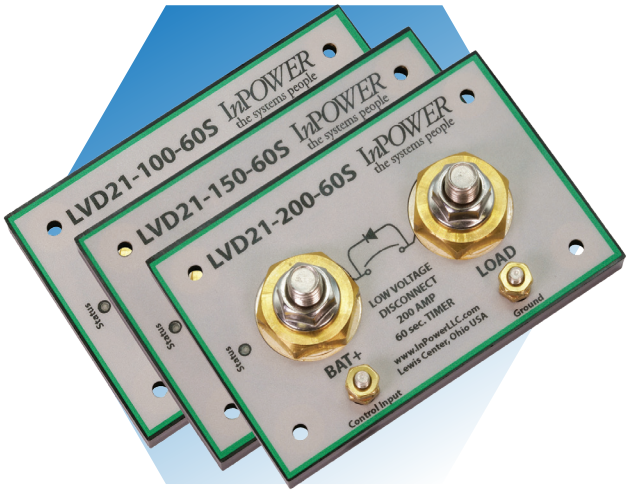
LVD21-100-60S
LVD21-150-60S
LVD21-200-60S

Intelligent Low Voltage Disconnect



Key Features

- Prevents excessive battery discharge by automatically disconnecting loads.
- 100% solid-state design - No moving parts to cause arcing and electrical noise.
- Automatic shutdown protection for short circuit, over-current, loss of ground and high temperature.
- Control, Override, and Clear Fault Input
- Resistant to mechanical shock and vibration.
- Compact size and low profile.
- Protective Terminal Boot Option

Technical Description

InPower's Model LVD21-100-60S, LVD21-150-60S, and LVD21-200-60S Series Low Voltage Disconnects automatically disconnect 12 volt loads from the battery when the battery voltage drops below 11.5Vdc for 60 Seconds, leaving enough charge for the vehicle to be restarted by removing the power draw on the battery. They are available in 100 Amp, 150 Amp, and 200 Amp capacities (the LVD21-100-60S, LVD21-150-60S, and LVD21-200-60S respectively).

The LVD21 contains a solid-state disconnect switch and provides automatic fault shutdown protection for Over Current, Short Circuit, High temperature and or Loss of Ground conditions.

LED Status Indicator: displays a *steady on* when the Low Voltage Disconnect is on and operating normally, or *flashes* when the Low Voltage Disconnect has automatically turned off as a result of a detected fault such as loss of ground, over-current, under-voltage or over-temperature.

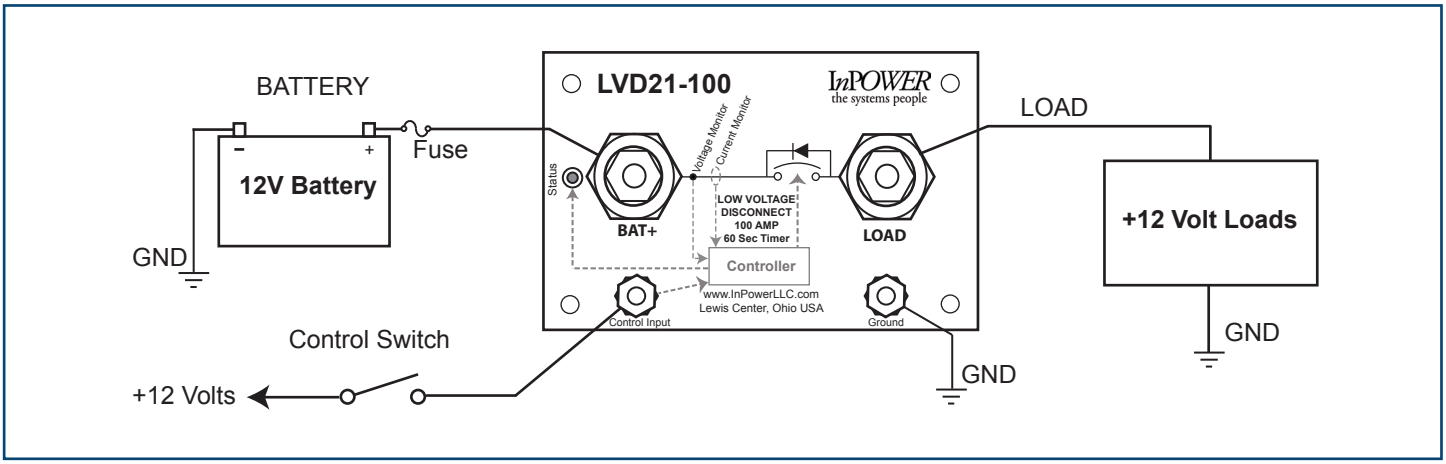
To Clear: To clear any faults, a momentary control input voltage >9.5Vdc must be applied and then removed to reset the faults and reconnect the load to the battery.

To Override: If a momentary control voltage is applied to the control input and released and the battery >11.5 Vdc, then the load will be connected without a timeout (normal operation). If battery <11.5 Vdc, the 60 Second timer will start counting down to disconnect the load after 60 Seconds.

Note: Other voltage and time set points and functions may be customized. Please call InPower for more details at (740) 548-0965.

Packaging: The Low Voltage Disconnect is packaged in an plastic case with metal baseplate. The Control Input and GND Terminal utilize 8-32 studs with Brass nuts. Connect the GND terminal to a solid Battery Ground. Connections for the high current DC cable utilize ⅜"-16 threaded stainless steel studs with brass contact pads for low contact resistance. The low voltage disconnects are packaged in an plastic case with an anodized aluminum baseplate. Four corner mounting hole pads provide attachment to the mounting surface.

System Diagram



LVD21-100-60S
LVD21-150-60S
LVD21-200-60S

Intelligent Low Voltage Disconnect

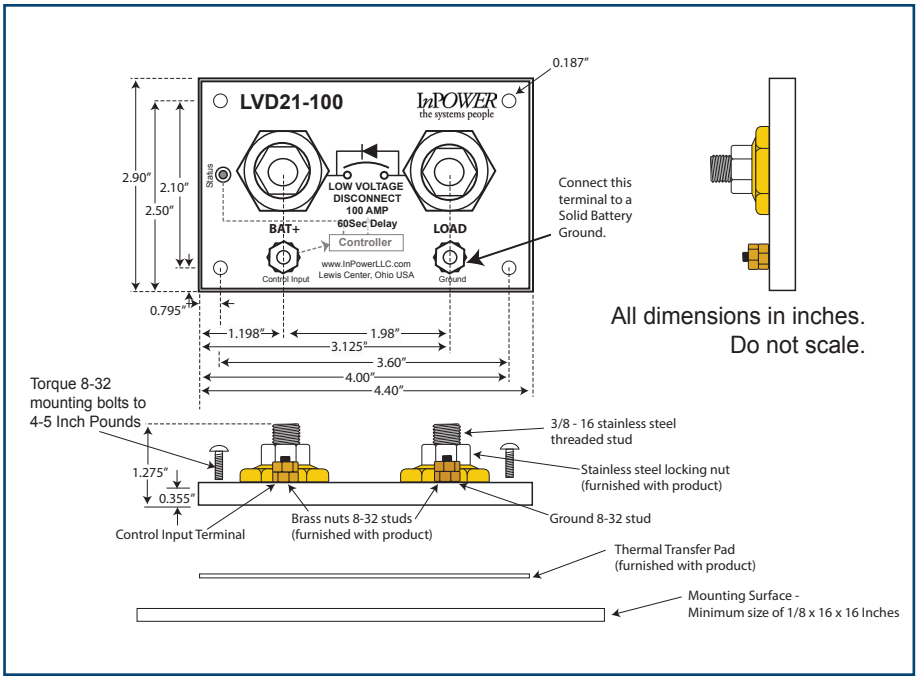
Specifications

Maximum Current Rating (Max. current rating at 110º F (43º C)*):	LVD21-100-60S 100 Amps	LVD21-150-60S 150 Amps	SSC21-200-60S 200 Amps

Operating Voltage Range:	+9.5 to +30Vdc
Shut-Off Voltage:	<11.5 Vdc (if <11.5Vdc for >60 Seconds)
Shut-Off Time Period:	60 Seconds The disconnect switch will shut off when the battery voltage remains below 11.5 volts for 60sec. Reseting the switch is accomplished by removing and reapplying the control Signal.
Fault Conditions:	
Overcurrent Shutdown:	100% to 110% of Current Rating for 500 milliseconds
Loss of Ground:	250 milliseconds
Maximum Temperature Trip:	Case Temperature > 185º F (85º C)
Control Input Voltage:	>9.5Vdc is True, <7Vdc is False
Control/GND Terminals:	8-32 Studs with two brass nuts ea. (4-5 Inch Pounds)
Reset Faults/Restart:	Faults must be removed first, then **Control Input** resets fault states (due to loss of ground, over-current, and over-temp) and restarts the Low Voltage Disconnect. **Momentarily** applying >9.5Vdc Volts to the Control Terminal and then **removing the voltage** will clear the faults, restarting the LVD. This reset will reconnect the Load terminal to the Battery Terminal (but only for an additional 60 sec if Battery < 11.5Vdc).
Power Terminals:	Two (2) 3/8 - 16 threaded stainless steel studs, with locking nuts (10Ft-Lbs Min,15Ft-Lbs Max) (Optional Rubber Boots Available)
Mounting Bolts:	8-32 bolts, Qty 4, Torque to 4-5 inch lbs
Weight:	0.40 lbs (0.181 kg)
Dimensions:	4.40 (111.76 mm) x 2.90 (73.66mm) x 1.30 inches (33.02 mm)
Status LED Indicator:	LED is ON steady when disconnect switch is on and voltage is above 11.5Vdc. Flash if OFF due to Fault. Off when Switch is OFF

Load Considerations: Relays/Solenoids must incorporate Fly Back Suppression Diodes/Circuitry. These Relays/Solenoids (without suppression) can create large voltage and current spikes which damage electronics. Having inductive loads without suppression violates your unit's warranty and may damage your vehicle's electronics!

Mechanical Drawing



Product Customization

LVD21 Series Low Voltage Disconnects can be customized to meet your exact specifications.

Typical modifications include changes to the low voltage setpoint, low voltage shutdown timer and disabling the control input for completely automatic operation.

Contact **InPower** for more details at **(740) 548-0965**.

Ordering Guide Model

Model	Description
LVD20-100-60S	Low Voltage Disconnect, 100 Amp 60 Sec Delay
LVD20-150-60S	Low Voltage Disconnect, 150 Amp 60 Sec Delay
LVD20-200-60S	Low Voltage Disconnect, 200 Amp 60 Sec Delay

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