RedEarth
ENERGY STORAGE

BushChook

User Guide

RedEarth's BushChook is the premium Australian-made battery solution.

It provides an excellent and enduring investment in your home. Available in both single and three-phase configurations, the BushChook provides a range of power outputs and scalable battery size tailored to suit your specific needs.

It also opens up the world of RedEarth's Private Power Plant (PPP), which turns your purchase of a battery system into a genuine investment that increases the value of your home

AUSTRALIAN MADE AND OWNED
CLEAN ENERGY COUNCIL MEMBER
SMART ENERGY COUNCIL

Safety Instructions

⚠ WORKING ON THE INSIDE OF THE BUSHCHOOK SYSTEM IS RESTRICTED TO QUALIFIED PERSONNEL.

General Safety Notes

FIRE

The BushChook uses RedEarth's Troppo ULTRA batteries. This is a lithium-iron-phosphate based battery (LFP). It is the safest lithium chemistry.

However, in the unlikely event of a fire, or if the unit emits smoke, sparks, flames, or vapour, produces a burning smell, becomes excessively hot or swells, leaks, or makes unusual noises,

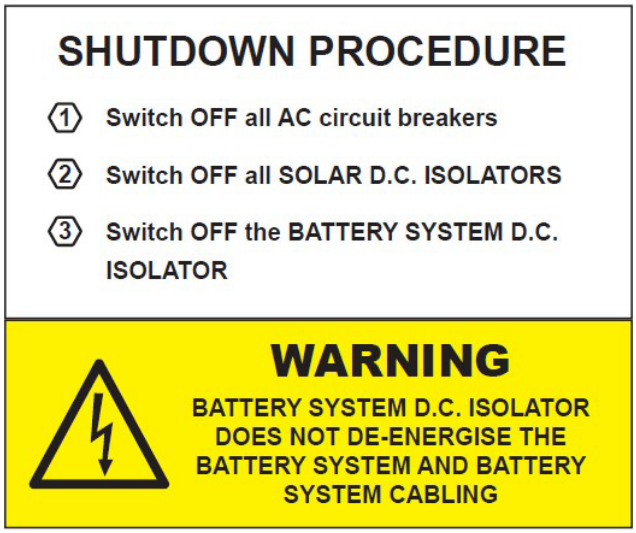
IMMEDIATELY:

- **Evacuate the area.** Move yourself and others to a safe distance.
- **Call Emergency Services (000).**
- **Do NOT attempt to extinguish the fire.**
- **Do NOT touch, move, or handle the system or the batteries.**
- **Do NOT use water or household extinguishers unless trained and safe to do so.**

Battery fires can reignite and may release toxic and flammable gases. Always prioritise personal safety.

- **Note:** The Safety Data Sheet for the Troppo ULTRA battery must be left with the Main SwitchBoard for the fire brigade.
- The Safety Data Sheet for the Troppo ULTRA battery can also be found at: *https://redearth.energy/troppo-ultra-safety-data-sheet/*

- The BushChook must only be installed by suitably qualified personnel who have read and are familiar with its operation and hazards. Working on the inside of the BushChook system is restricted to qualified personnel.
- The batteries provided with this system must only be charged by the inverter or the V2G (vehicle to grid) charger supplied by RedEarth. Do not attempt to charge the batteries with any other charging device or connect any devices directly to the DC battery bus unless approved by RedEarth.
- Do not use a damaged battery.
- Batteries should only be disposed of at an appropriate recycling centre. Contact RedEarth for advice.
- The shutdown procedure can be found on the label on side of the BushChook.



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Introduction

Congratulations on the purchase of your new BushChook system, making your home more valuable, and the world a **greener, cleaner** place!

Your BushChook can be used for both on-grid and off-grid homes, with sizes available for both single-phase houses (5 kW and 10 kW) and three-phase houses (12 kW) homes. It is designed with scalable battery capacity of up to 44.8 kWh, enough to take the typical Australian home completely off grid, or to Energy Trade or share your power if you are on-grid.

As an Australian-made product built in Brisbane, it is optimised for local conditions. With a climate prone to extreme heat, floods, cyclones, bushfires, and heavy storms, being prepared is essential. The BushChook comes equipped with *PowerRanger* in our RedEarth app, assisting you and your family in times when the grid fails.

We've got you covered in an unexpected blackout too. The BushChook system, including solar panels, generates and stores electricity for use day and night, and includes a whole-home backup capability so your loads remain powered during any blackout (load dependent). Plus, for off-grid customers, the BushChook is ready to connect your backup generator.
An optional feature of your BushChook is the ability to use V2G (Vehicle-to-grid), which allows you to use the battery in your EV to support the battery in your BushChook, giving you a much larger battery in case of a blackout, or allowing you to trade more on the electricity grid. Note that this is dependent on the type of EV that you have. Contact RedEarth for details

Easy to install:

- The BushChook system can easily be retrofitted to an existing PV solar system that may already be installed at your home.
- Solar panels: Up to 24 kW of panels can be connected to the 12 kW 3-phase BushChook and 20 kW of panels to the 10 kW 1-phase BushChook. This is usually enough to meet the needs of a typical home as well as charge an electric vehicle using only electricity generated at your home. Up to 10 kW of solar panels can be connected to the 5 kW BushChook, suitable for houses that use less electricity.

Scalable

- The BushChook is designed so that additional batteries can easily be added in the future. Up to **eight batteries** with a total of 44.8 kWh can be added. You only need to purchase what is suitable for your needs now, and as your requirements change, and your demand for power grows (e.g., an electric vehicle is purchase), you have the option to add more batteries.

You can monitor and control the BushChook battery system via RedEarth's app, available for both Apple and Android phones.

Finally, RedEarth won't leave you high and dry once you have purchased your system—we're with you for the long haul.

The system is supplied with a **10-year manufacturer's warranty,** supported by RedEarth's onshore technical service team to ensure reliable long-term performance and a seamless installation and ownership experience.

BushChook Customer Handover Checklist

Your installer will go through the following steps to handover your BushChook system:

☐ **Provide the documentation that comes with the BushChook**

- BushChook Installation Manual
- BushChook User Guide (this document)
- BushChook Identification Sheet (serial #s etc.)
- SDS Troppo ULTRA Battery (Safety Data Sheet)
  This SDS must be left in the switchboard for the fire brigade
- Deye Inverter User Manual
- Eastron Feed-in Meter Manual
- Warranty terms

Installer's contact details:

☐ **Provide an overview of your BushChook installation**

Explain to you the switches on your BushChook and the isolation switches installed in your switchboard.

Your system includes a SMART port that can be configured for three different modes of operation:

☐ As generator input
☐ As input for a 3rd-party solar inverter
☐ As controlled load output

Confirm how your SMART port is configured. See **Overview of your BushChook installation** for more information.

☐ **Demonstrate operation including:**

On-Grid: Demonstrate what happens during a grid outage by turning off the Main grid breaker to the house and observing the Backup operation. Confirm that the correct circuits continue to operate.
Note: that there may be a short delay before the backup circuits activate after the grid is disconected from the home. See **Backup operation – On-Grid installation**

Off-Grid: Demonstrate the operation of the backup generator.

☐ **Demonstrate the operation and effect of the bypass switch**

If your BushChook system develops a fault, the BushChook will begin emitting a beeping sound. If this happens, bypass the whole system which isolates the battery from your home. The grid will provide power directly to all house loads, including the backup loads. All circuits in your home should continue to operate. See **Bypass Procedure.**

☐ **Show maintenance requirements**

To maintain optimal performance and ensure product longevity, all maintenance procedures outlined in the User Manual must be followed directly. *Non-compliance may limit or void your warranty coverage.*

☐ **Register your system with RedEarth**

1. Scan the QR code sticker attached to your BushChook with your mobile phone. It looks like this example, but will be specific to your BushChook. This will take you to the RedEarth customer portal
2. Click Register
3. Enter your contact information and click REGISTER
4. You can now download the **BushChook Warranty document** or view or change your details
   Note: *If it is not possible to register at the time of installation, you can contact RedEarth Customer Service to complete onboarding later.*

☐ **Activate Monitoring using the RedEarth App**

Monitoring your system is done via the RedEarth app

1. On the RedEarth customer portal, depending on your phone type, click either Google Play or App Store to download the RedEarth app
2. Open the app and create an account. It's recommended to use the same email as used to register your warranty
3. A confirmation email will be sent. Open it and verify your email address
4. You can now log into your account on your RedEarth app to instantly see your system

☐ **Ensure all documentation required for claiming STCs is signed by the customer**

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Overview of your BushChook Installation

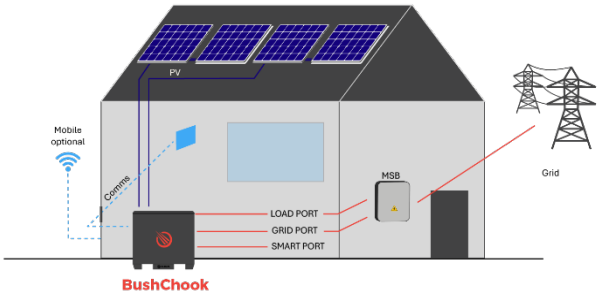
Your Battery Energy Storage System BushChook is connected to your home via the Main SwitchBoard (MSB) or distribution board. Both at the system itself as well as in the MSB, you can interact with the system via switches and breakers.

To monitor how your system is performing you use the RedEarth app.

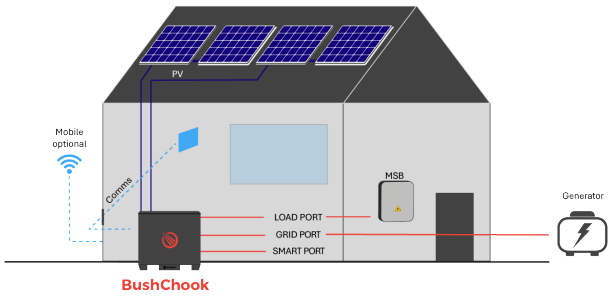
On-grid or Off-grid

Your system can be either an on-grid or an off-grid installation. The pictures below show the main differences.

On-grid example



Off-grid example



Switches on your BushChook

There are two locations to interact with your BushChook, aside from using your EMU app.

These are with the switches built into the BushChook itself and the switches installed at the switchboard of your home, that your BushChook is connected to.

The BushChook has all its switches located on the right-hand side of the unit. These control the flow of power. In normal operation there is no need to operate them. The switches are separated into AC switches, a main battery switch and DC switches for the solar panel arrays as shown below.

Main SwitchBoard (MSB)

The BushChook has been connected to your switchboard during installation.
The images below show how this switchboard typically should look for a 1-phase or 3-phase house. The two key components related to your BushChook system are identified below:

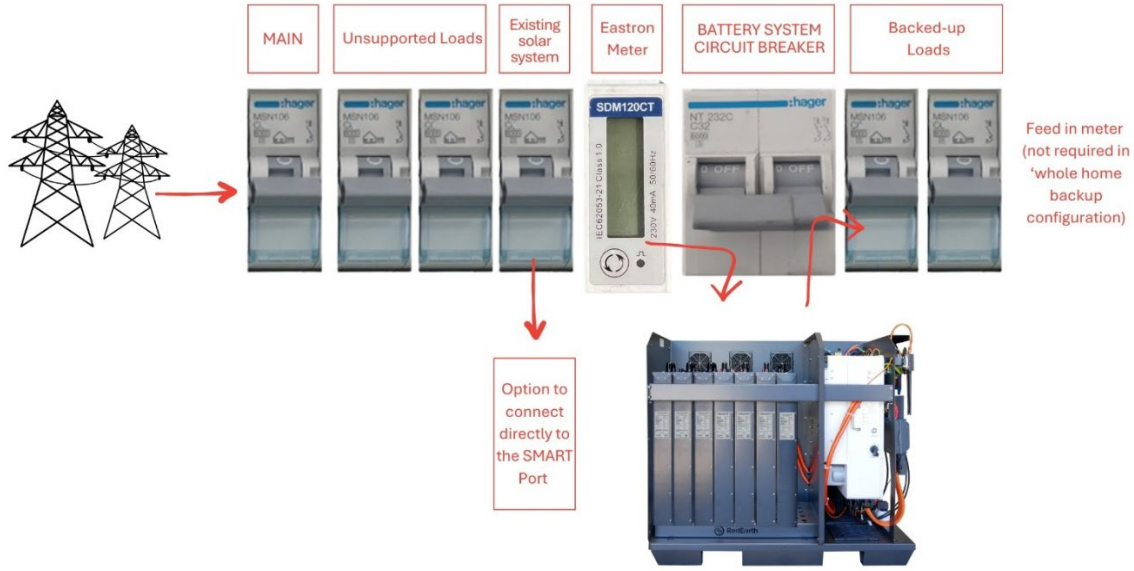
1. **BATTERY SYSTEM CIRCUIT BREAKER:** This isolates the BushChook from the switchboard, which may be required if, for example, work is to be done inside the switchboard. At all other times this switch remains on.

2. **EASTRON METER (Optional):** This measures the amount of power imported from or exported to the grid. This may not be present if your installation is a whole-house backup installation or if your BushChook is installed as an off-grid only system.

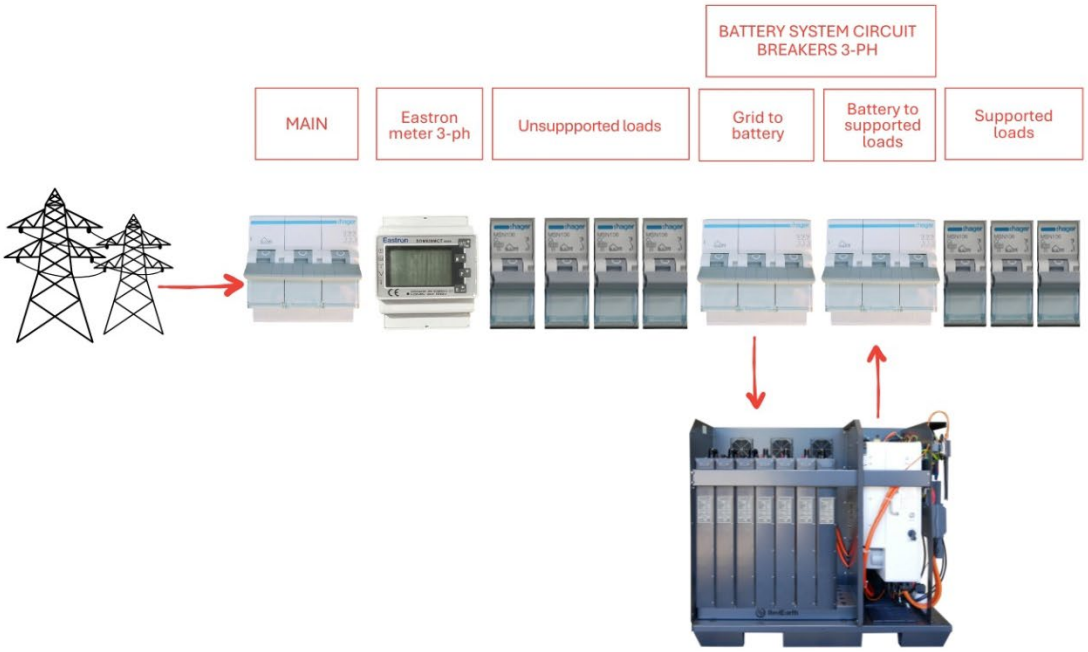
During a blackout the backed-up loads are supported by the BushChook system. The unsupported loads will turn off until grid power is restored. Note that if too many loads are on the backed-up circuit the battery could run flat quite quickly or the backup circuit could become overloaded and turn off temporarily.

Note: the solar panels connected directly to your BushChook system will continue to operate during a black-out, extending the time that your battery will last.

- Example of the BATTERY SYSTEM CIRCUIT BREAKER and EASTRON METER in a 1-phase switchboard:



- Example of the BATTERY SYSTEM CIRCUIT BREAKER and EASTRON METER in a 3-phase switchboard:



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Inside Layout

Removal of the covers must only be done by qualified personnel.

The BushChook is divided into three main areas. On the left-hand side (LHS) are the batteries, in the middle is the Inverter and on the right-hand side (RHS) are the switches, electrical components and cable connection points for installation. Prior to leaving the factory the system is tested. It leaves the factory with the inverter cabling fully connected and ready-to-run. The batteries are removed for transportation.

Battery compartment

Up to 8 x RedEarth Troppo ULTRA-5156 Lithium batteries can be installed in the BushChook providing up to 44.8 kWh nominal battery capacity.

All eight sets of battery cables are pre-wired into the system. This makes it very easy to add additional batteries in the future.

Inverter area

Here you will find the Deye Inverter (5 kW, 10 kW or 12 kW) used in the BushChook. RedEarth has a strong technical relationship with Deye, which optimises the integration of the inverter into RedEarth's Private Power Plant (PPP). *https://www.deyeinverter.com/news/company-news/deye-and-redearth-announce-strategic-partnership-in-the-south-pacific.html*

Electrical switch gear area

This area contains all the switches that are used to manage the BushChook.
Note that in normal operation there is no need to operate these switches.

How your BushChook works

Your BushChook is setup to provide power in the most optimal way to optimise your use of electricity from your solar panels and the grid, or your generator if you are off-grid.

The priorities are to power the home loads from the PV (solar) first, then use the battery and finally the grid, or generator if you are off-grid. The solar power will go to the loads first and only the excess will be stored in the batteries for later use.

If the house load is being met by the solar power alone and the batteries are already full, then excess solar electricity can be exported to the grid. In off-grid installations the solar power will automatically be reduced to match the available loads.

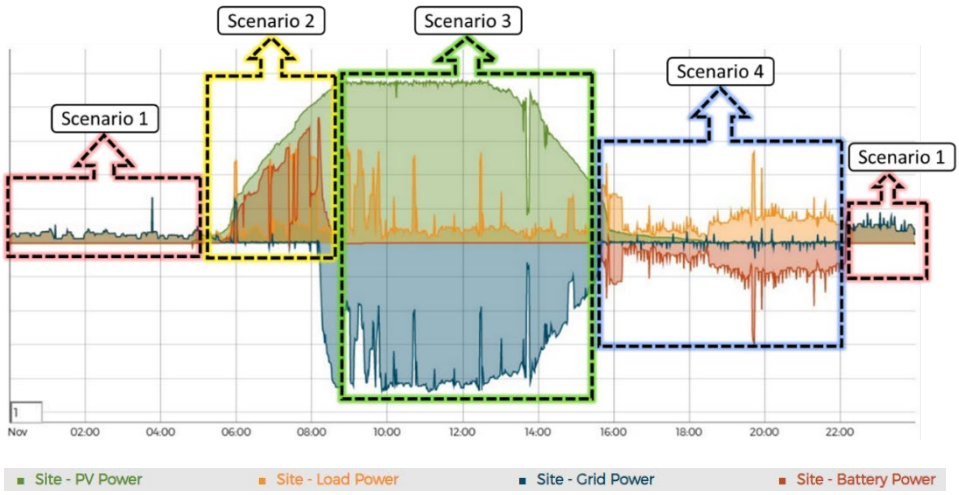
Normal operation (on-grid)

To understand this better, please review the example from one of our customers below. It covers a full 24-hour day.

The green area is the **solar power** that was generated (from 6am to 4pm).
The orange area is the **home load.**
The red area is the **battery** (charging and discharging during the day).
The blue area is the **grid** (importing and exporting during the day).

In this example there are 4 clear scenarios:

- **Scenario 1: I**t is very early in the morning. There is no solar power, the batteries are “empty”, and the grid is providing power to the loads.
- **Scenario 2:** From 6am, as the solar power increases, it provides power to the loads and the excess power charges the batteries. Grid power is now neutral.
- **Scenario 3:** The solar power is at its maximum and is still providing power to the loads. The batteries are full and remain full until they are needed, usually as the sun goes down. The excess solar power is being exported to the grid.
- **Scenario 4:** As the solar power reduces in the evening, the batteries start to “take over” the loads. While the batteries still have energy, the grid will remain neutral, and your loads are being powered from the solar power you stored during the day.



Operation during blackouts (or if you are off-grid):

When there is a grid outage then the BushChook will seamlessly take over the loads that are connected to the output of the BushChook. If your BushChook is large enough it may have been installed to take over all the loads in your home, in which case all your loads will continue to operate. If not, some of your loads will not work until the grid returns. Typically,

your installer will have wired up at least your essential loads to continue to operate during an outage. This includes refrigeration, key lighting, your roller door, and key power points.

To ensure your battery lasts as long as possible you should restrict the use of air-conditioning and home heating, pool pumps, and other large loads that are less important during a grid outage.

Note that the solar panels will continue to support your loads and charge your batteries during the day even if the grid is not available. **Monitoring your system via the EMU app will show you the amount of electricity that your house is using currently.**

For off-grid installations you will normally size the BushChook so that all your loads can run only off the installed solar and battery capacity. A generator is usually included for prolonged periods of overcast weather which limits the amount of electricity the solar panels can generate.

If grid power is lost, e.g., due to storms damaging powerlines, the BushChook system will power the backed-up loads that were connected during the installation of your system. This will usually include as a minimum your fridge, key lights and power circuits. Note that this is also the normal operating mode of the BushChook if It has been installed as an off-grid only system.

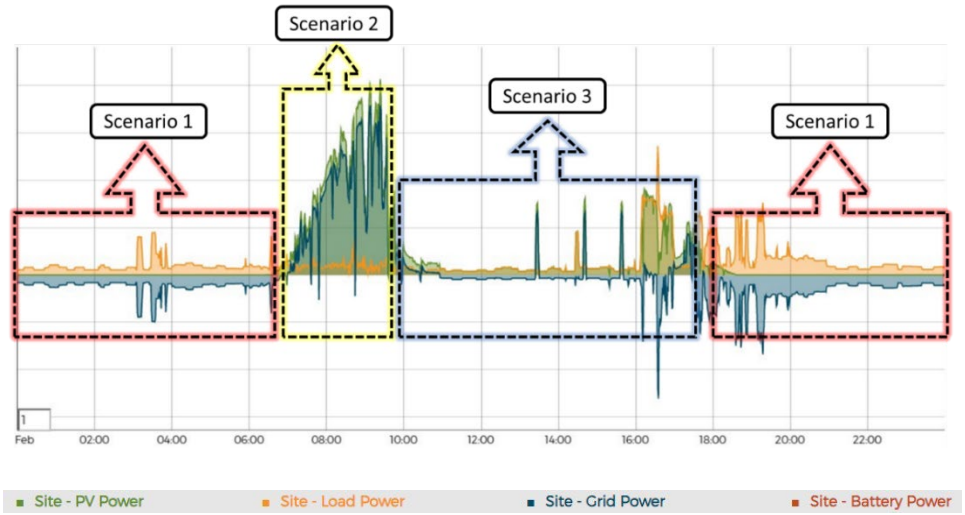
While in this back-up operating mode, the BushChook will use power from the battery and from the solar panels connected directly to it (during the daytime). Excess solar will charge the batteries.

If you are careful with your electricity use during a blackout, you can maintain electricity supply to your essential loads for an extended period of time. Note that if the conditions are overcast or it is raining then the solar panels will not generate as much electricity as normal. Monitoring your RedEarth EMU app will show you the remaining capacity of your battery (unless the mobile phone network is also not operating).

Once the batteries are empty, the BushChook will turn off and you will lose power on the backed-up loads as well. It will restart when the solar panels start generating power again, or if a generator is connected. Note that it will only start inverting once the batteries have absorbed some charge.

To better understand the operation of your BushChook during a blackout review the real-life example below. The green area is the **solar power**, the orange line are the **house loads**, and the blue line is the **battery**. Note that in this example the grid in not present, which is what happens during a blackout. In this example there are three clear scenarios:

- **Scenario 1:** It is early morning. There is no solar power or grid, the batteries are providing power to the loads.
- **Scenario 2:** From 6am, as the solar power increases, it provides power to the loads and the excess power charges the batteries.
- **Scenario 3:** Here the batteries are now full and the solar generation is automatically reduced to match the house loads as there is nowhere else for excess solar energy to go.



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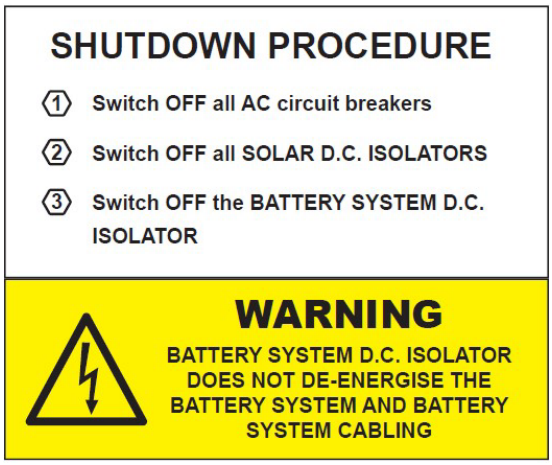
Shutdown, Turn On, Bypass Procedures

Shutdown Procedure

The **shutdown** procedure is the reverse of the "turn on" procedure and is shown below. This procedure can be found on the RHS of the unit.



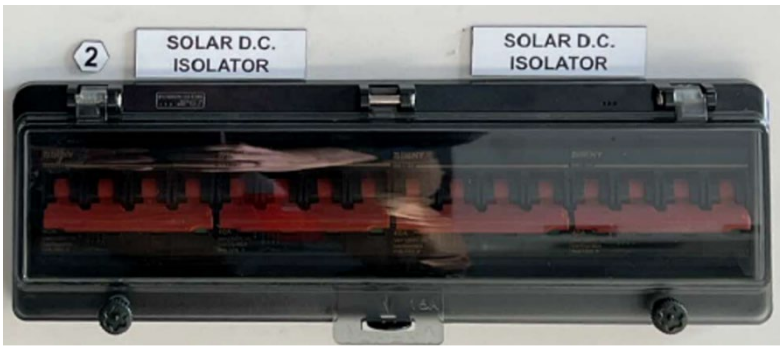
1. **Turn OFF all AC circuit breakers (#1).**
   It is not necessary to turn off the inverter via the push button on the left side of the inverter.
2. **Switch OFF the SOLAR D.C. ISOLATORS (#2).**
   It is not necessary to turn off the PV Isolator on the side of the Inverter.
3. **Switch OFF the BATTERY SYSTEM D.C. ISOLATOR (#3).**
   It Is not necessary to turn off the individual battery breakers on each battery unless the system will be off for over three months.

Turn On Procedure

Note: All devices listed below are located on the right side of the BushChook and can be also identified by the number affixed to the clear covers of the switches. (Numbers 1 to 3)

To **turn ON** the BushChook follow the steps below:

1. Switch ON the BATTERY SYSTEM D.C. ISOLATOR (#3);
   The on/off push button on the left side of the inverter should already be ON. This can only be accessed by a qualified person.
2. Switch ON the SOLAR D.C. ISOLATORs (#2)
   The PV Isolator on the left side of the Inverter should already be ON. This can only be accessed by a qualified person.



3. Turn ON all AC circuit breakers and ensure the BYPASS switch is in NORMAL position (#1);
   The individual battery breakers on each Troppo ULTRA battery should already be ON. This can only be accessed by a qualified person.

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Bypass operation

If your BushChook system develops a fault, then the whole system can be bypassed.

An example of a fault could be if your PV system (solar panels) develops an electrical leak (earth fault), the BushChook will begin emitting a beeping sound. If this happens, follow the Shutdown Procedure (explained in this manual), and operate the system in Bypass mode (as explained below) and contact your installer. If they are not available, contact RedEarth.

Follow the Shutdown Procedure and then switch the system to Bypass Mode, as explained below. The images show the switches for a single-phase BushChook. The three-phase BushChook operates similarly.

In the by-pass operation mode, the BushChook battery, and the connected solar panels, will be completely bypassed, and the grid will provide power directly to all house loads, including the backup loads. Note that in by-pass mode there is no back-up protection available.

To activate by-pass mode, follow the shutdown procedure during which all AC breakers, PV isolators and battery isolators are turned off, THEN switch the by-pass switch into the downwards position (II).

The system will immediately provide all power directly from the electricity grid. You should now contact your installer to begin rectification work. If they are not available, contact RedEarth.

Normal operation:

Once rectification work has been completed the BushChook system can be taken out of by-pass operating mode.
This is done by switching the by-pass switch into the up position (I).
Then follow the TURN ON procedure as described earlier in this manual.

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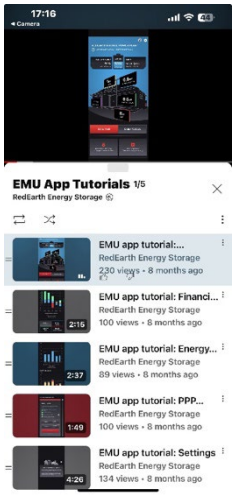
Monitor and Control your System

The RedEarth app is used to monitor your system. During the handover with your installer, you have registered and installed the app. Refer to your **Handover Sheet.**

For continuous monitoring, the BushChook needs a reliable internet connection. This can either be via mobile or connecting to your home internet via WiFi or a wired connection to LAN. The best solution depends on your location. Generally, the home internet provides a more reliable solution, however, if only mobile is possible, there are some options to increase the signal strength. Your installer can explain the best solution for your location.
Your BushChook battery system comes with an automatically three-months free remote monitoring via mobile internet. During that time RedEarth can provide feedback on what Private Power Plant (PPP) options would be suitable for you to sign up to. After this initial period, there is a charge to continue remote monitoring via mobile internet. However, you can access the same monitoring using your home internet.

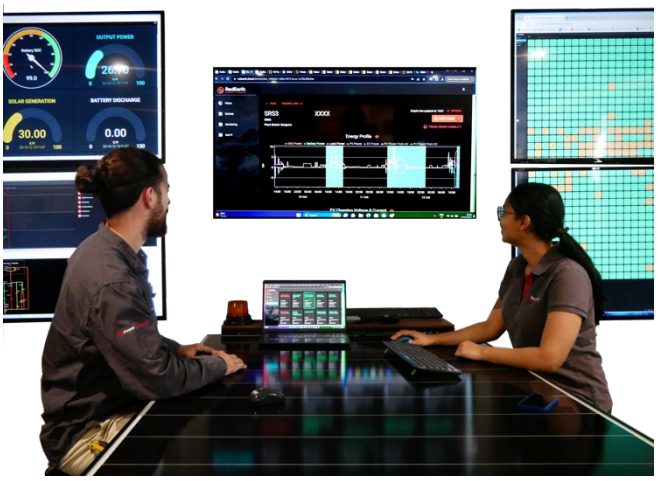


Note: When any issues with your system arise, it's invaluable to have a continuous monitoring history for troubleshooting. It's important to regularly check the internet connection. This can easily be checked by accessing the RedEarth app.

To get the most value out of monitoring your system use, scan the QR code which will take you to several videos explaining how your RedEarth app works.

RedEarth PPP (Private Power Plant)

You've bought a BushChook. Now why don't you use it to make your home smarter? Transforming your BushChook into a more valuable and lucrative investment is easily achievable through the integration with our proprietary Private Power Plant (PPP) benefits.
Our PPP is made to benefit **you;** give **you** control and make **you** money.
With your BushChook installed, you not only gain access to a continuous source of renewable energy; by harnessing the untapped potential of your rooftop, you can generate more solar energy than needed to power your residence or business. The result? Your property can become your very own energy trader, creating an additional value stream by feeding surplus energy back into the grid or sharing it with your family. This not only offsets your energy costs but could even turn a profit.



Included PPP modules currently available are:

1. **PowerRanger**—The Power Ranger module gives you the ability to manually (or on an automated schedule) force charge or discharge the battery.
   This means power to:
   - choose to charge the batteries before a scheduled grid outage.
   - charge the batteries on a schedule if there are not enough solar panels on the roof.
   - manually charge on a one-off cloudy day
2. **Disaster Protection Mode**— When severe weather or other conditions are expected to cause grid outages, this mode ensures the batteries are fully charged to last as long as possible during the interruption.
3. **Scheduled EV charging**— View EV charging in real time through the RedEarth app, together with BushChook monitoring. Determine the best time to charge the EV and set the charge rate.

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With the addition of the Boomerang V2G, it can also discharge the vehicle. This can be especially valuable when off grid, either voluntarily or when storms bring down power lines, as it provides direct access to the large battery in the electric vehicle.

4. **Peer-to-peer electricity trading**—Trade excess electricity with other people at a price agreed on, for free to help out peers or family or for a second property, such as a rental property. This feature is available provided it is supported by the energy retailer.
5. **Manual Energy Trading**—Sell excess electricity at a profit at peak times.

As a BushChook system owner, you can join the RedEarth Smart Energy Trading program benefiting from our proprietary trading algorithms. You can register via the RedEarth —the same platform you use to monitor your BushChook.
Smart Energy Trading requires a sufficiently large BushChook system and a wholesale energy retailer. Our support team will advise you if your system qualifies.

Smart Energy Trading PPP modules currently available include:

1. **Access to wholesale electricity pricing**— RedEarth can assist in transitioning from a standard electricity plan to wholesale pricing through a wholesale energy retailer. This shift can lower the average energy costs, when the BushChook system provides electricity during periods of high market prices.
2. **Automatic Energy Trading**— Sell excess electricity at peak times using RedEarth's proprietary automated trading algorithms. The system identifies the best moments to buy and sell, maximising the financial return.
6. **Smart EV charging**—RedEarth's algorithm determines the optimal time to charge.
   When paired with the Boomerang V2G (Vehicle-2-Grid), the system can also discharge the vehicle, providing an additional energy source from the large battery in an electric vehicle during off-grid operation or storm-related outages.

RedEarth continues to develop new PPP modules, each designed to deliver specific benefits depending on whether the system is on-grid or off-grid and on the size of the BushChook system.

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Maintenance and End of Life

Maintenance schedule

Weekly

- ❑ Check the RedEarth app to note the operation of your BushChook system and confirm that your internet connection is functioning (if in use)
- ❑ Confirm the Earth fault alarm is not beeping.

Monthly

- ❑ Clear any vegetation or overgrowth around the BushChook system
- ❑ Ensure airflow around the unit is not blocked, including for air entering the base of the unit.
- ❑ Review any emails from RedEarth to remain up to date on relevant opportunities

Annually

- ❑ Visually inspect for loose or damaged cables or connections near inverter
- ❑ Ensure safety labels/instructions remain visible.
- ❑ Inspect conditions of solar panels, cables, array frame for damage or corrosion. The solar panels may need cleaning to continue to generate full power.
- ❑ Test the back-up functionality of the BushChook by switching off the main breaker to the house. Confirm that the selected backup loads remain on (e.g., fridge etc.). Switch the main breaker to the house back on to resume normal operation.
- ❑ Clear any branches that may have begun to shade the solar panels. This Is especially Important In winter when the sun Is lower on the horizon. Even a small amount of shading can have a significant effect on the amount of electricity produced.

End of life recycling

Please contact RedEarth Energy Storage to arrange recycling of your battery.

Issue date: 01/03/2026. Version 5
For technical support: *https://redearth.energy/warranty-form/*
1800 733 637 | 15 Fienta Place, Darra BRISBANE QLD 4076 | www.redearth.energy

FAQs

Q: "I lost power!" What should I do?

A: If you have just lost power on the non-backed up loads, this means that the grid has failed, and the power to non-essential loads will remain off until the grid power is restored by the electricity utility.

Your essential loads will still have power.

Once the BushChook is in Backup Mode (no grid available) it is important to understand that you now have a limited electricity supply. If you run too many loads and the battery goes flat, then the essential loads will also turn off.

The system will come on again once the sun is shining on the solar panels again.

Customer support

At RedEarth, we stand by the quality of our products. Supported by our dedicated Australian service team, we're committed to making sure your system delivers reliable performance – and that you always feel supported.

If you encounter any problem with your system, please follow the steps below:

1. **Contact your certified installer or authorised reseller**
   Your first point of call should be your installer or authorised reseller. They will know all the details of your specific installation and will be in the best position to offer you help.
2. **Contact RedEarth**
   If Step 1 is not available, contact RedEarth Customer Support. The quickest way to reach them is to go to our website *http://www.redearth.energy* and click on *Raise a Ticket*.
   Please add your System ID and Installers details to the ticket for expedited assistance.
3. **Next steps**
   Our Customer Support will contact you soon after with next steps and advice.

Additional Options for the BushChook

RedEarth can provide several additional options for the BushChook system. Contact your installer for pricing and assistance with adding or expanding your system.

- Additional Troppo ULTRA batteries - up to a total of eight for the BushChook, adding 5.6 kWh extra per battery.
- Electric vehicle charger, that can be monitored on the RedEarth app (both 1-phase and 3-phase)
- Boomerang V2G (Vehicle to Grid) charger that can both charge the electric vehicle and discharge to the BushChook (coming soon).
- Cell phone booster to improve 4G connection.
- Starlink satellite internet connection if the location does not allow another reliable internet connection.
- RedEarth's PPP Smart Energy Trading program.

Appendices

Appendix 1 Technical Specifications

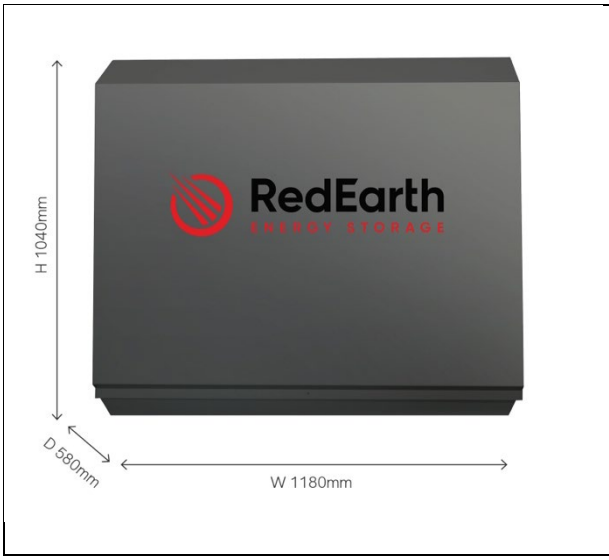
	Single phase		Three phase
BushChook Model	**Bushchook 5 kW** 2BC1-DY5-XUL	**Bushchook 10 kW** 2BC1-DY10-XUL	**Bushchook 12 kW** 2BC3-DY12-XUL
Battery capacity (Troppo ULTRA 5.6 kWh)	2 to 8	2 to 8	3 to 8
Battery capacity of BushChook system (kWh nominal)	11.2 – 44.8 kWh	11.2 – 44.8 kWh	16.8 – 44.8 kWh
Inverter model	5K-SG04LP1-AU	10K-SG02LP1-AU	12K-SG04LP3-AU
Battery data			
Battery type	Troppo ULTRA 5165 LFP		
Battery capacity (nominal)	5.6 kWh per Troppo ULTRA battery		
Battery operating voltage range (V)	40-57.6 V		
Maximum charging current (A)	120 A	220 A	240 A
Maximum discharging current (A)	120 A	220 A	240 A
PV string input data			
Maximum allowable PV (W)	10,000 W	20,000 W	24,000 W
Maximum usable PV (W)	7,500 W	15,000 W	18,000 W
Maximum PV input voltage (V)	500 V	500 V	600 V
MPPT range (V)	150 to 425 V	150 to 425 V	200 V to 600 V
Start-up voltage (V)	125 V	125 V	160 V
PV input current (A)	13 A+13 A	26 A+26 A+26 A	26 A+13 A
Maximum. PV Isc (A)	19.5 A+19.5 A	44 A+44 A+44 A	39 A+19.5 A
No. of MPPT trackers	2	3	2
No. of strings per MPPT tracker	1+1	2+2+2	2+1
AC output data			
Rated AC output and UPS power (W)	5,000	9999	12,000
Maximum. AC output power (VA)	5,000	9999	12,000
Peak power (off-grid)	2 times of rated power, 10 sec		
Rated AC output current (A)	21.7 A	43.5 A	17.4 A
Maximum AC output current (A)	21.7 A	43.5 A	17.4 A
Maximum continuous AC passthrough (A) * When installed in the BushChook system AC passthrough is current limited to 40 A	35 A*	50 A*	45 A*

	Single phase		Three phase
BushChook Model	**Bushchook 5 kW** 2BC1-DY5-XUL	**Bushchook 10 kW** 2BC1-DY10-XUL	**Bushchook 12 kW** 2BC3-DY12-XUL
Generator Total Harmonic Distortion (THDi)	<3% (of nominal power)		
Power factor	0.8 leading to 0.8 lagging		
Output frequency and voltage	50 Hz; 230 V/400 V, 240 V/415 V		
Grid connection type	Single phase L/N/E		Three phase 3L/N/E
Protection			
Integrated	DC Reverse Polarity Protection, AC Output Overcurrent Protection, Thermal Protection, AC Output Overvoltage Protection, AC Output Short Circuit Protection, DC Component Monitoring, Insulation Impedance Detection, Arc Fault Circuit Interrupter (optional), DC Switch, Anti-islanding Protection (Active Frequency shift), Residual Current Detection		
Over voltage category	DC Type II / AC Type III		
Certifications and standards			
Grid regulation	AS/NZS 4777.2		
EMC / Safety regulation	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2		
General data			
Operating temperature range (°C)	-40~60°C, >45°C derating		
Cooling	Smart cooling with temperature-controlled fans		
Weight of BushChook system (excl batteries) (kg)	109	130	135
Size of BushChook system (mm)	1180 W x 1040 H x 580 D		
Protection degree of BushChook system	IP43		
RedEarth Warranty	10 years (AU & NZ and South Pacific region)		

* The BushChook system is designed to only use the RedEarth Troppo ULTRA-5156 lithium-ion battery (LFP).
** The Nominal Energy Capacity depends on the number of Troppo ULTRA-5156 batteries installed in the BushChook system. The model numbers reflect the total battery capacity installed in the system.

Appendix 2 Positioning information

Dimensions



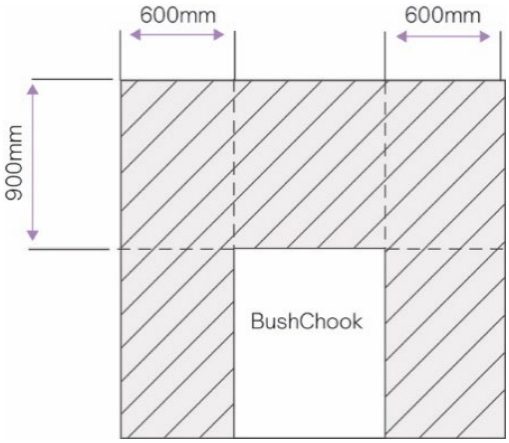
- 136 kg complete without batteries.
- 476 kg with 8 x Troppo ULTRA Lithium batteries (45 kg per battery)
- 1040 H x 1180 W x 580 D [mm]

Deciding where to physically locate your BushChook is influenced by a number of factors including proximity to your main switch board. However, there are also rules (AS5139) about where a home battery can be positioned to minimise fire risk.

Batteries are not allowed:

- in habitable rooms (bathrooms, laundries, pantries, hallways are not habitable rooms)
- in ceiling spaces or wall cavities
- under stairways or access walkways
- in an evacuation route or escape route
- near combustible materials.

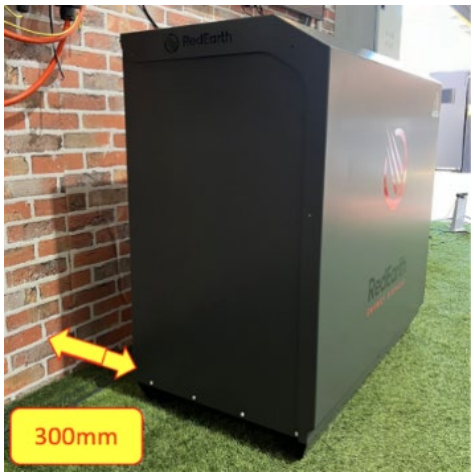
This makes the most likely locations to be against an external wall or in a garage.



Australian standards require clear space between the battery and any windows, doors and appliances such as hot water units and air conditioners. This clear space must extend at least 600 mm to either side and 900 mm above the battery (see diagram).

If the battery is wall-mounted with a habitable room on the other side, the wall must have a non-combustible barrier extending the same dimensions as the clear space noted above. Most likely the installer will add a thick cement sheet unless the wall is already made of cement sheet, brick or concrete.

A battery installed in a garage may need a bollard to protect it from cars. These rules can make it more difficult to find a suitable location however the BushChook provides another option. As it is designed as a free-standing, scalable battery system, if it is placed more than 300 mm away from the wall then the 600 mm and 900 mm clearance restrictions above don't apply. Here is an image of a freestanding BushChook positioned 300 mm off a wall.



Power yourself.