

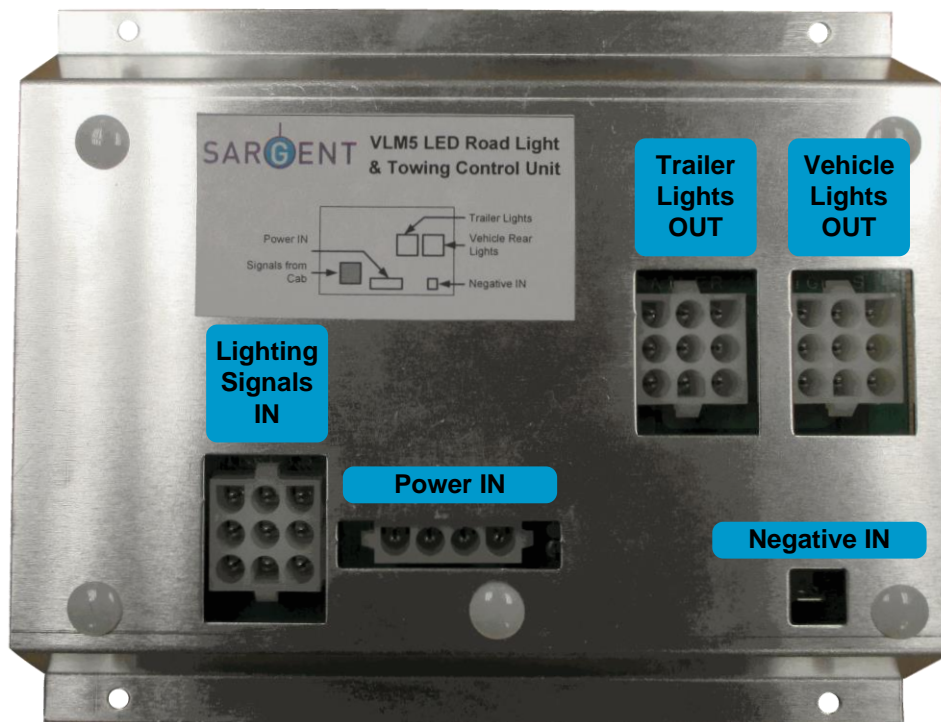
## 1 Introduction

The VLM5 is an electronic module that is used in many motorhomes to control the rear LED road lighting. The unit includes monitoring of the motorhome rear direction indicators so that if / when a failure occurs this is shown on the vehicle dashboard (and by a flashing indicator on the VLM5 unit).

The VLM5 also includes the facility to connect an optional towing harness to provide a 13-pin socket for connection to a light board, trailer or caravan. When this socket is being used the direction indicator monitoring is extended to cover the device / vehicle being towed.

To provide this extended indicator monitoring you need to follow the connection process described further below.

## 2 Overview



The VLM5 is usually installed in the rear of the motorhome in a dry and damp free area. If you do need to disconnect or remove the unit, please ensure the Negative IN connection is removed last when disconnecting, and connected first when reconnecting.

## 3 User Operation

The VLM5 unit operates automatically and does not need any special or additional actions. The unit is supplied with power from the Sargent EC series Power Supply Unit (PSU) and therefore this unit should always be turned on when using your vehicle.

If your vehicle has been fitted with the optional towing wiring harness please follow the steps below to connect your light board, trailer or caravan.

- 1) With the Sargent PSU ON and the vehicle ignition OFF, plug the light board, trailer or caravan into the 13-pin socket.
- 2) The vehicle will now detect the trailer and flash each indicator to 'learn' the extra indicators fitted on the light board, trailer or caravan.
- 3) You can now start the engine when required and use the vehicle / trailer combination.
- 4) When you have finished towing, turn the engine / ignition off and unplug your light board, trailer or caravan.

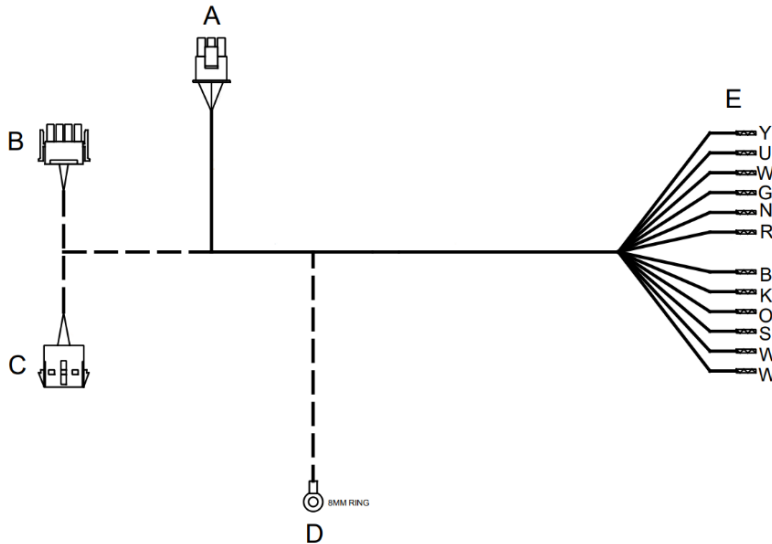
If you have problems with lamp failure indication on the vehicle dashboard, please see the fault-finding section further below.

## 4 Towing Harness Installation

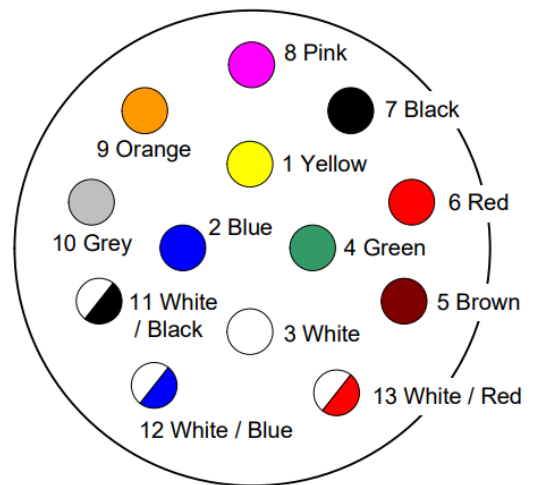
The towing wiring harness is designed to plug into the VLM5, connect to an earth stud under the vehicle and then run rearwards to the 13-pin socket.

The following describes the basic steps to install the towing harness. It does not cover normal workshop practices for routing the harness, fixing the 13-pin socket, sealing through the floor and / or other mounting / fitting operations.

If you are unsure how to install the towing harness please ask your dealer or installation professional for help / advice.



- 1) Firstly, locate the VLM5 and the earthing stud below the vehicle and route the towing harness from the VLM5 via the earth stud to the 13-pin socket location.
- 2) The 13-pin socket E is usually prewired, but if not please connect the individual cables as per the diagram below.



View looking into the socket from the front (mating surface under flap)

- 3) Referring to the overview photo, unplug the Power Input plug from the VLM5 and plug it into connector C on the towing harness.
- 4) Plug connector B of the towing harness into the VLM5 power input connector.
- 5) Plug connector A of the towing harness into the Trailer Lights output connector on the VLM5.
- 6) Connect ring terminal D to the earth bonding bolt in the chassis below the vehicle.
- 7) Complete the installation by clipping / fixing the harness and the 13-pin socket. Seal any apertures as required.

## 5 Testing

After installation of the harness the unit should be tested for correct operation as follows:

- 1) Ensure the Sargent PSU is turned ON.
- 2) View the VLM5 and look for a red LED illuminated (this LED is located on the circuit board near the power input connector).

If you do not see an LED illuminated, please turn the side-lights on and recheck.

### Vehicle

- 3) With a helper viewing the rear of the vehicle, turn each light on / off confirming their correct operation.
- 4) If you wish to force a failure to test the dashboard indication, turn on the left or right indicator, and with it flashing disconnect / unplug the light cluster / indicator connection. This should then cause the dashboard warning to show a 'failure' and the red LED on the VLM5 to start flashing. Reconnect the indicator to clear the fault.

### Light board, trailer or caravan

- 5) With the vehicle ignition OFF, plug the light board, trailer or caravan into the 13-pin socket.
- 6) The vehicle will now detect the trailer and flash each indicator to 'learn' the extra indicators fitted on the light board, trailer or caravan.

- 7) Now start the engine, wait 10 seconds and then unplug the 13-pin connector to simulate an indicator failure on the light board, trailer or caravan. This should then cause the dashboard warning to show a 'failure' and the red LED on the VLM5 to start flashing. Reconnect the 13-pin socket to clear the fault.
- 8) Turn off the engine / ignition, testing is now complete.

## 6 Fault Finding

### Problem / issue

When connecting a light board, trailer or caravan you are not seeing the indicators flash to confirm learning of the extra indicators.

With no light board, trailer or caravan connected, you occasionally see a random flash of the rear indicators.

When using the vehicle (without a light board, trailer or caravan connected) you are seeing lamp failure indication on the dashboard.

### Suggested fix

Ensure the Sargent PSU is turned on.

Check the VLM5 red LED is illuminated.

Ensure the ignition is turned off, as learning can only take place with the engine stopped.

If the light board, trailer or caravan uses LED brake lights these may not provide enough load to trigger the trailer detection / indicator learn process. In this case you will need to add an extra 'load' to the brake light circuit of the light board, trailer or caravan by adding a load resistor (we recommend a 50W 6 Ohm resistor or similar. Please note this resistor may become hot during use so should be mounted in a suitable place).

This can be caused by a false trigger of the trailer detection / learning process.

On some vehicles a change was made to the high-level brake light which in some cases can cause this problem.

A software update is available for the VLM5 to correct this issue. Make a note of the software number on the unit and then contact Sargent support for more information and advice on how to update the unit.

Ensure the Sargent PSU is turned on.

Turn the ignition off, wait 10 seconds and then turn it back on.

Check the VLM5 red LED is illuminated and not flashing.

If the LED is flashing check the connections at the VLM5 and the rear indicators.

Make a note of the software number on the units and then contact Sargent support for further help.

## 7 Help & Assistance

If you do experience any problems with the installation of the towing harness or operation of the VLM5 please contact the Sargent Support team on 01482 678981 or email them at [support@sargentltd.co.uk](mailto:support@sargentltd.co.uk)