

# Sterling Power Products

Alternator open circuit protection unit and high voltage alarm relay



IP68 Waterproof English French Deutsch

[www.sterling-power.com](http://www.sterling-power.com)  
[www.sterling-power-usa.com](http://www.sterling-power-usa.com)



The **Pro Protect** is a highly effective alternator protection device which prevents high voltage back EMF spikes destroying your alternator's expensive regulator and internal diode pack. The **Pro Protect** prevents extreme damage occurring to your main and auxiliary system devices. Most common faults which cause this problem are:

- 1) Loose wires causing an alternator wire to become undone / loose causing sparking.
- 2) Failure in a split diode/relay charging system, open circuiting this system.
- 3) Someone switching off engine's electrical power when engine is actually running.
- 4) Defective rotary battery selection switch causing arcing during rotation.
- 5) Failure of a fuse if fitted in the alternator's circuit.

All the above events could easily destroy your alternator's sensitive parts, this device will prevent this by diverting any high spike build up to earth, this is effective from full power to no power fault events on the alternator. Most alternator regulators and internal diode packs will be damaged by spikes in excess of 40V. The **Pro Protect** is designed to absorb spikes in excess of 18V (12V) and 36V (24V systems).

**Installation:**

(N.B we do not supply any cables with the **Pro Protect**, we recommend the use of a 10A cable (place **Pro Protect** as near to alternator as possible)

Simply connect the positive / negative output connection from the **Pro Protect** to the positive / negative output of the alternator. It's always best to connect the **Pro Protect** ring terminal to the inside of the bolts of the alternator's main power cables. I.e. there will already be the main alternator outputs on the alternator's stud. For maximum protection remove the main cables and place the protection device on the bolt shaft first, then add the main cables after (thus sandwiching in the protection cable). If the tensioning nut on the main cable becomes loose the main cable will fall off first leaving the protection device on the alternator, this will save the alternator. If the **Pro Protect** cable is on top of the live cable (not held in by the live cable) then, when the **Pro Protect** cable falls off, the alternator will not be protected.

In the event there are no nuts then it's up to the installer to connect the wires as close as possible to the alternator's main power output. The closer the **Pro Protect** wires are fitted the more possible events it can protect for.

Use a 5 amp fuse in the control lines

The red LED (high voltage warning) will illuminate if alternator voltage is between 16.0 to 16.5V and over (12V unit) or 32.0 to 33.0V and over (24V unit). WARNING only given for high voltage at alternator, this is an event we cannot protect for. If this WARNING is given the engine should be shut down immediately and should be investigated and the high voltage source should be identified and rectified. In the event of spike protection being engaged there is no event LED to indicate this due to it's extremely high voltage and extremely low duration. The device will simply do its job and protect the alternator. The warning is more for a long term voltage fault. I.e. if the alternator's own regulator fails for normal reasons and the alternators voltage rises the LED will simply warn of the high voltage at the alternator, this device cannot actually stop the high voltage occurring.



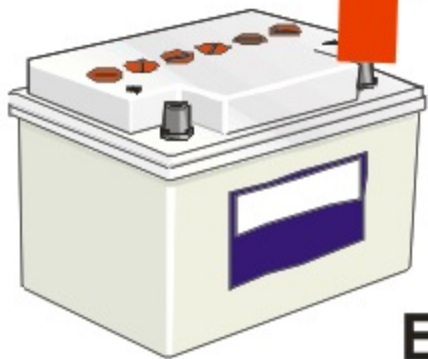
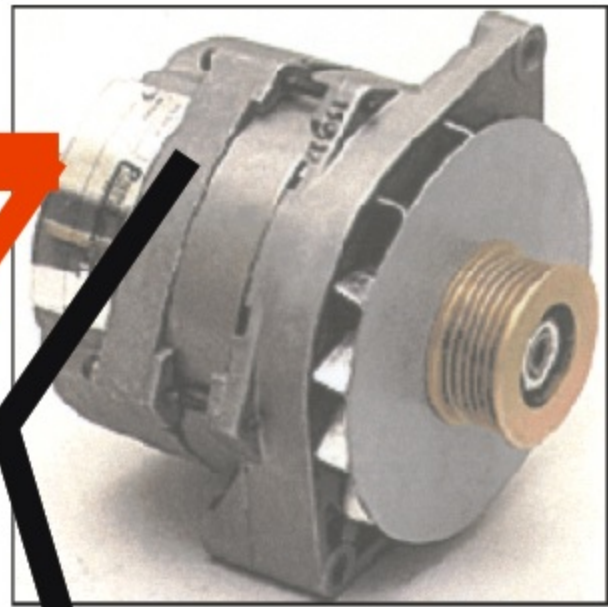
Alarm relay 1A, max current 1A  
 max voltage 48V  
 Designed and developed in England

AQUANAUTIC  
 Water proof range

Warranty:  
 2 year return to factory conditional warranty

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Alternator  
standard  
Switched  
path



Emergency  
alternator  
route

