Important Notes for Installer and Vehicle Owner

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.

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 products please contact us on E-mail at techfeedback@hella.co.nz

INSTRUCTION SHEET
for: ***Part No. 2161-CS***

ADR - APPLICATION AND MOUNTING INSTRUCTIONS

JUMBO-S LED REAR DIRECTION INDICATOR LAMP WITH HCS
Multivolt (Suitable for 12 and 24 volt systems)

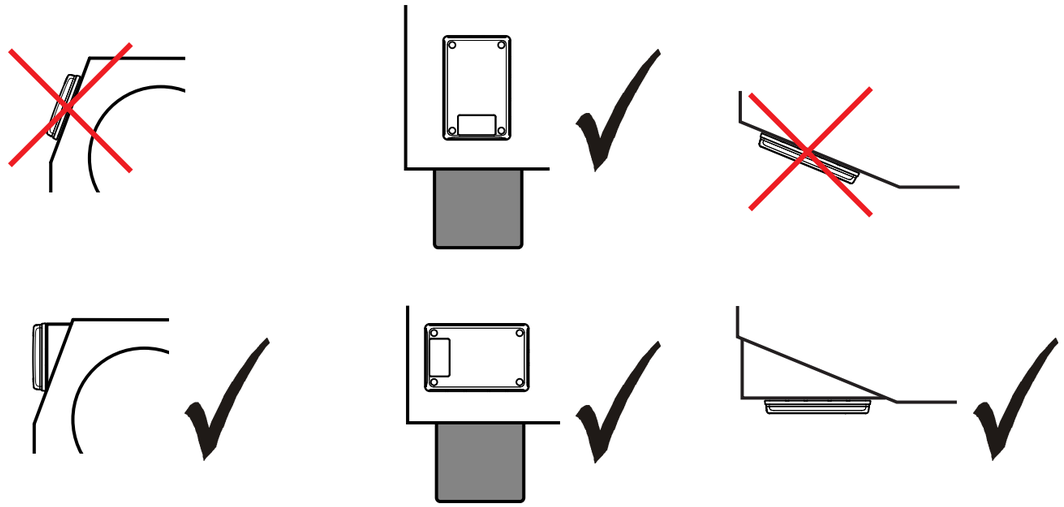
Lens Marking and ADR 13/00 Installation Requirements

This lamp identified by lens marking 0760 and the HELLA logo, was manufactured to comply with:
ADR 6/00 Cat 2a Rear Direction Indicator Lamps
ADR 47/00 Retro Reflectors

- 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 and vertically.

Please refer to ADR 13/00 for more details.

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



LENS IDENTIFICATION NUMBER: 0760

CATALOGUE NUMBER	ENGINEERING NUMBER	CRN NUMBER	COMPLIANCE NUMBER	ADR 51/00 GLOBE	ADR APPLICABLE
2161-CS	980 761-0x	45443 45633	2161*RDI*C 2361*RR*C	N/A LED	ADR 6/00 ADR 47/00

AMENDMENTS			ADR COMPLIANCE VERIFIED	ISSUE DATE:
02/2014				10/2013
				958 780-74

HELLA-New Zealand Limited, Auckland

958 780-74 V04

INSTRUCTION SHEET

for: **Part No. 2161-CS**

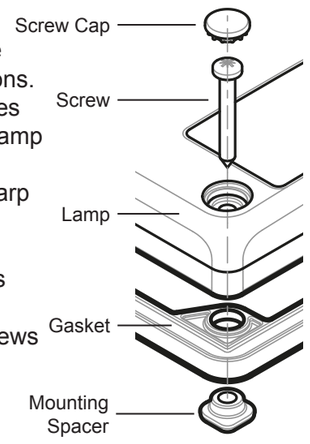
Lamp Mounting Instruction

Mounting in Single, Double and Triple Chamber Housings

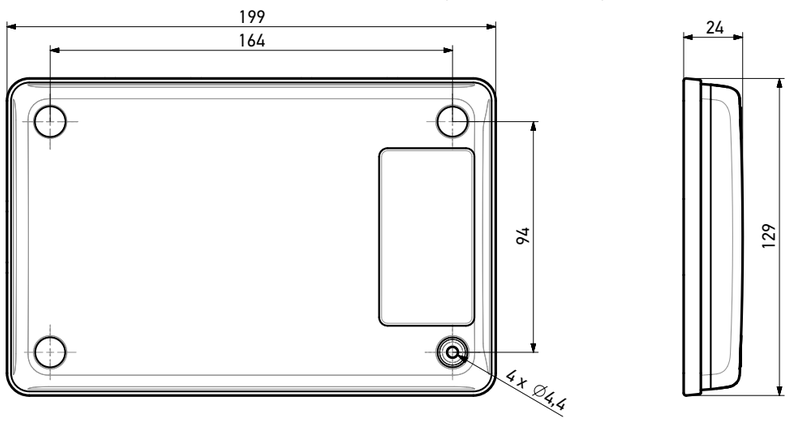
- Remove existing lamp from the housing.
- Connect cables inside existing lamp housing as per table below and test that the lamp functions correctly.
- Ensure there are no sharp edges to cut or chafe the cables.
- Ensure drain holes in the housing are clear.
- Fasten the lamp into the housing using the four stainless steel screws supplied with the lamp (Max. torque 2.5 Nm).
- Mount the four screw caps until they are flush with the lens surface.

Surface Mounting (using Surface Mount Kit P/N 9.2361.08)

- Lamp should be mounted on a flat surface and as close as possible to the outer extremities of the vehicle. Refer to ADR 13/00 for mounting restrictions.
- Determine a suitable location for the lamp and drill four Ø3.2 mm pilot holes holes according to the hole centre dimensions below, or alternatively the lamp itself can be used as a template for hole positioning.
- Drill a further hole for the cables to pass through. Ensure there are no sharp edges to cut or chafe the cables.
- Assemble the four mounting spacers into the gasket and fit it to the lamp.
- Connect the cables as per the table below and test that the lamp functions correctly.
- Fasten the lamp to the mounting surface using the four stainless steel screws supplied with the kit (Max. 2.5 Nm torque).
- Mount the four screw caps until they are flush with the lens surface.



General Dimensions (in millimetres)



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 (-)	-
Yellow	Rear Indicator (+)	6 watts
Blue	Rear Indicator & HCS Pulse (+)	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 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.

HCS Direction Indicator Lamps work in conjunction with HCS / ISO 13207-1 compliant failure detection systems. If additional lamps are fitted beyond the amount supported by the HCS / ISO 13207-1 compliant failure detection system then they must be wired separately so as not to be detected.

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