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# RANGER PA20 ©

## Instructions for installation and operation

### Introduction

The **RANGER PA20** has been designed to provide 12V DC services for a caravan or boat when connected to a 240V / 50Hz single-phase electrical supply. It is constructed in accordance with BS61558 and will provide a DC output of 16 amps continuously. In addition the RANGER PA20 has a short time rating of 20 amps for up to three minutes to cater for items that are used only occasionally for a short time such as water pumps. The output is smoothed to efficiently operate fluorescent lights, water pumps and other services requiring 12 volts DC.

If a battery is connected to the **RANGER PA20** it will be charged at a variable rate depending on the battery voltage and other loads on the 12V system. The battery should not be permanently connected as it is not good practice to leave an already fully charged battery on charge indefinitely. Attempts to charge a faulty battery will be unsuccessful and will ultimately cause damage to the **RANGER PA20**.

It is important to allow free air circulation around the **RANGER PA20** at all times. It should be sited in a well ventilated area with at least 100mm of clearance around the top and sides to permit cooling air flow. It must not be placed on a resilient insulating material such as a blanket or covered with anything. Covering the unit may create a fire hazard and will restrict cooling leading to overheating and damage, rendering the guarantee void.

The white 220 / 240V input lead should be connected to a protected mains supply, e.g. a consumer unit with RCD protection. Although the transformer itself is of Class II construction for added safety, the unit must have a secure connection to earth.

On the 12 volt DC output Red or Brown is connected to a positive (+) terminal and the Black or Blue to a negative (-) terminal. Observation of the correct polarity is vitally important both from the point of view of the Ranger, but also for the device to which it is connected.

### Safety & Protection

The **RANGER PA20** is fitted with a fast blow 16 amp fuse (F16) in the DC output. The correct fuse or one of a lower value must be used at all times. Spares are available from your Dealer or direct from Breckland Trading Co. Failure to use other than the correct fuse (or one of the same type but lower value) will invalidate the warranty.