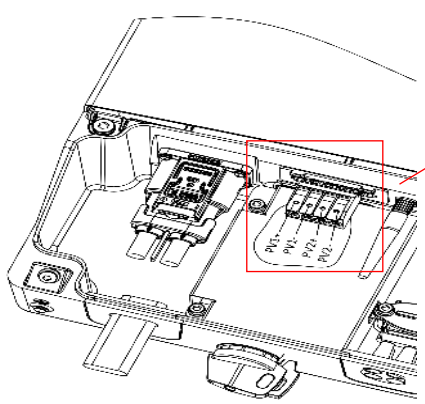
The schematic diagram of the grounding wire is as follows:

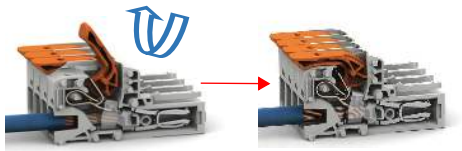
Notes: The diameter of the ground wire should not be less than 6mm^2.

Notes: The grounding screw on the enclosure is an M4 stainless steel screw. A recommended tightening torque of 1.0 to 1.5 N·m should be used.

Notes: If earthing fault occur, LED indicator will display red light and the portal will notificate PV isolation low.

7. PV connection

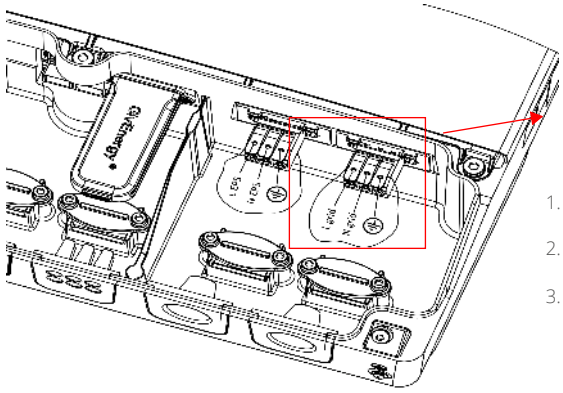


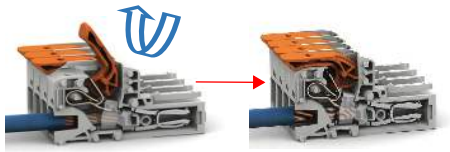


1. Pick up clamp;
2. Insert stranded conductors with strip length (12mm);
3. Recover the clamp.

1. Use a wire stripper, strip wire to 15 mm;
2. Termination: Open clamping unit using the lever and insert conductor;
3. Then lower lever to close the clamp;

8. AC connection

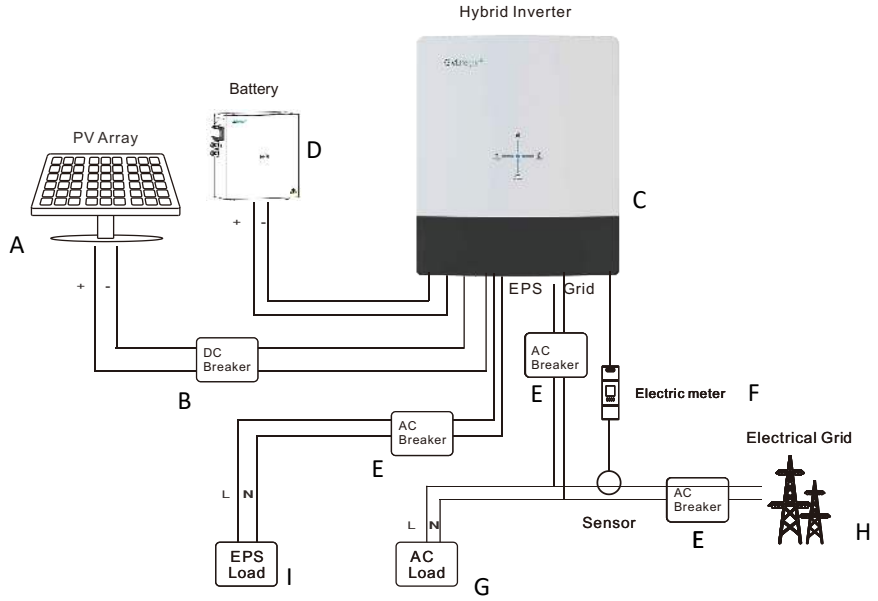




1. Pick up clamp;
2. Insert stranded conductors with strip length (12mm);
3. Recover the clamp.

1. Use a wire stripper, strip wire to 15 mm;
2. Termination: Open clamping unit using the lever and insert conductor;
3. Then lower lever to close the clamp;

9. Electrical system connection



Markings	Description	Markings	Description
A	String PV photovoltaic panels	B	DC breaker
C	Hybrid Inverter	D	Battery
E	AC switch(Grid&EPS)	F	Meter & CT
G	Grid load	H	Electrical Grid
I	EPS load		

CONNECTIONS

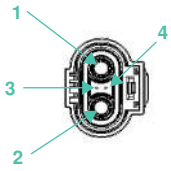
Plug to plug 150A battery cable

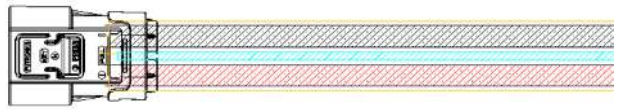
Note: The BMS connection is integrated in the battery cable.

IMPORTANT

The battery cable has a grommet at one end. This is the inverter end of the cable, the grommet slides into the receiver. The same cable is used for battery to battery connections however the grommet can be removed if desired in this installation scenario.

Battery Terminal Introductions

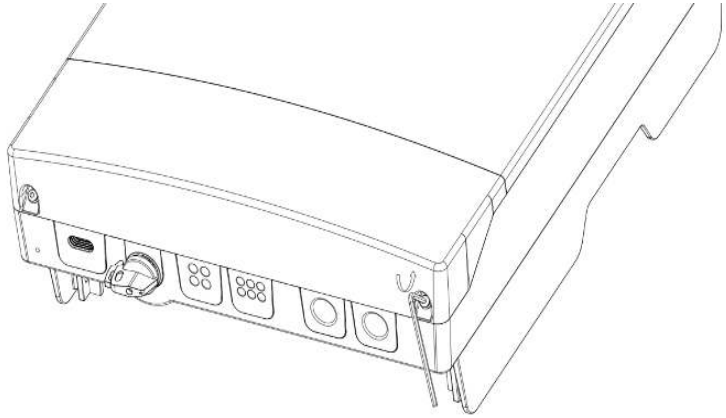




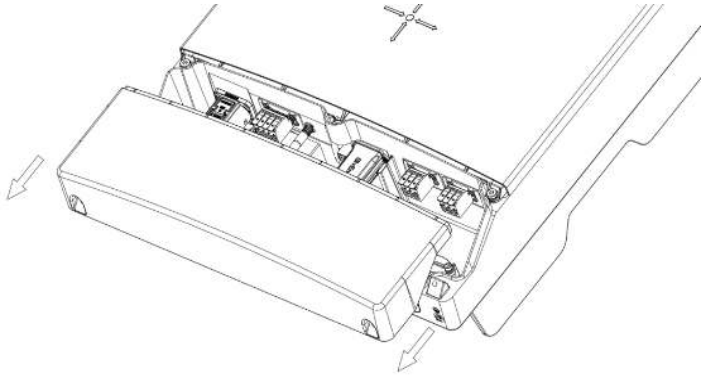
BLACK: 2 AWG
BLUE: 22 AWG*2
RED: 2 AWG

NO	Terminal Description
1	The negative pole, connected to an inverter or a parallel battery. Using
2	The positive pole, connected to an inverter or a parallel battery.
3	Built-in communication terminals, CANBUS, CAN-L
4	Built-in communication terminals, CANBUS, CAN-H

Note: The battery cable is not included inside the package, it is supplied as a separate accessory by GivEnergy AU.



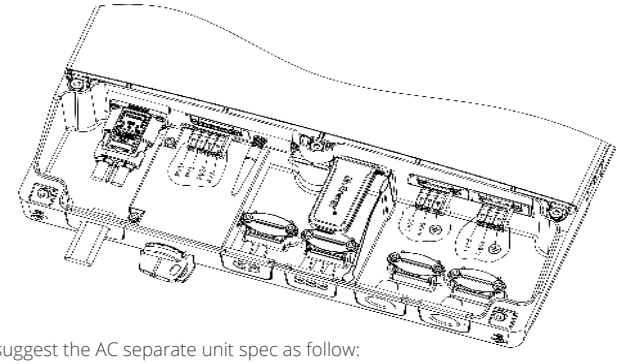
Use an Allen wrench to loosen the screws.



Push the cover down and remove it.

After connection, install the cover in the reverse order of removing that.

1. AC power grid connection



For AU hybrid inverter, a Type A RCD with 30mA tripping current is recommended to be used.

We suggest the AC separate unit spec as follow:

Model	Maximum Overcurrent(A)	Diameter Cross-sectional Area (mm^2)
GIV-HY-3.6-AU	15.6	4 and above
GIV-HY-5.0-AU	21.7	6 and above

The recommended maximum cable length should not exceed 50m as the resistance of the cable will consume inverter output power and reduce the inverter efficiency.

2. BACK-UP connection

The back-up can provide a maximum output power of 5500w.You can connect the essential load to the back-up terminals.

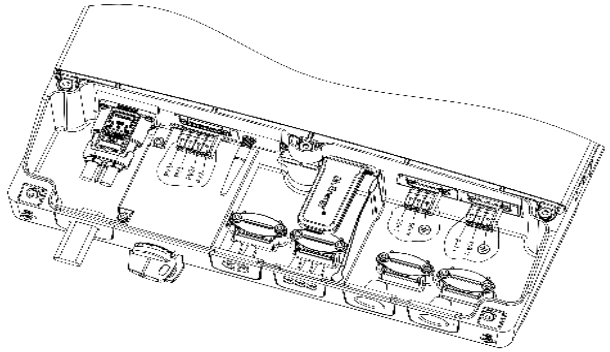
You must install an AC Isolator or other load disconnection unit between the inverter back-up output and the essential load, in order to ensure that the inverter can be safely disconnected under load. We suggest the separate unit spec is Above 30A.

WARNING	*The back-up output power is 5500w. If the load is greater than 5500w, the inverter will stop outputting and draw from the grid. The output power of buck-up depends on the battery capacity.*

If the backup terminals are used, please ensure the following:

An earth rod must be installed and connected to the main earthing terminal, as close to the origin of supply as possible, and adequate overload / short circuit protection must be installed in accordance with the IEE wiring regulations.

3. PV connection



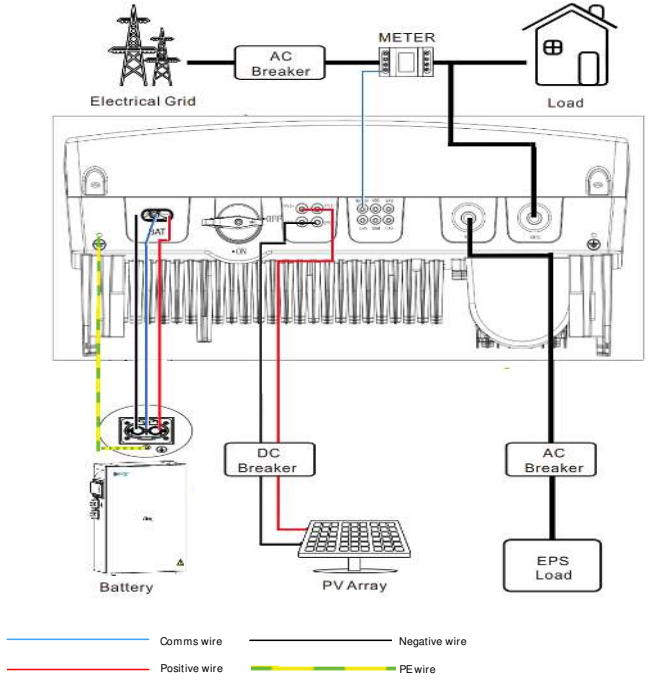
- PV Input Connection Terminal (Each string supports 1 ports)
- There are two MPPT's on the unit, so you can connect two independent MPPT channels.
- Suggestions for the PV modules of the connected strings:
  - Same type of modules
  - Same quantity of PV modules connected in series
- Under all conditions! Make sure the maximum open circuit voltage(Voc) of each PV string is less than 600Vdc.
  - Do not connect strings with an open circuit voltage greater than the maximum input voltage of the inverter. If the strings voltage exceeds the maximum input voltage of the inverter, the inverter can be destroyed due to overvoltage. All warranty claims become void.
  - Check the design of the PV plant. The max. open circuit voltage, which can occur at solar panels ambient temperature of -10℃, must not exceed the max. input voltage of the inverter.
- Before connecting PV panels to the DC terminals, please make sure the polarity is correct. Incorrect polarity connection could damage the inverter.
- Check short-circuit current of the PV string. The total short-circuit current of the PV string should be less than the inverter's maximum DC current.
- Connect the positive and negative terminals from the PV panel to positive (+) terminals and negative (-) terminals on the PV-Inverter. Each DC terminal on Inverter can withstand 15A.
- For instance, if the positive pole of a string is connected at MPP tracker A and the string's negative pole at MPP tracker B, this is called a mixed connection, the inverter no longer fulfils the requirements of the EMC Directive.
- Only connect strings at one input zone and never mix the input zones A and B.
- High voltages exist when the PV panel is exposed to the sun. To reduce risk of electric shock, avoid touching live components and treat connection terminals carefully.

We suggest the DC separate unit spec as follow,

Model	Maximum Overcurrent(A)	Diameter Cross-sectional Area
GIV-HY-3.6-AU	15A	4mm^2
GIV-HY-5.0-AU		

4. Connect to the battery

Connect the cable to the battery and the other end to the inverter. Ensure that the grommeted end of the cable is the inverter end. Push the plug until there is a click, lock in place using the red tab.



Noted: This is a all-in-one battery cable, includes powercable and the communication cable.

5. Grounding the inverter

The GIV-3HY must be grounded properly with the grounding cable. The ground point is showed below.

The specification of the grounding cable should be greater than 10 AWG.

Grounding the PV array

The grounding conductor of the PV panel racking must be firmly grounded on the PV array side, inverter side and battery side. The cross-sectional area of the grounding conductor should be the same as that of the DC grounding conductor. The minimum wire size is 10 WAG.

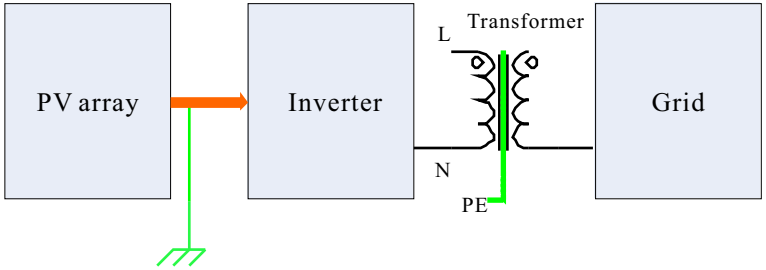
DC grounding

Please select the DC grounding method, the PV grounding junction box, and the DC grounding wire size according to local standards.

Grounding device

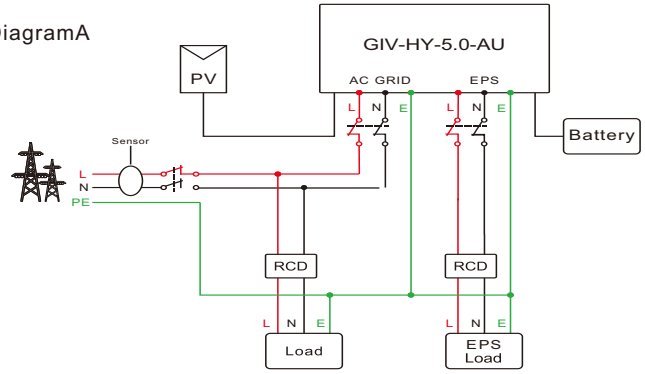
If the positive or negative pole of the PV array in the PV system needs to be grounded, the inverter output should be insulated with an isolation transformer. The isolation transformer shall comply with IEC 62109-1, -2.

The connections are as follows:



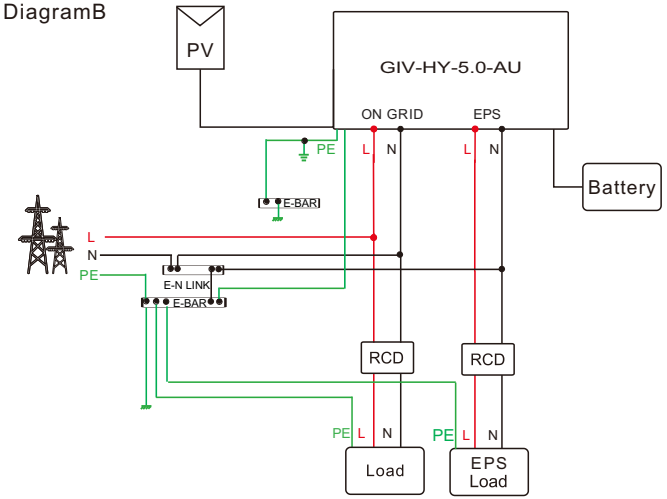
The recommended wiring diagrams are as follows:

DiagramA



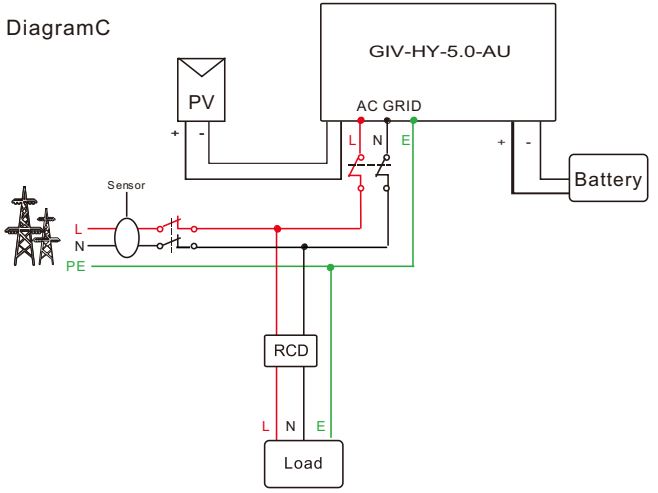
Note:
This diagram is an example for the on-grid system without special requirement on the electrical connection.

DiagramB



Note:
1.This diagram is an example for cable connection in Australia and New Zealand, where a switch cannot be installed on the N line.
2.The grid-connected N wire, off-grid N wire and mains N wire of the machine are connected together through copper bars. Since the far end of the mains N wire is grounded, the grid-connected N wire and the off-grid N wire of the machine are always grounded.

DiagramC



Note: This diagram is an example for customers who only want to build the on-grid energy storage system without backup function. The inverter has not been tested to AS/NZS 4777.2:2020 for multiple inverter combinations and/or multiple phase inverter combinations so combinations should not be used or external.

Space Clearance

There must be adequate clearance around the inverter to allow for heat dissipation. The diagram below illustrates the space required around the inverter.

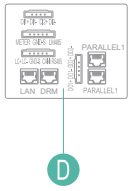
Maintenance

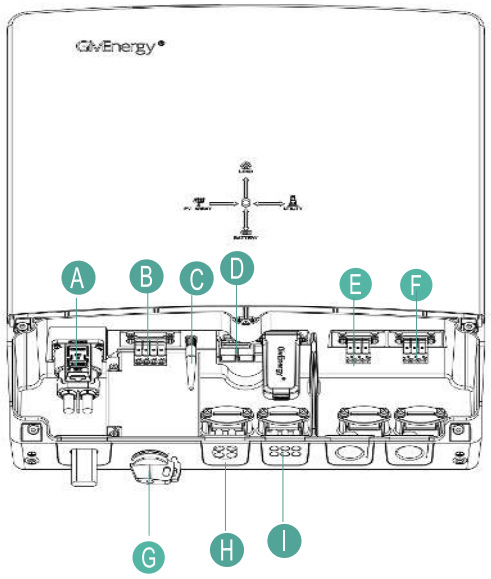
When maintaining and cleaning the inverter, **the whole system must be powered down**. Please refrain from using cleaning products on the surface of the inverter.

To ensure your inverter operates optimally at all times, annual maintenance checks need to be carried out. Check for visible damage or discolouration of the switch, and that the cables are intact. Please ensure that the top of the inverter is not obstructed in any way.

We recommend operating the rotary isolator from ON to OFF 5 times, this cleans the contacts of the rotary switch.

Item	Item Name
A	All-in-One Battery Connector
B	PV Input
C	Built-in WiFi Aeriel
D	Communication and LAN Connectors
E	EPS Connection
F	AC Connection
G	DC Input Isolation Switch
H	Cable Clamps
I	IP65 Cable Entry Glands





START-UP AND SHUT-DOWN OF THE INVERTER

Start-Up Procedure

1. Connect the AC circuit breaker, ensure that the system is powered and commissioned using the portal/app. Ensure that the grid power is reading identical to that of the mid approved meter (this can be found on the screen of the meter).
2. Turn on the PV switch
3. Turn on the battery isolator
4. Turn on the battery by holding down the button for 2 seconds
5. The inverter will start generating automatically when the PV voltage is higher than 200V

Shutdown Procedure

1. Turn off the battery
2. Disconnect the AC circuit breaker to prevent it from being reactivated
3. Switch off the battery isolator to prevent it from being reactivated
4. Turn off the PV switch
5. Check the inverter operating status
6. Wait until all LEDs have gone out. The inverter is now shut down

COMMISSIONING/DECOMMISSIONING A SYSTEM

All systems must be commissioned to ensure correct battery and meter communications, as well as connection to the online portal.

Note: Without commissioning, the system may not operate correctly.

Check that all the wires are securely connected before the battery isolator and the AC isolator is switched on. You MUST set the parameters of the battery according to your battery system.

Accessing the Commissioning Portal

Sign into the online portal at **https://portal.givenergy.cloud** with your GivEnergy Engineer login. If you are a first time user, and you do not have an account or Engineer login, please consult your supplier to get this set up.

To download a fully illustrated guide, please visit our Knowledge Base at **www.givenergy.co.uk**

Uninstalling the Inverter

1. Follow the shut-down procedure
2. Remove all connections and cables from the inverter
3. Remove the bolts which are securing the inverter to the bracket
4. Lift the inverter off the bracket
5. Remove the wall bracket

Packaging the Inverter

If possible, always pack the inverter in its original packaging and secure it with tension belts. If this is not available, you may also use an equivalent sized box. The box must be capable of being closed completely and be strong enough to support both the weight and the size of the inverter.

Storing the Inverter

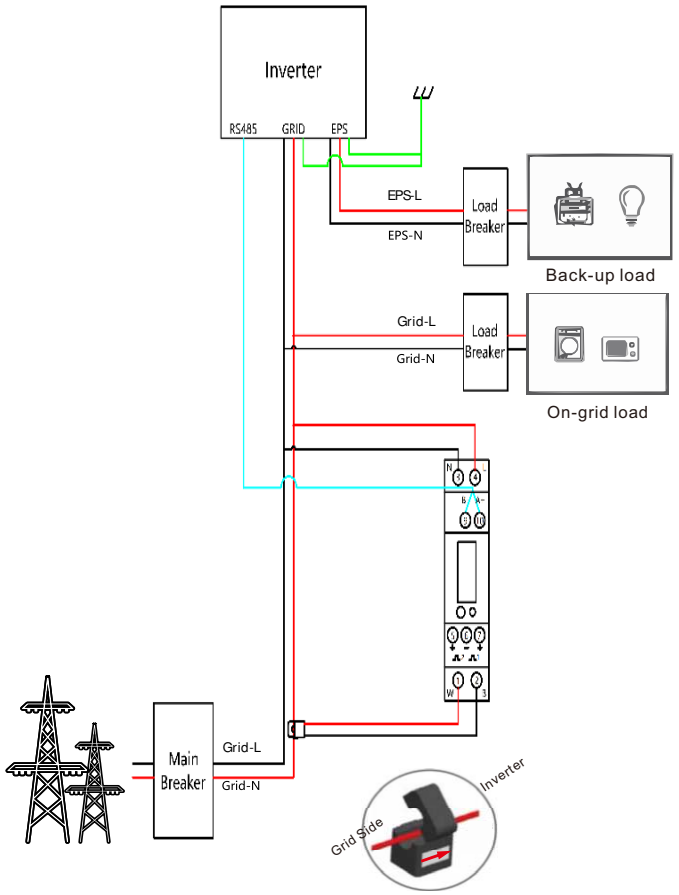
Store the inverter in a dry place where ambient temperatures are always between -25°C and +60°C

Metering

Technical Specifications

Model Number	GIV-GEM-120CT-P
Dimensions (HxWxD)	119 x 17.5 x 62mm
Working Temperature	-25°C ~ 55°C
Protection Class	IP51
Display	LCD
CT Ratio	100A/100mA

Connection



Metering

Every system will need at least 1 GEM120 (ID1) meter installing to monitor the import and export of the building. Every GEM120 meter needs a power supply/voltage reference point.
This could be a dedicated supply from a 6A, for example.

Every GEM120 meter will need a data connection back to the inverter's meter communication port. Please see the previous page for the connection point.
Data connection should be a twisted pair cable, for example, Belden multi-stranded cable.

If installing multiple meters, both the data and power supply can be linked together in series.

GEM120 meters come with a split core CT that has a 2m cable.
This must not be cut down or extended.

Press and hold the GEM120CT button to change the ID settings.

Configuration

Once the equipment is assigned to the user during the commissioning process, the system will then connect to the **GivEnergy Monitoring Portal.** The inverter will report data to the GivEnergy Monitoring Portal, allowing information about the system to be displayed on the portal.

Please allow up to 24 hours for the data to be read in accurately.

Once the data is confirmed to be reading in correctly, the customer will be able to log in to their account via their device to manage and view their system.

For a more in-depth guide about our Monitoring Portal, please view our portal and app guide that is provided on our **Resource Hub** at **www.givenergy.co.uk.**

Please note: the GivEnergy app is supported by an active development team constantly working on updates and improvements. As such, app information is subject to change.

Accessing monitoring data on the Portal

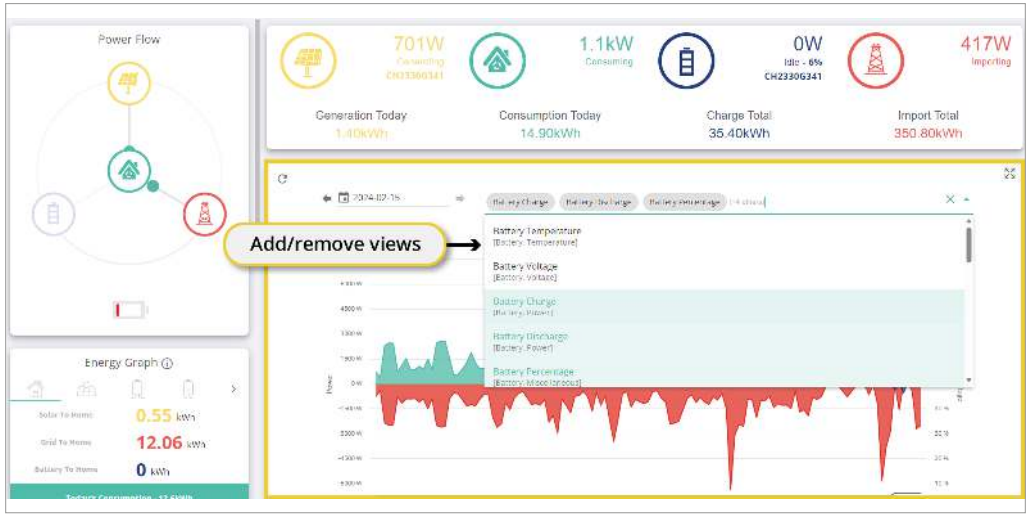
Step 1: Log into the GivEnergy Monitoring Portal at **www.givenergy.cloud.**

Step 2: After logging in, you'll be taken to the Monitoring Portal Dashboard. From here, you can view information about your systems import/export data, solar forecasts, tariff savings, and much more.

To view in-depth information about your consumption, you can expand the graph in the top left corner of the **Power Graph** window.

Step 3: In the expanded view, you'll be able to view a detailed graph about your battery charge and discharge, battery percentage, as well as many other views.

Step 4: To add/remove views, simply click the dropdown arrow and select from the dropdown list.

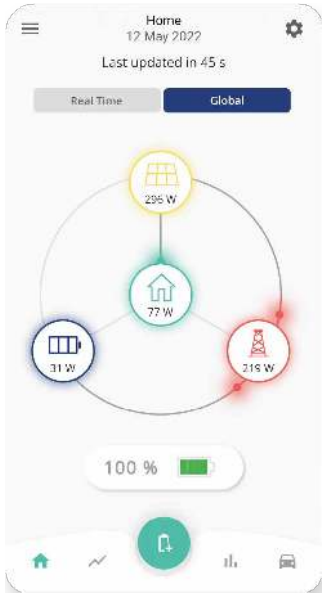


Accessing data on the App

Step 1: Download the **GivEnergy App** from the **Google Play / App Store** on your device.

Step 2: Log in using your credentials.

Step 3: After logging in, you'll be shown the **App Dashboard.** This is a simplified version of the **GivEnergy Monitoring Portal.**



Step 4: The navigation menu displayed at the bottom of the screen allows you to cycle through your **Power** and **Energy** Graph.

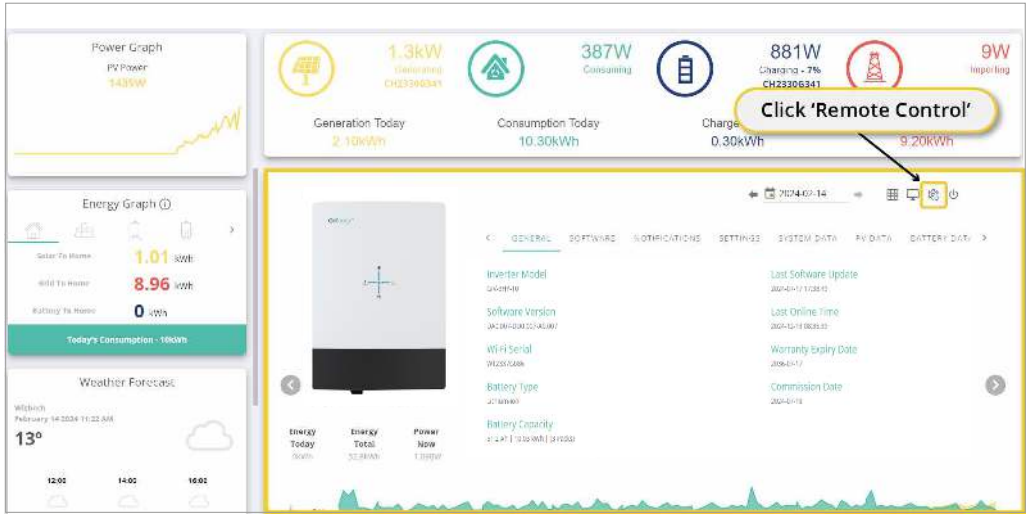
If data is not being displayed correctly on the GivEnergy Monitoring Portal or App, please contact the GivEnergy Service Desk on **1300 GIVENERGY (1300 448 363)** or email **info.aus@givenergy.com.**

To enable DRM control:

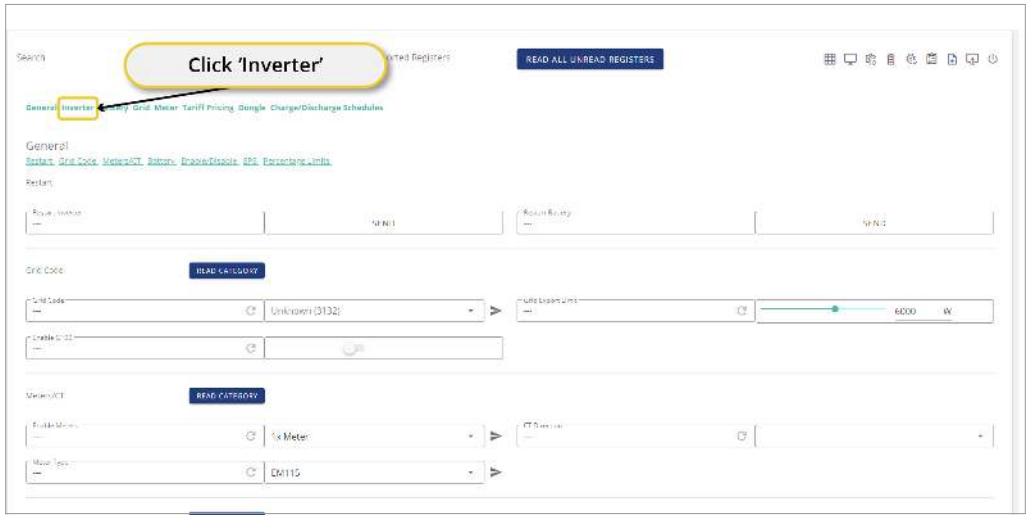
Step 1: Log into the GivEnergy Monitoring Portal at **www.givenergy.cloud.**

Step 2: On your portal dashboard, hover over the **'My Inverter'** card and select the expand icon.

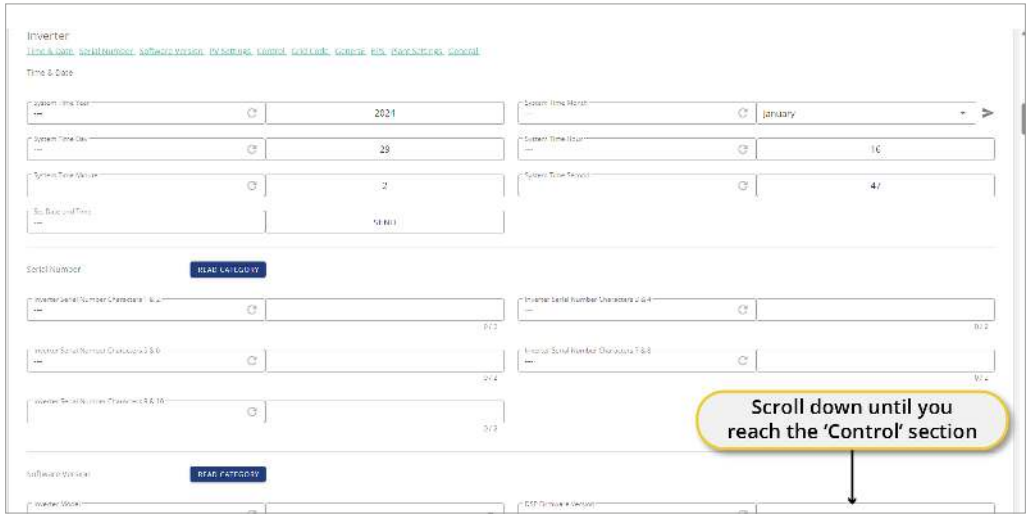
Step 3: In the 'My Inverter' screen, click the 'Remote Control' button found in the top right corner of the window.



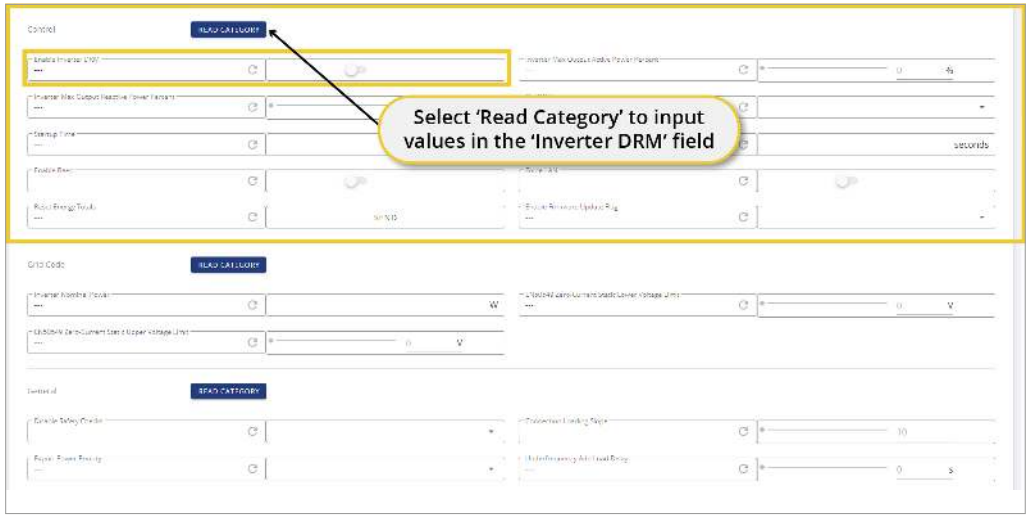
Step 4: Click **'Inverter'** at the top of the **Remote Control** page.



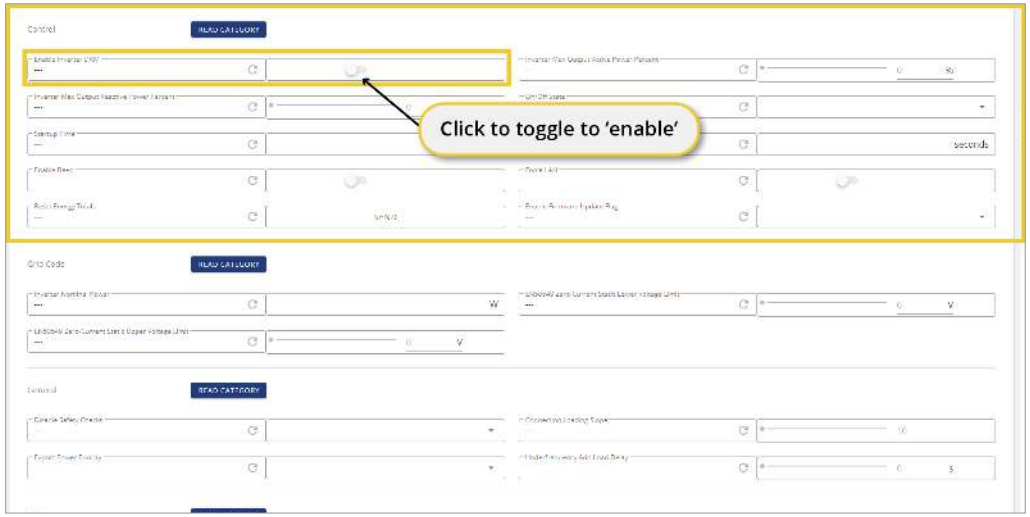
Step 5: Scroll down the page until you see the **'Control'** section.



Step 6: Click **'Read Category'** to input the values into the **'Inverter DRM'** field in the **Control section**.



Step 7: Once the values are entered, click the **toggle button** to enable the DRM control.



Power quality response mode includes:

- Volt-var response mode
- Volt-watt response mode
- Fixed power factor mode
- Reactive power mode
- Power rate limit mode

The AIO supports all of these modes.

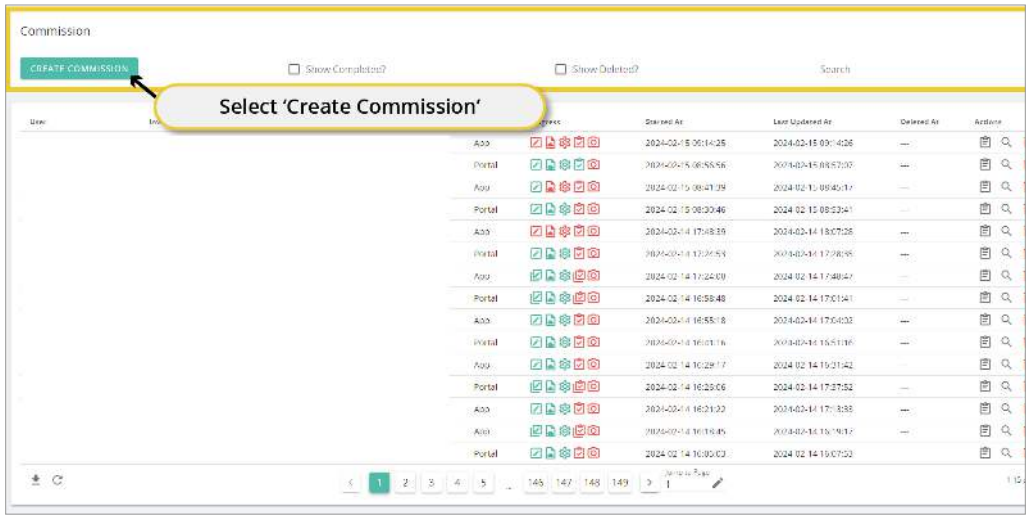
The default setpoints of **Australia region A** are applied in the inverter.

Setting the Region setpoints

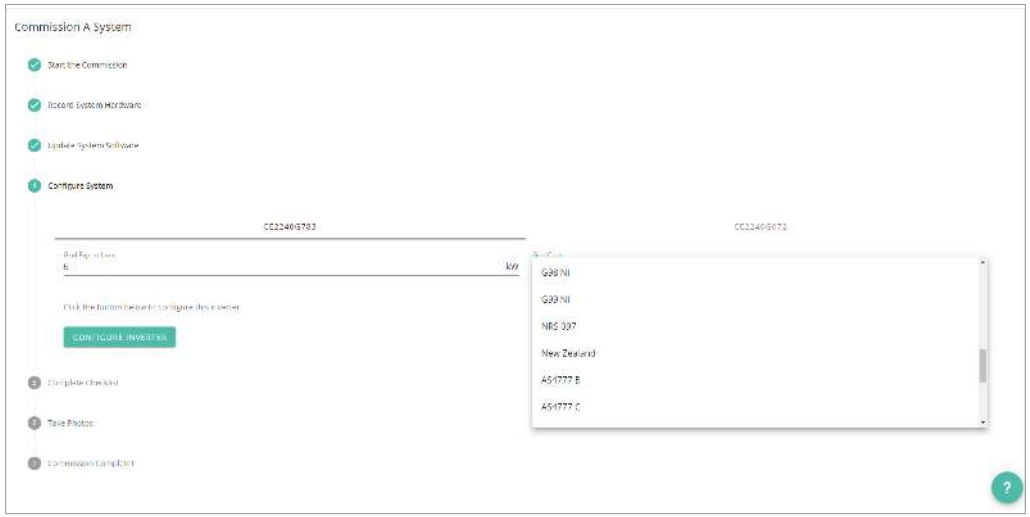
Step 1: Log into the GivEnergy Monitoring Portal at **www.givenergy.cloud.**

Step 2: From the **Monitoring Portal dashboard**, hover over the left side of the window to expand the navigation bar. Under the **Systems** category, select **'Commissions'**.

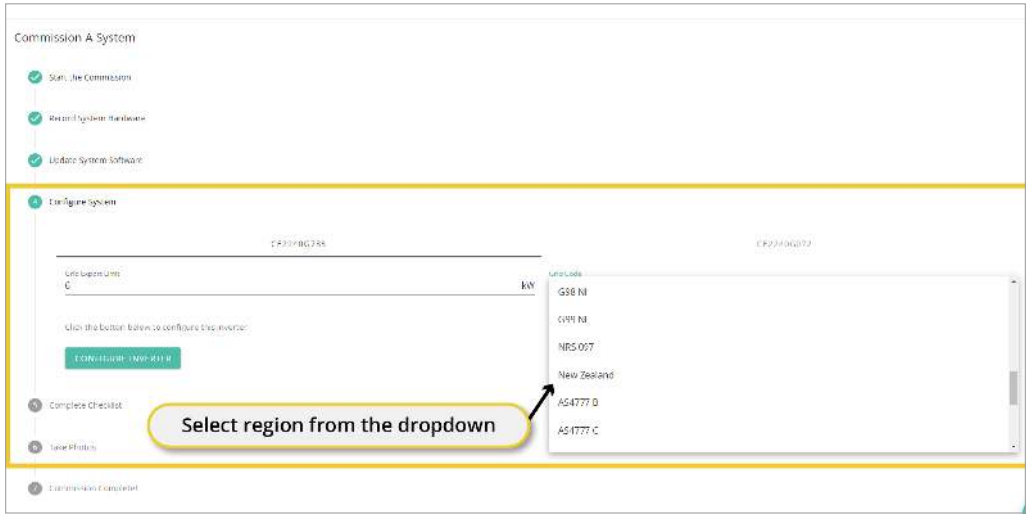
Step 3: On the **Commissioning Page**, select **'Create Commission'** at the top of the window.



Step 4: You will now start the **Commissioning** process. Follow the instructions from Step 1 - 4.
The region can be set in **Step 4** under **'Configure System'**.



Step 5: Select the region from the dropdown list under **'Grid Code'.**



Step 6: Click **'Configure Inverter'** to confirm the region settings.

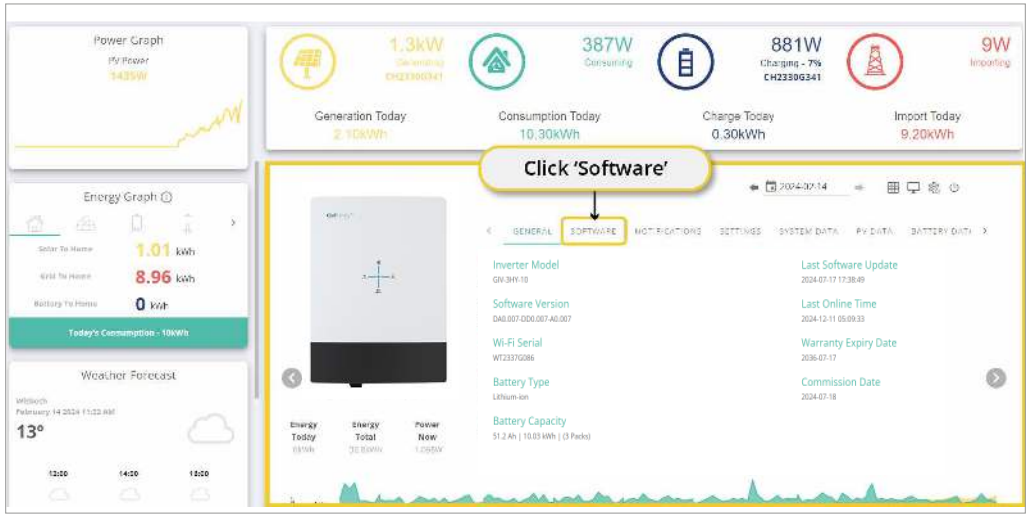
If the local grid operator requires other settings instead of the default Australia A, Australia B, Australia C or New Zealand settings, please contact GivEnergy on **1300 GIVENERGY (1300 448 363)** or email **info.aus@givenergy.com** to change them remotely from GivEnergy's cloud server.

To view your inverter firmware:

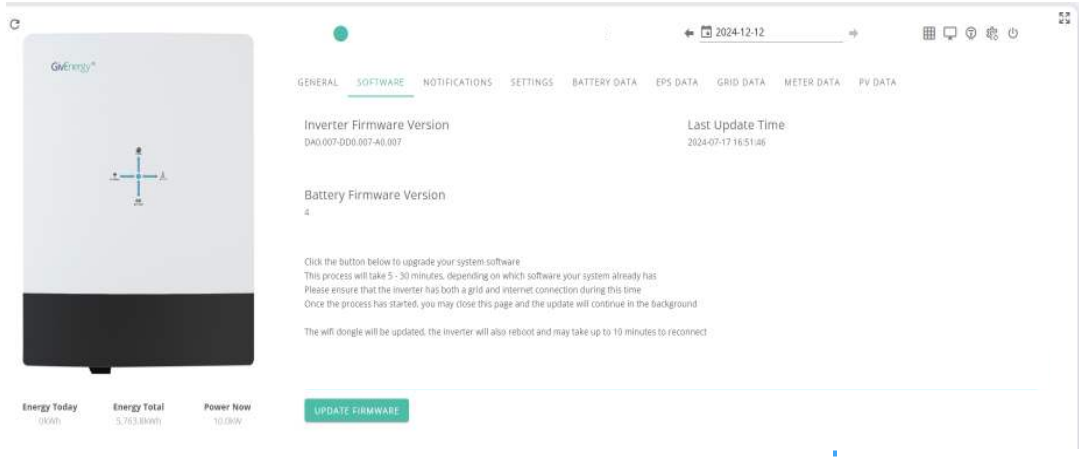
Step 1: Log into the GivEnergy Monitoring Portal at **www.givenergy.cloud.**

Step 2: On your portal dashboard, hover over the **'My Inverter'** card and select the expand icon.

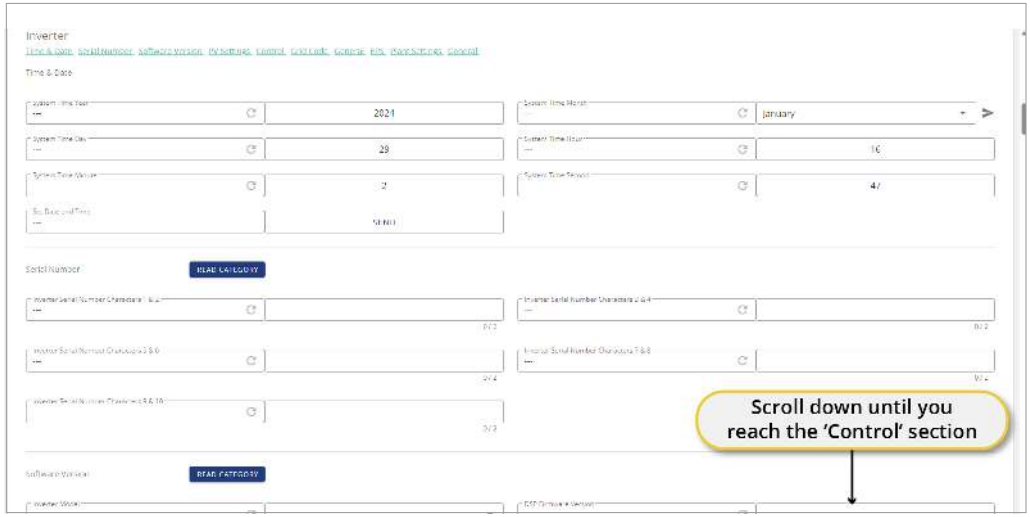
Step 3: Click **'Software'** on the inverter card. You can cycle through your installed products using the arrows on either side of the window.



Step 4: Your Inverter firmware version is displayed on this page. You can also update your firmware (if required) by pressing the **'Update Firmware'** button.



Step 5: Scroll down the page until you see the **'Control'** section.

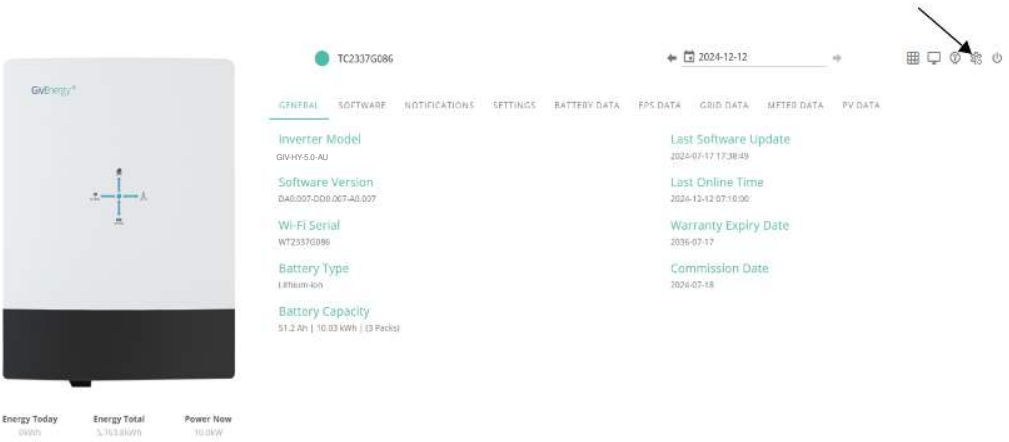


To adjust generation and export control settings:

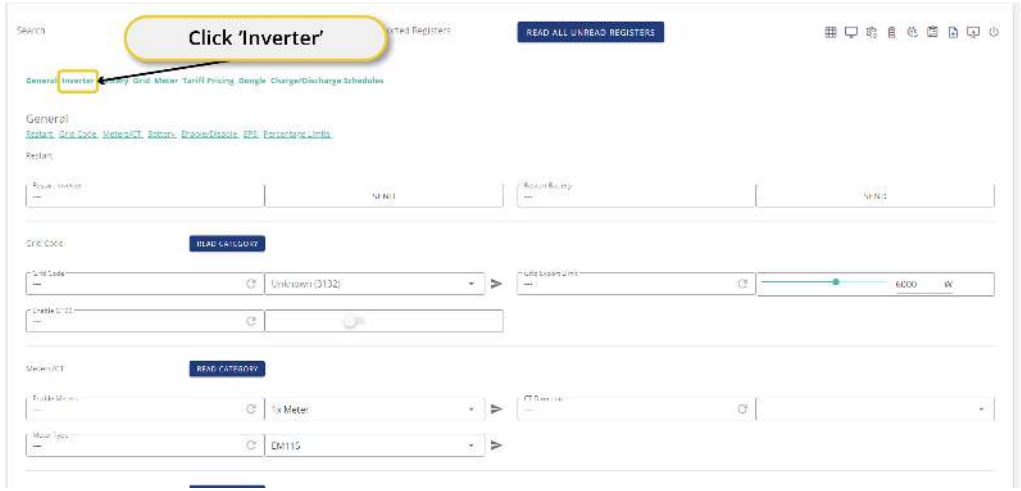
Step 1: Log into the GivEnergy Monitoring Portal at **www.givenergy.cloud.**

Step 2: On your portal dashboard, hover over the **'My Inverter'** card and select the expand icon.

Step 3: In the **'My Inverter'** screen, click the **'Remote Control'** button found in the top right corner of the window.

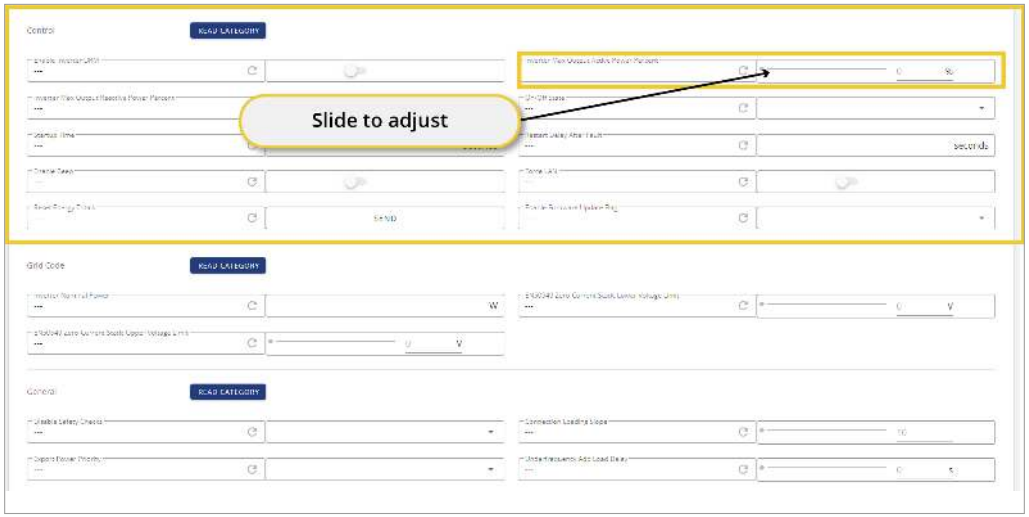


Step 4: Click **'Inverter'** at the top of the **Remote Control** page.

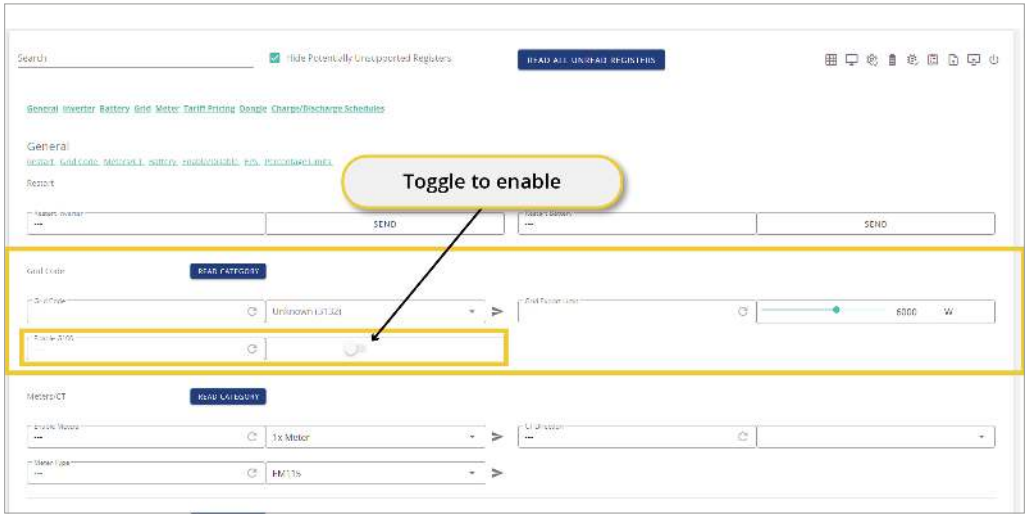


Step 5: Scroll down the page until you see the **'Control'** section.

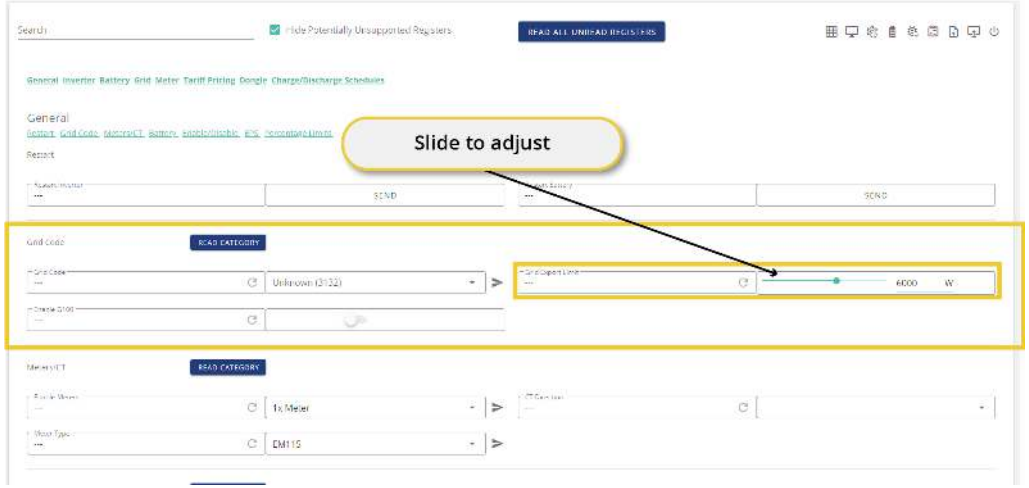
Step 6: To adjust **Generation Control**, adjust the slider in the **'Inverter Max Output Active Power Percent'** field between 0 and 100%. This is a combined hard and soft limit.



Step 7: To adjust the **Export Control**, scroll back to the top of the page and under **'Grid Code'** in the **'General'** section, toggle to **enable G100** in the **'Enable G100'** field.



Step 8: Adjust the **Export Limit** by sliding the value in the **'Grid Export Limit'** field. This is a combined hard and soft limit.



WE / WF / WO / WG / WH / WJ / WK / WT serial number

Step 1: Accessing your WiFi settings

Accessing your **WiFi settings.**

Select the WiFi network that matches the dongle **serial number.**

Click Connect when it is visible
(ensure **Connect automatically** is ticked)

Step 2: Logging in to your local inverter WiFi settings

Open your **web browser** (preferably Google Chrome).
Type **10.10.100.254** into the address bar.

When prompted enter:
Username: admin
Password: admin*

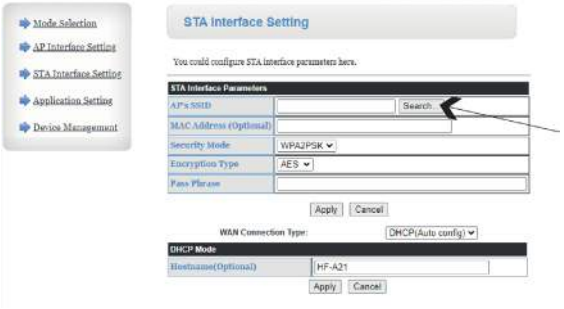
Step 3: Select **Mode**

Select **Mode Selection.**

Select **STA mode.**

Click **Apply.**

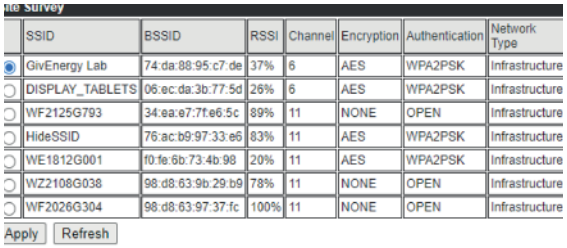
Step 4: Connecting to your WiFi



Select **STA Interface Setting.**

Click the **Search** button.

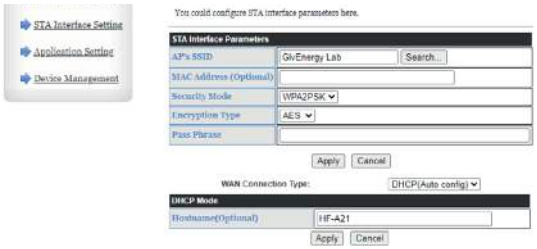
Step 5: Selecting your WiFi network



Select your WiFi network from the list.
Click **Apply.** Click **Refresh** if your network doesn't appear (see troubleshooting for more support).

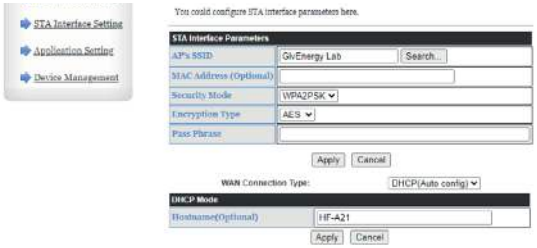
RSSI (signal strength) should be at least 60% for a reliable signal.
A WiFi booster/extender may be required if signal strength is <60% (see diagram).

Step 6: Inputting your WiFi password



Note: If the desired network does not appear, you can manually enter it here.
Enter the customer's WiFi password.
Click **Apply.**

Step 7: Setting your security modes



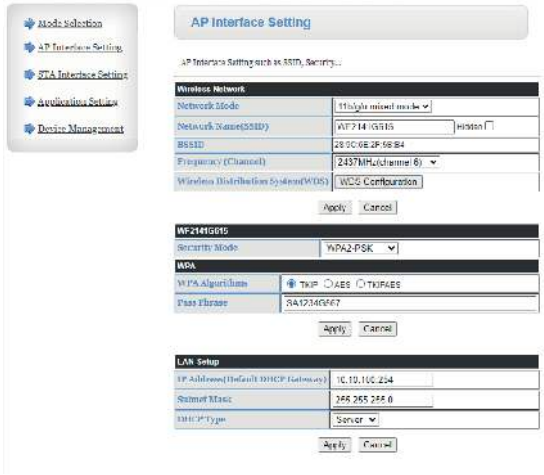
Select **AP Interface Setting.**
Select **WPA2-PSK** from the drop down menu in **Security Mode.**
Click **Apply.**

To hide the WiFi network name of the dongle when it is broadcasting you can tick the hide SSD box.

If you are having interference on a WiFi channel, or if it is causing issues with your home WiFi you can try changing the WiFi channel here.

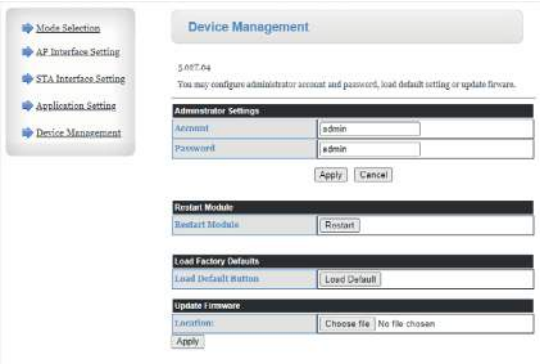
If you wish to change the IP address of the dongle you can modify this here.

Step 8: Selecting your dongle password



Choose a **password** (inverter serial no. is recommended).
Click **Apply.**

Step 9: Restart dongle



Select **Device Management.**
Select **Restart.**
The screen will display Rebooting, this will stay on your screen indefinitely but the process only takes at maximum 10 minutes. If after 10 minutes your system is still not connected refresh your page and then please try the steps again, or refer to our **Troubleshooting** steps in our full guide at: **www.givenergy.co.uk/resource-hub/**

Commissioning Overview

All systems must be commissioned to ensure correct battery and meter communications, as well as connection to the online portal.

Note: Without commissioning, the system may not operate correctly.

Check that all the wires are securely connected before the battery breaker and the AC isolator is switched on. You MUST set the parameters of the battery according to your battery system.

When commissioning the system, please use the **GivEnergy app** available from the **Google Play/App Store** and refer to our **GivEnergy Portal and App guide** found on our **Resource Hub** at **www.givenergy.co.uk.**

When you start a commission, you will be prompted to input the grid code from a drop down list. For compliance with AS/NZS 4777.2:2020, please select from Australia A, B, C or New Zealand.
Please confirm with your local grid operator on which Region to select.

Accessing the Commissioning Portal/GivEnergy app

Either sign into the online portal at **https://portal.givenergy.cloud,** or the GivEnergy app with your GivEnergy Engineer login. If you are a first time user, and you do not have an account or Engineer login, please consult your supplier to get this set up.

To download a fully illustrated guide, please visit our Resource Hub at **www.givenergy.co.uk**

Setting up the internet connection

Sign into the **GivEnergy app** and follow the in-app instructions.

End user account creation

To set up GivEnergy account the end user will provide their email address to the installer/installation company. Upon successful commission of the equipment the end user will be emailed with a prompt to set up their account and gain access to the portal. Upon signing in to the portal for the first time they will go through a walk-through explaining how to navigate the portal and mobile app.

Decommissioning the system

To decommission the system please contact GivEnergy either by phone on **1300 GIVENERGY (1300 448 363)** or email at **info.aus@givenergy.com.**

For compliance with AS/NZS 4777.2:2020, please section from Australia A, B, C or New Zealand.
Please confirm with your local grid operator on which Region to select.

Eco Mode

The system optimises the delivery of generated PV power and battery power to prioritise the home load. Grid power is used as a last resort if solar and battery power are unavailable.

Off Peak Charging

This is prioritised to charge the battery during off peak times when energy is cheaper, greener, and cleaner. The battery will start to discharge outside of the off peak time when energy is more expensive.

Back Up / Island Mode

The system has the ability to be used in the event of a power cut. To utilise this feature, circuits must be connected to the inverter's EPS terminals.
To download a fully illustrated guide on connecting the inverter to the EPS, please visit our Knowledge Base at **www.givenergy.co.uk.**

Routine Maintenance

Maintenance should be done by SAA approved technicians.

Maintenance Plan

- Check if wire connection loose.
- Check if cables aged/damaged.
- Check if cable insulating ribbon drop.
- Check if cable terminal has any overheat sign.
- Check if ground connection is well.

a. Operating Environment

(Every half year)

Carefully observe whether the battery system equipment is ineffective or damaged;

When the system is running, listen to any part of the system for abnormal noise.

b. Equipment Cleaning

(Every six months to one year, depending on the site environment and dust content, etc.)

Ensure that the ground is clean and tidy, keep the maintenance access route unblocked, and ensure that the warning and guiding signs are clear and intact. Monitor the temperature of the inverter and clean the inverter if necessary.

c. Cable, Terminal and Equipment Inspection

(Every six months to one year)

- Check if the cable connection is loose.
- Check whether the cable is aging or damaged.
- Check whether the conduit of the cable has fallen off.
- Check if the cable terminal position has any signs of overheating.
- Check whether the management system of the system equipment, monitoring system and other related equipment are invalid or damaged.
- Check that the grounding of the equipment is good and the grounding resistance is less than 10 ohms.

d. Daily maintenance instructions for customers

- Visual inspection to ensure that item is free from damage, clutter (not being used as a shelf for example), infestation
- Ensure that the cable and cables appear to be in good condition and properly connected.
- If cleaning ensure you follow the shutdown procedure on both the battery and inverter and use only warm water (no chemicals) and non abrasive cloths / sponges to wipe down the product

Notes

After the equipment are out of operation, the following notes should be paid attention to while maintaining:

- Related safety standards and specifications should be followed in operation and maintenance.
- Disconnect all the electrical connections so that the equipment would not be powered on.
- Wait at least 5 minutes after disconnection in case that the residual voltage of capacitors down to safe voltage. Use a multimeter to ensure the equipment is completely uncharged.
- The equipment should be repaired by GivEnergy Staff and it is strictly forbidden for maintenance staff to open equipment on their own.
- Appropriate protective measures should be taken while maintaining, such as insulated gloves, shoes, and anti-noise ear plugs.
- Life is priceless. Make sure no one would get hurt first.
- The batteries need to be charged to 30%~50%SOC rate when the whole system is static (that is, the batteries has not been charged for two weeks or longer) for a long time, in case of over discharge.

Please contact us in time if there are any conditions that could not be explained in the manual.

GivEnergy Australia Pty Ltd

Phone: +61 1300 GIVENERGY (1300 448 363)

Email: info.aus@givenergy.com

Address: 'Level 1, 1 Queens Road, Melbourne, VIC 3004

Hours of operation: Monday – Friday 09.00am – 5:00pm (AEST time).

MANUFACTURER WARRANTIES

This inverter is covered by a 5-year warranty. An extended warranty can be purchased within 60 days of the commissisoning date that is registered on the portal.

Products Covered

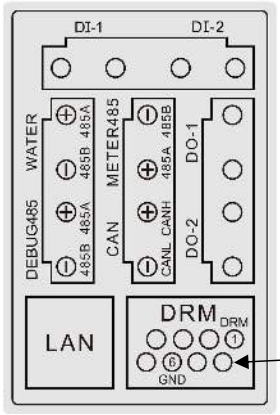
Hybrid Inverter AU 3.6

Hybrid Inverter AU 5.0

Appendix

DRMs

The DRM connection CN5 in the front plate, as the picture:



(No.)	Print&Function	Foot position	note
	DRMs	1：DRM1/5 2：DRM2/6 3：DRM3/7 4：DRM4/8 5：REFGEN 6：COM LOAD(GND) 7：/ 8：/	

When it receives the order from DRM0 connection, the inverter will act responding to the order, the output power should be reduced to 0 (Short connection between Rj45 No.5 and No.6). To use this function, it is necessary to cooperate with the APP or webpage to enable the DRM function through machine settings. Please refer to the APP or webpage settings or consult the installation supplier for details.

INPUT DATA (PV)

Max. DC Input Power	5400W|7500W
Start-up Voltage	80V
Max PV Voltage	600V
MPPT Range	90V - 550V
Nominal Voltage	360V
Max. Short Current (per string)	23A
Max. Input Current (per string)	17A
MPPT Tracker / No. of Strings per MPPT Tracker	2/1

OUTPUT DATA (AC)

Nominal AC Output Power	3600W|5000W
Max. Apparent Power Output to Utility Grid	3600VA|5000VA
Max. Output Current	16A| 21.7A
Nominal Voltage / Range	230V/180-270VAC
Frequency Range	50 / 60 Hz ; ±1%
Power Factor (Full Load)	>0.99
Power Factor Range	0.8 Lagging... 0.8 Leading
THDI (Nominal Power)	<3%
AC Connection	Single Phase

BATTERY

Battery Type	$LiFePO_4$
Battery Voltage Range	46.7-57.6V
Nominal Voltage	51.2VDC
Charge / Discharge Current	83A/83A| 112A/112A
Max. Charge / Discharge Power	4000W/4000W|5400W/5400W
Communication Interface	RS485/CAN

BACKUP TERMINAL PARAMETER (AC)

Nominal AC Output Power	3600W|5000W
Nominal Voltage	230VAC
Max. Output Current	16A |21.7A
Nominal Frequency	50 / 60 Hz ; ±1%
Automatic Switch Time	<10ms
THDv (Linear Load)	<3%

GENERAL DATA

Dimensions	583H x 205D x 480W (mm)
Weight	34Kg
Charge / Discharge Efficiency	94% / 94%
PV Max. Efficiency	97.60%
Euro Efficiency	97%
MPPT Efficiency	99.9%
Protection Class	IP65
Noise Emission (Typical)	<30dB
Operational Temperature	-25°C - 60°C (derating at 45°C
Relative Humidity	0 ~ 100%
Altitude	4000m (derating above 2000m)
Inverter Topology	Transformerless
Self-Consumption	<15W

FEATURES

Display LCD	LED & APP

INTERFACE

Communication	BMS: CAN Meter: RS485 Portal - WiFi (USB)/ LAN

CERTIFICATES AND APPROVALS

CE, UKCA, IEC 62109-1&2, AS/NZS 4777.2

INDICATOR DESCRIPTION

Status	DESCRIPTION
Standby	The Green LED blinks at the on 0.5S and off 0.5s frequency.
Running	1. The Green LED is always on 2. When Battery SOC is under the discharge limit SOC, the Green LED blinks at the on 3.5S and off 0.5s frequency.
Error	1. The RED LED is always on
Firmware upgrading	1. Upgrading BMS: the Green LED and RED LED blink at the on 0.2S and off 0.2s frequency alternately. 2. Upgrading DSP: the Green LED and RED LED blink at the on 0.8S and off 0.8s frequency alternately.
Warning	The RED LED blinks at the on 0.5s and off 0.5s frequency.
Bypass	1. No system error: the Green LED blinks at the on 2S and off 2s frequency, the Red LED is off; 2. With system error: the Red LED blinks at the on 2S and off 2s frequency, the Green LED is off.

DIP switch DESCRIPTION

Setting	DESCRIPTION
	Internal Wi-Fi
	USB
	LAN