

**USER'S GUIDE
PURE SINE WAVE POWER INVERTER**

Cod: PSUP-INV/PSW-12V300W-WL

PSUP-INV/PSW-12V600W-WL

PSUP-INV/PSW-12V1000W-WL

PSUP-INV/PSW-12V2000W-WL



Thank you for choosing a WELL product. Please read carefully the following instructions and keep them within reach.

INTRODUCTION

To get the most out of your power inverter, proper installation is critical. Please read the installation and operating instructions in this manual carefully before installing and using your power inverter. Pay special attention to the **CAUTION:** statements in this manual. **CAUTION:** statements identify conditions or practices which could result in damage to your power inverter or to other Equipment.

INTRODUCTION

The power source must provide between 10 and 15 volts DC and must be able to supply sufficient current to operate the load. As a rough guide line, divide the power consumption of the load (in watts) by 10 to obtain the current (in amperes) in the power source must deliver.

Example: Load is rated at 300 watts. Power source must be able to deliver: 300 divided by 10=30 amperes.

CAUTION: Rechargeable batteries and devices with rechargeable batteries may not be suitable for use with the power inverter. The rechargeable batteries, recharging transformer and/or the power inverter may be damaged when trying to recharge devices of 24 volts and higher. The power inverter will not operate from a 6 volt battery. Refer to the manufacturers specifications when using these devices.

PLACEMENT OF THE INVERTER

For best operating results, the inverter should be placed on a flat surface, such as the floor or seat of the vehicle. The inverter should only be used in locations that meet the following requirements:

- A.) **DRY** – Keep away from water. Do not allow water to drip or splash on power inverter.
- B.) **COOL** – Ambient air temperature should be between 10 degrees and 30 degrees C. Do not place the inverter on or near a heating vent or any piece of equipment which is generating heat above room temperature. If avoidable, do not place the inverter in direct sunlight.
- C.) **VENTILATED** – Allow at least one inch of clearance around the power inverter for air flow. Do not place anything on or over the inverter during operation. Make sure that the air is allowed to circulate freely around the unit.
- D.) **SAFETY** – Do not use the power inverter near flammable materials or in any location which may accumulate flammable fumes or gases, such as the battery compartment of your car, truck, RV, or boat. This product is not suitable for use while traveling using battery clamps. The length of the wire cables and battery clamps are not designed for this operation. If you wish to operate the inverter while moving, the power inverter May be permanently mounted and wired.

Warning: The battery will increase with the use of life and aging problems, once the battery aging, the need for professionals to do the replacement or treatment, or the battery may be due to leakage and other hazards caused by the proposed annual maintenance of the battery on a regular basis.



No Disassembling



No Humidity



No Fire or High Temperature



Don't pile Up Sundries



Keep Ventilation

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CONNECTING TO THE POWER SOURCE

The proper gauge of the battery cables can only be properly determined when Calculating the length of the cables from the inverter to the battery. These cables may be purchased from any automotive, marine or home center. (See Fig. 1)

CAUTION: DO NOT USE WITH POSITIVE GROUND ELECTRICAL SYSTEMS.

CAUTION: MAKE SURE THE POWER INVERTER IS OFF.

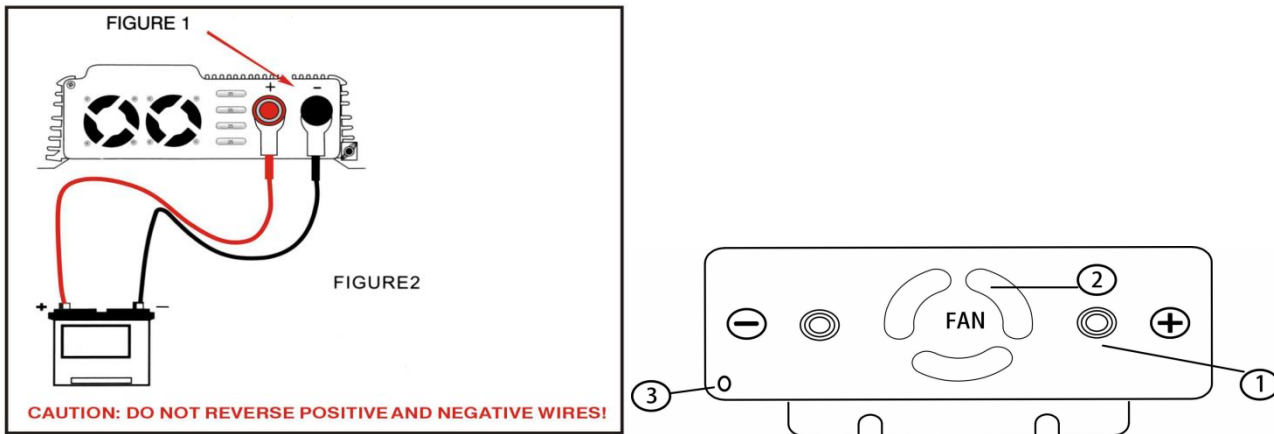


FIGURE 1

Loosen the caps on the terminals and slide the lugs between the cap and the base. Then tighten firmly.

DC INPUT CABLE SIZES (cable sizes under 8)

GROUND CONNECTION

Rated Current	Wire CSA(m m ²)	Wire Gauge, AWG
16-25A	2.5	12
25-32A	4.0	10
32-40A	6.0	8
40-60A	10.0	6
60-80A	16.0	4
80-100A	25.0	2
100-125A	35	1
≥125A	50	0

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BATTERY OPERATING TIME

The typical vehicle battery has a minimum operating time of 1 to 2 hours, depending on the current use of the load being driven. We recommend that the operator start the vehicle every hour to recharge the battery system. This will prevent unexpected shut downs of equipment and will ensure that there is always sufficient battery capacity to start the engine.

OPERATING TIPS

RATED VERSUS AC TUALUSE OF EQUIPMENT

Most electrical tools, appliances and audio/video equipment have a label indicating power consumption in amps or watts. Add up the power consumption in those items you will be using simultaneously, keeping total below max power of inverter. If the power consumption is rated in amps, multiply by the AC volts 220-240 to determine the wattage. For example, a television rated at 0.9 amps will use 99 watts, well within the limits of what the power inverter can handle on a continuous basis. For more information regarding the typical wattage draws of many appliances, please refer to the table on the back of this manual.

Resistive loads, such as incandescent lights, are the easiest for the inverter to drive, though larger resistive loads, such as electric stoves or heaters, require more power than the power inverter can deliver continuously. Inductive loads, such as TV's and stereos (any device with a coil or a transformer in it) require more current to operate than a resistive load of the same power rating. Induction motors (motors without brushes), as well as some televisions, may require 2 to 6 times their power rating to start up. This condition may require repeated "ON/OFF, ON/OFF" several times switching of the power switch on your power inverter in order to get them started. The most demanding are those that start under load, i.e. compressors and pumps. Since motor and television characteristics vary widely, only experimentation will determine if a specific load can be started and how long it can be run.

There are no standards for "surge power" partly because it can not be simply represented by a simple of single sample number. Though the 300w power inverter can provide power up to 600 watts for a short period, experimentation is the only method of determining whether it can handle the surges generated by a particular load.

IMPORTANT NOTE: The power inverter will not operate most appliance designed to produce heat, such as hair dryers, coffee makers, irons, heaters, and toasters. The current use of most of these exceeds rated power watts, far beyond the capacity of this unit. The inverter may be used either while engine is running or turned off. However, the inverter may not operate while the engine is starting, since the battery voltage can drop substantially during cranking. The power inverter draws less than 1.3 ampere from the battery when it is not supplying power to the load. In most cases, the power inverter may be left connected to the battery when it is not in use, since it draws so little current. If the vehicle will not be used for several days, disconnect the power inverter from the battery.

Protection Functions

Your power inverter circuitry constantly monitors the following hazardous conditions:

Input Protection

- A). Battery polarity reverse polarity protection: When the battery input polarity reverse, Inverter internal or external fuse will be cut off and blown, the Inverter should be returned to the original maintenance. (For easy rechargeable fuse: fuse external, the end-user can open and replace it easily, then the inverter can work normally again);
- B). Battery low voltage protection: When the battery voltage is lower than the specification value, Inverter will automatically turn off the AC output and alarm 3 sound failure light long. This condition is not harmful to the inverter, but could damage the power source. An audible alarm is sounded when input voltage drops to 10.5 volts. The inverter shuts down when input voltage drops to 10.0 volts.
- C). Battery high voltage protection: When the battery voltage is higher than the specification value, Inverter will automatically turn off the AC output and alarm 4 sound failure light long.

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WARNING:

When using this series of Inverter, enter the battery pack, the voltage condition is configured for normal operating voltage (The voltage marked by the specification).

If the configuration voltage is too low (such as 12V models with 6V input), then Inverter will not boot properly.

If the configuration voltage is too high (such as 12V models with 24V input), then Inverter will be destructive damage.

Buzzer	Fault Information
1 beep	Normal working :Green LED is on, shows the inverter is normal.
2 beep	low voltage Warning: The storage battery voltage is running out.
3 beep	Low voltage Protection: Red LED is on, shows the battery voltage is too low or depleted
4 beep	High voltage Protection: RED LED is on, shows the battery voltage is too high.
5 beep	Overheating Protection: RED LED is on, shows the interior of the inverter is overheating.
Continuous beep	Inverter overloading protection: 10s after closing AC output(need to restart the inverter switch).

Output Protection

If an abnormality occurs, the unit will display a fault message lamp (see Table below) for troubleshooting reference.

- A) over-temperature protection (OTP): When Inverter internal temperature is too high (70 degrees), will occur OTP protection, and alarm 5 sound prompt (continuous alarm) fault LED light long, when the temperature dropped to 60 degrees, automatic recovery normal status.
- B) AC output short circuit protection: When the Inverter output occurs the short circuit, we need to restart the inverter to check and remove the faults (or the fault loading) , then the inverter product can recover to work automatically or rework manually;
- C) battery voltage abnormal protection: when the battery voltage is too high or too low occurs. Inverter will automatically restart if the battery voltage change into the safe voltage range .
- D) Overloading protection (OLP): When the loading $\geq 120\%$ and $\leq 145\%$, the embedded buzzer alarm 10 sec continuous and then turn off the AC output, panel FAUL indicator flashes . Take off the overload, reset the inverter switch and work normally again).
- E) Output overload protection (OLP): When the load $\geq 145\%$, after 2 sec alarming, and cut off the AC output, the panel FAULT indicator flashes. Take off the overload, reset the inverter switch and work normally again)

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TROUBLE SHOOTING GUIDE		
PROBLEM:	POSSIBLE CAUSES:	SUGGESTED REMEDY:
Unit will not operate	Inverter not adequately warmed up. Be sure the environmental temperature	Turn Inverter power switch off and on until it powers your appliance.
	Battery voltage is below 10 volts.	Repeat as necessary until appliance starts.
	Equipment being operated draws too much power	Charge or replace battery.
	Inverter in thermal shut down condition.	Reduce load to maximum watts.
	Battery in poor condition. Have battery checked.	Inverter must cool down. Check for good ventilation. Make sure load is less than max continuous power. Replace battery
Low Voltage Alarm On Continuously	Insufficient power or large voltage drop.	Check condition of alligator clips. Clean or replace as necessary.
Low Output Voltage	Using average reading voltmeter.	Use true RMS reading meter.
	Inverter is overloaded.	Reduce load to continuous watts to maintain regulation.
	Input voltage below 11.0 volts.	Keep input voltage above 11.0 volts to maintain regulation.
Television Interference	Snow Picture is breaking up.	<ul style="list-style-type: none"> a.) Locate the power inverter as far as possible from television, the antenna, and the antenna cables. b.) Adjust the orientation of the power inverter antenna cables, and the TV power cord to reduce interference. c.) Make sure that the antenna feeding the television provides an adequate ("snow free") signal and that high quality, shielded antenna cable is used.

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PRODUCT INFORMATION

Item	300	600	1000	1500	2000	2500	3000
Max continuous power	300W	600W	1000W	1500W	2000W	2500W	3000W
Peak power	600W	1200W	2000W	3000W	4000W	3000W	6000W
Max efficiency	>90%	>90%	>90%	>90%	>90%	>90%	>90%
Input voltage(DC)	DC 12V (DC 10-15V)						
Low Voltage shutdown /alarm activation	10±0.5Volts						
	10.5±0.5Volts						
Output voltage(AC)	220-240V						
Frequency	50Hz±5%						
Output waveform	Pure Sine Wave						
THD	Sine wave output (THD <3%)						
With cooling fan	With						
Protection	Short circuit protection, Overload protection, High temperature protection, Over voltage protection, Reverse Polarity protection. Full input and output protection.						
Working temperature	Max. 40°C						
Remarks							

Ecological information: Waste electrical and electronic equipment are a special waste category, collection, storage, transport, treatment and recycling are important because they can avoid environmental pollution and are harmful to health. Submitting waste electrical and electronic equipment to special collection centers makes the waste to be recycled properly and protecting the environment. Do not forget! Each electric appliance that arrive at the landfill, the field, pollute the environment!



Symbol for the marking of electrical and electronic equipment

Importer & distributor:

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