INSTRUCTION SHEET

for: **2VD 980 980-0xx / 2392L / 2392R**

ADR - APPLICATION AND MOUNTING INSTRUCTIONS

LED REAR COMBINATION LAMP

Stop, Rear Position, Rear Indicator, Reversing, Number Plate Lamp with Reflector

Multivolt 12 / 24V DC

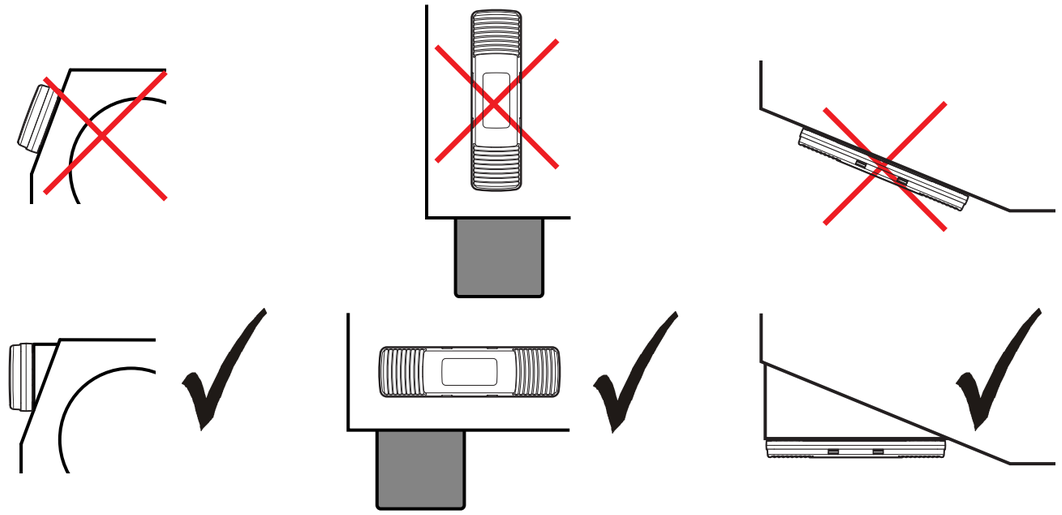
Lens Marking and ADR 13/00 Installation Requirements

This lamp identified by lens marking 0980 and the HELLA logo, was manufactured to comply with:

- ADR 1/00 Reversing Lamps
- ADR 6/00 Category 2a Rear Direction Indicator Lamps
- ADR 47/00 Retro Reflectors
- ADR 48/00 Number Plate Lamp
- ADR 49/00 Rear Position (Side) / Stop Lamps
- A tolerance of +/-3° applies on all mounting details.
- Lamp mounting surface must be vertical to the ground, and at right angles to the longitudinal axis of the vehicle.
- Lamp must be visible from 45° inboard and 80° outboard, as well as from 15° above and below the horizontal axis.
- Lamp is approved to be mounted horizontally only.

Please refer to ADR 13/00 for more details.

Side View | **Rear View** | **Top View**



LENS IDENTIFICATION NUMBER: 0980

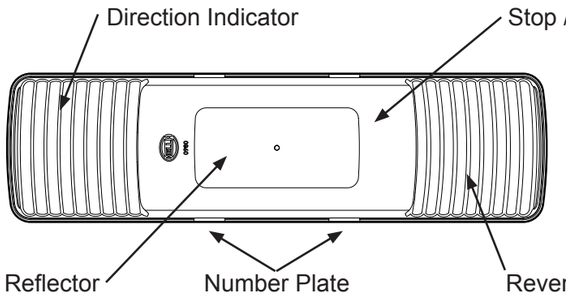
CATALOGUE NUMBER	ENGINEERING NUMBER	CRN NUMBER	COMPLIANCE NUMBER	ADR 51/00 GLOBE	ADR APPLICABLE
2392L 2392R	980 980-01 980 980-02	45267 45264 45266 45263 45268 / 45265	2392*RV*C 2392*RDI*C 2392*RR*C 2392*LP*C 2392*ST*C / 2392*RP*C	N/A LED	ADR 1/00 ADR 6/00 2a ADR 47/00 ADR 48/00 ADR 49/00

AMENDMENTS			ADR COMPLIANCE VERIFIED	ISSUE DATE:
				05/2013
				958 780-59

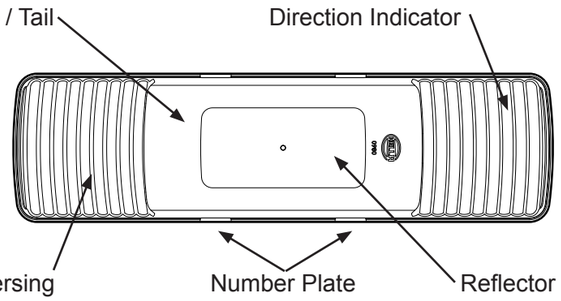
HELLA-New Zealand Limited, Auckland

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2392L Lamp Functions



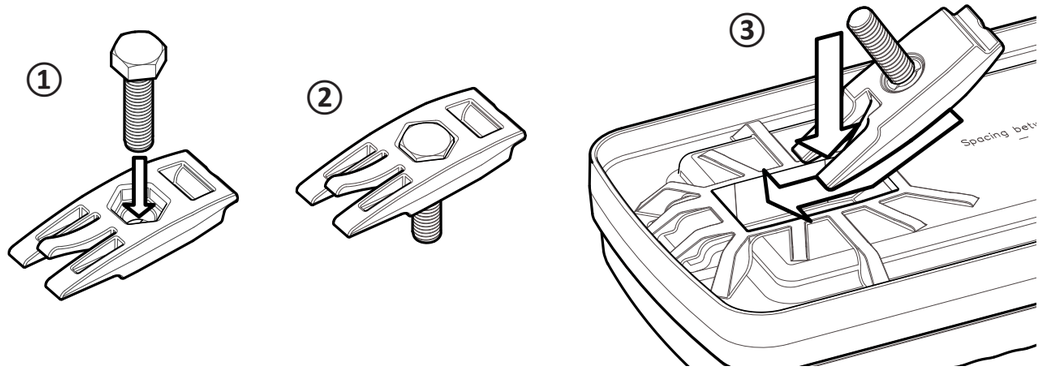
2392R Lamp Functions



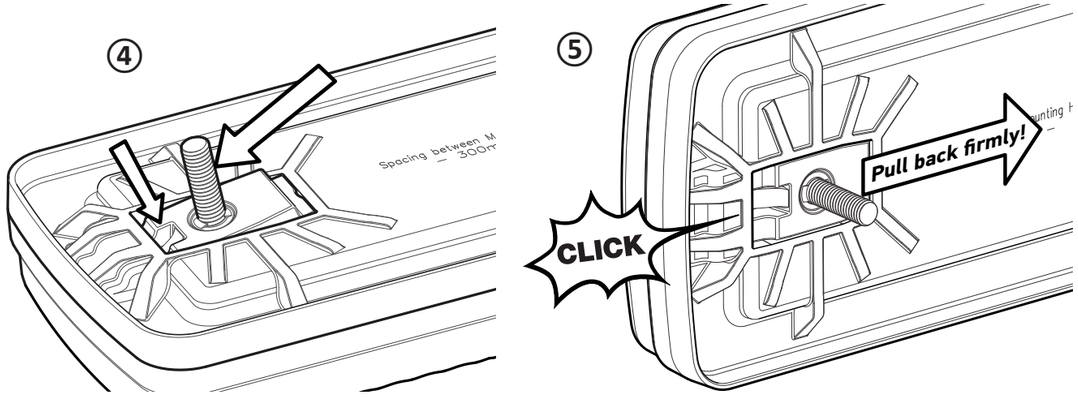
Lamp Mounting Instructions

Installation of the Bolt Retainers (x2)

Step 1. Insert the Hex Head Bolt into the Red Bolt Retainer.
Step 2. Push the Hex Head Bolt until it is flush with the top of the Red Bolt Retainer.
Step 3. Guide the fork end of the Red Bolt Retainer into the backplate pocket of the lamp.



Step 4. Hold the threaded end of the Hex Head Bolt and push the Red Bolt Retainer down at an angle towards the far end of backplate pocket. The Red Bolt Retainer should then slide fully into the backplate pocket.
Step 5. Using the threaded end of the Hex Head Bolt pull the Red Bolt Retainer back towards the centre of the lamp until it clicks into its final position.

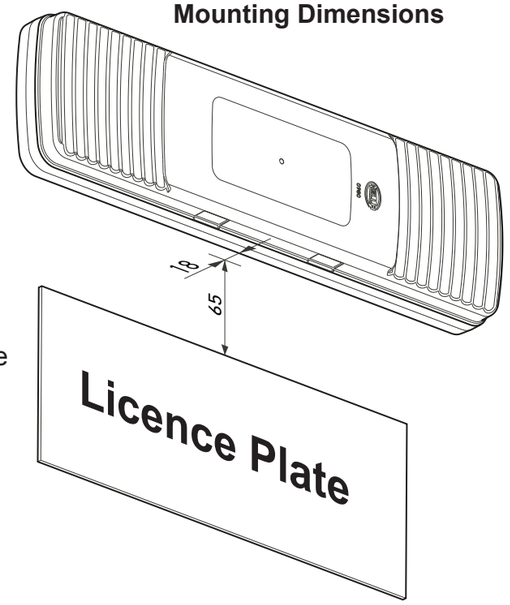


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Lamp Installation

- The lamp must be mounted on a flat surface with no curvature.
- The licence plate should be mounted underneath the centre of the lamp according to the adjacent dimensions.
- Drill two holes 9mm Ø at 300mm centres for the mounting bolts.
- Drill a further hole for the cable to pass through, ensure there are no sharp edges to cut or chafe the cable.
- Connect lamp as per chart below. Try to keep the cable as long as possible, preferably join the cable inside a sealed cable junction box.
- Tighten the mounting nuts to secure the lamp.

ADR Certified Licence Plate Mounting Dimensions



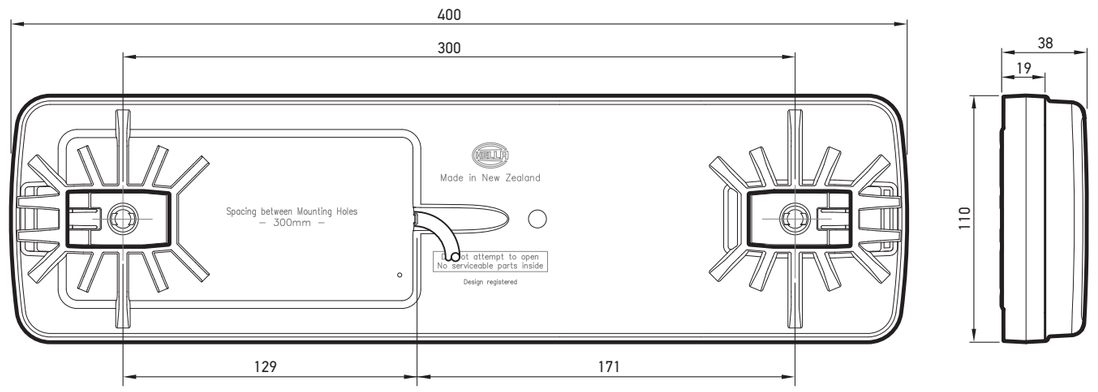
Wiring Colour Coding

Lamp is polarity conscious. The reversal of the polarity will not damage this product but will inhibit its function.
HELLA recommends wire connections be soldered, and heat shrink tubing applied to seal the joint.

Colour	Connect to	Power Consumption
White	Earth (-)	-
Red	Stop (+)	5 watts
Brown	Rear Position / Number Plate (+)	< 2 watts
Pink	Reverse (+)	5 watts
Green	Direction Indicator & HCS Trigger Pulse (+)	6 watts

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

General Dimensions (in millimetres)



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 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.

ISO 13207-1 Compliant Direction Indicator Lamp Monitoring with the Patented HCS (HELLA Compatibility Solution) Technology

On vehicles being driven on public roads the operation of the Direction Indicator Lamps must be monitored and a fault must be instantly signalled to the driver. Direction Indicator Lamps are an important road safety feature signalling the direction change intention of the driver. Failure to signal or failure to recognise a direction indicator represents a significant cause for road accidents.

In many countries, LED direction indicator lamps offering a reliable 'Fit and Forget' solution, have become the retrofit item of choice for the cost conscious transport operator. LED lamps, with much lower power consumption and Multivolt features, are often a challenge for existing failure detection control electronics of modern trucks and buses. Transport fleets often feature a mixture of trailer units equipped with either bulb or LED based Direction Indicator Lamps. Each of these trailer units ideally must be freely interchangeable with any of the tractor units in the fleet.

Some manufacturers recommend to fit additional resistive loads in parallel to the LED lamps to simulate the 21 watts consumed by a bulb lamp. Such pure resistive load solutions can be problematic for the following reasons:

a) They mask the possible failure of the actual LED Indicator Lamp itself.
b) In many cases such pure resistive solutions do not function since they only provide a linear time/current response which is significantly different to the time/current response of a bulb filament when it heats up.
c) They consume a lot of energy and thus eliminate the desired lower power advantage of an LED lamp.

Safe conversion to LED Direction Indicator Lamps is now possible with the patented HCS HELLA Compatibility Solution.

HELLA supplies electronic control and flasher units which make it possible to convert the indicator failure system for various vehicles. This is necessary if the vehicle manufacturer does not guarantee indicator bulb failure control via the vehicle wiring system. HCS has been patented by HELLA.

For further information about HCS please refer to the latest HELLA catalogue or the HELLA New Zealand web site, www.hella.co.nz

Important Notes for Installer and Vehicle Owner

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.

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 specified in ISO 7637 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.

Warranty Statement

Congratulations! The product you have selected comes from Hella - one of the world's leading manufacturers of lighting products. The product comes with a 5 year warranty from end user purchase covering faults in materials, components or workmanship.

In the unlikely event that you should experience a confirmed warranty related problem with your purchase, Hella will, at its discretion, either repair, replace or refund the purchase price of the product.

Warranty services may be obtained by returning the product within the warranty period to the Hella Dealer where the product was originally purchased. This warranty is in addition to and does not preclude any other rights or remedies available to the consumer under any local legislation related to the provision of goods or services.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

This warranty does not cover:
1.) Claim/s as a result of normal wear and tear or of any modifications and / or alterations to the product in any shape or form.
2.) Claim/s as a result of non-compliance of the assembly, service and operating instructions and/or any unfit or improper use.
3.) Any expenses incurred in the process of making the claim.

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