



INSTRUCTIONS FOR: **POWER INVERTER**
12V/230V PURE SINE WAVE
PSI300, PSI600,
PSI800, PSI1000

Thank you for purchasing a Sealey product. Manufactured to a high standard the 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

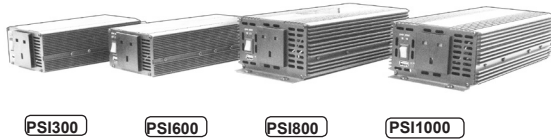
- ▲ **DANGER! - Beware, lead-acid batteries generate explosive gases during normal battery operation.**
- ✓ Wash immediately with soap and water if battery acid contacts skin or clothing. If acid enters eye, flush immediately with cool clean running water for at least 15 minutes and seek immediate medical attention.
- ✗ **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 leads.
- ☐ **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.
- ✗ **DO NOT** connect to any AC power source.
- ✗ **DO NOT** disassemble. The inverter must be checked by qualified service personnel only.
- ✗ **DO NOT** get inverter wet or use in damp or wet locations or areas where there is condensation.
- ✗ **DO NOT** use the inverter for any purpose other than for which it is designed.
- ✗ **DO NOT** pull the cables or clips from the battery terminals.
- ✗ **DO NOT** operate the inverter if damaged.
- ✗ **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

Pure sine wave inverter designed to produce the same AV frequency produced on the grid, making it more reliable than traditional inverters, without any fluctuation in power or performance. Operates from a 12V DC power supply found in cars, caravans, boats and HGVs. High performance outlet eliminates electrical interference, reducing noise levels during use. Suitable for powering small TV's, laptops, power tools and various other electrical equipment within the wattage rating of the inverter. Features USB port for use on various domestic equipment such as digital cameras and mobile phones. Aluminium case provides durability and maximum heat dissipation. Safety features include automatic overload shutdown and short circuit protection. Supplied with vehicle accessory plug and/or battery terminal leads depending on model.

MODEL NO:	PSI300	PSI600	PSI800	PSI1000
Input Voltage:	12V DC	12V DC	12V DC	12V DC
Output Voltage:	230V AC	230V AC	230V AC	230V AC
Continuous Output:	300W	600W	800W	1000W
Maximum Output:	600W	1200W	1600W	2000W
No Load Current Draw:	<0.6A	<0.8A	<0.8A	<1.0A
Fuse Rating:	40A	35A x 2	50A x 2	30A x 4
Ambient Temperature Range:	0°C/40°C	0°C/40°C	0°C/40°C	0°C/40°C
Dimensions (L x Wx H):	200 x 110 x 60mm	245 x 110 x 60mm	285 x 140 x 75mm	315 x 140 x 80mm
Supply Connection:	Vehicle accessory plug & battery terminal leads.	Battery terminal leads.	Battery terminal leads.	Battery terminal leads.

fig.1



PSI300

PSI600

PSI800

PSI1000

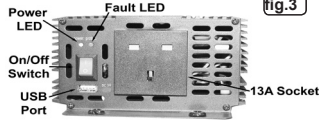
fig.2



Red

Black

fig.3



Power LED

Fault LED

On/Off Switch

USB Port

13A Socket

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 10.5V and 15.0V and able to supply the necessary current to operate the load.

3.2 Connecting Battery Leads to Inverter.

- ▲ **Check the battery is 12VDC. DO NOT use with a 6V or 24V battery.**
- ▲ Ensure that inverter is switched **OFF** and no flammable fumes are present before connecting to battery.

3.3. PSI300

- 3.3.1. Select either vehicle accessory plug lead or battery terminal lead.
- 3.3.2. To attach the battery leads remove the terminal caps from the rear of the inverter (Fig.2). Place the black lead eyelet connector over the black (-) terminal post on the inverter, replace and tighten the terminal cap.
- 3.3.3. Place the red lead eyelet connector over the red (+) terminal post on the inverter, replace and tighten the terminal cap.
- 3.3.4. **If using vehicle accessory plug lead**, plug into vehicle accessory socket. (Some vehicle accessory sockets are not permanently live; if the inverter does not operate immediately, try turning the ignition key to the first position).
- 3.3.5. **If using battery terminal lead**, ensure battery terminals are clean; if necessary clean away any corrosion. Connect red (+) clip then black (-) clip to red (+) and black (-) terminals of battery.

3.4. PSI600

- 3.4.1. Attach leads to inverter as in 3.3.2. and 3.3.3. above.
- 3.4.2. Connect as in 3.3.5. above.

3.5. PSI800, PSI1000

- 3.5.1. Attach leads to inverter as in 3.3.2. and 3.3.3. above.
- 3.5.2. Undo the securing bolt for the red (+) battery terminal and secure the red battery lead to the red (+) terminal post on the battery.
- 3.5.3. Undo the securing bolt for the black (-) battery terminal and secure the black battery lead to the black (-) terminal post on the battery.
- 3.5.4. Check all connections are secure.

3.6. Connection to Load.

- ▲ **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 continuous capacity. If the rating is shown in amps, multiply the value by the voltage (230V) to determine the wattage.**
- 3.6.1. Ensure that the inverter is switched OFF. Plug the equipment you wish to use into the inverter's 3 pin socket or into the USB port as required.
- 3.6.2. Make sure the load does not exceed the wattage rating of the inverter.
- 3.6.3. Switch the inverter on, check that everything is working and the green LED is lit (fig 3).
 - **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.

3.7. Placement of Inverter.

- 3.7.1. For best and safest operation the inverter should be placed on a flat and stable surface.
- 3.7.2. Use only in a dry location, do not allow inverter to get wet.
- 3.7.3. Use in cool ambient temperature of between 0°C and 40°C. Do not place on or near a heating vent.
- 3.7.4. 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.
- 3.7.5. **DO NOT** use near flammable materials or anywhere that flammable gasses could accumulate.
- 3.7.6. 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.

▲ 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. The battery operating time will vary depending on battery capacity and the current draw from the inverter. It is recommended that the operator start the engine every 15 minutes 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 1.0 Ampere from the battery when it is not supplying power to a load (see section 2 for exact figure). 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. The inverter automatically shuts down when input voltage drops to 10.5V. 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 blowing the fuse(s). As the fuses are internal 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 the unit down. 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 10.5V. Load draws too much power. Inverter in thermal shutdown. Vehicle battery in poor condition. 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. Contact local repair agent or Sealey technical help line for guidance.
Low output voltage.	Check with voltmeter.	Use true RMS voltmeter.
Overload LED illuminates.	Unit overloaded.	Switch off and reduce load.
Television Interference	Inverter too close to the television.	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.

Parts support is available for this product. To obtain a parts listing and/or diagram, please log on to www.sealey.co.uk, email sales@sealey.co.uk or phone 01284 757500.

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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