# Hybrid and AC Connect EPS (Island Mode)

## Overview

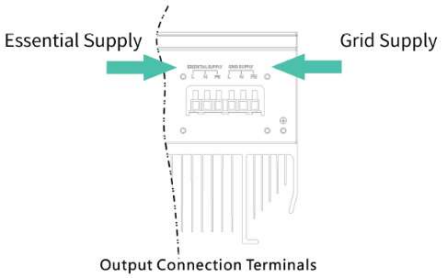
All inverters come with the option for an EPS connection, this can be used to provide power in the event of a grid outage. The EPS terminals are powered from the grid supply whenever it is available when the inverter detects a grid outage it will automatically switch to take power from the batteries and solar (if available).

| Maximum output | Hybrid 3.6 | Hybrid 5.0 | AC Connect 3.0 |
|---|---|---|---|
| | *(kW)* | | |
| 2.6kWh battery only | 1.3 | 1.3 | 1.3 |
| 5.2, 8.2kWh batteries only | 2.6 | 2.6 | 3.0 |
| All batteries with solar | 3.6 | 5.0 | - |

Care should be taken to ensure that the EPS installation meets the regulation set out in BS7671 and the IET Electrical Energy Storage Systems (2nd Edition). The inverter creates a Neutral-Earth bond internally upon loss of grid so an external relay should not be installed.

## Electrical connections

The EPS connection can be found under the same cover as the AC input, the EPS terminals are on the left side with the grid terminals on the right. The EPS output cable must be protected as near as possible to the inverter.




- Double pole RCD protection at a maximum of 30mA
- Overload protection between 6 – 25A

**Note:** The EPS will live whilst the inverter is powered from AC, Battery or PV or any combination – Ensure safe isolation procedure is followed before removing the terminal covers.

## Earthing

In island mode EPS circuits must not relay on a TNS or TN-C-S earthing system as when grid is lost earth and neutral may also be lost. A TNS or TN-C-S earth may be left connected when operating in island mode.

- Earth electrode resistance ($Z_{EE}$) should be as low as possible and not exceed 200Ω.
- An earth bond should be provided between the inverter casing and all batteries.
- An earth link should be installed between the EPS circuit(s) and the main earth terminal.

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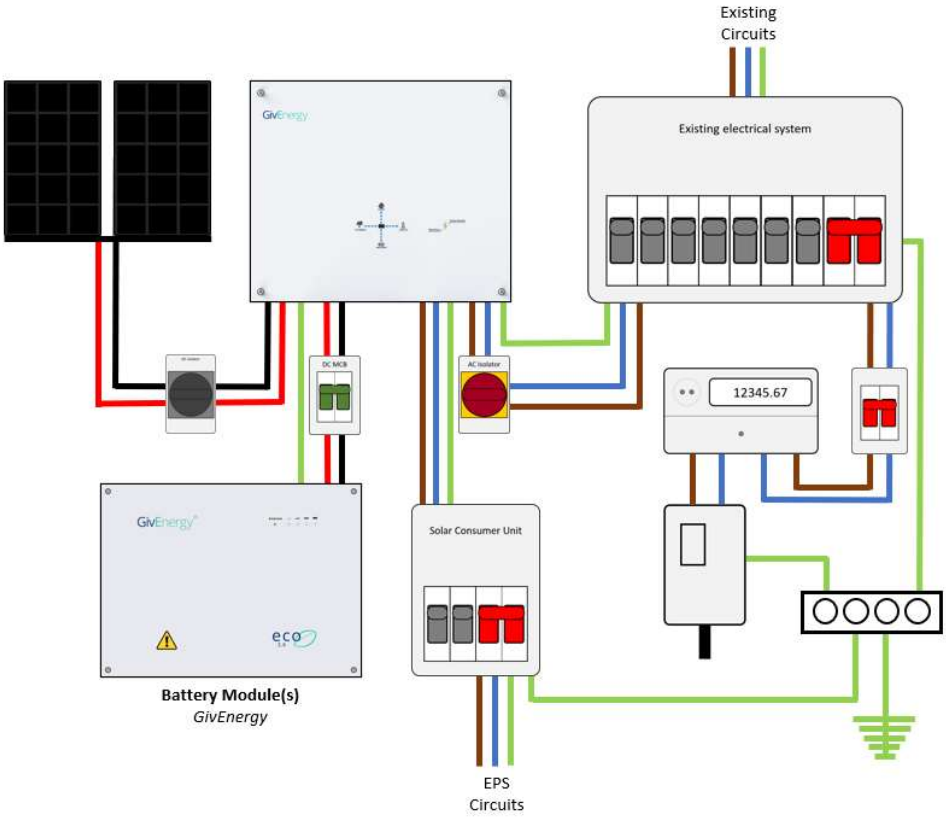
**EPS Circuits – TNS or TN-C-S earthing systems**




**EPS Circuits – TT earthing systems**