

PROTECT YOUR FLEET

BATTERY CONTROL SAFETY SYSTEMS

**LOW VOLTAGE
DISCONNECT**



**FLAMING
RIVER**

HEAVY-DUTY ELECTRICAL



FR1058

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FR1058 Low Voltage Disconnect

Features & Benefits

- Automatically disconnects auxiliary loads when battery has drained past a safe, user-specified threshold
- Battery charging will automatically reconnect the load
- Positive voltage from the ignition line will prevent load disconnect while the vehicle is operating
- Manual disconnect operated by dash mounted toggle ON/OFF switch
- System status can be monitored via LED indicator
- 1-3mA current draw while monitoring battery voltage
- Thermal protection from overheating
- Environmentally sealed device for maximum lifespan with IP6K7/IP69K ratings
- Includes a 4-way wire harness with connections to Vehicle Ignition, Ground, Command Button, and Indicator Light

Specifications

Operating Voltage (Fully Charged Battery)	13.5 V (12 V System) 28 V (24 V System)
Preset Threshold Voltage	12.1 V
Max Continuous Current	250 Amps
Max Surge Current	800 Amps (30 seconds) 2000 Amps (5 seconds)
Environmental Protection Rating	IP6K7/IPX9K
Corrosion Resistance	Salt Spray Test: 300 hrs
Operational Temperature	-40°F to + 185°F (-40°C to +85°C)
Time Delay	60 seconds
Contacts/Terminals	Silver Plated Copper
Terminal Dimensions	M10 (Diameter) 0.94 in. (Length)
Max Current for Light (Pin 4)	0.2 A

Kit Contents

Item No.	Description	Qty
1.....	Low Voltage Disconnect (Main Unit)	1
2.....	4-Way Wire Harness	1
3.....	M10 Nuts	2
4.....	Lock Washers	2
5.....	Flat Washers	2



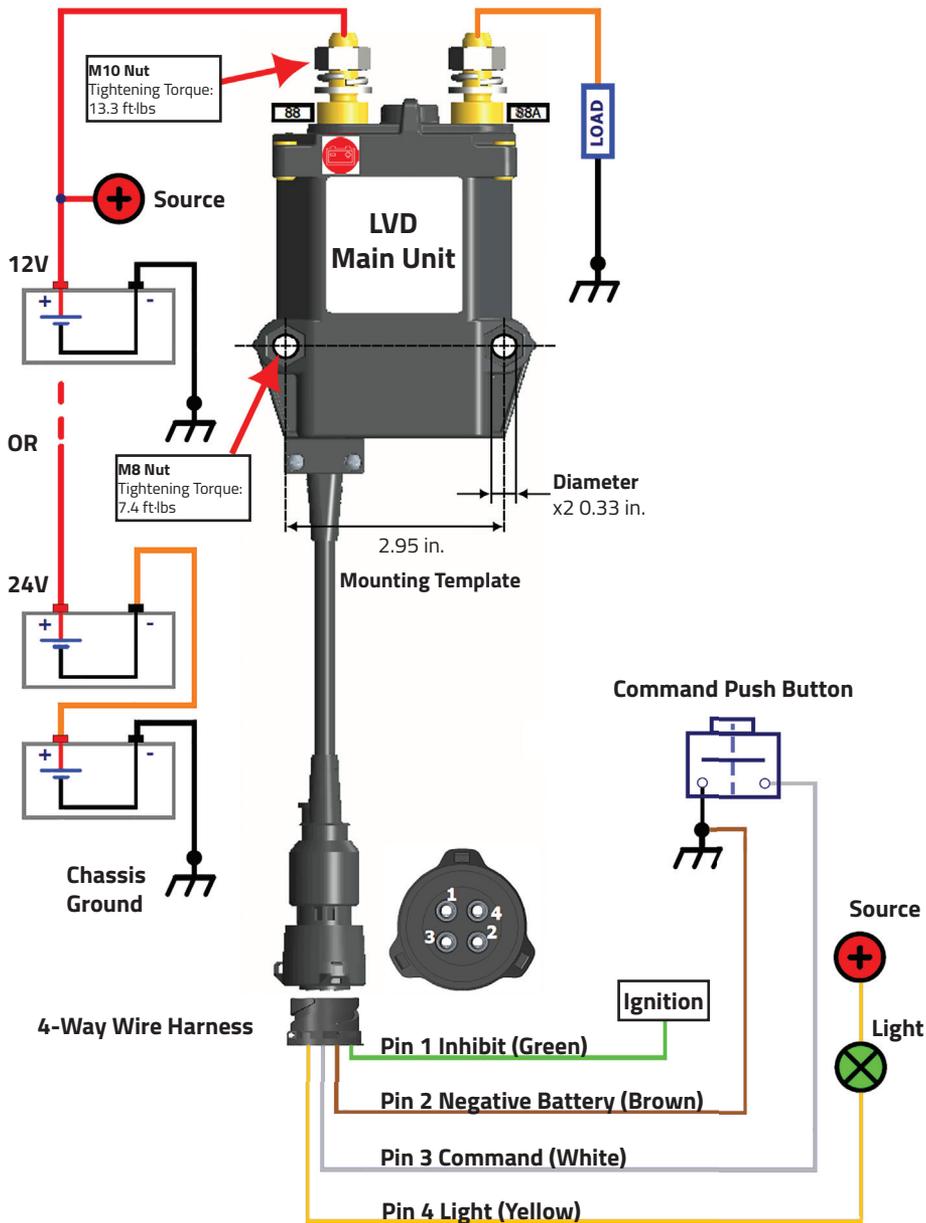
Low Voltage Disconnect Operation & Installation

1. Connect terminal 88A to the vehicle load.
2. Connect terminal 88, indicated by a red battery symbol, to the positive terminal on your battery.
3. Torque the hardware on both of the main terminals 88 and 88A to 13 ft.lbs.
4. Connect the 4-way wire harness to the low voltage disconnect twisting the connector end until it locks.

Notes

- The device automatically detects the supply voltage.
- The command pushbutton will manually open and close the main contacts.
- The device automatically disconnects the battery if the voltage drops below the threshold voltage for at least 1 minute.
- The device automatically reconnects if the voltage rises 0.5V above the threshold for at least 1 minute.
- The INHIBIT line will prevent automatic operation when connected to a positive voltage (ie: the INHIBIT line receives positive input from ignition power while the vehicle is operating)
- The threshold voltage can be changed using the Threshold Adjustment Diagram and Procedure (see next page).
- The device has built-in temperature sensor that will activate the INHIBIT line if overheating occurs. This will disconnect the device and allow it to cool. The device will automatically reconnect once the temperature lowers.
- The manual command pushbutton can be installed in any location that is convenient for the user. We recommend installing the push button on the dashboard.

Installation Diagram & Instructions

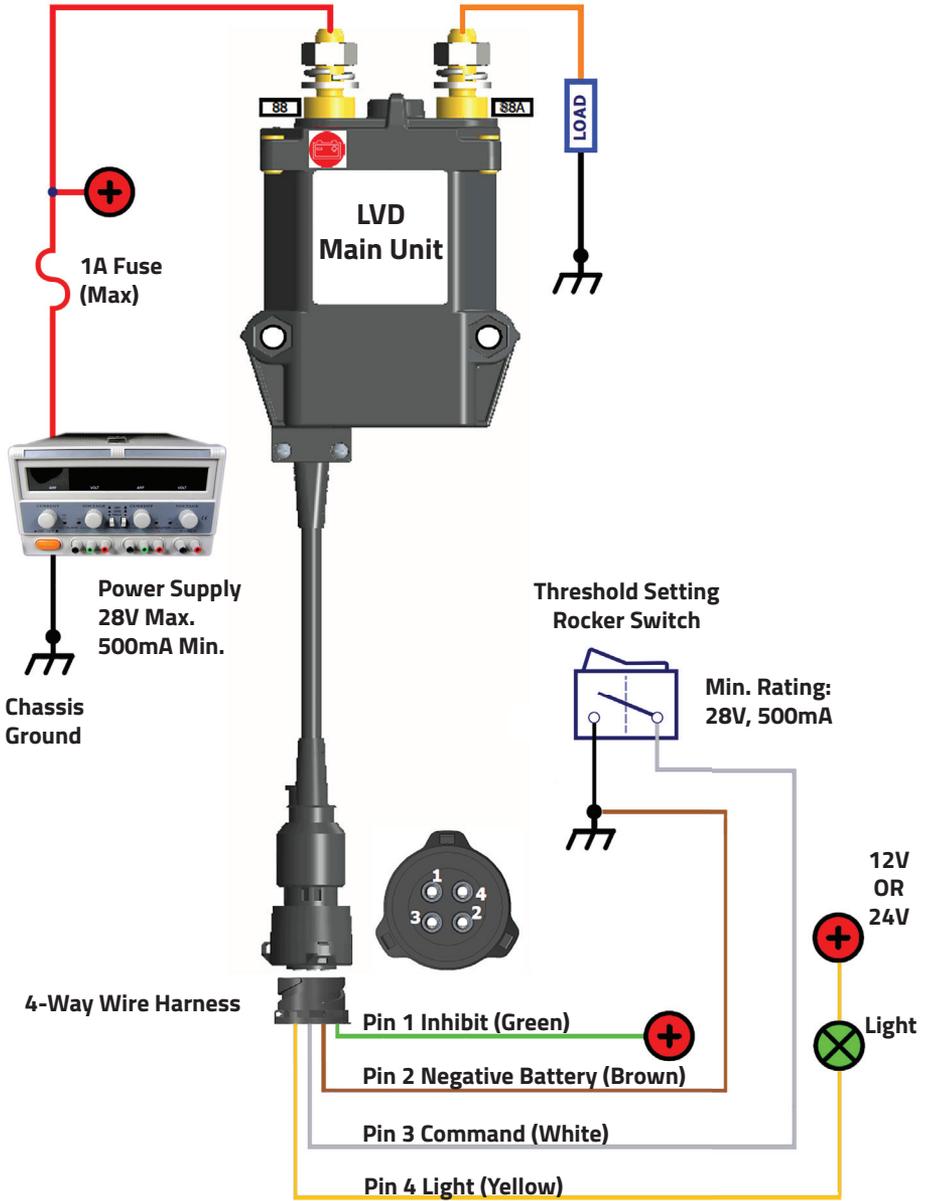


Threshold Adjustment Instructions

- See diagram for required equipment.
 - Threshold voltage can be set and stored in the LVD's memory using this procedure. This value will remain stored in the system memory even if the LVD is disconnected from power.
 - When the device is in Threshold Adjustment Mode the LVD cannot activate the main contacts.
 - By default this value is set at 12.1V.
1. Connect the device to the power supply as shown in the diagram.
 2. Verify that the LVD command switch is connected to ground. It will be easiest to use a rocker switch for this purpose.
 3. Activate the power supply
 4. After 2 seconds, the LAMP will turn ON and blink twice alerting the user that Threshold Adjustment Mode is active.
 5. Set the power supply to the desired voltage for the LVD threshold.
 6. Press the rocker switch so that the button is no longer connected to ground.
 7. Verify that the LAMP displays a sequence of long, slow blinks. This will tell the user that the new threshold value has been set and stored.

Blink Sequence	Description
No Blink	Main contact open, standby mode
Short Blinks	Main contact closed
3 Blinks	Automatic disconnection countdown
4 Blinks	Automatic connection countdown
2 Blinks	LVD ready to read new threshold value
Slow Blink	New threshold value stored in memory
Fast Blink	Error: switch operation failed
5 Blinks	Failed attempt to enter Threshold Adjustment Mode
6 Blinks	Thermal overheating protection active

Threshold Adjustment Diagram



WARRANTY DISCLAIMER: Flaming River's® Limited Warranty
Flaming River® warrants its products to be free from defects in material and workmanship for a period of one (1) year after the date of purchase, except that: The Big Switch (part number FR1046/FR1047) is warranted for a period of three (3) years from the date of purchase, provided that it is not mounted with a steel bracket and provided further that it is adequately protected from environmental conditions. All electrical products other than the Big Switch are warranted for a period of ninety (90) days from the date of purchase. Flaming River's® warranty liability is limited to the replacement of defective products. Flaming River® is not liable for any labor costs associated with any warranty claim, or for any incidental or consequential damages.

Improper installation, abuse, racing, and/or modification of the products voids this warranty. No warranty of merchantability or fitness for a particular purpose is made by Flaming River® with respect to any of its products.
Warnings and Recommendations

It is the customer's responsibility to determine the suitability of a given Flaming River® product for the customer's uses. Likewise, it is the customer's responsibility to install a Flaming River® product. Contact the vehicle manufacturer whenever installing a switch to confirm the appropriateness of using such a switch and the recommended placement of the switch on the vehicle.

Use qualified chassis specialists for the installation of all steering related components. Be aware that the installation of certain Flaming River® products may adversely impact a manufacturer's warranty with respect to certain vehicles and other manufactured goods. Flaming River will repair or replace any product found to be defective in material or workmanship. Improper installation, abuse, racing and/or modification VOID WARRANTY. Flaming River® is not responsible for any labor costs associated with any warranty.



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