

EasyGrid INTERNATIONAL



Our EasyGrid International range brings off grid power solutions to homes and businesses without a mains grid connection or with an unreliable grid connection, at a reasonable cost. Rather than having to source separate components and have a bespoke system designed, our EasyGrid series offers a pre-configured, self-contained unit built from durable, high quality components; fully tested and ready to install. The enclosures are made from powder coated steel; allowing them to be installed either inside or outside depending on requirements. Suitable for installation worldwide the EasyGrid range addresses off grid power needs and can be installed by a competent local electrician.

How does it work?

EasyGrid connects to your solar array and also has a connection for a generator and an additional connection point for connecting to an unreliable grid. This allows users to make use of grid power when it is available and then to auto switch to the EasyGrid International supply during power outages. The EasyGrid utilises energy from the solar array to charge the batteries, where energy will be stored until needed. The array then tops up the batteries as the power is used. The system can also support additional loads to those listed when connected to a generator. If a generator is connected, the batteries are depleted, with no solar power available, the system will send a start signal to the generator to provide power and charge the batteries.



Off Grid Power Systems for International Applications
3kVA, 5kVA & 10kVA

EasyGrid International Off Grid Power Systems – 3kVA, 5kVA & 10kVA

EasyGrid 3000i



- Victron MultiPlus 48V 3000VA
- Batteries: 9.6kWh (Usable 5.7kWh)
- Connect a Generator: 2kVA – 8kVA
- Standard Solar: up to 4kW*

EasyGrid 5000i



- Victron Quattro 48V 5000VA
- Batteries: 31kWh (Usable 16kWh)
- Connect a Generator: 8kVA - 13kVA
- Standard Solar: up to 6.8kW*

EasyGrid 10000i



- Victron Quattro 48V 10000VA
- Batteries: 40kWh (Usable 21kWh)
- Connect a Generator: 17kVA - 45kVA
- Standard Solar: up to 6.8kW*

All units come with a lockable door for added protection and security.

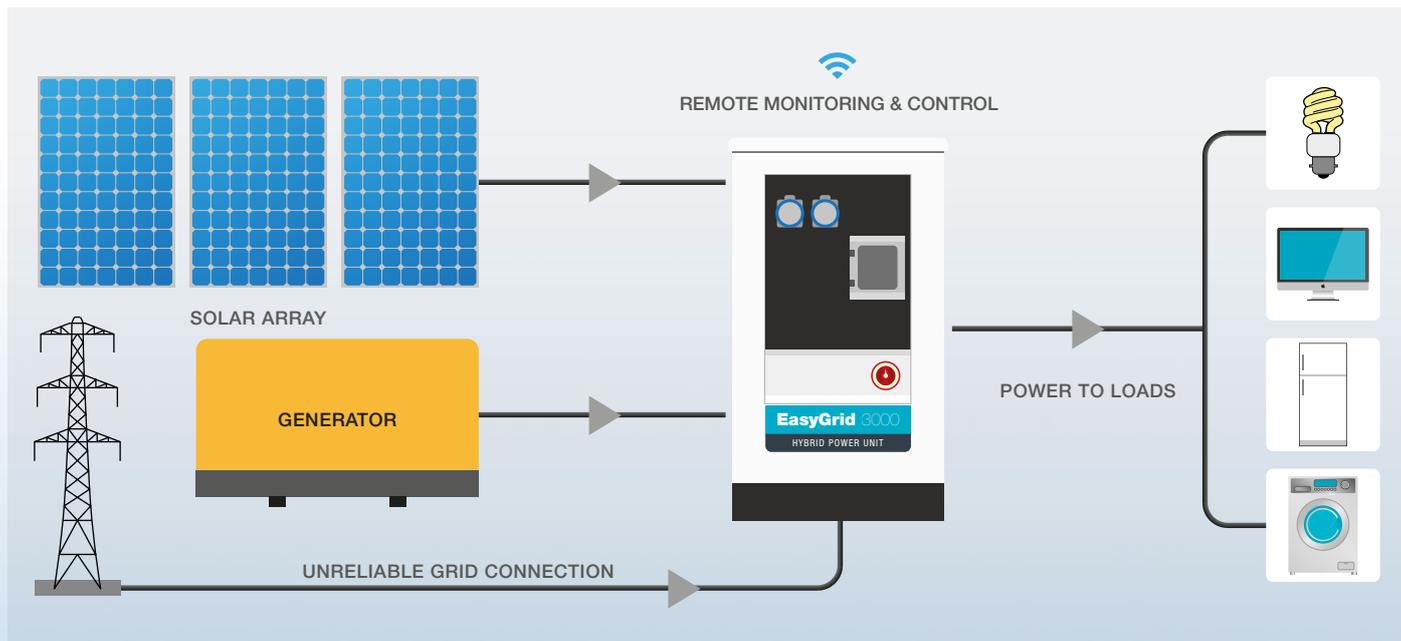
*Solar expansion kits available

Connecting to an Unreliable Grid

The EasyGrid International has a connection point for connecting the unit to an unreliable local grid. This allows users to make use of grid power when it is available and then to automatically switch to the EasyGrid International supply during power outages. This additional option is viable if you are installing the unit in an area with frequent daily power outages and you require continuous power.



EasyGrid International System Example



What can you run with EasyGrid?

It is always difficult to define exactly what you can run from an off grid system – average demands can be easy to manage but peak loads can be more challenging to assess. Below are a few examples of EasyGrid applications:

EasyGrid 3000i



Family home or small business with computers, printing, tools and lighting.

EasyGrid 5000i



Small school or remote leisure facilities with energy efficient appliances

EasyGrid10000i



Small community buildings with efficient appliances or large office and workshop with full facilities.

Connecting a Generator

If you are looking at connecting a generator to the EasyGrid range we would recommend sizing of the following:

- EasyGrid **3000i**: 2kVA – 8 kVA
- EasyGrid **5000i**: 8kVA – 13 kVA
- EasyGrid **10,000i**: 17kVA – 45 kVA

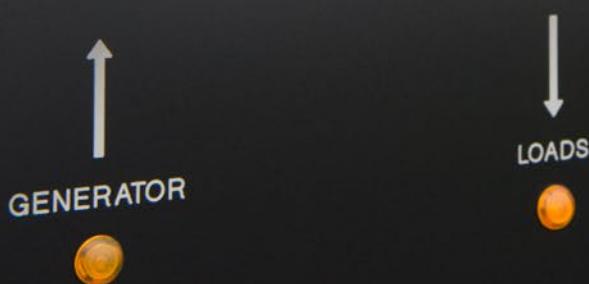
This will allow you to run additional loads. We can supply a generator with your EasyGrid if required. Please ask for prices and we can include this with your quotation.



⚠ WARNING

Read and understand operators manual before using this equipment.

Failure to follow operating instructions could result in death or serious injury





Connecting a Solar Array

Sizing your solar array correctly is vital in getting the most effective renewable energy into your EasyGrid. Below we explain the options available to you and how you can connect solar panels to optimise your power for peak loads.

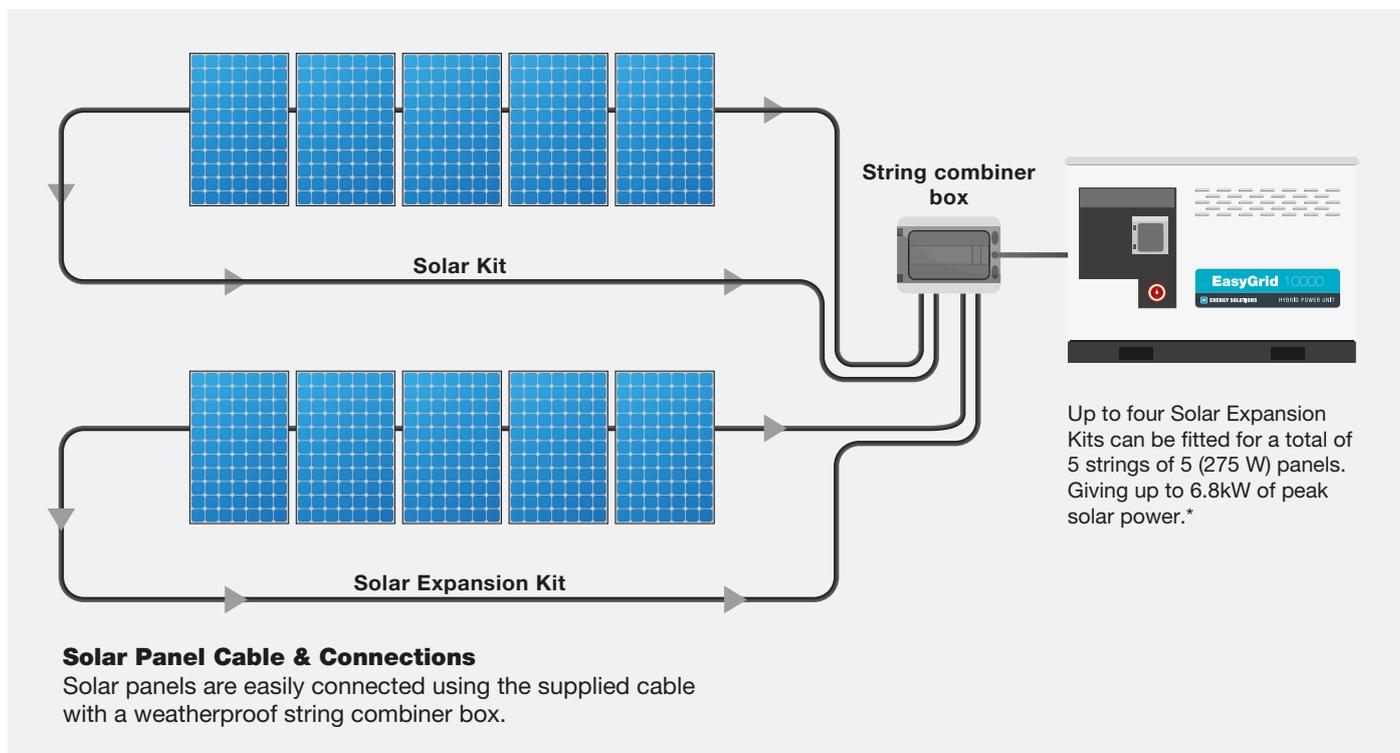
We are able to supply the necessary solar panel kit and expansion kits, mounting brackets, cables and connectors for your project. Please ask for prices and we can include this with your quotation.

SOLAR KIT – 1 String (5 Panels)

5 x 275W panels in series gives a maximum open circuit voltage of approx 190V.

SOLAR EXPANSION KIT – 1 String (5 Panels)

Additional strings of 5 x 275W solar panels can be connected via a solar string combiner box.



Solar Panel Cable & Connections

Solar panels are easily connected using the supplied cable with a weatherproof string combiner box.

* Solar array configuration for EasyGrid 3000 is limited to 4kW, 5 strings of 3 (275W) panels.

Monitoring and Control

Victron Color Control



The EasyGrid range incorporates a Victron Color Control as standard. This control gives each EasyGrid great functionality.

Color Control enables full online monitoring via the Victron VRM website (internet connection required). This shows all relevant parameter and historic data including battery capacity, power usage and solar input along with many other selectable parameters. The owner can also set alarms to ensure that the whole system operates at it's optimum performance at all times.

The Victron Color Control also comes with enhanced generator control, allowing full control and monitoring of your off grid system. Owners will be able to see:

- **Generator state:** Condition that is currently keeping the generator running.
- **Runtime:** Generator runtime since last start.
- **Total run time:** Accumulated running time since the first start.
- **Time to next test run:** When the test run condition is enabled this item shows the time remaining to the next test run.
- **Daily runtime:** Page with the running times of last 30 days.

In addition the generator can be set to run based on the conditions such as AC load and state of charge of batteries to ensure that those living and working off grid are never without power.

Silent nights

For those living off grid there are additional features the control system offers which can enhance their living conditions - quiet periods can be set which will reduce the chance of the generator starting - particularly at night. Most importantly period test runs can be set which ensures that when you need the generator - it will start!



Full online monitoring via the Victron VRM website

Why Choose EasyGrid?

Energy Solutions is the UK's leading supplier of off grid power systems, supplying high quality systems to residential and commercial customers across the UK and internationally for whom connection to the grid is not a viable option.

The EasyGrid range is our best selling off grid solution – a plug and play system for homes and businesses looking for a straightforward, affordable way to generate their own power.

The EasyGrid range offers reliable and efficient power to businesses and home owners and allows periods of silent power. The ability to link into renewable energy is a key part of the system alongside sophisticated controls and programming. See below for key features of the systems and some frequently asked questions.



Silent Power

Battery storage delivers silent power



Fuel Saving

Save fuel by running generator less



Remote Monitoring

Full control and monitoring of your hybrid system



Lower Emissions

Less generator run time reduces emissions



Installation

Simple installation and configuration

EasyGrid FAQ

Can the EasyGrid be kept outside?

Yes - the Zinc powder coated steel enclosure is weatherproof, however many clients choose to house the unit in an outbuilding.

Can I add solar at a later date?

Yes - the EasyGrid is pre-wired and ready to accept a solar array, this can be added when best suits you.

Can I add a wind turbine as well as solar panels?

Yes - all of the EasyGrids can be upgraded to include the dump load and flight controller wired inside the unit, so your wind turbine is all ready to connect on site.

Can I connect an EasyGrid to my existing generator?

Yes - if you already have an auto-start generator that is a suitable size you can use this with the EasyGrid.

I own a 3 phase generator. Can I use this for the EasyGrid?

Yes - you can buy an EasyGrid upgrade which allows 3 phase generators to be connected.

Do I have to use a generator?

No - not necessarily. If you have enough renewable energy sources and can get a good return from these in comparison to your loads, it is possible to be able to run the system without the use of a generator.

How long do the batteries last?

1500 cycles, approx. 5-7 years with standard use. When needed we can supply replacements.

Is the EasyGrid noisy?

The EasyGrid unit itself is completely silent.

How often will my generator run?

This all depends on how frequent your peak loads are and the use within the property. The EasyGrid will only ever run the generator when the loads go above the set capacity or the batteries are depleted to 50% discharge.

Will an EasyGrid system start my generator during the middle of the night?

Not in most cases, the EasyGrid will run for longer off battery power if loads are low at night, so you will have silent power during that period.

How long will it take to install?

Installation of the EasyGrid unit is very quick, and can be completed inside of a day.

Do you (Energy Solutions) install the whole system?

Yes - we can give you a quotation for installing and commissioning your system, however as the system is so simple customers can have a local qualified electrician install it.

	EasyGrid 3000i	EasyGrid 5000i	EasyGrid 10000i
			
Inverter Charger Model	Victron MultiPlus 48V 3000VA	Victron Quattro 48V 5000VA	Victron Quattro 48V 10000VA
Transfer switch	50A	100A	
AC Input	187 - 265VAC 1PH		
DC voltage range	38 – 66V		
Output Voltage	230VAC ± 2% Frequency: 50Hz ± 0.1% (1)		
Cont. output at 25 °C	2500W	4500W	9000W
Cont. output at 40 °C	2200W	4000W	8000W
Peak power	6000W	10,000W	20,000W
Outlets (Standard)	1 x 32A 1PH	1 x 63A 1PH	
SOLAR CHARGE CONTROLLER			
Model	Victron BlueSolar Charge Controller		
Max output current	70A	85A	
Max PV power suggested	4kW max.	6.8kW max.	
Max PV open circuit voltage	150V	250V	
Operating temp. range	-20 to +50°C (fan assisted cooling)		
MONITORING			
Victron VRM	Yes		
BATTERIES			
Type / Quantity	12V x 4	2V x 24	
Cyclic Life	1500		
Type	Gel		
Capacity (50% DOD)	9.6kWh (Usable 5.7kWh)	31kWh (Usable 16kWh)	40kWh (Usable 21kWh)
ENCLOSURE			
Dimensions (mm) (WxDxH)	680x870x1220	1468x824x1104	
Weight	380kg	1320kg	1520kg
Lifting options	Fork & Corners		

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Installation, Warranty and Service

The EasyGrid series is designed to be a plug and play solution for off grid customers. They can be installed by a competent, local electrician. We have a YouTube guide to help them plus each unit is supplied with a straightforward installation guide.

The unit is covered by our own one year warranty, and the Victron power electronics are covered with a 5 year limited warranty.

Images are for illustrative purposes only and actual products and examples may differ from those shown. All details correct at time of going to press but subject to change. E & EO.