



PRODUCT OVERVIEW

AGRICULTURAL

CONSTRUCTION

FORESTRY MACHINES

FORKLIFTS



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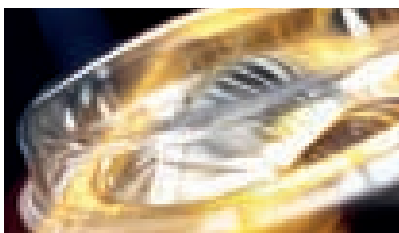
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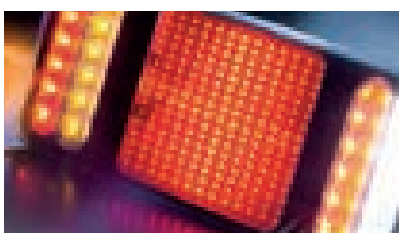
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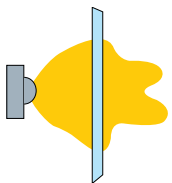
MORE DESIGN FREEDOM FROM LEDS

The use of LEDs gives design engineers much greater design freedom. Ergonomic aspects can be implemented more easily.

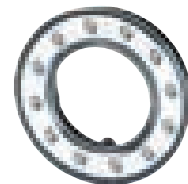
Diverse technical options from LEDs.

Depending on the product or customer requirements, HELLA installs LEDs in different optical lighting systems. Here are some examples of combination rear lights:

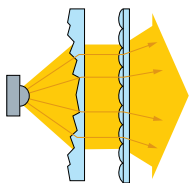
Direct light



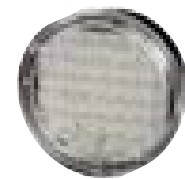
- Spot-like appearance
- No optical system necessary
- Max. distance of 2 LEDs = 15 mm



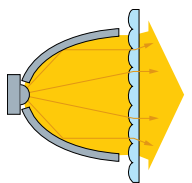
Fresnel Systems



- Suitable for all functions
- Homogeneous appearance



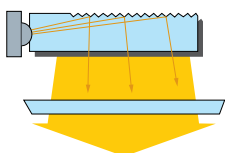
Reflector with optics/ lens without optics



- High efficiency
- Brilliant appearance



Light transmitter systems



- Elongated appearance
- Homogeneous illumination
- Adapted to curved exterior shape



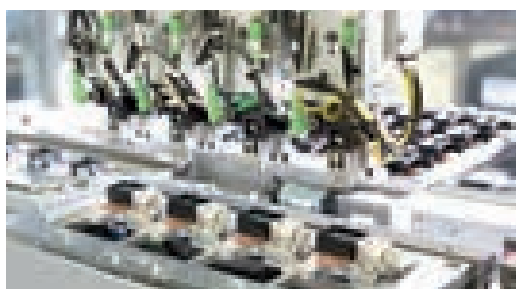
YOUR TAILOR-MADE HELLA LIGHTING SYSTEM



From the idea ...



... to the design and technical development ...



... through to reliable implementation and production.

Your requirements drive us on: HELLA has been a leading partner of agricultural and construction machinery manufacturers in the realm of vehicle lighting for more than 100 years.

Having a customer focus is not just a catch phrase for us, it's a philosophy that we continue to put into practice each and every day – as our extensive product portfolio and comprehensive services demonstrate.

Do you require products that are precisely tailored to your requirements? Not a problem for us. We design and develop custom lighting solutions specifically for the requirements of agricultural, construction and forestry machinery and special vehicles. A wide range of electrical and electronics products complete our portfolio. We are also a leader in the LED technology field and offer the right LED product for every application.

Are you looking for a partner that is always there for you? Welcome to HELLA! We are wherever our customers need us. Our global network utilises the company-internal synergies and resources to maximum effect. This transfer of knowledge combined with our expertise from large-scale automotive production are clear benefits for new developments. And, most importantly: We actively involve the customer in this process, from idea to finished product.

HELLA – Technology with vision!



We can make dreams come true!

QUALITY IS A TRADITION AT HELLA

HELLA has set itself the ambitious standard of guaranteeing consistently high product quality in every respect.

This is achieved by defining quality criteria and checking every detail using carefully-selected methods throughout the entire manufacturing process. Production quality is ensured by parallel quality monitoring and testing.

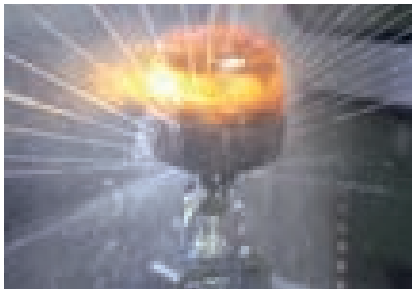
Quality products from HELLA are subject to different test procedures in accordance with the HELLA standard 67101. These test procedures are conducted by the HELLA test laboratory in Lippstadt.

First-class quality by conviction

HELLA guarantees the perfect, long-term functioning of its products and stands for satisfied customers in the spare parts, accessories and light sources areas.

As the long-established company from Lippstadt is an efficient partner to the automotive industry, HELLA products are manufactured to meet the respective precision, tolerance specifications. Combined with the use of sophisticated test procedures in the product development, you can depend on HELLA products in any situation.

HELLA products are subject to the following tests:



Splash water test

In universal splash water cabins, HELLA products are tested under realistic environmental conditions. The booths are equipped with devices for rain, splash water, water jets and water mist. Here, the test products are tested for tightness by undergoing the intermittent and splash water test at a pressure of up to 5 bar, and the sprayed water test at a pressure of up to 10 bar. (IP XK4K)



High-pressure cleaner test

In one test system, the products are exposed to a water pressure of up to 120 bar and a water temperature of +85° C.

This test simulates cleaning in a carwash or with a pressure cleaner (IP XK9K).



Dust test

In this test, the products are tested for their dust tightness. Unfired Portland cement is used as a test medium for all products. The test is optionally performed in sample function operation, and with overpressure or underpressure exposure of the device under test.

The tests are evaluated by determining the photometric value before and after the test (IP 5K). This is the only way that HELLA can ensure that dust will not penetrate the product and can guarantee the long service life of the product.

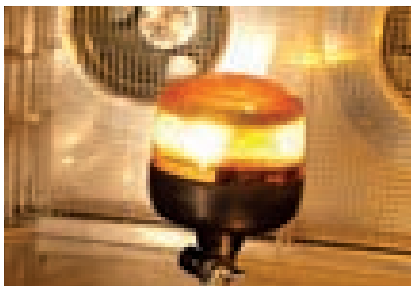


Immersion and pressure tightness test

Depending on requirements, this test is carried out for all lighting technology products.

An immersion pipe can be submerged to a depth of 1 m in water. Another test system can reach a depth of 6 m. Also, an overpressure test up to 1.6 bar is conducted in an immersion pool.

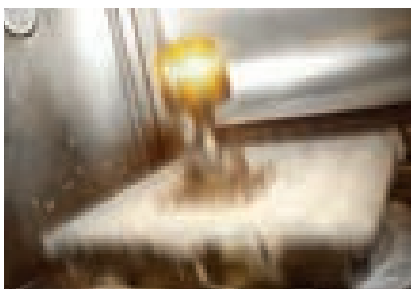
All tests are carried out in accordance with the HELLA standard, 67101, as well as the legal requirements (IP 67).



Heat, moisture and cold test

In temperature cycle tests, HELLA products are exposed to temperature fluctuations from -40°C to $+100^{\circ}\text{C}$ in climatic chambers which have a volume of 600 - 1,000 liters. In addition, condensation and defogging tests are carried out up to max. 95% air humidity and up to 80°C . In the so-called "shock chamber", the temperatures changes within seconds (intervals of max. 6 seconds) between -40°C and $+100^{\circ}\text{C}$.

These tests signify utmost stress on any material, both for lighting as well as for the individual electronics components. The heat and cold tests last up to 48 hours.



Vibration test

This test simulates the behavior of the products over a "poor stretch of road" and shows, for example, reactions to potholes, gravel tracks, gravel, stones, fields and dirt roads. Special rally profiles are tested for selected products, such as auxiliary driving lights.

The wideband random vibration test is used to test the mechanical endurance strength in the vertical and horizontal axes. Here, the frequency range extends from 10 to 1000 Hertz. Alongside the vibration test, the products are subjected to a temperature overload of -40°C to $+80^{\circ}\text{C}$. Among others, this checks the ageing process of the plastic. All products are tested for function for up to 24 hours.

A mechanical shock test is also carried out as part of testing and is designed to simulate behavior on impact (for example, boxed products during shipping) at a simulated acceleration of 300 to 500 metres per second squared.



More information on HELLA quality criteria
can be found under: www.hella.com/quality

Higher quality of light means higher quality of work.



Before: Halogen



After: HELLA LED



1
Module 90 LED
Page 18



2
Rota LED
Page 95



3
Oval 100 LED
Page 18



4
LED combination rear
light
Page 82



5
90 mm LED modules
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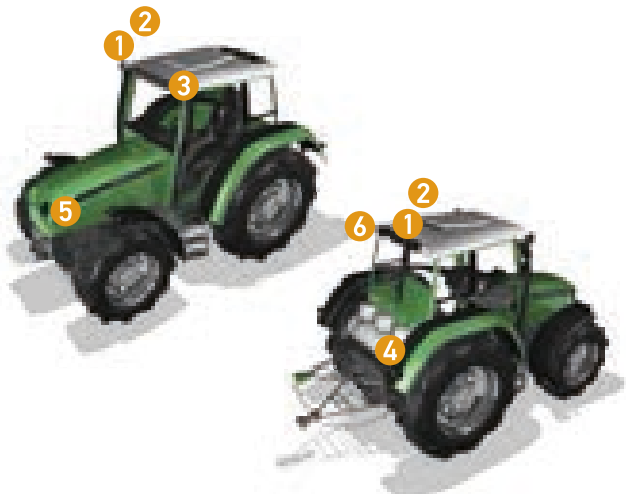


6
Modul 70 LED Gen. IV
Page 19

AGRICULTURE

Tractors and combine harvesters with beacons are a familiar sight on country roads. But tractors are getting larger and larger and combine harvesters faster and faster all the time. So the output and reliability of the beacons has to be right. And what about worklights? In agriculture in particular, selective use of special worklights allows productivity to be increased significantly. This allows modern owner-operators to work at full capacity both at night and at dusk – older machines can be used more efficiently through light optimisation.

Product recommendation





1

K-LED 2.0
Page 95



2

LED headlamp C140
Page 61



3

DuraLED Combi
Page 80



4

Power Beam 1500
Page 17



5

Power Beam 3000
Page 16

CONSTRUCTION MACHINERY

Construction sites are really tough tests for all kinds of material. But this doesn't frighten HELLA lighting systems. Because they have had to undergo tough tests of their own in the testing laboratory and in field trials. This includes series of tests against water and dust penetration, checks on electromagnetic compatibility, thermal tests, endurance tests, electronic tests and vibration tests, of course. Once they've been through all that, they feel at home on any construction site in the world.

Product recommendation





1
Ultra Beam LED
Page 17



2
Tail light/stop/indicator light
with reflector
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3
Power Beam 1800
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4
Power Beam 3000
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For forwarder
LED headlamp C140
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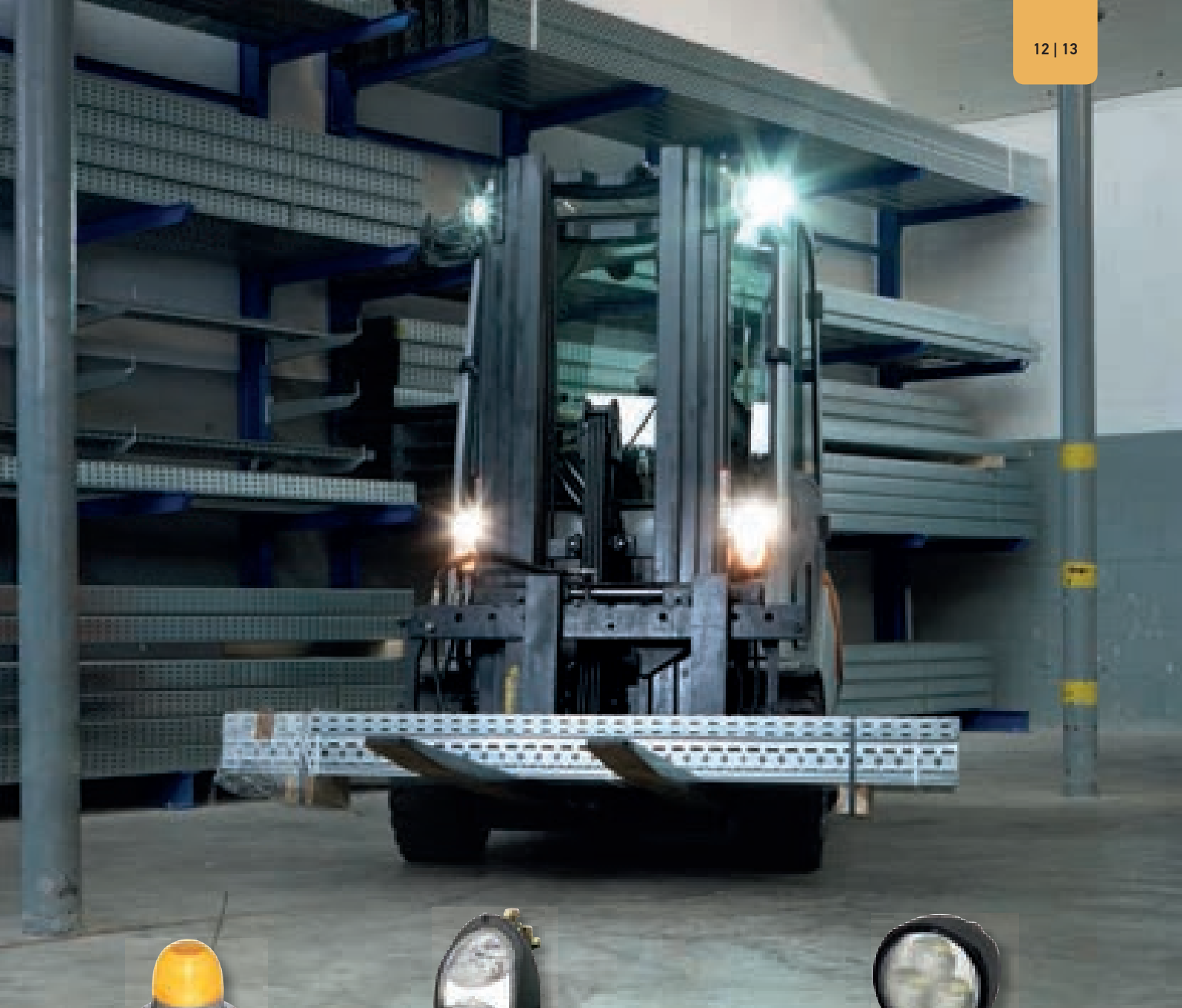
FORESTRY MACHINES

Your workplace is the open air. In the case of forestry management, the vehicle lighting must be 100% operational in windy and inclement weather and at any time of day or night. Tough working environments demand a great deal from the material used. HELLA has therefore been developing and engineering tailor-made product solutions for many years.

The high-quality production and workmanship which is typical of our brand guarantees unparalleled enduring functionality.

Product recommendation





1

LED STROBE-TYPE BEACON NavILED 360°
Page 96



2

Oval 100 FL
Page 24



3

LED tail light stop light direction indicator
Page 65



4

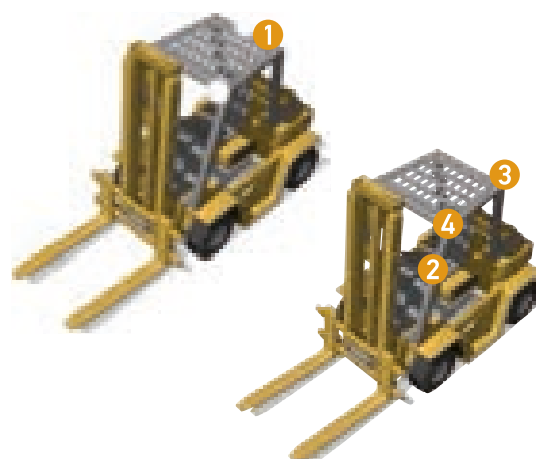
Modul 70 LED Gen. IV
Page 19

FORKLIFTS

The product range from HELLA offers the perfect solution for any application scenario. You can rely on the superb certified quality of our products at all times. A wide range of electrical and electronics products round off our portfolio for this area.

As our products are highly energy efficient, you do not need to charge your electric forklift as frequently and can therefore reduce downtimes to an absolute minimum. Our LED products are also maintenance-free and therefore offer further scope for cost savings. HELLA gives you an added advantage in terms of energy efficiency and cost-effectiveness.

Product recommendation



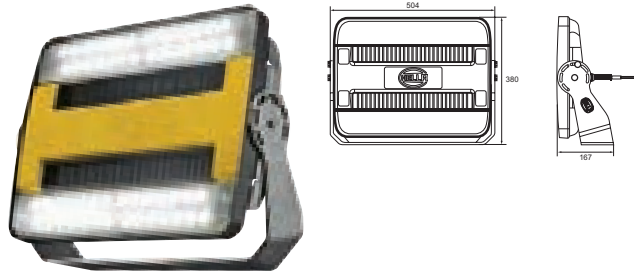
Working at night or in the early morning in the dark is no problem – providing you have the right light to work with!

HELLA worklights illuminate the working area appropriately for all applications. Their development has been specifically aimed at illuminating as large an area as is possible with a soft transition area at the edge.

Worklights can be installed in many different areas and environments, whether it be agriculture, construction vehicles, forestry management or when working with forklift trucks.

So that every move counts, even in the dark:
See more, work more precisely and safely – with HELLA Worklights.

This LED product has the following characteristics

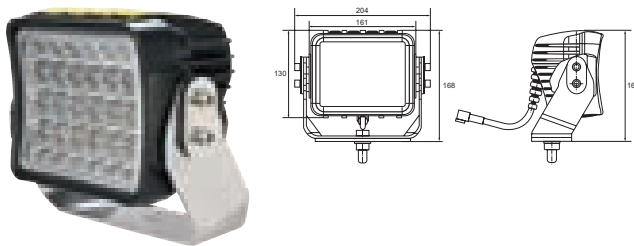


HypaLUME

Light output (measured): More than 20,000 lumens, power requirement: 240 watts, colour temperature: 5,700° kelvins, multivolt, IP 6K9K / IP 6K7 (pressure cleaner-proof/ immersible), non-stick coating, 56 high power LEDs EMC approvals: ISO 13766, CE, C-tick, FCC CISPR25 Class 2 radiated emissions. High-power worklight, upright or pendant surface mounting, with mobile bracket.

Close-range illumination	1GJ 011 872-021
Long-range illumination	1GJ 011 872-031
Ultra-broad illumination	1GJ 011 872-011

This LED product has the following characteristics

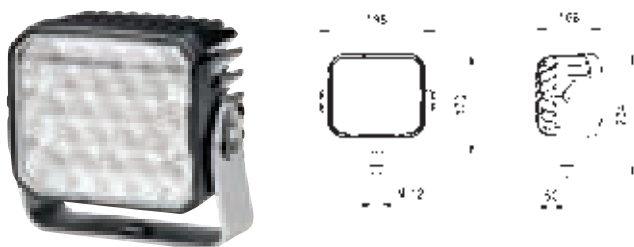
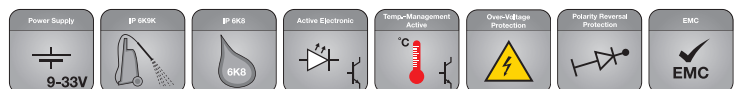


AS 5000 LED

Light output (measured): 5,000 lumens, power requirement: 60 watts, colour temperature: 5,700° kelvins, multivolt, IP 6K9K / IP 6K7 (pressure-cleaner proof/ immersible), non-stick coating, 24 high power LEDs, can be used from -40°C to +50°C. Upright or pendant surface mounting, DT connector, heavy duty.

Close-range illumination	
9-33 V DC	1GA 011 293-001
Long-range illumination	
9-33 V DC	1GA 011 293-011

This LED product has the following characteristics

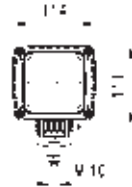


POWER BEAM 5000

Light output (measured): 4,500 lumen, power requirement: 70 watts, colour temperature: 6,500° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (pressure cleaner-proof/ immersible), ECE-R10 approved, robust aluminum housing upright or pendant surface mounting, heavy duty, wrap-around bracket.

Close-range illumination	
DT connector	1GB 996 194-001
2,000 mm cable	1GB 996 194-011
Long-range illumination	
DT connector	1GB 996 194-031

This LED product has the following characteristics



POWER BEAM 3000

Light output (measured): 3,000 lumen, power requirement: 43 watts, colour temperature: 6,500° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (pressure cleaner-proof/ immersible), ECE-R10 approved, robust aluminum housing, ADR/GGSV Upright or pendant surface mounting.

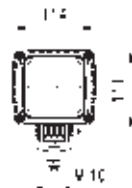
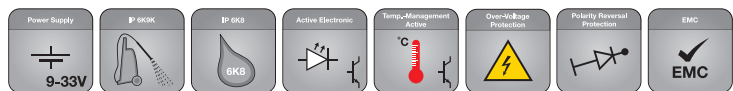
Close-range illumination

2,000 mm cable	1GA 996 192-001
2,000 mm cable, heavy duty, wrap-around bracket	1GA 996 192-021
Mounting plate to DIN EN ISO 4165, with handle, pipe socket fixing	1GA 996 192-051
DT connector	1GA 996 192-061

Long-range illumination

2,000 mm cable	1GA 996 192-011
Searchlight, extra long range, 2,000 mm cable	1GA 996 192-171

This LED product has the following characteristics



POWER BEAM 2000

Light output (measured): 2,200 lumens, power requirement: 43 watts, colour temperature: 6,500° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (pressure cleaner-proof/ immersible), ECE-R10 approved, high grade aluminum housing.

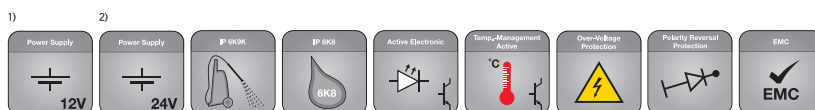
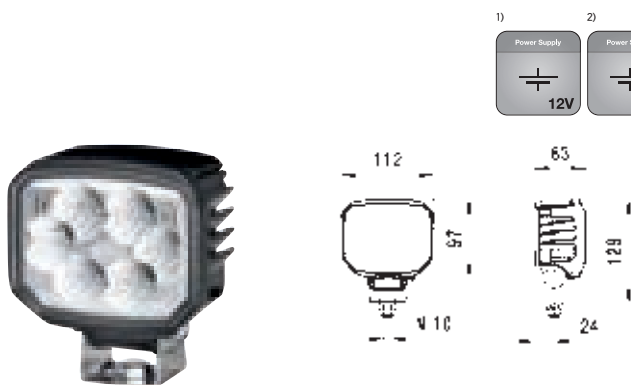
Close-range illumination

Upright surface mounting, 2,000 mm cable	1GA 996 189-001
Upright surface mounting, DT connector	1GA 996 189-011
Pendant surface mounting, 2,000 mm cable	1GA 996 189-031
Upright surface mounting, DT connector, magnetic base, handle	1GA 996 189-061

Long-range illumination

Upright surface mounting, 2,000 mm cable	1GA 996 189-051
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This LED product has the following characteristics

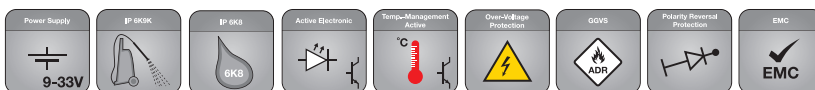
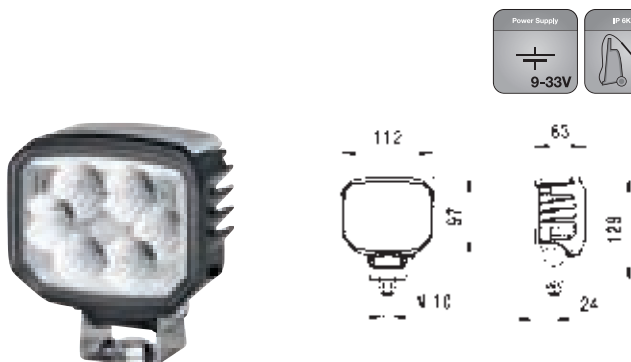


POWER BEAM 1800

Light output (measured): 1,850 lumens, power requirement: 36 watts, colour temperature: 6,500° kelvins, single voltage (12 or 24 volts), reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (pressure cleaner-proof/ immersible), ECE-R10 approved, high grade aluminum housing. Upright or pendant surface mounting, DT connector, dimming function.

Close-range illumination	
12 V	1GA 996 388-001 ¹⁾
24 V	1GA 996 388-011 ²⁾
Long-range illumination	
12 V	1GA 996 388-021 ¹⁾
24 V	1GA 996 388-031 ²⁾

This LED product has the following characteristics

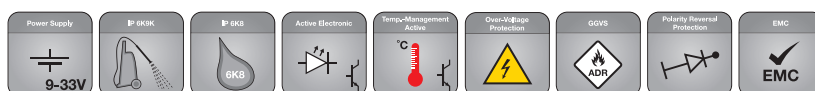
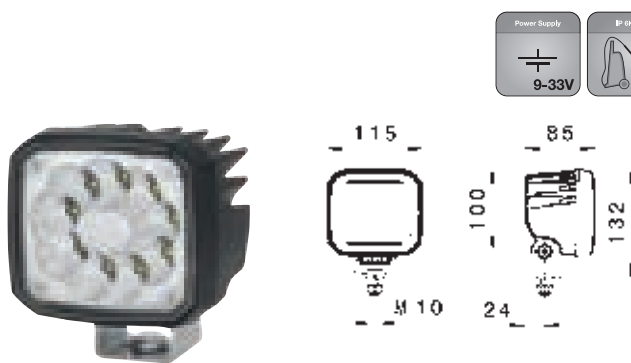


POWER BEAM 1500

Light output (measured): 1,300 lumens, power requirement: 22 watts, colour temperature: 6,500° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (pressure cleaner-proof/ immersible), ECE-R10 approved, high grade aluminum housing, ADR/GGVS tested. Upright or pendant surface mounting.

Close-range illumination	
DT connector	1GA 996 288-011
DT connector, blister packaging and adapter cable	1GA 996 288-012
DT connector, heavy duty, wrap-around bracket	1GA 996 288-031
Long-range illumination	
DT connector	1GA 996 288-001
DT connector, heavy duty, wrap-around bracket	1GA 996 288-021
DT connector, orange lens	1GA 996 288-041

This LED product has the following characteristics

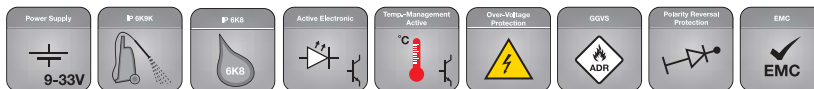


ULTRA BEAM LED

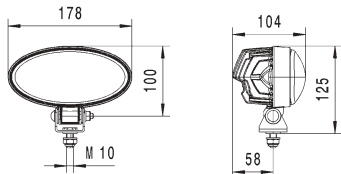
Light output (measured): 2,200 lumens, power requirement: 30 watts, colour temperature: 6,500° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (pressure cleaner-proof/ immersible), ECE-R10 approved, high grade aluminum housing, ADR/GGVS tested. DT connector.

Close-range illumination	
Upright installation	1GA 995 506-001
Upright surface mounting, blister packaging and adapter cable	1GA 995 506-002
Pendant surface mounting	1GA 995 506-011
Long-range illumination	
Upright or pendant surface mounting	1GA 995 506-031

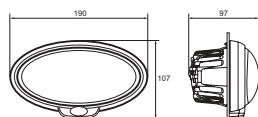
This LED product has the following characteristics



Surface-mounting



Flush-mounting



OVAL 90 LED

Light output (measured): 2,000 lumens, power requirement: 28 watts, colour temperature: 6,500° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (pressure cleaner-proof/ immersible), ECE-R10 approved, high grade aluminum housing, ADR/GVS tested.

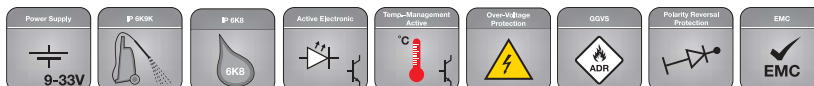
Close-range illumination

Upright or pendant surface mounting, DT connector	1GB 996 386-001
Upright or pendant surface mounting, DT connector, blister packaging and adapter cable	1GB 996 386-002
Upright or pendant surface mounting, DT connector, HB3 connector	1GB 996 386-011
Installation, DT connector	1GB 996 386-031

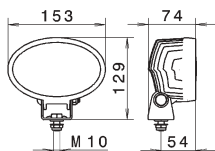
Long-range illumination

Upright or pendant surface mounting, DT connector	1GB 996 386-021
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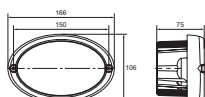
This LED product has the following characteristics



Surface-mounting



Flush-mounting



OVAL 100 LED

Light output (measured): 1,700 lumens, power requirement: 25 watts, colour temperature: 6,500° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (pressure cleaner-proof/ immersible), ECE-R10 approved, high grade aluminum housing, ADR/GVS tested.

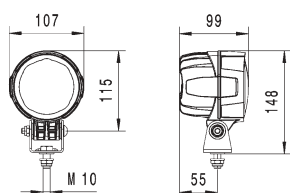
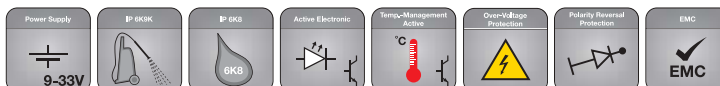
Close-range illumination

Upright or pendant surface mounting, DT connector	1GA 996 661-001
Upright or pendant surface mounting, DT connector, blister packaging and adapter cable	1GA 996 661-002
Installation, DT connector	1GA 996 661-021

Long-range illumination

Upright or pendant surface mounting, DT connector	1GA 996 661-011
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This LED product has the following characteristics

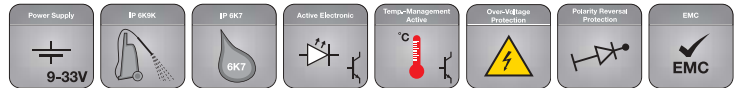
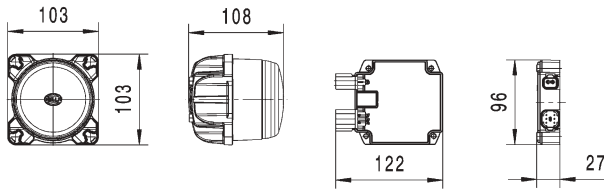


MODULE 90 LED

Light output (measured): 3,400 lumens, power requirement: 36 watts, colour temperature: 6,500° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (pressure cleaner-proof/ immersible), ECE-R10 approved, high-grade aluminum housing. Upright or pendant surface mounting, DT connector.

Close-range illumination	1G0 996 263-031
Long-range illumination	1G0 996 263-051

This LED product has the following characteristics

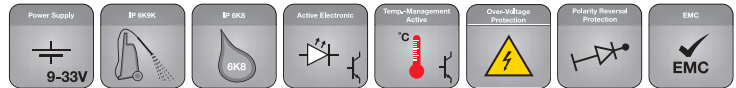
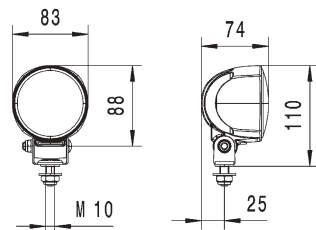


MODUL 90 INSTALLATION

Light output (measured): 2,000 lumens, power requirement: 36 watts, colour temperature: 6,500° kelvins, multivolt, IP 6K9K / IP 6K7 (pressure cleaner-proof/ immersible), aluminum die-cast housing, ECE-R10 approved, 12 high-power LEDs. The electronics have been housed in an external ballast and connected to the headlamp by a 6-pole DEUTSCH plug connector.

Close-range illumination	1G0 996 263-001
Long-range illumination	1G0 996 263-011

This LED product has the following characteristics



MODUL 70 LED GEN. IV

Light output (measured): 2,500 lumens, power requirement: 30 watts, colour temperature: 6,500° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (pressure cleaner-proof/ immersible), ECE-R10 approved, high grade aluminum housing. Upright or pendant surface mounting.

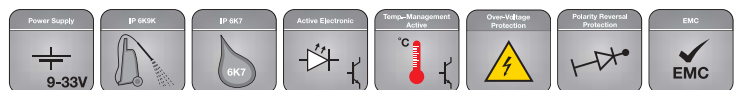
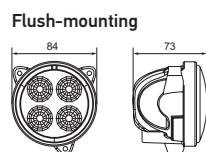
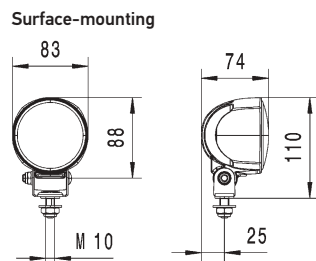
Close-range illumination

2,000 mm cable	1G0 996 476-001
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Long-range illumination

2,000 mm cable	1G0 996 476-011
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This LED product has the following characteristics



MODULE 70 LED GEN. III

Light output (measured): 800 lumens, power requirement: 13 watts, colour temperature: 6,500° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K7 (pressure cleaner-proof/ immersible), ECE-R10 approved, high grade aluminum housing.

Close-range illumination

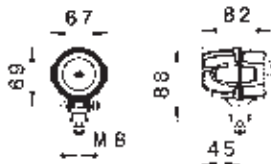
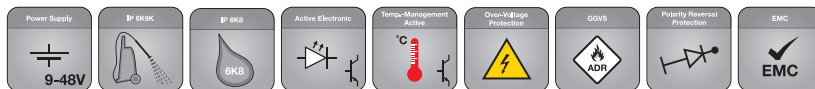
Upright or pendant surface mounting, 2,000 mm cable, 600 lm, 13 W, 10–100 V	1G0 996 276-077
Installation, 2,000 mm cable	1G0 996 276-431
Upright-mounting, 2,000 mm cable	1G0 996 276-451
Upright or pendant surface mounting, 2,000 mm cable, blister packaging	1G0 996 276-453
Pendant surface mounting, 2,000 mm cable	1G0 996 276-461
Upright or pendant surface mounting, 200 mm cable, DT connector, extra broad illumination	1G0 996 276-481

Long-range illumination

2,000 mm cable, spot illumination, blue lens	1G0 996 276-701 ¹⁾
Upright or pendant surface mounting, 2,000 mm cable, spot illumination	1G0 996 376-001

1) Possible applications: gritting and spraying vehicles.
More information on page 29.

This LED product has the following characteristics



MODULE 50 LED

Light output (measured): 800 lumens, power requirement: 15 watts, colour temperature: 6,500° kelvins, multivolt 9–48 V, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (pressure cleaner-proof/ immersible), ECE-R10 approved, high grade aluminum housing, ADR/GGSV tested. DT connector.

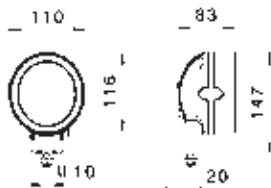
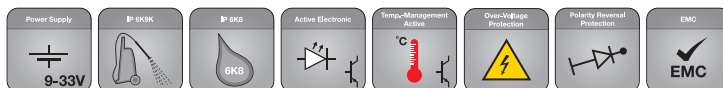
Close-range illumination

Upright installation	1G0 995 050-001
Pendant surface mounting	1G0 995 050-011

Long-range illumination

Upright or pendant surface mounting	1G0 995 050-021
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This LED product has the following characteristics

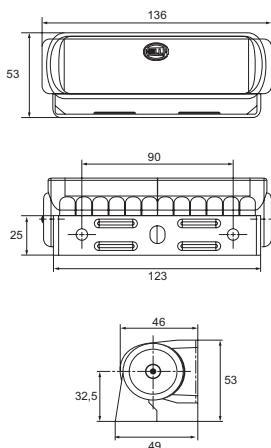


MEGA BEAM LED GEN. III

Light output (measured): 800 lumens, power requirement: 13 watts, colour temperature: 6,500° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (pressure cleaner-proof/ immersible), ECE-R10 approved, high grade aluminum housing, 2,000 mm cable.

Close-range illumination

Upright installation	1GM 996 136-311
Upright surface mounting, blister packaging and adapter cable	1GM 996 136-312
Pendant surface mounting	1GM 996 136-361

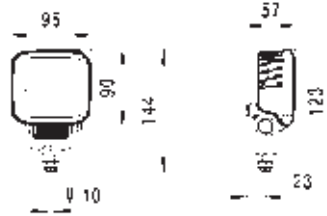
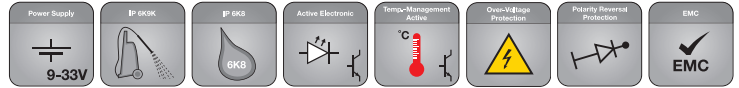


ETL 550

Light output (measured): 550 lumens (white) / 400 lumens (warm white), power requirement: 7 watts, colour temperature: 5,000° kelvins (white) / 3,000° kelvins (warm white), multivolt 9–33 V, IP 67 (pressure cleaner-proof/ immersible), CE and RCM approved, non-metallic, heat-conducting housing made of special polymer, lens made of Heavy Duty Gril (impact and UV-resistant high-performance Grilamid® lens), mounting bracket made of stainless steel 316 non-rusting, polished. High-tech optics make even illumination possible. Pre-wired with 0.5 m two-core marine cable.

White light, black housing	2LT 980 573-011
White light, white housing	2LT 980 573-021
Warm white light, black housing	2LT 980 573-051
Warm white light, white housing	2LT 980 573-061

This LED product has the following characteristics



Q90 LED "THERMO PRO SERIES"

Light output (measured): 1,200 lumens, power requirement: 25 watts, colour temperature: 6,500° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (pressure cleaner-proof/ immersible), ECE-R10 approved. Upright or pendant surface mounting.

Close-range illumination

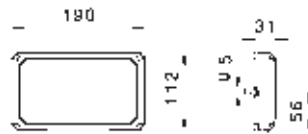
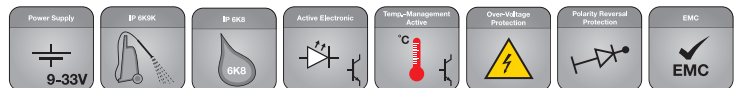
500 mm cable	1GA 996 283-001
500 mm cable, blister packaging	1GA 996 283-002

Long-range illumination

500 mm cable	1GA 996 283-011
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For more information on the new THERMO PRO series, see page 29.

This LED product has the following characteristics



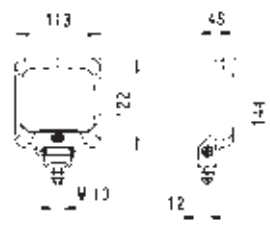
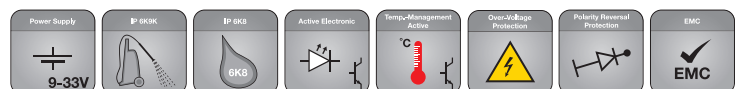
FLAT BEAM 1000

Light output (measured): 1,100 lumens, power requirement: 11 watts, colour temperature: 6,500° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (pressure cleaner-proof/ immersible), ECE-R10 approved, impact-resistant synthetic material housing. Upright surface mounting, 2,000 mm cable.

Close-range illumination

Wall-mounted	1GD 996 193-001
Wrap-around bracket	1GD 996 193-011
45° illumination	1GD 996 193-051

This LED product has the following characteristics



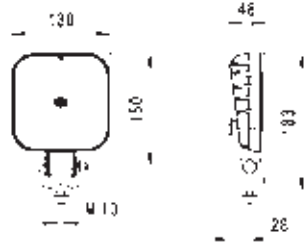
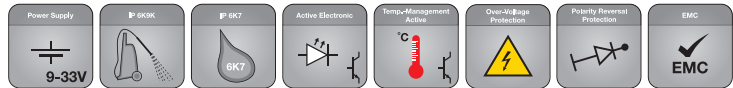
FLAT BEAM 500

Light output (measured): 550 lumens, power requirement: 7 watts, colour temperature: 6,500° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K8 (pressure cleaner-proof/ immersible), ECE-R10 approved, impact-resistant synthetic material housing, standard 45° illumination, 2,000 mm cable.

Close-range illumination

Upright surface mounting, standard bracket	1GA 995 193-001
Pendant surface mounting, standard bracket	1GA 995 193-011
Upright surface mounting, wall installation	1GA 995 193-021
Upright surface mounting, strap fixing	1GA 995 193-031
Upright surface mounting, wrap-around bracket	1GA 995 193-041

This LED product has the following characteristics

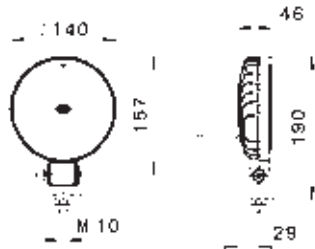
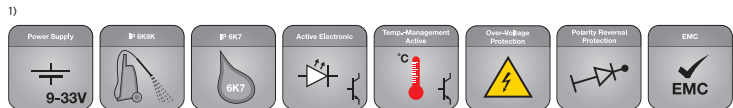


AP 1200 LED

Light output (measured): 1,200 lumens, power requirement: 22 watts, colour temperature: 5,700° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K7 (pressure cleaner-proof/immersion), ECE-R10 approved. Upright or pendant surface mounting, 300 mm cable, square design.

Close-range illumination	1GA 011 720-041
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This LED product has the following characteristics

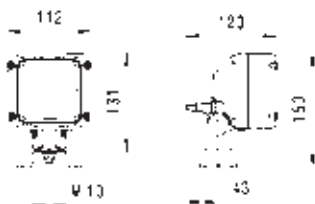


AP 700 / 1200 / 1800 LED

Light output (measured): 700/1,200/1,800 lumens, power requirement: 16/22/30 watts, colour temperature: 5,700° kelvins, multivolt, reverse polarity protection, overvoltage protection, thermal management, IP 6K9K / IP 6K7 (pressure cleaner-proof/immersion), ECE-R10 approved. Upright or pendant surface mounting, 300 mm cable, round design.

Close-range illumination

10 – 16 V, 700 lm, 16 W	1GA 012 722-001
9 – 33 V, 1,200 lm, 22 W	1GA 011 722-001 ¹⁾
9 – 33 V, 1,800 lm, 30 W	1GA 013 722-001 ¹⁾



ULTRA BEAM

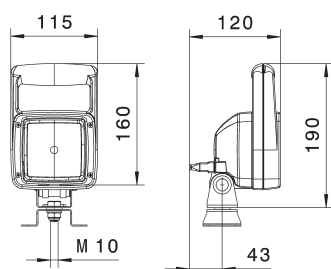
Light output: 1,150/1,400 or 1,700 lumens, colour temperature: 2,500° kelvins (H3) / 3,200° kelvins (H9), impact-resistant glass fiber-reinforced synthetic material housing, glass lens, IP 5K9K (pressure cleaner-proof), GGVSEB/ADR tested.

Close-range illumination

12 / 24 V, 55 / 70 W, 1,150 / 1,400 lm	
Upright surface mounting, AMP connector, 4-point attachment, H3, heavy duty	1GA 007 506-011*
Installation, AMP connector, H3	1GA 007 506-111*
Upright or pendant surface mounting, cable inlet with grommet	1GA 007 506-081*
Upright or pendant surface mounting, DT connector	1GA 007 506-391*
Lateral mounting, cable inlet with grommet, H3	1GA 996 083-011*
Installation, 65 W, AMP connector, incl. H9 bulb	1GA 996 150-051
Upright surface mounting, AMP connector, 4-point attachment, H3	1GA 997 506-601*

Long-range illumination

Upright or pendant surface mounting, 12 V, 65 W, 1,700 lm, AMP connector, 4-point attachment, incl. H9 bulb	1GA 996 150-081
Upright surface mounting, AMP connector, H3	1GA 997 506-021*

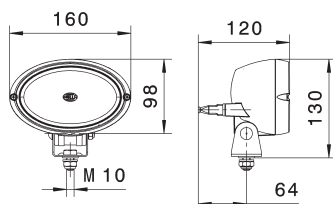


ULTRA BEAM WITH HANDLE

Light output: 1,150 / 1,400 lumens, colour temperature: 2,500° kelvins (H3) / 3,200° kelvins (H9), impact-resistant glass fiber-reinforced synthetic material housing, IP 5K9K (pressure cleaner-proof).

Close-range illumination

12 / 24 V, 55 / 70 W, 1,150 / 1,400 lm, AMP connector, upright surface mounting	
Heavy duty, H3	1GA 007 506-021*
Heavy duty, AMP connector, on/off switch, H3	1GA 997 506-631*
24 V, 70 W, 1,400 lm, mounting plate to DIN EN ISO 4165	
Pipe socket fixing, AMP connector, incl. H3 bulb	1GA 007 506-681



OVAL 100 DOUBLE BEAM

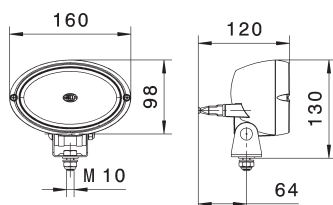
Light output: 2,300 or 2,800 lumens, colour temperature: 2,500 kelvins, extremely powerful light output due to double chamber reflector. IP 5K9K (pressure cleaner-proof), impact-proof, glass fiber-reinforced synthetic material housing. Double beam, incl. 2 x H3 bulbs. Pendant surface mounting version available on request.

Close-range illumination

12 V, 110 W, 2,300 lm, upright surface mounting, AMP connector	1GA 996 161-291
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Long-range illumination

12 V, 110 W, 2,300 lm, upright surface mounting	1GA 996 161-131
12 V, 110 W, 2,300 lm, surface mounted laterally, AMP connector	1GA 996 161-331
24 V, 140 W, 2,800 lm, upright surface mounting	1GA 996 361-011



OVAL 100

Light output: 1,150/1,400/1,700 lumens, colour temperature: 2,500° kelvins (H3) / 3,200° kelvins (H9), impact-resistant glass fiber-reinforced synthetic material housing, IP 5K9K (pressure cleaner-proof).

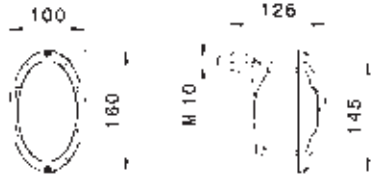
Close-range illumination

Upright or pendant surface mounting, 12 V, 55 W, 1,150 lm, AMP connector, incl. H3 bulb	1GA 996 161-121
Upright surface mounting, 12 V, 65 W, 1,700 lm, 2,000 mm cable, H9, heavy duty, incl. H9 bulb	1GA 996 161-391
Upright or pendant surface mounting, 24 V, 70 W, 1,400 lm, AMP connector, heavy duty, incl. H3 bulb	1GA 996 161-581
Upright surface mounting, 24 V, 70 W, 1,400 lm, AMP connector, heavy duty, incl. H3 bulb	1GA 996 361-171
Upright surface mounting, heavy duty, H3	1GA 996 361-421*
Upright surface mounting, cable inlet with grommet, H3	1GA 996 361-501*

Long-range illumination

Upright or pendant surface mounting, 12 V, 55 W, 1,150 lm, AMP connector, incl. H3 bulb	1GA 996 161-281
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* Without bulb.

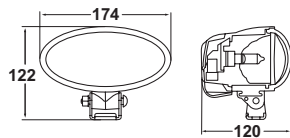


OVAL 100 FL

Colour temperature: 2,500° kelvins, impact-resistant glass fiber-reinforced synthetic material housing, IP 5K9K (pressure cleaner-proof). Pendant surface mounting, 420 mm cable, incl. 2 x H3 bulbs.

Close-range illumination

12 V, 110 W, 2,300 lm	1GM 996 361-461
24 V, 140 W, 2,800 lm	1GM 996 361-651

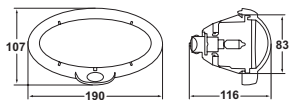


OVAL 90

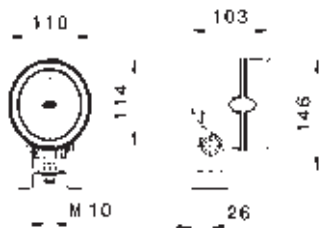
Light output: 1,400 lumens, colour temperature: 3,200° kelvins, impact-resistant glass fiber-reinforced synthetic material housing, IP 6K9K (pressure cleaner-proof), HB3 "long life" bulb. 12 V, 60 W, HB3 plug-type connection.

Close-range illumination

a) Upright surface mounting	1GM 996 186-051
b) Recessed mounting	1GM 996 186-061



b)



MEGA BEAM

Light output: 1,150/1,400 lumens, colour temperature: 2,500° kelvins, impact-resistant glass fiber-reinforced synthetic material housing, IP 5K9K (pressure cleaner-proof; except variant -091), GGVSEB/ADR tested. 12 / 24 V, 55 / 70 W.

Close-range illumination

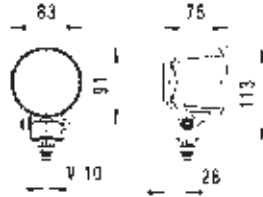
Upright or pendant surface mounting, AMP connector, H3, heavy duty	1GM 996 134-171*
Upright surface mounting, cable inlet with grommet, H3, heavy duty, with handle	1GM 996 134-241*
Upright or pendant surface mounting, cable inlet with grommet, H3, heavy duty	1GM 996 134-321*
Mounted on right, cable inlet with grommet, H3	1GM 996 134-271*
Mounted on left, cable inlet with grommet, H3	1GM 996 134-371*

Long-range illumination

Upright or pendant surface mounting, cable inlet with grommet, H3, heavy duty	1GM 996 134-051*
Upright surface mounting, AMP connector, H3, heavy duty	1GM 996 134-071*

Terrain illumination

Upright surface mounting, cable inlet with grommet, H3, heavy duty	1GM 996 134-061*
Upright surface mounting, AMP connector, H3, heavy duty	1GM 996 134-081*
Recessed mounting, cable inlet with grommet, H3	1GM 996 134-091*



MODUL 70

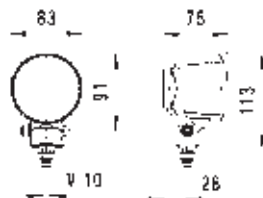
Light output: 1,150/1,400 lumens or 1,700 lumens, colour temperature: 2,500°kelvins (H3) / 3,200° kelvins (H9) / 3,000° kelvins (GE886), impact-resistant glass fiber-reinforced synthetic material housing, IP 5K9K (pressure cleaner-proof).

Close-range illumination

Upright surface mounting, cable inlet with grommet, H3	1G0 996 176-001*
Recessed mounting, cable inlet with grommet, 3-point attachment, H3	1G0 996 176-021*
12 V, 65 W, upright surface mounting, H9 plug-in connection, incl. H9 bulb	1G0 996 176-041
12 V, 65 W, recessed mounting, H9 plug-in connection, incl. H9 bulb	1G0 996 176-061
12 V, 50 W, upright surface mounting, GE886 plug-in connection, incl. GE886 bulb	1G0 996 176-081
12 V, 50 W, recessed mounting, 3-point attachment, GE886 plug-in connection, incl. GE886 bulb	1G0 996 176-091
12 / 24 V, 55 / 70 W, upright surface mounting, cable inlet with grommet	1G0 996 176-111*
12 V, 65 W, upright surface mounting, 2,000 mm cable, incl. H9 bulb	1G0 996 176-171
12 V, 65 W, pendant surface mounting, 2,000 mm cable, incl. H9 bulb	1G0 996 176-181

Long-range illumination

Upright surface mounting, cable inlet with grommet, H3	1G0 996 176-011*
Recessed mounting, cable inlet with grommet, 3-point attachment, H3	1G0 996 176-031*
12 V, 55 W, recessed mounting, H9 plug-in connection, incl. H9 bulb	1G0 996 176-071



MODUL 70 BLUE

Colour temperature: 2,500° kelvins, impact-resistant glass fiber-reinforced synthetic material housing, IP 5K9K (pressure cleaner-proof). Blue lens ensures high-contrast light which penetrates dust, water and fog. Possible applications: gritting and spraying vehicles. More information on page 29.

Long-range illumination




12 V, 65 W, upright surface mounting, H9 plug-in connection, incl. H9 bulb	1G0 996 176-671
12 V, 55 W, upright surface mounting, cable inlet with grommet, incl. H7 bulb	1FA 008 283-031

* Without bulb.

ACCESSORIES

Product photo	Description	Part number
Bracket		
	<p>Pipe socket fixing bracket For combination with socket tubes 8HG 002 365-001. Suitable for mounting with 42 mm bracket width. Electrical contacting within the pipe socket via socket according to DIN 7 2 591.</p> <hr/> <p>With AMP connector or grommet Model series: Halogen: Ultra Beam, Mega Beam and Oval 100</p> <hr/> <p>With DEUTSCH or grommet connector Model series: LED: Ultra Beam, Oval 100, Power Beam, and Module 90 Halogen: Ultra Beam</p>	<p>8HG 990 320-001</p> <hr/> <p>8HG 990 320-011</p>
	<p>Mirror bracket attachment Rotatable universal holder for mounting on tubes/pipes (diameter: 15-25 mm). For replacement on worklights with 36 mm or 42 mm bracket width.</p> <hr/> <p>36 mm bracket width Model series: Oval 90, Module 70 and Flat Beam 500</p> <hr/> <p>42 mm bracket width Model series: Ultra Beam, Mega Beam, Oval 100, Power Beam, Modul 90, Q90 LED and AP 1200 LED</p>	<p>8HG 990 263-111</p> <hr/> <p>8HG 990 263-131</p>
	<p>Magnetic mounting bracket For worklights with U-bracket. Contains 2 magnets and fastening materials.</p> <p>Model series: All worklights with standard bracket</p>	<p>8HG 004 806-001</p>
	<p>Four-point mounting Made of yellow chromed steel</p> <p>Model series: All worklights with standard bracket</p>	<p>9XD 990 298-001</p>
	<p>Four-point mounting Made of stainless steel with oblong holes</p> <p>Model series: All worklights with standard bracket</p>	<p>9XS 130 261-001</p>
	<p>Angle bracket Angle attachment for worklights with 42 mm bracket width.</p> <p>Model series: Ultra Beam, Mega Beam, Oval 100, Power Beam, Modul 90, Q90 LED and AP 1200 LED</p>	<p>9XD 990 298-031</p>
	<p>Plastic bracket Glass fiber-reinforced standard bracket for worklights.</p> <p>Model series: Ultra Beam, Mega Beam, Oval 100, Power Beam, Modul 90, Q90 LED and AP 1200 LED</p> <hr/> <p>42 mm bracket width</p>	<p>8HG 332 912-002</p>
	<p>Standard bracket With extra space to the rear.</p> <p>Model series: Ultra Beam, Mega Beam, Oval 100, Power Beam, Modul 90, Q90 LED and AP 1200 LED</p> <hr/> <p>42 mm bracket width</p>	<p>8HG 992 377-042</p>
	<p>Oblong hole bracket Special bracket with oblong hole for mounting.</p> <p>Model series: Oval 90, Module 70 and Flat Beam 500</p> <hr/> <p>36 mm bracket width</p>	<p>8HG 331 414-372</p>
	<p>Forked bracket Special bracket for flat mounting.</p> <p>Model series: Oval 90, Module 70 and Flat Beam 500</p> <hr/> <p>36 mm bracket width</p>	<p>8HG 994 412-372</p>
	<p>Standard bracket with eye Standard bracket for attachments with limited space to the rear.</p> <p>Model series: Ultra Beam, Mega Beam, Oval 100, Double Beam, AS 200, Power Beam, Module 90, Q90 LED and AP 1200 LED</p> <hr/> <p>42 mm bracket width</p>	<p>8HG 994 974-002</p>

ACCESSORIES

Product photo	Description	Part number
Plugs		
	<p>The extensive range of accessories for plug connections from HELLA offers solutions for almost any application. Undesired failures are often caused not by the products but by defective cabling or wiring. The HELLA SUPERSEAL product range helps to achieve a water-tight and dust-resistant connection of the cable heads, thereby offering ideal work conditions whatever the weather.</p>	
	DEUTSCH connector, 2-pole (10 units)	8JA 990 295-127
	AMP connector set (consisting of AMP connector and recessed-mounting grommet)	8JD 990 295-037
	HB3 connector (10 units)	8JA 990 295-217
	H9 connector (20 units)	8JD 158 175-807
SUPERSEAL, case containing an assortment of various SUPERSEAL connectors, male/female contacts, individual cable seals and dummy plugs (780 parts)	8JA 009 256-801	
Cables		
	<p>HELLA supplies various adapter cables as accessories for easy installation of headlamps.</p>	
	2,000 mm cable with AMP connector and bare cable heads	8KB 990 299-001
	2,000 mm cable with DEUTSCH connector and bare cable heads	8KB 990 299-011
	2,000 mm cable with H9 connector, bare cable heads and rubber cap	8KB 990 299-311
	2,000 mm cable with HB3 connector and bare cable heads	8KB 990 299-331
	200 mm adapter cable from DEUTSCH to AMP connector	8KB 990 299-361
230 volt power supply	8EN 332 584-001	
Bulbs		
	<p>HELLA offers a bulb assortment with a range of bulb types specially developed for different purposes, e.g. Light Power with extremely powerful light output or Lifetime with a very long service life.</p> <p>For a more comprehensive selection visit www.hella.com/bulbs</p>	
	H3 12 V / 55 W	8GH 002 090-133
	H3 24 V / 70 W	8GH 002 090-251
	HB3 LL 12 V / 60 W	8GH 005 635-181
	H9 12 V / 65 W	8GH 008 357-001

HELLA STANDARDS FOR WORKLIGHTS

	Requirements class 7.1 (as per HELLA Standard N67101)	Requirements class 7.2 (as per HELLA Standard N67101)
Dust protection	Protection class IP 5KX DIN 40050-9 or as per SAE J575 2) For dust-tight devices, differing from this, protection class IP 6KX	Protection class IP 5KX DIN 40050-9 or as per SAE J575 2) For dust-tight devices, differing from this, protection class IP 6KX
Protection against water	Protection class IP X4K DIN 40050-9, tested according to HELLA Standard N67007-03; protection class IP X9K pressure cleaner test to DIN 40050-9 and possibly to N67007-02; tightness testing with surfactant-based liquids to N67007-6; mud settling test to N67007-05	Protection class IP X4K DIN 40050-9, tested to HELLA Standard N67007-03; protection class IP X9K pressure cleaner test to DIN 40050-9 and possibly to N67007-02; tightness testing with surfactant-based liquids to N67007-6; mud settling test to N67007-05
Resistance to condensation	For ventilated devices: Tested to HELLA Standard N67017-02, possibly rain cycle test to N67007-07	For ventilated devices: Tested to HELLA Standard N67017-02, possibly rain cycle test to N67007-07
Heat resistance in operating state	1 h at 50°C; headlamp additionally 48 h at 23°C in calm air. For KSS 3) additionally 1 h with 80% soiled lens Testing to N67009-02 or N67009-06 2) as per SAE J575 2)	1 h at 50°C; headlamp additionally 48 h at 23°C in calm air. For KSS 3) additionally 1 h with 80% soiled lens Testing to N67009-02 or N67009-06 2) as per SAE J575 2)
Heat/cold resistance Device not operational	Lights 2 h +80°C + 2 h -40°C or with reflex reflector 48 h +65°C + 2 h -40°C Headlamp 2 h +90°C + 2 h -40°C Testing to N67011-03	Lights 2 h +80°C + 2 h -40°C or with reflex reflector 48 h +65°C + 2 h -40°C Headlamp 2 h +90°C + 2 h -40°C Testing to N67011-03
Resistance to temperature shock	After 15 min. operation in calm air, immerse in water at +20°C, test as per N67012-03.	After 15 min. operation in calm air, immerse in ice water, test to N67012-04
Resistance to mechanical shock	40 g, 50 semi-sinusoidal shocks per spatial axis, Duration 6 ms, Test to N67013-09	40 g, 50 semi-sinusoidal shocks per spatial axis, Duration 6 ms, Test to N67013-09
Resistance to free fall	Headlamp must survive drop test from 100 cm height 50 times. Test to DIN EN 60068-2-32 or SAE J1211 2)	Headlamp must survive drop test from 100 cm height 50 times. Test to DIN EN 60068-2-32 or SAE J1211 2)
Resistance to mechanical impact	Auxiliary headlamp must survive pendulum impact at 10 Joule without damage, test to N67015-03.	Auxiliary headlamp must survive pendulum impact at 10 Joule without damage, test in line with N67015-03.
Vibration resistance	Broadband noise (10-300 Hz, 9.6 g _{rms} , vertical and horizontal 7 h each) Test as per N67013-13 with T cycle or N67013-07 2) as per SAE J575 2)	Broadband noise (10-300 Hz, 9.6 g _{rms} , vertical and horizontal 7 h each) Test as per N67013-13 with T cycle or N67013-07 2) as per SAE J575 2)
Resistance to reagents	As per ISO 16750-5: A, B, F, G, H, K, L, R, S, V, Y	As per ISO 16750-5: A, B, F, G, H, K, L, R, S, V, Y
Adhesion property of coat	Test as per DIN EN ISO 2409 – Requirements: Gt 1 through 2	Test as per DIN EN ISO 2409 – Requirements: Gt 1 through 2
Corrosion resistance Salt spray fog testing (SS) 1)	Test 144 h SS – DIN EN ISO 9227	Test 216 h SS – DIN EN ISO 9227
Condensate water constant climate (CC)1)	Test as per DIN EN ISO 6270-2 – 48 h – CC	
Modified Corrodokote method1)	Test as per DIN EN ISO 4541 – 1 cycle (only for decorative chrome-plated surfaces)	Test as per DIN EN ISO 4541 – 1 cycle (only for decorative chrome-plated surfaces)

After all tests, the function of the devices must still be given (apart from assessments of electrolytic reactions and burning behaviour).

1) No base metal corrosion, no blistering, infiltration Wb as per DIN EN ISO 7253 max. 2.5 mm.

2) Only applies to USA models

3) KSS = plastic lens/cover



THERMO PRO SERIES

Q90 LED

To do without aluminum for high-power LED worklights would appear to be unfeasible. Nevertheless, HELLA continues to set standards and launch new, thermally conductive synthetic material housings in the form of the THERMO PRO plastic series.

The innovative new material has thermal-conduction properties comparable to aluminum which means the LEDs can be operated at full power in ambient temperatures up to 50°C. In addition, the THERMO PRO series impresses with its considerably reduced weight and improved vibration characteristics. Even in the toughest conditions, the omission of vulnerable aluminum and the use of synthetic material housings ensures a long service life and prevents corrosion.

SERVICE LIGHT

Flat Beam 500

If machinery fails at night, the only way to perform repairs is often by using a portable lamp. But having both hands free is a key advantage when it comes to getting the vehicle operational again as quickly as possible. The Flat Beam 500 is perfect in this situation. Installation on the inside of the side combine harvester flap offers good visibility of the entire engine compartment and guarantees safe work on the vehicle.

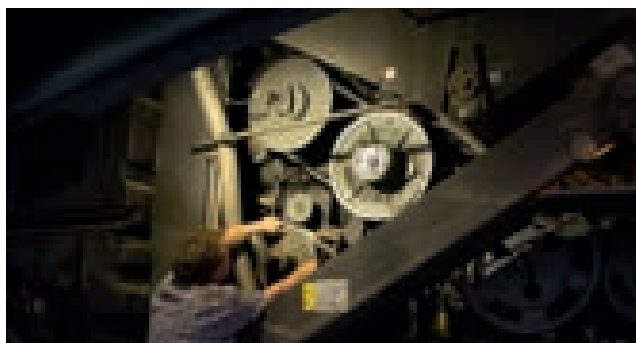


SPREADING ILLUMINATION

Module 70 LED blue

The blue lens is ideal for use on sprayers, road salt vehicles or snow ploughs. The blue light produces a colour temperature of around 5,000 kelvins, which reduces dazzle and considerably improves perception of contrast in the dark.

The focused light beams penetrate the spray mist and all nozzles are evenly illuminated. Clear visibility is a key factor when it comes to precise and safe work at night.



No light, no vision

This applies not just to "seeing" but also "being seen". Due to the fact that the vehicle lighting plays an important role in the safety of all those on the road, HELLA develops innovative lighting systems that offer a high level of driving comfort and also provide optimum illumination of the road ahead.

Also, the issue of "styling" is growing in importance. This is where the LEDs come into their own, as they allow new paths to be taken when designing the vehicle, and also mean that brand-specific appearances can be created.

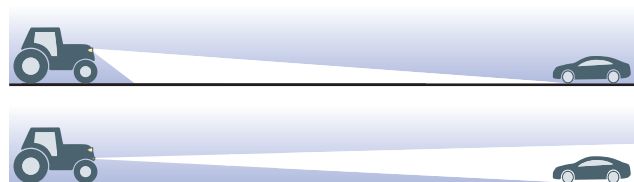


Daytime running lights

Benefits of the daytime running light

The daytime running light provides a decisive safety advantage in road traffic and reduces the number of accidents which result in serious injuries by 58%.*

For this reason, and long before the introduction of any legal requirement, HELLA developed daytime running lights to increase driving safety.

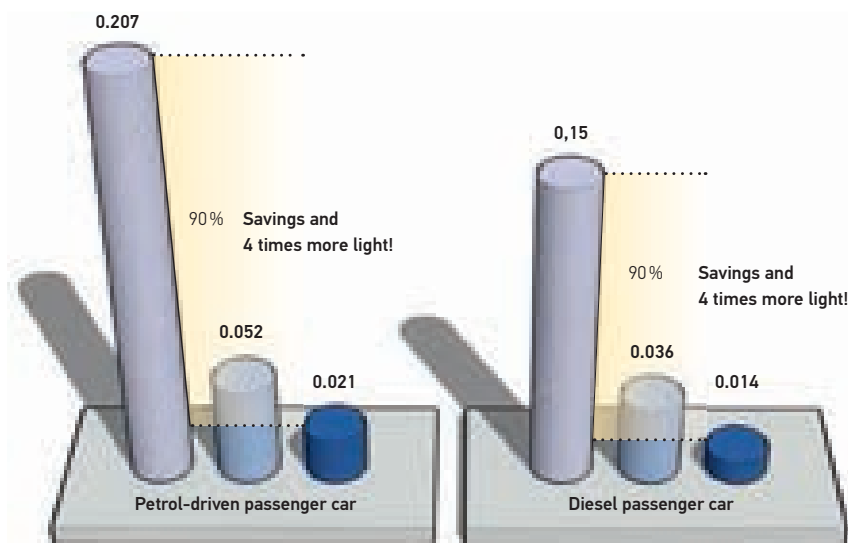


* Study carried out by the SWOV-Institute for Road Safety Research on behalf of the EU.

Daytime running lights provide more safety than low beam.

The HELLA daytime running lights generate a passively radiating white signal light. The vehicle is visible to other road-users more easily and sooner. HELLA thus ensures extra reaction time and offers a noticeable safety advantage.

Comparison of performance between low beam and daytime running light



Source: BAST (Bundesanstalt für Straßenwesen = German Road Traffic Authority)

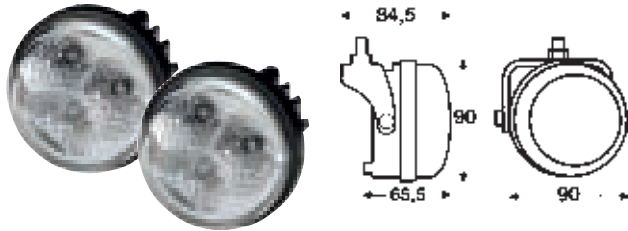
- Low beam during the day
- Daytime running light with bulbs
- Daytime running lights with LEDs

The trend shows that more and more daytime running lights are being installed by leading manufacturers of agricultural machinery.

As things stand at present, daytime running light will be regularly permitted from the end of 2015/start of 2016 on agricultural and forestry vehicles.

Can now also be implemented with a special permit.

This LED product has the following characteristics



LED DAYTIME RUNNING LIGHTS SET, ROUND DESIGN

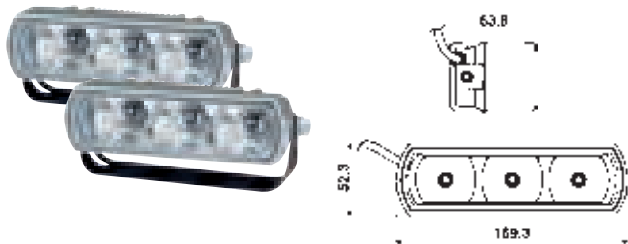
2 lights incl. harness, universal bracket,
3 high-power LEDs per light, multivolt 9-33 V.
12 V / max. 5.5 W, current consumption = 2.18 A

Set for surface mounting

2PT 009 599-811

Type approval: E1 2372

This LED product has the following characteristics



LED DAYTIME RUNNING LIGHT SET, RECTANGULAR DESIGN

2 lights incl. harness, universal bracket,
3 high-power LEDs per light, multivolt 9-33 V.
12 V / max. 5.5 W, current consumption = 2.18 A

Set for surface mounting

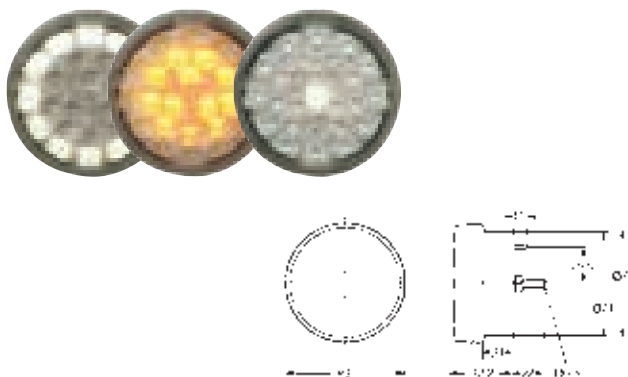
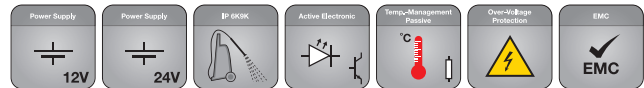
2PT 009 496-801

Individual light without bracket, DRL with PO function

2PT 009 496-007

Type approval: E1 2344

This LED product has the following characteristics



83 MM LED-3 FUNCTIONAL LIGHT

Pre-wired with 2.5 m sheathed four-core cable.

12 V, single lamp

2BE 980 691-101

24 V, single lamp

2BE 980 690-101

Type approval: E24 5854 and E1 03 1962
Indicator light ECE Reg. No. 6
Position light ECE Reg. No. 7
Daytime running light ECE Reg. No. 87

Optional accessory: Adapter ring 90 mm

The adapter ring is used to replace a 90 mm light with the 83 mm light. This means that vehicles already equipped with a HELLA 90 mm light can be easily converted for the 83 mm light.

9GD 980 696-001

This LED product has the following characteristics



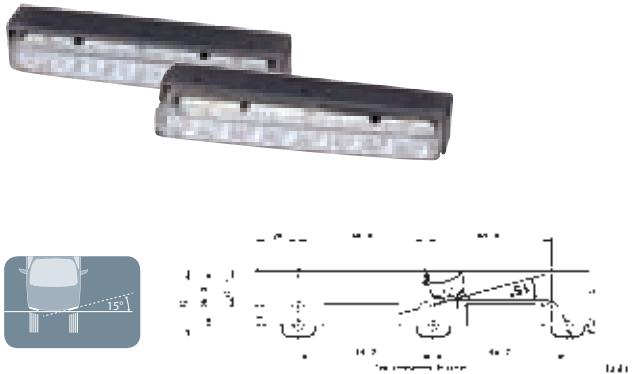
LED DAYTIME RUNNING LIGHT SET LEDayLine® WITH POSITION LIGHT FUNCTION*

2 lights with five LED diodes per light and integrated relay for fully automatic switch-on, incl. professional harness and attachment material.
Multivolt 9–32 V, 12 V max. 5.5 W

Set for surface-mounting, 12 V	2PT 010 043-801
12 V, left	2PT 010 043-011
12 V, right	2PT 010 043-021

Type approval: (E) 2578

This LED product has the following characteristics



LED DAYTIME RUNNING LIGHT SET LEDayLine 15

for horizontal installation, with 2.5 m connecting cable and separate changeover relay for automatically turning daytime running lights on and off or for switching over to position light.

Set includes:
2 lights each with 8 LEDs, changeover relay, incl. mounting frame.

12 V daytime running light	2PT 980 860-801
24 V daytime running light	2PT 980 860-851

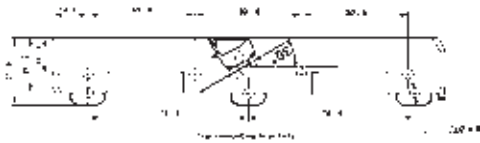
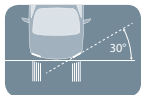
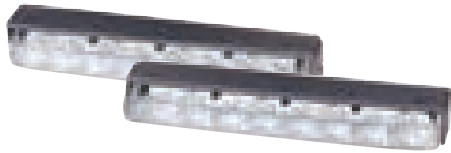
Single lamp

12 V daytime running light with position light*, without bracket	2PT 980 860-001
24 V daytime running light with position light*, without bracket	2PT 980 860-501
Bracket set	8HG 980 864-101
Harness assembly / control unit	8KA 959 186-101

You can find out more about further variants, legal requirements and fitting regulations at www.daytime-running-light.com or www.hella.com/lightshow.

* When using the position light, the standard position light must be disabled permanently in accordance with ECE-R48.

This LED product has the following characteristics



LED DAYTIME RUNNING LIGHT SET LEDayLine 30

for horizontal installation, with 2.5 m connecting cable and separate changeover relay for automatically turning daytime running lights on and off or for switching over to position light.

Set includes:

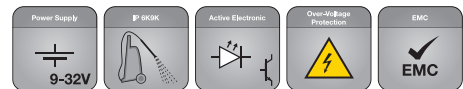
2 lights each with 8 LEDs, changeover relay, incl. mounting frame

12 V daytime running light	2PT 980 850-801
24 V daytime running light	2PT 980 850-851
12 V daytime running light with position light*	2PT 980 850-811

Single lamp

12 V daytime running light with position light*, without bracket	2PT 980 850-001
24 V daytime running light with position light without bracket	2PT 980 850-501
Bracket set	8HG 980 854-101
Harness assembly / control unit	8KA 959 186-101

This LED product has the following characteristics



LED DAYTIME RUNNING LIGHT SET LEDayFlex

Set consisting of two pre-wired module chains with 5 – 8 round light modules and two electronics boxes for activating the daytime running lights, available with or without position light. The system is connected to the vehicle electric system via a 3-pin AMP-SUPERSEAL plug. Multivolt 12 / 24 V

5 LED light modules for daytime running light	2PT 010 458-801
5 LED light modules for daytime running light with position light*	2PT 010 458-811
6 LED light modules for daytime running light	2PT 010 458-821
6 LED light modules for daytime running light with position light*	2PT 010 458-831
7 LED light modules for daytime running light	2PT 010 458-841
7 LED light modules for daytime running light with position light*	2PT 010 458-851
8 LED light modules for daytime running light	2PT 010 458-861
8 LED light modules for daytime running light with position light*	2PT 010 458-871

Type approval: E24 5852

Accessories

Harness (not included)	8KA 165 959-001
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You can find out more about further variants, legal requirements and fitting regulations at www.daytime-running-light.com or www.hella.com/lightshow.

* When using the position light, the standard position light must be disabled permanently in accordance with ECE-R48.

This LED product has the following characteristics

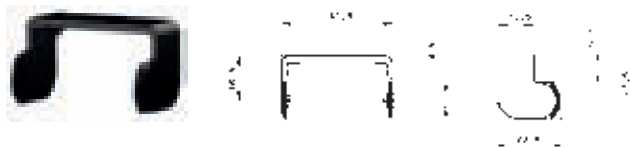


LED DAYTIME RUNNING LIGHT SET LEDayFlex II

LEDayFlex II has extended the system of flexible, inter-connected module chains since 2012. The two rectangular LED daytime running light chains with 5 or 6 pre-wired light modules further extend the creative scope.

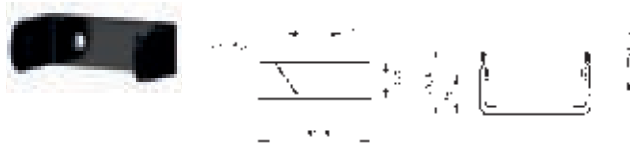
12 V, 5 LED light modules	2PT 980 789-851
24 V, 5 LED light modules	2PT 980 789-901
12 V, 6 LED light modules	2PT 980 789-861
24 V, 6 LED light modules	2PT 980 789-911

Type approval: ECE



Bracket for screw attachment, above Included

for 5-piece module set (10 units)	8HG 980 797-801
for 6-piece module set (12 units)	8HG 980 797-811



Bracket for screw attachment, rear Optional accessories

for 5-piece module set (10 units)	8HG 980 793-801
for 6-piece module set (12 units)	8HG 980 793-811



Bracket for screw attachment, front Optional accessories

for 5-piece module set (10 units)	8HG 980 795-008
for 6-piece module set (12 units)	8HG 980 795-007

90 MM MODULES - PRODUCT OVERVIEW

	LED	Halogen (conventional lighting technology)
Main light functions	<ul style="list-style-type: none"> → Low beam → High beam → Dipped beam and high beam → High beam, daytime running light and position light → Dipped beam and indicator 	<ul style="list-style-type: none"> → Low beam → High beam → Dipped beam and high beam → High beam and daytime running light
Auxiliary light functions	<ul style="list-style-type: none"> → Fog light → Fog light and cornering light → Fog light, daytime running light and position light → Daytime running lights 	<ul style="list-style-type: none"> → Fog light → Fog light and cornering light → Fog and daytime running light → Daytime running light and position light → Position light → Indicator and position light → Indicator → Indicator, daytime running light and position light

90 MM BROCHURE AND CONFIGURATOR WWW.HELLA.COM / 90MM-MODULES

90 mm modules are used in almost all vehicles. They are small, but powerful. They stand for quality, practicality, safety and cost-efficiency. Their modular design allows individual front design. This tool is aimed at original equipment fitters, vehicle fleet operators and end customers in the community sector, agriculture, sports vehicles, electric cars, mobile homes, and bus companies.

It offers the following benefits:

→ Original Equipment

In our 90 mm configurator, you can design and put together your own front lighting. This process is aided by a simple menu guide. This results in a parts list, which you can then send to HELLA directly from the tool.

→ Illumination comparison

You can compare the lighting technologies for selected main light functions. See the difference between halogen and LED with realistic images from Europe's largest light testing facility! Compare light distribution to make the right decision for your application.



You will also receive all the relevant technical data information. The complete range is clearly described in a PDF.

90 MM: L 4060 LED HIGH BEAM

High-end illumination. High beam, daytime running and position lights in one module or as a separate high beam module.

40 x 60 mm PC lens with new design. Pattern-free and hardened plastic cover lens. Spotlight with either pre-mounted carrier frame or as a 90 mm performance module mount for 1:1 conversion.

Integrated FEP plug and control electronics.

These LED products have the following characteristics:



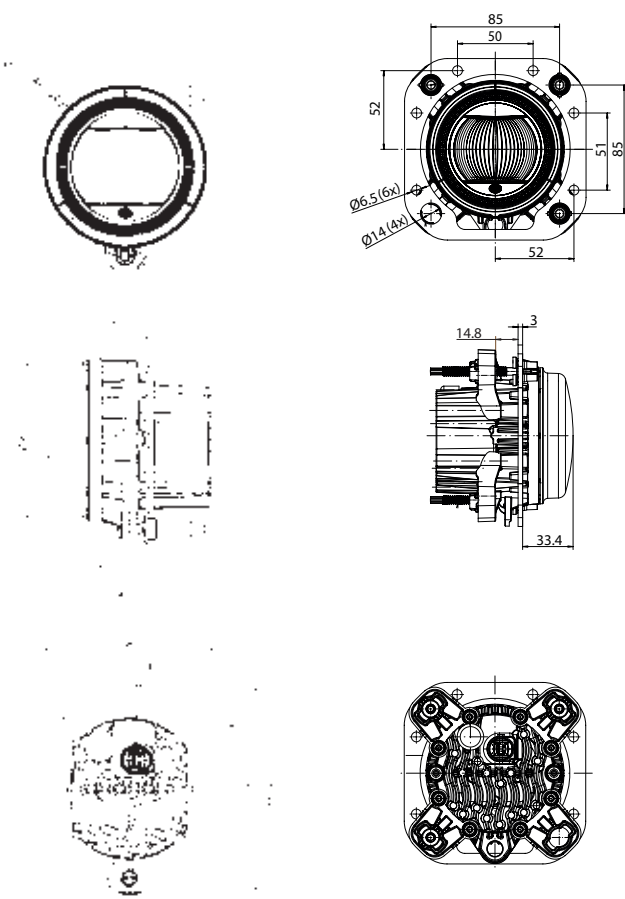
LED SPOTLIGHT L 4060

Modular headlamp with 40 x 60 mm polycarbonate lens, sturdy die-cast aluminum housing, silver design cover (black design cover on request). Multivolt 9 – 33 V

Pre-mounted carrier frame	1F0 011 988-021
Performance mount	1F0 011 988-121

With pre-mounted carrier frame

Performance module mount for 1:1 conversion of existing halogen versions



LED SPOTLIGHT L 4060 WITH DAYTIME RUNNING LIGHT / POSITION LIGHT

Modular headlamp with 40 x 60 mm polycarbonate lens, sturdy die-cast aluminum housing, silver design cover (black design cover on request). Multivolt 9 – 33 V

Pre-mounted carrier frame	1F0 011 988-031
Performance mount	1F0 011 988-131



LED SPOTLIGHT L 4060 WITH INDICATOR LIGHT

Modular headlamp with 40 x 60 mm polycarbonate lens, sturdy die-cast aluminum housing, silver design cover (black design cover on request). Multivolt 9 – 33 V

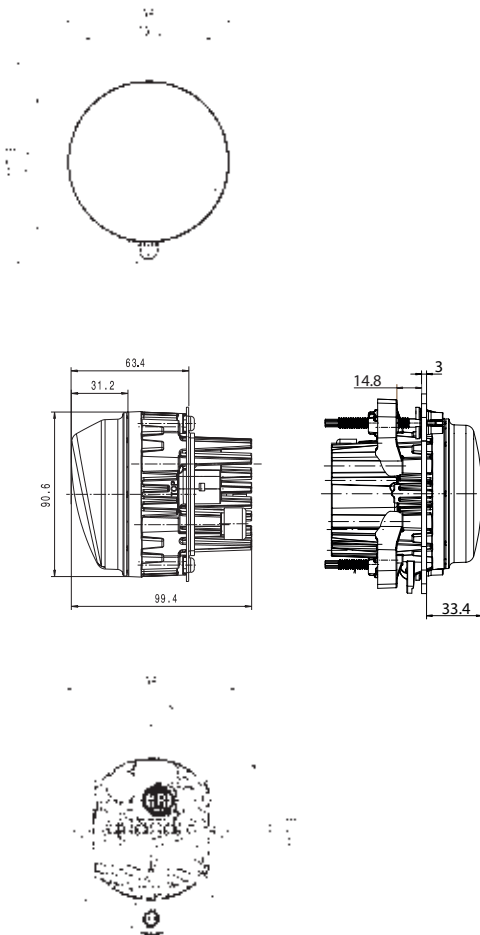
Pre-mounted carrier frame, with control unit	1F0 011 988-081
Performance mount, with control unit	1F0 011 988-181
Pre-mounted carrier frame, without control unit	1F0 011 988-071
Performance mount, without control unit	1F0 011 988-171

90 MM: L 4060 FOG LIGHT

Uniform illumination similar to daylight.

Fog light in various combinations as a separate module, with daytime running light, position light and cornering light. 40 x 60 mm PC lens, pattern-free hardened cover lens made of synthetic material, integrated FEP plug.

With pre-mounted carrier frame



These LED products have the following characteristics:



LED FOG LIGHT L 4060

Modular headlamp with 40 x 60 mm polycarbonate lens, sturdy die-cast aluminum housing, silver design cover (black design cover available on request). Multivolt 9 – 33 V

1N0 011 988-001



LED FOG LIGHT L 4060 WITH DAYTIME RUNNING LIGHT AND POSITION LIGHT

Modular headlamp with 40 x 60 mm polycarbonate lens, sturdy die-cast aluminum housing, silver design cover (black design cover available on request). Multivolt 9 – 33 V

1N0 011 988-011



L 4060 LED FRONT FOG LAMP WITH CORNERING LIGHT

Modular headlamp with 40 x 60 mm polycarbonate lens, sturdy die-cast aluminum housing, silver design cover (black design cover available on request). Multivolt 9 – 33 V

On the right 1N0 011 988-061

On the left 1N0 011 988-051

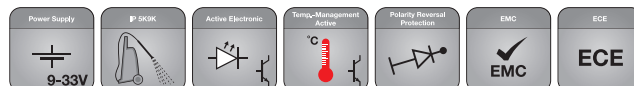
90 MM: L 70 LOW BEAM AND HIGH BEAM

The light colour, which is similar to daylight, offers more safety and comfortable, fatigue-free driving. Three white high-power LEDs provide the light source for each light function. The light is homogeneously projected onto the street through the 70 mm DE lens. The service life of the headlamp, which is normally more than 15,000* real operating hours, allows huge cost savings when it comes to maintenance and repair costs compared to other lighting systems**.

Exclusive vehicles stand out due to their cutting-edge technology.

The HELLA LED low beam or low beam/high beam module is so high-tech that it shows its obvious technological advancement every time it is switched on, creating visible distance from the mass market.

These LED products have the following characteristics:



90 MM PREMIUM LED MODULE

Maintenance-free module normally for more than 15,000 operating hours, very homogeneous light and rapid start time, 35 W power consumption, no movable parts, passive cooling system, cover lens made of synthetic material, vehicle security system: 5 A, multivolt.

Mono LED, right-hand traffic	1BL 010 820-001
Mono LED, left-hand traffic	1ML 010 820-011
Bi-LED, right-hand traffic	1AL 010 820-021
Bi-LED, left-hand traffic	1LL 010 820-031

Type approval: Mono-LED Ⓜ ES 3159 and LES 3160,
Bi-LED Ⓜ ES 3351 and LES 3352

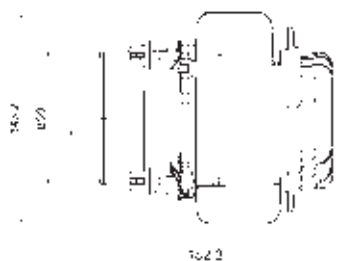
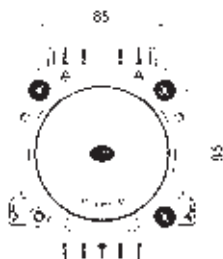
Set packaging

(One headlamp and one 12 V control unit for function monitoring)

Mono LED, right-hand traffic	1BL 010 820-801
Mono LED, left-hand traffic	1ML 010 820-821
Bi-LED, right-hand traffic	1AL 010 820-841
Bi-LED, left-hand traffic	1LL 010 820-861

Accessories

12 V for implementation of function monitoring device failure check	5DS 011 630-001
Carrier frame	9AH 169 580-011



* at an ambient temperature of around 50°C.

** In the ECE R48 area of application, under current law, it is necessary to implement failure check for a LED headlamp in the vehicle's electrical system by taking suitable measures. Failure check is no longer necessary from 06 / 2014 onwards for vehicles in accordance with ECE-R48 Series 06 Supplement 3.

90 MM: LED ACCESSORIES (L 4060)

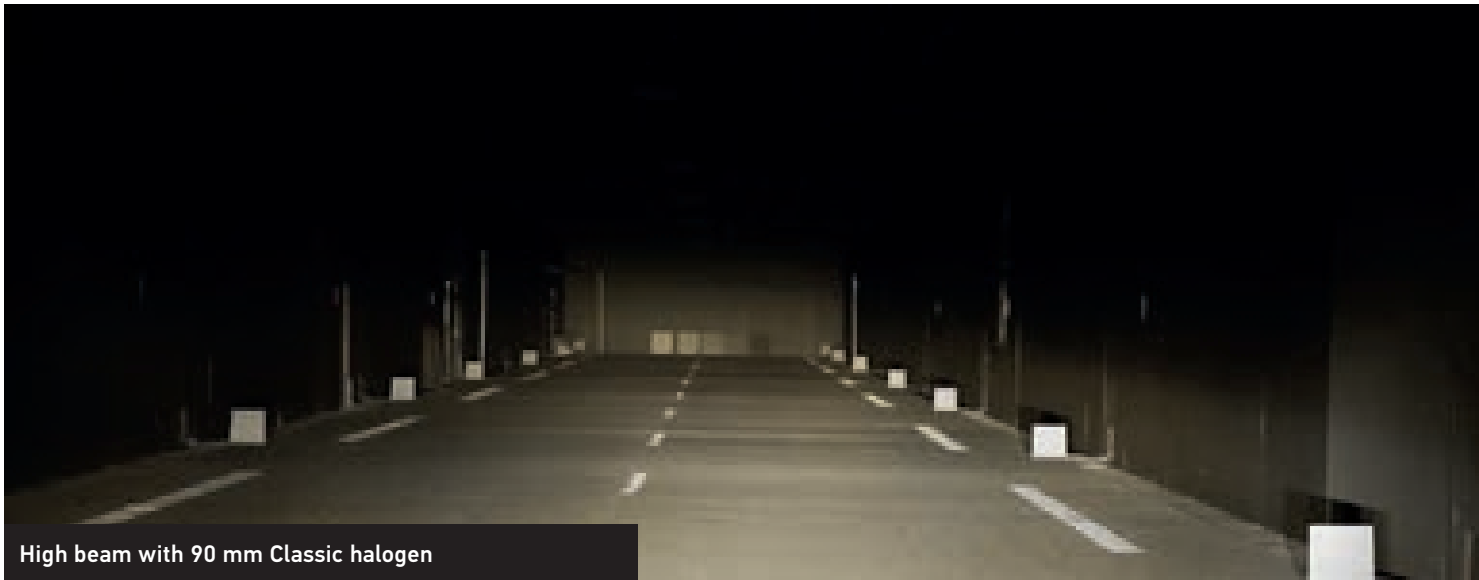
Legend

-) Accessories needed for proper attachment
-) Optional accessories, tailor-made for the headlamps.

ACCESSORY COMPONENTS	PART NUMBER	FEATURES
CARRIER FRAME		
	9AH 169 580-011	black
SURPLUS SUPPLY LED AMP SUPERSEAL, 3-POLE		
Housing	8JA 746 184-032	10 units
Female socket connector	8KW 744 837-002	50 units
Strand insulation	9GD 746 185-002	50 units
SURPLUS SUPPLY, LED FEP PLUG, 4-PIN		
Housing	8JA 202 231-002	
Flat contact	8KW 863 933-013	50 units
Strand sealing 0.35 – 0.5 mm ²	9GD 863 952-022	50 units
Strand sealing 0.75 mm ²	9GD 863 952-012	50 units
Blind plug	9GD 863 952-002	50 units
SURPLUS SUPPLY, LED DEUTSCH PLUG, 4-PIN (ONLY TOGETHER WITH THE ADAPTER CABLE, SEE¹⁾)		
Male connector housing	8JA 201 022-042	10 units
Lock / wedgelock	9NB 201 024-042	10 units
Contact sleeve 0.5 - 1.5 mm ²	9NB 201 025-112	50 units
Blind plug	9NB 201 026-012	50 units
Dummy plug set packaging (consists of 1 male connector housing, 1 lock, 5 contact sleeves and 3 dummy plugs)	8JA 201 022-821	
HEADLIGHT BEAM THROW ADJUSTMENT SYSTEM		
Headlamp leveling system	6NM 007 282-221	
Bracket for right-side mounting of actuator	8HG 138 619-007	
Bracket for left-side mounting of actuator	8HG 138 620-007	
HEADLIGHT CLEANING SYSTEMS		
Headlamp cleaning set with fixed nozzles	8WS 008 549-001	4 nozzles
Headlight cleaning system set with telescoping single nozzles	8WT 008 549-101	Two single nozzles
Headlight cleaning system set with telescoping double nozzles	8WT 008 549-201	Two double nozzles
BEND LIGHTING ACCESSORIES		
LED Modul connection cable - cornering light control unit	8KB 163 160-011	1 unit
Cornering light control unit	5DF 009 244-007	24 units
ADAPTER CABLE		
¹⁾ Adapter from FEP plug to DEUTSCH plug (4-pin)	8KA 202 117-001	1 unit
Adapter from FEP plug to Performance module (247 043) or DynaView (009 295)	8KA 202 117-011	1 unit

LED low beam 010 820	Bi-LED low beam and high beam 010 820	LED fog light 011 988-001	Fog, daytime driving and position light 011 988-011	LED high beam 011 988-021	LED high beam 011 988-121	High beam, daytime driving and position light 011 988-031	High beam, daytime driving and position light 011 988-131	LED fog and bend light 011 988-051/061	High beam and blinker (with pulse) 011 988-081	High beam and blinker (with pulse) 011 988-181	High beam and blinker (without pulse) 011 988-071	High beam and blinker (without pulse) 011 988-171
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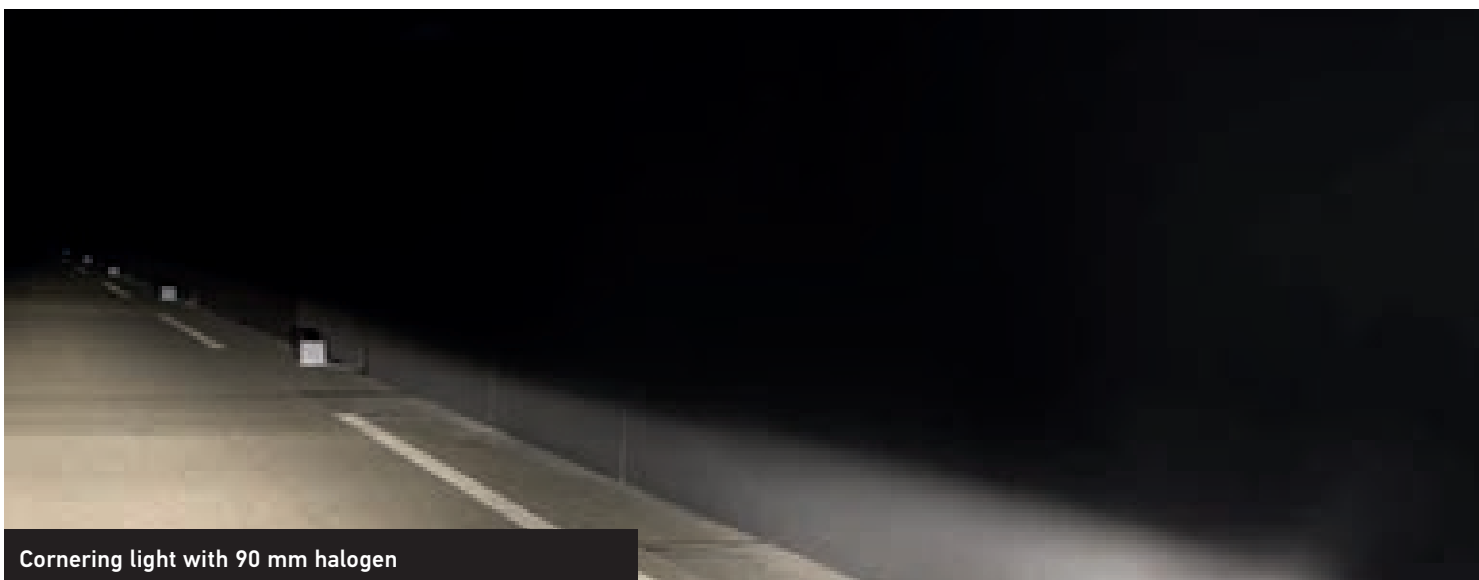
90 MM: ILLUMINATION COMPARISONS AT THE HELLA LIGHT TESTING FACILITY



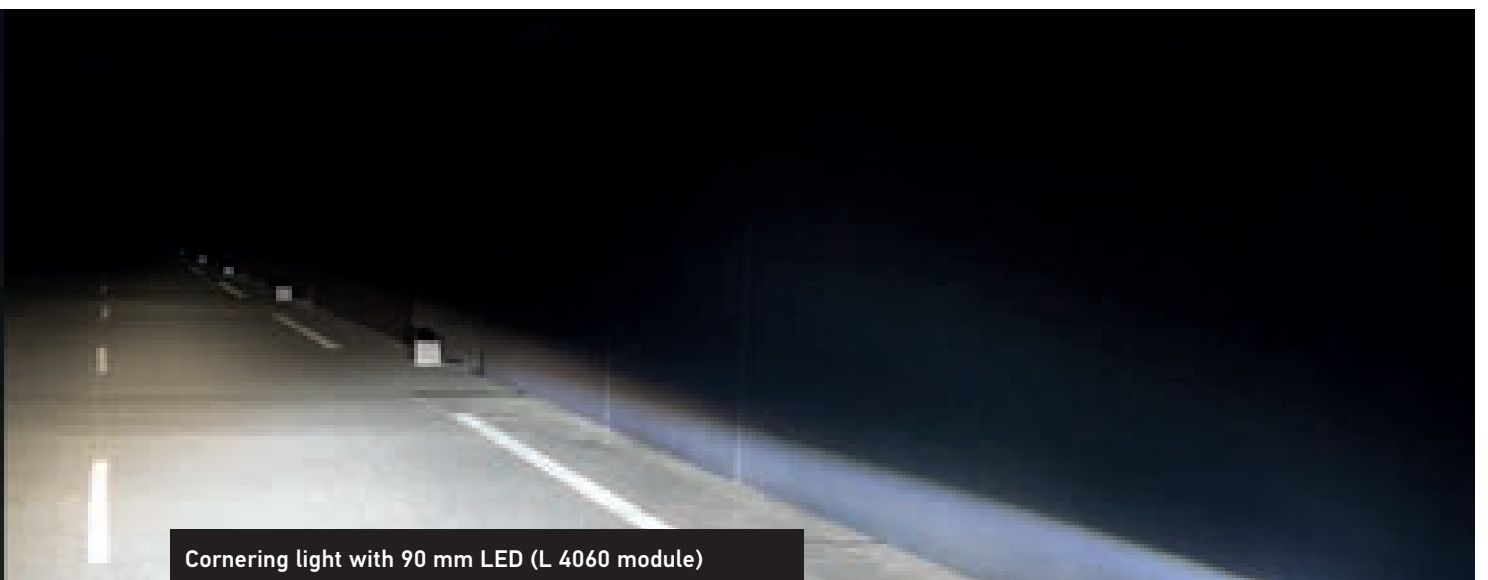
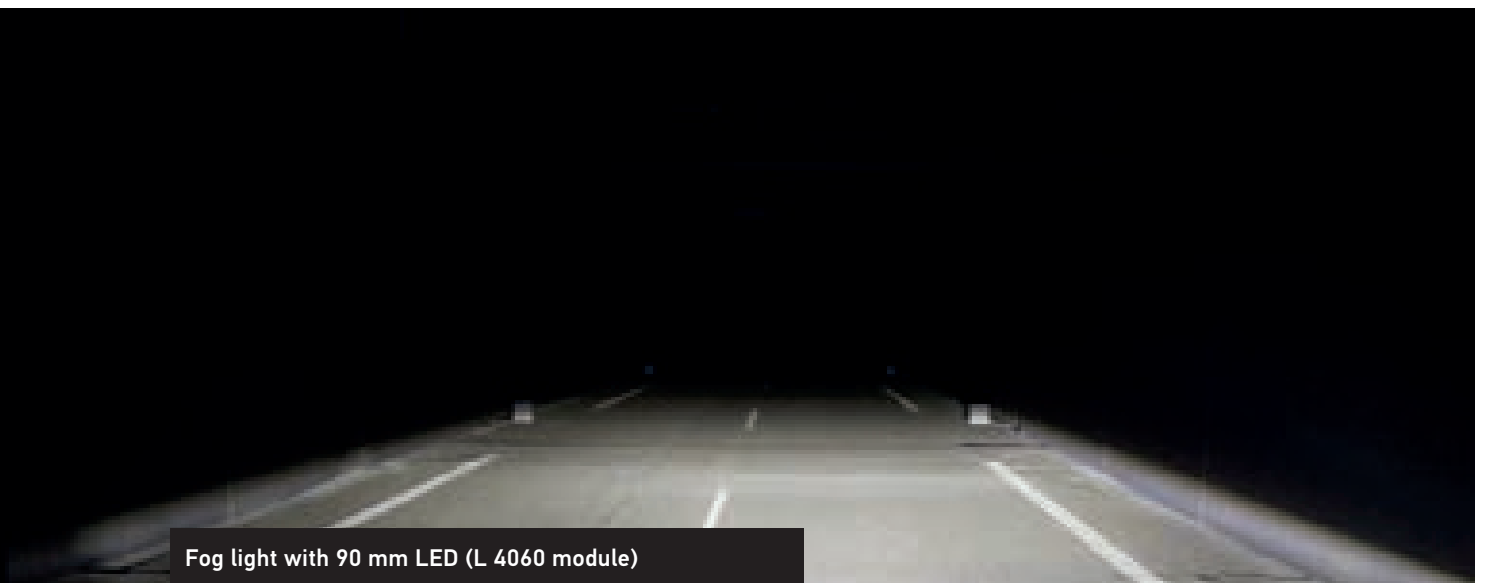
High beam with 90 mm Classic halogen




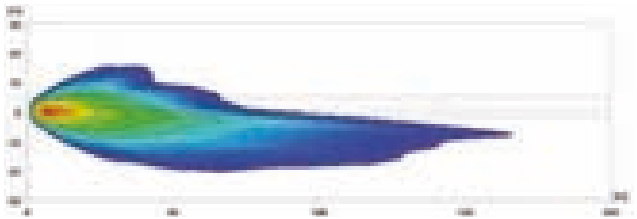

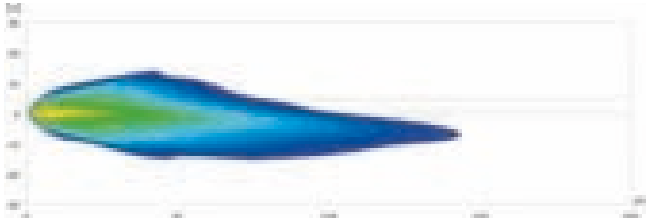

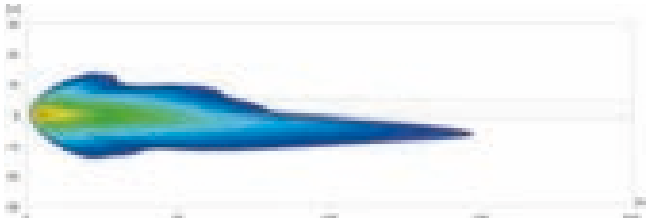


Fog light with 90mm halogen












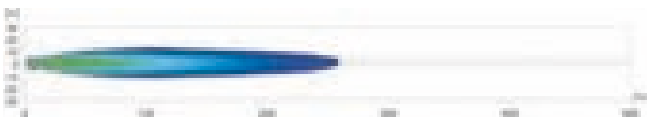
Cornering light with 90 mm halogen



LOW-BEAM: COMPARISON BETWEEN LED AND HALOGEN

	PRODUCT IMAGE	DESCRIPTION	LIGHT DISTRIBUTION
LED		L 70 LED low beam page 39	
		Premium Halogen and Bi-Halogen® low beam page 46	
HALOGEN		Performance Halogen low beam page 47	
		Classic Halogen low beam on request	

HIGH BEAM: COMPARISON BETWEEN LED AND HALOGEN

	PRODUCT IMAGE	DESCRIPTION	LIGHT DISTRIBUTION
LED		L 4060 LED high beam light Page 37	
		L 70 LED high beam page 39	
HALOGEN		Premium Bi-Halogen® high beam page 46	
		Performance Halogen high beam page 47	
		Classic Halogen high beam on request	

90 MM PREMIUM

High-end illumination. Low beam and high beam from a single headlamp module, choice of Xenon or halogen technology. Pattern-free glass cover lens. High-quality aluminum reflector. Connection using 0.5 meter shielded supply cable with detachable plug connector.



BI-HALOGEN® HEADLAMP LOW BEAM AND SPOTLIGHT

Halogen, low beam and high beam in one headlamp, metal reflectors with a clear DE lens. Ideal in combination with the matching spotlights and fog lights. Inc. light source.

12 V, right-hand traffic, H7, ECE	1AL 009 998-001
12 V, left-hand traffic, H7, ECE	1LL 009 998-011
12 V, right-hand traffic, H9, SAE	1AL 009 998-021
24 V, right-hand traffic, H7, ECE	1AL 009 998-041
24 V, left-hand traffic, H7, ECE	1LL 009 998-051

Type approval: E 2484 and E 2485



HALOGEN LOW BEAM HEADLAMP

Metal reflectors with clear DE lens. Ideal in combination with the matching spotlights and fog lights, including light source.

12 V, right-hand traffic, H7, ECE	1BL 009 999-001
12 V, left-hand traffic, H7, ECE	1ML 009 999-011
12 V, right-hand traffic, H7, SAE	1BL 009 999-021
24 V, right-hand traffic, H7, ECE	1BL 009 999-041
24 V, left-hand traffic, H7, ECE	1ML 009 999-051

Type approval: E 2486 and E 2487

90 MM PERFORMANCE

Optimal illumination Modules in high quality for use during long trips.
With splashwater-proof plug-type connector.



HALOGEN LOW BEAM HEADLAMP

Module headlamp with an aluminum reflector and clear DE lens behind a non-patterned glass cover lens, incl. light source.

12 V, right-hand traffic, H1	1BL 247 042-007¹⁾ 1BL 247 042-001¹⁾
12 V, left-hand traffic, H1	1ML 247 042-027
24 V, right-hand traffic, H1	1BL 247 042-017
24 V, left-hand traffic, H1	1ML 247 042-037

Type approval: E 2397 and E 2398

1) With a technical solution for tourists for temporary use in left-hand traffic countries or, for left-hand traffic versions, in right-hand traffic countries.



HALOGEN SPOTLIGHT

Module headlamp with an aluminum free-form reflector and a non-patterned glass cover lens, incl. light source.

12 V, with position light, H1	1KO 247 043-007 1KO 247 043-001
12 V, without position light	1KO 247 043-017 1KO 247 043-011
24 V, with position light, H1 heavy duty long life	1KO 247 043-027
24 V, without position light	1KO 247 043-037

Type approval: E 2397

Information

If you have been using Classic modules so far (except Bi-Xenon®), you can easily upgrade these to Performance modules.

The following Performance modules have the same module attachment as the Classic module and are therefore compatible and easy to replace – without having to modify the existing Classic carrier frame structure first.

Would you like to combine modules from the Premium and Performance series without having to commit yourself right at the start of the vehicle design process?

Then use the tried-and-trusted Premium carrier frame structure as a basis.

Alongside the complete Premium range, the following modules from the Performance series that are compatible with a Premium carrier frame can also be used.

CLASSIC MOUNTINGS FOR PERFORMANCE HEADLAMPS

90 mm high beam with PO, 12 V light bulb	1KO 247 043-157
90 mm high beam with 12 V light bulb	1KO 247 043-167
90 mm spotlight 12 V bulb, Right-hand traffic	1BL 247 042-217
Left-hand traffic	1ML 247 042-227

24 V versions on request

PREMIUM MOUNTINGS FOR PERFORMANCE HEADLAMPS

90 mm high beam with PO, 12 V light bulb	1KO 247 043-117
90 mm high beam with 12 V light bulb	1KO 247 043-127
90 mm spotlight 12 V bulb, Right-hand traffic	1BL 247 042-177
Left-hand traffic	1ML 247 042-187

24 V versions on request

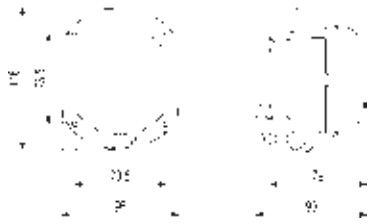
90 MM: HALOGEN ACCESSORIES

Legend

-) Accessories needed for proper attachment
-) Optional accessories, tailor-made for the headlamps.

ACCESSORY COMPONENTS	PART NUMBER	FEATURES
CARRIER FRAME		
	9AH 169 580-011	black
PLUG (VEHICLE SIDE)		
Surplus supply H1 / H7	8JD 156 151-807	20 systems
Surplus supply H9	8JD 158 175-807	20 systems
Parking lights	8JD 156 150-807	20 systems
Change-over high beam, AMP SUPERSEAL, 2-pole		
Housing	8JA 746 184-022	10 units
Female socket connector	8KW 744 837-002	50 units
Strand insulation	9GD 746 185-002	50 units
Version with fording capability		
Venting hose	9GS 190 794-002	50 m
10 T units for venting hose	9XL 190 733-002	10 units
HEADLIGHT RANGE ADJUSTMENT SYSTEMS		
12 V, for halogen	6NM 007 282-221	
24 V, for halogen	6NM 008 299-501	
Mounting set for actuator	8HG 183 586-001	1 set
Bracket for right-side mounting of actuator	8HG 138 619-007	
Bracket for left-side mounting of actuator	8HG 138 620-007	
Automatic headlamp leveling system, 12 V	8XX 010 315-001	1 sensor
Automatic headlamp leveling system, 24 V	8XX 010 315-011	2 sensors
Motorhome version headlamp leveling system, 12 V	8XX 010 315-101	1 sensor
LENS WIPER SYSTEM		
12 V, headlamp cleaning set with fixed nozzles	8WS 008 549-001	4 nozzles
24 V, headlamp cleaning set with fixed nozzles	8WS 008 549-501	4 nozzles
12 V, headlamp cleaning set with telescoping single nozzles	8WT 008 549-101	Two single nozzles
24 V, headlamp cleaning set with telescoping single nozzles	8WT 008 549-601	Two single nozzles
12 V, headlamp cleaning set with telescoping double nozzles	8WT 008 549-201	Two double nozzles
24 V, headlamp cleaning set with telescoping double nozzles	8WT 008 549-701	Two double nozzles

PREMIUM				PERFORMANCE		
Low beam, high beam Bi-Halogen H7 009 998	Version with fording capability, 24 V Bi-Halogen H7 009 998-20/-22	Low beam, high beam, 12 V Bi-Halogen H9 009 998-02	Low beam Halogen H7 009 999	Low beam Halogen 247 042	High beam Halogen 247 043	High beam with position light Halogen H1 247 043
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FOG LIGHT 90 MM

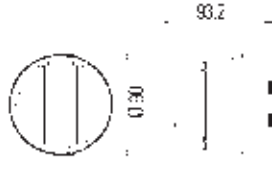
Minimum installation dimensions for a discreetly convincing lighting design. Aluminium reflectors with clear lens. Ideal in combination with the matching 90 mm spotlights and low beam headlights.

12 V, Halogen, ECE, SAE	1N0 008 582-007
24 V, Halogen, ECE	1N0 008 582-017

Type approval: Ⓢ 1342, ECE-R19 B series 02, B series 03

Accessories

Rubber cap	9GH 158 051-007
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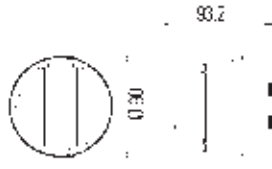
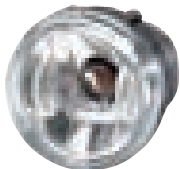


90 MM INDICATOR/POSITION LIGHT COMBINATION

Module with Kartoval® LED position light and non-patterned glass cover lens.

12 V, indicator/position light, ECE, SAE	2BE 010 102-001
24 V, indicator/position light, with a silver-coloured PY21W bulb	2BE 010 102-011

Type approval: Ⓢ 2586, ECE-R6, ECE-R7

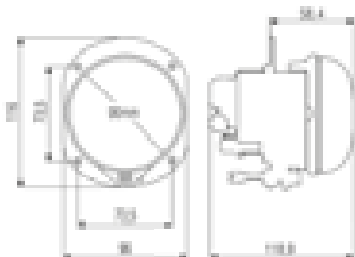


90 MM DAYTIME DRIVING / POSITION LIGHT COMBINATION

Module with Kartoval® LED position light and non-patterned glass cover lens with a P21W longlife bulb

12 V, with daytime running light/position light, ECE, SAE	2BE 010 102-101
24 V, with daytime driving/position light	2BE 010 102-111

Type approval: Ⓢ 2586, ECE-R87, ECE-R7

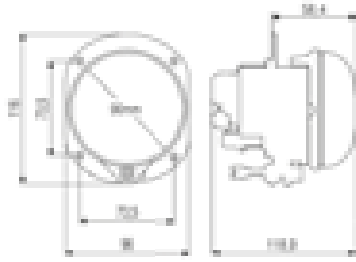


90 MM DAYTIME RUNNING LIGHT / SPOTLIGHT COMBINATION

Module headlamp with non-patterned glass cover lens and an H15 light bulb, with carrier frame

12 V (55 W / 15 W), with daytime driving/high beam light	1F0 010 293-001
24 V (70 W / 20 W), with daytime driving/high beam light	1F0 010 293-011

Type approval: Ⓢ 2680, ECE-R87, ECE-R112



90 MM DAYTIME RUNNING LIGHT / FOG LIGHT COMBINATION

Module headlamp with non-patterned glass cover lens and an H15 light bulb, with carrier frame

12 V (55 W / 15 W), with daytime driving/fog light **1N0 010 294-001**

24 V (70 W / 20 W), with daytime driving/fog light **1N0 010 294-011**

Type approval: E 2681, ECE-R19 B series 02, B series 03, ECE-R87

ACCESSORIES FOR COMBINATIONS

Connector plug set 3-pin (20 systems) **8JD 162 581-802**

Male connector housing 3-pin (250 units) **8JA 179 631-002**

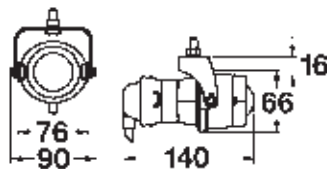


Micro DE PREMIUM EDITION: FOG LIGHT

Individual fog light
with 12 V H3 bulb, aluminum design finisher

1NL 008 090-301

Type approval: E 877, ECE-R19 B series 02 and B series 03



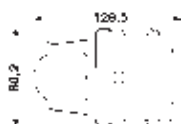
Micro DE FOG LIGHT

Fog light with black decorative ring.

Set **1NL 008 090-821**

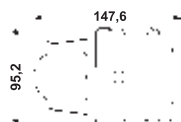
Individual **1NL 008 090-031**

Type approval: E 877, ECE-R19 B series 02, B series 03

**50 MM PREMIUM LOW-BEAM HEADLAMP**

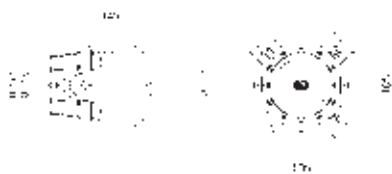
Installation frame for 3-point attachment, adjustable from the front and rear.

12 V, right-hand traffic, H7	1BL 009 071-007
12 V, left-hand traffic, H7	1ML 009 071-017
24 V, right-hand traffic, H7	1BL 009 071-027
24 V, left-hand traffic, H7	1ML 009 071-037

Type approval: E 1903 and E 1904**50 MM PREMIUM SPOTLIGHT**

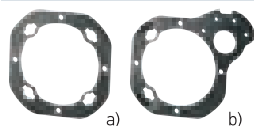
3-point holder, adjustable using adjustment screw. With ECE and SAE type approval.

12 V, H9	1KL 009 486-001
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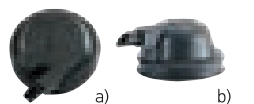
Type approval: E 2198**50 MM PREMIUM FOG LIGHT**

3-point holder, adjustable using adjustment screw, back carrier frame not included in delivery (see Accessories). With ECE and SAE type approval.

12 V, H7	1NL 008 090-317
24 V, H7	1NL 008 090-327

Type approval: E 877, ECE-R19 B series 02, B series 03**ACCESSORIES****Carrier frame** (not for H9 halogen spotlights)

a) without headlamp range adjustment holder	9AH 161 786-017
b) with headlamp range adjustment holder	9AH 161 784-017

**Plastic cap** (rubber cap)

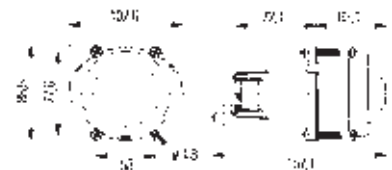
a) for halogen low beam headlamps	9GH 152 654-007
b) for fog lights	9GH 147 009-007

**Connector plug set**

Rubber cap for 20 headlamps	8JD 156 150-807
H9 plug for 20 headlights (not shown)	8JD 158 175-807

**Actuator motors for headlight range adjustment**

for 12 V Halogen	6NM 007 282-221
Actuator assembly set	8HG 183 586-001

**MODUL 60, 12 V**

Integrated headlamps with HB3 bulb. Reflector bonded to lens. Light exit Ø 60 mm. FMVSS 108 – Motorcycle DOT tested.

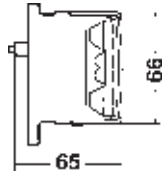
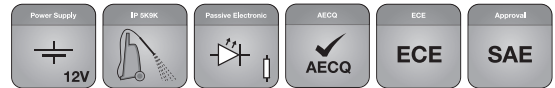
DE®-HB3 low beam headlamps	1BL 998 570-001
DE®-HB3 main beam headlamp without position light	1KL 998 570-021
DE®-HB3 main beam headlamp with position light	1KL 998 570-031

Type approval: E 10892, 10894 and 10895

Also available as a worklight.

H9	1GL 998 570-071
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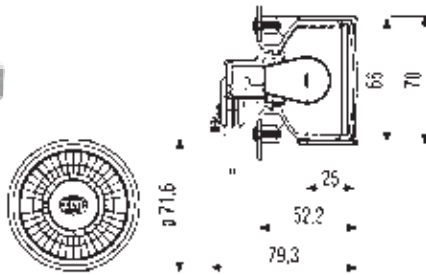
This LED product has the following characteristics



PREMIUM LED LAMP Ø 60 MM

		ECE	SAE (USA)
Position light, for recessed mounting, with 12 LEDs	2PF 009 001-421	X	■

Type approval: E4 12390



PREMIUM LIGHTS, Ø 60 MM

		ECE	SAE (USA)
12 V / 21 W, with clear lens, indicator with ...			
Amber bulb	2BA 009 001-071	X 1 1a 1b	
Amber bulb	2BA 009 001-091		■ ¹⁾
Silver-coloured bulb	2BA 009 001-201	X 1 1a 1b	
Position light with P21/5 W bulb	2PF 009 001-081	X	■

Type approval: E4 6546 and E4 7613



INDICATOR

		ECE	SAE (USA)
for recessed mounting with white lens, with fitted amber 12 V / 21 W bulb for surface mounting at the front.			
	2BA 008 221-107	X 1 1a	

Type approval: E4 878

Accessories

Harness with grommet	8KA 152 134-007		
Grommet separate	9GT 137 236-007		

ECE note: Turn indicator approval by category

- 1 Distance > 40 mm to low beam headlamp/fog lamp
- 1a Distance < 40 mm to low beam headlamp/fog lamp
- 1b Distance < 20 mm to low beam headlamp/fog lamp

SAE type approval for vehicles

- < 2032 mm wide
- ¹⁾ < 2032 mm wide, distance to low beam headlamp > 75–100 mm
- > 2031 mm wide
- ¹⁾ > 2,031 mm wide, distance to low beam headlamp > 100 mm

This LED product has the following characteristics



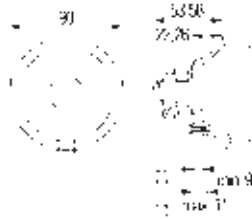
LED POSITION LIGHT WITHOUT REFLECTOR

for flush-mounting, clear lens, black plastic housing with adhesive film for sticking to the body. 2-pin cable, 150 mm long, open cable ends, with 2 white LEDs

12 V/0.6 W, current consumption = approx. 0.05 A

2PF 340 825-041

Type approval: E4 11371



INDICATOR/POSITION LIGHT, Ø 90 MM

Indicator light with amber bulb, 12 V

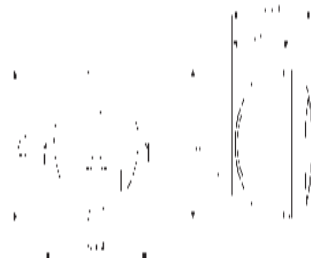
ECE SAE (USA)

2BA 965 039-061

X 1
1a 1b

■

Type approval: E4 10215



OVAL LIGHT SERIES

12/ 24 V, for horizontal or vertical surface-mounting, with grommet.

Attention: Depending on the installation position, the water drain opening must be broken out.

ECE SAE (USA)

Indicator light, without bulb

2BA 343 130-057

X 1

●¹⁾

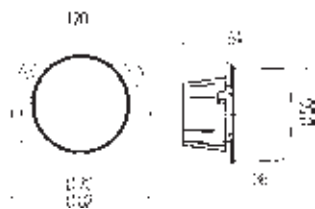
Indicator/position light, without bulb

2BE 343 130-007

X 1a

Type approval: E4 6550 and E4 10202

This LED product has the following characteristics



MODULAR LED LIGHT, Ø 55 MM

for front installation, clear lens with optics and a 500 mm connecting cable.

ECE SAE (USA)

Indicator light, without pulse

2BA 011 172-001/7

X 1a

Indicator light, with pulse

2BA 011 172-011/7¹⁾

X 1a

Position lamp with heat sink

in progress

Type approval: BL E1 3284 and CCC

This LED product has the following characteristics



83 MM LED-3 FUNCTIONAL LIGHT

Pre-wired with 2.5 m sheathed four-core cable.

12 V, single lamp	2BE 980 691-101
24 V, single lamp	2BE 980 690-101

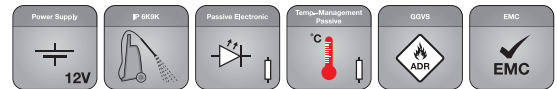
Type approval: E24 5854 and E4 03 1962
 Indicator light ECE Reg. No. 6
 Position light ECE Reg. No. 7
 Daytime running light ECE Reg. No. 87

Optional accessory: Adapter ring 90 mm

The adapter ring is used to replace a 90 mm light with the 83 mm light. This means that vehicles already equipped with a HELLA 90 mm light can be easily converted for the 83 mm light.

9GD 980 696-001

This LED product has the following characteristics



with cable

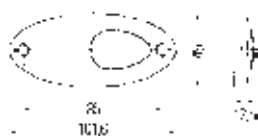
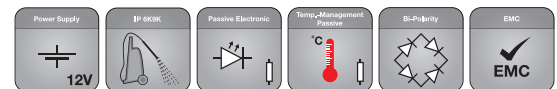
LED POSITION LIGHT

for horizontal surface mounting, with 500 mm cable, modern night-time design and high level of safety thanks to maximum illumination area.

12 V	2PG 344 690-307
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Type approval: E24 5853

This LED product has the following characteristics



LED POSITION LIGHT WITH REFLECTOR

for horizontal mounting, with 2 LEDs.

12 V/0.3 W, current consumption = approx. 0.03 A	2PG 964 295-121
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Type approval: E7 0301

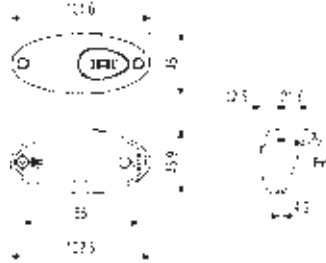
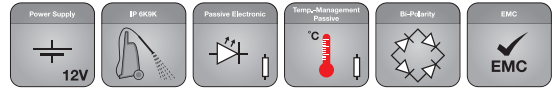
ECE note: Turn indicator approval by category

- 1 Distance > 40 mm to low beam headlamp/fog lamp
- 1a Distance < 40 mm to low beam headlamp/fog lamp
- 1b Distance < 20 mm to low beam headlamp/fog lamp

SAE type approval for vehicles

- < 2032 mm wide
- ¹⁾ < 2032 mm wide, distance to low beam headlamp > 75 – 100 mm
- > 2031 mm wide
- ¹⁾ > 2,031 mm wide, distance to low beam headlamp > 100 mm

This LED product has the following characteristics



LED POSITION LIGHT

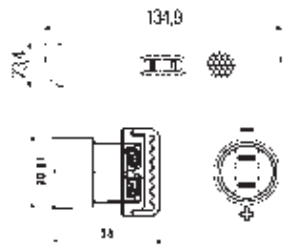
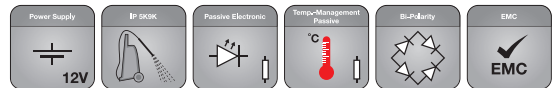
for horizontal surface mounting, with 20° adapter base supplied loose.

12 V/0.3 W, current consumption = approx. 0.03 A

2PF 964 295-257

Type approval: 817

This LED product has the following characteristics



LED POSITION LIGHT

for surface mounting, self-adhesive with 6.3 mm contacts and counterplug grommet.

Current consumption = 0.04 A

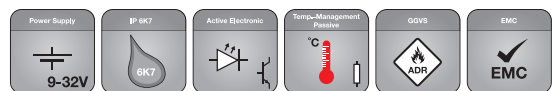
12 V

2PF 009 226-097

Counterplug grommet (order separately)

9GT 186 597-007

This LED product has the following characteristics



LED POSITION LIGHT

for horizontal or vertical recessed mounting.

12 V/0.5 W, current consumption = approx. 0.04 A

with 0.5 m cable, 10-33 V

2PF 959 590-401

Type approval: 7597 and 03 1721



POSITION LIGHT WITH REFLECTOR

for horizontal or vertical recessed mounting, with pre-fitted 12 V/3 W bulb.

12 V

2PG 962 964-041

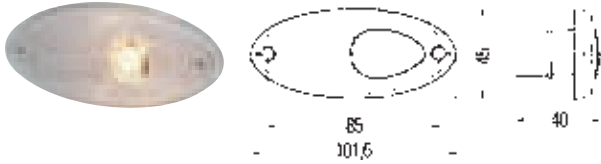
Seal (order separately)

9GD 963 281-001

Grommet (order separately)

9GT 963 129-001

Type approval: 7499 and 3153

**POSITION LIGHT WITH REFLECTOR**

for horizontal recessed mounting, with pre-fitted 12 V / 5 W bulb and seal.

12 V **2PG 964 295-011****Position light without reflector** (not shown)

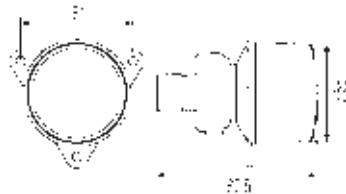
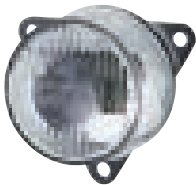
for horizontal or vertical recessed mounting.

12 V **2PF 964 295-021****Type approval:** E17 9806 and E17 811**POSITION LIGHT**

for surface mounting, clear lens, 2 x M5 fixing screws.

12 V **2PF 001 259-631****Intermediate piece**

for surface-mounting at 45° (order separately)

8HG 002 247-001**Type approval:** E1 21624**POSITION LIGHT**

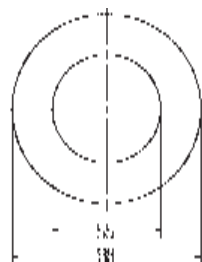
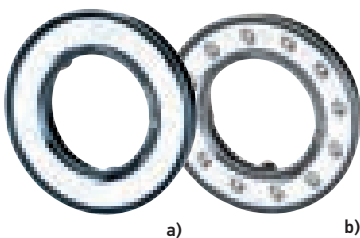
for 12 V/5 W bulb

2PF 008 221-011**Type approval:** E1 879**Accessories**

Harness with grommet

8KA 152 134-007

Grommet separate

9GT 137 236-007**A) CHROME-PLATED CIRCULAR FINISHER**

suitable for light series 008 221-... and 011 172-...

for surface-mounting **8XU 008 405-031****B) LED POSITION LIGHT**for surface-mounting, suitable for light series 008 221-... and 011 172-...
12 V/1.8 W, current consumption = approx. 0.15 Awith 12 LEDs **2PF 008 405-061****Type approval:** E1 1696 E1 2295

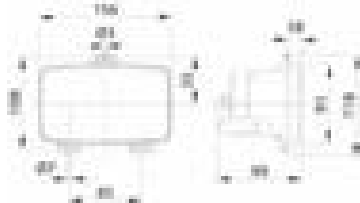
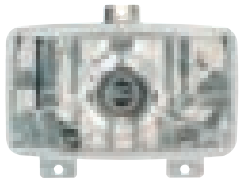


HEADLAMP SPECIALLY FOR FORK LIFTS

for surface mounting, H7 headlamp, permanently dimmed with integrated direction indicator and position light. Specially designed for mounting on vertical surfaces. Installation with 2 screws (M6). Vertically adjustable by +4° – 21°. ECE approved.

12 V	1BR 996 171-101
24 V	1BR 996 171-111

Type approval: 12666

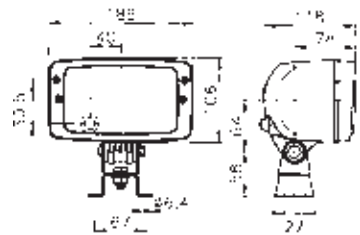


HEADLAMP MODULE 6214

for installation with 12 V H4 bulb and clear lens. High beam, low beam and position light. Not usable for vehicle categories N and M.

Right-hand traffic	1AB 996 214-041
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Type approval: 10869 and 10906

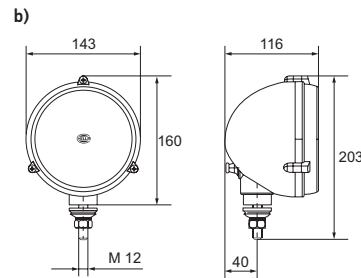
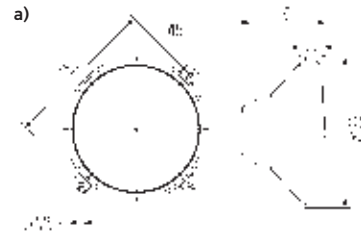


HEADLAMP MODULE 6214

for surface mounting with 12 V H4 bulb and clear lens. High beam, low beam and position light. Not usable for vehicle categories N and M.

Surface mounting, driving on the right	1AB 996 214-011
Surface mounting, driving on the left	1LB 996 214-521
24 V	On request

Type approval: 10869 and 10906



HEADLAMP M 133

a) Recessed mounting

with H4 bulb and non-patterned glass lens. Light exit \varnothing 135 mm.

with position light, asymmetric illumination, 12 V bulbs and protective cap, R112 A	1A3 996 162-021
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without position light, asymmetric illumination, 12 V bulbs and protective cap, R112 A	1A3 996 162-091
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with position light, asymmetric illumination, 12 V bulbs and bayonet connector, R112 B	1A3 996 262-007
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with position light, symmetric illumination, 12 V bulb and bayonet connector, R113 D, FMVSS 108 – Motorcycle DOT approved	1A3 996 262-037
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Type approval: E 10198 and 10238

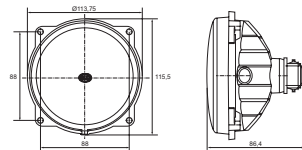
b) Surface-mounted

H4 bulb, non-patterned lens, 300 mm cable with DT connector, with M12 fixing screw, without position light, light exit \varnothing 135mm.

Right-hand traffic	1A3 996 162-621 ¹⁾
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Left-hand traffic	1L3 996 162-631 ²⁾
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Type approval: 1) E 10198 and SAE M 03 FL04, 2) E 10238



HEADLAMP PS 95

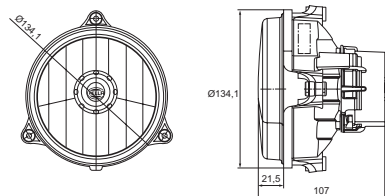
Headlamp with H11 bulb, symmetrical light distribution, ECE / SAE plastic reflector with non-patterned glass lenses.

Low beam light, symmetrical light distribution, ECE / SAE	1T0 998 583-007 ¹⁾
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Spotlight with position light, ECE / SAE	1K0 998 583-017 ²⁾
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Spotlight without position light, ECE / SAE	1K0 998 583-027 ²⁾
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Type approval: 1) E 13159, 2) E 12.5 13154



HEADLAMP PS 120

HS1 headlamp, compact and robust design, sealed bulb holder, plastic reflector, glass lens, SAE J1623.

Low beam and high beam	1S2 998 593-01
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Approvals: SAE J1623 and ECE-R113.01-B

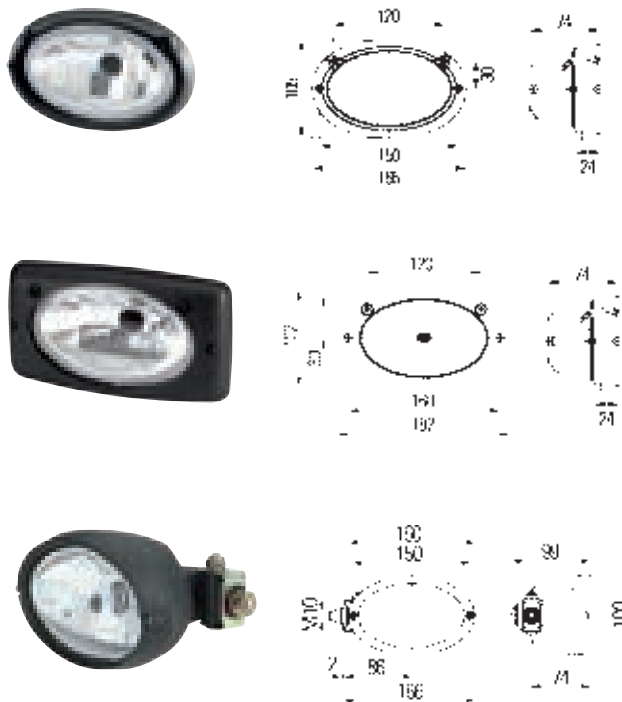


HEADLAMP OVAL 90, 12 V

Headlamp for surface mounting with H7 bulb and symmetrical light distribution.

H7 headlamp, permanently dimmed	1TB 996 286-021
H7 spotlight	1KB 996 286-031

Type approval: ANSI-ASAE 0608



HEADLAMP OVAL 100, 12 V

for recessed mounting or surface mounting with H7 bulb, non-patterned glass lens. Light exit 130 x 75 mm. Recessed-mounting headlamp with lens holder frame adjustable by 6°.

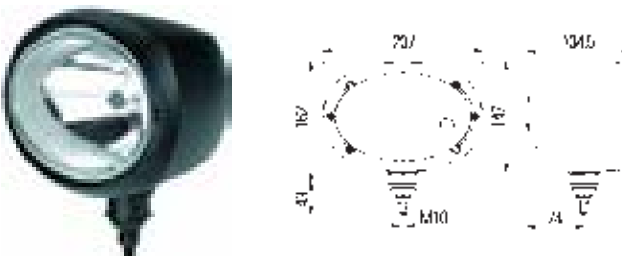
Flush-mounting

H7 headlamp, permanently dimmed, with oval lens holder frame	1BA 996 261-021
H7 main beam headlamp with oval lens holder frame	1KA 996 261-091
H7 headlamp, permanently dimmed, with rectangular lens holder frame suitable for other installation openings.	1BA 996 261-081

Surface-mounting

H7 headlamp, permanently dimmed	1BA 996 261-001
H7 main beam headlamp with lateral swivel joint	1AB 996 261-117
H7 headlamp, driving on the left	1MA 996 261-131

Type approval: 0004, 0005 and 10893

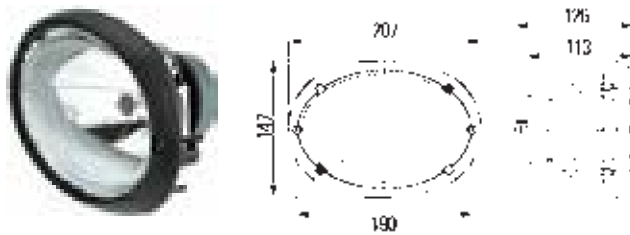


HEADLAMP OVAL 120

for surface mounting with H4 or HB2 bulb, light exit 161 x 100 mm, FMVSS 108 approved.

12 V / HB2, driving on the right with position light and AMP connector, 4-pole	1AB 996 157-151
24 V / H4, driving on the right with position light and AMP connector, 4-pole	1AB 996 157-161
12 V / HB2, driving on the right without position light with grommet	1AB 996 157-131
without bulb, driving on the left without position light with grommet	1AB 996 157-181
without bulb, driving on the left with position light and grommet	1AB 996 157-191

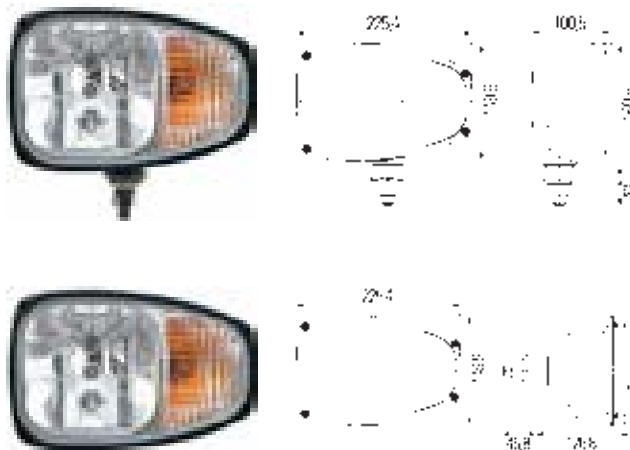
Type approval: 1502 and 1503

**HEADLAMP OVAL 120**

for recessed mounting with 12 V / HB2 bulb, inclination adjustable through 4°, light exit 161 x 100 mm, FMVSS 108 approved.

With position light	1AB 996 157-091
Without position light	1AB 996 157-081

Type approval: 1502 and 1503

**HEADLAMP C 220**

for surface mounting with H7 low beam, H3 high beam, position light with integrated indicator light to front and rear (category 1, 1a and 5), with 6-pole DT connector, light exit 120 mm x 120 mm.

Upright surface mounting

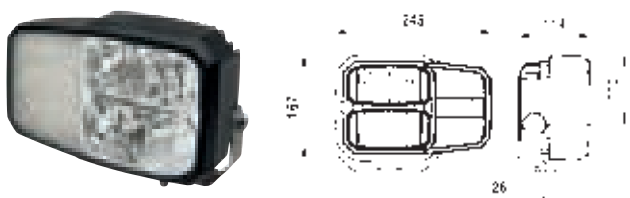
12 V, left	1EE 996 174-051
12 V, right	1EE 996 174-061
24 V	on request

Mounted in the centre

12 V, left	1LE 996 174-011
12 V, right	1EE 996 174-021

Type approval: 6556, 11372 and 11373

This LED product has the following characteristics

**LED HEADLAMP C140**

Combination headlamp with all functions in LED technology. For horizontal or vertical surface mounting, with die-cast aluminum housing, lens made of scratch-resistant polycarbonate, with 6-pole DT connector, light functions: low and high beam, position light and indicator light

Vertical mounting	1EE 996 374-001
Horizontal mounting on the left	1EE 996 374-011
Horizontal mounting on the right	1EE 996 374-021

Type approval: ECE / SAE

World's first combination headlamp which implements all functions in LED technology.

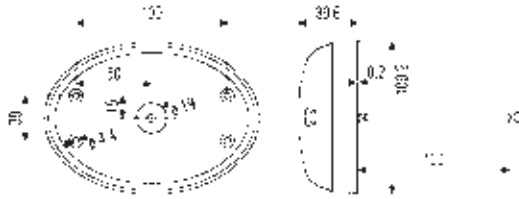
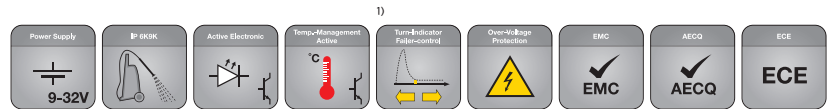
More than a combination of 5 functions

LEDs are not only taking the automotive industry by storm thanks to their energy-saving potential, they also offer a design versatility that plays a decisive role in developing the typical appearance of a car. With respect to the combination rear lights in particular, the many possibilities offered by combining the LEDs with optical systems are being utilised to underscore the specific vehicle design by means of an attractive styling.

The HELLA patented system for monitoring the turn indicator gives HELLA lights the ability to be used in conjunction with the HELLA ballast in accordance with ECE-R48. The lights are currently designed so that no error message is displayed in the vehicle's electrical system. Inverse-polarity protection ensures that the light is not damaged due to accidental contact of the poles. In order to lengthen the service life, all HELLA light components have been matched optimally in terms of temperature to prevent overloading the LEDs in high environmental temperatures. The lights are designed for the service life of a vehicle and are therefore an outstanding, economical and environmentally friendly solution.



This LED product has the following characteristics



"OVAL" LED COMBINATION REAR LIGHT

for horizontal and vertical surface mounting, clear lens, 24 LEDs, can be used on the right and left, can be turned through 180°, 2 bodywork fastening screws (diagonal arrangement) with 100 mm harness, multivolt 9–32 V. ECE SAE (USA)

2SD 343 390-011¹⁾ ①②③ X

12 red LEDs for brake light:
12 V/1 W, current consumption = approx. 0.08 A

12 red LEDs for tail lamp (reduced output):
12 V/0.2 W, current consumption = approx. 0.02 A

12 amber LEDs for indicator light:
12 V/1.5 W, current consumption = approx. 0.13 A

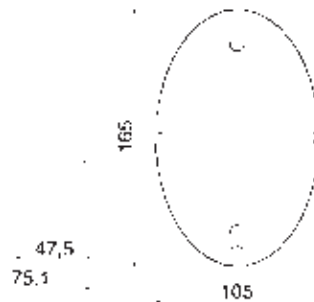
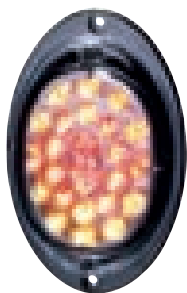
2BA 343 390-071¹⁾ ③ X

24 amber LEDs for indicator light: 12 V/1.5 W, current consumption = approx. 0.13 A

2SB 343 390-091 ①② X

Stop light: 12 V / 1 W, current consumption = approx. 0.08 A
Tail lamp: 12 V/0.2 W, current consumption = approx. 0.02 A (reduced power)

This LED product has the following characteristics



"OVAL" LED COMBINATION REAR LIGHT

only for vertical surface mounting, with 24 LEDs, 12 red LEDs for stop light, with 4-pole DT connector integrated in the housing. ECE SAE (USA)

2SD 343 390-401 X

2SD 343 390-407 X

12 red LEDs for stop light:
12 V/1 W, current consumption = approx. 0.08 A

12 red LEDs for stop light (reduced power):
12 V/0.2 W, current consumption = approx. 0.02 A

12 amber LEDs for indicator light:
12 V/1.5 W, current consumption = approx. 0.13 A

ECE note: Turn indicator approval by category

D ECE approval as twin indicators

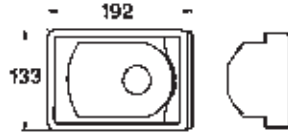
SAE type approval for vehicles

- < 2032 mm wide
- > 2031 mm wide

- ① Tail lamp
- ② Stop light
- ③ Indicator
- ④ Rear fog light
- ⑤ Back-up light
- ⑥ Reflex reflector
- ⑦ Side marker light with reflex reflector
- ⑧ Licence plate light
- ⑨ Position light

Please see the note on page 128 regarding LED indicator lights and LED light failure check.

These LED products have the following properties

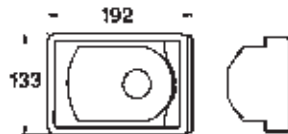
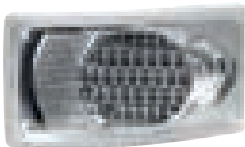


LED TAIL STOP LIGHT

for horizontal recessed mounting, with brilliant-finish clear lens.	ECE	SAE (USA)
12 V / 3 W, current consumption = approx. 0.25 A	2SB 008 982-367	① ② X

Type approval: ETR 10880

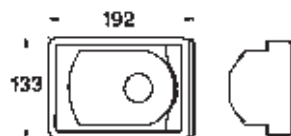
These LED products have the following properties



LED INDICATOR

for horizontal recessed mounting, with brilliant-finish clear lens.	ECE	SAE (USA)
12 V / 2 W, current consumption = approx. 0.17 A	2BA 008 982-347	③ X

Type approval: ETR 10880 and ETR 03 4046



REAR LIGHT

12 V, for horizontal recessed mounting, brilliant finish.		ECE	SAE (USA)
	2SA 008 805-007	①	X ■ ●
for double attachment	2DA 008 805-017	②	X D X ●
for double attachment	2SB 008 805-027	① ②	X D X ●
	2NE 008 805-037	④	X
with clear lens	2ZR 008 805-047	⑤	X ■ ●
for double attachment, with clear lens	2BA 008 805-057	③	X D

Type approval: ETR 10151

ECE note: Turn indicator approval by category

D ECE approval as twin indicators

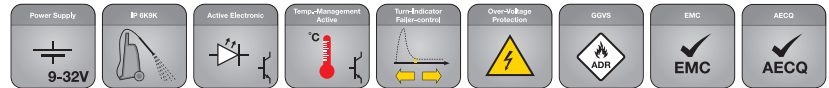
SAE type approval for vehicles

- < 2032 mm wide
- > 2031 mm wide

- ① Tail lamp
- ② Stop light
- ③ Indicator
- ④ Rear fog light
- ⑤ Back-up light
- ⑥ Reflex reflector
- ⑦ Side marker light with reflex reflector
- ⑧ Licence plate light
- ⑨ Position light

Please see the note on page 128 regarding LED indicator lights and LED light failure check.

These LED products have the following properties



LED TAIL LIGHT STOP LIGHT DIRECTION INDICATOR

for horizontal or vertical surface mounting, with 24 LEDs, clear lens, with ECE and EMC type approval.

Tail lamp: 12 V/0.5 W, current consumption = approx. 0.04 A

Stop light: 12 V / 1 W, current consumption = approx. 0.08 A

Indicator light: 12 V/1.5 W, current consumption = approx. 0.125 A

Multivolt 9 – 32 V,
with 200 mm cable and 4-pole AMP connector
282 106-1 to corresponding mating connector
AMP 282 088-1

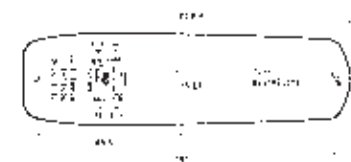
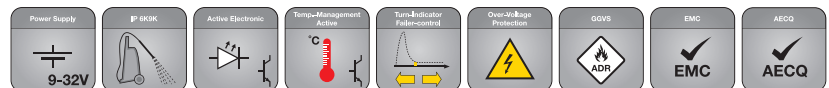
2SD 343 910-017

with integrated AMP plug 282 106-1
in the housing

2SD 343 910-027

Type approval: E4 12393 and E1 035109

These LED products have the following properties



LED TAIL LIGHT STOP LIGHT DIRECTION INDICATOR

for horizontal or vertical surface mounting, with 24 LEDs, clear lens, reflector surface in red, with ECE and EMC type approval.

Tail lamp: 12 V/0.5 W, current consumption = approx. 0.04 A

Stop light: 12 V / 1 W, current consumption = approx. 0.08 A

Indicator light: 12 V/1.5 W, current consumption = approx. 0.125 A

with integrated 4-pole DT connector DT 04-P

2SD 343 910-057

Type approval: E4 12393 and E1 035109

This LED product has the following characteristics



LED TAIL/STOP/INDICATOR/REVERSING LIGHT

for horizontal or vertical surface mounting, with 24 LEDs, clear lens.

Tail lamp: 12 V/0.5 W, current consumption = approx. 0.04 A

Stop light: 12 V / 1 W, current consumption = approx. 0.08 A

Indicator light: 12 V/1.5 W, current consumption = approx. 0.125 A

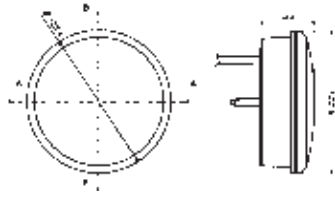
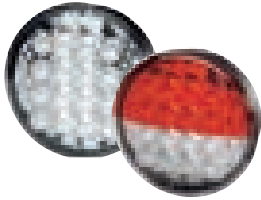
2SK 343 910-037

Accessories

Flasher (not included in scope of delivery)

4JZ 177 846-007

This LED product has the following characteristics



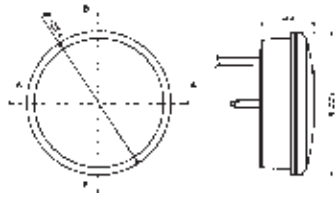
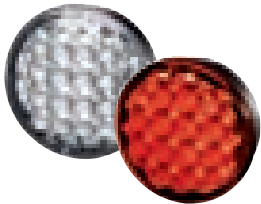
LED TAIL LIGHT STOP LIGHT DIRECTION INDICATOR

for surface mounting, redesign of series 964 169, 24 LEDs.
 Tail lamp: 12 V/1 W, current consumption = approx. 0.08 A
 Stop light: 12 V / 2 W, current consumption = approx. 0.17 A
 Direction indicator: 12 V / 2 W, current consumption = approx. 0.17 A

		①②③	ECE	SAE (USA)
with clear lens	2SD 344 200-001	①②③	X	
with red/transparent lens	2SD 344 200-071	①②③	X	

Type approval: Ⓔ 12371, Ⓔ 12658 and Ⓔ 03 4895

This LED product has the following characteristics



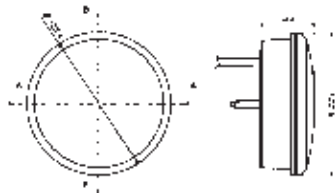
LED TAIL STOP LIGHT

Surface mounted.
 Tail lamp: 12 V/1 W, current consumption = approx. 0.08 A
 Stop light: 12 V / 3 W, current consumption = approx. 0.25 A

		①②	ECE	SAE (USA)
with clear lens	2SB 344 200-027	①②	X	
with red lens	2SB 344 200-081	①②	X	

Type approval: Ⓔ 12658 and Ⓔ 03 4895

This LED product has the following characteristics



LED INDICATOR

for rear surface mounting.
 Direction indicator: 12 V / 3 W, current consumption = approx. 0.25 A

		③	ECE	SAE (USA)
with clear lens	2BA 344 200-037	③	X	

Type approval: Ⓔ 12658 and Ⓔ 03 4895

ECE note: Turn indicator approval by category

D ECE approval as twin indicators

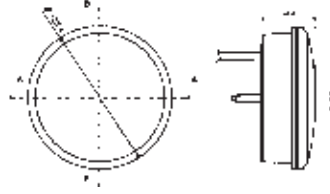
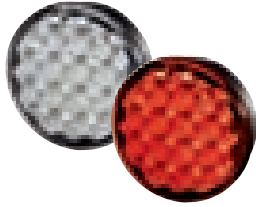
SAE type approval for vehicles

- < 2032 mm wide
- > 2031 mm wide

- ① Tail lamp
- ② Stop light
- ③ Indicator
- ④ Rear fog light
- ⑤ Back-up light
- ⑥ Reflex reflector
- ⑦ Side marker light with reflex reflector
- ⑧ Licence plate light
- ⑨ Position light

Please see the note on page 128 regarding LED indicator lights and LED light failure check.

This LED product has the following characteristics

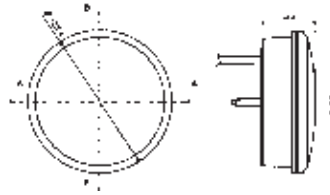


LED REAR FOG LIGHT

Surface mounted. Rear fog light: 12 V / 2 W, current consumption = approx. 0.17 A			ECE	SAE (USA)
with clear lens	2NE 344 200-061	④	X	
with red lens	2NE 344 200-091	④	X	

Type approval: E 14198 and E 03 4895

This LED product has the following characteristics



LED REVERSE LIGHT

Surface mounted. Reverse light: 12 V / 2 W, current consumption = approx. 0.17 A			ECE	SAE (USA)
	2ZR 344 200-051	⑤	X	

Type approval: E 14198 and E 03 4895

This LED product has the following characteristics

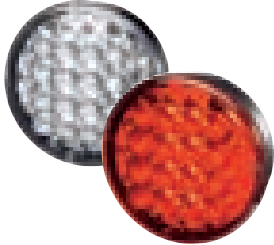


LED TAIL LIGHT STOP LIGHT DIRECTION INDICATOR

Lens			ECE	SAE (USA)
Clear	2SD 344 200-201	①②③	X	
Clear	2SD 344 200-207	①②③	X	
Red / clear	2SD 344 200-211	①②③	X	
Red / clear	2SD 344 200-217	①②③	X	
Red / amber	2SD 344 200-251	①②③	X	

Type approval: E 12371 and E 03 0235

This LED product has the following characteristics



LED TAIL STOP LIGHT

Lens				ECE	SAE (USA)
Clear	2SB 344 200-221	① ②		X	
Clear	2SB 344 200-227	① ②		X	
red	2SB 344 200-231	① ②		X	
red	2SB 344 200-237	① ②		X	

Type approval: E4 12658 and E17 03 0235

This LED product has the following characteristics



LED INDICATOR

Lens				ECE	SAE (USA)
Clear	2BA 344 200-241	③		X	
Clear	2BA 344 200-247	③		X	

Type approval: E4 12658 and E17 03 0235

ECE note: Turn indicator approval by category

D ECE approval as twin indicators

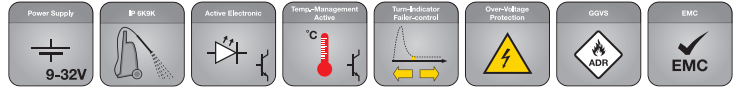
SAE type approval for vehicles

- < 2032 mm wide
- > 2031 mm wide

- ① Tail lamp
- ② Stop light
- ③ Indicator
- ④ Rear fog light
- ⑤ Back-up light
- ⑥ Reflex reflector
- ⑦ Side marker light with reflex reflector
- ⑧ Licence plate light
- ⑨ Position light

Please see the note on page 128 regarding LED indicator lights and LED light failure check.

This LED product has the following characteristics



LED TAIL LIGHT STOP LIGHT DIRECTION INDICATOR

for horizontal surface mounting, with red/amber/red lens and black housing, 2 LEDs for indicator light, 1 LED for tail light, 1 LED for stop light.
 12 V/9 W, current consumption = approx. 0.75 A
 24 V/9 W, current consumption = approx. 0.38 A

2SD 344 100-101

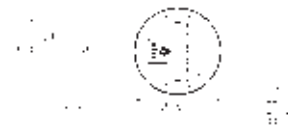
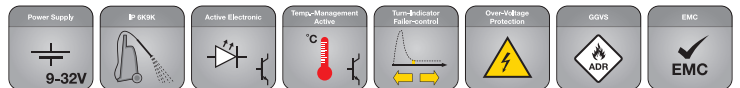
Type approval: E4 13136 and E17 03 0203

Accessories

Chrome-design ring with attachment bracket for recessed mounting

9XD 997 909-801

This LED product has the following characteristics



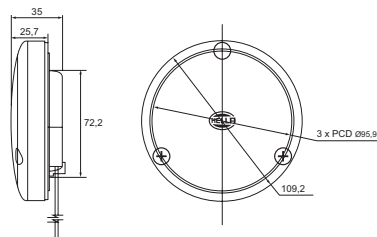
LED TAIL LIGHT STOP LIGHT DIRECTION INDICATOR

for horizontal recessed mounting, slim design option as recessed-mounting version, can also be fitted in bulb housing of variants 001 685-211, -231 and -301.
 12 V/9 W, current consumption = approx. 0.75 A
 24 V/9 W, current consumption = approx. 0.38 A

2SD 344 100-001

Type approval: E4 13136 and E17 03 0203

This LED product has the following characteristics



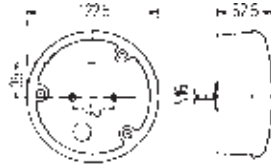
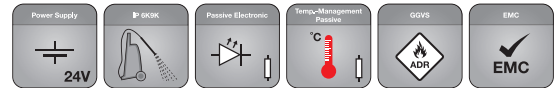
LED INDICATOR

200 mm cable with open cable head, multivolt, distance to low-beam headlamp > 100 mm. Homologised according to SAE I608DOT. For front and rear surface mounting.

ECE SAE (USA)

2BA 959 932-401 ③

This LED product has the following characteristics



LED LIGHT

for surface mounting and recessed mounting, with 37 red LEDs, red lens, 500 mm cable, without connector.

24 V/6.8 W, current consumption = approx. 0.28 A

Combined tail/stop light 2SB 964 169-301/7

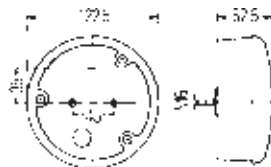
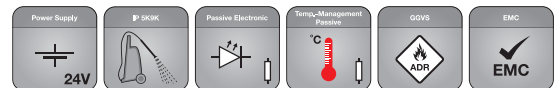
Type approval: 814 and 02 0047

24 V/3.7 W, current consumption = approx. 0.15 A

Rear fog light 2NE 964 169-341

Type approval: 3810 and 02 0050

This LED product has the following characteristics



LED TAIL STOP LIGHT

for surface mounting and recessed mounting, with 37 white LEDs, clear glass lens, 500 mm cable, without connector.

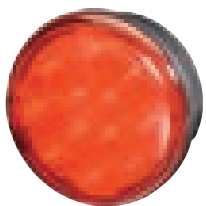
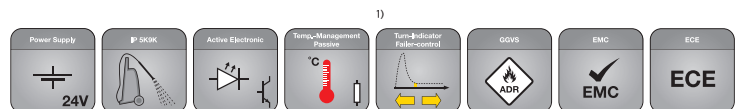
24 V/5.7 W, current consumption = approx. 0.24 A

On the left 2ZR 964 169-351

On the right 2ZR 964 169-361

Type approval: 23254

This LED product has the following characteristics



**LED TAIL/BRAKE LIGHT/INDICATOR/
LED STOP/TAIL/BRAKE LIGHT**

for recessed mounting, with red lens, 2,500 mm cable, ECE and EMC type approval.

1 unit, 12 LEDs 24 V 2SB 959 010-301

10 unit, 12 LEDs 24 V 2SB 959 010-307

1 unit (red / amber), 16 LEDs 24 V / 5 W,
current consumption = approx. 0.21 A 2SD 959 010-401¹⁾

Type approval: 12373, 1538 and 03 1671

This LED product has the following characteristics



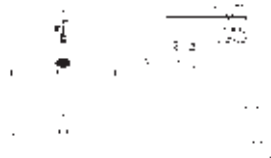
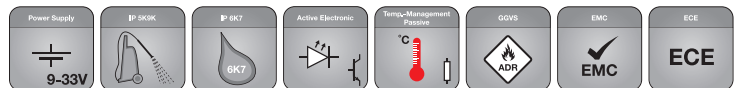
LED INDICATOR

for surface mounting, with amber lens, 12 LEDs and 2,500 mm cable, with pulse for indicator failure check, with ECE and EMC type approval.
24 V/3 W, current consumption = approx. 0.13 A

1 unit	2BA 959 011-301
10 units	2BA 959 011-307

Type approval: 12373 and 03 1671

This LED product has the following characteristics



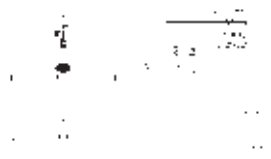
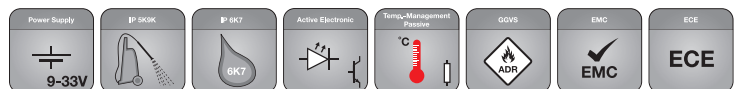
LED REVERSE LIGHT

for recessed mounting with clear lens, with 24 LEDs, 2,500 mm cable, ECE and EMC type approval.
12 V/4 W, current consumption = approx. 0.33 A
24 V/4 W, current consumption = approx. 0.17 A

1 unit	2ZR 959 010-501
10 units	2ZR 959 010-507

Type approval: 11391 and 03 1671

This LED product has the following characteristics



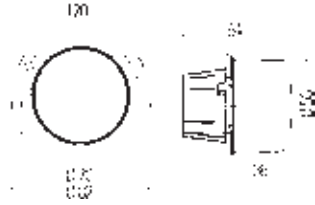
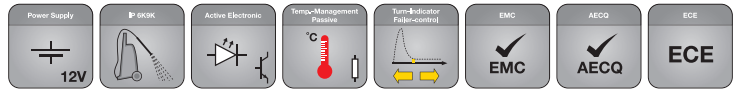
LED REAR FOG LIGHT

for recessed mounting with clear lens, with 24 LEDs, 2,500 mm cable, ECE and EMC type approval.
12 V/3 W, current consumption = approx. 0.25 A
24 V/3 W, current consumption = approx. 0.13 A

1 unit	2NE 959 011-501
10 units	2NE 959 011-507

Type approval: 11391 and 03 1671

This LED product has the following characteristics



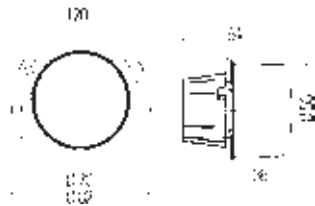
MODULAR LED LIGHT, Ø 55 MM

for rear recessed mounting, clear lens with optics, 500 mm connecting cable, ECE and EMC type approval.
12 V/1.1 W, current consumption = approx. 0.09 A

			ECE
12 V, for front and rear surface mounting, without pulse	2BA 011 172-021/7	③	X
12 V, with pulse	2BA 011 172-031/7	③	X
12 V	2SA 011 172-041/7	①	X
12 V	2DA 011 172-061/7	②	X

Type approval: (E) 3283, CCC and (E) 10R-03 6317

This LED product has the following characteristics



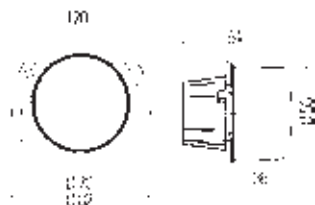
MODULAR LED LIGHT, Ø 55 MM

for rear recessed mounting, clear lens with optics, 500 mm connecting cable, ECE and EMV type approval.
12 V/2.5 W, current consumption = approx. 0.21 A

			ECE
	2NE 011 172-081/7	④	X

Type approval: (E) 3286, CCC and (E) 10R-03 6317

This LED product has the following characteristics



MODULAR LED LIGHT, Ø 55 MM

for rear recessed mounting, back-up light, clear lens with optics, 500 mm connection cable, ECE and EMC type approval.
12 V/2.5 W, current consumption = approx. 0.21 A

			ECE
	2ZR 011 172-101/7	⑤	X

Type approval: (E) 3285, CCC and (E) 10R-03 6317

ECE note: Turn indicator approval by category

D ECE approval as twin indicators

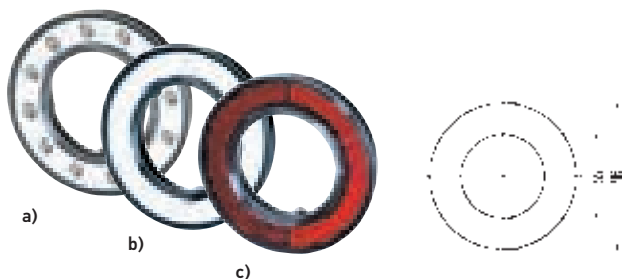
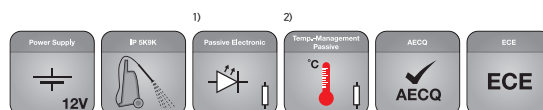
- ① Tail lamp
- ② Stop light
- ③ Indicator
- ④ Rear fog light
- ⑤ Back-up light
- ⑥ Reflex reflector
- ⑦ Side marker light with reflex reflector
- ⑧ Licence plate light
- ⑨ Position light

SAE type approval for vehicles

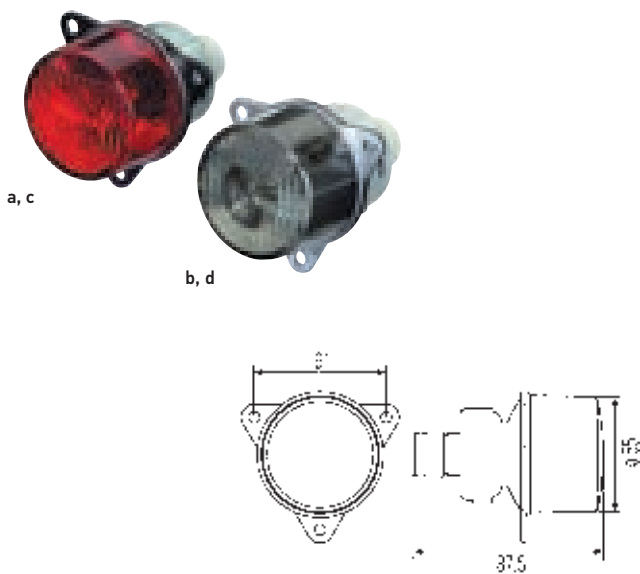
- < 2032 mm wide
- > 2031 mm wide

Please see the note on page 128 regarding LED indicator lights and LED light failure check.

These LED products have the following properties



a) LED tail/end-outline marker lamp, for surface mounting, with 12 red LEDs, clear lens. 12 V/1.8 W, current consumption = approx. 0.15 A		ECE
	2SA 008 405-021¹⁾	X
Type approval: (E) 1197		
a) LED position light, 12 V / 1.8 W	2PF 008 405-061¹⁾	X
Type approval: (E) 1696 and (E) 2295		
a) LED tail/stop light, for recessed mounting, with 12 red LEDs, clear lens, ECE type approval. 12 V/1.8 W, current consumption = approx. 0.15 A		ECE
	2SB 008 405-101²⁾	X
Type approval: (E) 1892		
b) Chrome-plated trim	8XU 008 405-031	
c) Reflector, with ECE type approval	8RA 008 405-001²⁾	X
Type approval: (E) 1196		

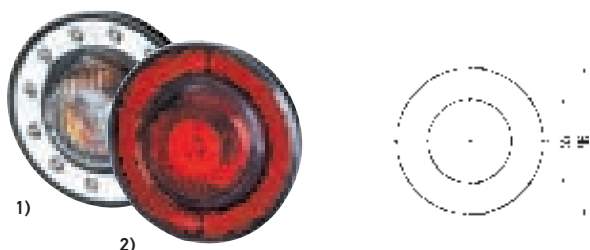


COMBINATION REAR LIGHTS

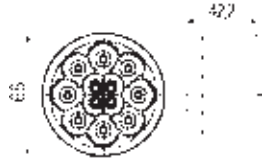
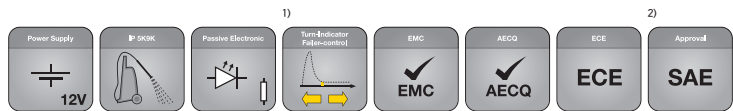
a) for flush-mounting with red lens		ECE	SAE (USA)
12 / 24 V / 5 W (not included in the scope of delivery)	2XA 008 221-021	①	X
with fitted 12 V / 5 W bulb	2SA 008 221-127	①	X
12 / 24 V / 21 W (not included in the scope of delivery)	2XA 008 221-021	②	X
with fitted 12 V / 21 W bulb	2DA 008 221-167	②	X
Type approval: (E) 1048 and (E) 1049			
b) for flush-mounting with grey lens			
12 / 24 V / 21 W, amber bulb (not included in the scope of delivery)	2BA 008 221-041	③	X
with fitted amber 12 V / 21 W bulb (not included in the scope of delivery)	2BA 008 221-147	③	X
Type approval: (E) 1051			
c) for flush-mounting with red lens			
12 / 24 V / 21 W (not included in the scope of delivery)	2NE 008 221-031	④	X
with fitted 12 V / 21 W bulb	2NE 008 221-137	④	X
Type approval: (E) 1050			
d) for flush-mounting with grey lens			
12 / 24 V / 21 W (not included in the scope of delivery)	2ZR 008 221-051	⑤	■ ●
with fitted 12 V / 21 W bulb	2ZR 008 221-157	⑤	■ ●
Type approval: (E) 1052			
Accessories for light series 008 221-...			
Harness with grommet	8KA 152 134-007		
Grommet separate	9GT 137 236-007		

Examples of combination possibilities

1) Rear lighting	2BA 008 221-041	③	
	and		
	2SA 008 405-021	①	
2) Rear lighting	2XA 008 221-021	②	
	and		
	8RA 008 405-001	⑥	
Heat conducting shield (required at ambient temperature > 50°C)	9XB 161 749-007		



This LED product has the following characteristics



PREMIUM LED LAMP Ø 60 MM

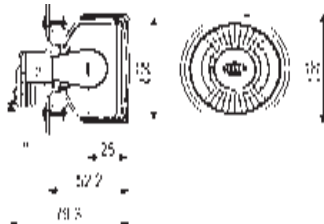
with transparent lens, 12 LEDs, with EMC type approval, AMP connector.
 Tail/stop light 12 V / 3 W = current consumption 0.25 A
 Indicator light without pulse 12 V / 1.5 W = current consumption 0.13 A
 Indicator light with pulse 12 V / 3.5 W = current consumption 0.29 A

			ECE	SAE (USA)
12 V, 3-pole central connector	2SB 009 001-401²⁾	①②	X	■
12 V, 2-pole central connector, without pulse	2BA 009 001-411¹⁾	③	X	
12 V, 2-pole central connector, with pulse	2BA 009 001-431¹⁾	③	X	

Type approval: 12390 and 03 5916

Accessories

2-pole mating connector	8JD 156 150-807
3-pole mating connector	8JD 162 581-802



PREMIUM LIGHTS Ø 60 MM

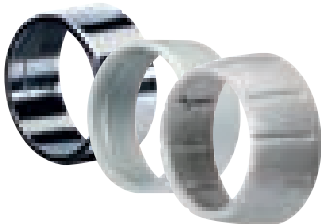
with pre-fitted bulbs 12 V, incl. design ring.

			ECE	SAE (USA)
Red lens	2SA 009 001-047	①	X D	
Red lens	2DA 009 001-057	②	X D	
Red lens	2SB 009 001-067	①②	X D	
Grey lens	2BA 009 001-007	③	X D	
with Silvervision bulb	2BA 009 001-191	③	X D	
Red lens	2NE 009 001-027	④	X	■ ●
Grey lens	2ZR 009 001-017	⑤	X	■ ●

Type approval: 3917, 6546, 7613 and 23255

Macro reflector, 12 V, red	8RA 009 001-037	⑥	X	■ ●
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Type approval: 3189



DESIGN RING

suitable for 60 mm light modules with Ø 71.6 mm (part number ... 009 001-... except for LED versions), perfect high-sheen finish with one "click".

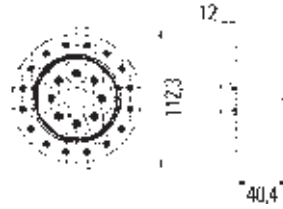
high-sheen chrome-plated, Ø 71.6 mm	9HB 161 122-012
silver, Ø 71.6 mm	9HB 161 122-007
premium silver, Ø 78.9 mm	9HB 164 168-002

Combination example

for a combination rearlight	... 009 001-...
with design ring Ø 71.6 mm high-sheen chrome-plated	9HB 161 122-012



This LED product has the following characteristics



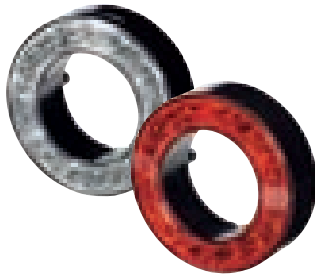
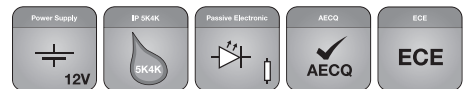
COMBINED LED TAIL LIGHT STOP LIGHT INDICATOR

without pulse for indicator failure check, for rear recessed mounting, clear lens, with 24 red LEDs, suitable for the light series 009 362-..., 009 001-... with 3-pole AMP connector. 12 V / 4.8 W current consumption approx. 0.4 A

ECE SAE (USA)

2SD 009 362-201 ①②③ ●

This LED product has the following characteristics



LED CIRCULAR MODULES

with 250 mm cable, with 3-pole AMP connector; available with a choice of clear or red cover lens. 12 V/2.4 W, current consumption 0.2 A

ECE SAE (USA)

Red lens	2SB 009 362-041	①②	X D
Crystal-clear lens	2SB 009 362-021	①②	X D
Red lens	8RA 009 362-001	③	X

Type approval: E4 7747 and E4 7748

DESIGN RING Ø 118 MM

suitable for circular module ... 009 362 ... , perfect high-sheen finish with one "click".	
high-sheen chrome-plated, Ø 117.9 mm	9HB 163 085-012
silver, Ø 117.9 mm	9HB 163 085-001



Accessories for 60 mm combination rear lights

Adapter ring for

for mounting of bulb versions in circular module series 009 362-... and 009 001-...	9XD 161 119-007
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Adapter ring

for mounting of LED lights or the reflector in the circular module series 009 362-..., black (not shown)	9XD 161 119-017
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ECE note: Turn indicator approval by category

D ECE approval as twin indicators

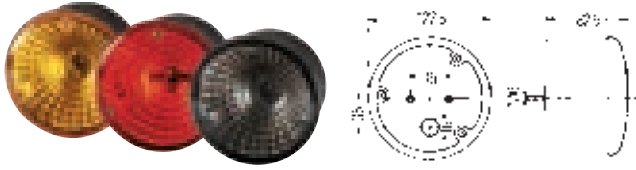
SAE type approval for vehicles

- < 2032 mm wide
- > 2031 mm wide

- ① Tail lamp
- ② Stop light
- ③ Indicator
- ④ Rear fog light
- ⑤ Back-up light
- ⑥ Reflex reflector
- ⑦ Side marker light with reflex reflector
- ⑧ Licence plate light
- ⑨ Position light

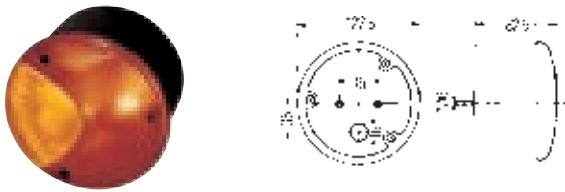
Please see the note on page 128 regarding LED indicator lights and LED light failure check.

REAR LIGHTING



REAR LIGHT

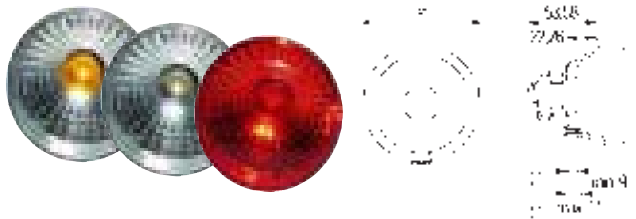
12 V, for surface or recessed mounting, brilliant finish.			ECE	SAE (USA)
2BA 964 169-507/1	Ⓔ 653	③	X D	X ■ ●
2SB 964 169-537/1	Ⓔ 816	①②	X	X ■ ●
2ZR 964 169-517/1	Ⓔ 2312	⑤	X	X ■ ●
2NE 964 169-527/1	Ⓔ 3809	④	X	X ■ ●



REAR LIGHT

12 V, for mounting or installing, depending on the mounting position, the water drain opening might need to be punched out.			ECE	SAE (USA)
2DA 964 169-001/7	Ⓔ 808	②	X D	X ■ ●
2BA 964 169-011/7	Ⓔ 648	③	X D	X ■ ●
2NE 964 169-021/7	Ⓔ 3808	④	X	X ■ ●
2ZR 964 169-031/7	Ⓔ 2311	⑤	X	X ■ ●
2BA 964 169-041/7	Ⓔ 9804	③④	X	
2BN 964 169-051/7	Ⓔ 9801	③⑤	X	X ■
2TA 964 169-061/7	Ⓔ 9805	①②⑥	X	
2BE 964 169-071/7 ¹⁾	Ⓔ 9802	③⑨	X	
2SW 964 169-081/7	Ⓔ 9803	①③	X	
2SA 964 169-091/7	Ⓔ 810	①	X	X ■ ●
2SD 964 169-111/7	Ⓔ 9903	①②③	X	
2TA 964 169-147		①②⑥		■ ●
2SB 964 169-287	Ⓔ 815	①②	X	X ■ ●

1) Indicator/ position light for front surface mounting, category 1a

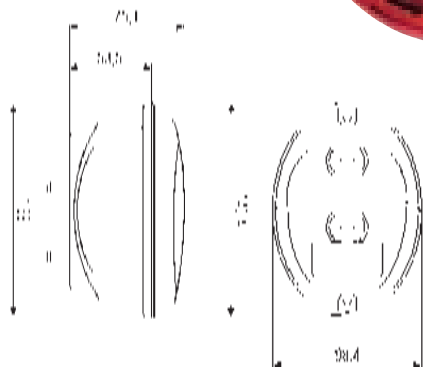


COMBINATION REAR LIGHT Ø 90 MM

for recessed mounting, with fitted bulbs, back-up lamp and rear indicators with smoked glass lens, also available as daytime running light. With fitted bulb.

			ECE	SAE (USA)
Attachment possible from the front using the enclosed clips or from the rear using screws				
12 V/5 W	2SA 965 039-001	①	X	X ■ ●
12 V/P4 21 W	2BA 965 039-021/7	③	X	X ■
12 V/21 W	2ZR 965 039-041/7	⑤	X	X ■ ●
12 V/P4 21 W	2SB 965 039-051/7	①②	X	X ■
With mounted attachment clips				
12 V/5 W	2SA 965 039-307	①	X	X ■ ●
12 V/21 W	2DA 965 039-317	②	X	X ■
12 V/P4 21 W	2BA 965 039-347	③	X	X ■
12 V/21 W	2NE 965 039-327	④	X	X ■ ●
12 V/21 W	2ZR 965 039-337	⑤	X	X ■ ●
12 V/21 W/5 W	2SB 965 039-357	①②	X	X ■

Type approval: Ⓔ 10215



"OVAL" COMBINATION REAR LIGHT

ideal for horizontal and vertical recessed mounting and surface mounting, on the right or left (rotate light through 180°), can be used for 12 V and 24 V operation, punch out the water drain hole before installation and insert the seal, black clear cover lens, brilliant appearance.

			ECE	SAE (USA)
2SB 343 130-021/7	€ 7698	①②	X	■ ●
2BA 343 130-051/7	€ 6550	③	X	■ ●
2NE 343 130-031/7	€ 3919	④	X	
2ZR 343 130-041/7	€ 23257	⑤	X	■ ●



"OVAL LIGHT" COMBINATION REAR LIGHT

for horizontal and vertical installation, lens with stripe design, housing with circumferential black rim, fully pre-assembled, with 100 mm cable and pre-fitted 12 V bulb.

				ECE	SAE (USA)
On the left	2SA 343 400-217	€ 823	①	X	
On the right	2SA 343 400-227	€ 823	①	X	
On the left	2DA 343 400-237	€ 821	②	X	
On the right	2DA 343 400-247	€ 821	②	X	
On the left	2ZR 343 400-297	€ 2314	⑤	X	
On the right	2ZR 343 400-307	€ 2314	⑤	X	
On the left	2NE 343 400-277	€ 3812	④	X	
On the right	2NE 343 400-287	€ 3812	④	X	
On the left	2BA 343 400-257¹⁾	€ 655	③	X	
On the right	2BA 343 400-267¹⁾	€ 655	③	X	
On the left	2SB 343 400-317	€ 822	①②	X	
On the right	2SB 343 400-327	€ 822	①②	X	

1) Can also be used as a front indicator in accordance with category 1 (distance > 40 mm to low-beam / front fog lamp).

ECE note: Turn indicator approval by category

D ECE approval as twin indicators

① Tail lamp

⑥ Reflex reflector

② Stop light

⑦ Side marker light with reflex reflector

③ Indicator

SAE type approval for vehicles

■ < 2032 mm wide

● > 2031 mm wide

④ Rear fog light

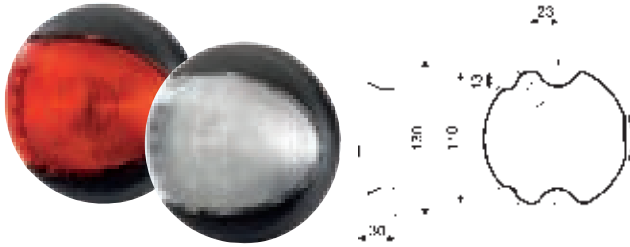
⑧ Licence plate light

⑤ Back-up light

⑨ Position light

Please see the note on page 128 regarding LED indicator lights and LED light failure check.

This LED product has the following characteristics



EuroLED

1 Power LED for surface mounting, permanently bonded to black base plate, electrical connection via 2,500 mm cable. ECE **SAE (USA)**

12 V/2.5 W, current consumption = approx. 0.21 A (SAE versions on request)

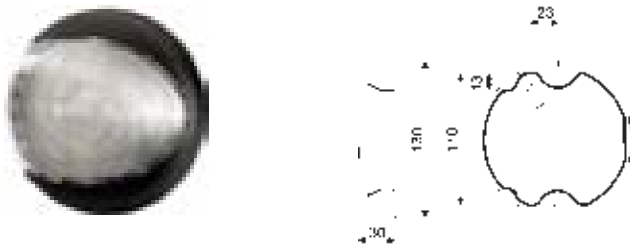
red lens **2SB 959 821-601** ①② X

12 V/4 W, current consumption = approx. 0.33 A

Clear lens **2NE 959 821-201** ④ X

Type approval: E 10208 and E4 03 1135

This LED product has the following characteristics



EuroLED

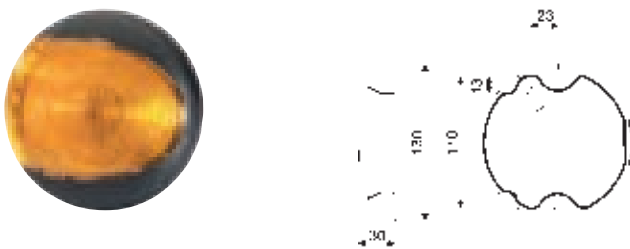
1 Power LED for surface mounting, permanently bonded to black base plate, electrical connection via 2,500 mm cable. ECE **SAE (USA)**

12 V/2.5 W, current consumption = approx. 0.21 A

Clear lens **2ZR 959 820-601** ⑤ X

Type approval: E 10208 and E4 03 1135

This LED product has the following characteristics



EuroLED

1 Power LED for mounting, permanently bonded to black base plate, electrical connection via 2,500 mm cable ECE **SAE (USA)**

12 V/3 W, current consumption = approx. 0.25 A (SAE versions available on request)

with pulse **2BA 959 822-601** ③ X

Type approval: E 10208 and E4 03 1728

This LED product has the following characteristics



DuraLED, tail/stop light

With 24 red LEDs and 2,500 mm cable with stripped ends.
 12 V / 8.5 W = current consumption 0.71 A
 24 V / 8.5 W = current consumption 0.35 A

for horizontal mounting

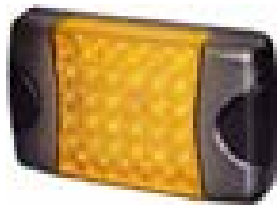
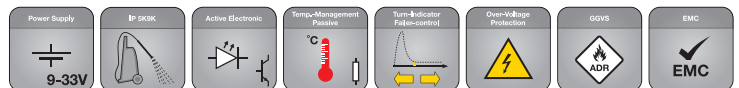
2SB 980 606-201

for vertical mounting

2SB 980 606-701

Type approval: ECE, 5850, EMC, 03 1828

This product features the following characteristics



DuraLED, INDICATOR

With 24 amber LEDs and 2,500 mm cable with stripped ends.
 12 V / 4 W, current consumption = 0.33 A
 24 V / 4 W, current consumption = 0.17 A

for horizontal mounting

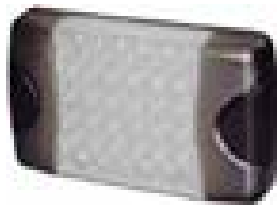
2BA 980 607-201

for vertical mounting

2BA 980 607-701

Type approval: ECE, 5850, EMC, 03 1830

This product features the following characteristics



DuraLED, BACK-UP LAMP

With 24 white LEDs and 2,500 mm cable with stripped ends.
 12 V / 4 W, current consumption = 0.33 A
 24 V / 4 W, current consumption = 0.17 A

for horizontal mounting

2ZR 980 605-201

for vertical mounting

2ZR 980 605-701

Type approval: ECE, 5850, EMC, 03 1828

ECE note: Turn indicator approval by category

D ECE approval as twin indicators

① Tail lamp

② Stop light

③ Indicator

④ Rear fog light

⑤ Back-up light

⑥ Reflex reflector

⑦ Side marker light with reflex reflector

⑧ Licence plate light

⑨ Position light

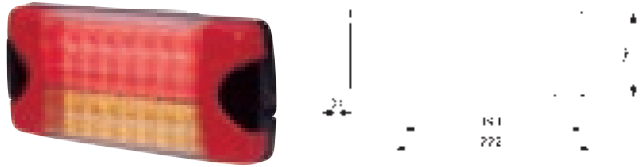
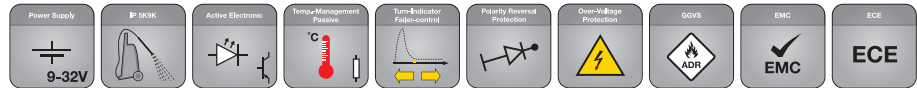
SAE type approval for vehicles

■ < 2032 mm wide

● > 2031 mm wide

Please see the note on page 128 regarding LED indicator lights and LED light failure check.

This LED product has the following characteristics



COMBINATION REAR LAMP DuraLED Combi

Tail/brake/indicator light for horizontal and vertical surface mounting, clear lens, with 40 LEDs and sealed 2,500 mm cable with stripped cable ends.

Tail light with 8 red LEDs
 Indicator light with 16 amber LEDs
 Stop light with 24 red LEDs
 Of the 24 red stop light LEDs, 8 LEDs are used with reduced light output for the tail light.

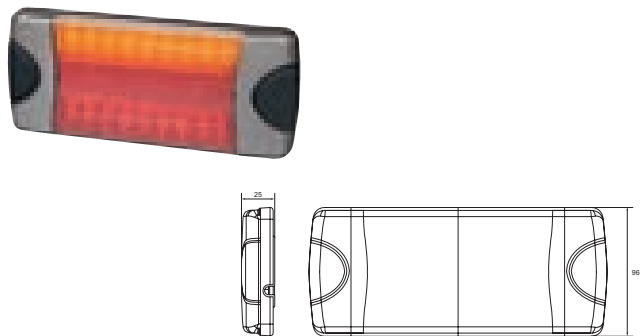
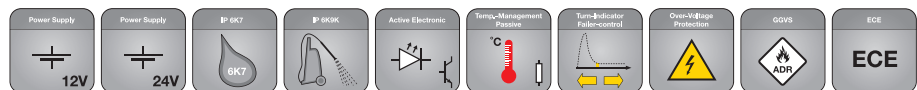
ECE SAE (USA)

12 V/9.5 W, current consumption = approx. 0.8 A
 24 V/9.5 W, current consumption = approx. 0.4 A

ZSD 959 050-401 X

Type approval: E4 10176, E4 03 1586

This LED product has the following characteristics



DuraLED Combi TAIL/STOP/INDICATOR LIGHT

Rectangular reflector for horizontal surface mounting. With 2,500 mm cable. Dual voltage 12 / 24 V DC. Low installation height of only 25 mm.

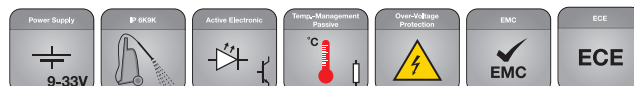
ECE SAE (USA)

12 V/11 W, current consumption = approx. 0.92 A
 24 V/11 W, current consumption = approx. 0.46 A

without pulse	2VA 980 710-061	①②③	X
with pulse	2VA 980 710-301¹⁾	①②③	X

Type approval: E24 5879, E4 10R 04 2900, EMV

This LED product has the following characteristics



TAIL, STOP, DIRECTION INDICATOR LIGHT WITH REFLEX REFLECTOR

for 12 and 24 V, for horizontal and vertical surface mounting, with 8 LEDs, clear lens, 500 mm cable with stripped ends and adhesion bonded red reflector. Detachable black retaining frame with 4 holes Ø 4.2 mm and 2 holes Ø 5.0 mm for fixing screws. Without pulse for indicator failure check.

12 V/5 W, current consumption = 0.42 A
24 V/5 W, current consumption = 0.21 A

		ECE	SAE (USA)
12 / 24 V	2VA 980 720-001	X	
12 / 24 V	2VA 980 720-007	X	

with licence plate lighting for 370 x 120 mm and 520 mm x 120 mm plates, for horizontal surface mounting only.

Indicator light at top, licence plate light on left

12 / 24 V, with DT connector	2VB 980 720-401	X	
12 / 24 V, with DT connector	2VB 980 720-407	X	

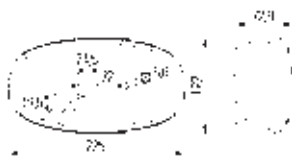
Indicator at bottom, licence plate light on left

12 / 24 V, with 500 mm cable	2VB 980 720-501	X	
12 / 24 V, with 500 mm cable	2VB 980 720-507	X	

Type approval: 5860, 03 2079, EMC

Possible uses

12 / 24 V, LED flasher	4JZ 177 846-007		
Receptacle housing	8JA 003 526-001		



REAR LIGHT

for horizontal recessed mounting and vertical surface mounting, for 12 / 24 V, with integrated reflector.

		ECE	SAE (USA)
On the left	2VA 343 640-077	①②③④⑥	X
On the left	2VA 343 640-027	①②③⑤⑥	X
On the right	2VA 343 640-067	①②③④⑥	X

Type approval: 0303

ECE note: Turn indicator approval by category

D ECE approval as twin indicators

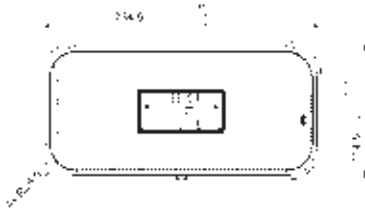
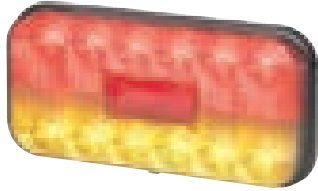
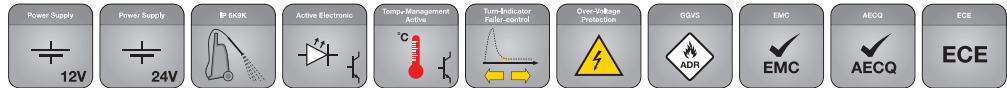
- | | | | | |
|--------------------|---|-----------------------|------------------|-----------------|
| ① Tail lamp | ② Stop light | ③ Indicator | ④ Rear fog light | ⑤ Back-up light |
| ⑥ Reflex reflector | ⑦ Side marker light with reflex reflector | ⑧ Licence plate light | ⑨ Position light | |

SAE type approval for vehicles

- < 2032 mm wide
- > 2031 mm wide

Please see the note on page 128 regarding LED indicator lights and LED light failure check.

This LED product has the following characteristics



LED COMBINATION REAR LAMP FOR AGRICULTURAL AND CONSTRUCTION MACHINERY

For horizontal surface mounting, tail/stop light with 6 red LEDs reduced light output of tail lamp, indicator light with 6 amber LEDs. With integrated 4-pole DT connector DT 04-4P. With pulse for indicator failure check.

ECE SAE (USA)

12 V/3.3 W, current consumption = approx. 0.28 A
24V/4.5W, current consumption = approx. 0.19 A

12 V	2VA 011 900-001	①②③⑥	X
24 V	2VA 011 900-021	①②③⑥	X

Type approval: E24 5878, E10R 04 6919, EMV

This LED product has the following characteristics



LED COMBINATION REAR LAMP FOR AGRICULTURAL AND CONSTRUCTION MACHINERY

For horizontal surface mounting, tail/stop lamp with 6 red LEDs reduced light output in tail lamp, indicator light with 6 amber LEDs. With integrated 4-pole DT connector DT 04-4P. Without pulse for indicator failure check.

ECE SAE (USA)

12 V/3.3 W, current consumption = approx. 0.28 A
24 V/4.5 W, current consumption = approx. 0.19 A

12 V	2VA 011 900-011	①②③⑥	X
24 V	2VA 011 900-031	①②③⑥	X

Type approval: E24 5878, E10R 04 6919, EMV

This LED product has the following characteristics



LED COMBINATION REAR LAMP FOR AGRICULTURAL AND CONSTRUCTION MACHINERY

For horizontal surface mounting, tail/stop lamp with 6 red LEDs, reduced light output in tail lamp, indicator light with 6 red LEDs. With integrated 4-pole DT connector DT 04-4P. Without pulse for indicator failure check.

ECE SAE (USA)

12 V/5.9 W, current consumption = approx. 0.49 A

12 V	2VA 011 900-041	①②③⑥	●
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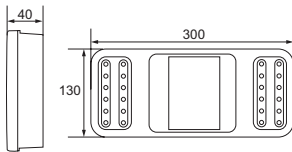
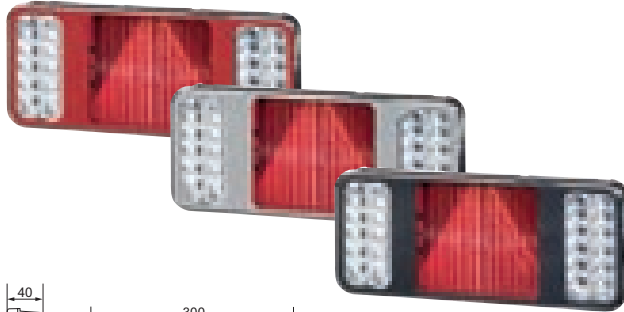
Usable harness assemblies

Harness assembly with 4-pole DT connector DT 06-4S for connection to the lamp.

with 200 mm cable,
with 4-pole AMP-SUPERSEAL connector at other end **8KA 197 041-001**

with 500 mm cable,
bare cable ends at other end **8KA 197 041-011**

This LED product has the following characteristics



COLUNA

Full-LED combination rear lamp, tail/stop/indicator/back-up and rear fog light with reflector, 345 900 series. With black frame colour. With 36 LEDs. With rectangular reflector for horizontal and vertical surface mounting. With 500 mm cable with bare ends. Can be used on the left and right. With pulse for indicator failure check.

ECE SAE (USA)

12 V/13.7 W, current consumption = approx. 1.14 A
24V/16.6W, current consumption = approx. 0.69 A

Mounted by inserting fixing screws from the front

12 V	2VP 345 900-401	①②③④⑤⑥	X
24 V	2VP 345 900-201	①②③④⑤⑥	X

Fixing bolts inserted from the rear

12 V	2VP 345 900-421	①②③④⑤⑥	X
24 V	2VP 345 900-221	①②③④⑤⑥	X

Type approval: 5879, 10R 04 0071, EMV

This LED product has the following characteristics



COLUNA

Full-LED combination rear lamp, tail/stop/indicator/back-up and rear fog light with reflector, 345 900 series. With black frame colour. With 36 LEDs. With rectangular reflector for horizontal and vertical surface mounting. With 500 mm open-ended cable. Can be used on the left and right. Without pulse for indicator failure check.

ECE SAE (USA)

12 V/13.7 W, current consumption = approx. 1.14 A
24V/16.6W, current consumption = approx. 0.69 A

Mounted by inserting fixing screws from the front

12 V	2VP 345 900-411	①②③④⑤⑥	X
24 V	2VP 345 900-211	①②③④⑤⑥	X

Fixing bolts inserted from the rear

12 V	2VP 345 900-431	①②③④⑤⑥	X
24 V	2VP 345 900-231	①②③④⑤⑥	X

Type approval: 5879, 10R 04 0071, EMV

ECE note: Turn indicator approval by category

D ECE approval as twin indicators

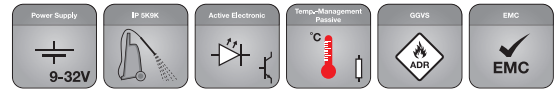
- | | | | | |
|--------------------|---|-------------|-----------------------|------------------|
| ① Tail lamp | ② Stop light | ③ Indicator | ④ Rear fog light | ⑤ Back-up light |
| ⑥ Reflex reflector | ⑦ Side marker light with reflex reflector | | ⑧ Licence plate light | ⑨ Position light |

SAE type approval for vehicles

- < 2032 mm wide
- > 2031 mm wide

Please see the note on page 128 regarding LED indicator lights and LED light failure check.

This LED product has the following characteristics



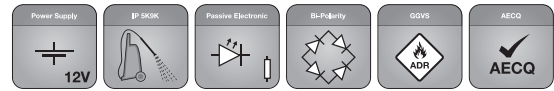
LED CLEARANCE LIGHT

for horizontal surface mounting, 2 LEDs, 8 – 28 V.
12 V / 0.5 W, current consumption = approx. 0.04 A

500 mm cable	2XA 959 560-401
5,000 mm cable	2XA 959 560-411

Type approval: 7574 and 03 1721

This LED product has the following characteristics



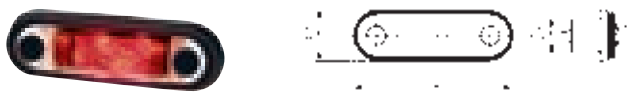
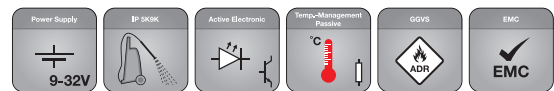
LED CLEARANCE LIGHT

for horizontal or vertical surface mounting, with 2 LEDs and light guide strip in red,
2 screw holes Ø 5.4 mm for fixing screws.
12 V/0.7 W, current consumption = approx. 0.06 A

12 V	2XS 008 078-011
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Type approval: 0515

This LED product has the following characteristics



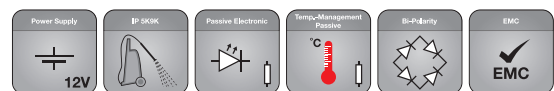
LED CLEARANCE LIGHT

for horizontal or vertical recessed mounting, clear lens with 2 red LEDs, can be
used as tail lamp or end-outline marker lamp, 8 – 28 V.
12 V/0.5 W, current consumption = approx. 0.04 A

500 mm cable with caps	2XA 959 790-401
5,000 mm cable with caps	2XA 959 790-411

Type approval: 7597 and 03 1721

This LED product has the following characteristics



LED CLEARANCE LIGHT

for horizontal surface mounting, with 2 LEDs, self-adhesive, with 6.3 mm contacts
and counterplug grommet.

2XS 009 226-107

This LED product has the following characteristics



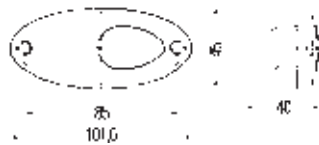
LED CLEARANCE LIGHT

for horizontal or vertical surface mounting, with reflector, 12 V,
2 holes for fixing screws B 4.2.
12 V/0.6 W, current consumption = approx. 0.05 A

500 mm cable	2TM 008 645-931
5,000 mm cable	2TM 008 645-921

For horizontal surface-mounting, the LED field must point to the outer vehicle edge.
For vertical surface-mounting, the LED field may point upwards or downwards.
(Clearance light can also be used as a tail light with reflector.)

Type approval: 1395 and 1398



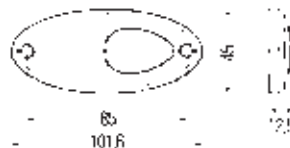
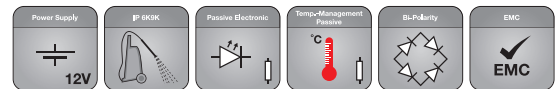
CLEARANCE LIGHT

with pre-fitted 12 V bulb and seal, for horizontal or vertical recessed mounting.

oval	2XS 964 295-031
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Type approval: 812

This LED product has the following characteristics



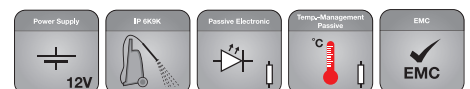
LED CLEARANCE LIGHT

for horizontal surface mounting, 2 LEDs, 12 V with seal and cable 5,000 mm long.
12 V/0.5 W, current consumption = approx. 0.04 A

oval	2TM 964 295-101
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Type approval: 0302

This LED product has the following characteristics



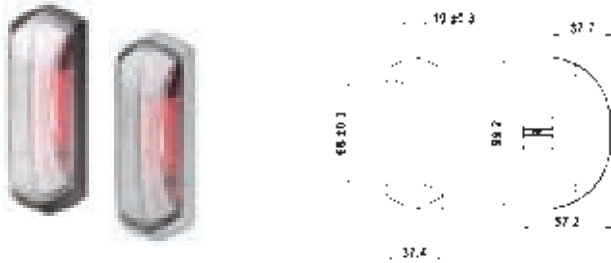
LED CLEARANCE LIGHT

for surface mounting, modern night-time design and high level of safety thanks to maximum illuminated area, 12 V.

500 mm cable, horizontal	2TM 344 690-357
--------------------------	------------------------

Type approval: 7597 and 03 1721

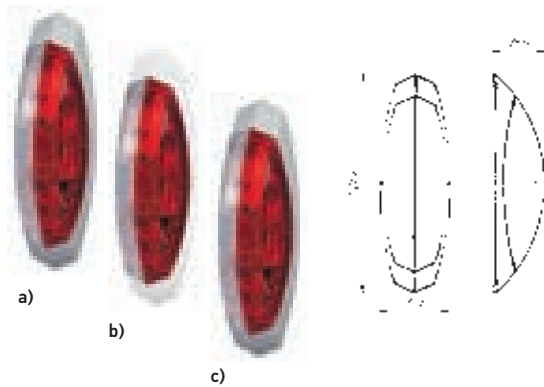
This LED product has the following characteristics



LED CLEARANCE LIGHT

for vertical surface mounting, red/white with black base plate. Versions with grey base plate available on request.

Screw attachment, AMP-SUPERSEAL	2XS 205 020-001
Rubber pendulum and angled bracket, AMP-SUPERSEAL	2XS 205 020-021
Screw attachment, 500 mm cable	2XS 205 020-041
Rubber pendulum, AMP-SUPERSEAL	2XS 205 020-121



CLEARANCE LIGHT

for vertical surface mounting

a) red/white with grey base plate

left, with 12 V bulb	2XS 008 479-001
right, with 12 V bulb	2XS 008 479-011
left, without bulb	2XS 008 479-061
right, without bulb	2XS 008 479-071

a) red/white with white base plate

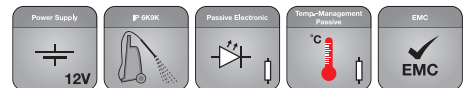
On the left	2XS 008 479-081
On the right	2XS 008 479-091

c) red with grey base plate, PO function silver-coloured, opaque

On the left	2XS 008 479-107
On the right	2XS 008 479-117

Type approval: 1201

This LED product has the following characteristics



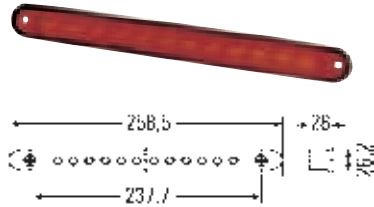
LED AUXILIARY STOP LIGHT

for horizontal surface mounting, with 12 red LEDs, in brilliant optics, with 3D depth effect through embedding, each LED in a separate reflector, with 200 mm cable. 12 V/1.8 W, current consumption = approx. 0.15 A

12 V, red lens	2DA 343 800-001
12 V, red lens	2DA 343 800-007
12 V, with rubber base	2DA 343 800-057

Type approval: 7715

This LED product has the following characteristics



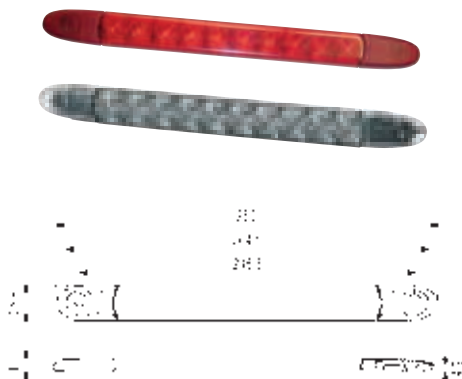
LED AUXILIARY STOP LIGHT

for horizontal recessed mounting, 12 LEDs, 2,500 mm cable and open cable ends.
12 V/2 W, current consumption = approx. 0.16 A

12 V, red lens	2DA 959 071-537
12 V, clear lens	2DA 959 071-037

Type approval: E4 7547

This LED product has the following characteristics



LED AUXILIARY STOP LIGHT

for horizontal or vertical surface mounting, with 10 red LEDs, with 3,000 mm cable, installation height 9.5 mm (once mounted).
12 V / 0.7 W, current consumption = approx. 0.06 A

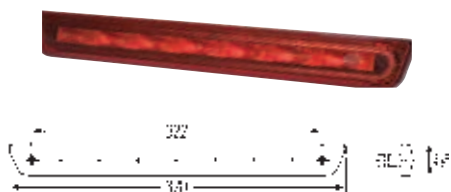
Red lens

for screw attachment	2DA 343 106-007
self-adhesive for smooth and clean surfaces	2DA 343 106-207

Smoked glass lens

for screw attachment	2DA 343 106-021
self-adhesive for smooth and clean surfaces	2DA 343 106-221

Type approval: E4 7696

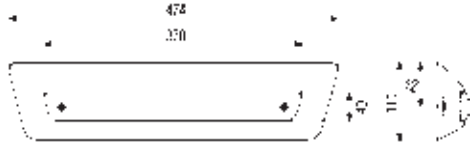
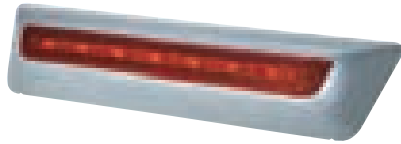


AUXILIARY STOP LIGHT

for horizontal recessed mounting, red lens, with pre-fitted 12 V bulbs, 2.3 W.

with PE foam seal, coated on both sides with adhesive	2DA 008 136-027
Screw attachment from the front through the lens (screws are not included)	2DA 008 136-017

Type approval: E4 02799



AUXILIARY STOP LIGHT

for horizontal surface mounting, with 12 V bulbs, 2.3 W, cable 146 751-00 included loose.

2DA 008 136-031

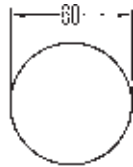
Type approval: E1 02799

Accessories (order separately)

Cable with grommet	8KA 146 751-007
Cable without grommet	8KA 144 707-007
Grommet only	9GT 146 757-007



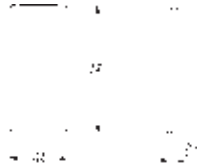
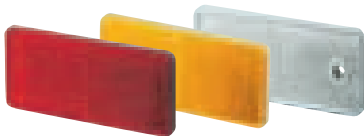
Illustrations similar



REFLEX REFLECTOR

red, self-adhesive	8RA 002 014-281
amber, self-adhesive	8RA 002 014-301
white, self-adhesive	8RA 002 014-291

Type approval: E3 023535

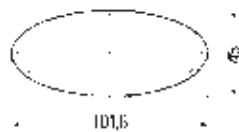
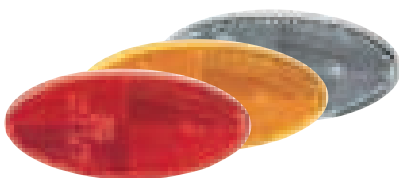


REFLEX REFLECTOR

for horizontal or vertical surface mounting.

red, self-adhesive	8RA 003 326-031
amber, self-adhesive	8RA 003 326-041
white, self-adhesive	8RA 003 326-051

Type approval: E2 0292031

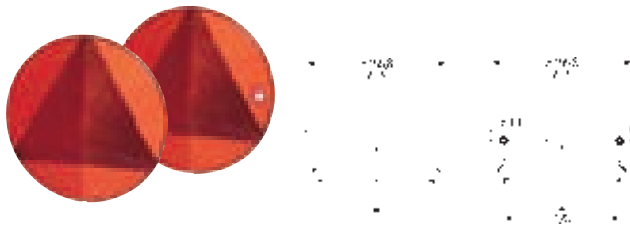


REFLEX REFLECTOR

for horizontal or vertical surface mounting, suitable for light series 9642.

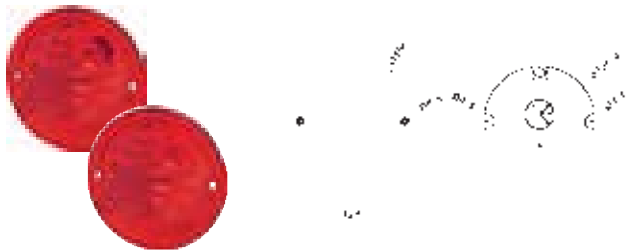
red, self-adhesive	8RA 343 160-007
amber, self-adhesive	8RA 343 160-027
white, self-adhesive	8RA 343 160-017

Type approval: E4 3190

**REFLEX REFLECTOR**

self-adhesive, red	8RA 343 220-007
red, with 2 holes for fastening screws	8RA 343 220-017

Type approval: 023191

**REAR FOG LIGHT**

with integrated reflector.	
12 V, inc. bulb	2NE 344 610-007
12 V, without bulb	8RA 344 610-017

Type approval: 5857

**REFLEX REFLECTOR**

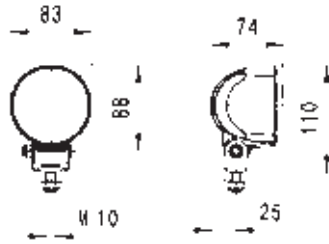
2 holes, Ø 6 mm, for fixing screws.	
red	8RA 002 020-001

Type approval: 02346

**REFLEX REFLECTOR**

for horizontal or vertical surface-mounting	
red, self-adhesive	8RA 009 226-137
amber, self-adhesive	8RA 009 226-127
white, self-adhesive	8RA 009 226-117

This LED product has the following characteristics



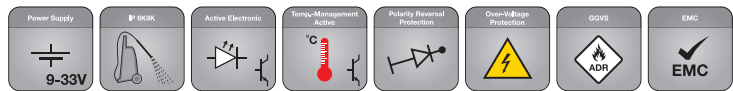
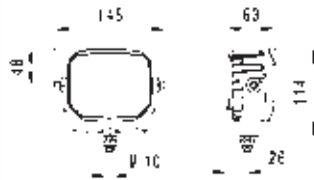
MODULE 70 LED REVERSING SPOTLIGHT

800 lumens, power requirement 13 W, color temperature 6,500° kelvins, high grade aluminum housing, 2,000 mm cable, close-range illumination, upright and pendant surface mounting.

ZZR 996 376-091

Type approval: ECE-R23, ECE-R10

This LED product has the following characteristics



POWER BEAM 1000 REVERSING SPOTLIGHT

850 lumens, power requirement 18 W, color temperature 6,500° kelvins, high grade aluminum housing, close-range illumination with overheating protection, for heavy duty applications, upright or pendant surface mounting.

with DT connector

ZZR 996 188-061

with DT connector and 2,000 mm adapter cable

ZZR 996 188-091

Type approval: ECE-R23, ECE-R10

This LED product has the following characteristics



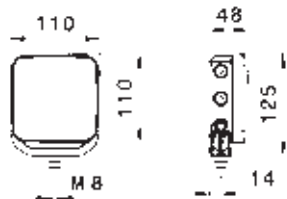
FLAT BEAM 500 LED

550 lumens, power requirement 7 W, color temperature 6,500° kelvins, impact-resistant synthetic material housing, close-range illumination, 2,000 mm cable, with standard bracket, upright surface mounting.

ZZR 995 193-051

Type approval: ECE-R23, ECE-R10

This LED product has the following characteristics



LED REVERSING SPOTLIGHT

300 lumens, power requirement 5 W, color temperature 5,500° kelvins, high grade aluminum housing, close-range illumination, upright and pendant surface mounting.

AMP-SUPERSEAL connector (2-pole) with 2,000 mm cable

ZZR 012 456-001

EasyConn connector (2-pole) with 1,000 mm cable

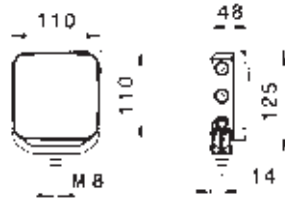
ZZR 012 456-011

6.3 mm blade terminal sleeves with 3,000 mm cable

ZZR 012 456-021

Type approval: ECE-R23, ECE-R10

This LED product has the following characteristics

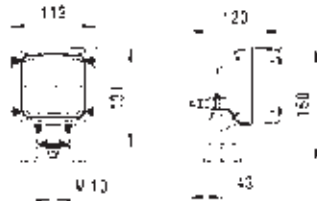


LED PRO REVERSING SPOTLIGHT

700 lumens, power requirement 11 W, color temperature 5,500° kelvins, high grade aluminum housing, close-range illumination, upright and pendant surface mounting.

AMP-SUPERSEAL connector (2-pole) with 2,000 mm cable	ZZR 012 456-201
EasyConn connector (2-pole) with 1,000 mm cable	ZZR 012 456-211
6.3 mm female spade connectors with 3,000 mm cable	ZZR 012 456-221

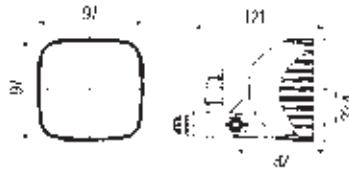
Type approval: ECE-R23, ECE-R10



ULTRA BEAM H3 REVERSING SPOTLIGHT

24 V halogen reversing spotlight with impact-proof glass fiber reinforced synthetic material housing, approved special illumination as reversing spotlight 00AR, GGVSEB/ADR, with AMP connector, heavy duty, color temperature 2,300° kelvins, IP 5K9K.

Terrain illumination	ZZR 996 506-501
Close-range illumination	ZZR 997 506-391
Long-range illumination	ZZR 997 506-621



ECO 21 REVERSING SPOTLIGHT

24 V, reversing spotlight with low current draw and reduced lighting performance, tool-free bulb replacement (bayonet closure), with impact-proof synthetic material housing. Approved special illumination as RFSW ECE-R23. 400 lumens, power requirement 21 W, color temperature 2,300° kelvins, IP 5K9K, 500 mm cable.

Close-range illumination	ZZR 996 179-701
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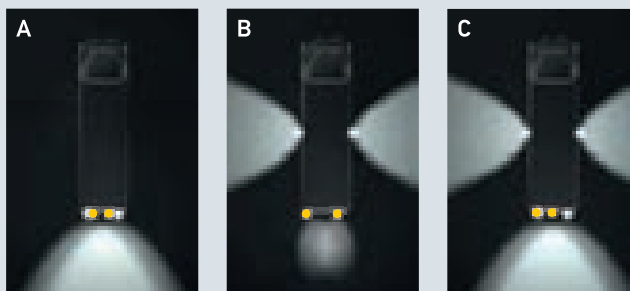
New laws for lighting equipment on newly registered commercial vehicles and trailers have applied since July 2006 (legal regulations also apply to conversions and retrofitting):

A total of four reversing spotlights are permitted: two reversing spotlights at the rear plus one reversing spotlight on each side. This is the best arrangement for optimum illumination when performing reversing manoeuvres.

German legislation has permitted a total of four reversing spotlights since July 2006:

Two additional reversing spotlights at the rear for commercial vehicles, buses and trailers with a length of more than 6 m. Additionally, one reversing spotlight at each side for commercial vehicles, buses and trailers with a length of more than 6 m. The installation of fog lamps at the rear, and the use of worklights as reversing spotlights, are prohibited.

For each vehicle and trailer, a maximum of 4 functional reversing spotlights may be attached.

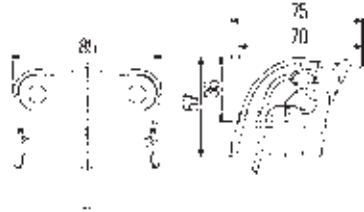
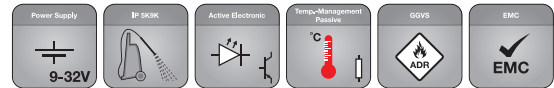


Legend:

- additional reversing spotlight (rear end or side)
- Standard reversing spotlights

- Variant A:** Two additional reversing spotlights at the rear
- Variant B:** One additional reversing spotlight on each side.
- Variant C:** Two additional reversing spotlights at the rear plus an additional reversing spotlight at the side.

This LED product has the following characteristics



LED LICENCE PLATE LIGHT

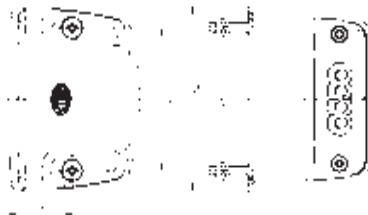
for surface mounting to left and right of the licence plate 520 x 120 mm, with 2.5 m cable, bracket for mounting the light to the body, cover, fixing screws, cover caps for screws as well as a spacer for different mounting situations, multivolt 10-33 V; with 2 LEDs 0.5 W.
12 V/0.55 W, current consumption = approx. 0.04 A

clear lens, black housing

2KA 959 640-607

Type approval: 4068 and 03 1721

This LED product has the following characteristics



LED LICENCE PLATE LIGHT

12 V, for surface mounting on the right or left of the licence plate, with 4 LEDs, clear lens, housing made of black synthetic material, with CE and ECE type approval, with blade terminal 6.3 x 0.8.
12 V/1 W, current consumption = approx. 0.08 A

for 520 x 120 mm licence plates, only 1 light required for illumination

2KA 010 278-321

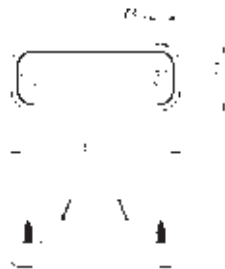
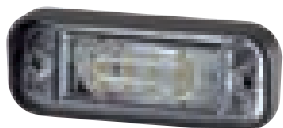
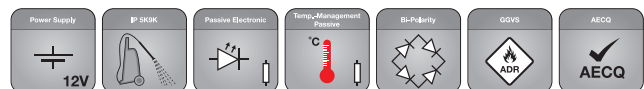
Type approval: 2609

for 340 x 240 and 280 x 200 mm licence plates

2KA 010 278-421

Type approval: 2911

This LED product has the following characteristics



LED LICENCE PLATE LIGHT

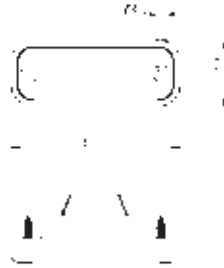
12 V, for recessed mounting above the licence plate, with frame, with blade terminal 6.3 x 0.8.

for 340 x 240 and 280 x 200 mm licence plates, only 1 light required for illumination

2KA 010 278-411

Type approval: 2911

This LED product has the following characteristics



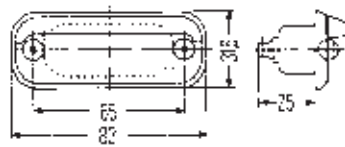
LED LICENCE PLATE LIGHT

for recessed mounting above the licence plate 520 x 120 mm, 2 lights required for illumination, with black plastic frame, with blade terminal 6.3 x 0.8

12 V/1 W, current consumption = approx. 0.08 A

2KA 010 278-311

Type approval: 2609



LICENCE PLATE LAMP

for recessed mounting above or below the licence plates 520 x 120 mm (2 or 3 lights) and 340 x 240 mm (2 lights), 2 x M4 fixing screws, installation depth: approx. 25 mm, clear lens.

with chrome brilliant-finish edge

2KA 001 378-001

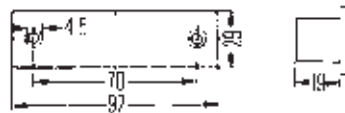
with silver-coloured edge, without fastening material

2KA 001 378-041

with black edge and 12 V bulb

2KA 001 378-127

Type approval: 12958



LICENCE PLATE LAMP

for recessed mounting above or below (2 lights) the licence plate 520 x 120 mm, 2 holes for fixing screws, installation depth: approx. 20 mm, clear lens.

with 12 V bulb

2KA 004 331-061

Type approval: 22890

HELLA beacons with powerful warning effect signal to other road users: Please take care – work is going on around this vehicle.

They enable maximum own- and third-party safety by means of an intensive warning effect. This safety is achieved by the optimum light bundling and distribution, the resulting high range as well as the very high light intensity.

You can rely 100% on our beacons. HELLA lights stand out from the crowd due to their outstanding quality of workmanship and stability - the long service life is proof of this!

This LED product has the following characteristics



KL 7000 LED

The KL 7000 LED is the logical development of the popular KL 700 and KL 7000 series. The beacon is characterised by its flat and compact design, long service life, and a high degree of efficiency in converting electric power into light. It allows an easy changeover from halogen to LED.

Fixed	2RL 011 484-001
Pipe socket mounting	2RL 011 484-011
Magnet	2RL 011 484-021

This LED product has the following characteristics

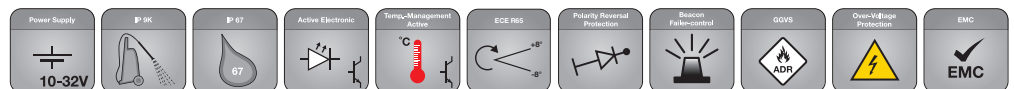


ROTA LED

The Rota LED with rotating LED light function is impressive due to its high level of efficiency, flat and compact design and rotating LED light function. Due to the shock absorbing rubber foot, it is highly resilient to vibration and thus perfectly suited to challenging applications.

Fixed	2RL 010 979-001
Pipe socket mounting	2RL 010 979-011
Magnet	2RL 010 979-021

This LED product has the following characteristics

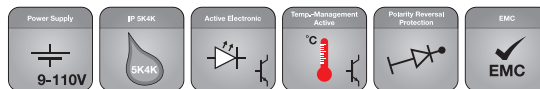


K-LED 2.0

The K-LED 2.0 is the innovative successor to the widely used K-LED F0 beacon and the first HELLA beacon where you can choose between rotating or flashing warning signals. The integrated light sensor effects an automatic change between day and night mode. This guarantees the best possible warning effectiveness. Extremely flat design and impact-resistant dome. The K-LED 2.0 does not interfere with radio signals.

Fixed	2XD 011 557-101
Pipe socket mounting	2XD 011 557-201
Magnet	2XD 011 557-301

This LED product has the following characteristics



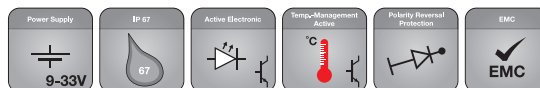
SOP 03/2015

KLX 1 LED

The KLX 1 LED was designed specifically for use on fork lifts and other lifting vehicles. It has a multivolt system (9 – 110 V) and integrated reverse polarity protection. Thanks to its compact design (10 cm height), low weight and impact-resilient light dome, this beacon is ideal for safeguarding internal transportation, or for construction traffic and industrial plant.

Fixed, amber	2XD 012 480-001
Fixed, red	2XD 012 480-011
Magnet, amber	2XD 012 480-101
Magnet, red	2XD 012 480-111

This LED product has the following characteristics

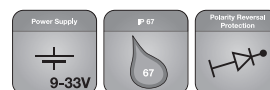


LED STROBE-TYPE BEACON NaviLED 360°

for surface mounting, with one LED, 10 different flash frequencies programmable, includes 2,500 mm connecting cable, mounting with 3 screws, power consumption less than 5 W. More light colours available on request.

Light colour amber	2XD 980 911-601*
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This LED product has the following characteristics



LED PERMANENT SIGNAL LIGHTS Ø 83 MM

for installation, with 24 LEDs, lower power consumption, extremely long service life, pressure cleaner-proof, vibration and impact-proof, mounting via stainless steel single bolt fastener

amber	2XD 959 011-021*
blue	2XD 959 010-711*
red	2XD 959 010-021*
green	2XD 959 010-721*

10 different flash frequencies programmable	
amber	2XD 959 011-451

* No ECE approval – use as far as permitted by legislation. Not approved for road traffic in Germany, Austria and Switzerland.



KL ROTAFLEX / ROTAFIX

The Rotaflex / Rotafix beacon is a compact and resilient rotating beacon. It is characterised by excellent lighting output, an impact-proof light dome, and extremely high resilience to vibration.

12 V, fixed	2RL 007 337-001
24 V, fixed	2RL 007 337-011
12 V, Flex	2RL 006 846-001
24 V, Flex	2RL 006 846-011
12 V, Magnet	2RL 007 337-021
24 V, Magnet	2RL 007 337-031
















KL ROTA COMPACT

The KL Rota Compact beacon impresses with premium quality engineering, excellent robustness and light values. Its elastic, impact-absorbing base minimises the danger of damage.












12 V, fixed	2RL 009 506-201
24 V, fixed	2RL 009 506-211
12 V, Flex	2RL 009 506-001
24 V, Flex	2RL 009 506-011
12 V, pipe socket mounting	2RL 009 506-101
24 V, pipe socket mounting	2RL 009 506-111



ACCESSORIES

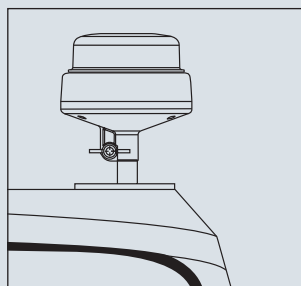
Product photo	Description	Part number	PU
	Socket pipe to weld on, straight, 100 mm long, with rubber stopper and socket according to DIN 14620	1-pin 8HG 002 365-001 2-pole 8HG 006 294-101	1
	Socket pipe with base for screwing on, total height 126 mm, with rubber stopper and socket according to DIN 14620	1-pin 8HG 006 294-011 2-pole possible on request	1
	Angled socket pipe with base for screwing on from side, clearance 90 mm, height 100 mm incl. rubber stopper, socket, 2 x hexagon screws M8 x 35, 2 x hexagon nuts M8, 2 x spring washers according to DIN 14620	1-pin 8HG 006 294-021 2-pole possible on request	1
	Angled socket pipe with base for screwing on from side, clearance 50 mm, height 100 mm incl. rubber stopper, socket, 2 x hexagon screws M8 x 35, 2 x hexagon nuts M8, 2 x spring washers according to DIN 14620	1-pin 8HG 006 294-111 2-pole possible on request	1
	Rotatable socket pipe, height approx. 105 mm incl. rubber stopper, socket, 2 x hexagon screws M8 x 35, 2 x hexagon nuts M8, 2 x spring washers according to DIN 14620	1-pin 8HG 006 294-031 2-pole 8HG 006 294-141	1
	Socket pipe with screw attachment, height approx. 100 mm, with rubber stopper and socket according to DIN 14620	1-pin 8HG 006 294-051 2-pole 8HG 006 294-091	1
	Socket pipe with 2 screw holes for attaching to the rear of the cab, with telescope holder, total height approx. 1.000 mm, Can be shifted up to 700 mm, with rubber stopper and socket according to DIN 14620	1-pin 8HG 006 294-041 2-pole possible on request	1
	Socket pipe to weld on, straight, height 100 mm Compatible with 8HG 002 365-001 / 8HG 006 294-101	8HG 096 531-007	2
	Socket pipe, straight, black with M8 thread, approx. 220 mm long Compatible with 8HG 990 368-001 / -007	8HG 331 470-007	2
	Socket pipe, straight with base, to screwing, total height 126 mm compatible with 8HG 006 294-011 / -121	8HG 096 531-107	2
	Angled socket pipe, with base to screw on side, clearance 90 mm Compatible with 8HG 006 294-021 / -221	8HG 096 531-117	2
	Angled socket pipe, with base for screwing on from side, clearance 50 mm Compatible with 8HG 006 294-111 / -211	8HG 096 531-127	2
	Rotatable socket pipe, height approx. 105 mm Compatible with 8HG 06 294-031 / -141	8HG 096 531-137	2

ACCESSORIES

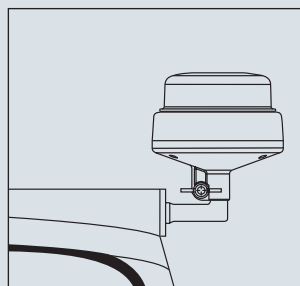
Product photo	Description	Part number	PU
	2-pole socket with cap, with 2 blade couplings 6.3 mm	9JB 004 777-001* 9JB 004 777-002*	5 1
	2-pole round socket with ground contact, with 2 blade couplings 6.3 mm	8JB 862 757-001* 8JB 862 757-007*	1 24
	2-pole 6-edge SW20 socket with ground contact, with 2 blade couplings 6.3 mm	8JB 862 757-021* 8JB 862 757-027*	1 24
	2-pole socket with cap, with 300 mm cable 2.5 mm ² and 2 blade couplings 6.3 mm	8JB 001 946-101*	1
	2-pole aluminum alloy socket with cap and 1 screw connection ground on housing	8JB 001 946-021*	10
	2-pole socket with cap and 2 blade couplings 6.3 mm	8JB 004 123-031*	1
	1-pin round socket with fillister head screw M4 x 8	8JB 850 434-011*	10
	1-pin socket with cap	8JB 001 946-011*	10
	12 V, test equipment to monitor the function of rotating beacons and flashing beacons, indicates the failure of a beacon	5KG 011 630-101	1
	24 V, test equipment to monitor the function of rotating beacons and flashing beacons, indicates the failure of a beacon	5KG 011 630-111	1
	Rubber stopper /cap according to DIN 14620	9GH 096 532-001 9GH 096 532-007	10 200

* Sockets comply with DIN ISO 4165; installation opening: Ø 18.5 mm, control panel thickness max. 7 mm.

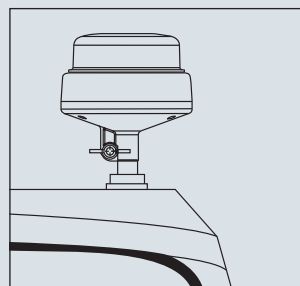
Installation examples



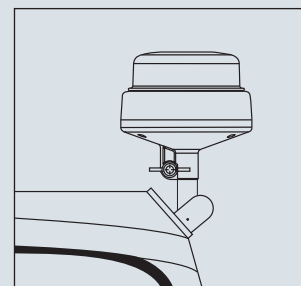
Bracket to screw on



Angle bracket



Bracket with thread



Variable bracket



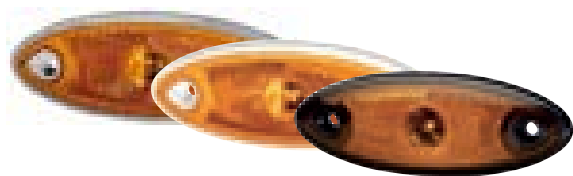
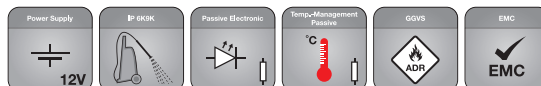
Additional indicators and side marker lamps contribute daily to road safety.

As it is only these markings that make the entire vehicle easy to see – even in the dark.

HELLA offers ideal versions of both products with LED technology.

Durability, high luminosity and quick installation – these features are characteristic of HELLA products.

This LED product has the following characteristics



with 6.3 mm contact

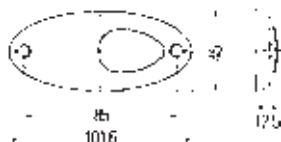
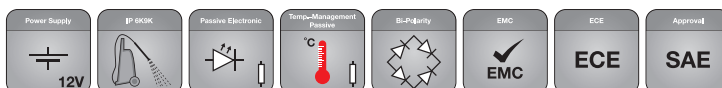
LED SIDE MARKER LIGHT

for surface mounting, modern night-time design and high level of safety thanks to maximum illumination area, 12 V, additional versions available on request.

6.3 mm contact pin, white frame	2PS 344 690-007
6.3 mm contact pin, grey frame	2PS 344 690-027
6.3 mm contact pin, black frame	2PS 344 690-067
AMP-SUPERSEAL, white frame	2PS 344 690-607
AMP-SUPERSEAL, black frame	2PS 344 690-617

Type approval: 5853

This LED product has the following characteristics



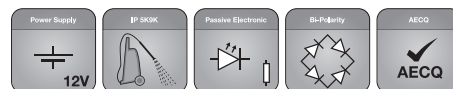
LED SIDE MARKER LIGHT

for horizontal surface mounting, with 2 LEDs, with reflector, with seal and two cables 500 mm long, with ECE and SAE type approval. 12 V/0.5 W, current consumption = approx. 0.04 A

		ECE	SAE (USA)
with fastening screws	2PS 964 295-067	X	■ ●
self-adhesive, without seal, with caps for the screw holes	2PS 964 295-081	X	■ ●

Type approval: 0202

This LED product has the following characteristics



LED SIDE MARKER LIGHT

for horizontal surface mounting, with 250 mm cable, self-adhesive.

12 V, horizontal	2PS 009 226-021/7
12 V, vertical	2PS 009 226-077

for horizontal surface mounting, with 6.3 mm contacts and counterplug grommet, self-adhesive.

12 V, horizontal	2PS 009 226-067
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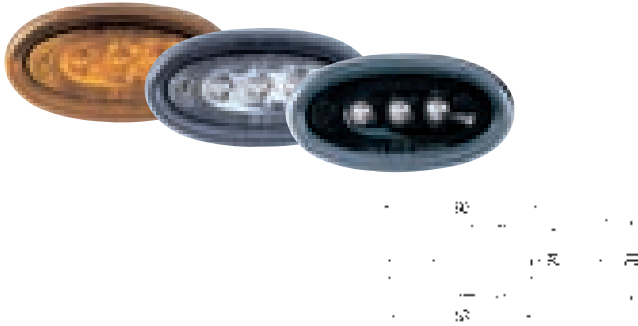
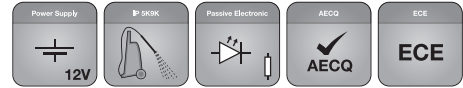
Type approval: 10236

SAE type approval for vehicles

- < 2032 mm wide
- > 2031 mm wide
- X < 12 m overall length

Please see the note on page 128 regarding LED indicator lights and LED light failure check.

This LED product has the following characteristics

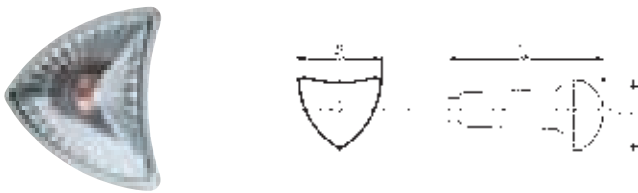


LED SIDE MARKER LIGHT SET

for horizontal recessed mounting, for retrofitting to passenger cars < 6 m, 4 units each, with LED technology. 12 V/0.7 W, current consumption = approx. 0.06 A

		ECE	SAE (USA)
Amber lenses, silver-grey finishers	2PS 008 138-801	X	
Grey lenses, black finishers	2PS 008 138-811	X	
Grey lenses, silver-grey finishers	2PS 008 138-821	X	

Type approval: E4 9110

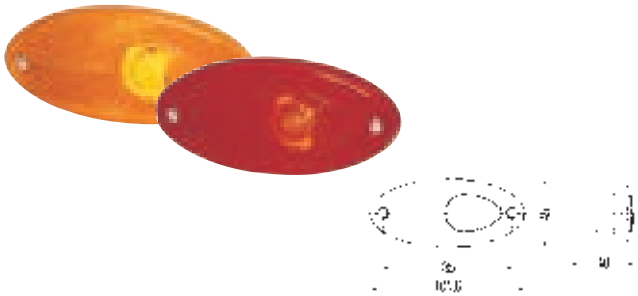


SIDE MARKER LIGHT SET

for horizontal and vertical recessed mounting, 4 units each, with amber 12 V/5 W bulb.

		ECE	SAE (USA)
in arrow design	2PS 008 541-801	X	

Type approval: E1 1223

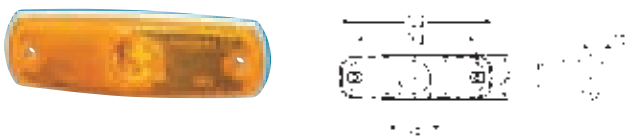


SIDE MARKER LIGHT

for horizontal recessed mounting, with reflector, seal, 12 V bulb.

		ECE	SAE (USA)
12 V/5 W, amber	2PS 964 295-001	X	■ ●
12 V/5 W, red SMLR in accordance with SAE	2XS 964 295-031/7	X	■ ●

Type approval: SMLR E17 9807, UR E17 812



SIDE MARKER LIGHT

for horizontal or vertical recessed mounting, with reflector, 12 V bulb, white base plate.

		ECE	SAE (USA)
12 V/3 W	2PS 962 964-037	X	■ ●
Seal (order separately)	9GD 963 281-001		
Grommet (order separately)	9GT 963 129-001		

Type approval: ECE E4 10236

Information

For vehicles < 6 m in length and/or < 3.5 t, auxiliary indicators of category 5 are prescribed, and for vehicles > 6 m in length and/or > 3.5 t, auxiliary indicators of category 6 are prescribed.

This LED product has the following characteristics



LED AUXILIARY INDICATOR

for horizontal recessed mounting, category 5, simple gluing into prepared mirror, can also be used as a universal auxiliary indicator.

12 V / 0.7 W, current consumption = approx. 0.06 A

2BM 008 771-007

ECE

SAE (USA)

X

X

Type approval: E 011423



AUXILIARY INDICATOR

for surface mounting on the side, category 6 for 24 V/21 W, without light bulb, extremely flat design.

Amber Lens

2BM 008 355-001

Type approval: E 1059

Crystal-clear lens

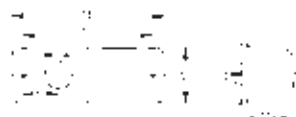
2BM 008 355-017

Type approval: E 1848

Accessories

Harness for non splashwater-proof area

8KA 157 425-007



AUXILIARY INDICATOR

for surface mounting on the side, category 5 and 6 for 12 V and 24 V / 21 W, with bulb, GGVS / ADR-compliant.

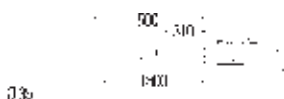
On the left

2BM 006 692-017

On the right

2BM 006 692-027

Type approval: E 0152621



AUXILIARY INDICATOR

for recessed mounting on the side, category 5 for 12 V, with bulb.

small, space-saving

2BM 003 563-111

Type approval: E 42621

SAE type approval for vehicles

- < 2032 mm wide
- > 2031 mm wide
- X < 12 m overall length

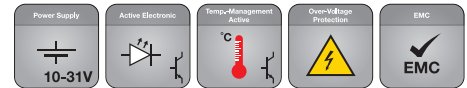
Please see the note on page 128 regarding LED indicator lights and LED light failure check.



HELLA offers a comprehensive range of interior lighting for various vehicle applications and vehicle types.

Among other things, the range cover ambient lighting in the shape of light hues and LED modules, continuous lighting systems/modules for ceiling systems, service sets (operating units) and stair lighting.

These LED products have the following properties



STANDARD LED SPOTLIGHTS, FIXED

Number of Power LEDs	1 white
Illumination angle	40° or 20°
Illuminance at 1 m	156 lx (20°), 65 lx (40°)
IP Class (Protection)	3 x
Power consumption	2 W (0.16 A at 12 V)
Lens	Clear
Installation	choice between screw or spring-assisted mounting
Current consumption of spotlight at 12 V/2.5 W	approx. 0.20 A

Flush-mounting, fixed, wide illumination (40°) Finisher colour¹⁾

white	2JA 344 040-701
black	2JA 344 040-711
silver	2JA 344 040-721

Flush-mounting, fixed, spot-type illumination (20°) Finisher colour¹⁾

silver	2JA 344 040-761
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Accessories

Round finisher with angled edges

chrome	9AB 344 057-061
gold	9AB 344 057-071

Round finisher with rounded edges

chrome	9AB 344 045-061
gold	9AB 344 045-071

Stainless metal frame, polished

9AB 959 505-501

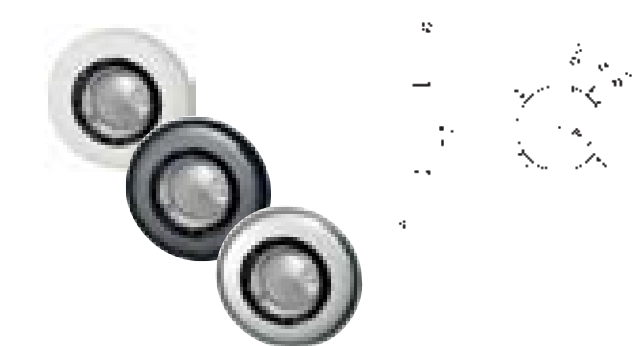
Stainless metal frame, satined

9AB 959 505-561

Square finisher with angled edges

chrome	9AB 344 058-061
gold	9AB 344 058-071

1) Further finisher colours (e.g. real-wood look) or ambient Celis® light guide ring (e.g. blue, red) on request.



STANDARD LED SPOTLIGHTS, ADJUSTABLE

Number of Power LEDs	1 white
Illumination angle	40° or 20°
Illuminance at 1 m	156 lx (20°), 65 lx (40°)
IP Class (Protection)	3 x
Power consumption	2 W (0.16 A at 12 V)
Lens	Clear
Installation	choice between screw or spring-assisted mounting
Current consumption of spotlight at 12 V/2.5 W	approx. 0.20 A

Flush-mounting, adjustable, wide illumination (40°) Finisher colour¹⁾

white	2JA 343 790-301
black	2JA 343 790-311
silver	2JA 343 790-341

Flush-mounting, adjustable, spot-type illumination (20°) Finisher colour¹⁾

silver	2JA 343 790-441
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1) also with white, ambient Celis® light guide ring, current consumption of the Celis® light guide ring at 12 V / 0.5 W = approx. 0.04 A.

Flush-mounting, adjustable, wide illumination (40°) Finisher colour¹⁾

white	2JA 343 790-701
black	2JA 343 790-711
silver	2JA 343 790-741

Flush-mounting, adjustable, spot-type illumination (20°) Finisher colour¹⁾

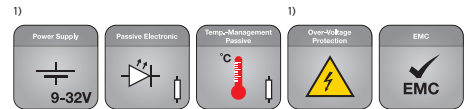
black	2JA 343 790-611
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1) Further finisher colours (e.g. real-wood look) or ambient Celis® light guide ring (e.g. blue, red) on request.

Accessories

Finisher chrome	9AB 343 792-061
Finisher gold	9AB 343 792-071

This LED product has the following characteristics



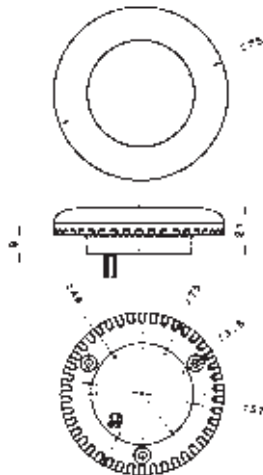
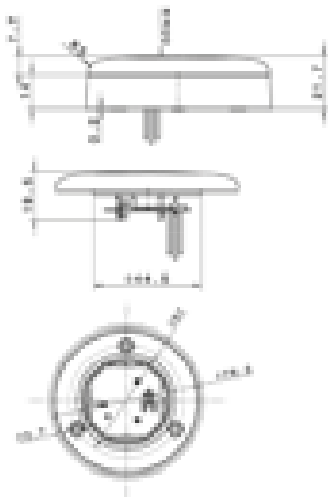
LED SPOTLIGHTS ROUND, FLAT FLUSH-MOUNTING/SURFACE-MOUNTING

Illumination angle	35°
Illuminance at 1 m	45 lx (Standard), 105 lx (High-Power)
IP Class (Protection)	20
Power consumption	Standard 1.5 W (0.12 A at 12 V) High power 2.6 W (0.21 A at 12 V)
Dimensions	Recessed mounting version only 14 mm Surface mounting version only 22 mm
Voltage	5 VDC (connection possible only with control unit)

Individual packaging
comprising 1 LED spotlight, 1 coloured light frame, 1 coloured installation frame, 1 sealing ring for installation

Standard LED spotlight

High-power LED spotlight



Flush-mounting, fixed
Finisher colour2)

Standard LED spotlight 1.5 W

High-Power LED spotlight 2.6 W (double light power with cooling element)

without Celis®

white	2JA 344 199-001	2JA 344 599-001
black		2JA 344 599-011
silver		2JA 344 599-021

with Celis® warm-white ambient

white		2JA 344 599-101
black		2JA 344 599-111
silver	2JA 344 199-121	2JA 344 599-121

with Celis® blue ambient

white	2JA 344 199-201	2JA 344 599-201
black	2JA 344 199-211	2JA 344 599-211
silver	2JA 344 199-221	2JA 344 599-221

with Celis® red ambient

white		2JA 344 599-301
black	2JA 344 199-311	2JA 344 599-311
silver		2JA 344 599-321

with Celis® orange ambient

white	2JA 344 199-351	2JA 344 599-351
black		2JA 344 599-361
silver	2JA 344 199-371	2JA 344 599-371

Accessories

Installation frame, the overall height with frame is 22 mm

chrome	9AB 344 192-061
gold	9AB 344 192-071

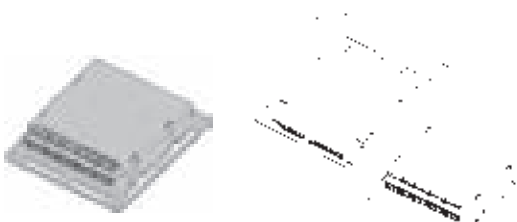
A control unit is required in order to use more than one spotlight.

Number of circuits	max. 8 LED spotlights in 1 or 2 dimming circuits
IP Class (Protection)	30
Power consumption	1 – 16 W
Voltage	Multivolt (9 – 32 VDC)

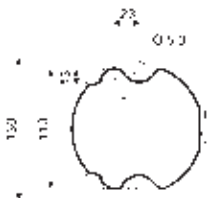
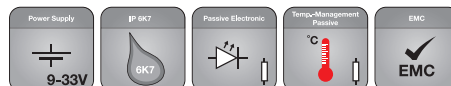
for 4 Standard or High-Power spotlights please use ... 5XA 344 150-001

for 8 Standard or 5 high power spotlights please use ... 5XA 344 150-011

1) Connection possible only with control unit (5XA 344 150-001/-011).
2) Further finisher colours (e.g. real-wood look) available on request.



This LED product has the following characteristics

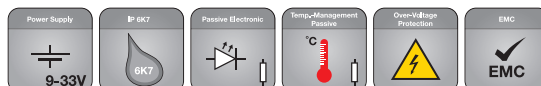


EuroLED

Number of LEDs	1 white Power LED
Electrical connection	electrical connection through a cable 2,500 mm long
IP Class (Protection)	6K7
Lens	white
Power consumption	white 4 W (0.33 A at 12 V) red <2.5 W (0.20 A at 12 V)
Installation	Surface-mounting, permanently bonded with base plate

12 V/4 W, current consumption = approx. 0.33 A	2JA 959 820-501
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This LED product has the following characteristics

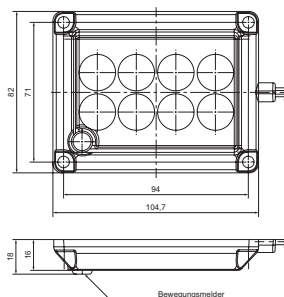


EUROLED TOUCH

Number of LEDs	1 white and 8 red
Electrical connection	electrical connection via a cable 2,500 mm long
IP Class (Protection)	6K7
Lens	white
Power consumption	white 4 W (0.33 A at 12 V) red <2.5 W (0.20 A at 12 V)
Installation	Surface-mounting, permanently bonded with base plate
Function	with sensitive switch, for ON/OFF and dimming as well as switching between red and white light

black finisher	2JA 959 950-031
white finisher	2JA 959 950-041

This LED product has the following characteristics



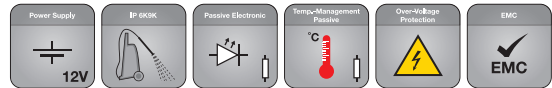
LED CEILING LIGHT

Number of LEDs	8 LEDs
Illuminance at 1 m	approx. 240 lx
Dimensions of light	105 x 82 x 16 mm (L x B x H)
IP Class (Protection)	67
Light colour	5,700 K (neutral white)
Installation	Surface-mounting
Illumination angle	approx. 65°
Nominal output	approx. 3.3 W
Current consumption	approx. 0.28 A at 12 V approx. 0.14 A at 24 V

without motion detector	2JA 012 557-011
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This LED product has the following characteristics

1)

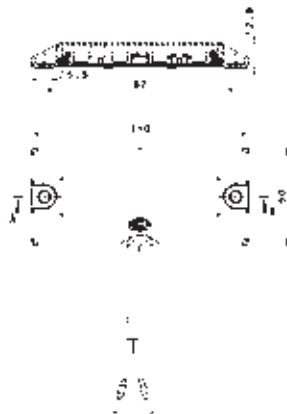
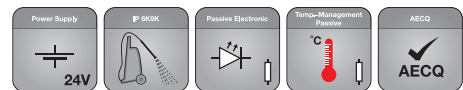


MINI OvalLED

Number of LEDs	4 white LEDs, 1 ambient LED
Illumination angle	50°
Illumination	side driver or instrument range
Illuminance at 1 m	Standard 14,5 lx, Power 54 lx
Function	ambient lighting can be switched on
IP Class (Protection)	6K9K (without frame/switch), 40 (with frame/switch)
Power consumption	Standard 1.7 W (0.14 A at 12 V) Power 3.6 W (0.30 A at 12 V)
Lens	brilliant and clear
Installation	Flush-mounting
Voltage	12 V or 24 V
Current consumption	12 V/3.6 W = approx. 0.30 A
Temperature range	-40 °C to +60 °C

LED equipment	without frame and switch1)	with frame and switch
4 white power LEDs, red	2JA 343 570-011	2JA 343 570-051
4 white power LEDs, blue	2JA 343 570-117	2JA 343 570-157
4 white standard LEDs, red	2JA 343 570-031	-

This LED product has the following characteristics



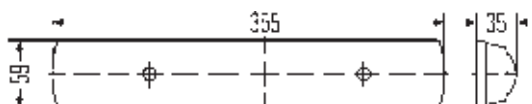
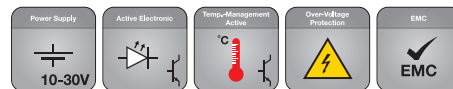
LED LIGHT

Number of LEDs	4
LED angle of radiation	40°
Orientation of light source	Fixed
Illuminance at 2.5 m	8 lx (average/ measuring points: floor)
Electrical connection	via cable (2 x 0.75 m2, length 1,300 mm)1)
Housing	black
Power consumption	1.5 W (0.06 A at 24 V)
Light source	cold white power LEDs
Lens	Clear
Installation	Surface-mounted, screw attachment

2JA 010 838-017

1) Versions with longer cables upon request.

This LED product has the following characteristics



LED LIGHTS WITH SWITCH

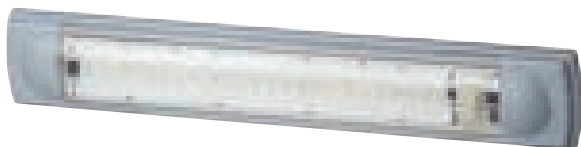
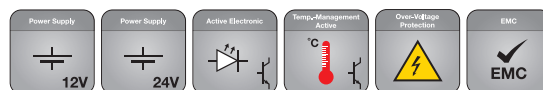
Number of LEDs	12 LEDs
Illuminance at 1 m	approx. 100 lx
Length	355 mm
Light colour	4,000 K (neutral white)
Material description	Lens and frame made of impact-resistant material
Installation	Surface-mounting
Nominal output	3.5 W
Current consumption	approx. 0.30 A at 12 V approx. 0.15 A at 24 V

2JA 007 373-151

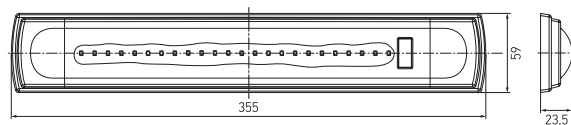
Number of LEDs	24 LEDs
Illuminance at 1 m	approx. 200 lx
Length	355 mm
Light colour	4,000 K (neutral white)
Material description	Lens and frame made of impact-resistant material
Installation	Surface-mounting
Nominal output	7 W
Current consumption	approx. 0.58 A at 12 V approx. 0.29 A at 24 V

2JA 007 373-161

This LED product has the following characteristics



For illustrative purposes only

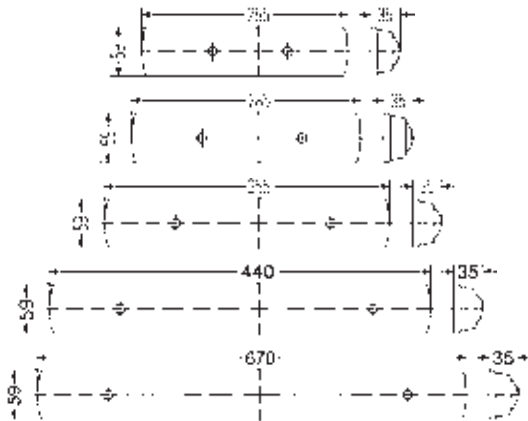
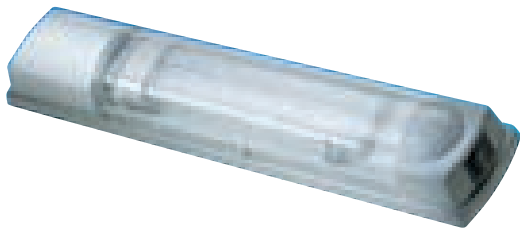


LED SURFACE-MOUNTED LIGHT WITH INTEGRATED SWITCH

Number of LEDs	24 LEDs
Illuminance at 1 m	approx. 200 lx
Length	355 mm
Light colour	4,000 K (neutral white)
Nominal output	4.8 W
Current consumption	approx. 0.40 A at 12 V approx. 0.20 A at 24 V

12 V **2JA 007 373-301**

24 V **2JA 007 373-311**

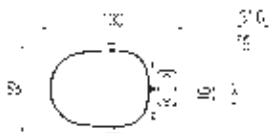


TRANSISTOR CEILING LIGHT

Lighting material	Bulb
Feature	fully interference suppressed, compact fluorescent light with switch
IP Class (Protection)	43
Lens	Clear
Installation	Surface-mounting
Voltage	12 V
255 mm long, 7 W	2JA 007 373-001
285 mm long, 9 W	2JA 007 373-031
355 mm long, 11 W	2JA 007 373-061
440 mm long, 8 W	2JA 007 372-001
670 mm long, 13 W	2JA 007 372-041

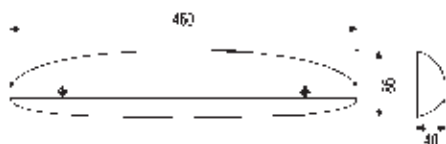
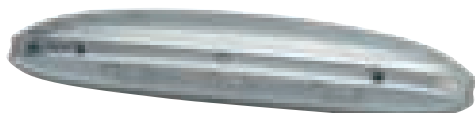
Spare parts

Fluorescent bulb, 7 W, white, 255 mm	8GS 861 955-001
Fluorescent bulb, 9 W, white, 285 mm	8GS 861 955-011
Fluorescent bulb, 11 W, white, 355 mm	8GS 861 955-021
Fluorescent bulb, 8 W, warm white, 440 mm	8GS 002 296-101
Fluorescent bulb, 8 W, white, 440 mm	8GS 002 296-111
Fluorescent bulb, 13 W, white, 670 mm	8GS 861 953-011



CEILING LIGHT

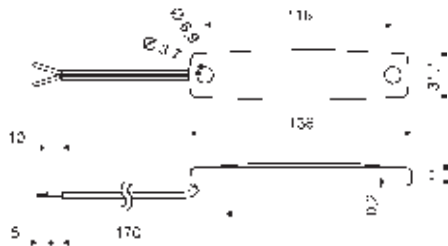
Number of light sources	1 C10W 12 V bulb
Electrical connection	via harness assembly with AMP connector and 6.3 mm blade couplings
Functions	On/ off/ door contact, passive thermal management
Housing	transparent or black
IP Class (Protection)	6K9K
Power consumption	10 W (0.83 A at 12 V)
Lens	Clear
Installation	Installation, either screw-type or snap-on fastening
Switches	grey or black
Voltage	12 V
transparent housing, grey switch	2JA 964 916-001
black housing, black switch	2JA 964 916-011
C10W 12 V bulb	8GM 002 091-131



ENTRY LIGHT AND AWNING LIGHT

Number of light sources	3 tubular bulbs at 5 W
Illumination	optimal in the step area and before
Illuminance at 1 m	23 lx
Colouring	Housing painted in silver
Function	Active electronic switching, passive thermal management, overvoltage protection
Installation	Surface-mounting
Voltage	8–28 V
12 V	2XT 008 929-001
Spare parts	
12 V bulb C5W	8GM 002 092-121

This LED product has the following characteristics



MINI THIN LED

Number of LEDs	5 white or 3 blue LEDs
Electrical connection	electrical, using a cable 170 mm long
Illumination angle	34° (wide at close range)
Illuminance at 1 m	7.2 lx
IP Class (Protection)	6K9K
Power consumption	2.8 W (0.23 A at 12 V)
Lens	Clear
Installation	Surface mounting, permanently bonded to gray base plate
Temperature range	Temperature range - 40 °C to + 60 °C
5 white LEDs	2JA 343 660-101/7
3 blue LEDs	2JA 343 660-021

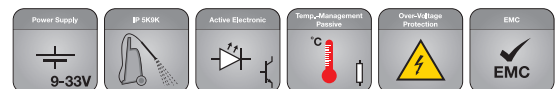
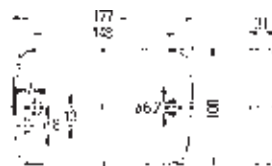
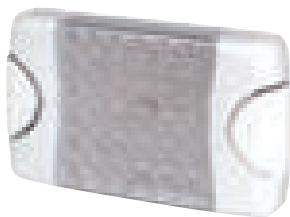
This LED product has the following characteristics



LED STEP LIGHT

Number of LEDs	4 white LEDs
Feature	with square white frame
IP Class (Protection)	67
Power consumption	0.5 W (0.04 A at 12 V)
Lens	white
Installation	Flush-mounting
12 V	2XT 980 580-052
12 V, high power	2XT 980 596-002¹⁾

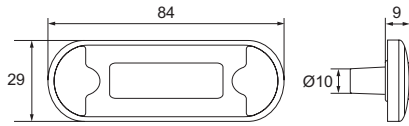
This LED product has the following characteristics



DuraLED

Number of LEDs	36 white LEDs
Electrical connection	electrical via a 2,500 mm cable
Illumination angle	70°, wide horizontal and narrow vertical illumination
Illuminance	720 lx
IP Class (Protection)	5K9K
Power consumption	9 W (0.75 A at 12 V)
Lens	Clear
Material description	Impact-resistant plastic, UV-resistant
Installation	Surface-mounting, permanently bonded with white base plate
	2JA 959 037-511

This LED product has the following characteristics

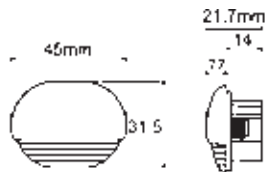
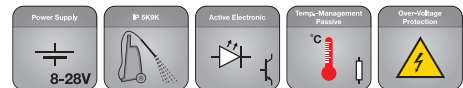


LED STEP LIGHT

Number of LEDs	2 LEDs
Electrical connection	electrical, using a cable 500 mm long
Connecting bracket	30°
Illuminance at 1 m	15 lx
Feature	with polarity reversal protection
Power consumption	0.5 W (0.04 A at 12 V)
IP Class (Protection)	6K9K
Lens	Clear
Scope of supply	Seal, fixing screws and screw caps
Installation	Flush-mounting

White LEDs	2XT 980 855-117
Blue LEDs	2XT 980 855-417

This LED product has the following characteristics

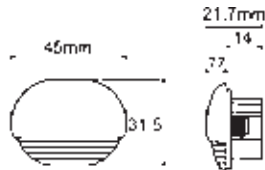
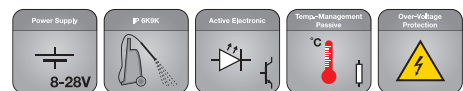


LED STEP LIGHT

Number of LEDs	1 LED
Electrical connection	electrical, using a sealed 100 mm cable
Illumination	wide in close range areas
Illuminance at 1 m	< 10 lux
Colouring	White cover cap
IP Class (Protection)	5K9K
Power consumption	0.5 W (0.04 A at 12 V)
Lens	Clear
Scope of supply	with seal
Installation	Flush-mounting, choice with 2 screws or with snap-on fastening

White LED	2JA 998 560-017
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This LED product has the following characteristics

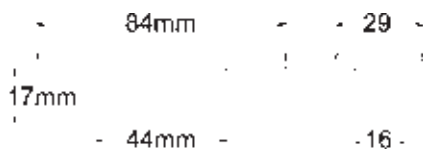
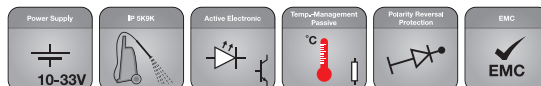


LED STEP LIGHT

Number of LEDs	1 LED
Electrical connection	electrical, using a sealed 100 mm cable
Illumination	wide in close range areas
Illuminance at 1 m	< 10 lx
Colouring	White cover cap
IP Class (Protection)	6K9K
Power consumption	0.5 W (0.04 A at 12 V)
Lens	Clear
Scope of supply	with seal
Installation	Flush-mounting, choice with 2 screws or with snap-on fastening

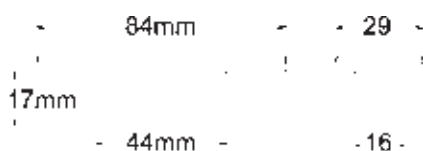
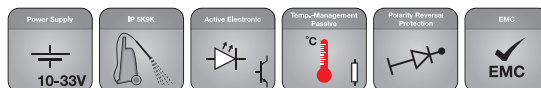
Blue LED	2JA 998 560-057
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This LED product has the following characteristics



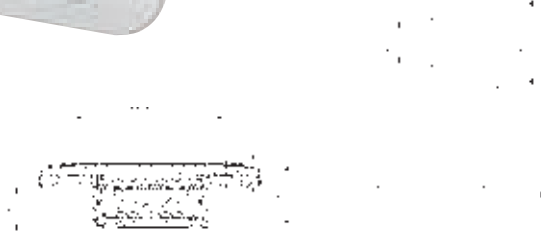
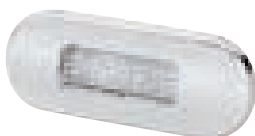
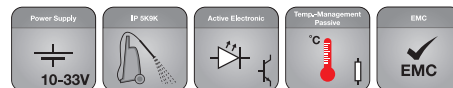
LED STEP LIGHT	
Number of LEDs	2 LEDs
Electrical connection	electrical, using a cable 120 mm long
Illumination angle	30°
Illuminance at 1 m	15 lx
Feature	with reverse polarity protection
IP Class (Protection)	5K9K
Power consumption	0.5 W (0.04 A at 12 V)
Lens	Clear
Scope of supply	Seal, fixing screws and screw caps
Installation	Flush-mounting
White LEDs	2XT 959 510-427

This LED product has the following characteristics



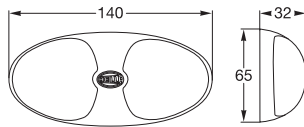
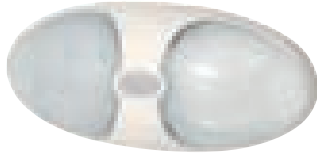
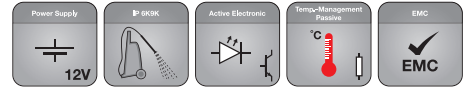
LED STEP LIGHT	
Number of LEDs	2 LEDs
Electrical connection	electrical, using a cable 120 mm long
Illumination angle	30°
Illuminance at 1 m	15 lx
Feature	with reverse polarity protection
IP Class (Protection)	5K9K
Power consumption	0.5 W (0.04 A at 12 V)
Lens	Clear
Scope of supply	Seal, fixing screws and screw caps
Installation	Flush-mounting
Blue LEDs	2XT 959 510-657

This LED product has the following characteristics



LED STEP LIGHT	
Number of LEDs	1 LED
Feature	with polished steel frame
IP Class (Protection)	5K9K
Installation	Flush-mounting
1 blue LED	2XT 959 680-612
1 white LED	2XT 959 680-812

This LED product has the following characteristics

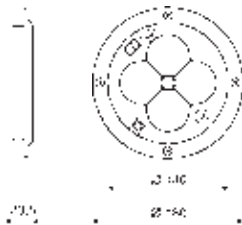


DuraLED, OVAL

Number of LEDs	12
LED angle of radiation	120°
Orientation of light source	Fixed
Illuminance at 1 m	60 lx
Electrical connection	via cables (2 x 0.75 m ² ; length 180 mm)
Housing	white
IP Class (Protection)	6K9K
Power consumption	3 W (0.25 A at 12 V)
Light source	cold white power LEDs
Lens	white
Voltage	Dualvolt 12 and 24 V

2JA 959 700-102

This LED product has the following characteristics



CARGOLED

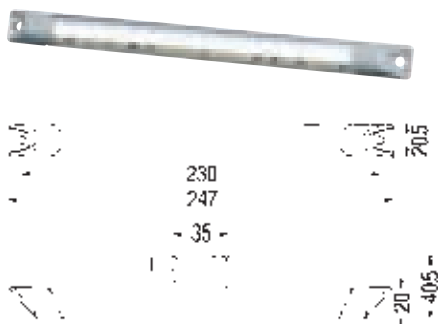
Number of LEDs	4 white Power LEDs
Electrical connection	electrical, via a 310 mm long cable
Illumination angle	44° (wide illumination at close range)
Illuminance at 1 m	180 lx
IP Class (Protection)	6K9K
Power consumption	6 W (0.5 A at 12 V)
Lens	Clear
Installation	Flush-mounting (aluminium installation frame)
Temperature range	-40 °C to +60 °C

Cold white	2JB 343 227-001
Warm white	2JB 343 227-041

Accessories

Installation frame, grey	9XD 344 118-101
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This LED product has the following characteristics

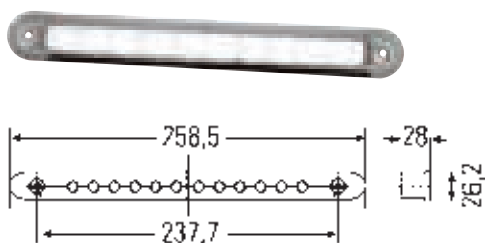


LED STEP LIGHT

Number of LEDs	2 white LEDs
Electrical connection	electrical using blade terminal and grommet
Feature	with prism rod as a light aperture body
Colouring	Grey housing
IP Class (Protection)	5K9K
Power consumption	0.7 W (0.05 A at 12 V)
Lens	Clear
Installation	Surface-mounted (horizontally or vertically)

2JA 008 078-031

This LED product has the following characteristics

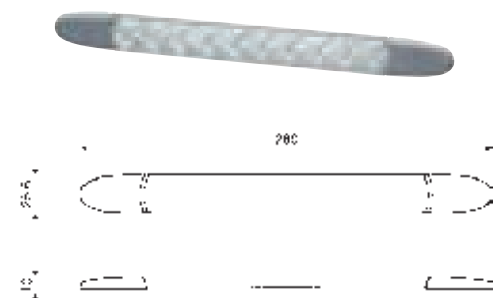
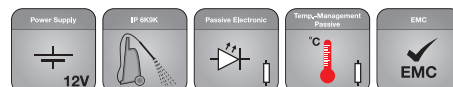


LED STEP LIGHT

Number of LEDs	10 white LEDs
Electrical connection	2,500 mm cable
Illumination angle	24°
Illuminance at 1 m	130 lx
Feature	cast in one piece
IP Class (Protection)	6K9K
Power consumption	2 W (0.16 A at 12 V)
Lens	Clear
Scope of supply	with screws, screw caps, seal, and cable connector
Installation	Flush-mounting

2JA 959 073-001

This LED product has the following characteristics



FLAT LED SURFACE-MOUNTED LIGHT

Number of LEDs	10 white LEDs
Electrical connection	electrical, using a cable 500 mm long
Illumination angle	38°
Illuminance at 1 m	32 lx
Power consumption	1.8 W (0.15 A at 12 V)
Lens	Clear
Installation	Surface-mounting, permanently bonded with base plate
Temperature range	-40 °C to +60 °C

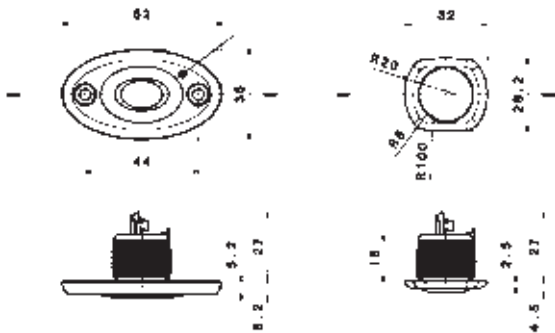
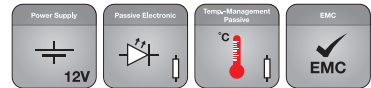
12 V, white LEDs

2JA 343 606-001/7

12 V, blue LEDs

2JA 343 606-201

This LED product has the following characteristics



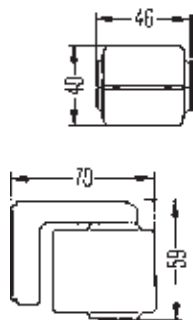
AMBIENT LED SPOTLIGHT

Number of LEDs	1 LED
Illuminance at 1 m	5 lx
IP Class (Protection)	20
Power consumption	0.3 W (0.02 A at 12 V)
Lens	Clear
Scope of supply	3 frames (white, grey and black)
Installation	Surface-mounting via attachment element

LED red	2JA 344 170-001
LED blue	2JA 344 170-011
LED white	2JA 344 170-021
LED amber	2JA 344 170-031

Variant

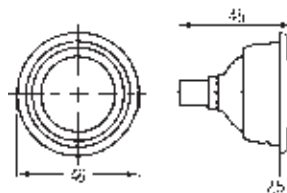
White LED, with a silver instead of a grey frame	2JA 344 170-201
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READING LIGHT

Number of light sources	1 halogen bulb
Electrical connection	250 mm long cable
Feature	integrated ON/OFF switch in light head, rotatable (340°), swivellable (330°)
Housing	black
Power consumption	5 W (0.42 A at 12 V)
Lens	red or white replaceable
Installation	Surface-mounting
Voltage	12 V

2AB 004 532-102



READING LIGHT

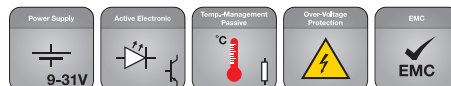
Number of light sources	1 bulb WY5W 12 V, amber
Electrical connection	via cables with tin-plated cable ends, 130 mm length
Housing	black1)
Power consumption	5 W (0.41 A at 12 V)
Lens	Clear
Installation	Installation, snap-on fitting
Switches	
Voltage	12 V

2AB 004 074-027

Bulb WY5W 12 V	8GB 003 594-541
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1) variant with grey housing and black switch available on request.

This LED product has the following characteristics



LED READING LIGHT, FLEXIBLY ADJUSTABLE ARM

Number of LEDs	1 white Power LED
Electrical connection	electrical, using a cable 150 mm long
Illumination	optimal for map-reading
Illumination angle	38°
Illuminance at 0.7 m	110 lx
IP Class (Protection)	53
Power consumption	2.5 W (0.20 A at 12 V)
Lens	patterned
Installation	Surface-mounting

150 mm	2JA 343 720-011
400 mm	2JA 343 720-111

Finisher colour black1)

150 mm	2JA 343 720-021
400 mm	2JA 343 720-121

Finisher colour silver1)

400 mm	2JA 343 720-191
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with plug for cigarette lighter (150 mm)

Finisher colour black	2JA 343 720-081
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1) further finisher colors available on request.



SPOTLIGHT READING LIGHT

Number of light sources	1 halogen bulb 12 V / 5 W
Feature	with flexible metal arm
Light source	strong and glare-free
Power consumption	5 W (0.50 A at 12 V)
Lens	Clear
Scope of supply	with bracket for permanent surface-mounting
Installation	Surface-mounting
Voltage	12 V

a) for fixed installation

500 mm	2AB 004 532-001
195 mm	2AB 004 532-011

b) with plug for cigarette lighter

160 mm	2AB 004 532-021
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Accessories

Lens, red	9EL 128 922-011
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Spare parts

Bracket	9XB 136 202-005
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Electronic components – benefit from our unique experience and innovative power.

HELLA is one of the first ports of call for the international supplier industry not just in lighting technology but also in electronic components.

One thing all our products have in common is that their quality and performance are carefully optimised to match our customers' special requirements.

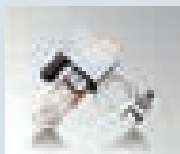
PRODUCT RANGES, SPECIAL OE ELECTRONICS

Energy Management



Careful use of energy by appropriately influencing the consumer:

These electronic systems make it possible to monitor and plan the energy budget and maintain the power supply.



Intelligent Battery Sensors



Voltage stabilisers

Components



Provide added convenience with compact solutions in a variety of areas:

These electronic systems are generally invisible little helpers for the various automatic processes within the vehicle.



Angle of rotation sensors



Air quality sensors



Remote controls



Rain light sensors



Actuators



Temperature sensors

Drive Train



Increasing safety and efficiency of the overall system and preventing failures:

These electronic systems make it possible to precisely measure and record measured value in the engine compartment and drive train.



Accelerator pedal position sensors



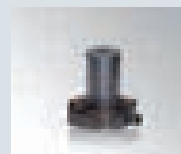
Accelerator pedal position sensors



Oil level sensors



Oil pressure sensors



Oil level switch

ENERGY MANAGEMENT

Intelligent battery sensors 12 V/24 V

Product description

- Precise shunt-based measurement of battery current, voltage and temperature
- Battery monitoring of State of Charge (SoC), State of Health (SoH) and State of Function (SoF)

Advantages:

- The starting ability of the engine can be guaranteed at all times
- Highest precision for current, voltage and temperature measurement
- Advanced battery algorithm for SoC, SoH and SoF
- Provides cost effective integration
- Worldwide production footprint



COMPONENTS

Angle of rotation sensors

Product description

- Single or redundant sensors
- Standard and customer specific characteristic curves
- Analogue and digital output (PWM) available

Advantages:

- High precision due to internal 14 bit resolution
- High thermal stability and linearity
- Highly insensitive to magnetic fields
- Redundant output signals according to functional safety
- Zero position can be individually programmed
- Various connection elements available



COMPONENTS

Air quality sensors

Product description

- Detects NO₂ and CO which are indicators for exhaust gas outside the vehicle
- Data transmitted to air conditioning system
 - Control of the circulation function of the air conditioning system
 - Prevents loss of air quality inside the vehicle

Advantages:

- Using metal oxide gas sensing technology
- PWM output signal for flexible application
- Output of 5 different levels of contamination
- Intelligent software distinguishes between ambient conditions (e. g. city, countryside, motorway)
- Increased driving comfort by air quality inside the vehicle constantly being optimised



Remote controls

Product description

- Allows remote control of vehicle central locking system
- Activation of interior / exterior light
- Activation / Deactivation of immobiliser possible as an option

Advantages:

- Reliable and robust design
- All functions in one microcontroller
- Compact form factor (key integration)
- Battery driven (3 V), long service time
- Modular approach with customisable key fob housing



COMPONENTS

Rain light sensors

Product description

- Complete functional scope (five functions: rain sensor, light sensor, solar sensor, humidity measurement and head-up display) exclusively for use in passenger cars
- Limited use for vehicles with special windshields (thickness, slope, transmission)
- The optics of the second sensor are specially designed for vehicles with steep windshields and combines the rain and light recognition functions (environment and tunnel recognition).

Advantages:

- Modular concept allows flexible integration and compact design
- Reduced housing size and less weight
- Cost savings by integrating all functions into one part
- Simple to install without additional installation tools
- Air conditioning system know-how from HELLA
- Leading market position since 1999



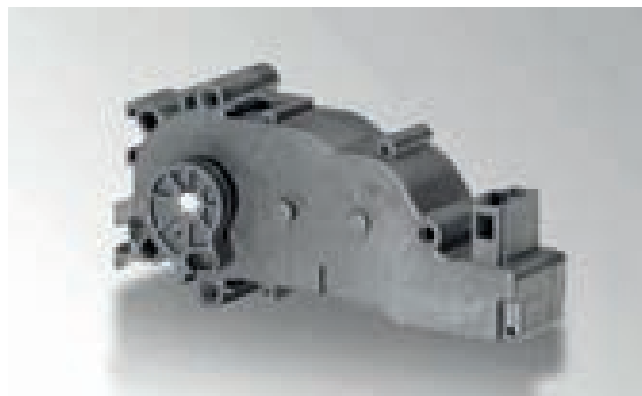
Actuators

Product description

- Applications for body actuators (rotary and linear actuators) are among other things locking or unlocking and control of:
 - Central locking
 - Boot lock
 - Window lock
 - Radiator grill flap control
 - Toolbox lock

Advantages:

- Compact design and standard interfaces
- Wide range of customised and system-specific tool solutions
- Many years of experience – R&D and production since 1996
- Global development and production locations



COMPONENTS

Temperature sensors

Product description

The air temperature sensors measure temperatures in the air current of the air conditioning system. Furthermore, other corresponding versions for measuring outside and inside temperature can be implemented, keeping in mind their respective response times and protection classes in different industrial areas.

Advantages:

- Various designs
- EMC stable
- Quick response times



DRIVE TRAIN

Accelerator pedal position sensors

Product description

- Pedal sensors transmit the driver's intent to the engine electronics
- Available with potentiometer or non-contact inductive technology
- Floor-mounted and suspended versions
- Customer-specific design, adaptable touch

Advantages:

- Technological and market leader for pedal sensors worldwide
- Extensive application know-how guarantees fulfillment of our customers' individual needs
- High reliability and accuracy
- Many years of experience (since 1996) ensures a high level of quality in all production and development locations worldwide



Oil Sensors

Product description

- Oil level switch for automatic warning when oil level reaches minimum
- Packaged Ultrasonic Level Sensor (PULS) for continuous measurement of oil level and temperature
- Oil pressure measurement with integrated temperature measurement function (OPS+T)

Advantages:

- Ultrasonic level measurement replaces oil dipstick
- Measurement of oil level in static and dynamic range
- Oil pressure sensor allows oil pump to be controlled as required
- Many years of serial production experience since 1996
- Worldwide system development and application support



THE NEW HELLA SWITCH CONFIGURATOR



HELLA module switch configuration tool

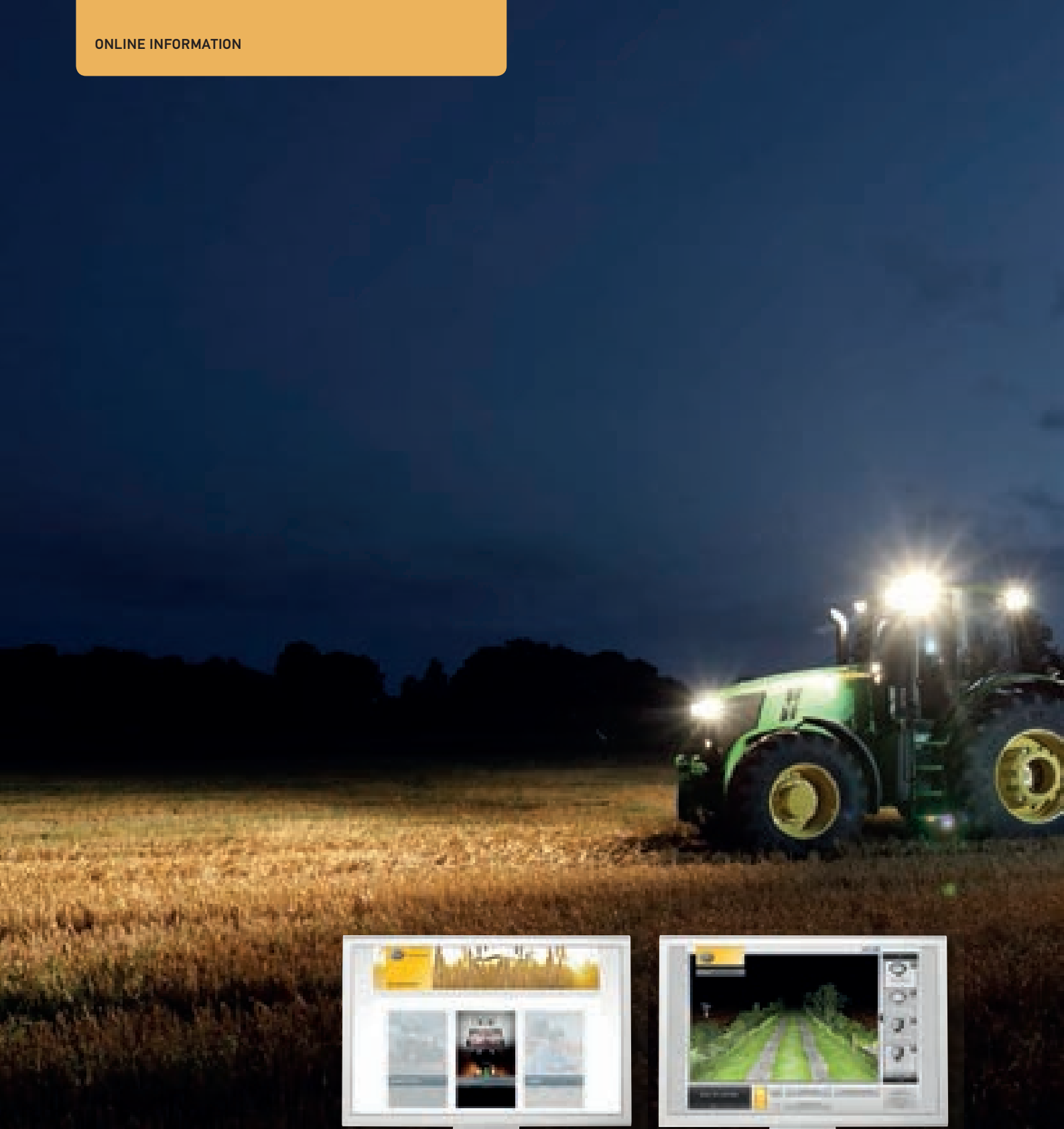
Configure your switches yourself! First, choose between the new waterproof 3100 series (interior and exterior applications) or the 4100 series (interior applications).

You can select any switch functions as well as the operating voltage, combinations of symbols and the corresponding accessories with only a few clicks. They can easily be transferred to a favourites list, printed out or sent as an online request.

Your request will be processed individually with the desired symbol configuration and customer-specific article number on a project-specific basis.



www.hella.com/switch



More information about HELLA worklights can be found on the internet with our app for mobile end devices or in the comprehensive product brochure:

Web site

Informative, compact, interactive. Here you will find all you need to know about the products and technologies for the agricultural machinery, construction machinery, forestry machinery and forklift truck target groups.
www.hella.com/agriculture

ELIVER - The light comparison tool

This online tool enables you to compare many HELLA worklights on the basis of their illumination in a realistic appealing environment.
www.hella.com/eliver



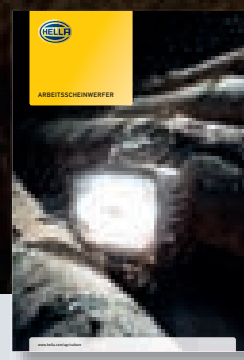
Worklight configuration tool

Which worklight is the correct one for your application? The HELLA online configurator will provide you with suitable product suggestions including all the relevant information about the product.
www.hella.com/worklight-configurator



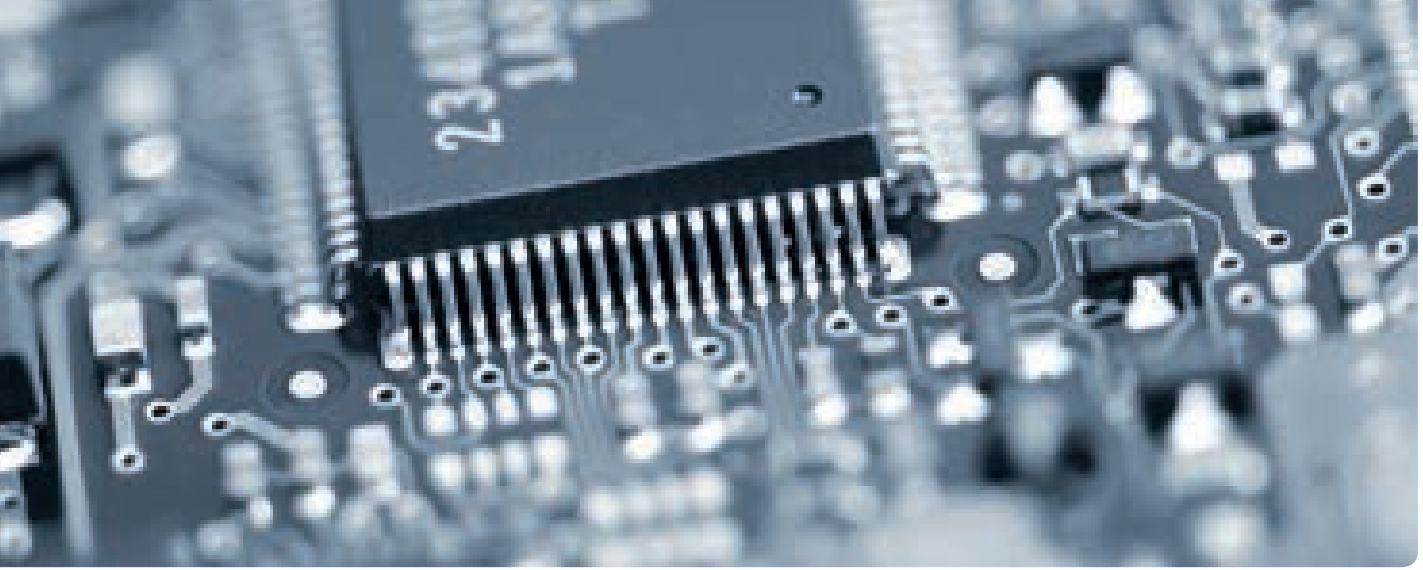
Worklights mobile app

Let yourself be drawn into the interactive world of worklights and experience the variety of lighting technologies, explosion animations and much more. Simply download the app from iTunes or Google Play!
www.hella.com/apps



Worklights product brochure

In our over 100-page brochure you can find product information, fitting recommendations and much more. Now available as a PDF to download at
www.hella.com/agriculture



LED INDICATOR LIGHTS AND THE PATENTED FAILURE CHECK

Legal requirement in all ECE states

In the case of vehicles approved for use on public roads, the indicator lights must be monitored: the failure of an indicator must be signalled optically or acoustically in the vehicle. This applies in all ECE states. This means possible indicator failure must be monitored by the vehicle. Manufacturers use different control procedures for this. The failure controls currently in use cannot detect simple LED lights and indicate a fault. All HELLA LED indicators have integrated electronics for failure control. The indicator lights are self-monitoring. They generate a pulse that is evaluated by the electronic ballast. This ballast simulates a 21 W bulb, which makes operation with conventional flasher units possible.

As soon as one single LED fails, the light can be considered faulty, the pulse is not generated. The ballast then switches the bulb simulation off and the flasher unit indicates a fault to the vehicle driver.

Safe conversion to LED indicator lights is now possible using patented HELLA electronics

HELLA supplies electronic ballasts for all HELLA LED indicators which make it possible to retrofit the indicator failure display on various vehicles. This is necessary if the vehicle manufacturer does not guarantee an indicator bulb failure check via the vehicle's electrical system.

The method is patented by HELLA. There are currently three different ballasts and several different LED indicators available.

LED LIGHT FAILURE CONTROL AND CORRECT ELECTRICAL CONNECTION

Operation of the LED light with AC voltage or synchronised DC voltage is not permitted. The individual light functions may only be operated with a vehicle fuse of max. 3 A.

Due to the low watt output of LED lights, which are distinctly different from a bulb version, problems can arise in bulb failure control when operating traction vehicles.

As the indicator check is required by law, we recommend operating the light only in conjunction with the indicator control unit, HELLA part no. 5DS 009 552-....

Some traction vehicles also detect other light functions. This is a vehicle convenience function that is not required by law and does not exempt the driver from his or her obligation to visually inspect the lighting equipment. Even in this case, low outputs can lead to misdiagnoses (instrument panel in the cab shows a light failure even though it is working fine).

Should misdiagnosis occur, as described above, while operating your traction vehicle, please contact the traction vehicle manufacturer.

HAZARDOUS GOODS ORDINANCE

GGVSEB (previously GGVS) means the hazardous goods ordinance for roads, railways and inland waterways. This ordinance implements the European Parliament and Council Directive 2008 / 68 / EC of September 24, 2008 on the inland transport of hazardous goods. Worklights with this mark are approved for installation on conveyances that must comply with the provisions of GGVSEB / ADR.

IP PROTECTION CLASSES - BUY WITH CONFIDENCE

How well is a product protected from environmental influences? Worklights are exposed to e.g. dust and water. The IP protection class states how resilient the product is. The classes are determined by DIN 40 050 Part 9. HELLA worklights are designed for various protection classes:

Protective category IP 5K4K

Dust may only penetrate to such an extent that function and safety are not impaired. Water that is sprayed from every direction at increased pressure against the housing must not have any damaging effect: water pressure approx. 4 bar.

Protection class IP 5K9K

Dust may only penetrate to such an extent that function and safety are not impaired. Water that is directed against the housing during high-pressure/steam-jet cleaning must not have any damaging effect; water pressure approx. 100 bar.

Protection class IP 6K4K

Dust must not penetrate. Water that is sprayed from every direction at increased pressure against the housing must not have any damaging effect: water pressure approx. 4 bar.

Protection class IP 67 / IP 6K7

Dust must not penetrate. No water may penetrate, even if the device is submerged for some time.

Protection class IP 6K8

Dust must not penetrate. Protection against continuous immersion.

Protection class IP 6K9K

Dust must not penetrate. Water that is directed against the housing during high-pressure/steam-jet cleaning must not have any damaging effect; water pressure approx. 100 bar.



You can find further information about the HELLA quality criteria at: www.hella.com/quality

OVERVIEW OF ICONS

FEATURES

DESCRIPTION

COMMENTS

Power consumption of LED lights

Advantages of the LED:

Generally, LED lights consume less power than a light with an incandescent lamp. Savings of up to 90% are possible, which also helps to reduce CO₂.

Vehicle electrical system voltage



Defines the power supply for the lamp. This can be 12 V, 24 V or a flexible voltage range for multivolt (8 – 33 V).

Multivolt is the most flexible: Requires fewer versions, but has more electronic circuit components and is therefore more expensive.

Dust and water protection IP



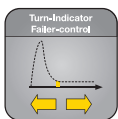
International Protection (IP) as per DIN 40050, Part 9. Specific definition for road vehicles.

The higher the protective class, the better the protection against penetrating media. IP 67 maximum value
→ Completely sealed against dust and water.



Resistant to high-pressure jet cleaners

Indicator failure check according to ECE-R48



Regulation according to ECE-R48:

The driver must be informed if the indicator function fails. To remain legally compliant, this requirement must also be met for LED lights. This requirement is met by an integrated self-diagnostic unit on the PCB of the LED and an electrical pulse. Since the end of 2011, this HELLA failure check with a pulse has been ISO Standard: ISO 13207.

If the indicator failure check is not ensured, the general vehicle type approval becomes void. This means it is illegal to operate vehicles without indicator failure check in countries affiliated to ECE-R48.

The indicator failure check is ensured in combination with ballasts HELLA part no. 5DS 009 552.

Electronic circuit

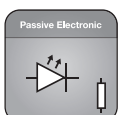


Active

Basically, two different circuits are possible for LED lamps:

Active:
LED current regulation through active electronics

Active:
Higher expenditure during development because of complex circuit and necessary EMC approval. Higher price because of electronic components, but optimal current regulation allows maximum LED design life.



Passive

Passive:
A specific voltage range is preset for the LED by a dropping resistor.

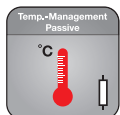
Passive:
Cost-effective solution without complex protection measures. Shorter LED design life in case of failure. No EMC approval required.

FEATURES	DESCRIPTION	COMMENTS
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Thermal Management



Active



Passive

Active:
Electronic power control of LEDs in the event of impermissibly high ambient temperatures. This ensures the LEDs are protected against destruction caused by overheating.

Passive:
Optimum layout of the components for even temperature distribution and temperature spreading.

Active:
More development overhead with active thermal management and higher parts prices ensure optimal conditions for maximum design life.

Passive:
The warmer the LED gets through exterior factors or heat generated by its own operation, the shorter the service life.

Overvoltage protection



Supplement to the electronics for protecting the LEDs against high voltages / currents in the vehicle electrical system as per ISO 7637-2.

Overloading of the LEDs can be caused by voltage peaks in the vehicle because of:

- Jump-starting
- Defective control units
- Load-Dump Impulse (incorrect battery contact)

They stress / damage the LEDs, which can cause the function to fail or the service life to be reduced. Adding additional components to the circuit protects the circuit and can extend the service life or even prevent an outage.

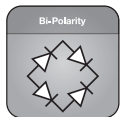
Beacon failure check (DIN 14630 – Blue)



Beacons for preferential road use.

Function monitoring must be provided.

Bi-polarity of the light



Even if the connecting cable is attached with reverse polarity, the LED functions fully.

The semi-conductor in an LED must always be operated with the correct polarity. Inverse polarity damages the LED, so that LED lamps are generally equipped with reverse polarity protection (diode). However this function only works if "+" and "-" are correctly connected. If a lamp has a bi-polar circuit, then it will work independently of the contact connections. This ensures poka-yoke (avoiding faulty installations) in connection with indentation clamping technology, for example. However, the additional components on the PCB also increase the costs.

OVERVIEW OF ICONS

FEATURES

DESCRIPTION

COMMENTS

Reverse polarity protection



Even if the connecting cable is connected the wrong way round, there is still no danger to the electronics.

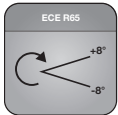
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ECE



Product is licensed according to ECE guidelines.

ECE-R65



Defines the light values, light distribution and colour location of beacons that are to be achieved.

Only beacons that fulfil ECE-R65 can be used on public roads.

Approval for transport of dangerous goods



Lamp approved for transport of dangerous goods according to the European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR; in German, GGVS).

Generally required for truck and trailer lighting. Prerequisite for receiving approval: Damage to the light source must not cause explosive media to ignite.

Electromagnetic compatibility






Electromagnetic compatibility (EMC) tested and EU type approval issued.

If the light is not constructed according to EMC specifications, and thus is not certified, then interaction between it and other safety-relevant electronic systems may occur.

Examples:

Interference in a radio loudspeaker, impairment of ABS electronics, or failure of the lamp due to sensitivity to interference.

FEATURES	DESCRIPTION	COMMENTS
<p>Automotive Electronic Council</p> 	<p>Components qualified according to automotive standard.</p>	<p>Electronic components (LEDs, diodes, ...) are more robust and safer than electronic components for industry thanks to automotive specifications.</p> <p>By using certified suppliers, a more robust design of the circuit is possible - even for longer periods of time with consistent quality. Slight additional costs for the components therefore improve the service life of LED light functions.</p>
<p>Automotive Safety Integrity Level</p> 	<p>Product electronics are developed according to most current methods and the ISO 26262 safety guidelines.</p>	<p>This applies from July 2011 as "standard technology" are is taken into account during development.</p>
<p>SAE</p> 	<p>Product has SAE type approval.</p>	<p>More information is provided next to the relevant products in the footer.</p>

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