



POWERTEC SOLAR

OFF-GRID 1.5.12 PACKAGE



Freedom begin here

A photograph of a two-story wooden house built on stilts, surrounded by dense tropical forest. The house has a balcony and is partially obscured by large green leaves in the foreground.

NOTE AND ASSUMPTIONS

- To maximize the output wattage of the solar panels, each system was designed to face south or equivalent.
- The solar array's power generation capacity is dependent how much shading and the angle of the rays as they hit the solar panels. Peak power occurs when the rays are at the right angles to the panels, our recommendation is to use a 45 degrees angle if on ground or equivalent on roof. We used an average year round daily peak sun hours of 3 hrs without no shade.
- The efficiency of batteries depends on the temperature at which they are stored. We recommend that lithium-ion batteries and sealed lead-acid batteries (AGM and gel cells) to be stored in a controlled temperature room with a minimum temperature of 0 degrees Celsius at worse.

Most batteries are rated at 77°F (25°C), which means their specifications are based on how the battery's cells perform at 25°C. As a rule of thumb, batteries lose about 10% of their rated capacity, as measured by the cells, for every 15-20 degrees below 80°F. For a larger battery bank, we recommend building an insulated shelter with small controlled fans (small heater for winter) to increase life of the batteries.

- Each system is designed for 2 days of autonomy (DoA), which is how long you can run your loads without the sun.
- Each panel requires at least of 24ft² of space.

KEY FEATURES

Efficient

- High solar cell efficiency : Monocrystalline 20.1%
- Bypass diodes minimize power drop caused by shade and ensure excellent performance in low-light environments.
- The included MPPT charge controller has a peak efficiency of 97%.

Reliable

- Electroluminescence (EL) tested solar modules; Anti pid technology (apt) hot-spot protect (hsp) traceable quality (tra.Qtm) anti lid technology (alt)
- Corrosion-resistant aluminum frame for extended outdoor use; allowing the panels to last for decades

Intuitive

- Sealed; Gel and Flooded charging algorithm ready
- 4-Stage battery charging process for a rapid; efficient; and safe battery charging

Safe

- Each package is designed with high end quality materials.
- Each component that is used comes with documentation to guide you through.

Expandable

- The Off grid 2.0, 3.0 and the 4.0 system are expandable.

OFF GRID 1.5.12



- The "Off Grid 1.5.12" solar system is able to run a load between 500Wh per day with a battery bank capacity of 2 days autonomy, that's how long you can run your loads with minimum sunlight.
- The Off Grid 1.5.12 solar system is equipped with a single 405W DC Solar Panel, with a 12V - 208 Ah battery system.
- The system is ideal for powering your cabins, RVs, trailers, small boats, sheds and tiny houses. If portability and efficiency are your priority, this system is attended to do just that while powering your small loads like LED lights and cell phone chargers. (see chart)
- The batteries are essential for an off-grid system. We recommend keeping these batteries between 15 °C and up to 38 °C to maximize their life and efficiency.
- The following or equivalent loads that the system can run (see table 1)

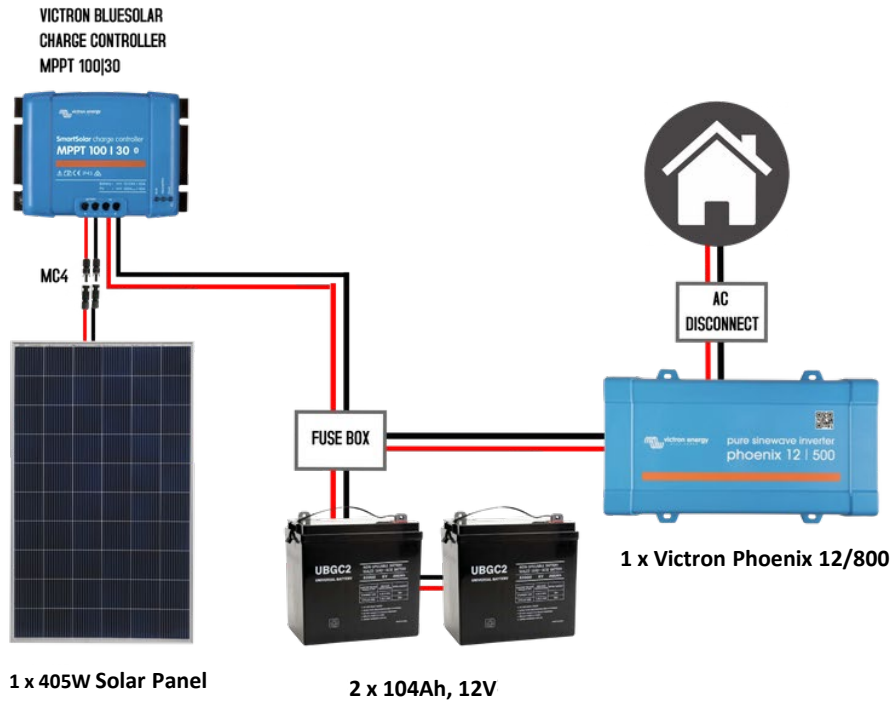
OFF GRID 1.5.12

Load	QTY	AC Watts	Hrs/ Day	Days/ Week	Wh/day
LED Lights	2	10	3.5	7	70
Ceiling Fan	1	60	1.5	7	90
Phone Charger	2	7	4	7	56
Laptop charger	1	65	3	7	195
Internet Modern	1	20	4	7	80

Table 1 : Load example



OFF GRID 1.5.12



*** Items is subject to change

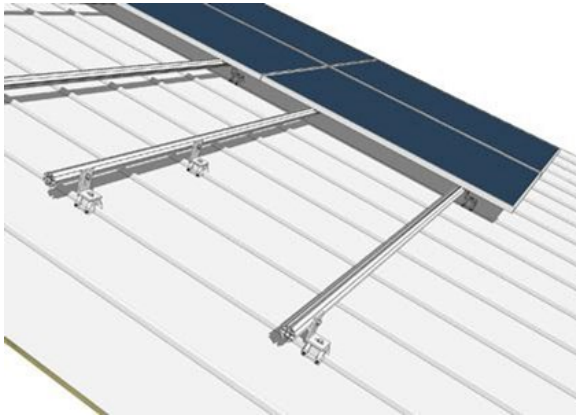
PRICING

1	405 WATT, MONO PANEL
1	DC Disconnect (Babybox)
1	SmartSolar MPPT 100/30
1	Victron Phoenix 12/800
2	B12 110l Battery, 12V, 104 AHr
1	Cables and Materials
1	MNPV100A,MNPV30 Breaker
1	20m Tec Cable

Total	\$3,855.95
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***Installation not included.
***Optional upgrade to lithium.
***Tax not included

RACKING OPTION



Either on roof or ground our off-grid systems packages comes with multiple options to choose from. The racking systems are designed to be easily installed without compromising roof warranties.

Our ground mount racking system is the ideal solution for bad roof condition (maintenance, replacement, sloped roofs), high temperatures (cooler panels mean more power), ease of system maintenance, size of system, shading issues, etc.

A ground mount solar system is a great choice for a home system if you have space and/or some challenges with a roof mounted system. With ground mounted solar panels, you can optimize your system power production by having the flexibility to adjust the ground racking angle. (facing south).

System	Cost
1 Panel Package	\$350.00
2 Panel Package	\$400.00
3 Panel Package	\$526.00
4 Panel Package	\$726.54
6 Panel Package	\$802.43
20 Panel Package	\$2,425.00
24 Panel Package	\$2,951.00

