

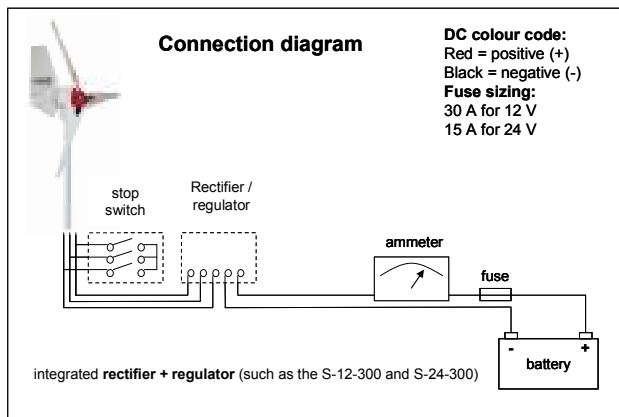
Ampair Regulator Instructions: Model S-300-12/24

Description

This regulator is a single input channel and single output channel combination rectifier and regulator designed for use with the Ampair 300 wind turbine. It is available in either 12 volt or 24 volt models. It uses advanced three stage pulse width modulated (PWM) temperature compensated charging.

The regulator is designed for use in yachts and similar environments. It is of rugged heavy duty die-cast powder coated metal construction suitable for bulkhead mounting with all fixings facing forwards. The enclosure lid incorporates a moulded rubber seal against moisture ingress and there are two suitably sized cable glands to seal the cable from the wind turbine and to the battery. In addition the 100% solid state electronics are encapsulated in epoxy to protect against both moisture and vibration. The unit incorporates a built-in heat sink and does not create excessive heat.

Installation



Install the regulator in the cable run between the wind turbine and the battery as shown in the connection diagram on the left. Ideally locate the regulator close to the batteries so that it is sensing the battery voltage and temperature. However the regulator and the recommended external fuse should not be mounted inside an unventilated battery compartment.

If an external stop switch is fitted it should be located in the cable run between the wind turbine and the regulator.



The combo rectifier/regulator has two terminal blocks: one with three terminals (for the cable from the turbine) and one with two terminals (for the cable to the battery).

To use these terminal blocks insert a terminal screwdriver into the upper hole and press down firmly onto the metal gate. This will operate a sprung loaded trap into the lower hole into which the bare ends of the wires should be inserted as shown in the photo alongside.

Operation

No manual intervention is required. The regulator will allow the turbine to spin freely when the battery is at the charge voltage. The charge voltage is adjusted automatically depending on the charge state of the battery: the float voltage is 13.2V; the PWM absorption voltage is 13.7V; and the equalisation voltage is 14.1V (double these numbers for 24 volt systems).

The SAE automotive fuse in the regulator is designed to protect the regulator, not the circuit. It is recommended that an additional fuse be installed external to the regulator.