For safe and optimal performance, the sine wave inverter must be used properly. Carefully read and follow all instructions and guidelines in this manual and give special attention to the CAUTION and WARNING statements. Please keep this manual for future reference.

Disclaimer
While every precaution has been taken to ensure the accuracy of the contents of this guide, Whisper Power assumes no responsibility for errors or omissions. Note as well that specifications and product functionality may change without notice.

Important
Please be sure to read and save the entire manual before using your WhisperPower sine wave inverter. Misuse may result in damage to the unit and/or cause harm or serious injury. Read manual in its entirety before using the unit and save manual for future reference.

TABLE OF CONTENTS
1. INTRODUCTION
2. INSTALLATION
3. UNIT OPERATION
4. TROUBLESHOOTING
5. WARRANTY
6. SPECIFICATIONS
7. CE MANUFACTURER DECLARATION

1. INTRODUCTION
Thank you for purchasing the WhisperPower sine wave inverter. With our easy-to-use design, this product will offer you reliable service for providing AC power and 5V USB power for your home, cabin or trailer. The WhisperPower sine wave inverter can run many AC-powered appliances when you need AC power anywhere. The 5V USB power can charge many USB powered devices. This manual will explain how to use this unit safely and effectively. Please read and follow these instructions and precautions carefully.

IMPORTANT SAFETY INFORMATION
This section contains important safety information for the WhisperPower sine wave inverter. Each time, before using the WhisperPower sine wave inverter, study and follow all the battery manufacturer’s specific precautions and/or cause harm or serious injury. Read manual in its entirety before using the unit and save manual for future reference.

WARNING: Shock Hazard. Keep away from children!
- Avoid moisture. Never expose unit to snow, water etc.
- Unit provides 230VAC treat the output socket the same as regular wall AC sockets at home.

WARNING: Explosion hazard!
- DO NOT use the WhisperPower sine wave inverter in the vicinity of flammable fumes or gases (such as propane tanks or large engines).
- 400°C covering the ventilation openings.
- Always operate unit in an open area.
- Prolonged exposure to high heat or freezing temperatures will decrease the working life of the unit.

FCC INFORMATION
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

LIMITATIONS ON USE
Do not use in connection with life support systems or other medical equipment or devices.

2. INSTALLATION
WARNING: WhisperPower recommends that all Wiring be done by a certified technician or engineer to ensure adherence to the appropriate electrical safety wiring regulations and installation codes. Failure to follow these instructions can damage the unit and could also result in personal injury or loss of life.

CAUTION: Before beginning your WhisperPower sine wave inverter installation, please consider the following:
- The WhisperPower sine wave inverter should be used or stored in an indoor area away from direct sunlight, heat, moisture or conductive contaminants.
- When placing the unit, allow a minimum of 7.5 cm space around the unit for optimal ventilation.

WARNING: Fire and/or Chemical Burn Hazard
- Do not cover or obstruct any air vent openings and/or install in a zero-clearance compartment.

WARNING: Failure toFollow these Instructions CAN RESULT in DeATH or SeRIous Injury
- When working with electrical equipment or lead acid batteries, have someone nearby in case of an emergency.
- Study and follow all the battery manufacturer’s specific precautions when installing, using and servicing the battery connected to the inverter.
- Wear eye protection and gloves.
- Avoid touching your eyes while using this unit.
- Keep fresh water on hand in the event battery acid comes in contact with eyes. If this occurs, cleanse right away with extensive water for a minimum of 15 minutes and seek medical attention.
- Batteries produce explosive gases. DO NOT smoke or have an open spark or fire near the system.
- Keep unit away from moist or damp areas.
- Avoid dropping any metal tool or object on the battery. Doing so could create a spark or short circuit which goes through the battery or another electrical tool that may create an explosion.

12V Battery Bank or 24V Depending of type
- The use of deep cycle battery is highly recommended for sine wave inverter application
- For battery size, you need to identify how much you will be using them between charges. WhisperPower recommends you purchase as much battery capacity as possible. See more on Battery Run Time and Load in Section 3.

Fuse or Circuit Breaker
- DC-rated fuse or DC-rated circuit breaker connected along the DC positive line is required.
- Select a fuse or circuit breaker with a minimum of:
  - 63A DC (WP-Sine 12/400)
  - 150A DC (WP-Sine 12/1000)
  - 300A DC (WP-Sine 12/2000)
  - 300A DC (WP-Sine 24/2000)
- Based on the size of the battery bank chosen on the 12V or 24V Battery Bank above, determine the overall short circuit current rating of the battery bank from the battery manufacturer. The fuse or circuit breaker chosen has to be able to withstand the short circuit current that may be generated by the battery bank.

Disconnect Switch
- Select a Disconnect Switch with the same or higher the rating of the selected fuse or circuit breaker from the above.
- The Disconnect Switch is used to disconnect the DC power between the sine wave inverter and the battery bank during service, maintenance or troubleshooting.

DC Input and Grounding Cable
- Use of low resistance wire is required for all the DC connections between the inverter and the battery bank.
- Use wiring with maximum cable length of 1.5 meter and minimal cross-sectional area of:
  - 10mm² (WP-Sine 12/400)
  - 5mm² (WP-Sine 12/1000)
  - 5mm² (WP-Sine 12/2000)
  - 5mm² (WP-Sine 24/2000)
- Important: The unit is grounded through the ground stud of the unit located near the DC input.
- For the grounding cable connected between the sine wave inverter chassis to the earth ground, use a matching cable size as used on the DC input Cable section.

<table>
<thead>
<tr>
<th>Disconnect Switch</th>
<th>DC Input</th>
<th>Grounding Cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>WP-Sine 12/400</td>
<td>5mm²</td>
<td>10mm²</td>
</tr>
<tr>
<td>WP-Sine 12/1000</td>
<td>5mm²</td>
<td>10mm²</td>
</tr>
<tr>
<td>WP-Sine 12/2000</td>
<td>5mm²</td>
<td>10mm²</td>
</tr>
<tr>
<td>WP-Sine 24/2000</td>
<td>5mm²</td>
<td>10mm²</td>
</tr>
</tbody>
</table>
INSTALLING THE SINEWAVE INVERTER SYSTEM

WARNING: Electrical Shock Hazard
The unit ‘On/Off’ switch does not disconnect the DC power from the battery. Use the DC Disconnect Switch or disconnect the DC input cable(s) to disconnect the DC power from the battery before working on any circuits connected to the unit. Failure to follow these instructions can result in death or serious injury.

Sinewave inverter installation:
• Choose an appropriate mounting location.
• For indoor use, the orientation of the unit can be mounted in any position on the DC input panel facing downwards.
• For RV installation, the unit has to be mounted flat on horizontal surface.
• Drill the 4 mounting holes, position the mounting screws and place the inverter in position and fasten the inverter to the mounting surface.

Sinewave inverter Chassis Grounding Connection:
DANGER: The sinewave inverter chassis has to be grounded properly. Never operate the sinewave inverter without proper grounding. Failure to do so will result in death or serious injury.
• Connect the grounding cable’s ring terminal to the unit ground screw.
• Connect the other side of the cable to the common grounding point.

Sinewave inverter DC Input Connection:
• Choose one end of the negative DC input cable to the sinewave inverter DC negative terminal. Connect the other end of the negative DC input cable to the battery negative terminal.
• Make sure the Disconnect Switch is in the OFF position.
• Connect one end of the positive DC input cable to the sinewave inverter DC positive terminal. Connect the other end of the positive DC input cable to one of the terminals of the Disconnect Switch.
• Connect a DC input cable between the other terminal of the Disconnect Switch and one side of the terminal of the fuse holder.
• Connect a DC input cable between the other terminal of the fuse holder and the battery positive terminal.
• Install the selected fuse to the fuse holder.
• Turn Disconnect Switch to ON position.

Remote Switch (Optional for 1000 & 2000W) Connection:
• Insert the Remote Switch to the RJ11 Remote Port located at the Front Panel of the sinewave inverter. (See troubleshooting section for details + label)

Understanding the Display & Status LED (Only for 1000 & 2000W):
Display:
‘12.5’ Display shows measured battery voltage
‘0.60’ Display shows total output AC power in kW (900W as shown)
‘E01’ Display shows error or warning code.

Status LED:
Green: Unit operation is normal
Amber: Warming is detected. Unit will shut down at any time.
Red: Error is detected and unit has shut down.
Please check error code to troubleshoot the unit.

Understanding the Error Code (Only for 1000W & 2000W):

<table>
<thead>
<tr>
<th>Code</th>
<th>Condition</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>E01</td>
<td>Unit has sensed input voltage and has shut down</td>
<td>Recharge battery immediately and restart unit</td>
</tr>
<tr>
<td>E02</td>
<td>Unit has sensed over voltage and has shut down</td>
<td>Check battery voltage if any external charger is connected to the battery bank</td>
</tr>
<tr>
<td>E03</td>
<td>Unit output has sensed overload or short circuit and was shut down</td>
<td>Check load connected to the output. Reduce load and restart the unit.</td>
</tr>
<tr>
<td>E04</td>
<td>Unit has sensed internal temperature was high and has shut down</td>
<td>Turn unit off and wait for 15 minutes before restarting. Check if any object has blocked the airflow of the unit</td>
</tr>
<tr>
<td>E05</td>
<td>Unit has sensed input voltage is low and warning occurs</td>
<td>Reduce battery as unit will shut down shortly</td>
</tr>
<tr>
<td>E06</td>
<td>Unit has sensed load connected is close to overload shutdown limit</td>
<td>Reduce load and check if any ventilation of the unit is blocked</td>
</tr>
<tr>
<td>E07</td>
<td>Unit has sensed internal temperature is high and is close to thermal shutdown limit</td>
<td></td>
</tr>
</tbody>
</table>

AC Load on sinewave inverter
Although the sinewave inverter can provide high surge power up to twice the rated output power, some appliances may still trigger on the inverter protection system. A higher sinewave inverter is required for those appliances.

AC loads:

- Cable television
- DVD player
- Stereo system
- Air conditioner
- Fan
- Desk lamp
- 20” LCD TV
- Toaster
- Toaster oven
- Coffee maker
- Microwave (mid-size)
- Refrigerator (100 ltr.)
- Sump Pump (1/2 hp)
- Dehumidifier
- Battery charger
- 12” Oscillating Fan
- Perpetual 500 g
- Portable fan
- Vacuum cleaner
- Table lamp
- 20” Flat Screen TV
- Hard disk TV
- 16” LCD TV
- Irrigation pump
- 20” LCD TV
- WhisperPower WhisperPower
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