



**User's Manual**  
**Prudent Way 400 Watt DC-AC**  
**Power Inverter**  
**PWI-IV400**

**Prudent Way 400 Watt DC-AC Power Inverter User's Manual**  
**Model: PWI-IV400**

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Thank you for choosing Prudent Way 400 Watt DC-AC Power Inverter. Please take time to read the following manual before installing the Power Inverter. Please note that failure to follow the proper procedures may result in personal injury or damage to the Power Inverter.

We sincerely wish you find this quality Power Inverter provides you with many years of good service.

## **1. Safety and Warning**

**Please read the following information carefully before using the Power Inverter.**

### **⚡ Warning – Shock Hazard**

- DO NOT insert foreign objects into the Power Inverter AC receptacles.
- DO NOT expose the Power Inverter to water, rain, snow or spray. Keep the Power Inverter dry at all times. Do not use wet hands to touch this Power Inverter.
- DO NOT let the Power Inverter, its cord or other electronic devices get wet. If you are operating the Power Inverter in a moving vehicle, please secure the Power Inverter to prevent it from shifting around. Please note that any water damage will not be covered under warranty.

### **⚡ Warning – Heated Surface**

- DO keep all body parts and/or materials at least 1.5 inch away from the Power Inverter while in operation. The Power Inverter may become uncomfortably hot during operating. If the Power Inverter overheats, it will automatically shutdown.
- DO make sure the ventilation openings on the Power Inverter are not obstructed. Ensure the Power Inverter is never covered and always allow for proper ventilation.
- DO avoid placing the Power Inverter near the vehicle's heat vent or in direct sunlight. Proper cooling is essential when operating the Power Inverter.

### **⚡ Warning – Overload Situation**

- DO know the wattage requirements of your electronic devices. Connect this Power Inverter to cigarette socket for loads under 150 watts. For loads between 150 watts and 400 watts, connect this Power Inverter directly to a battery. Do not use this Power Inverter to charge any device with a higher wattage requirement than 400 watts. Doing so will cause the Power Inverter shut down automatically and the red light will come on.

### **⚡ Warning – Low Battery shutdown**

- If the Power Inverter makes a beeping sound, turn off your device, unplug the Inverter, and restart the engine in your vehicle. The beeping sound is the low-battery warning which indicates that the voltage of your vehicle battery is getting low.

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**⚡ Other Safety Precautions**

- DO NOT open the case of the Power Inverter. The high voltage inside the case is the same type of power as your electrical outlets at home. Opening case will automatically void the warranty.
- DO NOT expose this Power Inverter to flammable fumes or gases such as a gasoline powered vehicle, or near any propane tanks.
- DO NOT use this Power Inverter in an enclosure containing automotive-type, lead-acid batteries to avoid hydrogen gas explosion, which can catch fire by sparks from electrical connections.
- DO NOT use this Power Inverter with chargers for nickel-cadmium batteries.
- DO NOT connect the Power Inverter directly to another AC power source. Damage may result and such damage will void the warranty.
- Keep this Power Inverter away from children. This Power Inverter produces power just like the wall outlets at home and should be treated seriously.
- Wrongfully plugging the AC power outlet LINE/NEUTRAL will void the warranty.
- Use common sense to store this Power Inverter. Do not place this Inverter near any batteries, gasoline, explosive vapors or other flammable and dangerous materials.
- Please disconnect all power sources should there be anything wrong with the Power Inverter operation.

**2. Contents**

	<b>PWI-IV400</b>
<b>DC-AC Power Inverter</b>	<b>400-watt</b>
<b>Cable with battery clips</b>	✓
<b>Cable with lighter plug</b>	✓
<b>User manual</b>	✓

**3. Connecting the Power Inverter for loads under 150 watts**

**Caution! Always start your engine first before plug the Power Inverter into the cigarette socket. (Picture 1)**

- 1) Place the Power Inverter on a flat, secure and dry surface like the floor of your vehicle. (Picture 2)
- 2) Make sure the power switch (On/Off) on the front panel is off.
- 3) Take the cable with the lighter plug and place the ring terminals over the two DC input terminals on the back of the Power Inverter. Make sure to connect to the right terminals, with red to red and black to black. Tighten the screws on the DC input terminals. (Picture 3)
- 4) Insert the Power Inverter's lighter plug into the vehicle's cigarette lighter socket. (Picture 4)

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- 5) Turn on the power switch on the front panel. The Power Inverter's green LED indicator should light up. This signifies the Power Inverter is operating properly and ready for use.
- 6) Plug the AC device(s) into the two three-prong receptacles and turn it on. If you plug two devices at the same time, make sure they consume 150 watts or less AC power together. (Picture 5)
- 7) Turn off the Power Inverter prior to disconnect the power source.



Picture 1



Picture 2



Picture 3



Picture 4



Picture 5

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**Caution! Do not allow an AC device to be plugged into the Power Inverter when starting the vehicle. Always remove the Power Inverter from the cigarette lighter socket when it is not in use.**

**4. Connecting the Power Inverter for loads over 150 watts and less than 400 watts**

**Caution! You must connect the Power Inverter directly to a battery if you are going to operate loads greater than 150 watts. Make sure the battery's output voltage is within 10.5 to 15 volts. This Power Inverter will not operate if it is connected to a DC power lower than 10.5 volts. It will be damaged if it is connected to a DC power greater than 15 volts and warranty will be voided.**

- 1) Place the Power Inverter on a flat, secure and dry surface like the floor of your vehicle. (Picture 2, above)
- 2) Make sure the power switch (On/Off) on the front panel is off.
- 3) Take the cable with the battery clips and place the ring terminals over the two DC input terminals on the back of the Power Inverter. Make sure to connect to the right terminals, with red to red and black to black. Tighten the screws on the DC input terminals. (Picture 3, above)
- 4) Fasten the red (positive, +) clip to the positive battery post and then fasten the black (negative, -) clip to the negative battery post. Please wear protective eyewear and clothing when you use the Power Inverter or work with the batteries. Do not contact the battery terminals with any metal tools or personal metal objects like watches, rings and/or bracelets. (Picture 6)

**Caution! Please make sure positive clip to the positive battery post and negative clip to the negative battery post. Reverse polarity connection will blow the fuse in the Power Inverter and may permanently damage the product. Damage caused by reverse polarity connection is not covered by warranty.**

- 5) Turn on the power switch on the front panel. The Power Inverter's green LED indicator should light up. This signifies the Power Inverter is operating properly and ready for use.
- 6) Plug the AC device(s) into the two three-prong receptacles and turn it on. If you plug two devices at the same time, make sure they consume 400 watts or less AC power together. (Picture 7)
- 7) Turn off the Power Inverter prior to disconnect the power source.

Picture 6



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Picture 7

**Caution!** The output of this Power Inverter is non-sinusoidal. Therefore, do not use this Power Inverter with small battery-operated products such as rechargeable flashlights, some rechargeable shavers, and night-lights that are plugged directly into an AC receptacle to recharge. Do not use this Inverter with some chargers for nickel-cadmium battery used in powered-hand tools. These chargers display warning labels stating that dangerous voltages are present at the charger's battery terminals.

**Caution!** This Power Inverter is designed for use with devices with a power rating of less than 400 watts and starting surge power of less than 1200 watts. The continuous power rating is 375 watts. Please confirm the wattage requirement for your device before using. Failure to follow this instruction may result in damage to the Power Inverter or the electronic devices.

### 5. Special Recommendations

- 1) In order to avoid deep discharging your vehicle's battery, we recommend you start the vehicle engine for 10-20 minutes after 1-2 hours of operating the Power Inverter. Please turn off the switch on the Power Inverter when you start the vehicle.
- 2) Be sure to disconnect the Power Inverter prior to use a battery charger to charge your battery. Failure to disconnect the Power Inverter first will lead to an input surge which will damage the Power Inverter.
- 3) Use only the cable included to connect the Power Inverter and the battery. Any source of extension such as adding extension cord will result in a reduction of efficiency and output and may hurt your Power Inverter and electronic device.
- 4) Use only extension cord between the AC output and the AC device should the extension is needed. Make sure you use a high quality extension cord with length no longer than 100 ft. Longer extension cord will reduce AC output.

### 6. Measuring the AC voltage

The maximum power that this Power Inverter can supply by plugging into the cigarette lighter is approximately 10 times of the lower rating fuse. For example, if the fuse protecting the lighter circuit inside the vehicle cigarette plug is 10 amps and the fuse inside the cigarette plug of the cable is 15 amps, the lower rating of 10 amps determines the maximum voltage. In this scenario, the maximum power available from the Power Inverter will be approximately 100 (10x10) watts.

The output waveform of this Power Inverter is a modified sine wave. To measure the AC output voltage correctly, you need to use a true RMS volt meter. Using any other type of voltage measuring device will result in an inaccurate AC voltage reading.

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## 7. Common Problems and Simple Troubleshooting

If the Power Inverter does not appear to be functioning properly, check the following possible causes.

- 1) Poor contact ⇒ Use a dry cloth to clean contact parts thoroughly. Check all cable connections.
- 2) Receptacle has no power ⇒ Send it back to dealer where you bought it for repair.
- 3) Battery voltage is too low ⇒ Start the engine to recharge the battery. Replace battery if the battery is defective.
- 4) Shut down on overload ⇒ Reduce the wattage of your load.
- 5) Shut down on overload with high surge requirement devices ⇒ Try first turning on the Power Inverter with all AC devices turning off. Then starting to turn on AC devices each at a time, with the high surge AC device first.
- 6) Thermal shutdown ⇒ The Power Inverter will shut down to prevent damage from excess heat under heavy loads for extended period of time. Simply reduce your load and allow the Power Inverter to cool down.
- 7) Alarm is beeping ⇒ Alarm will be on when battery is low or the Power Inverter is over heat (over temperature). Please recharge battery or turn off the Power Inverter to cool down. Always keep the Power Inverter away from heated sources and keep the ventilation openings in good condition.
- 8) Red light is on ⇒ Red light indicates the Power Inverter is in low voltage, high voltage, overload, output short circuit or over temperature. Please follow above instructions to provide appropriate remedy to the situation.

## 8. Specifications

Features	
AC output power (max.)	400W
AC output power (continuous)	375W
AC output surge	1200W
AC output waveform	Modified sine wave
Battery drain with no AC load	<0.3A
Dimensions	7.48"x3.58"x2.28"
Net Weight	3.09 Lbs
Output	
AC output voltage	115V
Frequency	60Hz
AC output plug	2 sets of three-prong AC outlet with DC input on/off switch
Input	
DC input voltage	10 to 15V
Efficiency	Up to 90%
Internal DC fuse on PCB	40A
Cigarette plug fuse	15A
Protections	
Low battery protection	DC 10V ± 0.5V
Low battery alarm	DC 10.5V ± 0.5V



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High battery protection	>DC 15V
Over temperature protection	Yes
Output short circuit protection	Yes
Overload protection	Yes
Input short circuit protection	Yes
Soft start	Yes
Environmental	
Operating temperature	32 to 104°F
RoHS compliant	Yes

## **9. 1-Year Limited Warranty**

Prudent Way Inc (Prudent Way) warrants this product against defects in material and workmanship under normal use and service for one year from the original purchase date. Prudent Way, at its option, will repair or replace the defective unit covered by this warranty. Please retain the original sales receipt as the proof of the purchase required for obtaining warranty service. This warranty is in effect when the product is handled and used as stated in the user manuals. This warranty does not cover any damage due to accident, misuse, abuse, or negligence.

This limited warranty is the sole and exclusive warranty provided by Prudent Way in connection with your Prudent Way product. To the extent permitted by law, PRUDENT WAY DISCLAIMS ALL OTHER IMPLIED OR EXPRESS WARRANTIES, INCLUDING ALL WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE.

Prudent Way makes no warranty as to the accuracy, sufficiency or suitability of any technical or other information provided in the user manual or other documentation provided with the product. Prudent Way assumes no responsibility or liability for losses, damages, costs or expenses, whether special, direct, indirect, consequential or incidental, which might arise out of or related to the use of such information. The use of any such information will be entirely at the user's risk.

Except to the extent of repairing or replacing the product as expressly stated in the limited warranty, Prudent Way is not liable for any special, direct, indirect, incidental or consequential damages, special, exemplary, or otherwise, including lost revenues, lost profits, loss of use, loss or recovery of data, rental of replacement equipment, downtime, damage to property, and third-party claims, arising out of any theory of recovery, including statutory, contract or tort. Notwithstanding any limited or implied warranty, , in no event will Prudent Way's entire liability exceeds the purchase price of this product. Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state and province to province.

For feedback about this product, please contact  
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