

Alternator quick installation reference

How install an alternator in your system

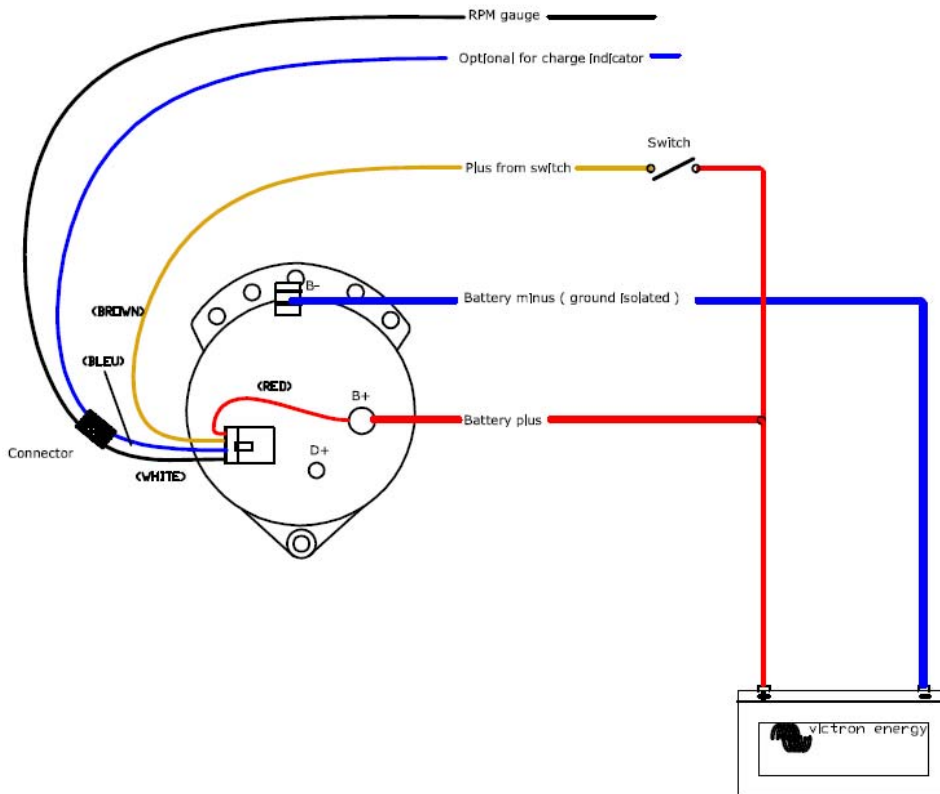


After completing the mechanical installation (see installation manual) of your alternator, you must connect the alternator electrically. Please be aware that the high output from a Balmar alternator requires the correct cabling to ensure optimal performance and safety. Rule of thumb is that you should divide the output current by three and the outcome is your wiring diameter (or visit our website www.victronenergy.com for further information) Remember to scale the 'plus' lead as well as the 'minus' leads !

Example, Alternator 60-150-SR-IG is able of producing 150Amps. The wiring (for maximal 5 metres) should be $(150/3) 50\text{mm}^2$.

Be sure not to connect the Balmar alternator on the ground at any part of the system because it will be not ground isolated anymore!

Difference in wiring compared to standard alternators.



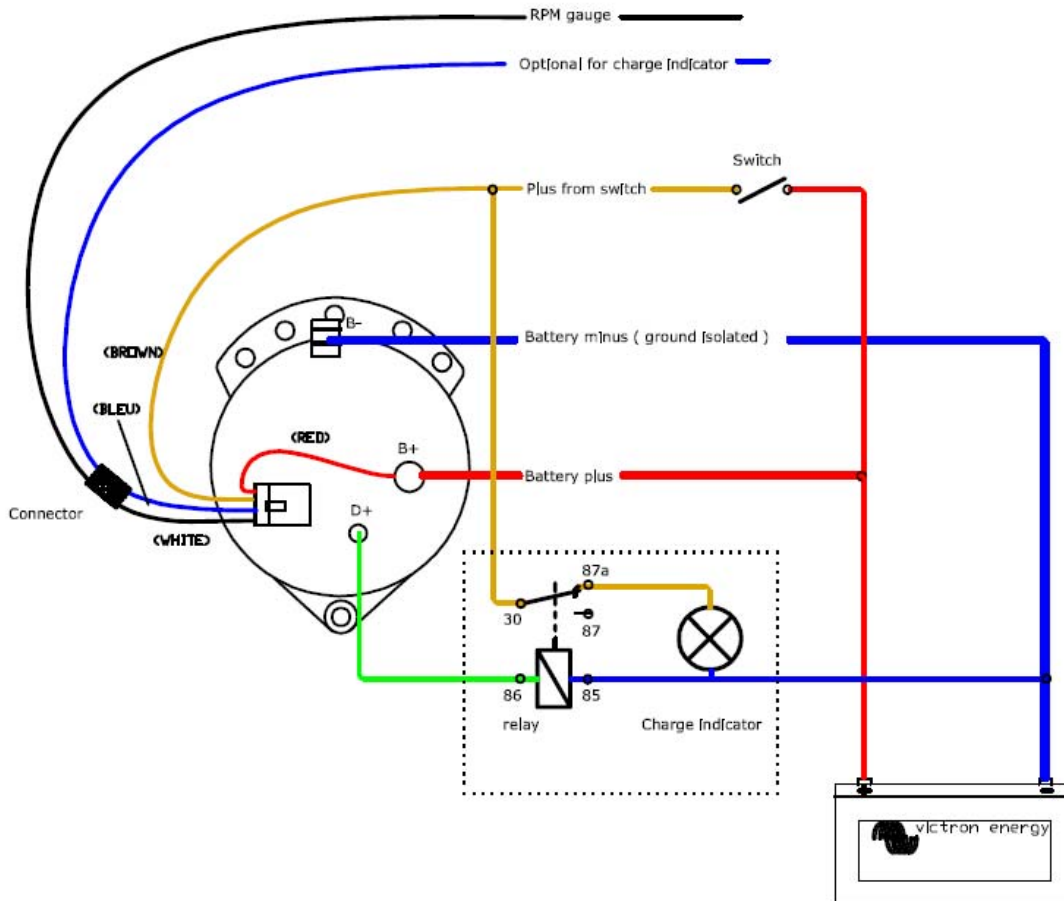
(fig 1) Balmar alternator wiring

The major difference between wiring a series 6 Balmar alternators and a regular alternator which is found often on engines is the charge lamp. A **Balmar alternator does not need an indication lamp at all to start up**, the voltage coming from the ignition switch will be enough (fig 1).



Optional charge indication

If there is already a charge indication lamp installed in your system, or you feel you need to install one, you could connect it as shown in fig. 2. Use a small relay and indication lamp which have the same voltage as the alternator. If the relay (must have a NC contact) and the lamp are connected as shown in fig. 2 the lamp will go out when the alternator is charging the batteries. It will light up when the alternator is not charging, like a conventional charge indicator.

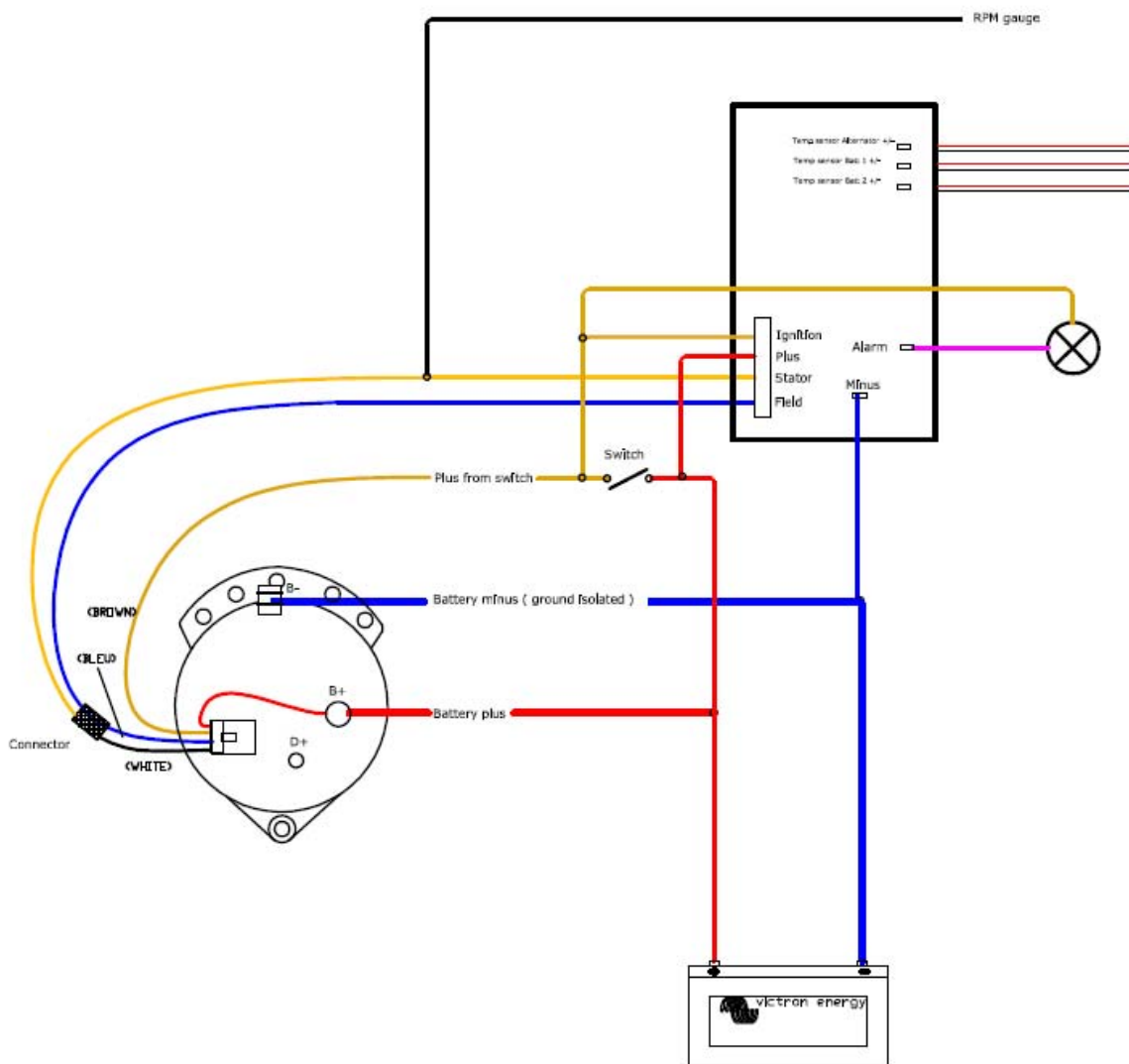


(fig 2) Balmar alternator wiring with indication lamp

External regulator



The optimal results with a Balmar Alternator are reached when an external regulator is used. This will enhance charge performance and makes sophisticated battery type settings possible. Connecting an external regulator is very simple. The internal regulator can be left connected while the external regulator is paralleled to this, see fig. 3 for more information.



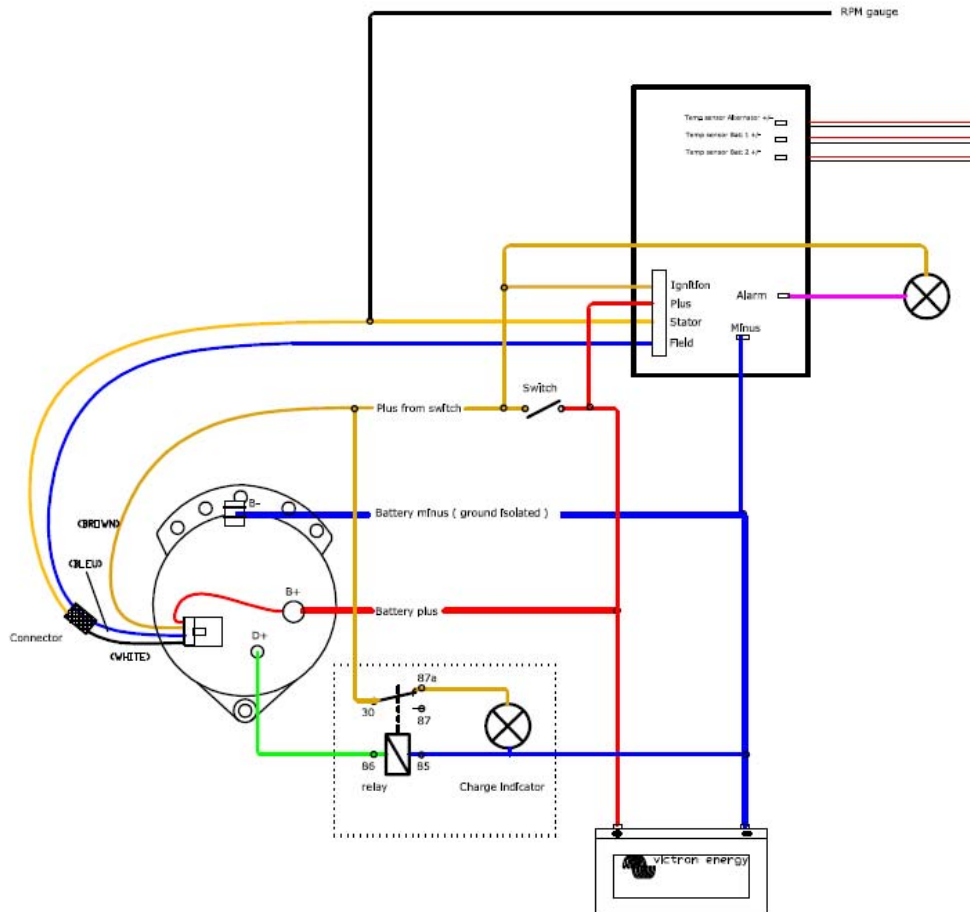
(Fig 3) Balmar alternator with external regulator

External regulator with charge indication



For the charge indication lamp the same wiring can be applied with an external regulator as shown in fig. 1. The wiring can be done as shown in fig 4.

The regulator also has a connection for an alarm (switches to minus). This alarm indication will light up when there is an over/under voltage or other alarm situation (see the user manual for more information).



(Fig 4) Balmar alternator with external regulator and charge indication



Temperature

When charging batteries the alternator casing temperature can go as high as 90°C/200°F. This high temperature can cause some smell when the alternator is running for the first time on high load (this is normal). In systems with high ambient temperatures the external regulator can be fitted with an optional temperature sensor.



Running disconnected!

Never run an alternator (partly) disconnected or switched off ! This can lead to permanent damage of the alternator !