

User's Manual of The Inverter With Wind/Solar Hybrid Controller

1. Security

The factors referring to body and property security have been considered during designed the products. But incorrect connection will cause to breakdown. For your security, please do everything according to the following regulation.

1. Please contact the local agent before installation, which should be guided by professional.
2. Prevent any liquid from spattering on *the inverter with wind/solar hybrid controller*. Do not clean *the inverter with wind/solar hybrid controller* with wet cloth.
3. Keep children and incapacity person away from *the inverter with wind/solar hybrid controller*.
4. Keep *the inverter with wind/solar hybrid controller* away from electrical heater, warmer and other source of heat; avoid *the inverter with wind/solar hybrid controller* under sun.
5. Please check the rated voltage of battery before connection. The rated voltages should be accord.
6. Pay more attention to connect the positive and negative pole among battery correctly.
7. The diameter of connecting cable could not be smaller, which should be suit to the current.
8. Tight and good connection among components.
9. The voltage on bare parts of *the inverter with wind/solar hybrid controller*. may cause lethal shock. **Keep away from children!**

2. General Description

The inverter with wind/solar hybrid controller is the intelligent power with integration of control and invert. It can store electrical power generated by the wind turbine and solar panels into the storage battery. Meanwhile, it can also invert direct current of storage battery into 230V alternating current for usersload.

The inverter with wind/solar hybrid controller not only has perfect appearance, LCD display and convenient operation, but also has over-charge protection, over-voltage protection, over-hot protection, under-voltage protection, pole-confusion protection for storage battery and automatic dump-load function. *The inverter with wind/solar hybrid controller* is adopted the constant voltage charging mode-PWM, and it has high reliable and safe operation, the high efficiency, long service life functions. What's more, it adopts the American origin Micro-controller as a control core component with reliable. And power parts of an apparatus adopt the import component, too.

Read this manual before installing or using *the inverter with wind/solar hybrid controller*, and save it for future reference.

3.Main Features

- ✧ Use integrated circuit, less wire connection.
- ✧ Adopting micro-processor technology, improving system integration.
- ✧ Excellent protection includes over voltage shutdown, under voltage shutdown, over load protection, short circuit protection, over temperature protection, pole-confusion protection ,automatic dump-load function ,etc.

4. Connection

1.Selecting A Suitable Location.

For safe and optimum performance, install *the inverter with wind/solar hybrid controller* in a location that is ...

- ✧ **Dry.** Do not expose to water drip or spray.
- ✧ **Cool.** Operate only in ambient temperatures between 32°F(0°C) and 104°F(40°C). Keep away from furnace heating vents or other heat producing equipment.
- ✧ **Well ventilated.** Allow at least 4 inches (10 cm) clearance above and on all sides of the unit for proper cooling.
- ✧ **Safe.** Do not install *the inverter with wind/solar hybrid controller* in a compartment with flammable liquids, such as gasoline, or explosive vapors.
- ✧ **Clean and free of dust and dirt.** This is especially important if *the inverter with wind/solar hybrid controller* is used in a work environment.

2.Power Connection.

- 1.Connect the output of wind generator to the "WIND INPUT" terminals using 4mm² cable.
- 2.Connect the output of solar to the "SOLAR INPUT" terminals, taking care of the polarity.
- 3.Connect the battery's positive pole to the positive (+) 'battery' terminal on *the inverter with wind/solar hybrid controller* using 4mm² cable, and connect the battery's negative pole to the negative(-) 'battery' terminal on *the inverter with wind/solar hybrid controller* using 4mm² cable. Be sure that the polarity is connected properly! And the length of cables should be less than 1m. Then tighten the nut on each 'battery ' terminal by hand until it is snug. Do not over tighten.
- 4.Connect the load to "AC OUTPUT".

5. Operation

1. If the " IVT switch" on front panel is turn on, the green "POWER" LED lamp will become bright to display the AC power is on. As a result, *the inverter with wind/solar hybrid controller* work and supply power to the " AC OUTPUT" terminal on front panel.

2. *The inverter with wind/solar hybrid controller* is capable of continuously powering AC products that use rated watts or less. Because the power, or 'wattage', rating of AC products is the average power they use, they initial starting power may much excess the rated power. Such as TVs, monitors, and electric motors are examples of products that have high 'surge' requirements at starting up. Although *the inverter with wind/solar hybrid controller* can supply momentary surge power as high as twice watts, occasionally some products rated less than rated watts may exceed its surge capabilities and trigger its safety overload shutdown feature. If this problem occurs when attempting to operate several AC products at the same time, try first switching on *the inverter with wind/solar hybrid controller* with all AC products switched off, then one by one switch each on, starting with the high surge product first.

6. Troubleshooting

Problem	Possible Cause	Suggested Remedy
Inverter shutdown, and LCD display 'HIGH BATTERY'	1. Battery is defective 2. Battery is in over voltage state	1. Check battery and its connection, replace it if required 2. Wait until the battery's voltage falling under the 'over voltage recovery', then the inverter will recovery automatically
Inverter shutdown, and LCD display 'LOW BATTERY'	Battery is in under voltage state	Waiting until the battery's voltage rising up the 'under voltage recovery', then the inverter will recovery automatically
Inverter shutdown, and LCD display 'OVER TEMP'.	The temperature is too high in the machine	Wait until the temperature falling down to normal then the inverter will recovery automatically
Inverter shutdown, and LCD display 'OVER LOAD'	Over load take place	Switch off the inverter and check the load, then switch on the inverter again
Fuse melted	1. Battery polarity was connected reversely 2. The inverter damaged	1. Re-connect the battery properly 2. Contact for repair

7.Maintenance

⚠ De-Energize The System Before Doing Any Repair Or Maintenance Actions.

In order to keep the electric equipment in the best conditions and to preserve its performance, we recommend to do an inspection every 6 months, by following these instructions:

- ✧ Remove dust and dirt from t *the inverter with wind/solar hybrid controller*.
- ✧ Check for any color changes or deformations of cable sheaths and components.
- ✧ Check for loosening of termination screws and slack between connectors and wires.
- ✧ Check for loosening of screws champing different parts of the module.

8.Technical Specifications

Item NO	WWSRI0303-12
Output Power	300 W
Max Wind Power Input	300W
Max Solar Power Input	100 W
Rated Battery Voltage	12 V _{DC}
Floating Charge Voltage	15V _{DC}
Over Voltage Shutdown	16 V _{DC}
Over Voltage Recovery	15.5 V _{DC}
Under Voltage Shutdown	10.5 V _{DC}
Under Voltage Recovery	12 V _{DC}
No Load Loss	0.4A
Output Wave	Modified Sine Wave
Output Vac	230V _{AC}
Total Harmonic Distortion	≤4%
Display Method	LCD
Output Frequency	50 Hz±0.05Hz
Inverter Efficiency	85%
Noise Level (1m)	≤40dB
Operation Ambient Temperature	-10~50°C
Protection Type	high battery, low battery, over load , short circuit,over temperature, pole-confusion protection for storage battery,automatic dump-load function.
Cooling	By Fan