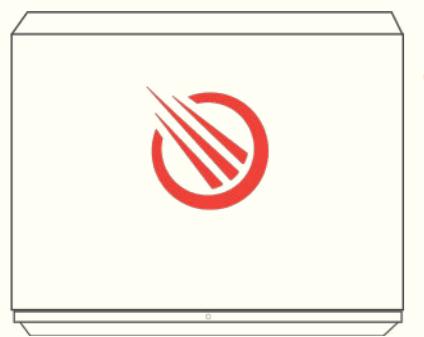
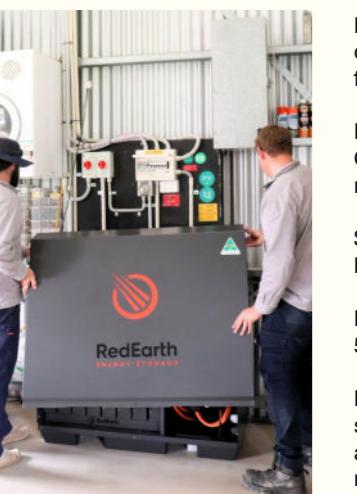


# BushChook

## Quick Start Guide

**1**

### Position your BushChook



### 2 Connect your solar

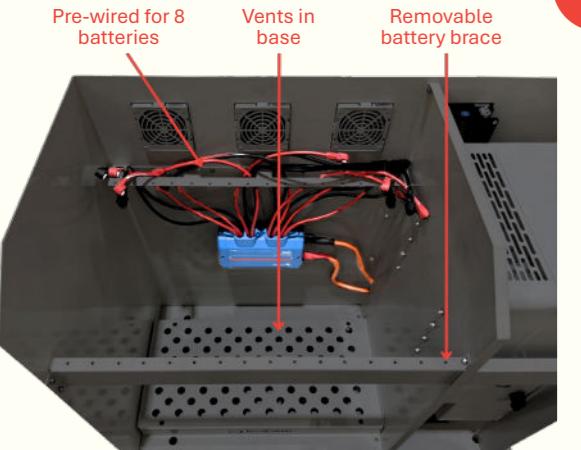
The 5kW and 12kW BushChook systems have two Maximum Power Point Trackers (MPPTs) and the 10kW BushChook system has 3 MPPTs.

Remove lid and right-side panel for access to switchgear and cable connection points.

Run pairs of unterminated PV cables into the lower 25mm holes at the rear of the BushChook. Use provided glands to seal around 25mm flexible conduit.

Check polarity and VOC (Voltage Open Circuit) before terminating cables into the appropriate MCB (Miniature Circuit Breaker). Follow labelling for guidance (see label on the side of the inverter for PV voltage and current limits).

Ensure the PV isolator located on the left side of the inverter is ON. Leave the MCBs off until all setup steps are completed.

**3**

### Battery connection

Turn off MAIN BATTERY BREAKER. Separately check each battery's voltage to ensure they're similar before connecting to the main DC Bus.

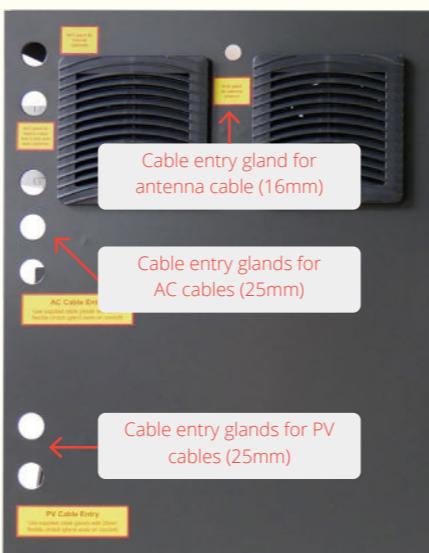
Place Troppo Ultra batteries in BushChook, securing with cross bar and screws if needed. Load batteries starting from the left.

Attach DC cables (red to red, black to black). Turn on battery breakers to activate. Expect slight electricity flow as batteries balance.

The DC Side of your system is ready, complete step four prior to turning on the MAIN BATTERY BREAKER.

**4**

### Prepare for your electrical connections



Ensure all internal connections are secure post-transport. Turn off all breakers and isolators supplying power.

Use 25mm glands at rear for AC, PV, and communication cables. Use supplied glands that seal around 25mm flexible conduit. The 16mm gland is for the monitoring device antenna.

Note: Consider that the BushChook must be hardwired to a remote switchboard with MEN link and earth stake.

### AC source, load and smart port connections

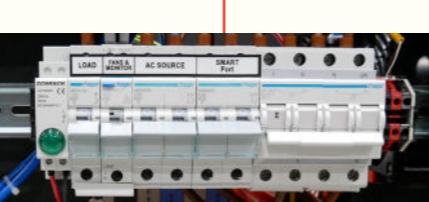
On the top DIN rail, you'll find MCBs and earth and neutral terminal blocks for easy connections.

- **GRID** terminal connects to the main grid, or, optionally, your generator in an off-grid scenario
- **LOAD** terminal stays powered during blackouts. Be sure not to overload it, if running whole-home backup ensure you have sized the BushChook appropriately.
- **SMART PORT** which allows you to choose between using a generator, connecting AC-coupled solar, or powering specific circuits based on battery levels or grid connection.

To connect AC cables, pass them through the upper 25mm holes in the rear of the BushChook and secure them in the correct MCBs or terminal blocks.

Ensure cables are sized correctly for the BushChook's inverter rating. Earth connection must be in the same switchboard as power cables.

If utilising the smart port, please ensure that the inverter is configured correctly prior to turning on the smart port breaker, by default the BushChook is configured for a generator, if this requires adjusting see steps 10 onward.

**1-phase BushChook****3-phase BushChook****5**

### AC source, load and smart port connections

**6**

### Connection to your MSB

#### Off-grid and on-grid whole home backup

If the whole home is being backed up by the BushChook (all circuits) or this is an off-grid installation) then there is no need to separate the circuits in the switchboard.

##### Only one step is required:

1. Separate circuits in the main switchboard into two categories:
  - Load circuits backed up during an outage.
  - Loads unsupported during an outage (e.g., pool heating, electric floor heating, etc.).
2. Install the provided double pole MCB breaker for single-phase or 2 x 3-pole MCBs for three-phase installations to isolate the BushChook system during switchboard work.

#### On-grid: Partial home backup

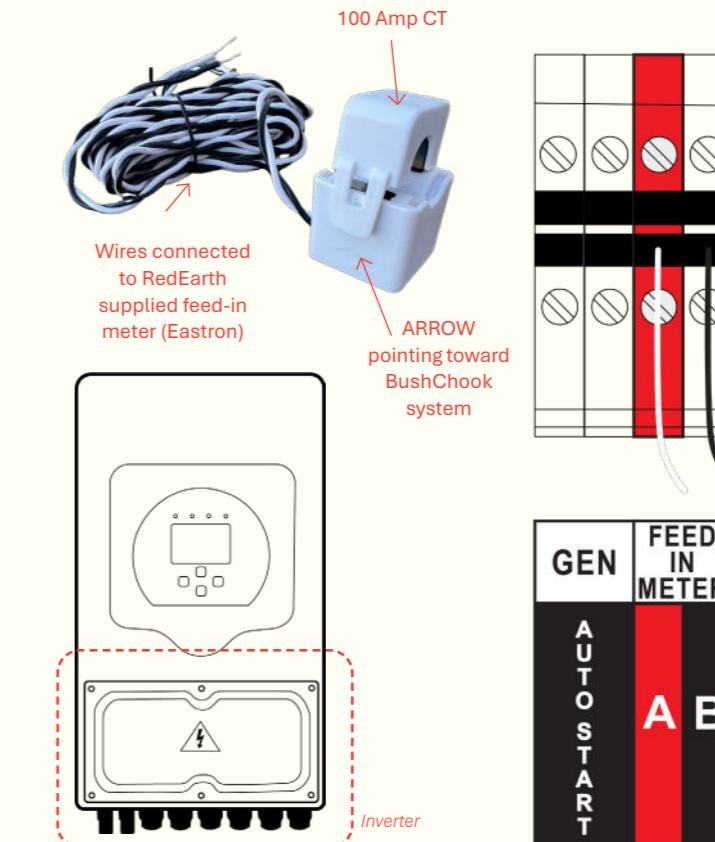
To complete a BushChook installation with partial home backup, follow these steps:

1. Separate circuits in the main switchboard into two categories:
  - Load circuits backed up during an outage.
  - Loads unsupported during an outage (e.g., pool heating, electric floor heating, etc.).
2. Install the provided double pole MCB breaker for single-phase or 2 x 3-pole MCBs for three-phase installations to isolate the BushChook system during switchboard work.

#### Meter or CT connection

A CT built into the BushChook inverter is used and there is no need for an external CT/Feed-in meter to be installed.

##### Go straight to Step 8.



If the BushChook is located <20 metres from the MSB you can connect the CT / CTs directly to the inverter without the need to connect a meter. Use twin 2.5mm<sup>2</sup> cable to extend the CT cables.

For situations where the distance is too great to run the CT directly to the MSB, use the meter with the CTs.

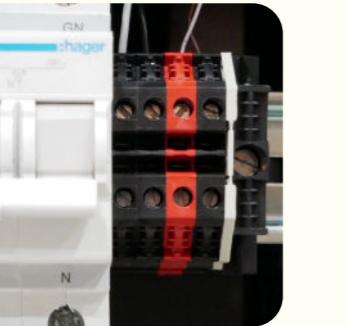
1. Ensure the meter is connected on the side that turns off during a grid power outage, with the CTs clipped in between the electricity meter and the main circuit Breaker, arrow pointing towards the BushChook system.
2. Use two wires of a CAT5 or CAT6 cable for communication between the feed-in meter and the BushChook system. Connect one wire to terminal A and the other to terminal B on the Eastron meter.
3. Important: Configure the system work mode as "Zero Export to CT" on the home screen of the menu, not "Zero Export to Load", when connecting a meter or CT. Incorrect configuration can lead to the inverter not operating as intended.

8

## Two-wire electric autostart (optional)

To benefit from the autostart feature the generator needs to be 2-wire autostart capable.

The two wires are then connected to the terminals inside the cabinet. These are located on the right side of the AC DIN rail.

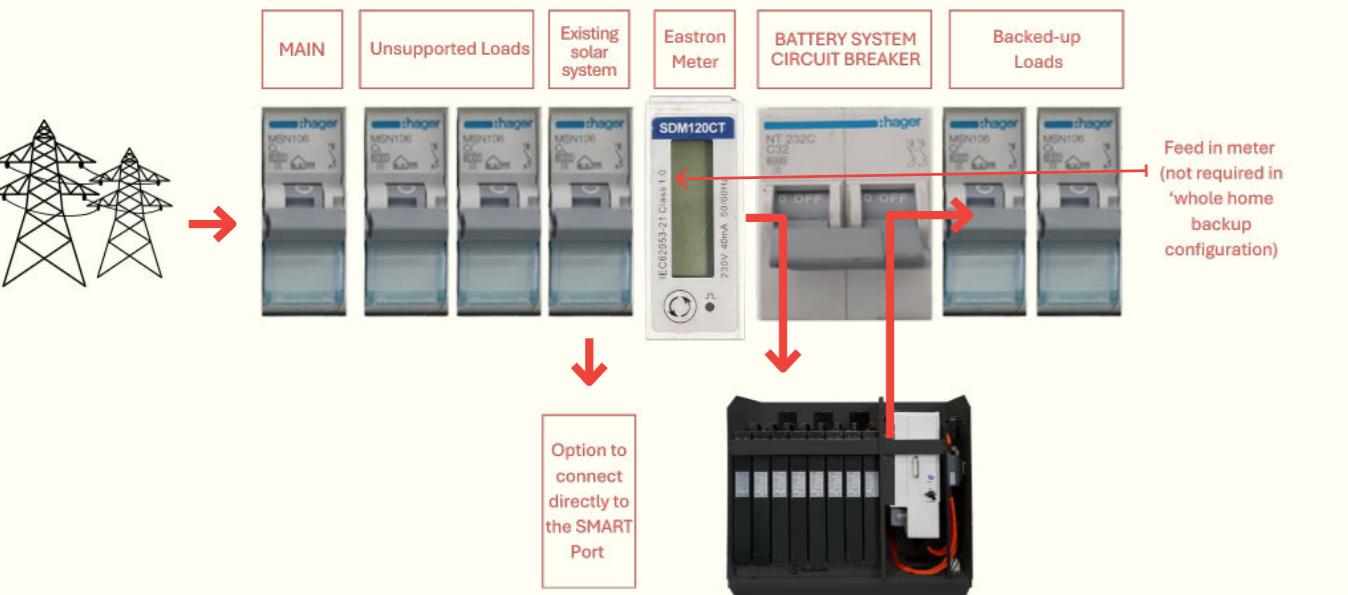


## 9 Review your switchboard

After BushChook installation, the main switchboard should resemble the following (1-phase example shown). Key components related to the BushChook system are highlighted:

- Battery system circuit breaker:** Isolates the BushChook from the switchboard, essential for switchboard maintenance. In 3-phase installations, two 3-pole switches are required (included in the parts kit).
- BushChook feed-in meter (optional):** The CT connected to this meter monitors power export/import to/from the grid. If CTs are connected directly to the inverter the meter is not needed. Note: For whole home backup setups, the CT is unnecessary as the BushChook inverter's built-in CT is used. This meter isn't required for off-grid setups.
- Connect existing solar directly to the BushChook SMART PORT (optional):** If utilised, this MCB connects any existing PV Inverter to the BushChook, enhancing control and operational continuity during grid outages. Ensure isolation from the unsupported load bus (not compatible with all existing PV inverters).

During a blackout, loads connected to the LOAD terminal of the BushChook system remain functional. Non-essential loads will deactivate until grid power is restored. Overloading the LOAD circuit can deplete the battery quickly or temporarily shut down the backup circuit.



10

## Powering up your BushChook

Before starting up the BushChook, ensure the following tasks are completed:

- Verify correct polarity, voltage and connections of PV cables to provided MCBs, especially for parallel strings into the same MPPT.
- Ensure GRID, LOAD, and SMART Port cables are securely connected, the system is properly earthed, and a MEN link is installed in the switchboard.
- Install proper weatherproof seals on all cable entry glands of the BushChook System.
- Ensure tight connections of battery terminal connections on the Main Battery MCCB (check after transportation).
- Position the 4G antenna in an area with good reception (if used).

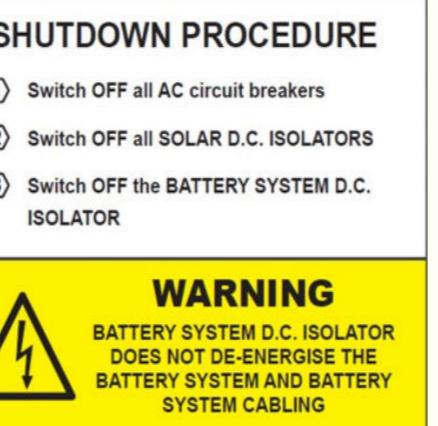
To turn ON the unit for the first time:

- Switch ON all battery breakers on top of each Troppo battery.
- Switch ON the BATTERY SYSTEM D.C. ISOLATOR.
- Switch ON all MCB SOLAR D.C. ISOLATORS. Ensure the PV Isolator on the left side of the inverter is also ON.
- Ensure the on/off button on the left side of the inverter is ON.
- Ensure the Bypass switch is in the Normal Operation position.
- Turn ON all AC circuit breakers and wait for the system to start up (approximately 5 minutes).

To shutdown the unit:

The shutdown procedure is the reverse of the "turn on" procedure and is shown below. This procedure can be found on the traffolyte label on the RHS of the BushChook enclosure.

- 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 (with the blue light).
- Switch OFF the SOLAR D.C. ISOLATORS (#2). It is not necessary to turn off the PV Isolator on the left side of the inverter.
- 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.



## 11 Almost there! Don't forget to register!

**IMPORTANT: Get customer to scan the QR code!**

**\*WARRANTY IS NOT VALID UNTIL CUSTOMER REGISTERS SYSTEM\***

For monitoring and warranty purposes, and access to the RedEarth Private Power Plant, ensure the customer scans the QR code on the system and completes the registration process.

**That's it! Great job on installing RedEarth's BushChook system!**

Now you're all set to **enjoy clean, green power** thanks to your RedEarth BushChook.

Before leaving site, please verify that all key settings and parameters are set correctly for your site, and ensure that the RedEarth monitoring has successfully commenced.



[redearth.energy](http://redearth.energy)

# BushChook

## Quick Start Guide

 Single-phase (5kW & 10kW) and three-phase (12kW)

 Suitable for on-grid and off-grid applications

 EV charger and energy trading ready

 Maximum capacity of 44.8kWh

 Australian made and owned

