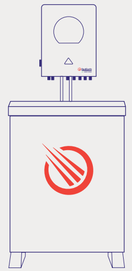
Gecko
Quick Start Guide



1 Position your Gecko

Put Gecko in a shaded area to prevent the chance of overheating.

Secure the RedEarth-certified Deye inverter to the wall above or near the Gecko battery enclosure.

Secure the battery enclosure to the ground using provided bolts or material-appropriate fixings.

If indoors, follow ventilation standards (AS/NZS 5139).

If within 300mm of a wall, follow Australian standards. Beyond 300mm, wall material doesn't matter.

2 Connect your solar

Each system has two Maximum Power Point Trackers (MPPTs).

Run pairs of PV cables directly to the inverter.

Check polarity and VOC (Voltage Open Circuit) before plugging them into the MC4s on the inverter.

3 Battery connection

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

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

Slide Troppo batteries into Gecko. Load batteries starting from the bottom shelf with the terminals at the bottom.

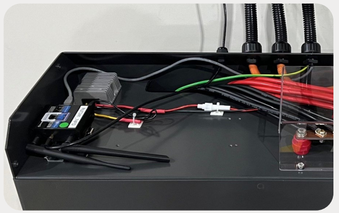
Attach DC cables (red to red, black to black). Turn on battery breakers. Expect slight electricity flow as batteries balance.

Connect the two supplied main DC battery cables from the battery enclosure to the inverter.

1. Install three pieces of flexible conduit between the 25mm glands on the battery enclosure and the inverter to form a weatherproof seal.
2. Connect the supplied DC cables to the main battery breaker using the 90° lugs.
3. Cut the DC cables to the correct length and connect them to the inverter, via the flexible conduit.

The DC Side of your system is ready, complete steps 4-9 prior to turning on the MAIN BATTERY BREAKER.

4 Connect communication cables



Pass the supplied CAT6 cable from RedEarth's RUT monitoring device through the third 25mm flexible conduit and plug it into the LAN dongle on the inverter.

Pass the supplied earth cable through one of the DC cable conduits and earth inside the inverter.

Pass the 4G antenna cable through the 16mm gland provided and screw it into the spare antenna port on RedEarth's RUT device. Place the antenna in a good reception area (magnetic base).

5 Connect AC source, load and smart port

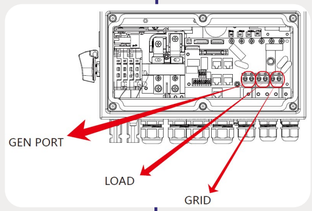
These connections are made directly inside the inverter. AC isolators may need to be installed (not supplied).

- **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 Gecko appropriately.
- **SMART PORT (GEN Port)** which allows you to choose between using a generator, connecting AC-coupled solar, or powering specific circuits based on battery SOC or grid connection.

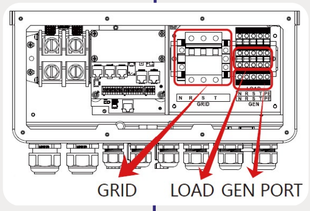
To connect AC cables, pass them through the glands in the bottom of the inverter.

Ensure cables are sized correctly for the Gecko's inverter rating. Earth connection must be in the same switchboard as power cables. Confirm a MEN link is in place within the whole installation.

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



1-phase Gecko



3-phase Gecko

6 Connection to your MSB

Off-grid and on-grid whole home backup

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

Only two steps are required:

1. Installation of a double pole MCB breaker (1-phase) or 2 x 3-pole MCBs for the 3-phase installation, to isolate the Gecko system if work is being done in the switch board.
2. Optional installation of a ByPass switch (supplied).

On-grid: Partial home backup

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

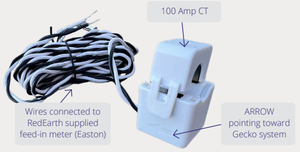
1. Separate circuits in the main switchboard into two categories:
   - Load circuits backed up during an outage.
   - Loads unsupported during an outage (e.g., pool heating, electric floor heating, etc.).
2. Install the provided double pole MCB breaker for single-phase or 2 x 3-pole MCBs for three-phase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

Meter or CT connection

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

Go straight to Step 8.

7 Meter or CT connection



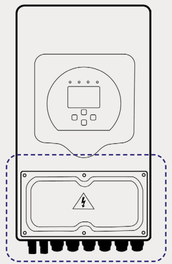
If the Gecko is located a maximum of 40 metres from the MSB you can simply connect the CT / CTs directly into the inverter without the need to connect any meter. Use appropriate 2-core cable (not supplied).

For situations where the distance is too great to run the CT directly to the MSB:

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 Gecko inverter**.

2. Use two wires of a CAT5 or CAT6 cable for communication between the feed-in meter and the Gecko system. Connect one wire to terminal A and the other to terminal B on the Eastron meter. Plug the other end of the CAT 5/6 cable into the "meter" part inside the inverter.

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.



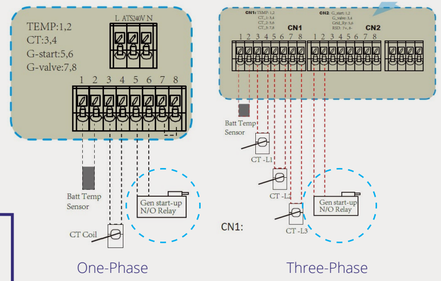
Connect the CTs directly inside the inverter
OR
Connect the meter to CAT5/6 meter port inside the inverter

RedEarth ENERGY STORAGE

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 directly to the terminals inside the inverter.



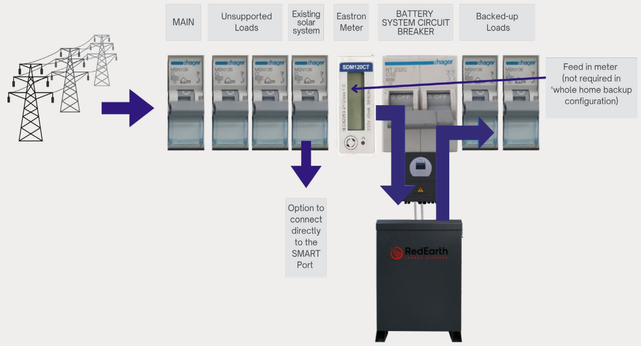
9 Review your switchboard

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

1. **Battery system circuit breaker:** Isolates the Gecko from the switchboard, essential for switchboard maintenance. In 3-phase installations, two 3-pole switches are required (included in the parts kit).
2. **Gecko 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 Gecko inverter's built-in CT is used.
   Note: No meter is required for off-grid installations.
3. **(Optional) Connect existing solar inverter directly to the Gecko SMART PORT:** If utilised, this MCB connects any existing PV Inverter to the Gecko, 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 Gecko 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 Gecko

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

1. Verify correct polarity, voltage and connections of PV cables to the inverter, especially for parallel strings into the same MPPT.
2. Ensure GRID, LOAD, and SMART Port cables are securely connected, the system is properly earthed, and a MEN link is installed in the switchboard.
3. Install proper weatherproof seals on all cable entry glands of the Gecko System.
4. Position the 4G antenna in an area with good reception (if used).

To Turn ON the unit for the first time:

1. Switch ON all battery breakers on top of each Troppo battery.
2. Switch ON the BATTERY SYSTEM D.C. ISOLATOR.
3. Push the on/off button on the left side of the inverter to ON (in).
4. Switch ON all SOLAR D.C. ISOLATORs on the left side of the inverter
5. Ensure the Bypass switch is in the Normal Operation position (if installed).
6. Turn ON all AC circuit breakers and wait for the system to start up **(wait approximately 5 minutes).**

To shutdown the Gecko:

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 enclosure.

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 (with the blue light).
2. Switch OFF the SOLAR D.C. ISOLATORS (#2).
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.

SHUTDOWN PROCEDURE

1. Switch OFF all AC circuit breakers
2. Switch OFF all SOLAR D.C. ISOLATORS
3. Switch OFF the BATTERY SYSTEM D.C. ISOLATOR

WARNING

BATTERY SYSTEM D.C. ISOLATOR DOES NOT DE-ENERGISE THE BATTERY SYSTEM AND BATTERY SYSTEM CABLING

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 Gecko system

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

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.

SCAN CODE ON SYSTEM

SYSTEM OWNER:
Scan the QR code to activate your warranty, download the RedEarth EMU app, and see system user manuals

ELECTRICIANS
Scan the QR code on system to review all specifications, complete installation checklist, and service history

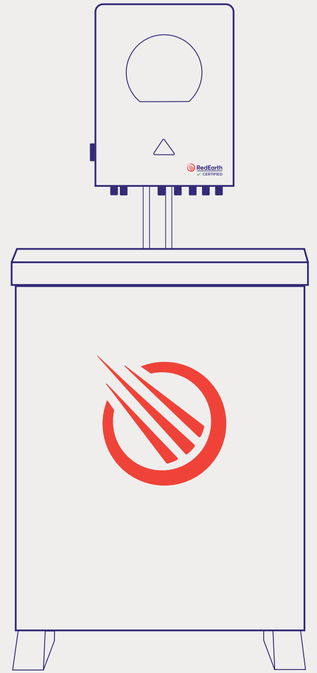
RedEarth ENERGY STORAGE

redearth.energy

Quick Start Guide
Gecko

- Easy to intall
- Happy customer
- Full ongoing RedEarth support

Scan me for more installer resources



AUSTRALIAN MADE AND OWNED

CERTIFIED ISO 9001:2015 COMPANY

RedEarth's Gecko system offers Australian-made quality and scalability, making it an excellent and enduring investment for your home.

Available in both single and three-phase configurations, the Gecko provides a range of power outputs tailored to accommodate your specific needs.

RedEarth ENERGY STORAGE