



POWERTEC
SOLAR

OFF-GRID 3.5.24
PACKAGES



Freedom begin here

A photograph of a two-story wooden cabin built on stilts, nestled in a dense forest. The cabin has a balcony and is surrounded by tall trees and large green plants in the foreground. The lighting is soft, suggesting an overcast day.

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 autonomy (DoA), this 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.

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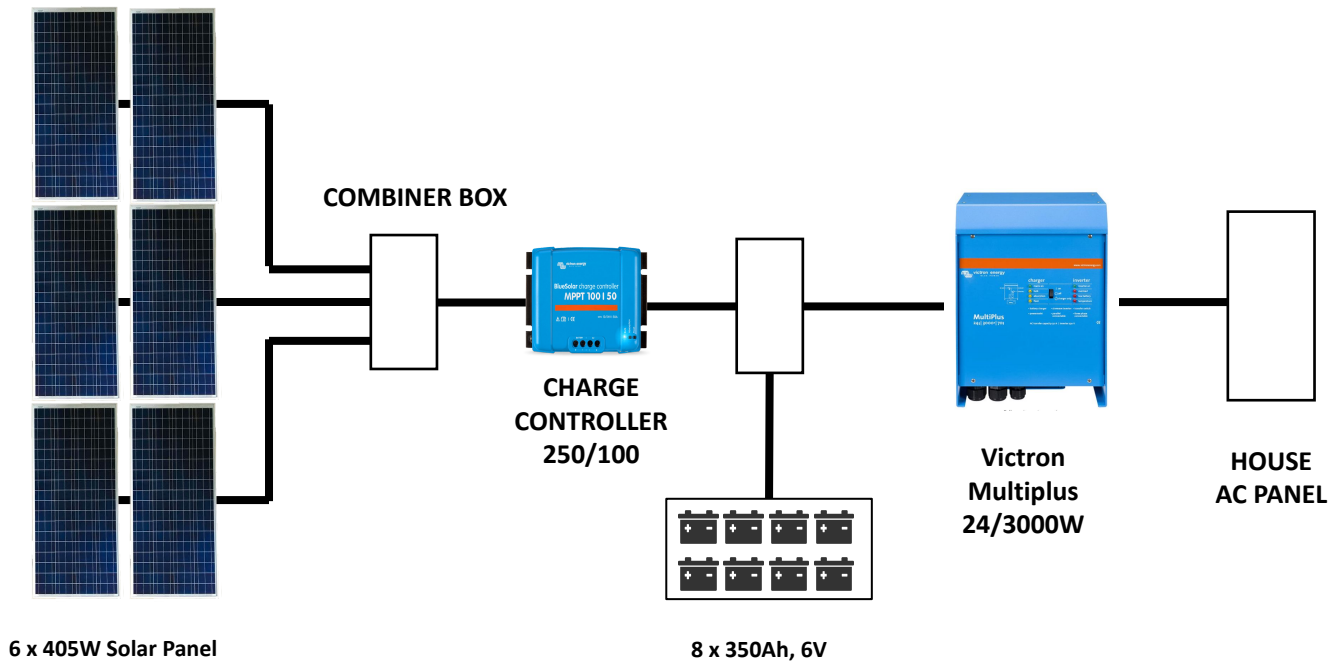
- The "Off-grid 3.5.24" solar system is capable of running loads up to 4000Wh per day with a battery bank capacity of 2 days autonomy. That's how long you can run your loads without sunlight.
- The "Off Grid 3.5.24" system has 2430W DC, powered by a 24V-350Ah battery system that gives you the freedom to run more loads than the "Off Grid 3.0.12" system with a 3000W charger inverter that also capable of charging your battery with a generator
- This system is able to run off grid powered appliances and some higher demanding appliance like coffee machine, kettle and a submersible pump. This system is ideal for cabins, tiny homes, RVs, trailers, boats, sheds and treehouse.
- 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 are loads that the system can run (see Table 1)

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Load	QTY	AC Watts	Hrs/ Day	Days/ Week	Wh/day
LED	8	10	8	7	640
Submersible pump	1	450	1	7	450
Phone Charger	2	7	4	7	56
40" LED TV	1	80	1	7	80.0
Coffee Machine / Kettle	1	1000	0.2	5	200
Ceiling Fan	1	60	1	7	60
Laptop charger	1	65	2	7	130
Jet Pump (1/2 HP)	1	400	2	7	800
Internet Modern	1	20	6	7	120
AC Fridge	1	350	4	7	1400

Table 1 : Load example

OFF GRID 3.5.24



*** Items is subject to change

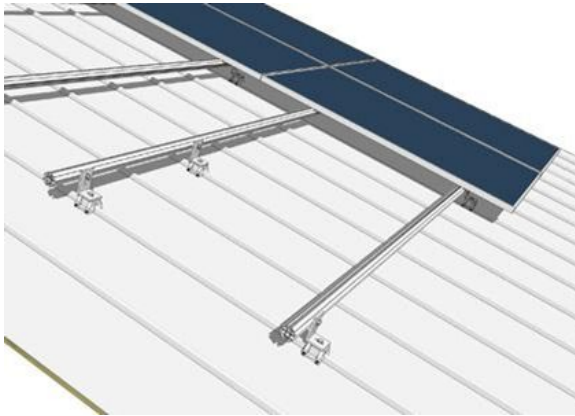
PRICING

6	405 WATT, MONO PANEL
1	MNPV3
2	Breakers MNEPV15
1	Victron Energy Phoenix Inverter 24/3000
1	Victron MPPT 250/100
8	B6-330B Battery, 6V, 350 AHr
1	BMV 702 Battery Shunt
1	Cables and Materials
1	100A Breaker & 175 DC disconnect
1	20m Tec Cable

Total	\$15,385.62
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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. But if all of these are not an issue for you then the roof mount system is the way to go.

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 is the way to go.

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

