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Notes for changing over to a GSL BMS-12, BMS-24 and BMS-12K from similar battery master switches.

All GSL BMS Installation Sheets and Information can be found at https://gsl.com.au/BMS.html

ENSURE YOU HAVE THE CORRECT MODEL OF BMS FOR YOUR APPLICATION:

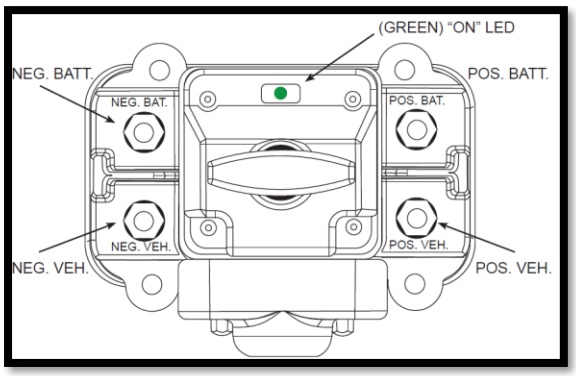
- **BMS-12L (LV5010) –** For 12V vehicles where both positive and negative terminals are to be isolated.
- **BMS-24L (LV5011) –** For 24V vehicles where both positive and negative terminals are to be isolated.
- **BMS-K-12L (LV5010K) –** Specifically designed for Kenworth-style trucks using a dual 12V battery feed**.**

NOTE: BMS-K-12L is designed for switching two positive feeds only and should not be used on standard 12V or 24V installations.
All models are 200A Continuous and 500A 5sec Peak for Main Terminals.

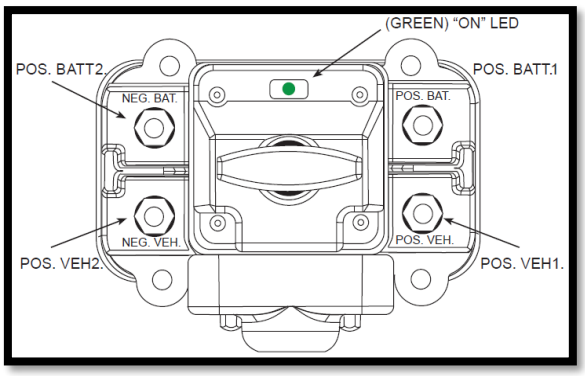
LAYOUT

Take note of the orientation of the Positive and Negative terminals:

BMS-12L & BMS-24L



BMS-K-12L



All four posts are 10mm lug posts. Please check and inspect the lugs being used to ensure they fit the BMS posts correctly and are not excessively worn. Replace lugs where appropriate..

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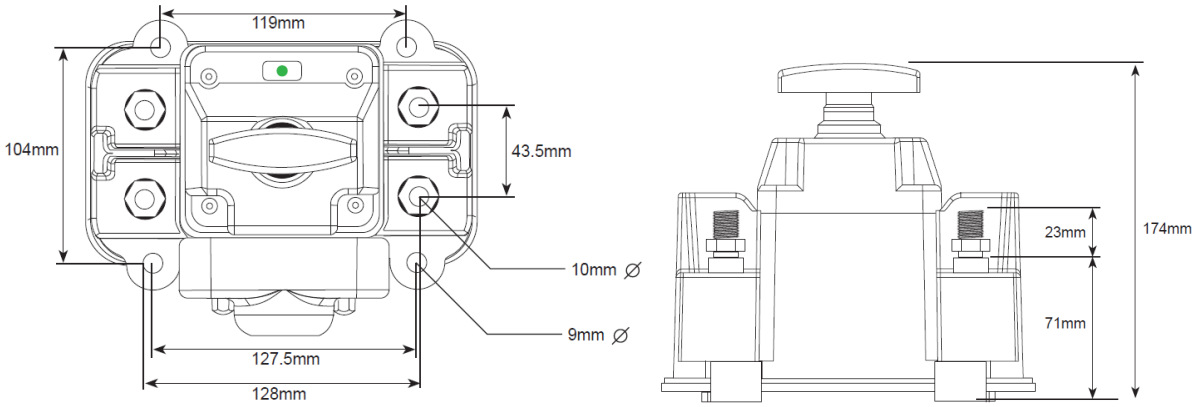
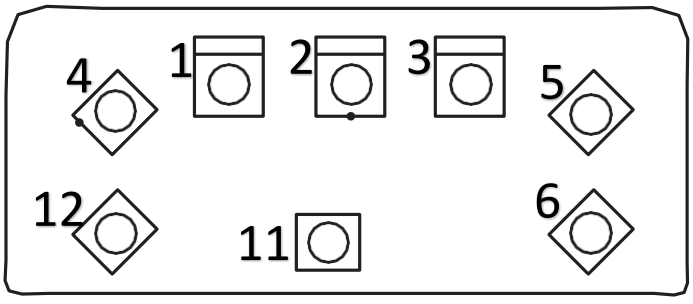


Terminals and Wiring

Check the manual from the Battery Master Switch you are replacing to see what functions are compatible with the GSL BMS. Some features may not be replicated by the GSL BMS and will need to be bypassed or solved with other means.

- **Terminals 1 & 3 -** Field Circuit Connection: This feature is present on all Battery Master Switches. It needs to be wired in series with the field circuit to prevent high voltage damage to the vehicle electronics by disconnecting the field circuit first before the main contacts.
- **Terminals 2 & 4 -** Remote Cut Off Switch: This feature is used to remotely cut power to the vehicle in an emergency. It can be activated by either or both a momentary switch or a Roll Over Sensor switch (both sold separately). Detailed information on the Remote Cut Off Switch is provided in the next section.
- **Terminals 12 & 4 -** Secondary Positive and Negative Vehicle Connections: These are auxiliary terminals that connect to the Positive (12) and Negative (4) Vehicle terminals.
Note: for **BMS-K-12-L** Pin 4 must be connected to the vehicle negative.
- **Terminals 5 & 6 -** Auxiliary Contactor: These connect to an internal set of auxiliary contacts that mimic the main contactor actuation.
- **Terminal 11 –** Not Connected.



Remote Cut Off Switch

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When switching from a previously installed switch, one of the key features that may need modification is the wiring to the unit, especially if the emergency stop/emergency isolation button is wired into the unit.

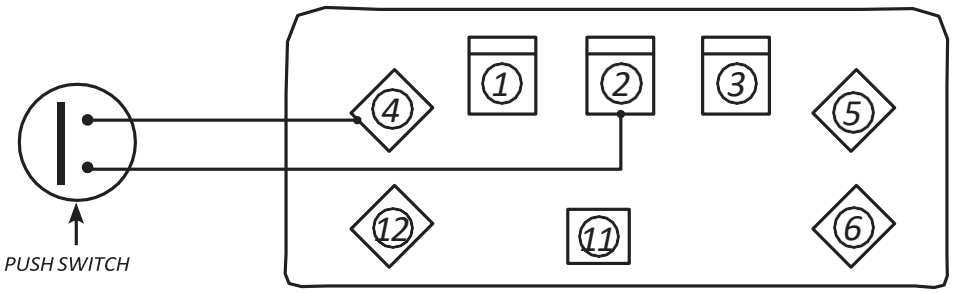

Fig. 1. BMS-12L & BMS-24L

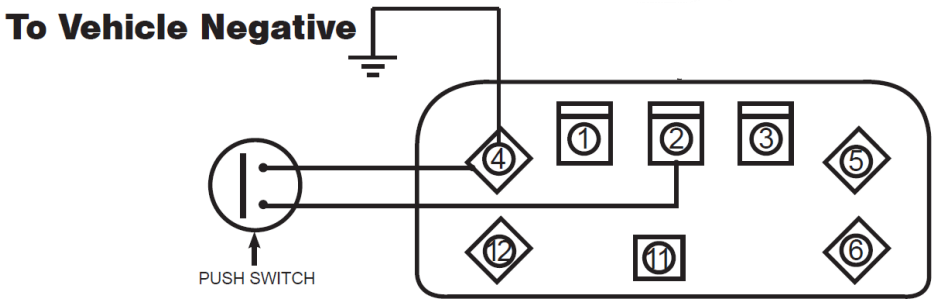

Fig.2 BMS-K-12L

The remote cut off circuit can be connected between terminals 2 & 4.
(NOTE: A PUSH BUTTON SWITCH OF AT LEAST 50A PEAK MUST BE USED)

Fig.1 Remote Cut Off Circuit excerpt from Installation Guide for BMS-12L and BMS-24L.
Fig.2 Remote Cut Off Circuit excerpt from Installation Guide for BMS-K-12L

For all GSL models of BMS, the remote cut-off switch requires a Normally Open (N/O) Momentary switch capable of handling 50A.

Use suitably sized wiring; for up to 10 meters away from the switch, 6mm Auto (>4mm² copper cross-section) is recommended due to the momentary nature of activating the solenoid.

Latching switches can be used, but Momentary switches are recommended.

Note:
- *Excessive voltage drop across Pin 2 & 4 may cause poor solenoid activation and a current draw of up to 50 amps.*
- *Pins 2 & 4 Minimum voltage threshold to pull in the coil for both 12V & 24V units: 12V Minimum voltage is 10.5V, 24V Minimum voltage is 19V.*
- *Use an adequate wiring gauge based on the cable length between cabin switches and emergency stop switches.*

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For example: On a 12V system with a cable run exceeding 5 metres, a minimum 5mm (2.9mm²) cable is recommended to prevent voltage drop and ensure proper operation.

ROS Compatibility

Please check compatibility with any installed Automatic ROS (Roll Over Switch) that may be fitted to the original product.

The GSL BMS is compatible with most Automatic ROS on the market. Check with the manufacturer of the ROS for installation instructions for use with the GSL BMS. (Some ROS suppliers refer to this as the Big Red Switch or the Lucas SSB100).

Aftermarket Switch Lockout

Aftermarket lockout systems are available for the BMS.
If used, please ensure that the handle is installed as per their directions and take care in reinstalling the handle of the BMS in the correct direction.