

## PROCEDURES:

 **CAUTION: Please use the inverter INDOOR only to avoid any danger happened.**

1. Connect the solar panels or wind turbine DC cables to the DC input terminal of the inverter, and ensure that the polarity is correct. We recommend DC input cable size for the maximum output is #8 AWG or cables that can handle more than 30A. Optimal length would be less than 8m , longer cables will experience higher voltage drop. The range of output power of than solar panels or wind turbines depends on the different kinds of models.
2. Connect the supplied AC power cord to the inverter and plug it to a home wall socket.
3. The LED indicators will be turned on when the grid and DC supply are detected. This indicates the inverter is operating under the normal condition. If there is no AC grid detected, the red fault LED will be on, the inverter will not put out power.

## SPECIFICATIONS:

Model	UP8P8CM1	UP8P8CM2	UP8P8GM1	UP8P8GM2
Max. Continuous Watt	300W		500W	
DC Input Voltage Range	24V(19-41V)	48V(37-63V)	24V(19-41V)	48V(37-63V)
AC Output Voltage Range	230V(184-264.5V)			
No Load Current	≤0.1A			
Fuse	20A x 1	10A x 1	40A x 1	20A x 1
Peak Inverter Efficiency	>80%			
Operating Temperature Range	-5°C ~40°C			
Storage Temperature Range	-20°C ~50°C			
Operating Humidity Range	10% ~90%			
Storage Humidity Range	5%~95%			
Over Current Protection	Yes			
Over Temperature Protection	Yes			
Reverse Polarity Protection	Yes			
Island Protection	Yes			
Auto Restart	Yes			
Weight (Net W)	1.7Kg			
Dimension	27x18x8 cm			



Read operating instruction before Using.



MADE IN CHINA

Serial Number: MM/YY



# SMALL GRID-TIE POWER INVERTER (300W / 500W)

~ Simply plug & play green energy power system for solar/wind /DC power source ~

## INTRODUCTION:

The small grid-tie power inverter can obtain the energy from solar panels, wind turbines or other DC power sources and tie to the grid through its output cable without extra equipment. The installation is very convenient and reliable. The inverter can be connected to any outlet at home, when this line runs by the conventional electric network. It monitors the volume, frequency and phase of home grid and then produces a pure sine wave that the frequency and phase are the same as the grid's. Also, the volume is a bit higher than the grid's, according to the current controlled Pulse Width Modulation (PWM), to control the output power to the grid. The small grid-tie inverter just puts out power and feeds it into the home utility grid.

When the DC power source provided, the grid-tie inverter will change the DC voltage to AC voltage and put out power to the home grid. Once the total electric power apparatus used in the house is larger than the inverter output power, the meter. Otherwise, power from inverters will be consumed in the house, and slow down the power the difference of the inverter output between the total power of apparatus will go out from the house to the out grid. This will make the power meter run backwards or stop.

## BACKGROUND:

Nowadays, oil, coal and other fossil fuels become increasingly strained and eventually will be completely exhausted, so solar power, wind energy and other renewable energy sources are inevitable directions in the future development of the energy field. So promoting this grid-tie power inverter is an important way to solve the problem of the world's energy and environmental crisis.

Green energy power systems need a supporting body (installation place). The investment costs are high and will cause wear and tear during transmission, while ours is simple and low cost.

For example, "SOLAR ROOFS" indicates gathering the solar energy from every home roof. This initiates a new mode of clean renewable energy- "near production, local consumption".

It has now become a competition to encourage governments around the world to promote the new energy production methods.

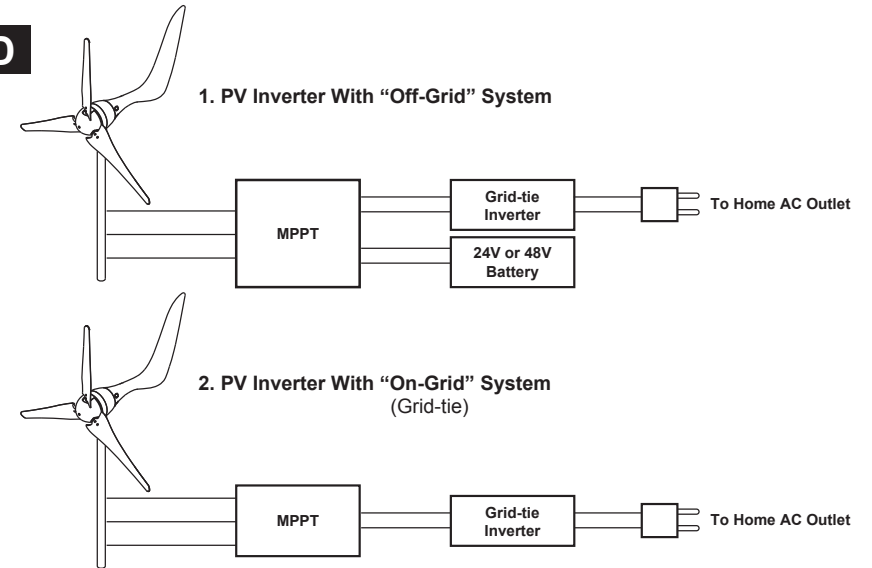
How to tie the “million solar roofs” to the grid is a great obstacle, and it is a key to promote the “Solar Roofs” by using our grid-tie power inverter.

**ADVANTAGES:**

- 1. Low cost and easy installation** - It can make full use of all types of buildings’ surface that face to the sun in the city as well as fast and easy installation of solar modules and grid-tie inverter. It’s very low maintenance costs.
- 2. Free combination** - It can be used as a separate grid-tie system and be setup as a large solar array with many of them. The quantity of the grid-tie system in an array is just according to your desire. If you are planning to install a grid tie system, in a general way, the solar array and inverter need to be carefully matched to ensure that the inverter’s voltage and power limits are not exceeded. When you want to increase more solar panels, and if the total power of the solar panels exceeds the allocation grid inverter, it is necessary to increase the cost of a grid inverter.
- 3. Combination does not interact** - The traditional solar grid-tie system offers units ranging in high power output and these units are modular, so you can have multiple units operating in parallel for large solar arrays. Although, the traditional grid inverter has MPPT feature (Maximum Power Point Tracking), the maximum power point is according to the entire series in terms of solar panel arrays. For some reason, such as leaves, bird droppings, dust, shadows, etc., degrades, the performance of the entire solar power system will decrease. Ours have no such disadvantages. If the performance of piece of solar panel in the system degrades, this just effects this piece itself without affecting others in the system.
- 4. Improving the efficiency of entire power system** - For example, in traditional grid-tie system, the solar panels are connected in series, so the MPPT of inverter runs upon the total panels in series, not to every panel. But, there is a difference between every panel, so not every panel is working at the maximum power. This may reduce the total power of these panels in series.
- 5. Low power consumption** - Most of the parts in the small grid-tie inverter are digital ICs and low power MCU, so the power consumption is low. The quantity of grid-tie inverters is increased, but this will not increase the power consumption of the entire system.

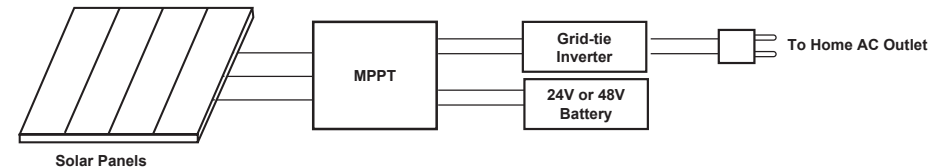
**INSTALLATIONS:**

**WIND**

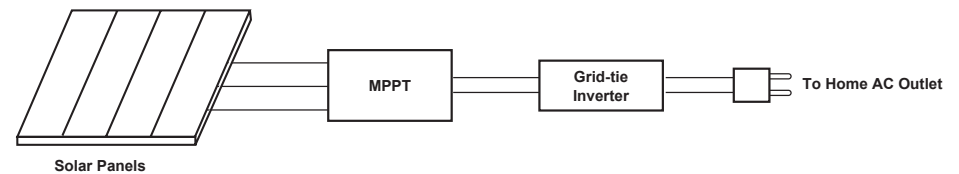


**SOLAR**

**1. PV Inverter With “Off-Grid” System**



**2. PV Inverter With “On-Grid” System (Grid-tie)**



**OTHER DC POWER SOURCES**

