



INSTRUCTIONS FOR:  
**POWER INVERTERS 12V/230V**  
**Model Nos: PI150, PI300 & PI500**

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.
- ✓ If the battery terminals are corroded or dirty, clean them before attaching the clips.
- ✓ Before attaching to battery, remove ill fitting clothing, ties, watches, rings and other loose jewellery. Contain long hair.
- ✓ 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 dis-assemble. 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.
- ❑ **WARNING!** Inverters become hot during use.
- ✓ When not in use store inverter in a safe, dry, childproof location.



PI150



PI300



PI500



PI150



PI300



PI500

**2. INTRODUCTION**

Supplies continuous smooth 230V power from 12V DC power supplies 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. Anodized aluminium case provides durability and maximum heat dissipation. Safety features include automatic shut-down in case of overloading/overheating and a low battery alarm to prevent damage to your battery.

	PI150	PI300	PI500
<b>Input Voltage:</b>	12V d.c.	12V d.c.	12V d.c.
<b>Output Voltage:</b>	230V a.c.	230V a.c.	230V a.c.
<b>Continuous Output Wattage:</b>	150W	300W	500W
<b>Maximum Output Wattage:</b>	300W	600W	1000W
<b>Output Frequency Range:</b>	50Hz	50Hz	50Hz
<b>Dimensions (LxWxH):</b>	165x105x60mm	190x105x60mm	230x105x60mm
<b>Supply Connection:</b>	Cigarette Lighter Plug	Cigarette Lighter Plug Battery Clips	Battery Clips

**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 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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### 3. SETUP & OPERATION

#### 3.1 Power Source Requirements

- 3.1.1 The inverter **must** be connected to a **12 volt DC negative ground** ignition system.  
 3.1.2 The power source must be capable of providing between 10.6 and 15.5 volts and able to supply the necessary current to operate the load.

#### 3.2 Connecting Battery Clips or Cigarette Plug to Inverter.

Note: Check the battery is 12VDC. Do Not use with a 24V battery

Note: PI150 power inlet is hard wired and therefore does not require the following procedure 3.2.1 to 3.2.3.

- 3.2.1 To attach the battery clips (PI300 or PI500), or the cigarette plug (PI300 only) remove the terminal caps from the rear of the inverter (Fig.1).  
 3.2.2 Place the Black lead eyelet connector over the Black/Negative terminal post on the inverter, replace and tighten the terminal cap.  
 3.2.3 Place the Red lead eyelet connector over the Red/Positive terminal post on the inverter, replace and tighten the terminal cap.

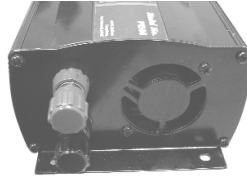


Fig. 1

#### 3.3 Connecting to Cigarette lighter Power Source (PI150 & PI300).

- 3.3.1 To Connect to cigarette lighter socket simply push the plug into your vehicles lighter socket. Note some vehicles will require the ignition to be switched to the accessory position to supply power to the cigarette lighter socket.

NOTE! For PI300, cigarette lighter sockets generally are fitted with a 15 to 20A fuse.

To avoid overloading and blowing the fuse if the device to be connect exceeds 300W then use the battery clips instead of the cigarette lighter plug.

#### 3.4 Connecting to Battery Terminals (PI300 & PI500).

- 3.4.1 Ensure battery terminals are clean, if necessary clean away any corrosion.  
 3.4.2 Check to make sure the inverter is turned **OFF** and no flammable fumes are present.  
 3.4.3 Clip the red (+) battery clip to the red (+) terminal post on the battery.  
 3.4.4 Clip the black (-) battery clip to the black (-) terminal post on the battery.  
 3.4.5 Check all connections are secure.

#### 3.5 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 under the inverters maximum capacity. If the rating is shown in amps, multiply the value by the voltage (230V) to determine the wattage.

- 3.5.1 Plug the equipment you wish to use into the inverters 3 pin socket. Make sure the socket is in the **OFF** position.  
 3.5.2 Make sure the load does not exceed the wattage rating of the inverter.  
 3.5.3 Switch the inverter on and check that everything is working. Green LED lights.

**⚠ 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! Some 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.

#### 3.6 Placement of Inverter.

- 3.6.1 For best and safest operation the inverter should be placed on a flat and stable surface.  
 3.6.2 Use only in a dry location, do not allow inverter to get wet.  
 3.6.3 Use in cool ambient temperature of between 0°C and 40°C. Do not place on or near a heating vent.  
 3.6.4 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.  
 3.6.5 Do not use near flammable materials or anywhere that flammable gasses could accumulate.  
 3.6.6 The inverter may become uncomfortably hot during extended periods of full power use. Do Not place on or near materials that may be affected by heat.

### 4. OPERATING TIPS

- 4.1 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.

**CAUTION:** 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 3 to 4 hours can be expected depending on the load draw. It is recommended that operator start the engine every 2 to 3 hours 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 car.

- 4.2.2 The inverter draws less than 0.3 amperes from 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, please disconnect the unit from the battery.

### 5. PROTECTIVE FEATURES

- 5.1 The inverter monitors the following potentially hazardous conditions:  
 5.2 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 10.6 volts. The inverter automatically shuts down when input voltage drops to 10 volts. When the condition is corrected, the unit may be restarted.  
 5.3 Over Voltage Protection -When input voltage exceeds 15.5 volts, the inverter automatically shuts down. When the condition is corrected, the unit may be restarted.  
 5.4 Overload Protection - The inverter will automatically shut down when the continuous draw exceeds the wattage rating of the inverter.

### 6. TROUBLE SHOOTING

Problem	Possible Cause	Suggested Remedy
Lack of power output. No AC output, Red LED lit. or No AC output both Red and Green LED lit.	1. Poor DC contact. 2. Battery voltage below 10V. 3. Load draws too much power. 4. Inverter in thermal shutdown. 5. Vehicle lighter open circuit. 6. Vehicle requires ignition to be on.	1. Check all DC contacts. 2. Recharge or replace battery. 3. Reduce load. 4. Allow inverter to cool. 5. Check vehical fuse. 6. Turn ignition key to accessory position.
Low output voltage.	Check with voltmeter.	Use true RMS voltmeter.
Low battery alarm sounds continuously.	1. Bad connection or wiring. 2. Low battery voltage.	1. Check and tighten all DC connections. 2. Recharge battery without load.

#### 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.

**Declaration of Conformity** We, the sole importer into the UK, declare that the product listed below is in conformity with the following standards and directives.

**POWER INVERTERS**  
**Models: PI150, PI300 & PI500**  
 73/23/EEC Low Voltage Directive  
 89/336/EEC EMC Directive  
 93/68/EEC CE Marking Directive



The construction file for this product is held by the Manufacturer and may be inspected, by a national authority, upon request to Jack Sealey Ltd.

Signed by Tim Thompson

1st May 2006

For Jack Sealey Ltd. Sole importer into the UK of Sealey Quality Machinery.

**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 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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