

SiteGrid X45 - Battery Power

SiteGrid – Off Grid Hybrid Power Systems – 30kW & 45kW

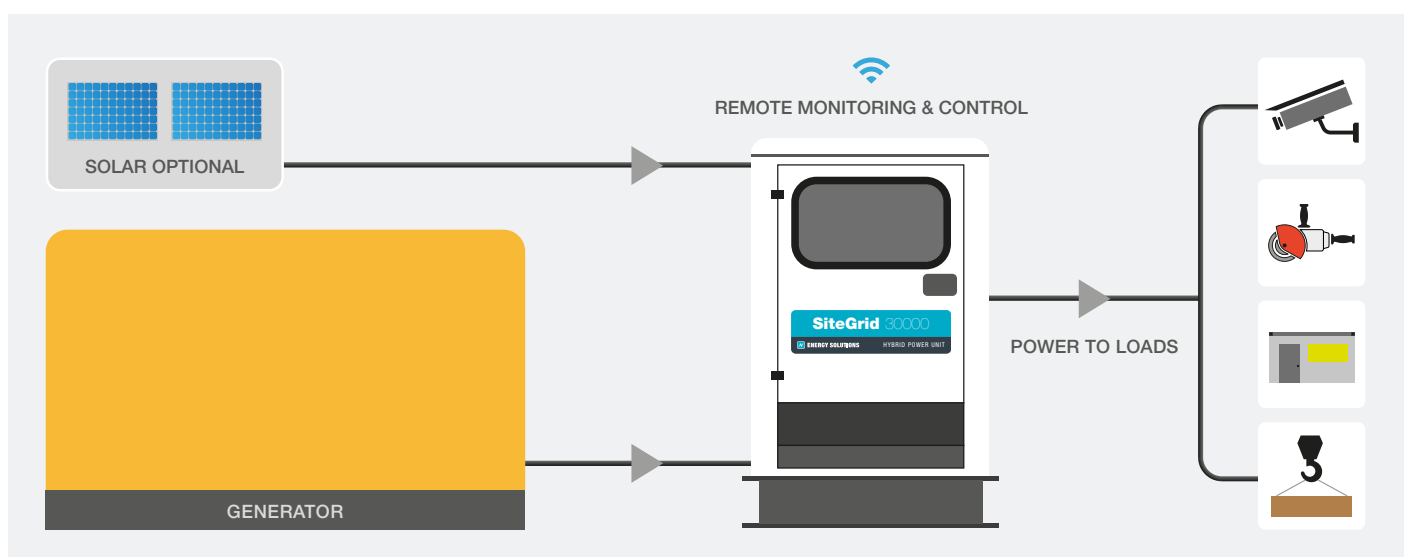
SiteGrid, our three phase hybrid power system, offers a convenient and efficient method of delivering power to any site environment without a grid connection. Whether a site needs power for lighting, a welfare cabin or equipment SiteGrid will deliver power far more efficiently than a generator alone.

SiteGrid utilises generator power, and renewables if available, to store power in a sophisticated battery bank with a dedicated monitoring & control system, delivering silent power from the battery when needed. The generator will only be started when loads demand more power or to top up the battery. Significantly reducing emissions, the size of generator required and fuel costs.

In addition, for intelligent power management, SiteGrid has an optional Energy Management Unit (EMU) which allows six separate loads to be fed independently and programmed with their own unique schedules.



SiteGrid System Example



Connecting a Generator

If you are looking at connecting a generator to a SiteGrid we would recommend a sizing of 45kVA – 100kVA

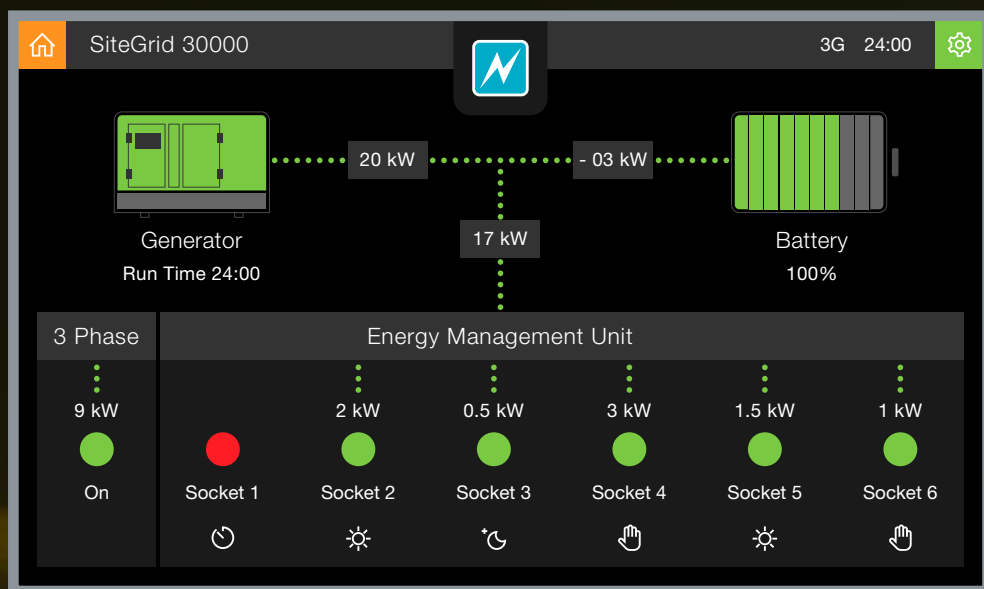
This will allow you to run additional loads. We can supply a generator with your SiteGrid if required. Please ask for prices and we can include this with your quotation.



Call **0333 323 2100** or email salesoffice@smithshire.com for your quotation

Energy Management Unit (EMU)

SiteGrid features an optional Energy Management Unit (EMU) to bring more sophisticated control for sites with a variety of power requirements. The EMU allows six separate loads to be fed from the unit and programmed with their own unique schedules. For example – one feed could be for security lighting that is triggered by the in-built light sensor, another could be for the drying cabin that does not need to be heated during Saturday and Sunday. The EMU system allows businesses to further reduce their emissions by using intelligent power planning, in addition to reducing fuel costs and generator noise.



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Remote Monitoring and Control

Each SiteGrid offers 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 its optimum performance at all times.

Via VRM 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

Keeping noise levels on construction sites to a minimum at night is a requirement in most residential and built up areas. However, during these hours there is still a requirement for power – lighting, security, dry roomings etc. SiteGrid helps balance this issue by supplying low loads at night via the battery bank, meaning the generator never needs to run. Great for both noise levels and emissions.



Full online monitoring via the Victron VRM website

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Who's using Sitegrid

Construction & Maintenance

Temporary power is a necessity in many construction environments. A site may need power for lighting or a welfare cabin wait before mains power is connected. SiteGrid can provide that power in the most efficient way.



Broadcast & Monitoring

To be able to deliver outside broadcast or monitoring services in any environment, hybrid power systems are essential.



Infrastructure & Commercial

There are numerous commercial situations where mobile, emergency, start up or free standing power is required.



Agriculture

Power for remote buildings, barns and ancillary facilities is a necessity for many farms. SiteGrid is a more cost effective option than using a generator alone.



Telecoms & Utilities

Mobile phone telecom masts are increasingly being constructed in more remote areas which do not always have ready access to the grid.



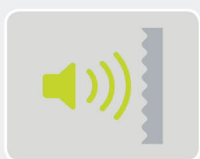
Why Choose SiteGrid?

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.

SiteGrid connects to an existing generator on site and allows owners to reduce emissions and drive up efficiency. It combines the best available power generation & energy storage with sophisticated control. Use of the latest battery technology means SiteGrid offers exceptional storage capabilities, allowing the most efficient use of the power generated with a compact footprint.

Hybrid Power Improving Air Quality

An increasing concern in built up areas and construction sites are the particulate and NOx emissions from diesel generators. Our hybrid power units reduce the run time of generators substantially – therefore cutting down these emissions. Whilst a hybrid system does not stop generator use completely, they make a significant difference to the local air quality, which is a benefit for both onsite staff welfare and local residents.



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

SiteGrid FAQ

Can the SiteGrid 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 SiteGrid 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 SiteGrids 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 SiteGrid to my existing generator?

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

I own a three phase generator. Can I use this for the SiteGrid?

Yes - you can use a three phase generator with a SiteGrid.

How long do the batteries last?

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

Is the SiteGrid noisy?

The SiteGrid unit itself is completely silent.

How often will my generator run?

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

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

Not in most cases, the SiteGrid 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 SiteGrid unit is very quick, and can be completed inside of a day.

	SiteGrid X30	SiteGrid X45
Inverter Charger Model	3 x Victron Quattro 48V 10000VA	3 X Victron Quattro 48V 15000VA
Transfer switch	3 x 100A	3 x 100A
AC Input	380 - 415VAC 3PH	
DC voltage range	38 – 66 V	
Output Voltage	400VAC ± 2% Frequency: 50Hz ± 0.1% (1)	
Cont. output at 25 °C	27,000W	36,000W
Cont. output at 40 °C	24,000W	30,000W
Peak power	60,000W	75,000W
Outlets (Standard)	1 x 63A 3PH and 6 x 32A 1PH	
Operating temp. range	-20 to +50°C (fan assisted cooling)	
MONITORING & CONTROL		
	Victron VRM + HEMS Socket and Energy Management Control and Reporting	
BATTERIES		
Type / Quantity	2V x 48	2V x 48
Cyclic Life (50% dod)	2000	
Type	Lithium NMC	
Capacity	45kWh (Usable 36kWh)	
ENCLOSURE		
Dimensions (mm)	1861x1007x1630 (WxDxH)	2100x1007x1630 (WxDxH)
Weight	975Kg	1100kg
Lifting options	Fork & Centre Lifting Point	

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.

Installation, Warranty and Service

The unit is covered by our own one year warranty, and the Victron power electronics are covered with a 5 year limited warranty. Please ask us for a quote for installation and servicing costs if required.



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