

Battery Control Center

Intellitec's **Battery Control Center™** is a centralized power switching, fusing and distribution center designed for motorhomes.. The **Battery Control Center™** including battery isolation, charging, and connectorized fuse block, was specifically designed to fit in tight spaces under the hood. The system consists of two (2) Battery Disconnect Relays, a bi-directional battery charging circuit, an auxiliary start function to provide a "jump start" from the auxiliary battery, ignition power switching, and a fog light relay circuit. It is housed in a high impact plastic enclosure to protect the circuit components and keep them like new for years of operation.

Installation is made easy by the incorporation of battery cable clamps eliminating the need to terminate the battery cables. The branch circuits are fed out through AMP Mate - N - Lok connectors.

The unit is mounted to the vehicle with four mounting feet supplied with the unit. These feet can be attached to the unit in eight different locations to accommodate nearly any mounting configuration. The cover of the unit snaps off and on for easy service of the fuses should that ever be necessary. Each fuse is labeled in the box to make circuit identification a simple matter.

Following are the important features included in this system:

Bi-Directional Battery Charging - provides charging of both batteries if either is being charged.



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The Auxiliary battery is charged from the engine alternator and the Main battery is charged from the converter when the coach is plugged into shore power.

Auxiliary Start - provides a "jump start" from the auxiliary battery in the event that the main battery does not have sufficient charge to start the engine.

Ignition Switched Power - circuits are switched by three relays to supply power to the horn, the rear heater, the power windows and the power seat.

Fog Light Relay - supplies 12 volts to the fog lights, when the coach is so equipped, allowing operation of the fog lights.

Circuit Breakers - conveniently located near the front, at the bottom of the box. These circuit breakers protect the wiring between the Auxiliary battery and the converter. These breakers have manual reset buttons that pop out when they are tripped.

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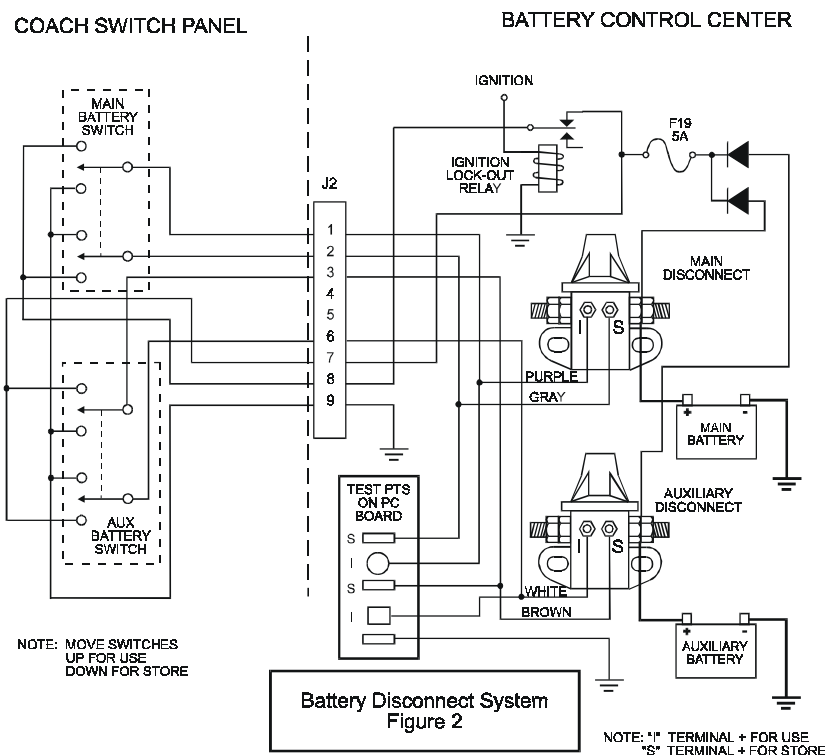
How Does It Work?

The **Battery Disconnect Relays** are used to disconnect the batteries during the periods of storage or during service. The disconnect relays operate by momentarily applying 12 volts to the solenoid coil in either of the two directions, (+12 volts on the "S" terminal and ground on the "I" terminal for opening) and (+12 volts on the "I" terminal and ground on the "S" terminal for engaging). The actuation voltage is supplied from the highest voltage of either the auxiliary or main battery through F19. The voltage is supplied to the momentary switches mounted in the coach and then fed back to the relays in the box.

The **Charging Circuit**, which utilized an isolator solenoid to connect the two batteries together

for charging, will charge both batteries if either battery is being charged. It operates by sensing the voltage on the Main and Auxiliary batteries. If either voltage goes above 13.3 volts (the minimum necessary to fully charge a battery) for more than 14 seconds, the isolator solenoid will pull in, charging both batteries. If, while the ignition is on, the voltage falls below 12 volts for more than 4 seconds, the isolator relay will open keeping all of the alternator's output available for the chassis functions. If the ignition is off and the auxiliary battery voltage should drop below 12.8 volts (voltage of a fully charged battery) for 4 seconds, the isolator relay will open, preventing the coach loads from discharging the main battery.

Schematic



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