Connection Schematic

Installation

Caution: Do not mount device in a location where it will be exposed to a direct heat source, moisture or salt spray. Mount device in a location where there is air circulation. Under normal operating conditions this device may run hot. Use caution when handling.

1. Disconnect the battery or power supply or switch it off with the master disconnect switch before installation.

2. Connect black “Ground” wire to ground.

3. Connect Low Voltage Disconnect (LVD) “Load+” stud to accessory loads using appropriate heavy gauge cable.

4. Optional connections:
   - To use the manual feature, connect violet “Manual” wire to a normally open momentary switch. Connect the other side of the switch to +12V.
   - To use the alarm feature, connect white “Alarm” wire to a 12V, 50mA audio/visual alarm. Connect the other side of the alarm +12V.
   - Connect orange “Run” wire to the ignition switch (Ign/Run position).
   - Unused wires should be capped or insulated from active circuitry.

5. Connect LVD “Battery+” stud to the battery positive terminal (or battery positive terminal block) using appropriate heavy gauge cable and proper fusing (not to exceed product rating).

NOTE: If a master disconnect switch is used, the LVD should be installed “after” the master disconnect, such that the master disconnect switch can be used to shut off power to the LVD.

6. Reconnect the battery or power supply.

General Specifications

Environmental: -40°C to 85°C. SAE J1455 & J1113
Electronics sealed to IP67
Ignition-proof to ISO 8846

Electrical: Continuous 48510: 200A
           48512: 150A
Inrush 500A (5 seconds)
Quiescent 2mA max

Disconnect: 12V - Less than 12.1V for 2 minutes
Factory programmable.
Accuracy ±100mV

Alarm: Active low, 50mA
Activates 1 minute before disconnect.

Dimensions: Overall height is 3.0” (76.2mm)
See drawing below
Normal Operation Summary

- When the voltage is above 13.0V for 10 seconds, the LVD will automatically connect the loads to the battery.
- When the voltage drops below 12.1V for 60 seconds, the Alarm will signal, warning the user that the loads are about to be disconnected.
  a. The user has the option to override the imminent disconnect by asserting the manual signal (see below).
  b. It should be noted that the alarm can be audio, visual or both.
  c. After 60 seconds of the alarm, the loads and the alarm will be disconnected.

Additional Operating Details

1. Connection Check – Upon power-up, the LVD initially checks to ensure proper cabling, specifically the Battery+ and Load+ connections. If improper cabling is detected, the LVD will activate the alarm until the user corrects the cabling.

2. Manual Override – The Manual signal is asserted when the user connects the violet wire to +12V for 1 second. This is normally accomplished with a momentary switch. The Manual signal serves several functions, depending on when it is activated. At any given time, it can be used to toggle the loads on or off. It can also be used to override the automatic disconnect.
   a. While the Alarm is signaling, activating the Manual signal will override the imminent disconnect, thereby keeping the loads on for an additional 60 minutes. After the 60 minute time period, the LVD will resume its normal operation.
   b. If the user activates the Manual signal to turn the loads off, the loads will remain off until the user re-activates the Manual signal, thereby turning the loads back on. This is often used when storing a vehicle for a long period of time.
   c. If the LVD has disconnected the loads (due to low voltage) and the Manual signal is asserted, the loads will be toggled “on” regardless of the voltage. After 60 minutes, the LVD will resume its normal operation.

3. Run Override – The Run signal is asserted when the user connects the Run wire to +12V, usually via the IGN/RUN position of the ignition switch.
   a. If the Run signal is asserted, the loads will not be disconnected, regardless of the battery voltage.
   b. Asserting the RUN signal does not automatically connect the loads as it may be undesirable to draw high current before starting a vehicle.

4. Overcurrent Shutoff – When the output current exceeds the preset threshold of ~250A for 5 seconds (200A model), the loads are disconnected and the alarm is activated. The user must assert the Manual signal to turn off the alarm and to reset the LVD to normal operation. The overcurrent threshold for the 150A model is ~190A.

Dimensions in inches (mm)