

# REVERSE BATTERY PROTECTED BATTERY GUARD

The Reverse Battery Protected Battery Guard is another member of Intellitec's battery run-down protection devices. It is intended to be used on vehicles to provide not only battery run-down protection but also act as a manual Master Disconnect function and provide reverse battery connection protection. The module is used in conjunction with Intellitec's Battery Disconnect relays to allow the control of up to 200 amps on up to two battery connections.

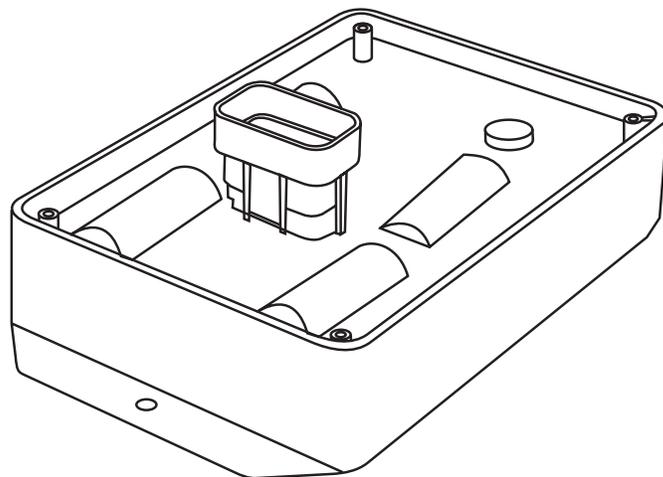
The system consists of three major components, the module, the relay/s and the dash-mounted Master Disconnect switch.

The Master Disconnect Switch is a center off rocker, which includes an LED indicator. It is used to turn the Battery ON, Battery OFF, and to reset the system in the event of an automatic shut-down. The indicator will be on when the battery is connected and will blink when the battery is disconnected.

There is an input to the module that allows the indicator to be turned off in the event that it becomes annoying to the driver.

If the Master Disconnect Switch is operated when the ignition is on, the system briefly interrupts the ignition line before disconnecting the battery/s to prevent damage to other electrical or electronic components.

If the ignition switch is turned off, the system constantly monitors the battery voltage. When the voltage drops below 24.0 volts for more than 4



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minutes, the system will automatically disconnect the battery to prevent inadvertent run-down. This will leave enough power in the battery to start the vehicle.

If the battery cables are disconnected, the unit senses the sudden drop in voltage and will open the disconnect relay/s. When the battery is reconnected, the polarity must be correct before the relays can operate, preventing the accidental reverse connection to the vehicle, preventing damage from the reverse voltage.

The unit is housed in a plastic enclosure and is completely potted to allow it to be mounted in an exterior position. The connections are made through a Packard weather proof connector.



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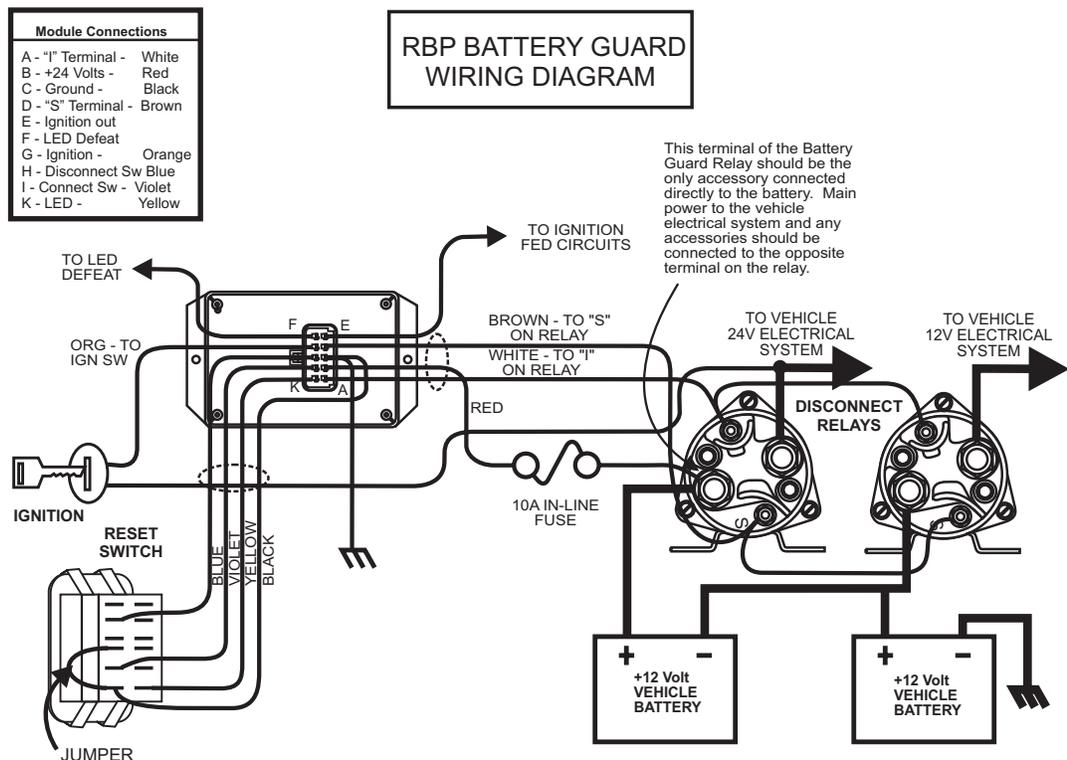
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## HOW IT WORKS

The Battery Guard utilizes Intellitec's patented Battery Disconnect relay to allow electronic control of the high current of the vehicle battery. The module constantly monitors the battery voltage to determine the state of charge. If the voltage drops below 24.0 volts for more than 4 minutes, the system will automatically disconnect the battery/s.

In addition, the dash mounted switch acts as a Master Disconnect, to allow the remote disconnect of the battery/s. The system accepts an ignition input to sense when the ignition is turned on. If the ignition is on, the automatic disconnect feature will be defeated. If the Master disconnect switch is pressed the system briefly interrupts the ignition before disconnecting the battery to prevent damage to other electrical and electronic components on the vehicle.

When the system senses the battery voltage suddenly falling to zero as would happen when the battery cables are disconnected, it will operate the disconnect relays to open them. This assures the relays are open when the cables are reconnected. If the battery is connected with the wrong polarity, the system will not allow the relays to operate.



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