

POWERPART PS301-2-BC 20AMP DUAL STAGE POWER SUPPLY INSTALLATION AND OPERATING INSTRUCTIONS.

Thank you for purchasing the PS301-2-BC power supply. We are sure that you will be very pleased with its advanced features and high level of reliability, making it one of the best units available.

The PS301-2-BC is an electronic power unit that has been designed specifically for use within a caravan or motor home. Its primary function is to supply power to operate the caravan or motor home 12-volt equipment with a separate output to charge and recharge a 12-volt auxiliary battery as efficiently as possible.

The power supply output to the caravan/motor home 12-volt equipment is set at 13.8 volts with a maximum loading of 20 amps, whilst the supply output to the 12-volt auxiliary battery is 13.8 volts with an occasional boost of 14.4 volts and a charging current of approximately 2.5 amps.

The PS301-2-BC cannot overcharge a battery in good condition. This however is not the case when a battery is faulty, as increased gassing and battery fluid loss can occur when attempting to recharge the battery.

Fitted to the PS301-2-BC is a 12-volt fan. This fan is fitted to assist cooling of the unit and will become operational when approximately 8 amps are being drawn from the unit.

INSALLING THE PS301-2-BC

During operation the PS301-2-BC will (as with all transformer type products) generate a certain amount of heat and this must be taken into account when deciding the location of the unit. Adequate ventilation therefore must be provided around the unit of at least 100mm.

It is logical that the closer the PS301-2-BC is to the battery, the better the performance. And this train of thought should be adopted when positioning the unit.

The PS301-2-BC can be mounted both vertically or horizontally (if fitted horizontally the low voltage connection should be pointing downwards) and the unit should be securely fixed using the 4 fixing holes provided.

THE BATTERY

The battery must be housed within a battery compartment. This compartment must be,

- 1: Constructed of an acid-resistant material.
- 2: The compartment must be sealed to prevent any battery gases entering the caravan.
- 3: The compartment must have adequate ventilation to the outside of the caravan.
- 4: The battery must be firmly secured and in an upright position.

The 12 Volt Lead Acid 6 cell battery usually between 75/120 ampere hour should be periodically inspected for loss of fluid (this may indicate a faulty cell within the battery, in -which case the battery will eventually boil dry). Cell failure can be postponed by not allowing the battery terminal voltage to fall below 10 Volts.

WARNING

Should the unit be damaged in any way the unit must be returned to the place of purchase for repair/replacement. Do not open the unit as there is high voltage components contained within the unit. This battery charger must not be used for recharging Ni-Cad or other types of dry cell batteries.

CONNECTING THE BATTERY

When connecting the cables to the battery, clamp type fixings should be used (Not Crocodile Clips) and marked – for – VE and + for +VE with a black protective cover for the – VE and a red protective cover for the +VE. The minimum cable size should be 2.5mm sq. An in-line fuse must be fitted (15 amp recommended) to the +VE between the PS301-2-BC and the battery.

12 VOLT CONNECTIONS

Connections from the PS301-2-BC to the auxiliary battery are via the Yellow and Black wires that are fitted with female terminals and located into a two-way block.

Connections from the PS301-2-BC to the caravan/motor home 12-volt internal equipment are via the Red and Black wires fitted with male terminals and located into a two-way block.

WHAT HAPPENS IF?

The battery is connected the wrong way round? The PS301-2-BC has an internal safety device that will protect it, however the 15 Amp Inline fuse will need replacing, if a larger fuse than 15 Amp has been used then this will result in the unit being damaged.

The load placed on the PS301-2-BC exceeds the-rated output? If the load exceeds 20 Amps the unit will reduce the output voltage in proportion to the level of the overload, a voltage reduction will be indicated by a reduction in the brightness of lamps or a reduction of efficiency of equipment. The load should be reduced by turning off appliances that are not required.

The overload exceeds the inbuilt overload limiter? The unit will start to 'click' on and off warning you of the situation.

I take my caravan abroad? The P301-2-BC is not affected by low input voltages sometimes experienced when abroad. Mains power reverse polarity will not affect the PS301-2-BC.

I use the PS301-2-BC be used without a battery? The unit will function perfectly without a battery in circuit.

The low voltage outputs are shorted together? The unit will go into overload mode until the short is removed.

PLEASE NOTE: If the PS301-2-BC is used without a battery or the battery is heavily discharged, the load drawn by the low voltage equipment must not exceed the rated output.

PRODUCT SPECIFICATION

Input Voltage: 230/240 Volts AC

Frequency: 50Hz

Output Voltage: (Internal equipment: 13.8 Volts \pm 0.5 Volts) (Battery charging: 13.8 to 14.4 Volts \pm 0.5 Volts)

Output Current: Internal equipment 20 Amps: (276 Watts at 13.8 Volts) Battery charging 2.5 Amps: (34.5 Watts at 13.8 Volts)

Internal Cooling Fan: Automatic Switch on at Approximately 8 Amps

230 VOLT AC MAINS CONNECTIONS

If you do not have the relevant experience and/or knowledge to carry out the mains wiring, then a qualified electrician should be used. The installation must be carried out in accordance with the relevant IEC wiring regulations.

The PS301-2-BC is supplied with a lead fitted with an IEC socket on one end with the other end being left bare to allow the fitment of either a three-pin plug or connected direct to a 5/6 Amp MCB. Cable colours as follows:

BROWN	=	LIVE
BLUE	=	NEUTRAL
GREEN/YELLOW	=	EARTH

If a 13 Amp plug is used, then the 13 Amp fuse should be replaced with a 5 Amp fuse and wiring of the plug should be in accordance with that as specified on the plug.

TO TEST THE PS301-2-BC

(Output for the 12-volt internal equipment)

- 1: Disconnect the +VE from the battery (remove the in-line fuse).
- 2: Connect the caravan to the mains supply.
- 3: Switch on the power to the PS301-2-BC.
- 4: The caravan 12 Volt equipment should work showing that the unit is functioning correctly.

(Output-for the battery 'charging)

With the 230-volt power to the PS301-2-BC disconnected, disconnect the battery leads from the battery. Ensure that they are not touching each other or any metal work, turn on the 230-volt supply to the PS301-2-BC and with a volt meter test for voltage at the battery clamps at the end of the leads.

GUARANTEE

Thank you for purchasing this quality product, we are sure that the product will provide many years of trouble-free operation.

In the unlikely event of a malfunction please return the unit (contained within suitable packaging) along with proof of purchase to the address below.

Pennine Leisure Supplies guarantee this product against any malfunction due to faulty workmanship or materials (but not damage caused by misuse, negligence or damage in transit) for a period of 12 months from the date of purchase. During this period, we will repair, or at our option, replace the defective part free of any charge for labour or material.

Please Note: Any attempt to open, repair or modify this unit will render this guarantee invalid.

Pennine Leisure Supplies Ltd Unit 2

Copley Valley Business Park
Copley Valley Road
Sowerby Bridge
HX6 2WA

Telephone: 01422 313 455

Fax: 01422 313 550

E-Mail: info@plsgroup.co.uk

