



**HELLA NEW ZEALAND
INTERNATIONAL CATALOGUE**



LED Lighting Solutions for the Transport Sector



Welcome - Willkommen - Bienvenue - Benvenuto - Bienvenido

HELLA-New Zealand Limited

HELLA-New Zealand's brand new international catalogue offers a comprehensive range of innovative LED lighting solutions for the transport sector.

Since the launch of our 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.

So when you select original parts with the HELLA label, you know that functional safety, a perfect fit and product durability are guaranteed.

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HELLA INTRODUCTION

ABOUT US

HELLA New Zealand strives to provide world-class products that contribute to the safety of the automotive and transport industry through enhanced vision and visibility.

HELLA-New Zealand Limited

HELLA-New Zealand Limited was founded in 1973 to manufacture, market and distribute products in New Zealand. Today the company designs and manufactures innovative lighting products for the commercial transport and automotive industries, using the latest LED (Light Emitting Diode) technology. With these products HELLA New Zealand is a supplier to automotive manufacturers and commercial transport fleets all over the world. HELLA is a prominent brand in the New Zealand aftermarket and in the commercial transport sector, with key relationships with original equipment bus, coach and trailer manufacturers.

HELLA New Zealand's range of export products include the following:

- LED Driving Lights
- LED Marker and Signal Lamps
- LED Daytime Running Lamps
- LED Interior/Exterior Lighting
- LED Signal Warning Lamps
- LED Work Lamps
- Accessories

HELLA International

The history of HELLA is inextricably linked to the development of the automobile. Registered in June 1899, in Lippstadt, Germany, the company has grown due to entrepreneurial boldness and foresight, developing innovative products and processes, a committed workforce and by a customer-focused approach.

HELLA International represents the worldwide HELLA organisation. This includes all HELLA production facilities, research and development, original equipment and aftermarket sales and trading companies with over 34,000 employees.

With over 125 manufacturing facilities, subsidiaries and joint ventures located in more than 35 countries, the company group is a global-operations partner to the motor industry.

Sales companies and partners worldwide supply automobile manufacturers and the specialised trade around the globe.

HELLA International consists of three regions:

- Europe
- Americas (NAFTA, South America)
- Asia-Pacific



HELLA Catalogue extracts from 1929/30





Customer Service

HELLA backs up its products with a dedicated customer services team that can advise customers on product availability, product selection, installation and delivery.

The advantage of manufacturing a large percentage of our products locally; for both local customers and a large overseas client base, allows for a high degree of flexibility and customisation unmatched in the New Zealand automotive industry, thus our order fill rate ranks consistently among the highest in the industry.

HELLA customer service provides customers with 'best fit' solutions based on sound professional knowledge and experience in the commercial transport sector. With access to a wide global database within the HELLA group, customer service is the recommended first stop for any customer inquiries.

ISO Certification

HELLA-New Zealand Limited is certified to the International quality standard ISO 9001:2008 for 'The Design and Manufacture of Automotive Lighting and Signalling Equipment, General Lighting, Optical Products and Plastic Components. The Design and Manufacture of Marine Navigation Lighting, General Lighting, LED Based Lighting and Associated Electronic Control Units'.

HELLA New Zealand has for over 20 years adopted the entrepreneurial spirit of its founders and developed into a LED lighting technology company with comprehensive in-house design and manufacturing facilities.

Warranty - Standing Behind Our Product

All LED based lighting products supplied by HELLA-New Zealand Limited carry 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 a HELLA product, our commitment to your satisfaction ensures that HELLA will, at our discretion, either repair or replace the product or refund the purchase price.

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 DOES NOT COVER:

- Claim/s as a result of normal wear and tear, any modifications, alterations, non-compliance of assembly, service and operating instructions and/or any unfit or improper use.



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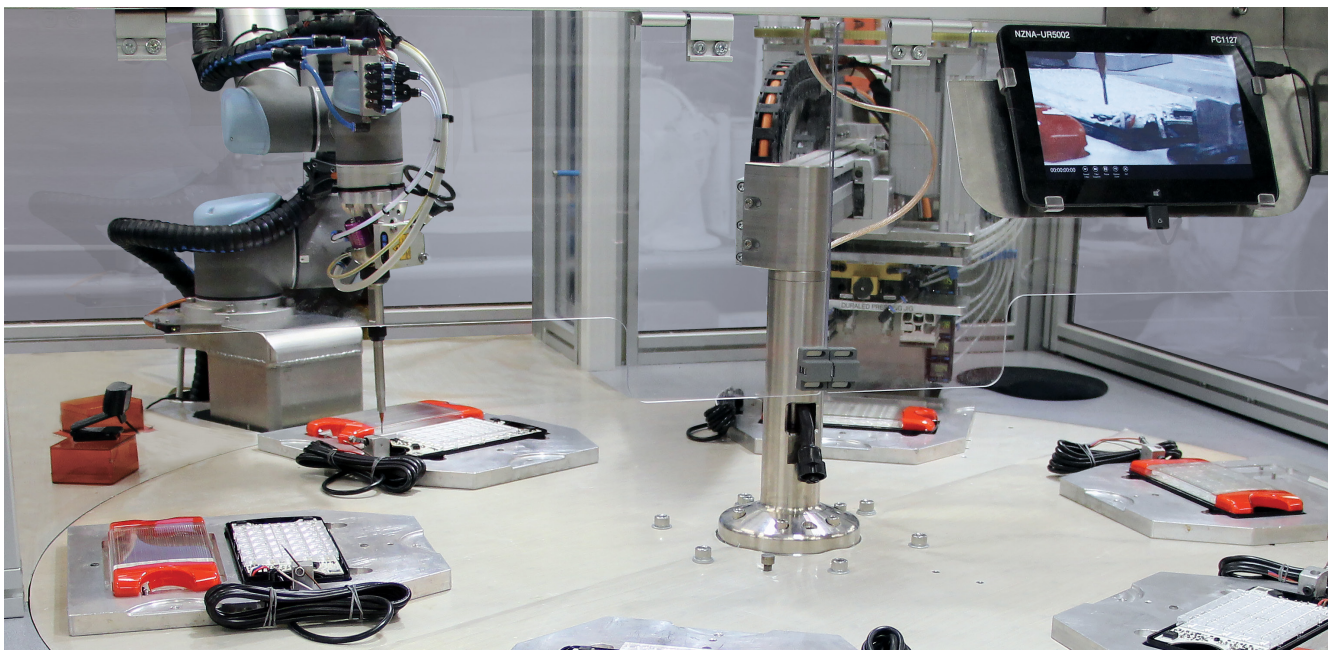
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HELLA LIGHT EMITTING DIODE (LED) LAMP TECHNOLOGY

Our expanding range of LED based marker and signal lamps has been accepted as the most advanced lighting solutions to lower maintenance costs of commercial transport fleets and operators.



Since the launch of our first LED signal lamps in 1990, our innovative designs have set new standards and received considerable worldwide recognition. For over two decades we have refined our designs and developed production technologies now used in millions of lamps, all engineered and tested to the most demanding standards.

Our local research, product development and production facilities have allowed us to respond quickly to market feedback from New Zealand and Australian manufacturers of transport equipment as well as many discerning Fleet Operators.

Their input has been invaluable and ultimately helped New Zealand manufactured LED technology products to succeed in world markets.

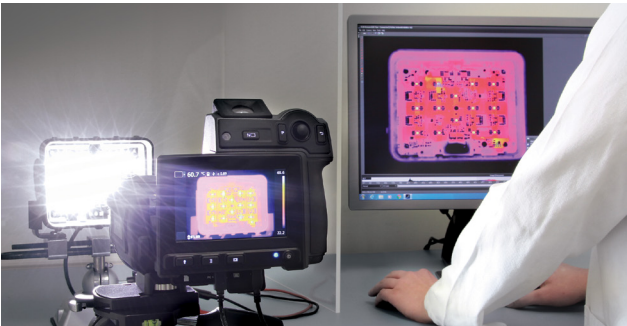
Superior Lens and Optic Materials

The majority of HELLA DuraLED and EuroLED lamps are produced using extra thick acrylic lenses – providing an ultra long term lighting solution and environmentally friendly choice.

For all commercial transport applications, HELLA recommends our hermetically sealed marker and signal lamps manufactured with a specially formulated enhanced high impact acrylic that has superior resistance to most commonly used wash and cleaning liquids.

In 2009 HELLA took the design and development of ultra durable lighting solutions to a new level by specifying the Swiss made high tech material Grilamid® for some selected applications. Grilamid® has quickly become the material of choice for operators of equipment exposed to very high vibration and impact conditions.

Left: Automated robotic manufacturing.
Below: In-house design and thermal imaging camera testing.



UV Resistance

Some regions of the world are exposed to some of the highest and harshest UV radiation. Most consumers will have purchased and experienced products made from plastic materials that deteriorate, fade and often become brittle very quickly when exposed to the sun.

Most of the LED lighting equipment we supply is likely to be continually exposed to this harsh environment. Our Grilamid® or high-impact acrylic LED lamps are designed to withstand the harshest environmental conditions and to tolerate long term exposure to high UV levels without fading or embrittlement.

Fit and Forget by Design

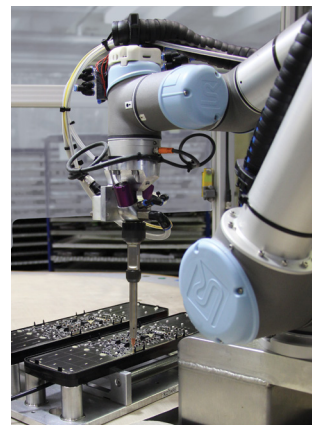
What it means for you.

**FIT &
FORGET**
BY DESIGN

Fit and Forget by Design is not just a marketing slogan, it is a philosophy adopted by our design team in 1998 when HELLA New Zealand designed our first DuraLED Signal Lamp for the commercial transport sector.

To create lamps that will function faultlessly for the vehicle life and beyond requires dedication to excellence and the most rigorous, verified test regime. Extensive consultation with our most discerning industry partners were conducted, followed by months of field tests before the first DuraLED was ever sold to a customer. Over the past 19 years the same team of dedicated perfectionists have continuously improved the latest designs from ongoing research and market experience.

Material selection, LEDs, optics, drive electronic, circuit protection, design of the sealing geometries, rigidity versus deliberate flexibility of the mounting system all work in harmony to create a product of truly lasting value and safe operation. Fit and Forget by Design is your peace of mind of purchasing a product which is designed to stand the test of time, without compromise.



Automated packaging.



WORLD LEADING AUTOMOTIVE LIGHTING

Expertly designed and precision manufactured
for visibility and safety.

DuraLED

HELLA's growing range of DuraLED lamps, incorporating the latest LED technology, has proven to be the superior economic and environmental choice for transport operators in New Zealand. DuraLED has a track record to last the distance. The first DuraLED lamps were supplied in 1998, some 19 years ago and are still in use today.

DuraLED lamps offer distinctive designs with shallow shapes and concealed mounting screws for enhanced protection against damage. Most marker and signal lamps are pre-wired with sheathed multi-core cable, fully sealed against dust and moisture to International Protection Standards IP 6K6/IP 6K7, and compliant with current UNECE or SAE regulations. HELLA's innovative DuraLED lamps are designed for use on trucks, buses, caravans, emergency vehicles and speciality applications.

The range includes marker lamps, direction indicators, end outline lamps, position lamps, high intensity warning signal lamps and a combination stop/rear position/indicator lamp range incorporating special ultra wide optics for enhanced visibility.

EuroLED

The EuroLED marker and signal range of LED lamps harness the benefits of a single high intensity LED. The use of precision optics give the EuroLED lamp a unique look along with the benefits of low power consumption. EuroLED marker and signal lamps feature a shallow design and special ultra wide optics for significantly improved side visibility. EuroLED lamps are also shockproof and fully sealed to withstand temporary water submersion and high-pressure washing, ensuring long service life and durability. EuroLED lenses are made from specially formulated high impact acrylic with enhanced chemical resistance.

LED Multivolt



One of the leading advantages of HELLA's LED technology is the Multivolt circuitry fitted to most of our LED lamps, ensuring a uniform level of intensity and optimum brightness.

Multivolt LED lamps can be connected to either 12 or 24 volt DC electrical systems. The light performance will not be adversely affected by voltage drop over long cables and corroded connectors. LED lamps fitted with Multivolt circuitry are clearly marked throughout the catalogue.

RFCCommSafe



RFCCommSafe products were developed in recognition that some radio communication equipment can be very sensitive in remote areas. RFCCommSafe products are designed to ensure no interference with any other electronic equipment.

LED Active



LED lamps with active circuitry are designed for a single voltage and can only be connected to a 12V or 24V DC electrical system.

The circuitry is designed to ensure a uniform level of intensity and full light output over a small range above and below the design voltage of the lamp. The light performance will not be adversely affected by voltage drop over long cables and corroded connectors.

LED Passive



LED lamps with passive circuitry are designed for a single voltage and can only be connected to a 12V or 24V DC electrical system.

The circuitry does not regulate the LED current so the light output increases proportionally with the supply voltage. The light performance will be adversely affected by voltage drop over long cables and corroded connectors.

HCS (HELLA Compatibility Solution)



Vehicles operating on public roads may require the direction indicator lamps to be monitored for correct function. When a 21 watt bulb based lamp is exchanged with an LED lamp, some flasher units will not recognise this LED lamp because of its low power consumption and indicate a bulb failure. Many transport fleets will operate trucks/trailers which can feature a mixture of bulb based direction indicator lamps and low power consumption LED direction indicator lamps.

In 1999 HELLA New Zealand designed the HELLA Compatibility Solution (HCS) to offer seamless compatibility between conventional bulb based lamps and HCS equipped LED lamps. The HCS control unit recognizes either a standard bulb lamp or an HCS LED lamp or a mixture thereof, and continues to work normally, without triggering the bulb failure warning function. This technical solution has become the ISO Standard 13207-1 which is being incorporated into the body electronic of European Trucks. Astute fleet operators today specify LED lamps designed to ISO Standard 13207-1 to ensure the future-proofing of their fleet. (See further details on page 10).

PA

Grilamid® is a high-performance polyamide (PA) developed and manufactured in Switzerland, and is a revolutionary new transparent plastic with exceptional properties.

Grilamid® long-term resistance to UV degradation matches our impact enhanced acrylic used in most HELLA LED lamps. Grilamid® is characterised by very high impact and fatigue strength with resistance to chemicals and stress cracking.

HELLA New Zealand has benchmarked Grilamid® as the ideal lens material for lighting applications exposed to stone impact and very rough environments. Grilamid® is not a commodity material and was developed for demanding applications such as medical apparatus, sight glasses and high value shatterproof sunglasses. The application of Grilamid® for optical lenses on ultra durable transport lighting LED lamps is unique in the world.

For many years HELLA New Zealand has concentrated on the development, manufacture and export of ultra durable LED lamps. Locally manufactured lamps using this Swiss made material places these products again well ahead of the competition.

The exceptional properties of Grilamid® are exactly what is required in heavy duty commercial transport lighting applications, offering excellent transparency (similar to glass), high strength and impact resistance against stone damage, UV and chemical resistance.

Grilamid® is a registered trademark of EMS-CHEMIE AG.

PMMA

The subject of acrylic (PMMA) lenses versus polycarbonate (PC) is frequently raised by the industry.

For most commercial transport applications HELLA chooses to manufacture sealed LED lamps from a specially formulated high impact acrylic with enhanced chemical resistance. Our specially formulated high impact acrylic offers many advantages:

- Ultra long-term resistance against fading and UV damage, and enhanced chemical resistance, including all commonly used wash liquids, and more.

Refurbish instead of Recycle

In a world consuming resources at an ever faster rate, HELLA LED lamps manufactured with enhanced impact acrylic or Grilamid® are a truly long-term investment.



Acrylic and Grilamid® lamps can be polished to look like new.

Both these materials can be refurbished to near new condition by polishing out fine scratches and road grime. As illustrated in the photograph a DuraLED with several years of active high mileage road use can be refurbished to pristine near new condition.

Due to the properties of polycarbonate, refurbishing by polishing is not a viable option.

PC

Lamps featuring polycarbonate lenses, are for use in very high impact situations and they have a high resistance to stone damage. However polycarbonate has a lower tolerance to certain chemicals and aggressive cleaning fluids.

This makes lamps made with PC lenses sensitive to chemical attack, some industry warranty statements even go as far as prohibiting liquid washing detergents.

In addition, polycarbonate lenses are susceptible to UV attack and they will fade and become brittle under long term exposure to high UV levels.

Ultra Wide Visibility Optics

HELLA continues to increase its range of LED signal lamps that incorporate Ultra Wide Visibility Optics. LED lamps strictly designed to minimum legal requirements in the horizontal +/- 10 to +/- 45 degree field suffer from signal fade and become less visible in bright sunlight. By incorporating Ultra Wide Visibility Optics, HELLA LED signal lamps are much more noticeable to following drivers particularly as the vehicle in front turns and the LED stop or turn signal is viewed from the side.

HELLA LED signal lamps, incorporating Ultra Wide Visibility Optics, far exceed the minimum legal brightness requirement beyond the +/- 10 degree horizontal angle. These lamps provide a significantly enhanced stop and turn signal to the driver of the following vehicle.

These lamps are clearly marked throughout the catalogue.

GGVS/ADR Regulation

Lamps with this symbol are approved for mounting on transport equipment which corresponds to the requirement of GGVS/ADR.

GGVS/ADR = Regulation for on-road transportation of hazardous goods.

Enhanced Definition Technology (EDT)

A stop lamp has to be instantly recognised as a warning signal. To further enhance recognition, an increase in the illuminated area (compared to the tail lamp) is combined with an increase in intensity. As a result, the illuminated area gets larger and brighter on an EDT lamp for increased safety and awareness.

Electromagnetic Compatibility (EMC)

HELLA LED lamps are electronic devices. The electrical circuits contain components that have been optimised to suppress possible interference, both emission as well as susceptibility.

Protection Against Damage Due to Voltage Spikes

Lamps are protected against reverse polarity connection and voltage spikes.

HELLA Compatibility Solution (HCS)

The trailer solution today for the trucks of tomorrow. Direction indicator lamp monitoring which is fully compliant with international standard ISO 13207-1.



Vehicles being driven on public roads may require the operation of the direction indicator lamps to be monitored and a fault 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 truck units in the fleet, including those with 12V or 24V systems.

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:

1. They mask the possible failure of the actual LED indicator lamp itself.
2. 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.
3. 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 display for various vehicles. This is necessary if the vehicle manufacturer does not guarantee indicator bulb failure control via the vehicle wiring system. The solution has been patented by HELLA. Currently, there is one control and four different LED/bulb compatible flasher units available.

The innovative patented design makes the reliable, problem free conversion to HELLA LED based indicator lamps possible.

LED lamps listed in this catalogue marked with the HCS symbol feature the patented control technology HCS (HELLA Compatibility Solution) which allows seamless communication with the HELLA HCS control flasher units.



2BA 959 011-301



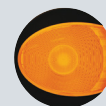
2SD 959 050-401



2BE 959 932-151



2BA 980 607-001



2BA 959 822-601



LED LAMPS marked with the HCS symbol feature patented indicator failure control technology which allows seamless communication with HELLA HCS control flasher units, or modern European trucks with body controllers compliant with the ISO 13207-1 standard.



4DN 009 492-101* HCS Flasher Unit



5DS 009 602-001* Control Unit 24V



5DS 009 552-011* HCS Control Units 24V

1. **Vehicles with Flasher Unit**

HCS LED/Bulb compatible indicator flasher units for industry standard configurations.

For all other vehicles, where an independent HELLA flasher unit can be fitted, a number of HCS flasher units are offered, covering most transport industry common lamp combinations.

2. **Vehicles that use the cold scan for indicator failure control.**

Description of fault indication: Is a faulty lamp indicated when; a) the ignition is switched on, b) directly when the fault occurs, or c) when the bulb is screwed out without the indicator being triggered?

Solution: Simulation device for cold scan P/N: 5DS 009 602-001*.

3. **Vehicles without flasher unit that carry out current measurement for the failure check.**

HCS LED indicator outage monitoring unit with 21 watt bulb current simulation.

Part number 5DS 009 552-011* is the more costly solution to be used for trucks with factory supplied fully integrated indicator control electronics.

In combination with trucks/trailers fitted with HELLA HCS LED indicator lamps, the control unit simulates the time/ current response of an incandescent bulb.

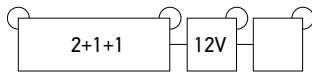
The HELLA HCS LED indicator lamp contains self diagnostics, when the lamp detects a fault this is communicated to the control unit which subsequently suppresses the signal to the truck control electronics.

Description of fault indication: A fault is determined during the flashing operation (e.g double flashing frequency).

- For 24V trailers P/N: 5DS 009 552-011*
- No separate power supply necessary
- Protective category IP 6K9K protection against dust and high pressure/steam jet cleaning.

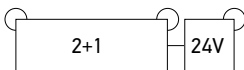
HCS flasher unit 12V 2+1+1

P/N: 4DN 009 492-101*



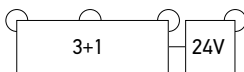
HCS flasher unit 24V 2+1

P/N: 4DM 009 492-001*



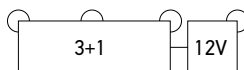
HCS flasher unit 24V 3+1

P/N: 4DW 009 492-011*



HCS flasher unit 12V 3+1

P/N: 4DW 009 492-111*



* These products are not supplied by HELLA-New Zealand Limited. For further information on these products please contact HELLA KGaA Hueck & Co.

Enclosure Protection

International Protection Rating (IP)

Example:

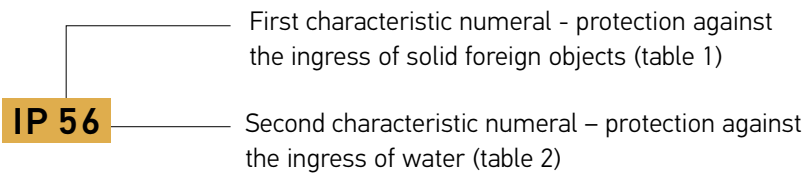


TABLE 1

Protection against the ingress of solid foreign objects (including dust)

X	Not tested
0	Not protected
1	Solid foreign objects $\varnothing \geq 50$ mm
2	Solid foreign objects $\varnothing \geq 12.5$ mm
3	Solid foreign objects $\varnothing \geq 2.5$ mm
4	Solid foreign objects $\varnothing \geq 1.0$ mm
5 and 5K	Dust protected
6 and 6K	Dust tight

TABLE 2

Protection against the ingress of water

X	Not tested
0	Not protected
1	Water vertical dripping
2	Water dripping (inclined 15 degrees)
3	Water spraying
4	Water splashing
4K	Water splashing with increased pressure
5	Water jets
6	Powerful water jets
6K	Powerful water jets at increased pressure
7	Temporary immersion
8	Continuous immersion
9K	High-pressure/steam jet cleaning

Decoding ECE Symbols

Key to decoding the combinations of numbers and letters on marker and signal lamps.

The most frequent codes used in 37 countries which approve headlamps and combination rear lamps according to ECE regulations are as follows:

E1	→ Germany
E2	→ France
E3	→ Italy
E4	→ Netherlands
E5	→ Sweden
E6	→ Belgium
E7	→ Hungary
E8	→ Czech Republic
E9	→ Spain
E10	→ Serbia and Montenegro
E11	→ United Kingdom
E12	→ Austria
E13	→ Luxembourg
E14	→ Switzerland
E24	→ Ireland

Combination rear lamp versions:

A	→ Marker lamp
AR	→ Reversing lamp
F	→ Rear fog lamp
IA	→ Reflex reflector
R	→ Tail-lamp
S1	→ Stop lamp
1, 1a, 1b:	→ Front flasher lamp (various technical versions)
2a	→ Rear flasher lamp
5	→ Repeater flasher lamp (for vehicles up to 6 metres long)
6	→ Repeater flasher lamp (for vehicles longer than 6 metres)
SM1	→ Side marker lamps (for all vehicles)
SM2	→ Side marker lamps (for vehicles with length up to 6 metres)
RL	→ Daytime running lamps

Symbol and Marking Location on Marker and Signal Lamp

R-S1

Lamp Version:
R = Tail lamp
S1 = Stop lamp

02

Lamp Version: fulfils regulation amendment 02

E4

Type of approval and location
E = ECE regulations
4 = Netherlands

11391

Type test number to ECE regulation

