

INVERTERS

off-grid applications

PROVEN
PROVEN ENERGY

What is a Power Inverter?

Wind and solar systems use rechargeable batteries to store energy in the form of DC electricity often at 24 Volts or 48 Volts. An electronic inverter converts DC battery electricity to standard AC supply (230 Vac 50Hz in the UK).



What is the Status of the Technology?

Over the past 10 years the rise in efficiency (now up to 95%) and capability of modern power inverters, which convert low voltage battery power to standard voltage and frequency (230Vac 50Hz), has been impressive. Nearly all our customers now use inverters; you can run all standard appliances from microwaves to vacuum cleaners.



What Types are available?

There are three main types of electronic power inverter; the type of waveform that they produce classifies them:

Type	Sine Wave	Modified Sine Wave	Square Wave
Waveform			
Cost	*****	****	**
Good For	Everything!	95% of appliances including computers. Microwaves take 10% longer.	Resistive Loads
Operation	Better quality power than the grid!	Some TVs and radios will have background-buzzing noise. Some cheap Compact Fluorescent lights may 'buzz' slightly.	May have problems starting motors, may cause 'buzz' with fax machines and audio equipment
Comment	The way forward, prices are coming down	Excellent performance for most applications.	Older technology, being replaced by mod-sine.

What features do inverters have?

Most inverters also feature a 'charger' so that you can boost charge the batteries from a conventional source such as the grid or a diesel back-up generator. Look for 3-stage chargers; they help extend battery life.

Some larger inverters can automatically switch to a back-up source of power (if there is not enough energy left in the battery) without any break in supply.

TRACE – Xantrex SW Series Power Inverters:

The SW Inverter/Charger is our most popular off-grid power solution. Available in 24- and 48-volt models, it provides utility-grade output power and offers high surge capacity to run most household appliances. The SW offers many programmable features including automatic generator start and stop, and automatic load sensing. Its built-in, fully automatic, three-stage battery charger is designed to bring maximum charge to batteries, while using minimum generator run time and fuel.



Energy Saving Trust

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