PDM32 Connections for an alternator.

An alternator normally is bolted to the engine and has 4 connections.

Battery or ground is through the metal frame of the alternator and is connected to the negative side of the battery by ground wires

Battery positive is the main charging connection and is connected to the battery by a high current cable.

Excite connection is the connection to power the field coils to cause the alternator to start to provide power to the battery and other electrical loads.

Indicator connection is used to provide a visual indication on the dashboard to indicate that all is not good with the electrical system.

When you first turn on the electrics in a car before starting the engine the warning light illuminates to say that the excite coils are getting power, but the alternator is not producing power. This proves the light is working and should it come on when the engine is running then it needs to be checked.

The advantage of the PDM over a fuse board is that the PDM can be set not to power the excite coils until the engine is producing power by monitoring the RPM from the ECU and not turning on the output until the RPM is greater than 100.

The Battery voltage can also be monitored and have the excite coils disconnect when the battery power is at 100% and no further charging is necessary, as other loads take power the coil will come back on to top up the battery.

The indicator connector can be monitored and when on the battery symbol can be displayed on the Dash. The indicator connection is normally pulled to ground by the alternator when there is a fault.