



Specifications

PowerSource Model	RINV500
Max. Continuous power (Watts)	500w (1/2 hour) 400w (4hrs)
Peak Power (Watts) 0.01 Seconds	800w
No load current draw (AMPS)	<0.2A
Waveform	Modified Sine
Cable length	1m
Cable diameter	7mm
Efficiency*	Approximately 90%
Input Voltage Range	10 – 15v DC
AC Socket	3 Pin Mains (BS Approved)
Fuse	35 amps (x2)
Weight (kgs)**	1.5
Dimensions (mm)	230 x 107 x 60

* Percentage of battery power converted to mains voltage power. ** Does not include packaging

Troubleshooting Guide

Symptom	Possible causes	Possible solution
AC appliance will not operate; the audible alarm is sounding.	1. Battery has discharged to 10v.	Turn off the inverter on/off switch and recharge the battery.
	2. The inverter has overheated. This could be due to poor ventilation.	Turn off the inverter and allow to cool for 10 mins.
	3. Poor battery condition	Replace battery.
AC appliance will not operate; the audible alarm is not sounding.	1. Inverter is overloaded.	Reduce load, not exceeding maximum rating.
	2. Internal fuses have blown	Fuse replacement (qualified electrician only)
Run time is less than expected	1. Battery is not fully charged	Recharge the battery.
	2. AC appliance power consumption is higher than expected.	Check AC appliance wattage rating is within scope of inverter.

For further assistance: **Technical Helpline: +44 (0)113 276 7244**

CE and e approved.

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PowerSource

Mains powered equipment from a 12v source

User Manual

12v DC to 230-240v AC Power Source
 500 Watts

Model **RINV500**





Introduction

The Ring PowerSource is an electronic device that converts a low voltage 12v DC current from a battery, or other source and provides 230-240v AC current.

Special attention should be made to **CAUTION** statements in this users manual.

CAUTION statements identify conditions or practices that could result in damage to your PowerSource or to equipment that you are using with it.

CAUTION

- When connecting the PowerSource directly to a battery or other power supply ensure that you observe correct polarity (Ensure the red '+' positive lead is clamped to the positive battery terminal and the black '-' negative lead is attached to the negative battery terminal.
- Do not exceed the maximum input voltage (15v DC).
- Do not remove the protective cover under any circumstances, only by a qualified electrician.
- Improper use of the PowerSource can cause damage to property and possible harm to the user.

Power Supply

The battery or power supply must provide between 10.5 and 14.5v DC (a car battery will usually provide this) and must be able to provide sufficient current to operate the load (the item you require to power).

The power supply may be a battery or a regulated DC power supply. In order to find out if your power supply is big enough, divide the power consumption of the load (in Watts) by the voltage (12v DC in the case of the PowerSource) this will give you the current (in amps) that the power supply must deliver.

EXAMPLE: Load is rated at 100 watts
Power supply must be able to deliver: $100 / 12 = 8.3$ amps

CAUTION THE RINV500 MUST ONLY BE CONNECTED TO BATTERIES OR REGULATED POWER SUPPLY WITH A NOMINAL DC OUTPUT VOLTAGE OF 12 VOLTS. THE POWERSOURCE WILL NOT OPERATE ABOVE 15 VOLTS.

CAUTION DO NOT USE WITH POSITIVE GROUND ELECTRICAL SYSTEMS IF USING DIRECTLY FROM VEHICLE BATTERY.

The majority of modern cars have negative ground electrical systems. If you are in any doubt, please check with a qualified auto electrician or your local vehicle main dealer.

Connecting to power supply RINV500

Switch off the RINV500 PowerSource. The RINV500 PowerSource comes complete with two cables that are to be connected onto the back of the PowerSource using the sockets. Do not over tighten and check no wire is exposed. Observe correct polarity. (Red + positive, Black - negative). The other end with the crocodile clips are then clamped to the battery terminals again be sure to observe the



correct polarity.

Connecting your PowerSource

Connect the PowerSource input to the vehicle/leisure battery using the cables supplied. Ensure the load requirements are within the parameters of the PowerSource output; plug your appliance into the socket of the PowerSource. Ensure the PowerSource is switched off prior to plugging in any accessories and connecting to battery or power supply.

CAUTION Some rechargeable products have a charger that is designed to be plugged directly into mains 240v sockets. These can damage the PowerSource. When first using a rechargeable product, monitor its temperature for 10 minutes to ensure overheating does not occur.

Fuse replacement

RINV500 – 35amp (x2) Internal blade fuses.
Please consult a qualified electrician to replace any fuses.

Positioning of PowerSource

The following points should be noted:

- The PowerSource is not waterproof.
- The PowerSource should be placed on a ventilated flat surface.
- Do not put the PowerSource on or near direct heat or expose to sunlight.
- Do not place the PowerSource in or around flammable environments.

Operating tips

NOTE: The PowerSource is not designed to run products that provide heat, such as hair dryers or irons.

Protective features

Low battery alarm – An alarm will sound when the voltage from the battery drops to 10.6v DC. This indicates that the battery the PowerSource is connected to will require recharging. (If connected to a vehicle battery, starting the vehicle engine should be sufficient) The PowerSource will automatically shutdown if its voltage is allowed to drop to 10v or below.

Over voltage protection – The PowerSource will automatically shutdown if the input voltage exceeds 15v DC.

Reverse polarity protection – Reverse polarity (incorrect battery connection) may result in the blowing of the internal blade fuses. If this occurs immediately disconnect the battery. The internal blade fuses will need to be checked by a qualified electrician if the PowerSource does not continue to work.

Overload protection – The PowerSource will automatically shut down if the continuous power draw exceeds its maximum rating of the PowerSource.

Temperature protection – If the temperature of the internal heat sink reaches $>65^{\circ}\text{C}$ the PowerSource will shut down automatically. Allow the PowerSource to cool before using again.