12V Battery Manager

Battery Manager provides complete management of the charge on the vehicle battery through three major functions.

- Manual battery disconnect
- Automatic battery disconnect
- Automatic stand-by charge limiting

Manual Battery Disconnect

Battery Manager is equipped with a dash mounted switch that allows the driver to manually disconnect the battery to isolate it from the vehicle's loads. This feature assures that when the vehicle is not being used, the battery will not be accidently discharged by loads such as lighting, radios, etc., being left on when the vehicle is not in use.

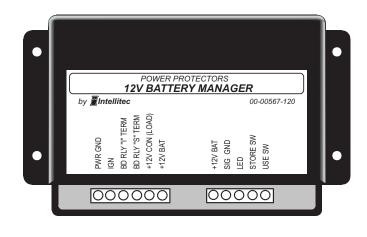
To use this function, the driver momentarily presses the dash mounted switch in the "Store" position when leaving the vehicle for an extended period of time. When it is time to put the vehicle back into service, the driver needs only to press the switch in the "Use" position to re-connect the battery.

Automatic Battery Disconnect

The automatic battery disconnect feature is a backup to the manual disconnect feature. If the ignition switch is "off" and the driver fails to disconnect the battery and it begins to discharge, the **Battery Manager** will automatically disconnect the battery to prevent completely depleting the battery. If **Battery Manager** automatically disconnects the battery, an LED at the dash mounted switch will blink to show that an automatic disconnect has occurred.



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When the driver returns to the vehicle, they will see the blinking LED, indicating that the battery was automatically disconnected.

To re-connect the battery, the driver will again simply press the dash-mounted switch to the "Use" position, as with a manual disconnect.

Automatic Stand-by Charge Limiting

The Battery Manager offers another important feature for batteries that are connected to chargers for extended periods of time. **Battery Manager** monitors the voltage of the battery as an indication of the state of charge. When the ignition switch is "off" and the voltage of the battery rises above 13.8 volts for an hour, **Battery Manager** disconnects the battery and then monitors the voltage to determine the exact state of charge. As long as the battery voltage is above 12.6 volts and the charger is connected, the battery will remain disconnected. When the voltage falls below 12.6 volts, **Battery Manager** will re-connect the battery to the charger to replenish its charge.

This operation prevents the battery from being over charged and boiling the water away.

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How Does It Work?

The Battery Manager uses a unique latching solenoid to connect the battery to the vehicle's electrical system. The solenoid only draws power during actuation, so it does not cause any discharge of the battery. This solenoid allows the battery to be connected or disconnected electrically, so that the system can protect the battery from accidental discharge or over charge.

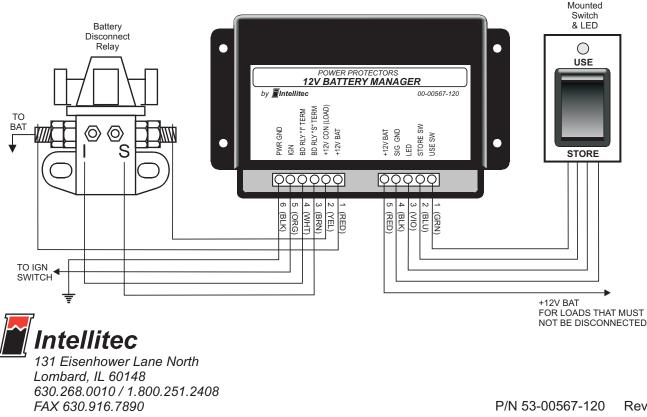
The electronic circuitry uses the voltage information of the battery to determine the state of charge. The voltage of the battery is continuously compared to an internal, temperature compensated, reference source that is adjusted in the factory to better than 0.5% accuracy.

Specifications:

Standby Current: Ambient Temperature Range: Normal Input Voltage Range: Short Term Over Voltage Protection To: Reverse Voltage Protection To: Positive Voltage Spike Protection To: **Operating Environment:**

Less than 2 milliamps -40C to +85C 10 to 16 volts +24 volts - 300 volts +150 volts Electronics assembly out of direct weather

System Connections



Rev. B 022505

Dash