Specifications

PowerSource Model	RINV150	RINV300
Max. Continuous power (Watts)	150	330
Peak Power (Watts) 0.01 Seconds	300	600
No load current draw (AMPS)	<0.15	<0.25
Waveform	Modified Sine	Modified Sine
Input Voltage Range	10 – 15 Volts DC	10 – 15 Volts DC
AC Socket	3 Pin Mains	3 Pin Mains
Fuse	20 amp	40 amp
Weight (kgs)	0.8	1.1
Dimensions (mm)	140 x 137 x 52	203 x 137 x 52

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).
	3. fuse in cigarette lighter plug has blown.	Replace fuse in cigarette lighter plug - 15 amp.
Above sympton when using the cigarette lighter plug on the RINV300	4. Vehicle fuse has blown as the maximum wattage using the cigarette lighter plug is 180 watts.	Replace vehicle fuse and ensure if using cigarette lighter plug the wattage does not exceed 180 watts. Above this connect directly to the vehicle battery.
Run time is less than expected	1. Internal 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

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PowerSource

Mains powered equipment from a 12v source

User Manual

12v DC to 230v AC Power Source
150 & 300 Watts

Introduction
The Ring PowerSource is an electronic device that converts a low voltage 12v DC current from a battery, or other source, to 230 volts 50 Hz AC mains power.

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.

Power Supply
The battery or power supply must provide between 10.5 and 14.5 volts 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 input voltage (12v in the case of most vehicle batteries) 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 RINV150 OR RINV300 MUST ONLY BE CONNECTED TO BATTERIES OR REGULATED POWER SUPPLY WITH A NOMINAL DC OUTPUT VOLTAGE OF 12 VOLTS. THE POWERSOURCE WILL NOT OPERATE FROM 24V POWER SUPPLY.

Connecting to power supply
RINV150
The RINV150 Powersource is fitted with a cigarette lighter plug (internally fused) with 0.5m of cable for connection to the cigarette lighter in your vehicle. The tip of the plug is positive and the side contact is negative. Push firmly into the cigarette lighter socket in order to ensure a good contact.

RINV300
The RINV300 PowerSource is fitted with two 4mm socket/screw connectors that enable connection to be made to a leisure battery. The red is the positive and the black is negative cable. The cables allow you to un-screw the socket screw on the PowerSource and connect according to the correct colour, the crocodile clamps should then be connected to a 12v leisure battery onto the correct terminals designated. Red (+) and black (-).
The RINV300 is also fitted with a cigarette lighter plug (see RINV150 for details).
An appliance with a maximum rating of 180 watts only is permissible when connecting the RINV300 to the cigarette lighter plug. Above this rating connect directly to the battery.

CAUTION DO NOT USE WITH POSITIVE GROUND ELECTRICAL SYSTEMS
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 your Powersource
Connect the Powersource input to the vehicle/leisure battery using the cables (cigarette plug for

RINV150) supplied. Ensure the load requirements are within the parameters of the Powersource output; plug your appliance into the socket of the Powersource.
CAUTION Certain rechargeable devices are designed to be plugged directly into an AC socket to be recharged. These devices can damage the PowerSource. When first using a rechargeable device, monitor its temperature for 10 minutes to ensure overheating does not occur.

Fuse replacement
RINV150 – 20amps
RINV300 – 40amps
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
Inductive loads such as TVs and Stereos (devices with a coil or transformer in it) may require more current to operate than a resistive load of the same wattage reading. Televisions may require several times their wattage reading to 'Start up'
This condition may require repeated ON/OFF switching of the inverter in order to get them started.

NOTE: The PowerSource is not designed to run products that provide heat, such as hair dryers or irons.
It is recommended that if you are using the PowerSource from you vehicle battery you regularly run your engine in order to recharge the battery.

Protective features
Low battery alarm – An alarm will sound when voltage from the battery drops to 10.6 volts. This indicates that the battery the PowerSource is running off requires recharging. The Powersource will automatically shutdown if is voltage is allowed to drop to 10 volts.
Over Voltage Protection – The PowerSource will automatically shutdown if the input voltage exceeds 15 volts DC.
Short Circuit – Reverse polarity or short circuit of the load will usually result in the blowing of the external blade fuses. If this occurs immediately disconnect the shorted load.
Overload protection – The Powersource will automatically shut down if the continuous draw exceeds its maximum rating
Temperature Protection – If the temperature of the internal heat sink reaches 65˚C the Powersource will shut down automatically. Allow to cool before using again.

CAUTION
• When connecting directly to a battery or other power supply ensure that you observe correct polarity
• Do not exceed the maximum input voltage (15 Volts DC)
• Do not remove the protective cover under any circumstances unless by a qualified electrician
• Improper use of this PowerSource can cause damage to property and can cause loss of life.