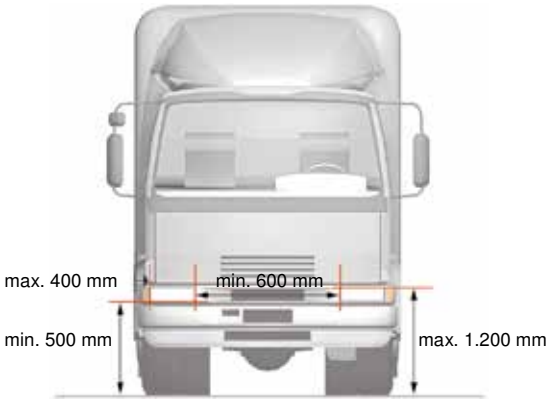
Lighting technology

Product competence from EUROPART

- Front lighting
- Side lighting
- Rear lighting
- Auxiliary lighting

EUROPART – Europe's No. 1 for truck, trailer, van and bus spare parts.

Headlamps



Dipped beam headlamps

ECE-R48 § 6.2, ECE-R98 and ECE-R112 (ECE-R123 has other special conditions)

Attachment	
ECE-R48 § 6.2.1	Prescribed for all vehicle classes.
Number	
ECE-R48 § 6.2.2	2 lamps
Colour	
ECE-R48 § 5.15	White
Mounting width	
ECE-R48 § 6.2.4.1	max. 400 mm from outermost point of the vehicle width, min. 600 mm between the two dipped beam headlamps, min. 400 mm, if the vehicle total width < is 1,300 mm (does not apply to M1 and N1 vehicles)
Mounting height	
ECE-R48 § 6.2.4.2	min. 500 mm, max. 1,200 mm, max. 1,500 on N3G vehicles
Geometric viewing angle	
ECE-R48 § 6.2.5	Horizontal 10° inwards and 45° outwards. Vertical 15° upwards and 10° downwards.
Electrical wiring	
ECE-R48 § 6.2.7	When the high beam is switched on, the dipped beam may remain on.
Switch-on control	
ECE-R48 § 6.2.8	permissible
Other regulations	
ECE-R48 § 6.2.9	Automatic headlight levelling must be installed for LED headlamps. If the headlamps are equipped with light sources > 2,000 Lumen (usually Xenon), automatic headlight levelling and a headlamp cleaning system must be installed. 2 additional cornering lights are permissible.

Motor vehicle classes

M1	Motor vehicles with capacity to transport up to 3.5 t and up to 9 persons
M2	Motor vehicles with capacity to transport up to 5 t and over 9 persons
M3	Motor vehicles with capacity to transport over 5 t and over 9 persons
N1	Motor vehicles for transporting goods up to 3.5 t
N2	Motor vehicles for transporting goods over 3.5 t and up to 12 t
N3	Motor vehicles for transporting goods over 12 t
N3G	All-terrain motor vehicles

Vehicle classes

O1	Trailer up to 0.75 t
O2	Trailer over 0.75 t up to 3.5 t
O3	Trailer over 3.5 t up to 10 t
O4	Trailer over 10 t

On the following pages, you can find an introduction to the legal requirements in accordance with ECE Regulation 48 for mounting of front, side and rear lighting.
The information clearly shows which lights are required by the legislator, and which are permissible. The mounting regulations for the individual lights are explained in detail.
EUROPART shall accept no liability for possible deviations from the equipment regulations documented herein. According to experience, the legal provisions are subject to change in irregular intervals.

As at: End 2013 (ECE-R48 Series 06 Revision 9, Supp. 3)

GGVSEB (formerly GGVS) means the German Ordinance on the Transportation of Dangerous Goods by Road, Rail and Inland Waterways (Gefahrgutverordnung Straße, Eisenbahn und Binnenschifffahrt). This ordinance serves the implementation of Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the inland transportation of dangerous goods. Products identified in this way are permitted for mounting on transportation equipment that meets the provisions of the GGVSEB/ADR.

EUROPART GOOD TO KNOW

H7/H1 main headlamp

Version with dipped beam, indicator, high beam and position light
Bulb type H7/H1/P21W/W5W
Voltage 24 V

Scope of supply
with bulbs

suitable for	Installation side	Application range	Order no.	Comparative no.
DAF XF105, XF95, CF85, CF75	left	for vehicles without headlight levelling	**0247 046 031**	HELLA 1EJ 247 046-031
DAF XF105, XF95, CF85, CF75	right	for vehicles without headlight levelling	**0247 046 041**	HELLA 1EJ 247 046-041
DAF CF75/85, XF95/105 2001-	left	for vehicles with headlight levelling (electric)	**0247 046 011**	HELLA 1EJ 247 046-011
DAF CF75/85, XF95/105 2001-	right	for vehicles with headlight levelling (electric)	**0247 046 021**	HELLA 1EJ 247 046-021

H7/H1 main headlamp

Version with dipped beam, indicator, high beam, position and LED daytime running light
Bulb type H7/H1/P21W
Voltage 24 V

Application range
for vehicles without headlight levelling

Scope of supply
with bulbs

suitable for	Installation side	Order no.	Comparative no.
DAF CF, XF	left	**0010 116 511**	HELLA 1ED 010 116-511
DAF CF, XF	right	**0010 116 521**	HELLA 1ED 010 116-521

H7 main headlamp

Version with dipped beam, indicator, high beam and position light
Bulb type H7/P21W/W5W
Voltage 24 V

Application range
for vehicles without headlight levelling

Scope of supply
with bulbs

suitable for	Installation side	Order no.	Comparative no.
MAN F2000, M2000M, 09/95-12/05	left	**0009 027 011**	HELLA 1D3 009 027-011
MAN F2000, M2000M, 09/95-12/05	right	**0902 027 021**	HELLA 1D3 009 027-021

H7/H7 main headlight

Version with indicator, dipped beam, high beam, position and daytime running light
Bulb type H7/H7/PY21W
Voltage 24 V

Application range
for vehicles without headlight levelling

Scope of supply
with bulbs

suitable for	Installation side		Order no.	Comparative no.
MAN TGX, TGS	left	[1]	**0354 987 011**	HELLA 1EH 354 987-011
MAN TGX, TGS	right	[1]	**0354 987 021**	HELLA 1EH 354 987-021
MAN TGX (2013-), TGX (2007-), TGS	left	[2]	**0354 987 031**	HELLA 1EH 354 987-031
MAN TGX (2013-), TGX (2007-), TGS	right	[2]	**0354 987 041**	HELLA 1EH 354 987-041

[1] without daytime running lights
[2] with daytime running light (H21W)

H7/H1 main headlamp

Version with dipped beam, indicator, high beam and position light
Bulb type H7/H1/PY21W/W5W
Voltage 24 V

Scope of supply
with bulbs

suitable for	Installation side		Order no.	Comparative no.
Mercedes-Benz Actros MP2/MP3 10/2002-06/2008, 2008-	left	[1]	**9269 513 011**	HELLA 1EH 009 513-011
Mercedes-Benz Actros MP2/MP3 10/2002-06/2008, 2008-	right	[1]	**9269 513 021**	HELLA 1EH 009 513-021
Mercedes-Benz Actros MP2/MP3 10/2002-06/2008, 2008-	left	[2]	**9269 513 031**	HELLA 1EH 009 513-031
Mercedes-Benz Actros MP2/MP3 10/2002-06/2008, 2008-	right	[2]	**9269 513 041**	HELLA 1EH 009 513-041

[1]for vehicles without headlight levelling
[2]for vehicles with headlight levelling (electric)

H7/H1 main headlamp

Version with high beam and side light
Bulb type H7/H1/W5W
Voltage 24 V

Application range
for vehicles without headlight levelling and without headlight cleaning system

Scope of supply
with bulbs

suitable for	Installation side	Order no.	Comparative no.
Mercedes-Benz Axor II/III	left	**0247 011 011**	HELLA 1DB 247 011-011
Mercedes-Benz Axor II/III	right	**0247 011 021**	HELLA 1DB 247 011-021

H7 main headlamp

Version with dipped beam, indicator, high beam, fog and position light
Bulb type H7/H1/H3/PY21W/W5W
Voltage 24 V

Application range
for vehicles without headlight levelling

Scope of supply
with bulbs

suitable for	Installation side	Order no.	Comparative no.
Renault Premium II	left	**0011 899 371**	HELLA 1EL 011 899-371
Renault Premium II	right	**0011 899 381**	HELLA 1EL 011 899-381

H7 main headlamp

Version with dipped beam, indicator, high beam, fog and position light
Bulb type H7/H1/H3/PY21W/W5W
Voltage 24 V
Lens colour dark

Application range
for vehicles without headlight levelling

Scope of supply
with bulbs

suitable for	Installation side	Order no.	Comparative no.
Renault Premium II, 10/2006-	left	**0247 010 291**	HELLA 1EL 247 010-291
Renault Premium II, 10/2006-	right	**0247 010 301**	HELLA 1EL 247 010-301

H7/H7 main headlight

Version with dipped beam, indicator, high beam and position light
Bulb type H7/H7/PY21W
Voltage 24 V

Scope of supply
with bulbs

suitable for	Installation side		Order no.	Comparative no.
Volvo FH II (2008-)	left	[1]	**0010 478 091**	HELLA 1EL 010 478-091
Volvo FH II (2008-)	right	[1]	**0010 478 101**	HELLA 1EL 010 478-101
Volvo FH, FM	left	[2]	**0010 478 111**	HELLA 1EL 010 478-111
Volvo FH, FM	right	[2]	**0010 478 121**	HELLA 1EL 010 478-121

[1]for vehicles without headlight levelling, with levelling adjustment/air suspension
[2]for vehicles with headlight levelling, without levelling adjustment/air suspension

H7 main headlamp

Version with dipped beam, indicator, high beam and position light
Bulb type H7/H1/PY21W/W5W
Voltage 24 V

Application range
for vehicles without headlight levelling, with cab with air suspension and levelling adjustment

Scope of supply
with bulb

suitable for	Installation side	Order no.	Comparative no.
Renault Magnum II/III	left	**0246 046 511**	HELLA 1ER 246 046-511
Renault Magnum II/III	right	**0246 046 521**	HELLA 1ER 246 046-521

H4 main headlamp

Version with dipped beam, indicator, high beam and position light
Bulb type H4/P21W/R5W
Voltage 24 V

Application range
for vehicles with headlight levelling (electric)

suitable for	Installation side	Order no.	Comparative no.
Scania P94-T164 (09/95-09/04)	left	**0007 150 091**	HELLA 1EG 007 150-091
Scania P94-T164 (09/95-09/04)	right	**0007 150 101**	HELLA 1EG 007 150-101

H1/H1 main headlamp

Version with dipped beam, high beam and position lamp
Bulb type H1/H1/T4W
Voltage 24 V

Scope of supply
with bulbs

suitable for	Installation side	Order no.	Comparative no.
Mercedes-Benz Citaro I (O 530)	left	**0007 859 011**	HELLA 1DL 007 859-011
Mercedes-Benz Citaro I (O 530)	right	**0007 859 021**	HELLA 1DL 007 859-021
Mercedes-Benz Citaro II (O 530)	left	**0007 859 051**	HELLA 1DL 007 859-051
Mercedes-Benz Citaro II (O 530)	right	**0007 859 061**	HELLA 1DL 007 859-061

The lighting products shown here represent only part of our comprehensive range. You can find other items for your vehicle in EWOS at www.europart.net or in your EUROPART branch.

Simple answers to technical questions

What do Watt, Kelvin, Lumen and Lux mean?

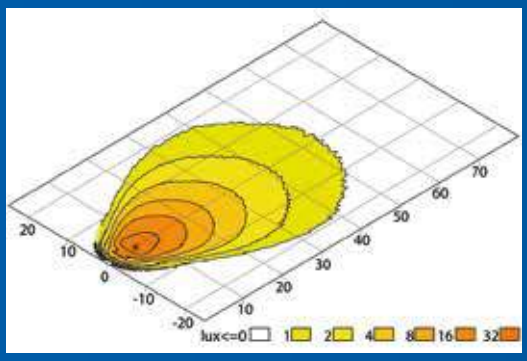
Watt (W): Unit of measure for the power requirement of the headlamp

Kelvin (°K): Unit of colour temperature. The higher the value, the “whiter”/more similar to daylight the light. Important: Anything above 7,000° Kelvin is too bright for the human eye and is dazzling.

Lumen (lm): The quantity of light emitted by a light source, but in all directions. Important: Distinction between measured Lumen and theoretical Lumen. In this campaign, only real, measured light values are specified.

Lux (lx): This value is crucial for illumination of the work area. The aim of light development is to obtain as much light as possible on the ground. To do this, computer-calculated reflector surfaces are used, which bundle the light and thus create homogeneous illumination.

Different types of illumination are compared using so-called Isolux diagrams. The illumination



intensity is measured with the luxmeter, in order to ascertain whether or not a work area is sufficiently illuminated.

HELLA quality at a glance

Innovative strength
For the development of worklights, our brand partner HELLA has for many years been cooperating with L-LAB, the Research Institute for Light Technology and Mechatronics at the University of Paderborn. Together, they developed HELIOS software, which can be used to simulate the light distribution of planned headlamps.

Therefore, customers can benefit directly from the results of research. Take, for example, the innovative LED worklights, which produce a brighter, more pleasant light, consume less energy and last for significantly longer.

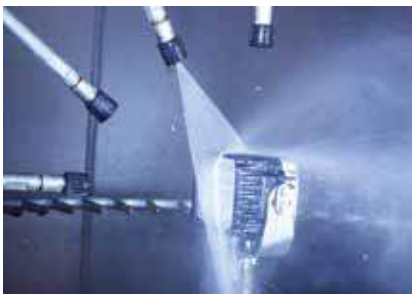
Durability
LED worklights last for up to 60,000 hours. Their long life is not only due to the use of high-quality materials and components, but also due to a well thought-out production process, which reliably prevents errors. In addition, great emphasis is placed on top-quality equipment and very high reliability of the products.

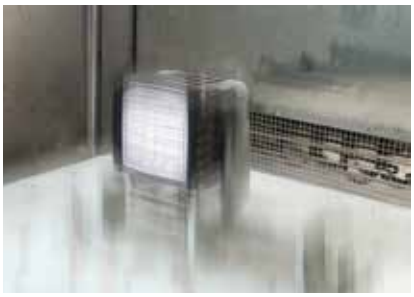
The claims
The products shown meet all legal standards, of course, as well as requirements set by local vehicle manufacturers for original parts.

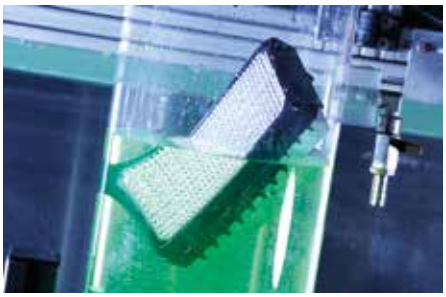
Quality tests


Heat, humidity and coldness test


Splash water test


High-pressure cleaner test


Vibration test


Submersion and tightness test


Dust test

EUROPART GOOD TO KNOW

Daytime running lights

Daytime running lights

ECE-R48 Section 6.19 and ECE-R87

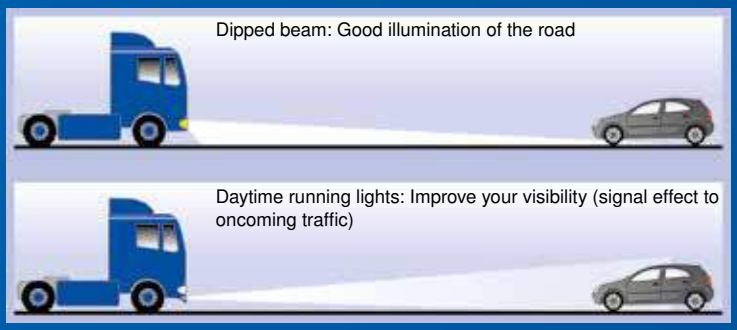
Attachment	
ECE-R48 Section 6.19.1	Prescribed for all motor vehicle classes.
Number	
ECE-R48 Section 6.19.2	2 units
Colour	
ECE-R48 Section 5.15	White
Mounting width	
ECE-R48 Section 6.19.4.1	min. 600 mm between the two daytime running lights, but min. 400 mm for vehicle widths < 1,300 mm
Mounting height	
ECE-R48 Section 6.19.4.2	min. 250 mm, max. 1,500 mm
Geometric viewing angle	
ECE-R48 Section 6.19.5	Horizontal ± 20°. Vertical ± 10°.
Electrical wiring	
ECE-R48 Section 6.19.7	Automatic switch-on at engine start-up. The daytime running lights must switch off automatically when the headlamps or fog lights are switched on.
Switch-on control	
ECE-R48 Section 6.19.8	Permissible

Daytime running light

Safety during the day too.

Legal regulations for trucks and HGVs: EUROPART informs.
Daytime driving light means greater safety. This has been proven by official studies. Since August 2012, new commercial vehicles in the ECE approval range must be equipped with daytime driving lights.

According to the law, a range of mounting variants are permitted. However, the distances and reflected beam angle to be adhered to are prescribed:
For use as a position light, the minimum mounting height must be 250 mm and the maximum distance from the outside must be 400 mm.
For vehicles with a width of < 1,300 mm, a distance of at least 400 mm is prescribed. When using the daytime running light as a position light, the series position light must, according to ECE-R-48, be permanently switched off.



Type approval

The legislator prescribes a special type approval, before daytime running lights can be approved for mounting on the truck. HELLA daytime running lights have successfully passed all required type approvals. This can be seen by the following identifications:

Type approval symbol "RL" – stands for running light
ECE identification, e.g. "E1" – the country code 1 stands for Germany, for example
Type approval number, e.g. "00 1722" – the first two digits describe the status of the regulation (2000 in the example), the final digits designate the individual number per light.

LED daytime running lights set

LEDayFlex

Installation side	left/right
Voltage	12/24 V
∅	30 mm
Colour	clear
Form	round

Description	Order no.	Comparative no.
2 x 5 LED light module	**0010 458 801**	HELLA 2PT 010 458-701
2 x 6 LED light module	**0010 458 821**	HELLA 2PT 010 458-721

Indicators, front

Front directional indicator (indicators)

ECE-R48 Section 6.5 and ECE-R6

Attachment	
ECE-R48 Section 6.5.1	Prescribed for all motor vehicle classes. Category 1, 1a or 1b.
Number	
ECE-R48 Section 6.5.2	2 units
Colour	
ECE-R48 Section 5.15	Amber
Mounting width	
ECE-R48 Section 6.5.4.1	max. 400 mm from outermost point of the vehicle width, min. 600 mm between the two indicators, but min. 400 mm, if the vehicle width < 1,300 mm
Mounting height	
ECE-R48 Section 6.5.4.2	min. 350 mm, max. 1,500 mm (exception: 2,100 mm). An exception is only possible if the vehicle geometry does not enable standard mounting
Geometric viewing angle	
ECE-R48 Section 6.5.5	Horizontal 45° inwards, up to 80° outwards. Vertical ± 15°, but for mounting height < 750 mm also 5° downwards (and 20° inwards for M1 and N1 vehicles).
Electrical wiring	
ECE-R48 Section 6.5.7	Illumination must occur independently of other lights (except other indicators). All indicators on the same vehicle side must be caused to illuminate and turn off by this same actuation device. They must flash synchronously.
Switch-on control	
ECE-R48 Section 6.5.8	prescribed
Other regulations	
ECE-R48 Section 6.5.9	A malfunction of the directional indicator must be signalled in the vehicle.

ECE-R6 Section 6.1

Category 1 = Distance from dipped beam/front fog light > 40 mm, Light intensity min. 175 cd, Single lamp max. 1,000 cd, Type “D” lamp max. 500 cd

Category 1a = Distance from dipped beam/front fog light > 20 mm, ≤ 40 mm, Light intensity min. 250 cd, Single lamp max. 1,200 cd, Type “D” lamp max. 600 cd

Category 1b = Distance from dipped beam/front fog light ≤ 20 mm, Light intensity min. 400 cd, Single lamp max. 1,200 cd, Type “D” lamp max. 600 cd

LED light failure control

Regulation in all ECE states

Indicator lights must be monitored on vehicles with approval for use on public roads: The failure of an indicator light must be indicated optically or acoustically in the vehicle. This applies in all ECE states. The possible failure of an indicator light must be monitored immediately from the vehicle. Manufacturers achieve this by using various checks. The failure checks currently in use cannot detect simple LED lights and display a fault. Operation of LED lights with alternating voltage or clocked direct voltage is not permissible. The individual functions of the lights must only be operated with a vehicle-side fuse of max. 3 A. Due to the low wattages of LED lights, which differ significantly from those of a bulb version, problems in bulb failure monitoring can occur during operation of different trucks.

As monitoring of indicator lights is a legal requirement, we recommend only operating the lights in connection with an indicator light control unit.

In addition, further light functions are detected by some trucks. This is a convenience function of the vehicle, which is not a legal requirement, and which does not release the driver from his duty to ensure visual inspection of the lighting equipment. Here too, the low outputs can result in misdiagnoses (instrument board in the driver's cab indicates a bulb failure even though the bulb is still working). If misdiagnoses, as described above, occur in your truck type during operation, please contact the truck manufacturer.

EUROPART GOOD TO KNOW

Indicator light

Bulb type PY21W
Voltage 24 V
Lens colour clear
Type flush-mounting

suitable for	Installation side	Order no.	Comparative no.
Mercedes-Benz Atego II/III	right	**0247 016 041**	HELLA 2BA 247 016-041
Mercedes-Benz Atego II/III	left	**9260 001 056**	HELLA 2BA 247 016-031

Indicator light

Bulb type PY21W
Voltage 24 V
Lens colour clear
Type flush-mounting

Scope of supply
with bulb holder, without bulb

suitable for	Installation side	Order no.	Comparative no.
Mercedes-Benz Axor II/III	left	**9260 001 062**	HELLA 2BA 247 015-031
Mercedes-Benz Axor II/III	right	**0247 015 041**	HELLA 2BA 247 015-041

Indicator light

Installation side left/right
Bulb type PY21W
Voltage 12/24 V
∅ 55 mm
Depth 87,5 mm
Lens colour clear
Type surface-mounting/flush-mounting

suitable for	Order no.	Comparative no.
Heuliez GX 127 (Euro 2, 3), 327 | **Irisbus** Citelis, Citelis CNG, Evadys H, Magelys HD/Pro **Mercedes-Benz** Intouro II | **Neoplan** Centroliner (N 45XX), Cityliner (N 12XX), Skyliner (N 1122), Starliner (N 52XX), Tourliner (N 2216), Trendliner (N 3516) | **Solaris** Urbino III **Temsa** Safari (Euro 3, 4), Tourmalin (Euro 4) | **Van Hool** CL, T9, TL (Euro 2, 3) | **Volvo** B5LH, B7R, B9L, B9R, B10L, B12B, B12R, 7500, 7700, 8500, 9700, 9900	**0008 221 001**	HELLA 2BA 008 221-001

Indicator light

Version with position lamp
Bulb type P21W
Lens colour yellow/clear
Type flush-mounting

Scope of supply
without bulb carriers

suitable for	Installation side	Order no.	Comparative no.
Scania R, G, P	right	**0145 104 011**	HELLA 9EL 145 104-011
Scania R, G, P	left	**8000 003 559**	HELLA 9EL 145 103-011

Indicator light

Installation side left/right
Bulb type P21W
Voltage 24 V
Width 254 mm
Height 122 mm
Lens colour yellow
Type flush-mounted, horizontal

suitable for	Order no.	Comparative no.
Mercedes-Benz O 405 N, O 407, O 408	**0004 119 001**	HELLA 2BA 004 119-001

Indicator light

Installation side left/right
Bulb type P21W
Voltage 24 V
Width 264 mm
Height 133 mm
Lens colour yellow
Type flush-mounted

Scope of supply
with bulb holder

Suitable for MAN NÜ (A20) pre-series vehicles.

suitable for	Order no.	Comparative no.
MAN Lion's Coach, Lion's Comfort, Lion's Star, ND 202, NÜ (A20), ÜL	**0005 603 001**	HELLA 2BA 005 603-001

Indicator light

Version	with position light
Installation side	left / right
Bulb type	P21W/W5W
Voltage	24 V
Width	192 mm
Height	133 mm
Lens colour	clear
Type	flush-mounted

suitable for	Order no.	Comparative no.
Neoplan Centroliner (N 44XX/ 45XX), Euroliner (N 3316), Starliner (N 516) **Volvo** B7L	**0004 119 021**	HELLA 2BE 004 119-021

LED indicator light

Buses

Installation side	left, right
Voltage	24 V
Width	192 mm
Height	133 mm
Colour	yellow
Lens colour	transparent
Type	flush-mounting

Order no.	Comparative no.
0008 982 041	HELLA 2BA 008 982-041

Indicator light

Installation side	left/right
Bulb type	P21W
Voltage	12/24 V
Lens colour	yellow
Type	surface-mounting

Order no.	Comparative no.
0002 652 101	HELLA 2BA 002 652-101

Indicator light

Installation side	left/right
Bulb type	P21W
Voltage	12/24 V
Lens colour	yellow
Type	surface-mounting

Order no.	Comparative no.
0003 014 111	HELLA 2BA 003 014-111

Indicator light

Version	with position light
Installation side	left/right
Bulb type	P21W/C5W
Voltage	12/24 V
Lens colour	yellow/clear
Type	surface-mounting

Order no.	Comparative no.
0003 014 251	HELLA 2BE 003 014-251

Indicator light

Installation side	left/right
Bulb type	P21W
Voltage	12/24 V
Lens colour	yellow
Type	surface-mounting

Order no.	Comparative no.
0996 012 061	HELLA 2BA 996 012-061

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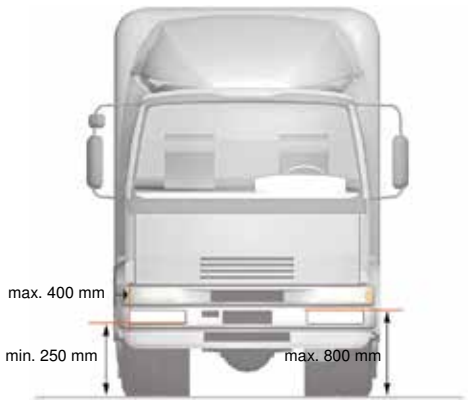
Fog lights



Front fog lights

ECE-R48 Section 6.3 and ECE-R19

Attachment	
ECE-R48 Section 6.3.1	Permissible for all motor vehicle classes.
Number	
ECE-R48 Section 6.3.2	2 units
Colour	
ECE-R48 Section 5.15	White or light yellow
Mounting width	
ECE-R48 Section 6.3.4.1	max. 400 mm from outermost point of the vehicle width
Mounting height	
ECE-R48 Section 6.3.4.2	not higher than the dipped beam headlamp, min. 250 mm above the ground. Max. 800 mm above the ground for M1 and N1 vehicles. Max. 1,200 mm for all other motor vehicle classes. For N3G only, up to 1,500 mm is permissible
Geometric viewing angle	
ECE-R48 Section 6.3.5	Horizontal 10° inwards and 45° outwards. Vertical ± 5°.
Electrical wiring	
ECE-R48 Section 6.3.7	It must be possible to switch them on independently of the high beam and dipped beam.
Switch-on control	
ECE-R48 Section 6.3.8	Prescribed. One independent – non-flashing – warning light.
Other regulations	
ECE-R48 Section 6.3.6.2.2	Special regulation in connection with R123 headlamps (AFS).

H3 fog light

Version with high beam
Bulb type H3/H3
Voltage 24 V

Scope of supply
with bulbs

suitable for	Installation side	Order no.	Comparative no.
DAF CF 65, CF 75, CF 85, LF 45, LF 55	left	**0965 410 131**	HELLA 1PE 965 410-131
DAF CF 65, CF 75, CF 85, LF 45, LF 55	right	**0965 410 141**	HELLA 1PE 965 410-141
DAF XF105 (10/05-)	left	**0965 410 111**	HELLA 1PE 965 410-111
DAF XF105 (10/05-)	right	**0965 410 121**	HELLA 1PE 965 410-121

H3 fog light

Comet 550

Installation side	left/right
Bulb type	H3
Voltage	12/24 V
Width	195 mm
Height	119 mm
Depth	82,5 mm
Type	surface-mounting

suitable for	Order no.	Comparative no.
DAF | **Iveco** | **Mercedes-Benz** | **Renault** [1]	**0005 700 061**	HELLA 1ND 005 700-061
MAN EL (A12), NG (A11), NL (A10, A15)	**0005 700 041**	HELLA 1ND 005 700-001

[1]with hardened diffusing lens

H11 fog light

Bulb type	H11
Voltage	24 V
Design	FF/Halogen
Type	flush-mounting

Application range
for vehicles with cornering lights

Scope of supply
with bulb

suitable for	Installation side	Order no.	Comparative no.
DAF XF Euro 6 (2012-), CF Euro 6 (2013-), LF Euro 6 (2013-)	left	**0010 223 031**	HELLA 1ND 010 223-031
DAF XF Euro 6 (2012-), CF Euro 6 (2013-), LF Euro 6 (2013-)	right	**0010 223 041**	HELLA 1ND 010 223-041

H7 fog light

Installation side	left/right
Bulb type	H7
Voltage	24 V
∅	90 mm
Depth	79 mm
Design	FF/Halogen
Type	flush-mounted

Scope of supply
with bulb

suitable for	Order no.	Comparative no.
Mercedes-Benz Intouro II **Neoplan** Centroliner (N 45XX), Skyliner (N 1122), Tourliner (N 2216), Trendliner (N 3516) **Van Hool** T series **Volvo** B12B, 9700, 9900	**0008 582 011**	HELLA 1N0 008 582-011

H3 fog light

Installation side	left/right	Depth	150 mm
Bulb type	H3	Type	flush-mounted
Voltage	24 V		
∅	90 mm		

Scope of supply
with cover, cap, cable and bulb

suitable for	Order no.	Comparative no.
Neoplan Centroliner **VDL** Bova Futura **Volvo** B5LH, B7L, B7R, B9L, B9R, B12B, B12R, B13R, 7500, 7700, 8500, 9700, 9900	**0007 186 047**	HELLA 1NL 007 186-047

H3 fog light

Micro DE® Premium

Version	in alu design cover
Installation side	left/right
Bulb type	H3
Voltage	24 V
Outer ∅	73,1 mm
Depth	140 mm
Type	flush-mounted

Scope of supply
without mounting frame

suitable for	Order no.	Comparative no.
Neoplan Cityliner (N 12XX), Skyliner (2011-)	**0008 090 327**	HELLA 1NL 008 090-327

Auxiliary headlamps

High beam headlamps

ECE-R48 § 6.1, ECE-R98 and ECE-R112 (ECE-R123 has other special conditions)

Attachment	
ECE-R48 § 6.1.1	Prescribed for all vehicle classes.
Number	
ECE-R48 § 6.1.2	2 or 4 lamps, max. 6 lamps for N3 vehicles
Colour	
ECE-R48 § 5.15	White
Mounting width	
ECE-R48 § 6.1.4.1	no special regulations, but mounted such that the driver is not distracted by the reflection
Mounting height	
ECE-R48 § 6.1.4.2	no special regulations
Geometric viewing angle	
ECE-R48 § 6.1.5	5° in all directions.
Electrical wiring	
ECE-R48 § 6.1.7	High beam headlamps must only be switchable either simultaneously or in pairs. If two auxiliary high beam headlamps are mounted, then no more than two pairs may light up simultaneously. During the transition from dipped beam to high beam, at least one high beam pair must be switched on. When dipping the headlamps, all high beam headlamps must go out at the same time.
Switch-on control	
ECE-R48 § 6.1.8	prescribed
Other regulations	
ECE-R48 § 6.1.9	The light intensity of all switchable high beam headlamps must not exceed 430,000 cd. The total of the reference numbers must not be greater than 100.

Lighting technology

What does the reference number mean – What does the Isolux diagram show?

The reference number (Ref.) indicates the maximum light intensity provided by a headlamp.
With the help of the reference number, you can quickly and easily find out how powerful a headlamp is. The reference number is made up of the conversion of the maximum light intensity Candela. It is dimensionless – i.e. it has no unit of measurement. For every high beam headlamp, the reference number of the high beam is specified along with the ECE type approval symbol. Two high beam headlamps with Ref. 17.5 each result in a total of Ref. 35 on the vehicle.

Low or high reference number – which is better?
A high beam with a low reference number shines wider but not so far as a high beam with a high reference number. For long, straight sections of road, a high beam with a high reference number is ideal, whereas lights with a lower reference number are better for illuminating winding roads, such as in the mountains.

Please note the legal requirements for your country and check whether the ECE Regulation, which has been in force since 2009, applies to you. In some countries, only a total high beam of 100 (reference value), i.e. the total of all high beam headlamps on the vehicle, may be used.

Low reference number

High reference number

The Isolux diagram explains the light distribution of the headlamp.
A headlamp projects more intensive light at close range than at a distance. The lighting effect drops with length and width. The Isolux diagram clarifies 4 important properties of the light from a high beam headlamp:
1. What is the shape of the light beam?
2. How far does it illuminate?
3. How wide is the illumination?
4. How intense is the light in the different areas?

Example of an Isolux diagram. All distances are specified in metres.

The different colours of the Isolux diagram provide information about the light intensity.

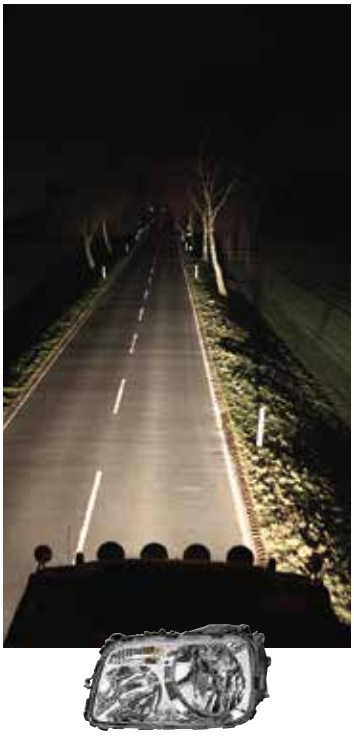
Red-Orange: High light intensity. From yellow to green to blue, the light intensity falls as a function of distance.

Note on the fog light:
This has a wide beam, but not a long beam. This special design should help prevent the fog droplets from reflecting light and dazzling the driver.

EUROPART GOOD TO KNOW

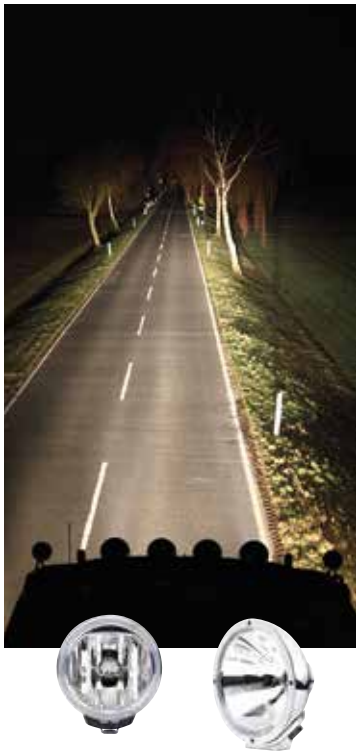
System comparison of auxiliary high beam headlamps

Series lighting without auxiliary headlamps



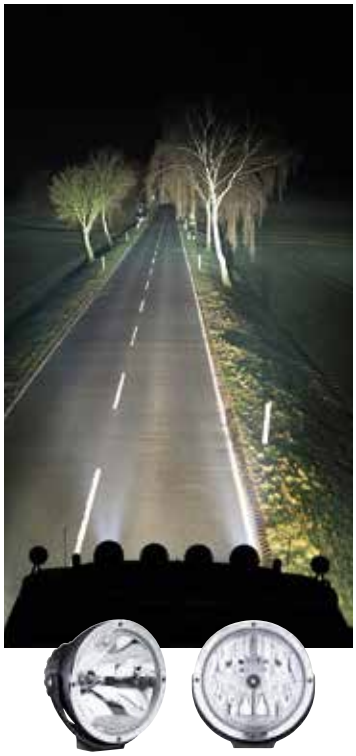
Test 1: The light from standard Halogen headlamps in a heavy truck class. The light is low. The driver is high.

Series lighting plus auxiliary halogen headlamps



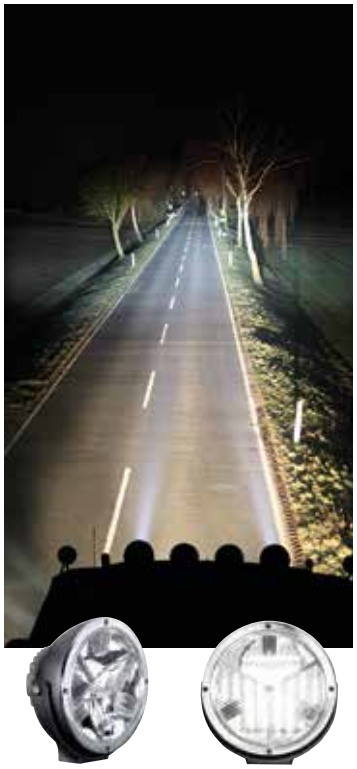
Test 2: H1 Halogen auxiliary headlamps on roof bar. Type: HELLA Luminator Compact Chromium CELIS.

Series lighting plus auxiliary Xenon headlamps



Test 3: Xenon auxiliary headlamps on roof bar. Type: HELLA Luminator Xenon.

Series lighting plus auxiliary LED headlamps



Test 4: LED auxiliary headlamps on roof bar. Type: HELLA Luminator LED.

Headlamp insert

H7 spotlight

Version	with position light	Voltage	24 V
Reference number	ECE Ref. 12,5	∅	90 mm
Installation side	left/right	Depth	120 mm
Bulb type	H7/T4W	Design	FF/Halogen
		Type	flush-mounted

Scope of supply
with bulb

suitable for	Order no.	Comparative no.
Fast Scoler IV **Heuliez** GX 127 (Euro 2, 3), 327 **Irisbus** Citelis, Citelis CNG **Mercedes-Benz** Conecto I (O 345) (2001-), Intouro II | **Neoplan** Centroliner (N 45XX), Trendliner (N 3516) | **Van Hool** CL, T9, TL (Euro 2, 3) | **VDL** Bova Futura FHD (Euro 3) | **Volvo** B5LH, B7R, B9L, B9R, B12B, B12R, 7700, 9700, 9900	**0008 191 021**	HELLA 1K0 008 191-021

H1 spotlight

Version	with adjusting elements
Reference number	ECE Ref. 27,5
Bulb type	H1
Voltage	12/24 V
Width	190 mm
Height	142 mm
Depth	140 mm
Type	flush-mounted

suitable for	Installation side	Order no.	Comparative no.
MAN Lion's Comfort, Lion's Star (R02/R03), ND 202, NÜ (A20), ÜL	left	**0005 478 011**	HELLA 1FE 005 478-011
MAN Lion's Comfort, Lion's Star (R02/R03), ND 202, NÜ (A20), ÜL	right	**0005 478 021**	HELLA 1FE 005 478-021

LED auxiliary driving lamp

Driving Light Bar 350

Version	12 bright high-power LEDs, particularly low height, very low weight
Installation side	left/right
Voltage	12/24 V
Width	350 mm
Height	40 mm
Depth	53 mm
Installation depth	81 mm
Cable length	2500 mm
Type	horizontal surface-mounting

Scope of supply
2 support brackets and bolts

Hanging surface mounting is possible by turning through 180° and upwards alignment of the two support brackets.

Reference number	Order no.	Comparative no.
ECE Ref. 20	**0958 040 001**	HELLA 1FJ 958 040-001
ECE Ref. 30	**0958 040 051**	HELLA 1FJ 958 040-051

LED auxiliary driving lamp

Luminator LED

Version	with LED position light
Reference number	ECE Ref. 40
Voltage	12/24 V
∅	222 mm
Depth	130,5 mm
Type	Attachment

Order no.	Comparative no.
0011 002 001	HELLA 1F8 011 002-001


1


2


3

H1 auxiliary driving lamp

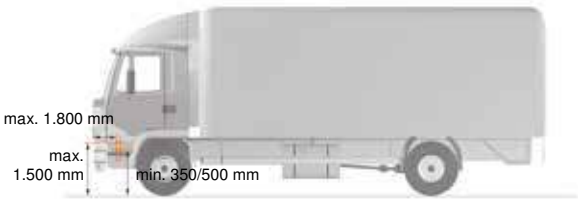
Installation side	left/right
Voltage	12/24 V
Type	surface-mounting

Model	Reference number	Version	Dimensions	Fig.		Order no.	Comparative no.
Rallye 3003 Celis	ECE Ref. 17,5	with LED position light	222 x 124 mm	1		**0009 797 451**	HELLA 1F8 009 797-451
Luminator-Chromium-Celis	ECE Ref. 17,5	with LED position light	224,5 x 129,5 mm	2		**0007 560 211**	HELLA 1F8 007 560-211
Luminator Chromium	ECE Ref. 37,5	with position light	224,5 x 129,5 mm	3	[1]	**0007 560 311**	HELLA 1F8 007 560-311

[1]FF technology

The lighting products shown here represent only part of our comprehensive range. You can find other items for your vehicle in EWOS at www.europart.net or in your EUROPART branch.

Indicators, side



Side directional indicator (indicators)

ECE-R48 Section 6.5 and ECE-R6

Attachment	
ECE-R48 Section 6.5.1	Category 5: Prescribed for M1, N1, M2, M3 vehicles ≤ 6 m long. Category 6: Prescribed for N2, N3 and for N1, M2, M3 vehicles > 6 m long.
Number	
ECE-R48 Section 6.5.2	1 per vehicle side
Colour	
ECE-R48 Section 5.15	Amber
Mounting height	
ECE-R48 Section 6.5.4.2	min. 350 mm for M1 and N1 vehicles, min. 500 mm for all other motor vehicle classes, max. 1,500 mm (exception: 2,300 mm), an exception is only possible if the vehicle geometry does not enable standard mounting
Longitudinal mounting	
ECE-R48 Section 6.5.4.3	Max. 1,800 mm from front, measured from outermost point. 2,500 mm for all M1 and N1 vehicles and always if the vehicle geometry does not permit mounting < 1,800 mm.
Geometric viewing angle	
ECE-R48 Section 6.5.5	Horizontal min. 5° up to 60° to rear. For category 5 vertical ±15°, but for mounting heights < 750 mm, also 5° downwards. For category 6 however, 30° above and 5° below the horizontal.
Electrical wiring	
ECE-R48 Section 6.5.7	Prescribed. Illumination must occur jointly with the directional indicators on the same side of the vehicle, and independently of other lights. The indicators on the same side of the vehicle must be caused to illuminate and turn off by this same actuation device. They must flash synchronously.
Switch-on control	
ECE-R48 Section 6.5.8	none
Other regulations	
ECE-R48 Section 6.5.9	Side directional indicators of category 5 may be replaced by category 6 lights in all cases. For M2, M3, N2 and N3 vehicles > 9 m long = max. 3 additional category 5 or 1 additional category 6 possible.

ECE-R6 Section 6.1
Category 5 = Light intensity min. 0.6 cd, Single lamp max. 280 cd, Type “D” lamp max. 140 cd
Category 6 = Light intensity min. 50 cd, Single lamp max. 280 cd, Type “D” lamp max. 140 cd

LED indicator light

Version	with 24 LEDs
Voltage	12/24 V
Width	177 mm
Height	100 mm
Depth	31 mm
Cable length	2500 mm
Light colour	yellow
Lens colour	transparent
Type	surface-mounting

Fastening	Order no.	Comparative no.
horizontal	**0980 607 201**	HELLA 2BA 980 607-201
vertical	**0980 607 701**	HELLA 2BA 980 607-701

Auxiliary flasher light

Bulb type	P21W
Voltage	24 V
Width	140 mm
Height	78 mm
Depth	52 mm
Lens colour	yellow
Type	surface mounting

can be used in splash water protected area

suitable for	Order no.	Comparative no.
Mercedes-Benz Travego II | **Neoplan** Skyliner (N 1122), Tourliner (N 2216) | **Setra** S 415 HD, S 417 HDH, S 431 DT, S 416/417 GT-HD | **Solaris** Urbino III | **Volvo** B5LH, B7L, B7R, B9L, B9R, B12B, B12R, B13R, 7700, 8700, 9700, 9900	**0008 355 001**	HELLA 2BM 008 355-001

Auxiliary flasher light

Bulb type	PY21W	Lens colour	transparent
Voltage	24 V	Type	surface-mounting
Width	140 mm		
Height	78 mm		
Depth	52 mm		

suitable for	Order no.	Comparative no.
Neoplan Cityliner (N 12XX), Skyliner (2011-), Starliner (N 52XX), Tourliner (N 2216)	**0008 355 017**	HELLA 2BM 008 355-017

Indicator light

Bulb type	P21W	Lens colour	yellow
Voltage	12/24 V	Type	surface-mounting
Width	140 mm		
Height	51 mm		
Depth	47,5 mm		

Scope of supply
with bulb holder

Vehicle manufacturer	Installation side	Order no.	Comparative no.
MAN, Mercedes-Benz, Neoplan, Solaris, Volvo	left	**0006 692 011**	HELLA 2BM 006 692-011
MAN, Mercedes-Benz, Neoplan, Solaris, Volvo	right	**0006 692 021**	HELLA 2BM 006 692-021

Indicator light

Bulb type	P21W
Voltage	24 V
Width	165 mm
Height	73 mm
Lens colour	yellow
Type	flush-mounting, horizontal

Order no.	Comparative no.
0996 027 001	HELLA 2BA 996 027-001

Auxiliary flasher light

Bulb type	R10W
Voltage	24 V
Width	130 mm
Height	60 mm
Depth	40 mm
Lens colour	yellow
Type	surface-mounting

Order no.	Comparative no.
0001 321 001	HELLA 2BM 001 321-001

Indicator light

Bulb type	P21W
Voltage	12/24 V
Width	61 mm
Height	91 mm
Depth	77,5 mm
Lens colour	yellow
Type	surface-mounting

Scope of supply
with bulb holder

Order no.	Comparative no.
0002 652 051	HELLA 2BM 002 652-051

Auxiliary flasher light

Bulb type	P21W
Voltage	12/24 V
Width	140 mm
Height	50 mm
Depth	36 mm
Lens colour	yellow
Type	flush-mounting

Installation side	Order no.	Comparative no.
left	**0002 847 011**	HELLA 2BM 002 847-011
right	**0002 847 021**	HELLA 2BM 002 847-021

Indicator light

Bulb type	P21W
Voltage	24 V
Width	52,5 mm
Height	87,5 mm
Lens colour	yellow
Type	flush-mounting

Scope of supply
with bulb holder

Installation side	Order no.	Comparative no.
left	**0004 312 051**	HELLA 2BM 004 312-051
right	**0004 312 061**	HELLA 2BM 004 312-061

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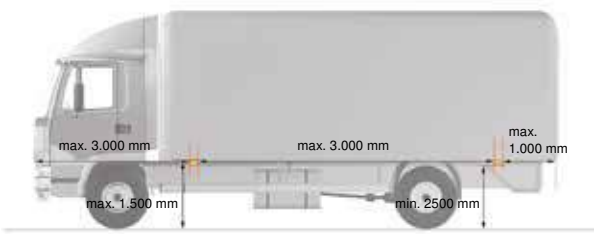
Side marker lights



Side marker lights

ECE-R48 Section 6.18 and ECE-R91

Attachment	
ECE-R48 Section 6.18.1	Prescribed for all motor vehicles > 6 m, except for chassis with driver's cab. Permissible for all other motor vehicles. Prescribed for M1 vehicles and N1 vehicles with vehicle lengths ≤ 6 m, if geometric visibility of limiting and tail lights is to be compensated for.
Number	
ECE-R48 Section 6.18.2	see Longitudinal mounting
Colour	
ECE-R48 Section 5.15	Amber (red is also possible in combination with the rear light).
Mounting height	
ECE-R48 Section 6.18.4.2	min. 250 mm, max. 1,500 mm (exception: 2,100 mm), an exception is only possible if the vehicle geometry does not enable standard mounting
Longitudinal mounting	
ECE-R48 Section 6.18.4.3	Foremost max. 3 m from front, rearmost max. 1 m from rear, max. 3 m between the individual side marker lights (exception: 4 m). At least one in the front third and/or one in the rear third. For vehicle lengths ≤ 6 m, alternatively at least one in the middle third. M1 vehicles > 6 m but < 7 m should have one side marker light within 3 m from the front and one in the last third of the vehicle length.
Geometric viewing angle	
ECE-R48 Section 6.18.5	Horizontal ± 45°. For vehicles with optional mounting, however, ± 30°. Vertical ± 10°, but for mounting height < 750 mm 5° downwards.
Electrical wiring	
ECE-R48 Section 6.18.7	For M1 and N1 vehicles < 6 m long, the side marker lights may also emit flashing light. They must flash with the same frequency as the directional indicators on the same side.
Switch-on control	
ECE-R48 Section 6.18.8	Permissible. If available, their function must be fulfilled by the control device prescribed for limiting and tail lights.
Other regulations	
ECE-R48 Section 6.18.9	The illuminating surface of the reflector must be integrated in the side marker light. The max. mounting height of the reflector must be noted. The rear side marker light must be amber if it flashes together with the rear directional indicator.

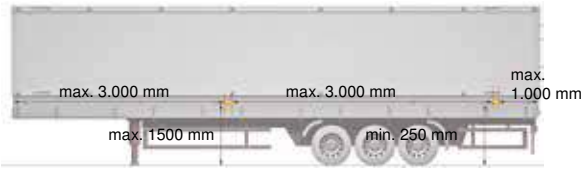
ECE-R91 Section 7.1
Category SM1 (use on all motor vehicle classes) = Light intensity min. 4 cd, max. 25 cd
Category SM2 (use only on M1 class) = Light intensity min. 0.6 cd, max. 25 cd

Side marker light (SM1)

ECE-R48 Section 6.18 and ECE-R91

Attachment	
ECE-R48 Section 6.18.1	Prescribed for trailers > 6 m long. Permissible for trailers < 6 m long.
Number	
ECE-R48 Section 6.18.2	see Longitudinal mounting
Colour	
ECE-R48 Section 5.15	Front amber, rear red (red is also possible in combination with the rear light).
Mounting height	
ECE-R48 Section 6.18.4.2	min. 250 mm, max. 1,500 mm (exception: 2,100 mm), an exception is only possible if the vehicle geometry does not enable standard mounting
Longitudinal mounting	
ECE-R48 Section 6.18.4.3	Foremost side marker light max. 3 m from front, rearmost side marker light max. 1 m from rear, max. 3 m between the individual side marker lights (exception: 4 m). At least one in the front third and/or one in the rear third. For vehicle lengths ≤ 6 m, alternatively at least one in the middle third.
Geometric viewing angle	
ECE-R48 Section 6.18.5	Horizontal ± 45°, with optional side marker lights ± 30°. Vertical ± 10°, but for mounting height < 750 mm 5° downwards.
Electrical wiring	
ECE-R48 Section 6.18.7	No regulations.
Switch-on control	
ECE-R48 Section 6.18.8	Permissible. If available, their function must be fulfilled by the control device prescribed for limiting and tail lights.
Other regulations	
ECE-R48 Section 6.18.9	The illuminating surface of the reflector must be integrated in the side marker light. The max. mounting height of the reflector must be noted. The rear side marker light must be amber if it flashes together with the rear directional indicator.

ECE-R91 (7.1)
Category SM1 (use on all motor vehicle classes) = Light intensity min. 4 cd, max. 25 cd



LED side marker light

Version	with reflector
Installation side	left/right
Voltage	24 V
Distance between holes	116 mm
Width	130 mm
Height	32 mm
Lens colour	yellow

approved for vehicles in accordance with ADR/GGVS

Type	Connection	Cable length	Fig.	Order no.	Comparative no.
surface-mounting, horizontal/vertical	2-pole EasyConn contact housing with cable	300 mm	1	**0008 645 301**	HELLA 2PS 008 645-301
surface-mounting, horizontal/vertical	2-pole EasyConn contact housing with cable	1300 mm	1	**0008 645 311**	HELLA 2PS 008 645-311
surface-mounting, horizontal/vertical	2-pole EasyConn contact housing with cable	2000 mm	1	**9260 001 061**	HELLA 2PS 008 645-361
surface-mounting, horizontal	Quick-link with clamping piece and cable	150 mm	2	**0008 645 601**	HELLA 2PS 008 645-601
surface-mounting, horizontal/vertical	quick-link with clamping piece and cable	300 mm	2	**0008 645 611**	HELLA 2PS 008 645-611
surface-mounting, horizontal/vertical	quick-link with clamping piece and cable	1300 mm	2	**0008 645 621**	HELLA 2PS 008 645-621
surface-mounting, vertical	with open cable end	1500 mm	3	**0008 645 021**	HELLA 2PS 008 645-991
surface-mounting, horizontal	with open cable end	1500 mm	3	**0008 645 001**	HELLA 2PS 008 645-007

LED side marker light

Width 111,3 mm
Height 51,2 mm
Depth 20,9 mm
Lens colour yellow
Type Attachment, horizontal

approved for vehicles in accordance with ADR/GGVS

Version	Voltage	Cable length	Order no.	Comparative no.
with reflector and cable	12 V	500 mm	**0963 639 001**	HELLA 2PS 345 600-007
with reflector, cable and bracket	12 V	500 mm	**0963 639 061**	HELLA 2PS 345 600-061
with reflector	24 V	500 mm	**0963 639 011**	HELLA 2PS 345 600-017
with reflector, cable and bracket	24 V	500 mm	**0963 639 071**	HELLA 2PS 345 600-071
with reflector, cable with system connector	24 V	4500 mm	**0963 639 051**	HELLA 2PS 345 600-051
with reflector and double cable	24 V	2000/500 mm	**0963 639 101**	HELLA 2PS 345 600-101
with reflector, double cable and bracket	24 V	2000/500 mm	**0963 639 111**	HELLA 2PS 345 600-111
with reflector, double cable with system connector	24 V	4000/500 mm	**0963 639 041**	HELLA 2PS 345 600-041
with reflector, double cable with system connector and holder	24 V	4000/500 mm	**0963 639 021**	HELLA 2PS 345 600-021
with reflector, double cable with flat plug 6.3 mm and holder	24 V	5500/500 mm	**0963 639 091**	HELLA 2PS 345 600-091

LED side marker light

Version with reflector
Voltage 12/24 V
Width 100 mm
Height 32/54,5 mm
Depth 30 mm
Lens colour yellow
Type surface-mounting

Fastening	Fig.	Order no.	Comparative no.
with angle bracket	1	**0008 643 011**	HELLA 2PS 008 643-017
with angle bracket	2	**0008 643 021**	HELLA 2PS 008 643-021
with universal bracket	3	**0008 643 031**	HELLA 2PS 008 643-031

LED side marker light

Version with reflector, self-adhesive
Voltage 12/24 V
Width 135 mm
Height 23,5 mm
Depth 9,5 mm
Lens colour yellow
Type surface mounting

Cable length	Fastening		Order no.	Comparative no.
195 mm	horizontal	[1]	**0009 226 017**	HELLA 2PS 009 226-017
195 mm	vertical		**0009 226 087**	HELLA 2PS 009 226-087
250 mm	horizontal		**0009 226 037**	HELLA 2PS 009 226-037

[1] AMP plug

LED side marker light

Version with reflector
Voltage 12/24 V
Cable length 500 mm
Distance between holes 85 mm
Width 101,6 mm
Height 45 mm
Depth 40 mm
Lens colour yellow
Type surface-mounting

Order no.	Comparative no.
0964 295 051	HELLA 2PS 964 295-051

Trailers now get what they deserve.

The customized HELLA products for trailers, offer not only the usual high quality but also a maximum of flexibility and function:

So, for example, the modular hybrid trailer rear light works according the building block principle. Besides the LED tail-stop light, the other functions can optionally be realized with light bulbs or LED technology and later simply replaced. The patented lens is also interchangeable.

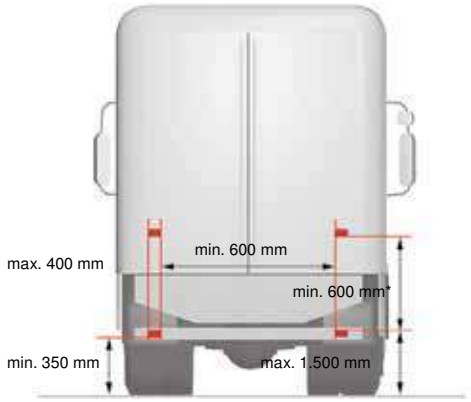
Also the new LED reversing light Repulse Pro has been specifically designed for use on trailers with its additional reversing function. Thanks to an extremely compact design and its connectivity with various mounting options, maximum flexibility is achieved when installing. A special feature is the extremely wide light dispersion. Thereby dark areas can be effectively avoided behind and beside the vehicle.

Even in dark and difficult lighting conditions the LED license plate light when mounted ensures ideal visibility of the trailer plate. Available with all major plug connections therefore simple connection is made possible to the vehicles system. It also has a multi-voltage design for use in both 12 V and 24 V systems.

HELLA KGaA Hueck & Co.
Rixbecker Straße 75
59552 Lippstadt/Germany
www.hella.com/trailer
Trailer Tool: www.hella-trailer.com

Technology with Vision

Rear lights



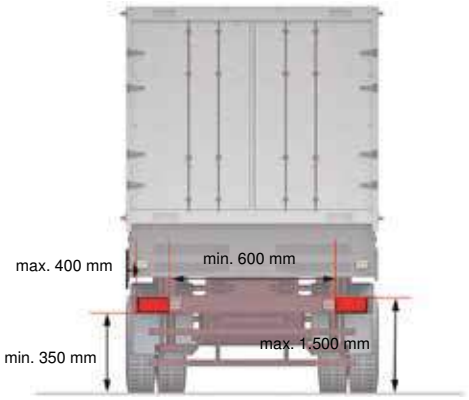
*above the prescribed directional indicators

Rear lights

ECE-R48 Section 6.10 and ECE-R7

Attachment	
ECE-R48 Section 6.10.1	Prescribed for all motor vehicle classes. Categories R, R1 or R2.
Number	
ECE-R48 Section 6.10.2	2 units, an additional 2 lamps are possible as an option for M2, M3, N2 and N3 vehicles (not if clearance lights are fitted)
Colour	
ECE-R48 Section 5.15	Red
Mounting width	
ECE-R48 Section 6.10.4.1	max. 400 mm from the outermost point of the vehicle width, This does not apply to the auxiliary tail lights. The spacing between the tail lights on M1 and N1 vehicles is not stipulated. For all other motor vehicle classes min. 600 mm between the two tail lights, but min. 400 mm for vehicle widths < 1,300 mm
Mounting height	
ECE-R48 Section 6.10.4.2	min. 350 mm, max. 1,500 mm (exception: 2,100 mm, but only if the vehicle geometry does not enable mounting at less than 1,500 mm and if no auxiliary tail lights are fitted), Mounting height of auxiliary tail lights: min. 600 mm above the prescribed tail lights
Geometric viewing angle	
ECE-R48 Section 6.10.5	Horizontal 45° inwards, up to 80° outwards. 45° for M1 and N1 vehicles, if a side marker light is mounted. Vertical ± 15°, but for mounting height < 750 mm, also 5° downwards. Also 5° upwards when there are auxiliary tail lights with mounting height 2,100 mm.
Electrical wiring	
ECE-R48 Section 6.10.7	Must be designed so that the limiting, tail, side marker and licence plate lights can only be switched on and off simultaneously.
Switch-on control	
ECE-R48 Section 6.10.8	Prescribed. Must be combined with the control device for the front limiting lights.

ECE-R7 Section 6.1
Category R, R1 (constant) = Light intensity min. 4 cd, Single lamp max. 17 cd, Type “D” lamp max. 8.5 cd
Category R2 (variable) = Light intensity min. 4 cd, Single lamp max. 42 cd, Type “D” lamp max. 21 cd



Rear lights

ECE-R48 Section 6.10 and ECE-R7

Attachment	
ECE-R48 Section 6.10.1	Prescribed for all trailers. Category R, R1 or R2.
Number	
ECE-R48 Section 6.10.2	2 units, 2 additional possible on an 0_2, 0_3 and 0_4 vehicles if no clearance lights are mounted
Colour	
ECE-R48 Section 5.15	Red
Mounting width	
ECE-R48 Section 6.10.4.1	Max. 400 mm from outermost point of the vehicle width This does not apply to the auxiliary tail lights. Min. 600 mm between the two tail lights, but min. 400 on with vehicle widths < 1,300 mm.
Mounting height	
ECE-R48 Section 6.10.4.2	Min. 350 mm, max. 1,500 mm (exception: 2,100 mm, only if the vehicle geometry does not enable mounting at less than 1,500 mm and if 2 auxiliary tail lights are not fitted), Mounting height of auxiliary tail lights: Min. 600 mm above the prescribed tail lights.
Geometric viewing angle	
ECE-R48 Section 6.10.5	Horizontal 45° inwards, up to 80° outwards. Vertical ± 15°, but for mounting height < 750 mm, also 5° downwards. Optional with a mounting height of 2,100 mm also 5° upwards.
Electrical wiring	
ECE-R48 Section 6.10.7	Must be designed so that the limiting, tail, side marker and licence plate lights can only be switched on and off simultaneously.
Switch-on control	
ECE-R48 Section 6.10.8	Prescribed. Must be combined with the control device for the front limiting lights.
Other regulations	
ECE-R48 Section 6.10.9	Unless clearance lights are fitted, 2 additional limiting and tail lights can be fitted on all trailers from classes O_2, O_3, O_4.

ECE-R7 Section 6.1
Category R, R1 (constant) = Light intensity min. 4 cd, Single lamp max. 17 cd, Type “D” lamp max. 8.5 cd
Category R2 (variable) = Light intensity min. 4 cd, Single lamp max. 42 cd, Type “D” lamp max. 21 cd

Example: Modular trailer lights

Modular 24 V trailer lights in hybrid technology offer many advantages. The modular design and associated modularity of the lamps and housing components make it possible to adapt the trailer lights flexibly to the respective requirements. While the tail light and brake light are in principle designed as LED modules, all other functions can be realised using either LED or classical bulb technology.

There are endless possible combinations. Subsequent conversion from bulb technology to the very **energy-efficient and safe LED technology** is possible at any time, without the need for special tools, thus offering a lot of scope for future conversions. The same applies to the replaceable lens, which can be replaced regardless of the light source.

Another highlight is the distributor function with additional outputs on the rear of the housing. This allows for easy connection of auxiliary functions or light functions, such as side marker lights or clearance lights.

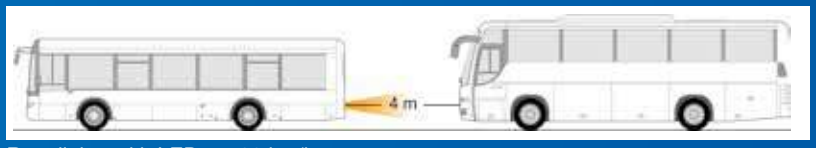
The structure of a modular hybrid rear light

1) Housing
2) Tail light/brake light LED module
3) Indicator bulb module
4) Reversing light bulb module
5) Rear fog light bulb module
6) Indicator LED module
7) Reversing light LED module
8) Rear fog light LED module
9) Frame, black
10) Lens

The advantages of LEDs on a vehicle:

- Save costs thanks to very long service life
- 60% less energy consumption with the same light output
- Constant, natural light
- Wear-proof and maintenance-free, thus fewer downtimes and shorter installation times
- LED technology shortens the response time (braking path) and increases safety

Rear lights with bulbs at 90 km/h



Rear lights with LEDs at 90 km/h

EUROPART GOOD TO KNOW

HELLA

LED rear light

in full LED, with pulse for indicator failure control

Version	with indicator, brake, rear fog, reversing and tail light, triangular reflector and rubber arm
Voltage	24 V
Lens colour	red/clear
Width	450 mm
Height	138 mm
Depth	93,5 mm
Type	surface-mounting

approved for vehicles in accordance with ADR/GGVS

Installation side	Connection	Order no.	Comparative no.
left	EasyConn connector ■, 7 pins	**0340 960 111**	HELLA 2VP 340 960-111
right	EasyConn connector ■, 7 pins	**0340 960 121**	HELLA 2VP 340 960-121

1 

2 

LED rear light

in hybrid technology, with pulse for indicator failure control

Bulb type	P21W/PY21W	Width	450 mm
Voltage	24 V	Height	138 mm
Lens colour	red/clear	Depth	93,6 mm
		Type	surface-mounting

approved for vehicles in accordance with ADR/GGVS

Installation side	Connection	Version	Fig.	Order no.	Comparative no.
left	EasyConn connector ■, 7 pins	with indicator, LED brake, rear fog and reversing light, LED tail light with triangular reflector	1	**0340 961 011**	HELLA 2VP 340 961-011
right	EasyConn connector ■, 7 pins	with indicator, LED brake, rear fog and reversing light, LED tail light with triangular reflector	1	**0340 961 021**	HELLA 2VP 340 961-021
left	EasyConn connector ■, 7 pins	with indicator, LED brake, rear fog and reversing light, LED tail light with triangular reflector	2	**0340 961 111**	HELLA 2VP 340 961-111
right	EasyConn connector ■, 7 pins	with indicator, LED brake, rear fog and reversing light, LED tail light with triangular reflector	2	**0340 961 121**	HELLA 2VP 340 961-121

Rear light

EasyConn I

equipped with double bulbs

Bulb type	P21W/R10W	Width	370 mm
Voltage	24 V	Height	130 mm
Lens colour	red/clear/yellow	Depth	85 mm
		Type	surface-mounting

Installation side	Connection	Version	Order no.	Comparative no.
left	EasyConn connector ■, 7 pins	with indicator, brake, rear fog, reversing and tail light, reflector	**0340 930 011**	HELLA 2VP 340 930-011
right	EasyConn connector ■, 7 pins	with indicator, brake, rear fog, reversing and tail light, reflector	**0340 930 001**	HELLA 2VP 340 930-001
left	EasyConn connector ■, 7 pins	with indicator, brake, rear fog, reversing, taillight and side marker light, reflector	**0340 930 031**	HELLA 2VP 340 930-031
right	EasyConn connector ■, 7 pins	with indicator, brake, rear fog, reversing, taillight and side marker light, reflector	**0340 930 021**	HELLA 2VP 340 930-021

1 

2 

LED rear light

EasyConn I with LED taillight, in hybrid technology

Bulb type	P21W/R10W	Width	370 mm
Voltage	24 V	Height	130 mm
Lens colour	red/clear/yellow	Depth	85 mm
Fastening	2 x M8 threaded studs	Type	surface-mounting

approved for vehicles in accordance with ADR/GGVS

Installation side	Connection	Version	Fig.	Order no.	Comparative no.
left	EasyConn connector ■, 7 pins	with indicator, brake, rear fog, LED taillight and reversing light, triangular reflector	1	**9260 001 350**	HELLA 2VP 340 932-011
right	EasyConn connector ■, 7 pins	with indicator, brake, rear fog, LED taillight and reversing light, triangular reflector	1	**9260 001 351**	HELLA 2VP 340 932-001
left	EasyConn connector ■, 7 pins	with indicator, brake, rear fog, reversing and LED taillight, triangular reflector and LED rubber arm lights	2	**0340 934 111**	HELLA 2VP 340 934-111
right	EasyConn connector ■, 7 pins	with indicator, brake, rear fog, reversing and LED taillight, triangular reflector and LED rubber arm lights	2	**0340 934 101**	HELLA 2VP 340 934-101

LED retrofit set

for EasyConn I

For conversion of taillight function from bulb technology to LED technology.

Voltage 24 V
Fastening clipped

Order no.	Comparative no.
0340 173 801	HELLA 9XX 340 173-801

LED rear light

EasyConn II with LED taillight and LED rubber arm, in hybrid technology

Version with indicator, brake, rear fog, reversing and LED taillight, triangular reflector and LED rubber arm
Bulb type P21W/PY21W/T4W
Voltage 24 V
Lens colour clear
Fastening 2 x M8 threaded studs
Width 370 mm
Height 130 mm
Depth 88 mm
Type surface-mounting

approved for vehicles in accordance with ADR/GGVS

Installation side	Connection	Order no.	Comparative no.
left	EasyConn connector ■, 7 pins	**0340 940 111**	HELLA 2VP 340 940-111
right	EasyConn connector ■, 7 pins	**0340 940 101**	HELLA 2VP 340 940-101

1

2

LED rear light

EasyConn II with LED taillight, in hybrid technology

Bulb type P21W/PY21W
Voltage 24 V
Lens colour clear
Fastening 2 x M8 threaded studs
Width 370 mm
Height 130 mm
Depth 88 mm
Type surface-mounting

approved for vehicles in accordance with ADR/GGVS

Installation side	Connection	Version	Fig.	Order no.	Comparative no.
left	EasyConn connector ■, 7 pins	with indicator, brake, rear fog, reversing and LED taillight, triangular reflector	1	**0340 942 011**	HELLA 2VP 340 942-011
right	EasyConn connector ■, 7 pins	with indicator, brake, rear fog, reversing and LED taillight, triangular reflector	1	**0340 942 001**	HELLA 2VP 340 942-001
left	EasyConn connector ■, 7 pins	with indicator, brake, rear fog, reversing and LED taillight, triangular reflector and rubber arm lights in bulb technology	2	**0340 942 111**	HELLA 2VP 340 942-111
right	EasyConn connector ■, 7 pins	with indicator, brake, rear fog, reversing and LED taillight, triangular reflector and rubber arm lights in bulb technology	2	**0340 942 101**	HELLA 2VP 340 942-101

LED rear light

in full LED, with pulse for indicator failure control

Version with indicator, brake, reversing and taillight, triangular reflector
Voltage 24 V
Colour red/clear
Cable length 500 mm
Width 403 mm
Height 145 mm
Depth 33,5 mm
Type surface-mounting

approved for vehicles in accordance with ADR/GGVS

Installation side	Connection	Cable length	Order no.	Comparative no.
left	EasyConn connector ■	500 mm	**9260 001 578**	HELLA 2VP 340 950-011
right	EasyConn connector ■	500 mm	**9260 001 580**	HELLA 2VP 340 950-021
left	with cable (5-wire) and receptacle (6.3 mm)	1500 mm	**9260 001 579**	HELLA 2VP 340 950-031
right	with cable (5-wire) and receptacle (6.3 mm)	2500 mm	**9260 001 581**	HELLA 2VP 340 950-041

LED rear light

with pulse for indicator failure control

Version	with indicator, brake, rear fog, reversing and tail light, X-reflector
Voltage	24 V
Lens colour	red/clear
Cable length	1500 mm
Width	403 mm
Height	145 mm
Depth	51 mm
Type	surface-mounting

Application range
Truck

approved for vehicles in accordance with ADR/GGVS

Order no.	Comparative no.
0340 950 051	HELLA 2VP 340 950-051

LED rear light

COLUNA in full LED, with pulse for indicator failure control

Version	with indicator, brake, rear fog, reversing and tail light, reflector
Voltage	24 V
Lens colour	red/clear
Length	300 mm
Width	130 mm
Height	40 mm
Type	surface-mounting

approved for vehicles in accordance with ADR/GGVS

Installation side	Connection	Cable length	Order no.	Comparative no.
left	EasyConn connector ■, 7 pins	1000 mm	**0345 900 011**	HELLA 2VP 345 900-011
right	EasyConn connector ■, 7 pins	1000 mm	**0345 900 021**	HELLA 2VP 345 900-021
left	DIN bayonet AMP, 7-pin	1000 mm	**0345 900 091**	HELLA 2VP 345 900-091
right	DIN bayonet AMP, 7-pin	1000 mm	**0345 900 101**	HELLA 2VP 345 900-101
left	with 6.3 mm receptacles	3000 mm	**0345 900 131**	HELLA 2VP 345 900-131
right	with 6.3 mm receptacles	3000 mm	**0345 900 141**	HELLA 2VP 345 900-141

LED rear light

Voltage	12/24 V	∅	122,4 mm
Cable length	500 mm	Type	surface-mounting/flush-mounting

approved for vehicles in accordance with ADR/GGVS

Description	Version	Depth	Lens colour	Order no.	Comparative no.
LED rear fog lamp	with 16 LEDs	46,5 mm	transparent	**0344 200 061**	HELLA 2NE 344 200-061
LED rear light	with brake and tail light, with 24 LEDs	46,5 mm	red	**0344 200 081**	HELLA 2SB 344 200-081
LED rear light	with indicator, brake and tail light, with 24 LEDs	52,5 mm	transparent	**9260 001 390**	HELLA 2SD 344 200-001
LED reversing light	with 24 LEDs	46,5 mm	transparent	**0344 200 051**	HELLA 2ZR 344 200-051

LED rear light

with pulse for indicator failure control

with 16 LEDs

Version	with indicator, brake and tail light
Voltage	24 V
Lens colour	amber/red
Cable length	2500 mm
∅	83 mm
Depth	40 mm
Type	flush-mounting

approved for vehicles in accordance with ADR/GGVS

Order no.	Comparative no.
0959 010 401	HELLA 2SD 959 010-401

LED rear light

with 24 LEDs

Version	with indicator, brake and tail light
Voltage	12/24 V
Lens colour	red/clear
Cable length	500 mm
∅	122,5 mm
Depth	52,5 mm
Type	surface-mounting/flush-mounting

approved for vehicles in accordance with ADR/GGVS

Order no.	Comparative no.
9264 200 071	HELLA 2SD 344 200-071

LED rear light

DuraLED

with 24 LEDs

Version	with indicator and tail light
Voltage	12/24 V
Light colour	red
Lens colour	transparent
Cable length	2500 mm
Width	177 mm
Height	100 mm
Depth	31 mm

approved for vehicles in accordance with ADR/GGVS

Type	Order no.	Comparative no.
surface-mounting, horizontal	**0980 606 201**	HELLA 2SB 980 606-201
surface-mounting, vertical	**0980 606 701**	HELLA 2SB 980 606-701

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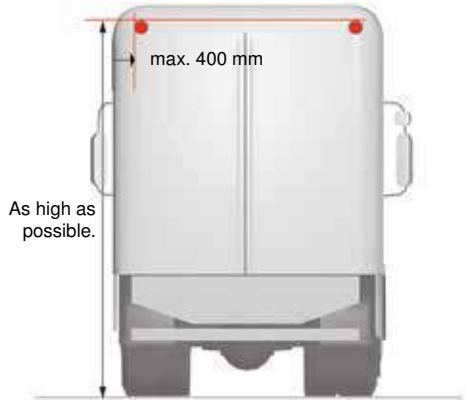
Clearance lights

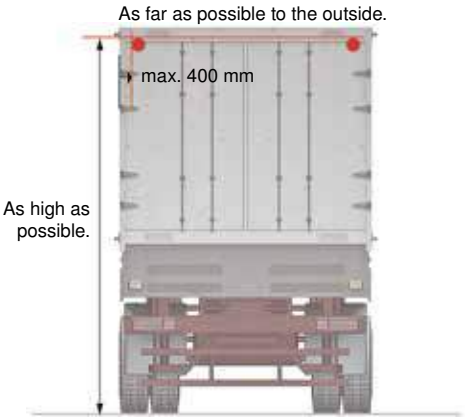


Rear clearance lights

ECE-R48 Section 6.13 and ECE-R7

Attachment	
ECE-R48 Section 6.13.1	Prescribed for motor vehicles > 2.1 m wide. Permissible for motor vehicles > 1.8 m to ≤ 2.1 m wide. Permissible on chassis with driver's cab. Category R, R1, R2, RM1 or RM2.
Number	
ECE-R48 Section 6.13.2	2 units , optional 2 additional
Colour	
ECE-R48 Section 5.15	Red
Mounting width	
ECE-R48 Section 6.13.4.1	max. 400 mm from outermost point of the vehicle width
Mounting height	
ECE-R48 Section 6.13.4.2	As high as possible. Optional and prescribed with greatest possible spacing.
Geometric viewing angle	
ECE-R48 Section 6.13.5	Horizontal 80° to outside. Vertical 5° above and 20° below the horizontal.
Electrical wiring	
ECE-R48 Section 6.13.7	Must be designed so that the limiting, tail, side marker and licence plate lights can only be switched on and off simultaneously.
Switch-on control	
ECE-R48 Section 6.13.8	Permissible. If a control device is available, its function must be fulfilled by the control device prescribed for limiting and tail lights.
Other regulations	
ECE-R48 Section 6.13.9	The front white and rear red clearance lights may be combined in one light, provided the mounting regulations and visibility areas are observed. Spacing between clearance lights and tail lights min. 200 mm.

ECE-R7 Section 6.1
Category R, R1, RM1(constant) = Light intensity min. 4 cd, Single lamp max. 17 cd,
Type “D” lamp max. 8.5 cd
Category R2, RM2 (variable) = Light intensity min. 4 cd, Single lamp max. 42 cd, Type “D” lamp max. 21 cd



Rear clearance lights

ECE-R48 Section 6.13 and ECE-R7

Attachment	
ECE-R48 Section 6.13.1	Prescribed for trailers > 2.1 m wide. Permissible for trailers > 1.8 m to ≤ 2.1 m wide. Category R, R1, R2, RM1 or RM2.
Number	
ECE-R48 Section 6.13.2	2 units, optional 2 additional clearance lights possible
Colour	
ECE-R48 Section 5.15	Red
Mounting width	
ECE-R48 Section 6.13.4.1	as far as possible to the outside, max. 400 mm from outermost point of the vehicle width
Mounting height	
ECE-R48 Section 6.13.4.2	As high as possible. Optional and prescribed with greatest possible spacing.
Geometric viewing angle	
ECE-R48 Section 6.13.5	Horizontal 80° to outside. Vertical 5° above and 20° below the horizontal.
Electrical wiring	
ECE-R48 Section 6.13.7	Must be designed so that the limiting, tail, side marker and licence plate lights can only be switched on and off simultaneously.
Switch-on control	
ECE-R48 Section 6.13.8	Permissible. If a control device is available, its function must be fulfilled by the control device prescribed for limiting and tail lights.
Other regulations	
ECE-R48 Section 6.13.9	The rear red and front white clearance lights may be combined in one light, provided the mounting regulations and visibility areas are observed. Spacing between clearance lights and tail lights min. 200 mm.

ECE-R7 Section 6.1
Category R, R1, RM1(constant) = Light intensity min. 4 cd, Single lamp max. 17 cd,
Type “D” lamp max. 8.5 cd
Category R2, RM2 (variable) = Light intensity min. 4 cd, Single lamp max. 42 cd, Type “D” lamp max. 21 cd

LED clearance light

Version with seal
Voltage 12/24 V
Cable length 500 mm
Width 79 mm
Height 25,9 mm
Type flush-mounting

Application range
Trailer

Colour	Order no.	Comparative no.
red	**0959 610 401**	HELLA 2XA 959 790-401
clear	**0959 610 411**	HELLA 2XA 959 790-411

LED clearance light

Voltage 12/24 V
Light colour red
Lens colour clear
Width 60 mm
Height 38 mm
Depth 32 mm
Type surface-mounting

approved for vehicles in accordance with ADR/GGVS

Cable length	Order no.	Comparative no.
500 mm	**0959 560 401**	HELLA 2XA 959 560-407
5000 mm	**0959 560 411**	HELLA 2XA 959 560-411


1


2


3

LED clearance light

Voltage 24 V
Lens colour red/clear
Connection AMP Superseal connector

Version	Fig.	Order no.	Comparative no.
direct threaded connection	1	**0205 020 011**	HELLA 2XS 205 020-011
angle bracket with rubber hanger	2	**0205 020 031**	HELLA 2XS 205 020-031
rubber hanger	3	**0205 020 131**	HELLA 2XS 205 020-131

LED clearance light

with 4 LEDs

Version with position, tail and side marker light
Voltage 24 V
Lens colour red/clear/yellow

approved for vehicles in accordance with ADR/GGVS

Installation side	Connection	Cable length	Order no.	Comparative no.
left/right	Quick-Link with clamping piece	500 mm	**0340 447 001**	HELLA 2XS 011 768-001
left/right	EasyConn 90°	500 mm	**0011 768 011**	HELLA 2XS 011 768-011
left/right	2-pin EasyConn connector	500 mm	**0340 447 021**	HELLA 2XS 011 768-021
left	2 receptacles (6.3 mm)	3000 mm	**9260 001 193**	HELLA 2XS 011 768-071
right	2 receptacles (6.3 mm)	3000 mm	**9260 001 192**	HELLA 2XS 011 768-061

LED clearance light

Voltage	24 V
Lens colour	red/clear/yellow
Connection	2-pole EasyConn socket housing with cable
Cable length	500 mm
Distance between holes	78 mm
Width	183 mm
Height	102 mm
Depth	35 mm
Type	surface-mounting, standing horizontal

approved for vehicles in accordance with ADR/GGVS

Installation side	Order no.	Comparative no.
left	**9260 001 195**	HELLA 2XS 011 769-011
right	**9260 001 194**	HELLA 2XS 011 769-021

LED clearance light

Voltage	24 V
Lens colour	red/clear/yellow
Distance between holes	78 mm
Width	177 mm
Height	160 mm
Depth	35 mm
Type	surface-mounting, standing upright

approved for vehicles in accordance with ADR/GGVS

Installation side	Connection	Cable length	Order no.	Comparative no.
left	with open cable ends	150 mm	**0340 418 071**	HELLA 2XS 011 744-171
right	with open cable ends	150 mm	**0340 418 061**	HELLA 2XS 011 744-161
left	2-pin EasyConn connector	500 mm	**0340 418 031**	HELLA 2XS 011 744-111
right	2-pin EasyConn connector	500 mm	**0340 418 021**	HELLA 2XS 011 744-101

LED clearance light

Voltage	24 V
Lens colour	red/clear/yellow
Distance between holes	78 mm
Width	177 mm
Height	160 mm
Depth	35 mm
Type	surface-mounting, vertical

approved for vehicles in accordance with ADR/GGVS

Installation side	Connection	Cable length	Order no.	Comparative no.
left	female spade connector (6,3 x 0,8) with cable	3000 mm	**0340 418 091**	HELLA 2XS 011 744-031
right	female spade connector (6,3 x 0,8) with cable	3000 mm	**0340 418 081**	HELLA 2XS 011 744-041
left	2-pin EasyConn connector	500 mm	**0340 418 191**	HELLA 2XS 011 744-011
right	2-pin EasyConn connector	500 mm	**0340 418 181**	HELLA 2XS 011 744-021
left	Quick-Link	500 mm	**0340 418 131**	HELLA 2XS 011 744-071
right	Quick-Link	500 mm	**0340 418 121**	HELLA 2XS 011 744-081

Clearance light

Rear-Logic

Version	with reflector
Lens colour	red/clear/yellow
Voltage	12/24 V
Width	42 mm
Height	109,3 mm
Depth	56,2 mm
Type	surface-mounting

approved for vehicles in accordance with ADR/GGVS

Installation side	Order no.	Comparative no.
left	**0007 841 011**	HELLA 2XS 007 841-011
right	**0007 841 021**	HELLA 2XS 007 841-021

LED clearance light

Version	with reflector
Voltage	24 V
Connection	quick-link with clamping piece and cable
Lens colour	red
Width	130 mm
Height	32 mm
Type	surface-mounting, horizontal/vertical

approved for vehicles in accordance with ADR/GGVS

Cable length	Order no.	Comparative no.
300 mm	**0008 645 651**	HELLA 2TM 008 645-651
5000 mm	**0008 645 661**	HELLA 2TM 008 645-661

LED clearance light

Version	with reflector
Voltage	24 V
Lens colour	red
Width	130 mm
Height	32 mm
Cable length	500 mm
Type	surface-mounting

approved for vehicles in accordance with ADR/GGVS

Order no.	Comparative no.
0008 645 061	HELLA 2TM 008 645-951

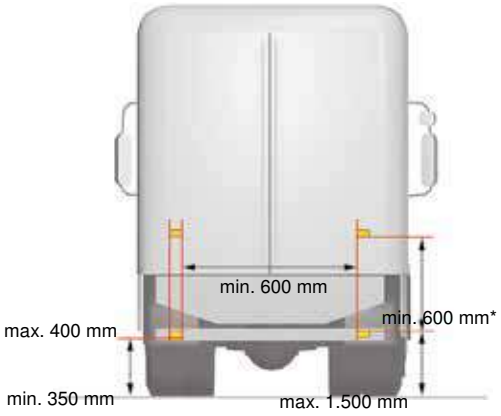
LED clearance light

Version	with tail light, with reflector
Voltage	24 V
Lens colour	red
Housing colour	black
Width	111,3 mm
Height	51,2 mm
Depth	20,9 mm
Type	flush-mounted

approved for vehicles in accordance with ADR/GGVS

Order no.	Comparative no.
8000 009 317	HELLA 2TM 345 600-317

Indicators, rear



*above the prescribed directional indicators

Rear directional indicator

ECE-R48 Section 6.5 and ECE-R6

Attachment	
ECE-R48 Section 6.5.1	Prescribed for all motor vehicle classes. Category 2a or 2b.
Number	
ECE-R48 Section 6.5.3	2 units, an additional 2 are possible as an option for M2, M3, N2 and N3 vehicles
Colour	
ECE-R48 Section 5.15	Amber
Mounting width	
ECE-R48 Section 6.5.4.1	Max. 400 mm from outermost point of the vehicle width This does not apply to the auxiliary indicators. Min. 600 mm between the two indicators, but min. 400 on with vehicle widths < 1,300 mm.
Mounting height	
ECE-R48 Section 6.5.4.2	min. 350 mm, max. 1,500 mm (exception: 2,100 mm, only if the vehicle geometry does not enable mounting at less than 1,500 mm and if no auxiliary indicators are fitted), Mounting height of auxiliary indicators: min. 600 mm above the prescribed indicators
Geometric viewing angle	
ECE-R48 Section 6.5.5	Horizontal 45° inwards, up to 80° outwards. 45° (on outside for M1 and N1 vehicles, if the side marker light also flashes). Vertical ± 15°, but for mounting height < 750 mm, also 5° downwards. Also 5° upwards when there are optional indicators with a mounting height of 2,100 mm.
Electrical wiring	
ECE-R48 Section 6.5.7	Illumination must occur independently of other lights (except other indicators). All indicators on the same vehicle side must be caused to illuminate and turn off by this same actuation device. They must flash synchronously.
Switch-on control	
ECE-R48 Section 6.5.8	prescribed
Other regulations	
ECE-R48 Section 6.5.9	Attachment of 2 auxiliary indicators on all vehicles in classes M2, M3, N2 and N3 is permitted.

ECE-R6 Section 6.1
Category 2a (constant) = Light intensity min. 50 cd, Single lamp max. 500 cd,
Type “D” lamp max. 250 cd
Category 2b (variable) = Light intensity min. 50 cd, Single lamp max. 1,000 cd,
Type “D” lamp max. 500 cd

LED indicator light

Version	with 24 LEDs
Voltage	12/24 V
Width	177 mm
Height	100 mm
Depth	31 mm
Cable length	2500 mm
Light colour	yellow
Lens colour	transparent
Type	surface-mounting

approved for vehicles in accordance with ADR/ GGVS

Fastening	Order no.	Comparative no.
horizontal	**0980 607 201**	HELLA 2BA 980 607-201
vertical	**0980 607 701**	HELLA 2BA 980 607-701

LED indicator light

Version	with 37 LEDs
Lens colour	yellow
Voltage	24 V
∅	122,5 mm
Cable length	500 mm
Type	surface-mounting/flush-mounting

approved for vehicles in accordance with ADR/GGVS

Order no.	Comparative no.
0964 169 311	HELLA 2BA 964 169-311

Indicator light

Lens colour	yellow
Bulb type	P21W
Voltage	12/24 V
Width	84 mm
Height	84 mm
Depth	51 mm
Type	surface-mounting

Order no.	Comparative no.
0003 014 011	HELLA 2BA 003 014-011

Halogen direction indicator lamp

Lens colour	grey
Bulb type	PY21W
Voltage	12/24 V
Depth	87,5 mm
∅	55 mm
Type	flush-mounted

Scope of supply
without bulb

suitable for	Order no.	Comparative no.
Neoplan Centroliner (N 45XX), Tourliner (N 2216), Trendliner (N 3516) **Volvo** B9L, B12B, B12R, B13R, 7700, 9700, 9900	**0008 221 041**	HELLA 2BA 008 221-041

Indicator light

Lens colour	yellow
Bulb type	P21W
Voltage	12/24 V
Width	117 mm
Height	139 mm
Depth	63 mm
Type	surface-mounting/flush-mounting

Scope of supply
with 2 mounting screws M6

approved for vehicles in accordance with ADR/GGVS

suitable for	Order no.	Comparative no.
Mercedes-Benz O 407 **Volvo** B7L	**0003 236 027**	HELLA 2BA 003 236-027

Indicator light

Lens colour	transparent
Installation location	rear
Bulb type	PY21W
Voltage	24 V
Width	192 mm
Height	133 mm
Type	flush-mounted

suitable for	Order no.	Comparative no.
MAN Lion's City (A20/A21/A23/A37/A47) **Neoplan** Skyliner (N 1122)	**0008 805 127**	HELLA 2BA 008 805-127

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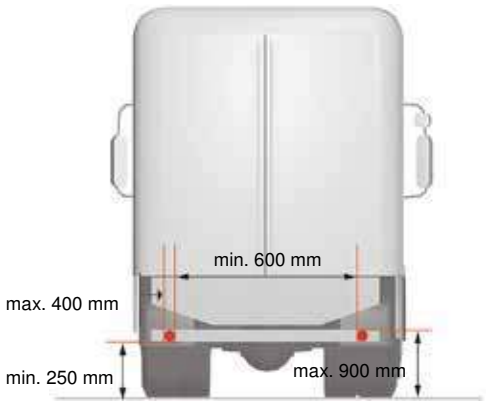
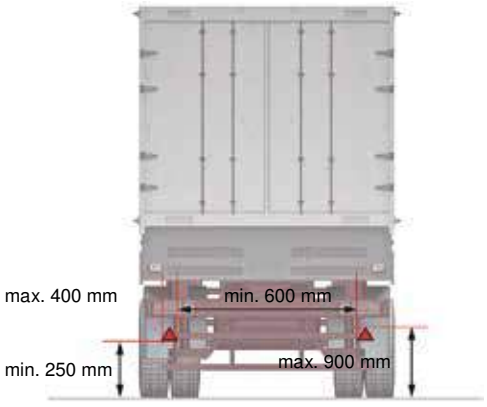
Reflectors, rear



Rear reflectors

ECE-R48 Section 6.14 and ECE-R3

Attachment	
ECE-R48 Section 6.14.1	Prescribed for all motor vehicle classes.
Number	
ECE-R48 Section 6.14.2	2 units, additional are permissible
Colour	
ECE-R48 Section 5.15	Red
Shape	
ECE-R48 Section 6.14	not triangular
Mounting width	
ECE-R48 Section 6.14.4.1	max. 400 mm from the outermost point of the vehicle width. The spacing between the reflectors on M1 and N1 vehicles is not stipulated. For all other motor vehicle classes min. 600 mm between the two reflectors, but min. 400 mm for vehicle widths < 1,300 mm
Mounting height	
ECE-R48 Section 6.14.4.2	min. 250 mm, max. 900 mm, max. 1,200 mm, if combined with another reversing light function (exception: 1,500 mm)
Geometric viewing angle	
ECE-R48 Section 6.14.5	Horizontal ± 30°. Vertical ± 10°, but for mounting height < 750 mm 5° downwards.
Other regulations	
ECE-R48 Section 6.14.7	The illuminating surface of the reflector may be combined with any other function. The max. mounting height of the reflector must be observed!



Rear reflectors

ECE-R48 Section 6.15 and ECE-R3

Attachment	
ECE-R48 Section 6.15.1	Prescribed for all trailers.
Number	
ECE-R48 Section 6.15.2	min. 2 units
Colour	
ECE-R48 Section 5.15	Red
Shape	
ECE-R48 Section 6.15	triangular
Mounting diagram	
ECE-R48 Section 6.15.3	The tip of the triangle must be pointing upwards.
Mounting width	
ECE-R48 Section 6.15.4.1	max. 400 mm from outermost point of the vehicle width, min. 600 mm between the two reflectors, but min. 400 mm, if the vehicle width < 1,300 mm
Mounting height	
ECE-R48 Section 6.15.4.2	min. 250 mm, max. 900 mm, max. 1,200 mm if integrated in another light (exception: 1,500 mm), an exception is only possible if the vehicle geometry does not enable standard mounting
Geometric viewing angle	
ECE-R48 Section 6.15.5	Horizontal ± 30°. Vertical ± 15°, but for mounting height < 750 mm 5° downwards.
Other regulations	
ECE-R48 Section 6.15.9	The illuminating surface of the reflector must be integrated in every other reversing light.

Triangular reflector

Version	screwed on, with plastic base plate
Side length	156 mm
Height	136 mm
Width	156 mm
Distance between holes	70 mm
Type	surface-mounting

Order no.	Comparative no.
0002 020 001	HELLA 8RA 002 020-001

Rectangular reflector

Version	screwed on, with plastic base plate
Length	94 mm
Width	44 mm
Distance between holes	70 mm
Type	surface-mounting, vertical/horizontal

Order no.	Comparative no.
0003 326 001	HELLA 8RA 003 326-001

Rectangular reflector

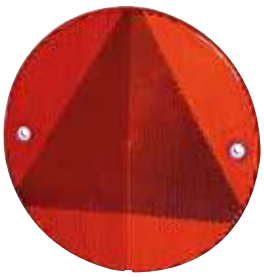
Version	self-adhesive
Length	70 mm
Width	31,5 mm
Type	surface-mounting, vertical/horizontal

Order no.	Comparative no.
0004 412 021	HELLA 8RA 004 412-021

Round reflector

Version	screwed on, with frame and base plate
Fastening	threaded bolt M5 x 15
∅	85 mm
Type	surface-mounting

Order no.	Comparative no.
0002 016 111	HELLA 8RA 002 016-111



Round reflector

Distance between holes	128 mm
∅	155,8 mm
Type	surface-mounting

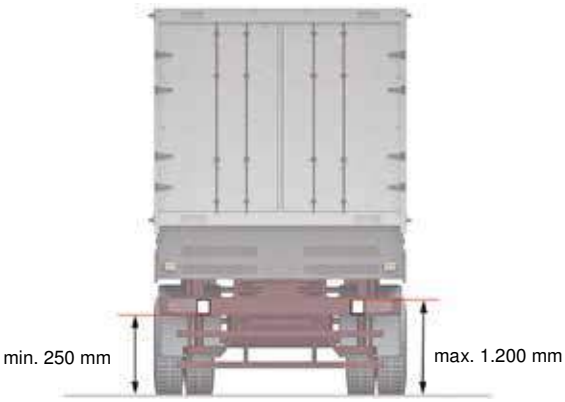
Version	Order no.	Comparative no.
screwed on	**0343 220 017**	HELLA 8RA 343 220-017
self-adhesive	**0343 220 007**	HELLA 8RA 343 220-007

Reversing lights

Reversing lights

ECE-R48 § 6.4 and ECE-R23

Attachment	
ECE-R48 § 6.4.1	Prescribed for all vehicle classes.
Number	
ECE-R48 § 6.4.2	1 light prescribed and a 2nd is permissible on M1 vehicles and on all other vehicles with lengths < 6 m. 2 lights are prescribed and 2 additional are permissible (mounting of two optional reversing lights also permitted on the side of the vehicle) on all vehicles with lengths > 6 m except M1 vehicles.
Colour	
ECE-R48 § 5.15	White
Mounting width	
ECE-R48 § 6.4.4.1	no regulations
Mounting height	
ECE-R48 § 6.4.4.2	min. 250 mm, max. 1,200 mm
Geometric viewing angle	
ECE-R48 § 6.4.5	1 lamp: horizontal ± 45°. 2 lamps: horizontal 30° inwards, 45° outwards. vertical 15° upwards, 5° downwards.
Electrical wiring	
ECE-R48 § 6.4.7	Activation only when reverse gear is engaged and vehicle is ready for operation. Special conditions in Section 6.4.7.2 apply to the optional reversing lights.
Switch-on control	
ECE-R48 § 6.4.8	permissible



Reversing lights

ECE-R48 Section 6.4 and ECE-R23

Attachment	
ECE-R48 Section 6.4.1	Prescribed for all trailers for vehicle classes O2, O3 and O4. Permissible for trailers for vehicle class O1.
Number	
ECE-R48 Section 6.4.2	1 unit prescribed, a 2nd is permissible for trailers < 6 m. 2 units prescribed for trailers > 6 m and 2 additional permissible. Mounting of the two optional reversing lights also permitted on the side of the vehicle.
Colour	
ECE-R48 Section 5.15	White
Mounting width	
ECE-R48 Section 6.4.4.1	no regulations
Mounting height	
ECE-R48 Section 6.4.4.2	min. 250 mm, max. 1,200 mm
Geometric viewing angle	
ECE-R48 Section 6.4.5	1 lamp: Horizontal ± 45°. 2 lamps: Horizontal 30° inwards, up to 45° outwards. Vertical 15° upwards, up to 5° downwards.
Electrical wiring	
ECE-R48 Section 6.4.7	Activation only when reverse gear is engaged and vehicle is ready for operation. Special conditions in Section 6.4.7.2 apply to the optional reversing lights.
Switch-on control	
ECE-R48 Section 6.4.8	Permissible

Reversing light – it's all about the identification

Not every worklight can be used as a reversing light.

Worklights must meet special criteria to pass the ECE-R23 homologation of reversing lights. Reversing lights from HELLA meet these criteria and are TÜV tested. Our special diffusing lenses create extra-wide light beams in order to offer the best possible visibility when reversing.

Reversing light identification:

1. **Type approval identification:** 00 AR stands for reversing light.
2. **Type approval number:** The device may only be mounted as a reversing light if it has a type approval number (e.g. R23-003902).
3. **ECE identification:** With country code (e.g. 1 = Germany).

Reversing lights

Function and safety to perfection.

Reversing lights can be an indispensable aid for large and complex vehicles such as trucks. This is because the light, which is specifically adapted to reversing situations, makes shunting processes significantly easier and thus helps increase productivity and safety.

Our range offers technically sophisticated and powerful products. Users – and thus also you as a workshop – can benefit from these, as high-quality headlamps make a significant contribution to ensuring high customer satisfaction.

EUROPART GOOD TO KNOW

LED reversing light

with reverse polarity protection, surge protection and surrounding bracket

Voltage	12/24 V
Lens colour	clear
Width	110 mm
Height	110 mm
Depth	48 mm
Type	surface-mounted, suspended/upright

Application range
specially designed for use as an auxiliary reversing function

ECE-R10 and ECE-R23 approval, approved for vehicles in accordance with ADR/GGVS

Model	Version	Connection	Lighting power	Cable length	Order no.	Comparative no.
Repulse	near-field illumination, 1 LED	AMP Superseal connector (2-pin)	300 lm	2000 mm	**0012 456 001**	HELLA 2ZR 012 456-001
Repulse Pro	near-field illumination, 3 LEDs	AMP Superseal connector (2-pin)	700 lm	2000 mm	**0012 456 201**	HELLA 2ZR 012 456-201
Repulse Pro	screwed on, 3 LEDs	Receptacle 6.3 mm	870 lm	3500 mm	**0012 456 221**	HELLA 2ZR 012 456-221

LED reversing light

Modul 70 LED

Version	screwed on, close range illumination
Voltage	12/24 V
Lighting power	800 lm
Lens colour	clear
Cable length	2000 mm
∅	83 mm
Height	110,4 mm
Depth	73,8 mm
Type	Attachment, upright

ECE-R10 and ECE-R23 approval

Order no.	Comparative no.
0996 376 091	HELLA 2ZR 996 376-091

H3 reversing light

Ultra Beam

with FF® technology

Version	screwed on	Fastening	M10
Installation location	rear	Width	112 mm
Voltage	24 V	Height	102 mm
Lens colour	clear	Depth	97 mm
Connection	AMP connector, 2-pin	Light aperture	80 x 80 mm
Cable length	2000 mm	Type	surface-mounted, suspended/upright

Scope of supply
with bulb

Order no.	Comparative no.
0997 506 391	HELLA 2ZR 997 506-391

Licence plate lights

Licence plate lights

ECE-R48 Section 6.8 and ECE-R4

Attachment	
ECE-R48 Section 6.8.1	Prescribed for all motor vehicle classes.
Number	
ECE-R48 Section 6.8.2	1 or more
Colour	
ECE-R48 Section 5.15	White
Mounting of the licence plate	
ECE-R48 Section 6.8.3	such that the licence plate is illuminated
Electrical wiring	
ECE-R48 Section 6.8.7	Must be designed so that the limiting, licence plate, tail and side marker lights can only be switched on and off simultaneously.
Switch-on control	
ECE-R48 Section 6.8.8	Permissible. If a control device is available, its function must be fulfilled by the control device prescribed for limiting and tail lights.

Licence plate lights

ECE-R48 Section 6.8 and ECE-R4

Attachment	
ECE-R48 Section 6.8.1	Prescribed for all trailers.
Number	
ECE-R48 Section 6.8.2	1 or more
Colour	
ECE-R48 Section 5.15	White
Mounting of the licence plate	
ECE-R48 Section 6.8.3	such that the licence plate is illuminated
Electrical wiring	
ECE-R48 Section 6.8.7	Must be designed so that the limiting, licence plate, tail and side marker lights can only be switched on and off simultaneously.
Switch-on control	
ECE-R48 Section 6.8.8	Permissible. If a control device is available, its function must be fulfilled by the control device prescribed for limiting and tail lights.

Licence plate lights
Licence plate lights help to guarantee the legibility of the licence plate even in poor light conditions, such as at night, and are a legal requirement. In addition to good visibility of the licence plate, it is important for road users following behind the vehicle not to be distracted by the light, and so it must be dazzle-free. The licence plate lights offered here meet all legal requirements and ensure optimal visibility.

Product example: LED licence plate light
The extremely flat LED licence plate light offers a strong light yield thanks to 4 power LEDs and a precision lens, all with extremely low energy consumption.

The licence plate light is available both as a flush-mounted variant for mounting above the licence plate, and as a surface-mounted variant for mounting to the side of the licence plate. With the surface-mounted variant, only one light is required per licence plate thanks to the optimal light yield; with the flush-mounted variant, two lights are required. The surface-mounted variant is particularly well-suited to trailer applications.

Degree of protection IP 6K9K guarantees high resistance to dust and water. The tried-and-tested licence plate light with bulb can be easily replaced with the LED flush-mounted variant – allowing for a quick and energy-efficient upgrade.

EUROPART
GOOD TO KNOW

LED numberplate lamp

Version	screw-mounted, with plastic frame
Installation location	top/above the licence plate
Voltage	24 V
Connection	Receptacles 6.3 x 0.8 mm
Width	82,7 mm
Height	32,6 mm
Depth	11,1 mm
Type	flush-mounting

approved for vehicles in accordance with ADR/GGVS

Order no.	Comparative no.
9260 001 045	HELLA 2KA 010 278-011

LED numberplate lamp

Version	screwed on
Installation location	side
Voltage	24 V
Width	63 mm
Height	93 mm
Depth	66,2 mm
Type	surface-mounting

approved for vehicles in accordance with ADR/GGVS

Connection	Order no.	Comparative no.
Receptacles 6.3 x 0.8 mm	**9260 001 058**	HELLA 2KA 010 278-021
Receptacles 6.3 x 0.8 mm, Cable length 2000 mm	**9260 001 152**	HELLA 2KA 010 278-031
2-wire cable with 2-pole EasyConn socket housing, Cable length 500 mm	**9260 001 167**	HELLA 2KA 010 278-051

Numberplate lamp

Version	screwed on
Installation location	top/above the licence plate
Bulb type	C5W
Voltage	12/24 V
Fastening	2 holes, 5.5 mm dia.
Width	89 mm
Height	23 mm
Depth	40 mm
Type	surface mounted

suitable for	Order no.	Comparative no.
Mercedes-Benz Conecto I (O 345)	**0006 896 001**	HELLA 2KA 006 896-001

Numberplate lamp

Version	screwed on
Installation location	top/above the licence plate
Bulb type	R10W
Voltage	12/24 V
Fastening	2 holes, diameter 4,5 mm
Width	102 mm
Height	55 mm
Depth	56,5 mm
Type	surface-mounting

approved for vehicles in accordance with ADR/GGVS

Order no.	Comparative no.
0003 389 061	HELLA 2KA 003 389-061

Numberplate lamp

Version	screw-mounted, with bulb holder
Installation location	top/above the licence plate
Bulb type	R10W
Voltage	12/24 V
Width	102 mm
Height	56,5 mm
Depth	55 mm
Type	Mounting/PG fitting

approved for vehicles in accordance with ADR/GGVS

suitable for	Order no.	Comparative no.
MAN EL (A12), NG (A11), NL (A10/A15)	**0003 389 081**	HELLA 2KA 003 389-081

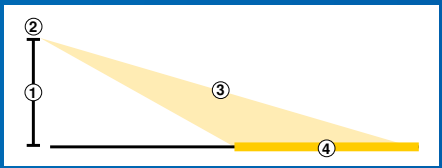
Accessories

Description	Order no.	Comparative no.
Housing	**0121 587 031**	HELLA 9BG 121 587-031

Worklights

How is homogeneous illumination achieved?

By combining various factors, homogeneous illumination of the work area can be achieved.The interaction between the following factors is important in creating the correct light pattern for the area of use.



1. **Mounting height:** Different mounting heights change the light pattern and the illumination. The optimal mounting height is > 2.5 m.
2. **Reflector system:** The reflectors in HELLA worklights are calculated so that the work area is illuminated evenly and utilisation of the light is optimised.
3. **Tilt angle:** Changes to the angle of the worklight can result in completely different lighting. The tilt angle should be between 2° and 15°, depending on the area of use.
4. **Illumination area:** By combining close-range and long-distance illumination, it is possible to achieve an ideal lighting solution for daily work, depending on the area of use.

The advantages:

- **Increased safety**, because the surrounding area and possible obstacles or hazards can be identified quickly.
- **Increased work efficiency**, as the physical strain is reduced and thus it is possible to work in a focussed manner for longer.

IP protection classes – Certainty in purchasing Everyone should know that!

How well is a product protected against atmospheric influences? Worklights are exposed to dust and water, for example. The IP degree of protection tells you how resistant the product is. The classes are determined in accordance with DIN 40 050 Part 9. Worklights are designed for different levels of protection:

Degree of protection IP 5K4K
Dust must only penetrate in such a quantity that does not impair function or safety. Water, which splashes onto the housing from any direction at high pressure, must not have any damaging impact; water pressure approx. 4 bar.

Degree of protection IP 5K9K
Dust must only penetrate in such a quantity that does not impair function or safety. Water, which is directed against the housing for high-pressure/steam cleaning, must not have any damaging impact; water pressure approx. 100 bar.

Degree of protection IP 6K4K
Ingress of dust is not permitted. Water, which splashes onto the housing from any direction at high pressure, must not have any damaging impact; water pressure approx. 4 bar.

Degree of protection IP 67
Ingress of dust is not permitted. Ingress of water is not permitted even through temporary submersion.

Degree of protection IP 6K8
Ingress of dust is not permitted. Protection against permanent submersion.

Degree of protection IP 6K9K
Ingress of dust is not permitted. Water, which is directed against the housing for high-pressure/steam cleaning, must not have any damaging impact; water pressure approx. 100 bar.

General overview

K = indicates tests for equipment of road vehicles

protection against the penetration of foreign objects (including dust)

First number

0	no special protection
1	solid object dia. ≥ 50 mm
2	solid object dia. ≥ 12.5 mm
3	solid object dia. ≥ 2.5 mm
4	solid object dia. ≥ 1.0 mm
5K as 5	dust protected
6K as 6	dust-tight

protection against the penetration of water

Second number

0	no special protection
1	water droplets falling vertically
2	water droplets falling at an angle of up to 15°
3	water droplets falling at an angle of up to 60°
4	water droplets from all directions
4K	as 4, but with increased pressure
5	water jet from a nozzle
6	as 5, but with increased pressure
7	temporary submersion in water
8	permanent submersion in water
9K	cleaning under extremely high pressure

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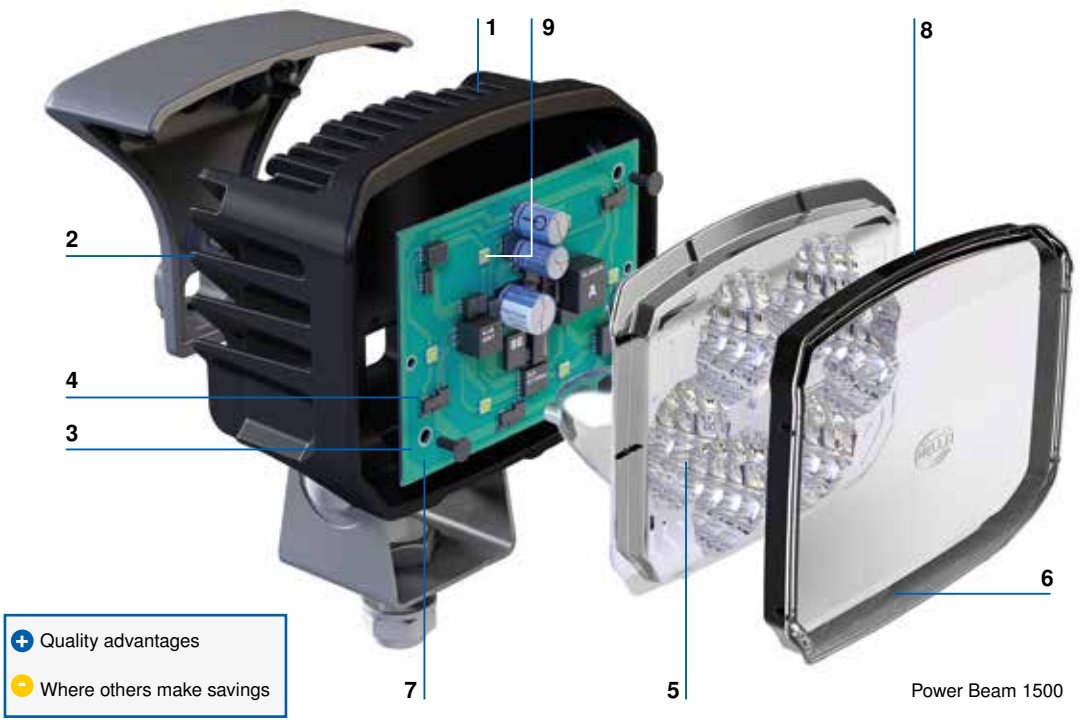
HELLA quality in comparison. Without direct comparison.



Power Beam 1500

(+) Quality advantages

(-) Where others make savings

1 Surface coating

(+) High-quality coatings protect the aluminium components against salt and chemicals and thus against corrosion.

(-) Corrosion can cause headlamps to leak. In the worst case, water will penetrate and destroy the electronics.

2 Thermal management

(+) A fully calculated thermal management system distributes the heat from LEDs evenly and dissipates it through the housing. In the event of imminent overheating, individual LEDs are automatically dimmed.

(-) Without thermal management, LEDs can overheat very quickly. This dramatically reduces their service life. Hotspots can cause the entire electronics circuit board to deform, can break solders and cause the entire headlamp to fail.

3 Electromagnetic discharge (EMD)

(+) Before employees may enter the LED production hall, they must discharge themselves of static electricity so that no components can be damaged through an electrical charge.

(-) Electronic components damaged by static discharge can cause an entire headlamp to become unusable, with the possibility of expensive downtimes.

4 Electromagnetic compatibility (EMC)

(+) The layout of the LEDs and the design of the reflector ensure that no disruptive magnetic fields can occur.

(-) Incorrectly shielded LED headlamps generate strong electromagnetic fields, which interfere with the on-board electronics, radio and GPS.

5 Light distribution through the reflector system

(+) The reflectors of the worklights are calculated such that the work range is illuminated evenly and optimal use of the light is achieved.

(-) Worklights with an unsuitable light reflection system will illuminate the work area unevenly and waste a large part of the light. Bright spots will require workers to divert their eyes, while details will be hard to see in other places.

6 Material of the diffusing lens

(+) The diffusing lens in HELLA worklights is made of a high-quality, impact and scratch-proof plastic, to ensure 100% suitability for daily use. Even after an impact with a branch or similar, the light emission remains homogeneous.

(-) Diffusing lenses of low-quality plastic can shatter and become scratched easily. Every scratch causes undesirable light refraction – the more scratches, the more uneven the illumination.

7 Reverse polarity

(+) Worklights are protected against reverse polarity. Incorrect connection cannot damage them.

(-) If an incorrectly connected headlamp is not protected against reverse polarity, the electronics will be completely destroyed when it is switched on.

8 Bonding

(+) Precise glue robots join the worklights in a hermetically tight manner. The diffusing lens is guaranteed to be bonded at the optimal angle – for exactly calculated, optimal light yield.

(-) Low-quality headlamps are often glued by hand. An irregular glue bed can, however, result in a less than optimal diffusing lens angle and light yield. If the diffusing lens begins to leak or comes loose, water could penetrate and cause the headlamp to become unusable.

9 Quality of LEDs

(+) Only LEDs that have passed a strict test, are used in the worklights. The selection guarantees the extremely long life of the LEDs of up to 60,000 hours.

(-) Anyone who uses untested, cheap LEDs risks a shorter service life and malfunctions, with the result that the LED technology cannot play out its full advantages.

LED working floodlight

with reverse polarity protection, over-voltage protection and Thermo Management

Voltage	9-33 V
Cable length	2000 mm
Depth	31/44,3 mm
Type	Attachment, upright
Protection class	IP6K9K, IP6K8

Application range
for the rear of commercial vehicle driver's cabs

ECE-R10 approval


1


2

Model	Version	Lighting power	Light aperture	Width	Height	Fig.	Order no.	Comparative no.
Flat Beam 500	near-field illumination, 30 LEDs	550 lm	95 x 80 mm	113 mm	117 mm	1	**0995 193 021**	HELLA 1GA 995 193-021
Flat Beam 1000	near-field illumination, 60 LEDs	1000 lm	165 x 90 mm	190 mm	113 mm	2	**0996 193 001**	HELLA 1GD 996 193-001

LED working floodlight

with reverse polarity protection, over-voltage protection and Thermo Management

Connection	DT connector
Type	surface-mounted, suspended/upright

ECE-R10 approval


1


2


3

Model	Voltage	Version	Lighting power	Light aperture	Fig.		Order no.	Comparative no.
Power Beam 1500	9-33 V	near-field illumination, 6 LEDs	1300 lm	100 x 80 mm	1	[2]	**0996 288 011**	HELLA 1GA 996 288-011
Power Beam 1500	9-33 V	far-reaching illumination, 6 LEDs	1300 lm	100 x 80 mm	1	[2]	**0996 288 001**	HELLA 1GA 996 288-001
Power Beam 1800	24 V	near-field illumination, 6 LEDs, with dimming function	1850 lm	100 x 80 mm	1		**0996 388 011**	HELLA 1GA 996 388-011
Power Beam 1800	24 V	far-reaching illumination, 6 LEDs, with dimming function	1850 lm	100 x 80 mm	1		**0996 388 031**	HELLA 1GA 996 388-031
Power Beam 3000	9-33 V	near-field illumination, 16 LEDs	3000 lm	83 x 83 mm	2	[1] [2]	**0996 192 001**	HELLA 1GA 996 192-001
Power Beam 3000	9-33 V	far-reaching illumination, 16 LEDs	3000 lm	83 x 83 mm	2	[1] [2]	**0996 192 011**	HELLA 1GA 996 192-011
Power Beam 5000	9-33 V	near-field illumination, 23 LEDs	4500 lm	145 x 125 mm	3		**0996 194 001**	HELLA 1GB 996 194-001
Power Beam 5000	9-33 V	far-reaching illumination, 23 LEDs	4500 lm	145 x 125 mm	3		**0996 194 031**	HELLA 1GB 996 194-031

[1] Cable length 2000 mm [2] ADR/GGVS tested

LED working floodlight

Ultra Beam LED

with reverse polarity protection, over-voltage protection and Thermo Management

Voltage	12/24 V	Depth	85 mm
Lighting power	2000 lm	Light aperture	105 x 95 mm
Connection	DT connector	Type	surface-mounted, suspended/upright
Width	115 mm		
Height	132 mm		

ECE-R10 approval, approved for vehicles in accordance with ADR/GGVS

Version	Order no.	Comparative no.
near-field illumination, 9 LEDs	**0995 506 001**	HELLA 1GA 995 506-001
far-reaching illumination, 9 LEDs	**0995 506 031**	HELLA 1GA 995 506-031

LED working floodlight

Q90 LED

with reverse polarity protection, over-voltage protection and Thermo Management

Voltage	12/24 V
Lighting power	1200 lm
Cable length	500 mm
Width	94,6 mm
Height	144 mm
Depth	57,3 mm
Light aperture	90 x 84 mm
Type	surface-mounted, suspended/upright

ECE-R10 approval

Version	Order no.	Comparative no.
near-field illumination, 4 LEDs	**0996 283 001**	HELLA 1GA 996 283-001
far-reaching illumination, 4 LEDs	**0996 283 011**	HELLA 1GA 996 283-011

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LED working floodlight

with reverse polarity protection, over-voltage protection and Thermo Management

Version	near-field illumination
Voltage	12/24 V
Cable length	300 mm
Depth	46 mm
Type	surface-mounted, suspended/upright
Protection class	IP6K9K, IP6K8

ECE-R10 approval

Model	Lighting power	Height	Light aperture	Fig.	Order no.	Comparative no.
AP 1200 LED	1200 lm	183 mm	120 x 120 mm	1	**0011 720 041**	HELLA 1GA 011 720-041
AP 1800 LED	1800 lm	190 mm	∅ 140 mm	2	**0013 722 001**	HELLA 1G4 013 722-001

1

2

LED working floodlight

with reverse polarity protection, over-voltage protection and Thermo Management

Voltage	12/24 V
Type	surface-mounted, suspended/upright

ECE-R10 approval

Model	Version	Height	Depth	∅	Lighting power	Fig.		Order no.	Comparative no.
Modul 70 LED Gen. IV	near-field illumination, 3 LEDs	88 mm	74 mm	83 mm	2500 lm	1	[1]	**0996 476 001**	HELLA 1G0 996 476-001
Modul 70 LED Gen. IV	far-reaching illumination, 3 LEDs	88 mm	74 mm	83 mm	2500 lm	1	[1]	**0996 476 011**	HELLA 1G0 996 476-011
Modul 90 LED	near-field illumination, 4 LEDs	115 mm	99 mm	107 mm	3400 lm	2		**0996 263 031**	HELLA 1G0 996 263-031
Modul 90 LED	far-reaching illumination, 4 LEDs	115 mm	99 mm	107 mm	3400 lm	2		**0996 263 051**	HELLA 1G0 996 263-051

[1] Cable length 2000 mm

The lighting products shown here represent only part of our comprehensive range. You can find other items for your vehicle in EWOS at www.europart.net or in your EUROPART branch.

Rotating beacons

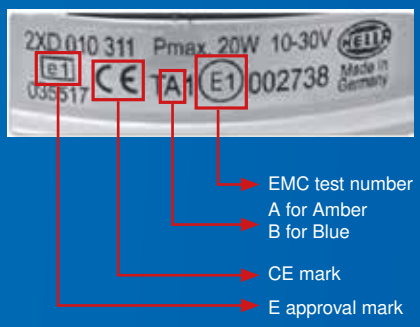
Convincing all around.
Rotating beacons are not only used in rescue vehicles, but are also necessary wherever a particular warning of hazard situations is required – e.g. for shunting work with large vehicles or for heavy loads.

We offer an extensive product range of rotating beacons and warning systems, which includes an ideal product for every situation.

Which rotating beacons are approved for road traffic? – ECE Regulation 65 –

A rotating beacon must only be used on public roads if it complies with ECE Regulation 65. ECE Regulation 65 is the European directive for warning lights. It specifies the light values to be achieved, light distribution, mounting requirements, etc.

The large E approval mark ((E1) in this case) indicates whether the rotating beacon complies with the ECE Regulation and has thus been approved.



Mounting in accordance with ECE-R65
The warning light shall be designed such that no maladjustment is possible after it has been mounted correctly on the vehicle (ECE-R65 5.2).

Light values in accordance with ECE-R65
The light values to be achieved are specified with the help of the effective light intensity. An amber rotating beacon must, for example, achieve a light intensity of 70 cd (candela) at night, at a vertical angle of +8°. A blue rotating light, on the other hand, must achieve 25 cd at night, at a vertical angle of +4°.

Each in cd (candela)	Blue	Amber	Red
0°	50	100	50
4°	25	-	25
8°	-	70	-

EUROPART GOOD TO KNOW

H1 rotating beacon

KL 7000

efficient light production through the special optics of the sturdy beacon dome, electronic motor control ensures an absolutely constant speed of rotation, reverse voltage protection, highest EMC protection class

Voltage 24 V
Protection class IP5K4K, IP9K

Scope of supply
with bulb

Model	Fastening	∅ x height	Fig.	Order no.	Comparative no.
KL 7000 F	permanent surface mounting	155 x 194 mm	1	**0008 061 111**	HELLA 2RL 008 061-111
KL 7000 FL	flexible tube bracket	155 x 240 mm	2	**0008 063 111**	HELLA 2RL 008 063-111
KL 7000 M	with magnet	157 x 203 mm	3	**0008 062 111**	HELLA 2RL 008 062-111

LED rotating beacon

KL 7000 LED

impact-proof, flat polycarbonate beacon dome, radio interference suppression: CISPR 25, class 5 (conducted), maintenance-free, very long service life, insensitive to vibrations and shocks, intensive lighting effect with low current draw, optimum thermal management, innovative electronic design enables rotating LED light function without moving parts, **LED upgrade of existing halogen versions without major installation work**

∅	165 mm
Standard	DIN 14 620
Voltage	12/24 V
Power consumption	10 W
Protection class	IP5KX, IPX4K, IPX9K

Application range
for use in extreme conditions

Approved according to ADR/GGVS and ECE

Model	Fastening	Height	Fig.	Order no.	Comparative no.
KL 7000 LED F	permanent surface mounting	118,9 mm	1	**0011 484 001**	HELLA 2RL 011 484-001
KL 7000 LED FL	flexible tube bracket	193,9 mm	2	**0011 484 011**	HELLA 2RL 011 484-011
KL 7000 LED M	with magnet	131,2 mm	3	**0011 484 021**	HELLA 2RL 011 484-021

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LED rotating beacon

K-LED 2.0

with shell reflector and 20 high-power LEDs, programmable electronics for different flashing sequences or rotating function, light intensity automatically matched to the ambient light using a sensor (day/night mode)

Voltage	12/24 V
Power consumption	max. 30 W
Protection class	IP67

approved for vehicles in accordance with ADR/GGVS

Model	Fastening	∅ x height	Fig.	Order no.	Comparative no.
K-LED 2.0 F	permanent surface mounting	169,3 x 87,6 mm	1	**0011 557 101**	HELLA 2XD 011 557-101
K-LED 2.0 R	tube bracket	165 x 160,6 mm	2	**0011 557 201**	HELLA 2XD 011 557-201
K-LED 2.0 M	with magnet	165 x 95,6 mm	3	**0011 557 301**	HELLA 2XD 011 557-301
K-LED 2.0 F	permanent surface-mounting	169,3 x 87,6 mm	4	**0011 557 111**	HELLA 2XD 011 557-111
K-LED 2.0 R	tube support mounting	165 x 160,6 mm	5	**0011 557 211**	HELLA 2XD 011 557-211
K-LED 2.0 M	magnetic mounting	165 x 95,6 mm	6	**0011 557 311**	HELLA 2XD 011 557-311

Warning lights


1


3


2


4

LED flashing warning light set

BST

1x to 4x flash, continuous light, with surge protection

Voltage 12/24 V
Type surface-mounting, horizontal
Protection class IP6K4K, IP9K

Scope of supply
2 LED beacons

Light colour	Fastening	Dimensions	Cable length	Fig.	Order no.	Comparative no.
yellow	permanent surface-mounting	127.5 x 28 x 17 mm	200 mm	1	**0012 160 851**	HELLA 2XD 012 160-851
yellow	Bracket installation	107 x 24 x 42 mm	970 mm	2	**0012 160 861**	HELLA 2XD 012 160-861
blue	permanent surface-mounting	127.5 x 28 x 17 mm	200 mm	3	**0012 160 801**	HELLA 2XD 012 160-801
blue	Bracket installation	107 x 24 x 42 mm	970 mm	4	**0012 160 811**	HELLA 2XD 012 160-811


1


2


3


4

LED flashing warning light set

BST

1x to 4x flash, continuous light, with surge protection

Voltage 12/24 V
Type surface-mounting, vertical
Protection class IP6K4K, IP9K

Scope of supply
2 LED beacons

Light colour	Fastening	Dimensions	Cable length	Fig.	Order no.	Comparative no.
yellow	permanent surface-mounting	127.5 x 28 x 17 mm	200 mm	1	**0012 160 951**	HELLA 2XD 012 160-951
yellow	Bracket installation	107 x 24 x 42 mm	970 mm	2	**0012 160 961**	HELLA 2XD 012 160-961
blue	permanent surface-mounting	127.5 x 28 x 17 mm	200 mm	3	**0012 160 901**	HELLA 2XD 012 160-901
blue	Bracket installation	107 x 24 x 42 mm	970 mm	4	**0012 160 911**	HELLA 2XD 012 160-911

Interior lights

LED interior light

Version	with 8 power LEDs
Voltage	12/24 V
Lighting power	300 lm
Width	104,7 mm
Height	18 mm
Depth	82 mm
Type	surface-mounting

Application range
ideal for use as ceiling lights in refrigerated vans, ambulances, driver's cabs and storage areas

Description	Cable length	Protection class	Order no.	Comparative no.
with motion sensor	2400 mm	IP 54	**0012 557 001**	HELLA 2JA 012 557-001
without motion sensor	3400 mm	IP 67	**0012 557 701**	HELLA 2JA 012 557-011

LED interior light

Version	with 4 power LEDs, high energy efficiency
Fastening	screw mounting
Cable length	1300 mm
Width	110 mm
Height	50 mm
Depth	12,8 mm
Type	surface-mounting

Application range
ideal for use as ceiling lights in refrigerated trailers, luggage and storage areas

Order no.	Comparative no.
0010 838 017	HELLA 2JA 010 838-017

LED interior light

Mini ThinLED

Version	with 5 LEDs
Voltage	24 V
Fastening	screw mounting
Cable length	170 mm
Width	136 mm
Height	31,1 mm
Depth	11 mm
Type	surface-mounting

Order no.	Comparative no.
0343 660 117	HELLA 2JA 343 660-117

LED interior light

wide illumination in the near field

Version	10 white LEDs
Voltage	24 V
Fastening	screw mounting
Cable length	1000 mm
Width	280 mm
Height	25,6 mm
Depth	10 mm
Type	surface-mounting

Order no.	Comparative no.
0343 606 017	HELLA 2JA 343 606-011

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