

# 750W Power Inverter

## OWNER'S MANUAL

Model number -457750

# *NPower*<sup>™</sup>



**Keep away from WATER、 FIRE、 SMOKE!**

TO REDUCE THE RISK OF INJURY, USER MUST READ AND UNDERSTAND THIS INSTRUCTIONAL MANUAL. THIS MANUAL CONTAINS IMPORTANT INFORMATION REGARDING THE OPERATION AND WARRANTY OF THIS PRODUCT. PLEASE RETAIN FOR FUTURE REFERENCE.

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# 1. Introduction

Thank you for purchasing the NPower 750W Power Inverter, a high performance solution to use household power while on the road. Connected to the 12V volt output in your vehicle, the inverter efficiently and reliably supplies 110V/60Hz AC power for a wide variety of loads, such as all kinds of jacklights, TV sets, audio/video systems and electromotion tools with power consumption under 750 watts. It has been tested and found to be in line with the requirement of ETL certification. With proper care and appropriate usage, it will give you years of dependable service in your car, truck, RV and boat.

The inverter has the safety features such as over input voltage shut off, low input voltage shut off, low input voltage alarm, low voltage turn-off resume, over heating self-lock, overload self-lock, short circuit protection, built-in internal backup DC fuse. The LED indicator will directly display input power and errors. The unit is not designed to be waterproof. It applies to the ambient temperature for 32°F~104°F (0°C~40°C) .

## 2. Important Safety Information

For safe and optimum performance, the inverter must be installed and used properly. Carefully read and follow the guidelines in this guide and give special attention to the **CAUTION** and **WARNING** statements.



**CAUTION: Instructions provide information that could damage your inverter or equipment connected to it!**



**WARNING: Instructions provide information on conditions that could result in personal injury or loss of life!**



**Warning!**

Shock hazard! Keep away from children!



**Warning!**

The inverter produces the same potentially lethal AC power as normal household outlets. It is suggested that you treat it as normal AC outlet.

 **Warning!**

The case to the unit may become very warm under high power operation reaching 140°F(60°C). Be sure that there is at least 2 in (5cm) of unobstructed air space around the entire surface of the inverter at all times. During use, do not place materials that could be damaged by heat near the unit.

 **Warning!**

Do not operate the unit near flammable fumes or gases such as the cabin of a gasoline power boat, or near propane tanks.

 **Warning!**

Do not operate the unit in an enclosed area that contains automotive type lead-acid batteries. This type of battery emits explosive hydrogen gas which can be ignited by sparks.

 **Warning!**

Always make all AC connections before making DC connections or the components built into the inverter can become energized producing an electrical shock hazard. Never work on the AC wiring without first physically disconnecting the DC connections.

 **Caution!**

Do not connect the unit to live AC power circuits or there would be damage to the inverter. Do not connect any AC device which has its neutral conductor connected to ground to the unit.

 **Caution!**

Some chargers for small nickel-cadmium batteries can be damaged if connected to the unit. Do not use the unit on the following items:  
Small battery-operated appliances such as flashlights, razors and nightlights those can be plugged directly into an AC outlet to recharge.

- Certain battery chargers for battery packs used in hand power tools. These chargers will have a warning label indicating that dangerous voltages are present at the battery terminals.

**⚠ Caution!**

Connect the unit to batteries with a normal output of 12V DC only. As 6V batteries voltage is too low, and a 24V battery voltage is too high which will damage the unit.

**⚠ Additional Safety Guidelines!**

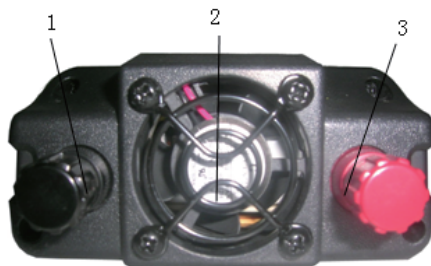
Do not insert any foreign objects into the unit outlets, vents or fan openings. Do not expose the unit to rain, water or any other liquid.

Do not connect the unit to any utility power distribution systems or branch circuits.

Do not use the inverter in temperatures over 104°F(40°C) or under 32°F(0°C).

**Failure to follow these safety guidelines will result in personal injury and/or the damage to the unit. It may also void the warranty.**

### 3. Features

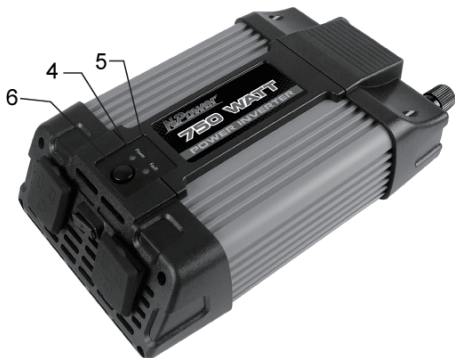


**Fig. 1: DC Input Panel**

**1 Negative DC terminal**—Connect the black end of the DC power cord to it.

**2 Cooling Fan and Ventilation Openings**—The high speed cooling fan protects the inverter from over-heating.

**3 Positive DC terminal** —Connect the red end of the DC power cord to it.

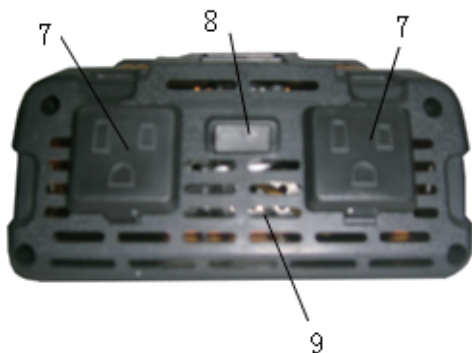


**Fig. 2**

**4 Green LED Indicator**— When there is DC power input, the green LED indicator lights.

**5 Red LED Indicator**— When the inverter has shut down because of low or high input voltage, the red LED indicator lights.

**6 Button Power Switch**— Connect the inverter to the DC power and press down the button power switch, the AC power is available.



**Fig.3: AC Outlet Panel**

**7 AC Outlets**— They allow you to plug in 110V AC products with a total continuous of 750W or less.

**8 USB Port**— Offer 5V power to USB equipment.

**9 Ventilation Openings**—The ventilation openings should not be covered at any time while the inverter is operating.



**Fig.4: Wiring**

**10 DC Cable with Clips**—Connect the red clip to the positive terminal of the battery, and the black to the negative.

## 4. Connecting the inverter

The unit must be operated in an area that meets the following requirements in order to operate safely and provide optimum performance:

	Description
Dry	Don't allow water or other liquids to drop or splash on the unit.
Cool	Ambient air temperature should be between 32°F and 104°F (0°C~40°C) (the cooler the better within this range) .
Ventilated	Leave at least 2in (5cm) clearance around the unit for air flow. Ensure that the ventilation openings are not obstructed.

Safe	Do not operate the unit in the same compartment as batteries or in any compartment capable of storing flammable liquids like gasoline.
Clean	Do not operate the unit in an area that is prone to dirt, dust or debris. Especially important if used in a work environment.

Your 750W Power Inverter supplies 750 watts of continuous power with 1500 watts of surge power. When you turn on an appliance or a tool that operates using a motor or tubes, it requires an initial surge of power to start up. This surge of power is referred to as the “starting load” or “peak load”. Once started, the tool or appliance requires less power to continue to operate. This is referred to as the “continuous load” in terms of power requirements. You will need to determine how much power your tool or appliance requires to start up and its continued running power requirements.

The inverter should be connected to your vehicle’s 12 Volt Cigarette or power outlet socket with the DC cables. We recommend that the equipment or appliance switch be in the “OFF” position prior to plugging into the AC receptacle of the inverter. The green LED light will confirm that AC power is present.

- 1) Attach the ring type connector marked with red to the positive (+) DC terminal on the power inverter, and attach the ring connector marked with black to the negative (-) DC terminal.



**Caution!**

**Reverse the polarity will arouse blown fuse or damage to the inverter, which may also be void of the warranty.**

- 2) Tighten the nut on each DC terminal by hand until it is snug. Do not over-tighten.
- 3) Attach the negative (black) clip to the negative (-) battery terminal.
- 4) Attach the positive (red) clip to the positive (+) battery terminal. Make sure both clips are securely connected to the battery terminals, as a loose connection will cause the voltage to drop and may cause the

cables to overheat, resulting in equipment damage or fire.

- 5) Turn on the inverter.
- 6) When the power inverter is not in use, disconnect the DC cable clips from the battery to prevent slight discharge of battery.

## 5. Operating the inverter

- 1) When properly connected to a 12V outlet or battery, turning on the inverter, will illuminate the green LED light, and deliver AC power to the outlet(s).
- 2) Plug the AC product(s) you wish to operate into the AC outlet(s) and switch them on, one at a time.



**Caution!**

**If there are one more AC products connecting to the inverter, turn on the larger power product first.**

Through its AC outlet, the inverter is capable of powering most 110-volt products that use 750 watts or less.

The unit will operate from input voltages ranging from 11.0V to 15.0V DC.

As the battery is used, its voltage begins to fall. When the inverter senses that the voltage at its DC input has dropped to the range of 10.7~11.3V DC, an audible alarm sounds. This allows time for computers or other sensitive devices to be shut down. If the audible alarm is ignored, the inverter will automatically shut down when the voltage dropped to the range of 10.2~10.8V DC. The red LED indicator illuminates, indicating a fault. This protects the battery from being over-discharged. Turn off any devices that the inverter is powering.

When input voltage rose to 11.7V~12.3V DC, inverter restores normal.



**Caution!**

Most vehicle batteries are designed to provide short period of very high current for starting the engine. They are not designed for a constant "deep discharge". Constantly operating the unit from a vehicle battery until the low voltage shut off will affect the life of the battery. If you are operating electrical products for

extended periods of time, you should consider connecting the unit to a separate deep discharge battery.

Should a defective battery charging system cause the battery voltage to rise to the range of 15.0V~16.0VDC, the inverter automatically shuts down; and the red LED lights.

### **Caution!**

**If there are one more AC products connecting to the inverter, turn on the larger power product first.**

If an AC product rated higher than 750W (or which draws excessive surge power) is connected, the inverter will shut down. The red LED light will light. The unit will shut down automatically if the inverter exceeds a safe operating temperature due to insufficient ventilation or a high-temperature environment; and the red LED indicator lights.

**The cooling fan is designed to operate only when output power is greater than approximately 150W.**

### **Battery Operating Time**

Operating time will vary depending on the charge level of the battery, its capacity and the power level drawn by the particular AC load. With a typical vehicle battery and a 750-watt load, an operating time of 1 hour or more can be expected.

When using a vehicle battery as a power source, it is strongly recommended to start the vehicle every hour to recharge the battery before its capacity drops too low. The inverter can operate while the engine is running, but the normal voltage drop that occurs during starting of the engine may trigger the inverter's low voltage shutdown feature.

Because the power inverter draws less than 0.5A with it turned on and with no AC product connected, it has minimal impact on battery operating times

### **Interference with Electronic Equipment**

Generally, most AC products operate with the inverter just as they would with household AC power. Below is the information concerning two possible exceptions.

## Buzzing and in audio systems and radios

Some stereo systems and AM-FM radios have inadequate internal power supply filtering and “buzz” slightly when powered by the inverter. Generally, the only solution is an audio product with a higher quality filter.

## Television interference

The inverter is shielded to minimize its interference with TV signals. However, with weak TV signals interference may be visible in the form of lines scrolling across the screen. The following should minimize or eliminate the problem:

- Increase the distance between the inverter and the TV, antenna and cables.
- Adjust the orientation of the inverter television, antenna and cables.
- Maximize TV signal strength by using a better antenna and use shielded antenna cable where possible.

## 6. Troubleshooting

PROBLEM	CAUSE	SOLUTION
No power, no indicator.	Battery is defective	Replace battery
	Blown fuse	Check and replace fuse
	Lose cable connections	Check the connection to the battery. Tighten as required.
The red LED indicator illuminates.	AC products connected are rated at more than 750W; overload shutdown has occurred	Reduce load, use a product with power rating less than 750W.
	AC products are rated less than 750W, but high starting surge has caused overload shutdown.	Use a product with starting surge power within the inverter's capability ( $\leq 1500W$ ).

	The voltage input is too low (alarm is sounding).	charge the battery
	The inverter is overheated due to poor ventilation and has shut down.	Unplug inverter from DC socket and allow to be cooled for 15 minutes. Remove objects covering unit. Move the inverter to a cooler place. Reduce load if continuous operation is required. Restart.
Inverter runs small loads but not large ones.	Low voltage battery	Charge the battery
Water entered	Water entered the unit	Disconnect the inverter and wipe immediately with a dry cloth, or permanent damage can occur with liquid ingress.
Alarm is sounding	Low voltage shutdown or thermal shutdown has occurred.	Shorten cables or use heavier cables. Recharge battery. Allow unit to cool. Improve air circulation around unit. Locate unit to a cooler environment. Reduce load if continuous operation is required.

Measured inverter output is too low	Standard “average-reading” AC voltmeter used to measure output voltage, resulting in an apparent reading 5 to 15V too low.	Inverter’s “modified sine wave” output requires “true RMS” voltmeter for accurate measurements.
	Battery voltage is too low.	Recharge battery.
Battery run time is less than expected	AC product power consumption is higher than rated.	Use a larger battery to make up for increased power requirement.
	Battery is old or properly defective.	Replace battery.
	Battery is not being properly charged.	Some chargers are not able to fully recharge a battery. Make sure you use a powerful charger.
	Power dissipation in DC cables.	Use shorter/heavier DC cables.

## 7. Specifications

Specifications are subject to change without notice.

### AC Power Output

AC output voltage	115V AC
Maximum AC output power	750W
Maximum AC output surge power	1500W

AC output waveform	Modified sine wave
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### USB Power Output

AC output frequency(nominal)	5 V DC
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### DC Power Specifications

DC input voltage range	13±0.2V DC
Battery drain with no AC load	0. 5A (at a 12V input)
Low battery alarm trigger point	11.0±0.3V DC
Low battery shutdown point (nominal)	10.5±0.3V DC
Low battery shutdown resume point (nominal)	12.0±0.3V DC
High battery shutdown point (nominal)	15.5±0.5V DC
	25A fuse×4
Efficiency(maximum)	85%

### Physical specifications

Ambient operating temperature range	32°F~104°F (0°C~40°C)
Dimensions (L×W×H)	9.41×5.4×2.4 in (239×137×60mm)
	3.18 lb (1450g)

## **8. Warranty**

### **One Year Limited Warranty Program**

NPower warrants this product for one year limited against any defects in materials or workmanship. The defective products will be replaced and repaired at no charge in either of one year.

This warranty lasts for 12 months from the date of purchase at the point of sale to you. This warranty does not apply where the product has been misused, improperly installed, physically damaged or altered, either internally or externally, or damaged from improper use.

NPower will repair or replace the defective product free of charge. Proof of purchase may be required. Warranty term is not extended if NPower repairs or replaces a product. NPower owns all parts removed from repaired products.

To qualify for the warranty, make sure the product has not been disassembled or modified without the prior authorization. If you require warranty service with your product, please return it to the place of purchase along with a copy of your dated proof of purchase or call customer service at 800-222-5381 for details.