



INSTALLATION & OPERATING INSTRUCTIONS 200 SERIES LED SCHOOL BUS LIGHT

Complying with all Australian bus standards, the 200 series is the new generation LED School Bus Light. Featuring enhanced styling and improved performance, the 200 Series LED School Bus Lights include default steady burn operation compatible with existing school bus flashers. Alternating flash pattern are also programmable with flash rate in accordance with the school bus regulations of 90 FPM for each lamp (or 180 FPM combined).

The low-profile LED lamp has a modern design featuring a super-slim surface mount or window mount profile and a corrosion resistant bezel. The 200 Series is fully sealed against moisture and dust and operates on 12V and 24V vehicles.



Do not install and/or operate this safety product unless you have read and understand the safety information contained in this manual.

1. Proper installation combined with operator training in the use, care, and maintenance of emergency warning devices are essential to ensure the safety of you and those you are seeking to protect.
2. Exercise caution when working with live electrical connections.
3. This product must be properly grounded. Inadequate grounding and/or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.
4. Proper placement and installation are vital to the performance of this warning device. Install this product so that output performance of the system is maximised and the controls are placed within convenient reach of the operator so that they can operate the system without losing eye contact with the roadway.
5. Do not install this product or route any wires in the deployment area of an air bag. Equipment mounted or located in an air bag deployment area may reduce the effectiveness of the air bag or become a projectile that could cause serious personal injury or death. Refer to the vehicle owner's manual for the air bag deployment area. It is the responsibility of the user/operator to determine a suitable mounting location ensuring the safety of all passengers inside the vehicle particularly avoiding areas of potential head impact.
6. It is the responsibility of the vehicle operator to ensure during use that all features of this product work correctly. In use, the vehicle operator should ensure the projection of the warning signal is not blocked by vehicle components (i.e., open trunks or compartment doors), people, vehicles or other obstructions.
7. The use of this or any other warning device does not ensure all drivers can or will observe or react to a warning signal. Never take the right-of-way for granted. It is your responsibility to be sure you can proceed safely before entering an intersection, driving against traffic, responding at a high speed, or walking on or around traffic lanes.
8. This equipment is intended for use by authorised personnel only. The user is responsible for understanding and obeying all laws regarding warning signal devices. Therefore, the user should check all applicable city, state, and federal laws and regulations. The manufacturer assumes no liability for any loss resulting from the use of this warning device.

Important! This unit is a safety device and it must be connected to its own separate, fused power point to assure its continued operation should any other electrical accessory fail.

Caution: When drilling into any vehicle surface, make sure the area is free from any electrical wires, fuel lines, vehicle upholstery, etc. that could be damaged

Surface Mount

Size: Height = 118mm
Width = 130mm
Depth = 21.5mm (± 2mm foam thickness)

Certifications:

Box Contents: 1x 200 series LED Bus Light
1x Installation Manual
1x Mounting Kit
1x Foam Gasket

Window Mount

Height = 120mm
Width = 132mm
Depth = 25mm (± 2mm foam thickness)

ECE R10, RCM & IP67

1x 200 series LED Bus Light
1x Installation Manual
1x Alcohol Cleaning Pad

Flash Patterns

The units can be configured to flash the following patterns (in the order below) by momentarily making contact with the blue wire to a ground point as described in the wiring section. The LED head must be powered through the black and red wires to allow pattern selection.

Pattern	Description	Sync
1 - Steady Burn.	This is default and intended to work with existing bus flashers.	N/A
2 - Flash Phase A.	Single flash, 90 fpm each side	YES
3 - Flash Phase B.	Single flash, 90 fpm each side	YES

Patterns 2 and 3 are intended to run from a constant voltage signal, which then requires a time delay once the doors are closed. This is for vehicles with dedicated control modules.

OPERATING VOLTAGE	DC 9~32V
OPERATING CURRENT	Max. 1.3A (12V); 0.65A (24V)
LED COLOUR	Amber
OPERATING TEMPERATURE	-30°C~+ 55°C
PATTERNS	3

Wiring

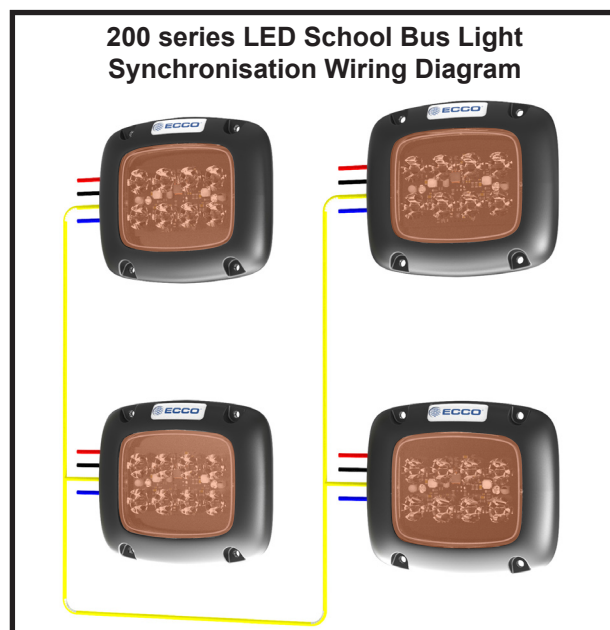
Wire functions are as follows: any unused wires to be trimmed or insulated

Black Wire: Negative. Connect to either the battery negative terminal or a suitable chassis point.

Red Wire: Power. Switch to battery positive to operate the module. Must be powered through the fuse, located as close to the battery terminal as possible.

Blue Wire: Pattern Select. Touch to negative momentarily to cycle through available flash patterns (see flash pattern/timing table for configurations). This wire must be insulated once installed to prevent accidental pattern changes.

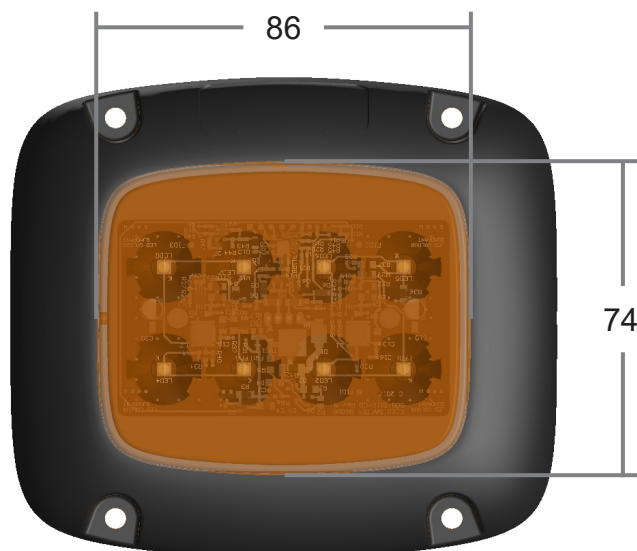
Yellow Wire: Synchronised Flash. Only required if using synchronised flash patterns. Program left hand side modules to phase A and right to phase B and then connect yellow wires together. As shown in diagram.



The 200 series LED School Bus Light exceeds the minimum light output requirements at all angles required for state and territory school bus regulations.

The optical surface (Amber area below) of the 200 series LED School Bus Light is 63.75cm² which is greater than the 60cm² area required for the state and territory school bus regulations.

Test report available upon request.

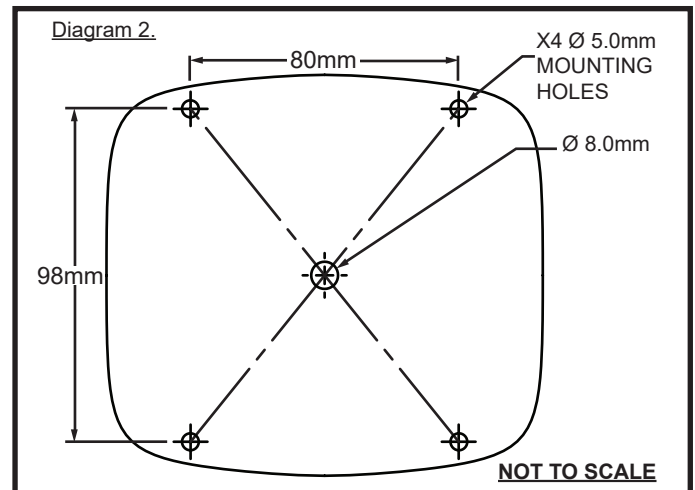
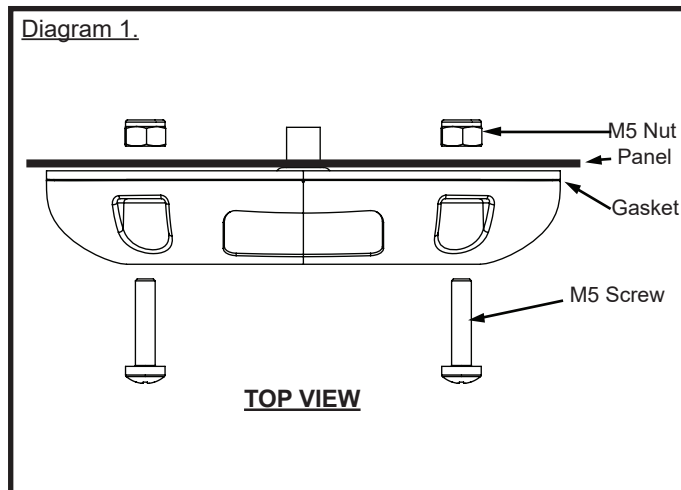


Mounting

Before installation, examine the Directional LEDs for transit damage. Do not use damaged or broken parts. The mounting location should be in accordance with the specifications of the relevant state or territory school bus regulations.

Surface Mount:

To mount the lamp, drill four M5 clearance holes in the required position in the vehicle, to match the four fixing holes on the 200 Series LED School Bus Light. A further hole will be required to allow the cable to enter the vehicle (See diagrams 1 & 2 for measurements). Fit the 200 Series LED School Bus Light using the four M5 screws and nuts as shown in the diagram below, with the gasket provided between the 200 Series LED School Bus Light and the vehicle. Recommended tightening torque - 1.5Nm.



Window Mount:

Clean the area thoroughly with the provided cleaning pad. Remove the liner, carefully apply to the mounting surface and apply firm, constant pressure.

After application, the bond strength will increase as the adhesive flows on to the surface (also referred to as "wetout").

At room temperature approximately 50% of ultimate bond strength will be achieved after 20 minutes, 90% after 24 hours and 100% after 72 hours.

Warranty

Manufacturer Limited Warranty and Limitation of Liability:

Manufacturer warrants that on the date of purchase, this product will conform to Manufacturer's specifications for this product (which are available from the Manufacturer upon request). This Limited Warranty extends for sixty (60) months from the date of purchase.

DAMAGE TO PARTS OR PRODUCTS RESULTING FROM TAMPERING, ACCIDENT, ABUSE, MISUSE, NEGLIGENCE, UNAPPROVED MODIFICATIONS, FIRE OR OTHER HAZARD; IMPROPER INSTALLATION OR OPERATION; OR NOT BEING MAINTAINED IN ACCORDANCE WITH THE MAINTENANCE PROCEDURES SET FORTH IN MANUFACTURER'S INSTALLATION AND OPERATING INSTRUCTIONS VOIDS THIS LIMITED WARRANTY.

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