



ADR - APPLICATION AND MOUNTING INSTRUCTIONS

**Jumbo
LED Multivolt (9 - 33 VOLT) MODULE
REAR DIRECTION INDICATOR LAMP**

The **Multivolt** LED module is designed to be retro-fitted to the following conventional bulb lamps;

Jumbo lamp part number 2143
Designline lamp part numbers 2144, 2422, 2423 and 2424 by using the spacers and screws provided.

This LED module may also be used to upgrade similar existing products.
The LED modules are designed to operate on input voltages from 9 to 33 volts.

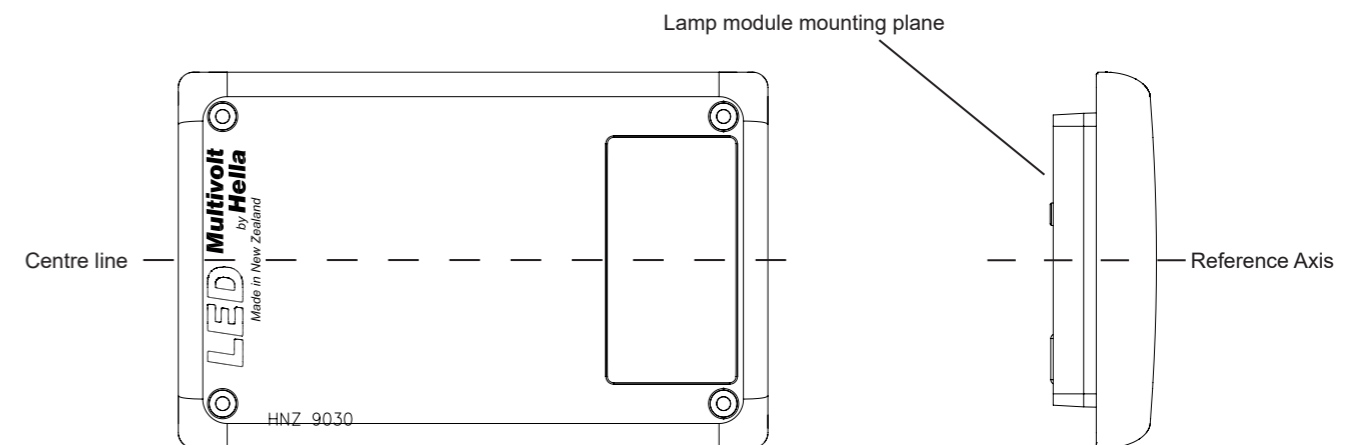
Lens Marking and ADR 13/00 Installation requirements

This LED module, identified by lens marking HNZ 9030, and amber lens, was manufactured to comply with;

ADR 6/00 Cat 2a Rear Direction Indicator Lamps
ADR 47/00 Reflex Reflector

- A tolerance of +/-3 degrees applies on all mounting details.
- LED module mounting plane must be vertical to the ground
- LED module reference axis must be parallel to the vehicle longitudinal axis
- LED module centre line may be horizontal or vertical to the ground (approved in either direction).
- LED module must be visible from 45° inboard and 80° outboard, as well as from 15° above and below the horizontal axis.
- LED module should be mounted with reflex reflector closest to the outboard edge of the vehicle.

Please refer to ADR 13/00 for more details.



PART NUMBER	CTA NUMBER	ADR 51/00 GLOBE	LENS IDENTIFICATION NO.
2138 2BR 959 031-0xx 959.031-0xx	CTA-044203	N/A LED	HNZ 9030

Hella-New Zealand Limited, Auckland



LED Module Retrofit Instructions

Remove lens and gasket from existing tail lamp.

For lamp Part Numbers:- 2143

- Remove wiring terminals (Indicator and Earth)
- Remove the bulbholder by removing centre attachment screw
- Attach cables from LED module to existing wiring. **See Wiring Colour Coding below.**

For lamp Part Numbers:- 2144, 2422, 2423, 2424

- Remove bulbholder and hardware from housing
- The longer screws and spacers provided ensure correct fitting for these Designline housings
- Place the additional spacers on the screw bosses in the housing
- Attach cables from LED module to existing wiring. **See Wiring Colour Coding below.**

Notes:

- Hella recommends wire connections be soldered, and heat shrink tubing applied to seal the joint.
- Designline lamp housings have a built in drain hole; for all other lamps ensure there is a clear drain hole at the lowest point in the housing to prevent possible water build up.
- Ensure there are no sharp edges to cut or chafe the cable.
- Test all lamp functions.
- Mount LED module into lamp housing with new gasket and existing screws, and fit screw caps.

Please note: This lamp contains a patented hydrophobic breathing system to equalise air pressure inside the lamp. The module is sealed against moisture and dust but not designed for prolonged submersion.

Wiring Colour Coding

Note: Lamp is polarity conscious. The reversal of the polarity will not damage this product but will inhibit its function.

Colour	Connect to	Power Consumption
White	Earth (-)	-
Yellow	Indicator (+)	6 watts

NB: Lamp must be protected by a fuse rated at 5 amperes maximum.

Important Notes for Installer and Vehicle Owner



Introduction

Multivolt LED signal and marker lamps offer many advantages over conventional bulb lamps. Significantly reduced power consumption, ultra long life and high tolerance to shock and vibration make the LED lamps the ideal choice for the commercial transport industry, where the cost of ownership versus the initial purchase price of the product is well understood.

Compatibility to existing electrical systems

It is important for the installer to ascertain the compatibility of the low power consumption LED lamps with the electrical and/or electronic systems of the complete vehicle, including trailers. In most cases the reduced power consumption is beneficial by imposing less demands on the entire electrical system.

For certain functions some electrical systems rely on a set power consumption for monitoring whether, for example, a trailer is connected.

Operation of this lamp using alternating current or modulated direct voltage will cause premature light failure. HELLA recommends connecting ADR or ECE certified Multivolt LED signal and marker lamps to a continuous (unmodulated) 12V or 24V power supply to ensure safe light operation.

Electromagnetic Compatibility (EMC)

This Multivolt LED lamp is an electronic device. The electrical circuits contain components that suppress possible interference, both emission as well as susceptibility, to the technical requirements for the application of the Regulatory Compliance Mark (RCM).

To avoid false signals or interference, it is standard practice that sensitive instrumentation such as ABS and Tachometers etc. are provided with direct earths.

If this cannot be assured, a direct earth path should be provided.

Protection against damage due to voltage spikes

This Multivolt LED lamp is protected against damage from positive voltage spikes caused by events such as load dump conditions up to severity level 3 of ISO 7637-2 and contains a Transient Voltage Suppressor (TVS) designed to withstand a pulse of up to 5000 Watts.

The lamp is protected against reverse polarity connection and negative voltage spikes of up to 1000 volts.

Electric Welding

Electric Welding may damage the LED lamps. For LED lamps, Hella recommends the negative connection to be wired isolated from the vehicle chassis. If the lamp uses the chassis as the earth return it is recommended that this earth return is disconnected during electric welding.

FIT AND FORGET - BY DESIGN

Congratulations, the product you have selected comes from **HELLA** - a world leader in LED lighting design.



Following the launch of the first LED automotive signal lamps in 1990, **HELLA** Design and Innovation continues to set new standards. **HELLA** innovative solutions have been incorporated into millions of lamps, engineered and tested to the most stringent standards, to suit the most demanding environmental conditions.

The cornerstone to the success of our products is our no compromise **Fit and Forget - by Design** philosophy which is incorporated into every step of the product life cycle.

In a world consuming finite resources at an ever faster rate, **Fit and Forget - by Design** is the right environmental choice that also makes perfect economic sense to customers that consider the total life cycle Cost of Ownership.

For general comments about Hella's product please contact us on E-mail at techfeedback@hella.co.nz