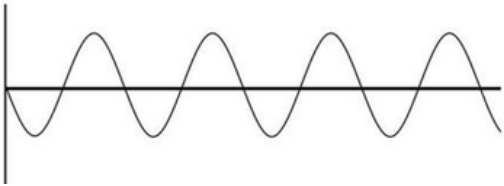


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# INSTRUCTIONAL MANUAL



***PURE SINE WAVE***

## POWER INVERTER

- ☐ **300 WATT**
- ☐ **600 WATT**
- ☐ **1000 WATT**
- ☐ **1500 WATT**
- ☐ **2000 WATT**
- ☐ **3000 WATT**

**SOFT START TECHNOLOGY**

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# Welcome

Please read this manual thoroughly before installing and operating your new Power Inverter. This manual contains information you need to obtain the performance required for your application. Keep this manual for future reference.

The Inverters convert low voltage, direct current (DC) to 230 volt pure sine wave (PSW) alternating current (AC). The inverter draws power from 12 volt or 24 volt, deep-cycle batteries such as those used for marine, golf cart, and fork-lift or from other high current 12 or 24 volt sources.

## WARNINGS:

- *This is not a toy. Keep out of reach from children*
- *DO NOT install near flammable materials*
- *DO NOT use or make connections in mark or designated as IGNITION PROTECTED*
- *DO NOT expose to rain, snow, water, or any other liquids*
- *DO NOT use with positive ground electrical systems*
- *NEVER connect the inverter to AC distribution wiring*
- *DO NOT plug foreign objects into the receptacles*
- *DO NOT open, there are no user serviceable parts inside*



**CAUTION: SERIOUS SHOCK HAZARD.** The inverter should only be serviced by qualified personnel.

This pure sine wave power inverter converts

☐ 12V (10–15V)

☐ 24V (20–30V)

DC battery power into AC power of **220-240V /50Hz**

You can use the inverter in your vehicle, boat or at home to operate almost any type of appliances that use AC power such as TVs, VCRs, portable computers, power tools and lights for emergency use, or camping use. Also, the pure sine wave power inverter can operate the higher-end equipments and is ideal for operating sensitive loads.

## ***Inverter operating equipments reference chart***

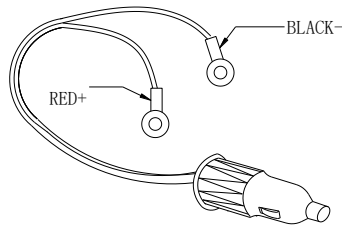
*(Notes for reference only! Starting up power may vary for different brand appliances!)*

<b>Audio / Video Equipment</b>	<b>Power</b>	<b>300W</b>	<b>600W</b>	<b>1000W</b>	<b>1500W</b>	<b>2000W</b>	<b>3000W</b>
12 Inch color TV	16W	✓	✓	✓	✓	✓	✓
Games console	20W	✓	✓	✓	✓	✓	✓
Satellite TV receiver	30W	✓	✓	✓	✓	✓	✓
CD changer / mini system	60W	✓	✓	✓	✓	✓	✓
27 Inch color TV	170W	✓	✓	✓	✓	✓	✓
240W RMS stereo amplifier	250W	✓	✓	✓	✓	✓	✓
Home theatre system	500W		✓	✓	✓	✓	✓
<b>Domestic Appliance</b>	<b>Power</b>	<b>300W</b>	<b>600W</b>	<b>1000W</b>	<b>1500W</b>	<b>2000W</b>	<b>3000W</b>
halogen work light	100W	✓	✓	✓	✓	✓	✓
Clothes washer (horizontal)	250W	✓	✓	✓	✓	✓	✓
Blender	350W		✓	✓	✓	✓	✓
Hair curler	750W			✓	✓	✓	✓
Microwave - 750W	900W			✓	✓	✓	✓
Vacuum cleaner	900W				✓	✓	✓
Coffee maker	1200W				✓	✓	✓
Dishwasher - hot dry	1450W					✓	✓
Large Hob	2000W					✓	✓
Air conditioner	2500W						✓
<b>Home Office</b>	<b>Power</b>	<b>300W</b>	<b>600W</b>	<b>1000W</b>	<b>1500W</b>	<b>2000W</b>	<b>3000W</b>
Inkjet printer	35W	✓	✓	✓	✓	✓	✓
satellite laptop computer	40W	✓	✓	✓	✓	✓	✓
Fax machine - printing	50W	✓	✓	✓	✓	✓	✓
Desktop computer	350W		✓	✓	✓	✓	✓
Laser printer	900W			✓	✓	✓	✓
<b>Lighting</b>	<b>Power</b>	<b>300W</b>	<b>600W</b>	<b>1000W</b>	<b>1500W</b>	<b>2000W</b>	<b>3000W</b>
100W incandescent light	100W	✓	✓	✓	✓	✓	✓
Twin work light	900W			✓	✓	✓	✓
<b>Power tools</b>	<b>Power</b>	<b>300W</b>	<b>600W</b>	<b>1000W</b>	<b>1500W</b>	<b>2000W</b>	<b>3000W</b>
Glue gun	20W	✓	✓	✓	✓	✓	✓
Buffer	77W	✓	✓	✓	✓	✓	✓
Rotary power tool	126W	✓	✓	✓	✓	✓	✓
5 Inch bench grinder	180W	✓	✓	✓	✓	✓	✓
industrial sander	220W	✓	✓	✓	✓	✓	✓
1/2 Inch reversible drill	620W			✓	✓	✓	✓
Grinder, 1/2hp	1080W				✓	✓	✓
14 Inch chain saw	1200W				✓	✓	✓

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## BASIC OPERATION

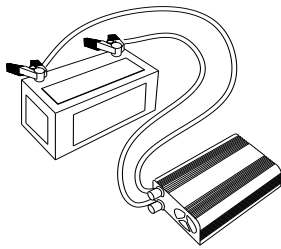
- Use the right operating voltage for both input and output of the inverter.
- Powering devices with power rating:
  - Less than 150 Watts by connecting the cigarette lighter plug into the vehicle's cigarette lighter socket.



*( picture for reference only)*

***Note: cigarette light plug cable is not a standard accessory for all models. This is only for model 300W!***

- More than 150 Watts by connecting RED terminal from inverter to + of battery terminal and connect BLACK terminal from inverter to – of battery terminal.



*(picture is just for your ref. real product may be different )*

- Insert the plug of your appliances into AC socket at the front of the inverter.
- Turn ON the power switch that is located at the front of the inverter, and the green LED light will light as indicator that the unit at work.

### CAUTION:

- Do not power more than 150 watts when the power inverter is connected to the car cigarette lighter socket power supply. Doing so might damage your car's fuse.

### RECOMMENDATION

- If the power inverter makes beeping sound, turn OFF the power inverter and disconnect all appliances from inverter and disconnect the inverter from the power supply. The beeping sound is simply the low battery warning, which indicates that the voltage of the battery power supply is getting low. Please restart the vehicle engine before operating the power inverter.

### Note:

The audible alarm may make a momentary "chirp" when the inverter is turned OFF. This same alarm may also sound when the inverter is being connected to or disconnected from the battery bank.

- When you are not using the inverter, turn the switch to OFF and disconnect the inverter from the power supply.
- Disconnect the inverter when starting the vehicle's engine.

### BATTERY USE

TO avoid over-discharging your vehicle's battery, you should run your engine for 10-20 minutes to recharge the vehicle's battery after 2-3 hours of operating the inverter.

If you choose to connect the vehicle directly to your battery terminals, it is important to connect with right polarity

(Connect RED from inverter to + of battery terminal and connect BLACK from inverter to – of battery terminal)

**CAUTION:**

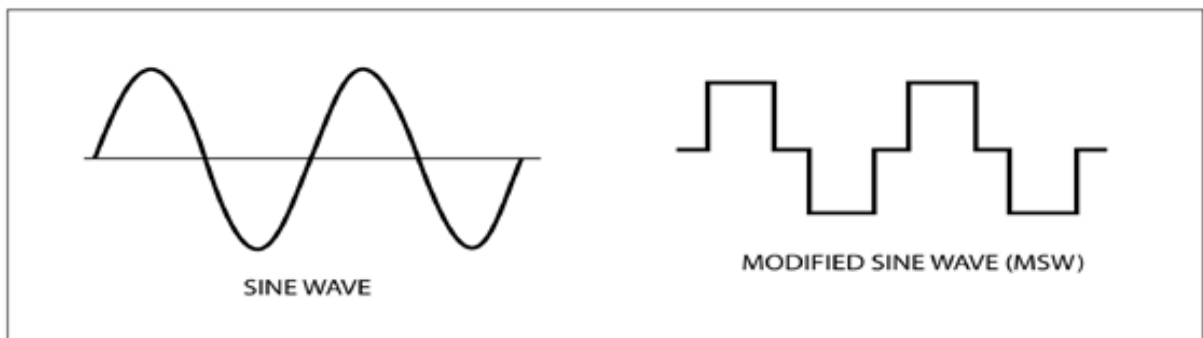
*the followings operation will damage the unit:*

- *reverse polarity by connecting the wires to the incorrect terminals.*
- *connecting the battery charger to replenish battery without disconnecting the inverter first.*
- *operating the inverter and battery in or around water.*

**MEASURING THE AC VOLTAGE**

If you plan to measure the true output R.M.S. voltage of the inverter, a meter such as FLUKE 87A, BACKMAN4410 or TRIPLETT 4200 must be used.

**Waveform comparison**



**SAFETY PRECAUTION**

Do not open the case of the inverter. The high voltage inside the unit is the same type of power as our electrical outlets at home.

Do not let the cord of the inverter or any appliance's cord get wet.

Do not operate the inverter in or around water. The voltage of the unit makes electrical shock hazard if operated in wet conditions.

Do not connect the AC inverter directly to another AC power source.

Allow at least 1 inch of clearance around the inverter for airflow.

If you operate the inverter in a moving vehicle, you need to secure the inverter to prevent it from shifting around while the vehicle is moving.

If there is anything wrong with the inverter, disconnect all of the power.

**TROUBLE SHOOTING**

TRouble/INDICATION	POSSIBLE CAUSE	SUGGESTED REMEDY
No AC output—the Red LED is ON	DC input below 10 Volts (DC12V Model) or 20 volts (DC24V Model) Excessive load	•Recharge or replace battery Reducing load
No AC output —inverter is cold	Poor connect with the battery.	•Disconnect load from inverter. Reconnect the unit to power source.
Motorized appliance will not start	Inadequate DC power supply Bad wiring or connection Appliance is excessive	Use battery of adequate size Use appropriate DC input cables Check all DC connection
Shut down after operating for a long time	•Over-temperature	•Disconnect the inverter and put aside for while to cool down the unit.
Shut down after operating short time, inverter is cold	Over-Load	Reduce the wattage of the inverter' s load

**MAINTENANCE**

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Very little maintenance is required to keep the inverter operating properly.

### PROTECTION FEATURES

Low Battery alarm and shutdown - the inverter sounds an audible alarm then turns itself off if the source battery becomes too low.

Auto shutdown/reset protection--- the inverter temporarily shuts itself down to protect itself from overheating.

Overload/Short Circuit Protection--- the inverter automatically turns itself off if the connected load is too high or if it shorts.

### HEAT DISPERSAL

The inverter generates heat while it is working. This is not a malfunction. However, if the inverter gets too hot while working, it will turn off by itself.

Position the inverter where air flows freely around it to allow the heat to disperse.

The inverter's thermal protection prevents it from operating when its temperature exceeds 60+/-5 °C.

### SPECIFICATION

Name	Description
Output waveform	Pure Sine Wave
THD	less than 4%
Continuous power	300W/600W//1000W/1500W//2000W/3000W
Surge power	600W//1200W/2000W/3000W/4000W/6000W
Best efficiency	Approx. 85%
Battery low shutdown	10+/-0.5VDC or 21+/-0.5VDC
Battery low alarm	10.5+/-0.5VDC or 22+/-0.5VDC
High voltage shutdown	15.5+/-0.5VDC or 29+/-0.5VDC
Thermal shutdown	140+/-9°F (60+/-5°C)
With LED indicator of input voltage and output Wattage	Model of 1000W, 1500W, 2000W, 3000W
With Priority Switch	Optional
With Wireless Remote control	Optional
AC output sockets	Shuko socket

### ★ Description of Priority Switch

*We have certain models of power inverters with the built-in function of Priority Switch. The working way of priority switch is as followings:*

*At the front endplate of the inverter, we have an input connecting socket to AC power. When you connect to AC power source from the socket, the inverter will bridge to the AC input power and the AC output of the inverter is from the AC power source. This means you are using the AC power source directly and the inverter DC to AC power stop working as to save the DC battery power. If the AC power source is removed or AC power cut off, the inverter will bridge to the DC battery power simultaneously and DC to AC resumes working again.*

*Attention: You should never use the inverter AC output power more than the rated power even if you are using the power from AC power source as this may damage our Priority Switch.*