

## **POWERPART PS276-1-BC 20AMP POWER SUPPLY**

### **INSTALLATION AND OPERATING INSTRUCTIONS.**

Thank you for purchasing the PS276-1-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 PS276-1-BC is an electronic power unit that has been designed specifically for use within a caravan or motorhome. Its primary function is to charge and recharge a battery as efficiently as possible. To ensure that battery overcharging does not occur, the PS276-1-BC has a fixed output voltage, and when connected to mains supply the PS276-1-BC will raise the battery terminal voltage to its fixed voltage output and therefore recharge the battery.

It is worth repeating that the PS276-1-BC cannot overcharge a battery in good condition. This is not the case when a battery is faulty, as increased gassing and battery fluid loss can occur when attempting to recharge the battery.

### **INSTALLING THE PS276-1-BC**

During operation the PS276-1-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 PS276-1-BC is to the battery, the better the performance. And this train of thought should be adopted when positioning the unit.

The PS276-1-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 are 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. A 15 Amp in line fuse must be fitted to the +VE between the PS276-1-BC and the battery. This fuse will be of adequate size unless the battery is allowed to get into a discharged state. It is possible if the battery is allowed to get to such a discharged state that a 20 Amp fuse will be required to take any surge of current that the battery may call for (Please refer to the section, What Happens If). The 12 Volt connections on the PS276-1-BC are via male 6.8mm spade terminals fitted into a two-way terminal block.

### **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 PS276-1-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 PS276-1-BC**

- 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 PS276-1-BC.
- 4: The caravan 12 Volt equipment should work showing that the unit is functioning correctly.

### **WHAT HAPPENS IF?**

***The battery is connected the wrong way round?*** The PS276-1-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 PS276-1-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 lamp; or a reduction of efficiency of equipment. The load should be reduced by turning off appliances that are not required.

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

***I take my caravan abroad?*** The PS276-1-BC is not affected by low input voltages sometimes experienced when abroad. Mains power reverse polarity will not affect the PS276-1-BC.

***I use the PS276-1-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 PS276-1-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: 13.8 Volts  $\pm$  0.5 Volts.

Output Current: 20 Amps: (276 Watts at 13.8 Volts).

Internal Cooling Fan: Automatic Switch on at Approximately 8 Amps.

## **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.

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