

Thank you for purchasing a Sealey product. Manufactured to a high standard this product will, if used according to these instructions and properly maintained, give you years of trouble free performance.



IMPORTANT PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS AND CAUTIONS. USE THIS PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY.

1. SAFETY INSTRUCTIONS

- ▲ **DANGER! - Beware, lead-acid batteries generate explosive gases during normal battery operation.**
- ✓ Wash immediately with soap and water if battery acid contacts skin or clothing. If acid enters eye, flush immediately with cool clean running water for at least 15 minutes and seek immediate medical attention.
- x **DO NOT** smoke or allow a spark or flame in the vicinity of the battery or engine.
- ✓ If the battery terminals are corroded or dirty, clean them before attaching the clips.
- **WARNING!** To prevent the risk of sparking, short circuit and possible explosion **DO NOT** drop metal tools in the battery area, or allow them to touch the battery terminals.
- ✓ Before attaching to battery, remove personal metallic items such as rings, bracelets, necklaces and watches. A lead acid battery can produce a short-circuit current which is high enough to weld such items to the vehicle and cause severe burns.
- ✓ Keep children and unauthorised persons away from the working area.
- **WARNING! DO NOT** use on any vehicles other than those with 12Volt DC systems.
- **WARNING!** For delicate items such as laptops, an anti-surge device is recommended.
- x **DO NOT** connect to any AC power source.
- x **DO NOT** disassemble. The inverter must be checked by qualified service personnel only.
- x **DO NOT** get inverter wet or use in damp or wet locations or areas where there is condensation.
- x **DO NOT** use the inverter for any purpose other than for which it is designed.
- x **DO NOT** pull the cables or clips from the battery terminals.
- x **DO NOT** operate the inverter if damaged.
- x **DO NOT** connect to a positive earthed system. Ensure you have the polarity correct before connecting, red clip to positive (+) battery terminal and black clip to negative (-) battery terminal.
- ✓ Before connecting ensure nothing is plugged into the inverter, and the inverter is switched OFF.
- **WARNING! Inverters become hot during use.**
- ✓ When not in use store inverter in a safe, dry, childproof location.



2. INTRODUCTION & SPECIFICATIONS

2.1 Introduction.

Supplies continuous smooth 230V power from 12V DC power supply found in cars, caravans, boats and HGVs. Suitable for powering small TVs, laptops, power tools and various other electrical equipment within the wattage rating of the inverter. Features USB port for use on various domestic electrical equipment such as digital cameras and mobile phones. Anodized aluminium case provides durability and maximum heat dissipation. Safety features include automatic overload shut-down and a low battery alarm to prevent damage to the supply battery. Supplied with battery clips.

2.2 Specifications.

Input Voltage: 12V DC
Continuous Output Wattage: 500W
Output Frequency Range: 50Hz
Supply Connection: Battery Clips

Output Voltage: 230V AC
Maximum Output Wattage: 1000W
Dimensions (LxWxH): 230x105x60mm

3. SETUP & OPERATION

3.1 Power Source Requirements.

- 3.1.1 The inverter must be connected to a 12V DC negative earth system. **DO NOT use with a positive earth system.**
- 3.1.2 The power source must be capable of providing between 10.0V and 15.5V and able to supply the necessary current to operate the load.

3.2 Connecting Battery Leads to Inverter.

- 3.2.1 To attach the Battery Leads loosen the terminal caps (fig.1.1) on the rear of the inverter so that there is sufficient space between the terminal bases (fig.1.2) and the washers (fig.1.3) to insert the battery lead fork connectors (fig.1.4).
- 3.2.2 Attach the Black battery lead fork connector to the Black/Negative terminal post on the inverter, and tighten the terminal cap.
- 3.2.3 Attach the Red battery lead fork connector to the Red/Positive terminal post on the inverter, and tighten the terminal cap.
- 3.2.4 Check that the battery leads are secure.

3.3 Connecting to Battery Terminals.

- NOTE! Check the battery is 12VDC. DO NOT use with a 6V or 24V battery**
- 3.3.1 Ensure battery terminals are clean, if necessary clean away any corrosion.
- 3.3.2 Check to make sure the inverter is turned OFF and no flammable fumes are present.
- 3.3.3 Clip the red (+) battery clip to the red (+) terminal post on the battery.
- 3.3.4 Clip the black (-) battery clip to the black (-) terminal post on the battery.
- 3.3.5 Check all connections are secure.

3.4 Connection to Load.

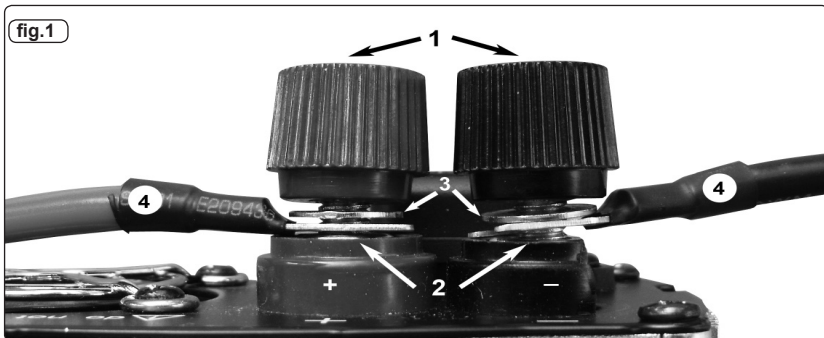
NOTE! Most electrical appliances, tools etc, have a rating plate indicating the power consumption in Amps or Watts. Use these ratings to ensure you remain within the inverters maximum capacity. If the rating is shown in Amps, multiply the value by the voltage (230V) to determine the wattage.

- 3.4.1 Ensure that the inverter is switched OFF. Plug the equipment you wish to use into the inverter 3 pin socket or into the USB port as required.
- 3.4.2 Make sure the load does not exceed the wattage rating of the inverter.
- 3.4.3 Switch the inverter on, check that everything is working and the green LED is lit.
- WARNING! DO NOT** connect the inverter to any AC distribution wiring or any AC load circuit in which the neutral conductor is connected to ground (earth) or to the negative of the DC (battery) source.

NOTE! Most rechargeable devices do not operate well with a moderated sine wave inverter. They only operate from a standard household outlet which provides a pure sine wave. It is recommended that these devices be operated from a standard household outlet only. This problem does not occur with most battery operated equipment. Most of these devices use a separate charger or transformer that is plugged into a separate AC socket.

3.5 Placement of Inverter.

- 3.5.1 For best and safest operation the inverter should be placed on a flat and stable surface.
- 3.5.2 Use only in a dry location, do not allow inverter to get wet.
- 3.5.3 Use in cool ambient temperature of between 0°C and 40°C. Do not place on or near a heating vent.
- 3.5.4 Allow sufficient space around the inverter for cooling. If the inverter overheats it will shut down and will not restart until it has cooled down.
- 3.5.5 **DO NOT** use near flammable materials or anywhere that flammable gasses could accumulate.
- 3.5.6 The inverter may become uncomfortably hot during extended periods of full power use.
- WARNING! DO NOT** place on or near materials that may be affected by heat.



4. OPERATING TIPS

4.1 Wattage Loading.

4.1.1 Inductive loads, such as TV's and stereos, require more current to operate than do resistive loads of the same wattage rating. Induction motors, as well as some televisions, may require 2 to 6 times their wattage rating to start up. The most demanding in this category are those that start under load, such as compressors and pumps. Testing is the only definitive way to determine whether a specific load can be started and how long it can run. The unit will simply shut down if it is overloaded. To restart the unit after a shutdown due to overloading, remove the overload.

NOTE! The inverter will not operate high wattage appliances or equipment that produce heat, such as hair dryers, microwave ovens and toasters.

4.2 Battery Operating Time.

- 4.2.1 With a typical vehicle battery, a minimum operating time of 1 to 2 hours can be expected depending on the load draw. It is recommended that the operator starts the engine every hour to recharge the battery. This will prevent any unexpected shutdown of the equipment and will ensure that there is always sufficient battery capacity to start the vehicle. The inverter may be used either with the engine running or turned off. However, the inverter must be switched OFF when starting the vehicle.
- 4.2.2 The inverter draws less than 1.3 Amperes from the battery when it is not supplying power to a load. In most cases, the inverter may be left connected to the battery when it is not in use. If the vehicle will not be used for several days, disconnect the unit from the battery.

5. PROTECTIVE FEATURES

5.1 The inverter monitors the following potentially hazardous conditions:

- 5.1.1 Low Battery Voltage - This condition is not harmful to the inverter but could damage the power source. An alarm will sound when input voltage drops to 10.5V. The inverter automatically shuts down when input voltage drops to 10V. When the condition is corrected, the unit may be restarted.
- 5.1.2 Short Circuit - Reverse polarity or short circuit of the load will usually result in the opening of the short circuit protection and blow the 35A fuses. Depending on the severity of the short, the external fuse will blow first, then the internal fuses. Should the external fuse blow for any reason then the inverter may still function whilst the internal fuses are intact, but at a reduced capacity. If the internal fuses blow we recommend contacting your local repair agent or Sealeys technical help line directly on 01284 757505 for guidance.
- 5.1.3 High Temperature - When the temperature of the internal heat sink reaches 65°C, the solid state temperature sensor will automatically shut down the unit. Once it is allowed to cool, the unit may be restarted.

6. TROUBLE SHOOTING

Problem	Possible Cause	Suggested Remedy
Unit will not operate	<ol style="list-style-type: none"> Poor DC contact Battery voltage below 10V. Load draws too much power. Inverter in thermal shutdown. Vehicle battery in poor condition. External fuse blown due to short circuit. Internal fuses blown due to short circuit. 	<ol style="list-style-type: none"> Check all DC contacts. Recharge or replace battery. Reduce load. Allow inverter to cool. Check / replace battery. Check battery connections and replace fuse. Contact local repair agent or Sealey technical help line for guidance.
Low output voltage.	Check with voltmeter.	Use true RMS voltmeter.
Low voltage alarm sounds continuously.	<ol style="list-style-type: none"> Bad connection or wiring. Low battery voltage. 	<ol style="list-style-type: none"> Check and tighten all DC connections. Recharge battery without load.
Television Interference	<ol style="list-style-type: none"> Inverter too close to the television. 	<ol style="list-style-type: none"> Locate the inverter as far as possible from the TV, antenna and other cables.



Environmental Protection.

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycle centre and disposed of in a manner which is compatible with the environment.



When the product is no longer required, it must be disposed of in an environmentally protective way.

NOTE: It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

IMPORTANT: No liability is accepted for incorrect use of this product.

WARRANTY: Guarantee is 12 months from purchase date, proof of which will be required for any claim.

INFORMATION: For a copy of our latest catalogue and promotions call us on 01284 757525 and leave your full name and address, including postcode.



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PI500.V3 Issue:1 - 31/03/11



EC DECLARATION OF CONFORMITY

We the sole importers into the UK, hereby declare that the equipment described below

Description and Function: **500W Power Inverter 12V DC - 230V 50Hz**

Model/Type: **PI500.V3**

Manufacturing Date / Serial number (optional):

Manufacturer's authorised representative within the EC: **Jack Sealey Ltd. Kempson Way, Suffolk Business Park, Bury St. Edmunds, Suffolk, IP32 7AR**

Conforms to the requirements of the following Directives, as indicated.

- 2006/42/EC Machinery Directive
- 2006/95/EC Low Voltage Directive
- 2004/108/EC EMC Directive
- 93/68/EEC CE Marking Directive
- 87/404/EEC the Simple Pressure Vessels Regulations
- 2000/14/EC Outdoor Noise Emissions Directive
- 2002/96/EC WEEE Directive
- 2002/95/EC RoHS Directive
- 97/23/EC Pressure Equipment Directive

And the following harmonised standard(s)


BS EN 61558 part 1: 2005 + A1:2009

BS EN 55014 part 1: 2006 + A1: 2009

BS EN 61000 part 6-3: 2007

Additional technical standards and specifications (if applicable):

Technical file compiled by: **Jack Sealey Ltd.**

Signed: 

Date: 18-Mar-2011

Place: Bury St.Edmunds.

Name: Mark Sweetman

Position: Managing Director

Being the responsible person appointed by the manufacturer.

