POWERTEC
SOLAR

OFF-GRID PACKAGES

Freedom begin here

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 24ft^2 of space.

POWERTEC SOLAR

Powertec Solar Inc.
1433 Erin Street
Winnipeg, MB
Phone:855-776-9371

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 expendable.

Powertec Solar Inc.
1433 Erin Street
Winnipeg, MB
Phone:855-776-9371

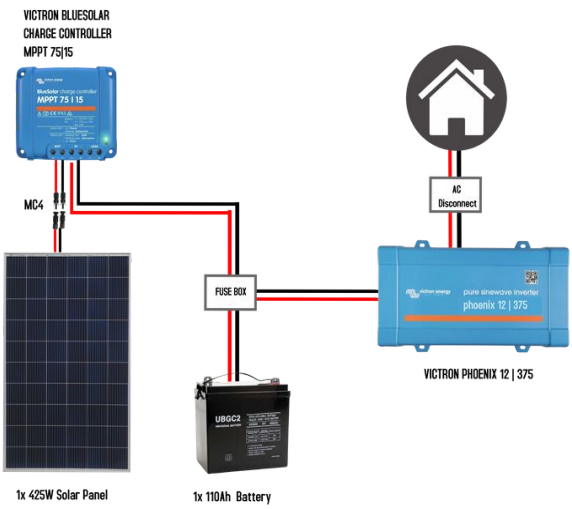
Systems Overview

	OFF-GRID BASIC	OFF-GRID BASIC +	OFF-GRID 2.0	OFF-GRID 3.0	OFF-GRID 3.5	OFF-GRID 4.0	OFF-GRID 6.0
Usage	Ideal for powering your cabins, RVs, trailers, small boats, sheds and tiny houses.	Ideal for cabins, tiny homes, RVs, trailers, boats, sheds and treehouse.	Ideal for traveling across the country in your RV or spending quality time with your family at your cabin in the woods,	Ideal for cabins, tiny homes, RVs, trailers, boats, sheds and treehouse.	Ideal for cabins, tiny homes, RVs, trailers, boats, sheds and treehouse.	Ideal for cabins, tiny homes, RVs, trailers, boats, sheds and treehouse.	Ideal for cabins, tiny homes, RVs, trailers, boats, sheds and treehouse.
Power	Up to 250Wh per day with a battery bank capacity of 2 days autonomy,	Up to 600Wh per day with a battery bank capacity of 2 days autonomy.	Up to 1200Wh per day with a battery bank capacity of 2 days autonomy.	Up to 1700Wh per day with a battery bank capacity of 2 days autonomy.	Up to 3600Wh per day with a battery bank capacity of 2 days autonomy.	Up to 4550Wh with a battery bank capacity of 2 days of autonomy.	Up to 15000 Wh per day wth a battery bank capacity of 2 days utonomy.
Battery	425W DC, 12V - 110 Ah battery system	425W DC, 12V-220 Ah battery system with a 500W inverter	850W DC, 12V-420Ah with a 500W inverter	1275W DC, powered by a 24V-350Ah battery	2125W DC, powered by a 24V-350Ah battery	2550W DC, powered by a 48V-420Ah battery system	8700W DC, powered by a 48V-1000Ah battery system
Loads that the system can run	2 LED lights 1 Phone charger	3 LED lights 1 Phone charger 1 Laptop charger 1 Ceiling fan	3 LED lights 1 Phone charger 1 Laptop charger 1 Ceiling fan 1 LCD 40" TV 1 Stereo system Small 12V DC Fridge	3 LED lights 1 Phone charger 1 Laptop charger 1 Ceiling fan 1 LCD 40" TV Coffee machine / Kettle Small 12V DC Fridge Submersible pump	3 LED lights 1 Phone charger 1 Laptop charger 1 Ceiling fan 1 LCD 40" TV Coffee machine / Kettle Small 12V DC Fridge Submersible pump	10 LED lights 3 Phone charger 1 Laptop charger 1 Ceiling fan 1 LCD 40" TV Stereo system Small AC Fridge ½ HP Submersible pump Small washing machine Coffee machine / Kettle	12 LED lights 5 Phone charger 4 Laptop charger 4 Ceiling fan 2 LCD 40" TV Dish Satellite Internet modem + router Stereo system Small AC Fridge Blender machine ½ HP Submersible pump Small washing machine Coffee machine / Kettle 15 000 BTU Diesel heater (Preheat + Burning)
	OFF-GRID BASIC	OFF-GRID BASIC +	OFF-GRID 2.0	OFF-GRID 3.0	OFF-GRID 3.5	OFF-GRID 4.0	OFF-GRID 6.0

POWERTEC SOLAR

Powertec Solar Inc.
1433 Erin Street
Winnipeg, MB
Phone:855-776-9371

OFF GRID 1.0.12

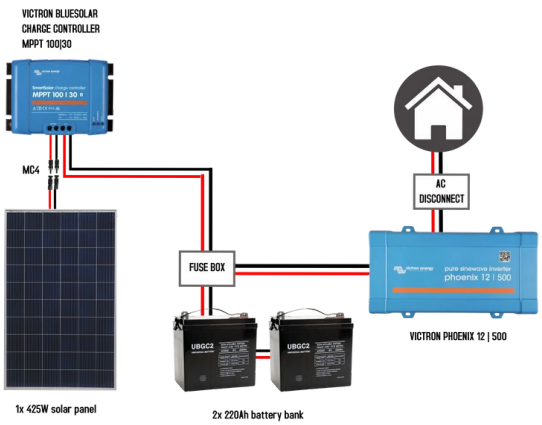


- The "Off Grid 1.0.12" solar system is able to run a load up to 250Wh per day with a battery bank capacity of 2 days autonomy, that's how long you can run your loads with minimum sunlight.
- The single 425W DC, 12V - 110 Ah battery system is ideal for powering your cabins, RVs, trailers, small boats, 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 -10 °C to 20 °C to maximize their life and efficiency.
- The following or equivalent loads that the system can run (see table 1)

POWERTEC SOLAR

Powertec Solar Inc.
1433 Erin Street
Winnipeg, MB
Phone:855-776-9371

OFF GRID 1.5.12

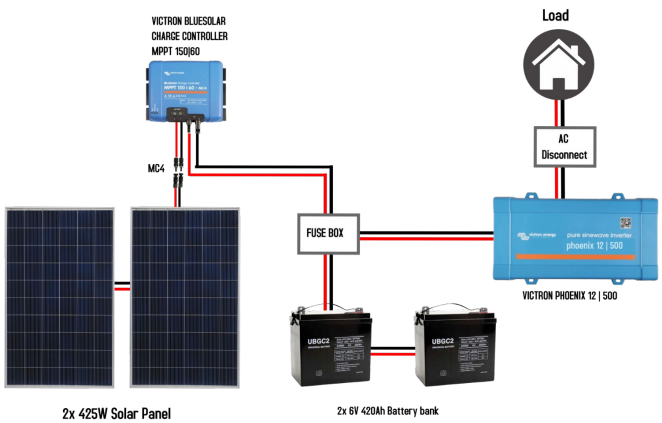


- The "Off Grid 1.5.12" solar system is able to run a load up to 500Wh per day with a battery bank capacity of 2 days autonomy, that's how long you can run your loads with minimum sunlight.
- The single 425W DC, 12V - 110 Ah battery system is ideal for powering your cabins, RVs, trailers, small boats, 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 -10 °C to 20 °C to maximize their life and efficiency.
- The following or equivalent loads that the system can run (see table 1)

POWERTEC SOLAR

Powertec Solar Inc.
1433 Erin Street
Winnipeg, MB
Phone:855-776-9371

OFF GRID 2.0.12



- The "Off-grid 2.0.12" solar system is capable of running a loads of up to 1200Wh per day with a battery bank capacity of 2 days autonomy. This is how long you can run your loads without sunlight.

- Whether you are traveling across the country in your RV or spending quality time with your family at your cabin in the woods for the weekend, the Off Grid 2.0.12 system is an 850W DC, 12V-420Ah with a 1200W inverter capable of powering your non-demanding household appliances and a small 12VDC off grid refrigerator (see table below). The 1200W inverter has enough power to run not only the list below, but also digital cameras, small power tools, game consoles, DVD players, and a tablet.

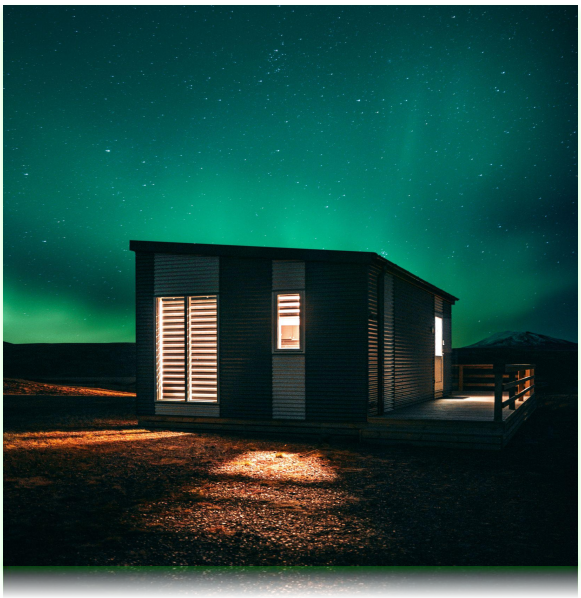
The batteries are essential for an off-grid system. We recommend keeping these batteries between -10 ° C to 20 °C to maximize their life and efficiency.

- The following or equivalent are loads that the system can run (see table 1)

POWERTEC SOLAR

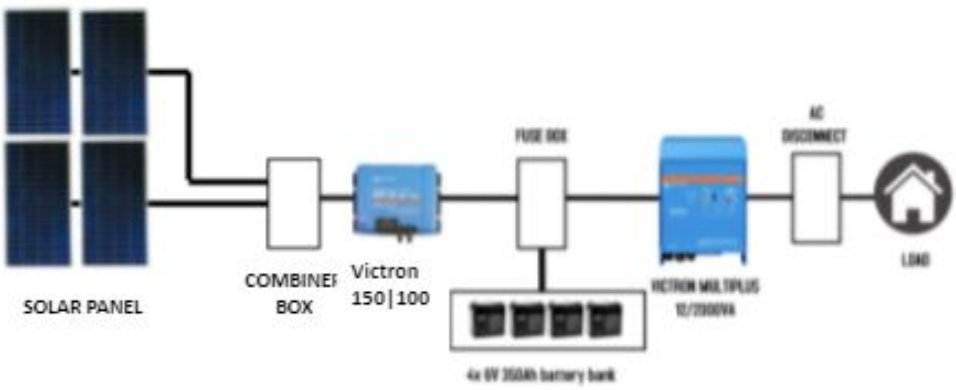
Powertec Solar Inc.
1433 Erin Street
Winnipeg, MB
Phone:855-776-9371

OFF GRID 3.0.12



- The "Off-grid 3.0.12" solar system is capable of running loads up to 1700Wh 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 3.0.12" system has 1275W DC,powered by a 12V-350 Ah battery system that gives you the freedom to run more loads than the "Off Grid 2.0.12" system.This system is able to run the low powered appliances. 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 -10 °C to 20 °C to maximize their life and efficiency.
- The following or equivalent are loads that the system can run

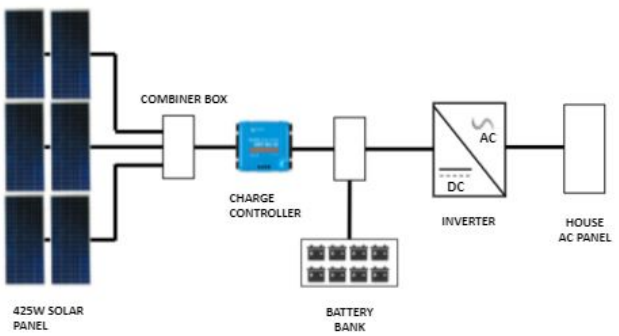


POWERTEC SOLAR
Powertec Solar Inc.
1433 Erin Street
Winnipeg, MB
Phone:855-776-9371

OFF GRID 3.5.24

- The "Off-grid 3.5.24" solar system is capable of running loads up to 3700Wh 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 2125W 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 -10 °C to 20 °C to maximize their life and efficiency.
- The following or equivalent are loads that the system can run (see Table 1)



POWERTEC SOLAR

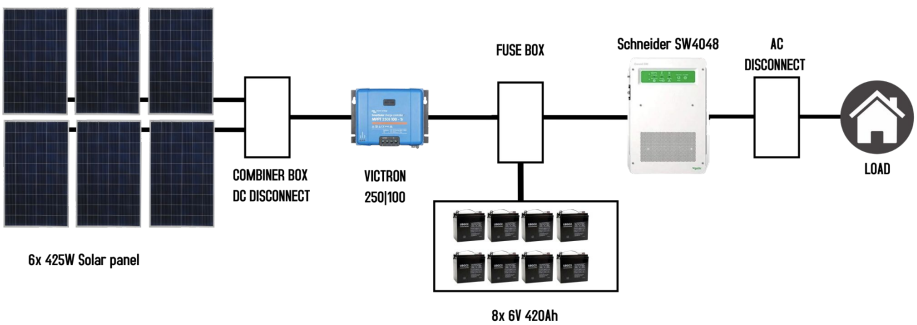
Powertec Solar Inc.
1433 Erin Street
Winnipeg, MB
Phone:855-776-9371

OFF GRID 4.0.48

- The “Off-grid 4.0.48 ”solar system is capable of running a load up to 5000 Wh per day with a battery bank capacity of 2 days of autonomy. That's how long you can run your loads without sunlight.

- The "Off Grid 4.0.48" system has 2550W DC,powered by a 48V-420Ah battery bank system that will gives you the freedom to run more loads than the "Off Grid 3.0" system. This system is able to run off grid appliances and some higher demanding appliance like coffee machine, kettle and a submersible pump, small AC fridge, small washing machine, (see table 1 for loads examples).This system is ideal for cabins, tiny homes, RVs, trailers, boats, sheds and treehouse.

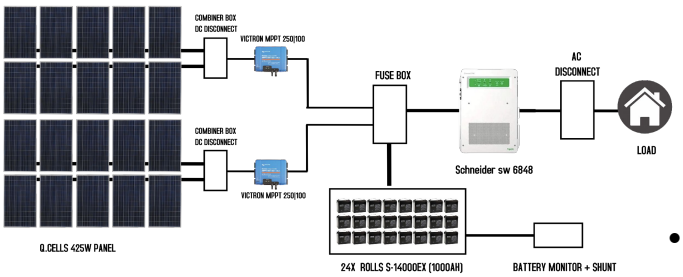
- The batteries are essential for an off-grid system. We recommend keeping these batteries between -10 °C to 20 °C to maximize their life and efficiency.



POWERTEC SOLAR

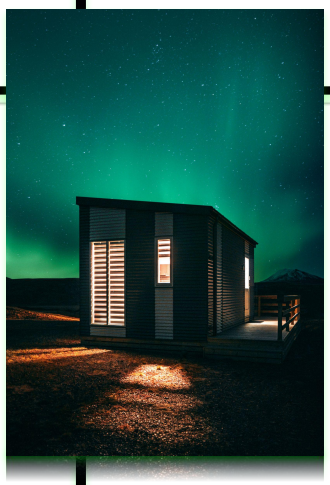
Powertec Solar Inc.
1433 Erin Street
Winnipeg, MB
Phone:855-776-9371

OFF GRID 6.0.48



- The “Off-grid 6.0.48 ”solar system is capable of running loads up to 1500Wh to 1600Wh 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 6.0.48" system has 8500W DC, powered by a 48V-1445Ah battery system that gives you the freedom to run more loads than the "Off Grid 4.0.48" system.This system is able to run off grid appliances and higher demanding appliance like coffee machine,kettle,submersible pump, AC fridge, small washing machine,microwave oven,air conditioner windows unit, dehumidifier and much more (see table for loads examples).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 -10 °C to 20 °C to maximize their life and efficiency.
- The following or equivalent are loads that the system can run (see table 1)

POWERTEC SOLAR
Powertec Solar Inc.
1433 Erin Street
Winnipeg, MB
Phone:855-776-9371



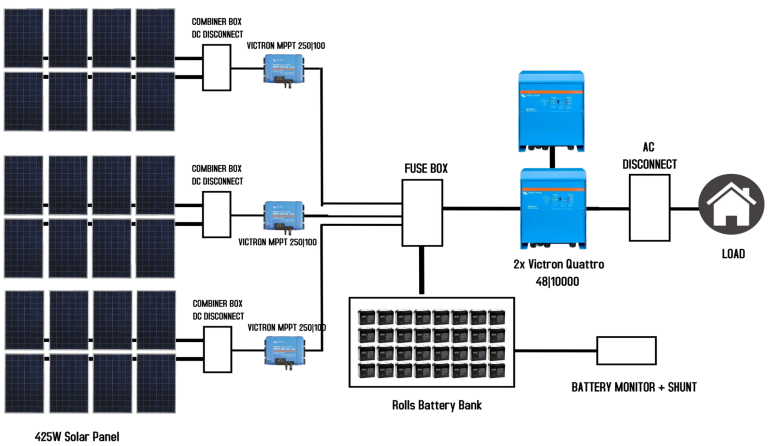
OFF GRID 8.0.48

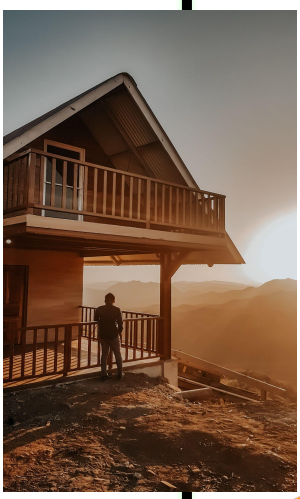
- The “Off-grid 8.0.48 ”solar system is capable of running loads up to 30 000.Wh per day with a battery bank capacity of 2 days autonomy. That's how long you can run your loads without sunlight.

- The "Off Grid 8.0.48" system has 10200WDC powered by a 48V-1445Ah battery system that gives you the freedom to run more loads than the "Off Grid 6.0" system. This system is able to run your house appliances and higher demanding appliance within the design range (see table for loads examples). This system is ideal for cabins, tiny homes,sheds,treehouse, schools, off grid emergency place and more.

- The batteries are essential for an off-grid system. We recommend keeping these batteries between 10 °C to 20 °C to maximize their life and efficiency.

- The following or equivalent are loads that the system can run

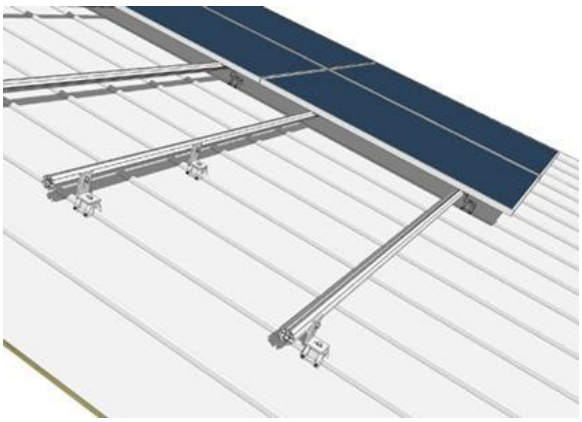




POWERTEC SOLAR

Powertec Solar Inc.
1433 Erin Street
Winnipeg, MB
Phone:855-776-9371

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.

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).

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.

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	$3,887.00
24 Panel Package	$4,051.40

POWERTEC SOLAR

Powertec Solar Inc.
1433 Erin Street
Winnipeg, MB
Phone:855-776-9371