Grid Tie Inverter for Wind Turbine

Model: ST500WindG

ST500WindG grid-tie inverter can transfer wind energy from wind turbines directly into the home grid using no extra equipment. It can be connected to any electrical AC outlet socket in the house. The grid-tie inverter controls the phase, frequency, and voltage of the power generated by the wind turbine. ST500WindG produces a pure sine-wave to match that of the public utility grid.

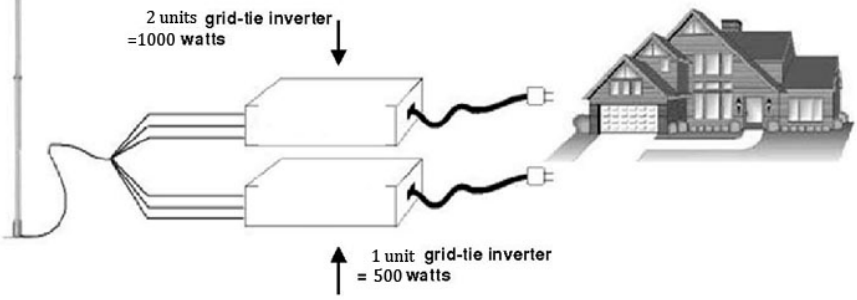
ST500WindG is designed for wind turbines that output DC voltage (22-60V limits). ST500WindG has high voltage protection feature. For example, during strong wind and when the wind turbine's dump load controlling subsystem is overloaded, the controller will disconnect itself from the wind turbine, so it is very safe to use.

Layout

There are two input terminals to be connected to the wind turbine's DC output (22-60V limits). Four LED indicators (three green and one red) indicate the state of the power source from the turbine. When the turbine is generating sufficient power to ST500WindG that is connected to the house's AC socket, the three green LED will cycle from left to right to indicate normal operation. A higher cycling rate indicates a higher power is received from the turbine. If the inverter is disconnected from the AC socket (or there is a power blackout in the neighborhood), the red LED lights up. When this happens, ST500WindG will stop its AC output. This feature is termed "Island Protection" and helps prevent electrocution to any repair person servicing the blackout on the street.

When the total power of electrical appliances used in a household is larger than the output power of the inverter(s), the power from the inverter(s) will be used first. If not, the difference of the output power of the inverter and the total power used in the household may cause the power meter to run backwards (alternatively a 2nd separate meter to be installed).
Recommendation: The first connection of the unit to the grid should be done by a licensed electrician.

Should there be need for feeding more than 500 watts into the grid, there is an option to install an additional grid-tie inverter parallel to the first unit. This allows feeding a maximum output of 1000 watts into the grid.



Electrical Specifications:

Model		ST500WindG
Normal AC Output Power		450W
Maximum AC Output Power		500W
AC Output Voltage Range	220V/230V/240V	190V ~ 260V
	110V/120V	90V ~ 130V
AC Output Frequency Range		46Hz ~ 65Hz
Total Harmonic Distortion(THD)		<5%
Power Factor		0.99
DC Input Voltage Range		10.8V~30V 22V ~ 60V(the test point is at the output of the rectifier)
Peak Inverter Efficiency		92%
Standby Power consumption		<1.5W
Output Current Waveform		Pure Sine-wave
MPPT Function		Yes
Over Current Protection		Yes
Over Temperature Protection		Yes
Reverse Polarity Protection		Yes
Island Protection		Yes
Stackable		Yes

Mechanical Specifications:

N.W	3.5Kg
G.W	4.0Kg
Dimension	332mm*265mm*135mm

Operating Temperature Range

-10 ~ 45 degrees C