

# Solar power inverter

## DC to AC Power Inverter User's guide

### I. Operating environment

To prevent bodily injury or property damage, follow these instructions precisely.

1. Keep the inverter dry, it can not be soaked.
2. Cool (The temperature between 0°C- 40°C.
3. Ventilation. Allow at least 5cm clearance above and on all sides of the unit for proper cooling and air circulation.

### II. Installation & Operation

1. Try turning the inverter ON, and then plug the inverter's cigarette lighter into car's cigarette lighter socket and make sure the contact is well.
2. Make sure the power of the AC appliance is within the scope of the power labeled on the inverter, plug the AC product you wish to power into the AC 110/220V, make sure the sum of the appliances output from two sockets shall not exceed the labeled power of the inverter.
3. Turn the inverter rocker switch to the ON position, the LED indicator light should glow GREEN verifying the inverter is receiving power that means it is normal.
4. The RED indicator light indicates inverter shut down caused by low or high voltage, overload or excessive temperature.
5. In many cases, the power available through car cigarette lighter socket shall not exceeds 200W around, or else the inverter will buzzing and shut down, just restarting the car and using a smaller power AC appliance instead will solve the problem.
6. Installation diagram (fig)

### III. Precautions

1. Although your power inverter can supply momentary surge power twice the power rating, there could be occasions when products rated less than their rated watts may still exceed the inverter's surge capabilities, resulting in a triggered safety overload shutdown. Appliances such as TVs, computer monitors and electric motors are examples of products whose starting load will roar up to its peak load. If this problem occurs when attempting to simultaneously operate several AC products, first switching on the inverter with all AC products (appliances) turned off. After everything is powered off, turn each appliance on one-by-one, starting with the high surge product first.
2. Starting the car engine in time to charge your battery in order to avoid battery drain.
3. After continuous use, the temperature of shell surface will rise to 60 ° C, pay attention to keep ventilation, objects that are susceptible to heat should be kept away from it.

### IV. Precautions

1. Problem: The inverter shut down and indicator light is off
  - Possible cause 1: The battery is weak.
    - Solutions: Examine the battery and replace it as necessary.
  - Possible cause 2: Batteries connected in reverse polarity.
    - Solutions: examining the battery's connection, if any damage done to inverter, it should be replaced or sent to warranty.
  - Possible cause 3: poor contact at terminals
    - Solutions: Unhook and re-hook the 12-volt connections, and try again.
2. Problem: The inverter shut down and RED indicator is on

- Possible cause 1: The rated power of AC product is higher than the nominal power of the inverter cause the overload shutdown.
  - Solutions: Try to use AC electric products whose power level is less than the converter's nominal power.
- Possible cause 2: The power of AC electric product is less than the nominal power of inverter, the rated power is quite high lead to overload shutdown.
  - Solutions: The peak power of the AC electric product should be higher than that of the inverter, try to use electric products with the same peak power as the inverter.
- Possible cause 3: The battery runs out(the inverter gives an alarm)
  - Solutions: Charge or replace the battery
- Possible cause 4: The ventilation is not well, give rise up to overheat and shutdown.
  - Solutions: Turn off the connected load device and let the inverter cool for about 15 minutes, remove all the item around the fan and inverter, then keep it in the cool place and restart it for powering a smaller load as required.
- Possible cause 5: The input voltage is too high
  - Solutions: check the status of charging system and the 12-volt battery output.
- 3. Problem: Output voltage of the inverter is too low.
  - Possible cause: A general voltage meter used for measurement of AC power gives small measurement range,
    - Solutions: True RMS Voltmeter is adopted for output measurement of the square wave inverter in order to obtain accurate data.
- 4. Problem: The inverter sends out alarm glare
  - Possible cause: low-voltage and overheat protection
  - Solutions: Shorten the wire cable and use the thicker wire cable to charge the battery, the inverter can power smaller loads and would better to be cooled and placed in a well ventilated area.
- 5. Problem: Inverter can only drive small power load
  - Possible cause: Electric power is being attenuated when electricity flows through the wire.
    - Solutions: shorten the wire cable and choose a thicker wire cable instead.
- 6. Problem: The battery life is too short.
  - Possible cause 1: AC product's power consumption is higher than rated load of inverter.
    - Solutions: Using larger capacity batteries or replace battery.
  - Possible cause 2: Battery is damaged or being charged insufficiently.
    - Solutions: The battery never being charged sufficiently from battery chargers, therefore replace a better intelligent battery charger.
  - Possible cause 3: The electric current attenuates when flows through the wire cable.
    - Solutions: Shorten the wire cable and try to use a thicker one instead.

## Especificaciones

- Protección a la entrada por conexión inversa: Fusible (interno).
- Indicadores luminosos: Verde para encendido, rojo para fallo.
- Refrigeración: Ventilador.
- Temperatura máxima de trabajo de la carcasa: < 75 °C.
- Algunos inversores no están diseñados con alarma de tensión de entrada baja. En ese caso la protección por tensión baja es a 9.5 V ± 0.3 V.
- Sonidos:
  - X X X Carga normal (*Normal load*).
  - - - - Funcionamiento a plena carga (*Full load operation*).
  - . . . . . Sobrecarga (*Overload*)

## Output

<b>Potencia nominal</b>	80W, 150W, 200W, 300W, 500W, 800W, 1000W, 1200W, 1500W, 2000W, 2500W, 3000W, 4000W, 5000W	
<b>Potencia pico</b>	≥ Potencia nominal * 2	
<b>Voltaje salida</b>	AC 100/110/115/120V (ajustable internamente) ± 10%	AC 200/220/230/240V (ajustable internamente) ± 10%

<b>Frecuencia salida</b>	60 Hz $\pm$ 5 Hz, 50 Hz / 60 Hz opcional	50 Hz $\pm$ 5 Hz, 50 Hz / 60 Hz opcional
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## Input

<b>Voltaje batería</b>	12 V	24 V	36 V	48 V	60 V
<b>Corte por voltaje alto</b>	15 V $\pm$ 1 V	30 V $\pm$ 2 V	45 V $\pm$ 2.5 V	60 V $\pm$ 3 V	75 V $\pm$ 3.8 V
<b>Alarma de voltaje bajo</b>	10.5 V $\pm$ 0.3 V	21 V $\pm$ 0.5 V	31 V $\pm$ 1 V	41 V $\pm$ 1.5 V	52 V $\pm$ 2 V
<b>Corte por voltaje bajo</b>	10 V $\pm$ 0.3 V	20.3 V $\pm$ 0.5 V	30 V $\pm$ 1.5 V	40 V $\pm$ 2 V	51 V $\pm$ 2.5 V
<b>Rango de voltaje de entrada</b>	10 V a 15 V	20 V a 30 V	30 V a 45 V	40 V a 60 V	50 V a 75 V

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