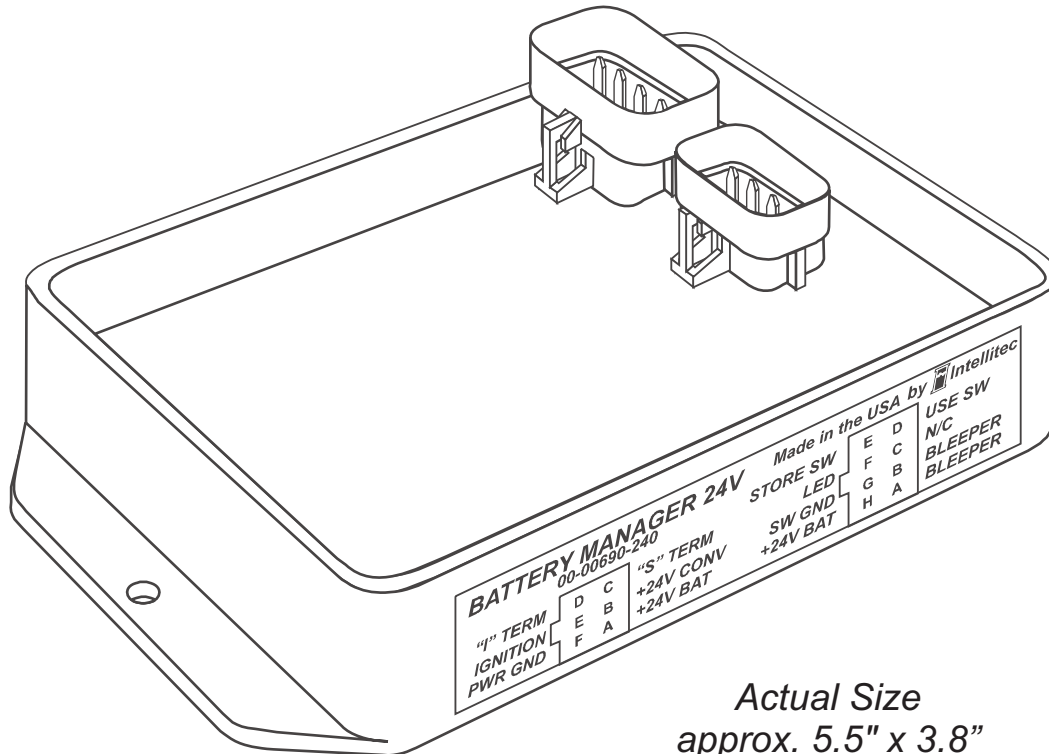


# 24 Volt Battery Manager w/Remote Alarm

## SERVICE MANUAL



Actual Size  
approx. 5.5" x 3.8"

The 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

### CAUTION:

All servicing of the Battery Manager should be done only by a qualified Service Technician. Inadvertent shorts inside the Battery Manager could result in severe damage and/or injury.

### TOOLS REQUIRED:

Low current Test Light, Accurate Voltmeter, (digital read-out preferred).

**Intellitec**

1485 Jacobs Rd.  
Deland, FL 32724  
386.738.7307

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### **BATTERY MANAGER**

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 dis-connected 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 the 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.

### **MANUAL BATTERY DISCONNECT**

Battery Manager is equipped with a dash mounted switch that allows the driver to manually disconnect their 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 accidentally discharged by loads such as lighting, radios, etc., being left on when the vehicle is not in use. This function is disabled when the ignition switch on the vehicle is in the "On" position.

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 reconnect the battery.

### **AUTOMATIC BATTERY DISCONNECT**

The automatic battery disconnect feature is a back-up to the manual disconnect feature. If the ignition switch is "off", 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 the Battery Manager automatically disconnects the battery, a LED in the dash mounted switch will blink to show that an automatic disconnect has occurred. When the driver returns to the vehicle, they will see the blinking LED, indicating that the battery was automatically disconnected.

To reconnect 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 27.6 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 25.5 volts and the charger is connected, the battery will remain disconnected. When the voltage falls below 25.5 volts, Battery Manager will reconnect the battery to the charger to replenish its charge.

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

The **BATTERY MANAGER SYSTEM** consists of three individual components: A **Dashboard-mounted Control Switch**, **Control Module** and a **24 V Battery Disconnect Relay**.

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### CONTROL SWITCH

The control Switch interfaces to all of the circuitry relating to the manual "Use" and "Store" features, and the Status Indicator LED. The Control Switch is a three position rocker switch with a spring return to the center position, and momentary contacts in the "Use" and "Store" positions. The Status Indicator LED, built into the switch will remain lit continuously when the battery is connected to the load, and will flash once every 7 seconds if the battery has been disconnected from the load because of a low voltage situation. If the battery has been manually disconnected from the load, or disconnected from the load because of an over charging situation, the Status Indicator LED will remain unlit. The Control Switch is connected to the Control Module via four wires.

### BATTERY DISCONNECT RELAY

The Battery Disconnect Relay is a proprietary magnetic-latching solenoid capable of switching and carrying load currents in excess of 100 Amps, continuously. The solenoid only draws current while the coil is energized to change its state, therefore it does not exhibit a continuous drain on the battery.

### SYSTEM INTERCONNECTIONS

The Control Switch incorporates a wire pigtail to interface with the Control Module. The Control Module incorporates an 8-pin, Delphi (Packard) connector to interface with the Control Switch with an additional 24V accessory output for use with accessories that must not be disconnected from the battery; such as, digital clocks and engine control computer systems. A 6-pin, Delphi (Packard) connector is also located on the Control Module. Four of the pins are wired to the "Battery", "Load", "I", and "S" terminals on the Battery Disconnect Relay with the two remaining pins wired to Chassis Ground and +24Vdc ignition sources.

### OPERATION AND STORAGE TEMPERATURE

Temperature: -40° to +85° C.  
Humidity: 95% R.H. @ 38° C.

### MECHANICAL INSTALLATION

The following procedure should be followed:

- 1) Control Switch: Dash mounted in appropriate cut-out.
- 2) Control Module: Firewall mounted using two (2) #6 or #8 screws.
- 3) Battery Disconnect Relay: Bulkhead Mounted

### ELECTRICAL INSTALLATION

The following procedure should be followed:

Module P/N 01-00690-240 24Volt Battery Manager Potted with Beeper  
Relay P/N 00-00507-024 "Big Boy" 24V Battery Disconnect Relay

- 1) Control Switch: **18** ft. pigtail harness (P/N 11-00690-300) to 8 pin, Delphi (Packard) connector, (J1) on Module.
- 2) Control Module: **3** ft. pigtail harness (P/N 11-00690-110) from 6 pin, Delphi (Packard) connector, (J2) to Relay.

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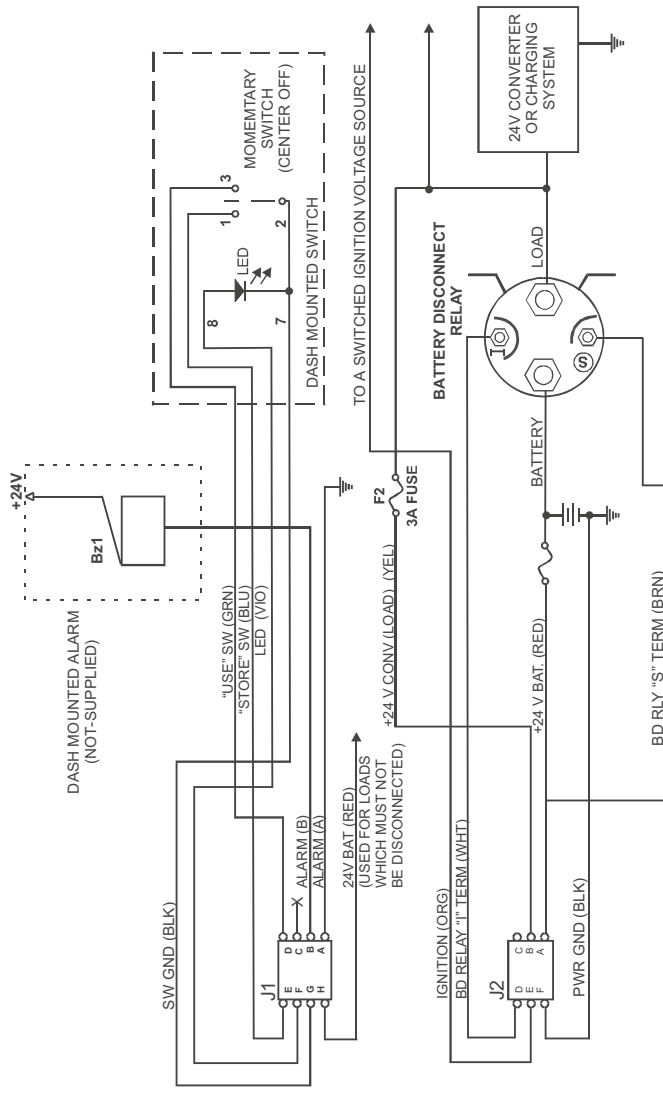
### PLUGS - PINS & FUNCTIONS

#### (J1) 8 Pin Connector

Pin	Function
A	Ext. Alarm
B	Ext. Alarm
C	No Connect
D	"Use" Switch
E	"Store" Switch
F	LED
G	Switch Ground
H	+24 Vdc Accessory Battery

#### (J2) 6 Pin Connector

Pin	Function
A	+24 V Battery
B	+24 V Load
C	Battery Disconnect Relay, "S" terminal
D	Battery Disconnect Relay, "I" terminal
E	+24 V Ignition Source
F	PWR Ground



**NOTE:**

If 24V is present at the ignition input (ignition is "ON") the voltage monitor and "STORE" functions will be disabled.

