PRODUCT OVERVIEW
CARAVANS AND
MOTORHOMES

CUSTOMER SATISFACTION

QUALITY PRODUCTS

INNOVATIVE PRODUCTS

SAFETY

LOYALTY

SPARE PARTS

INSTALLATION MATERIAL

HUMANITY

COMPETENCE

SUSTAINABILITY

RELIABILITY

INTERIOR LIGHTING

GLOBAL NETWORK

LOW LIFE CYCLE COSTS

REAR LIGHTS

ENERGY EFFICIENCY

ECE

ANGULAR POSITION SENSORS

OPTICAL WARNING SYSTEMS

VISION

BEACONS

TOOLS

THERMAL MANAGEMENT

PROFESSIONALISM

SERVICES   CUSTOMER-ORIENTED SOLUTIONS

LED–TECHNOLOGY   WIPER BLADES

PRODUCT VARIETY

ACTUATORS

INNOVATION   WORK LIGHTS

COMPETENT PARTNER

FRONT LIGHTING

WEAR AND MAINTENANCE-FREE PRODUCTS

DUST AND WATER RESISTANCE

ENVIRONMENTAL FRIENDLINESS

ELECTRONICS COMPETENCE

FUNCTIONAL SAFETY

EMC   LONG SERVICE LIFE

EFFICIENT ENERGY MANAGEMENT

SIDE MARKER LIGHTS

DAYTIME RUNNING LIGHT

REDUCED CO_2 EMISSION

Get away from everyday life. Enjoy the experience.
Editorial

Enjoy a sense of independence and individuality: Camping has always been about freedom, about experiencing nature and being self-sufficient at the same time. Demands in terms of design and technology are continuing to rise.

In order to satisfy the constantly increasing demands in this sector, HELLA enables a high degree of flexibility for caravans and motorhomes with modular designs on the one hand and specially developed, customer-specific solutions on the other. You're guaranteed to set trends with unmistakable brand characteristics thanks to the wide range of different equipment variants. You will always benefit from HELLA's expertise in in-house mass production and the subsequent ease of use in your vehicles. It goes without saying that we consistently maintain the very highest product quality: Every product – from lighting to electronics – is subjected to HELLA's stringent in-house test procedures, which extend well beyond the stipulated standard and support the entire manufacturing process.

Alongside the extraordinary depth of our product range with its modular systems, for example the 90 mm front lighting module series, we would like to take this opportunity to mention one further highlight: the new Shapeline light series. With Shapeline, we can offer you a design-oriented and modular system with a multitude of lighting functions for the front, side and rear which will lend your vehicles a light signature which is both individual and consistent at the same time.

In order to address the trend for motorhomes with all-wheel drive and focus on topics such as adventure experiences and ecological camping, you will also find a selection of our auxiliary driving lamps in this brochure. Our products mean that motorhome owners are ideally equipped, even when off the beaten track and away from conventional campsites.

See our innovative lighting and electronics solutions for yourself and prepare to be impressed – put your trust in HELLA.
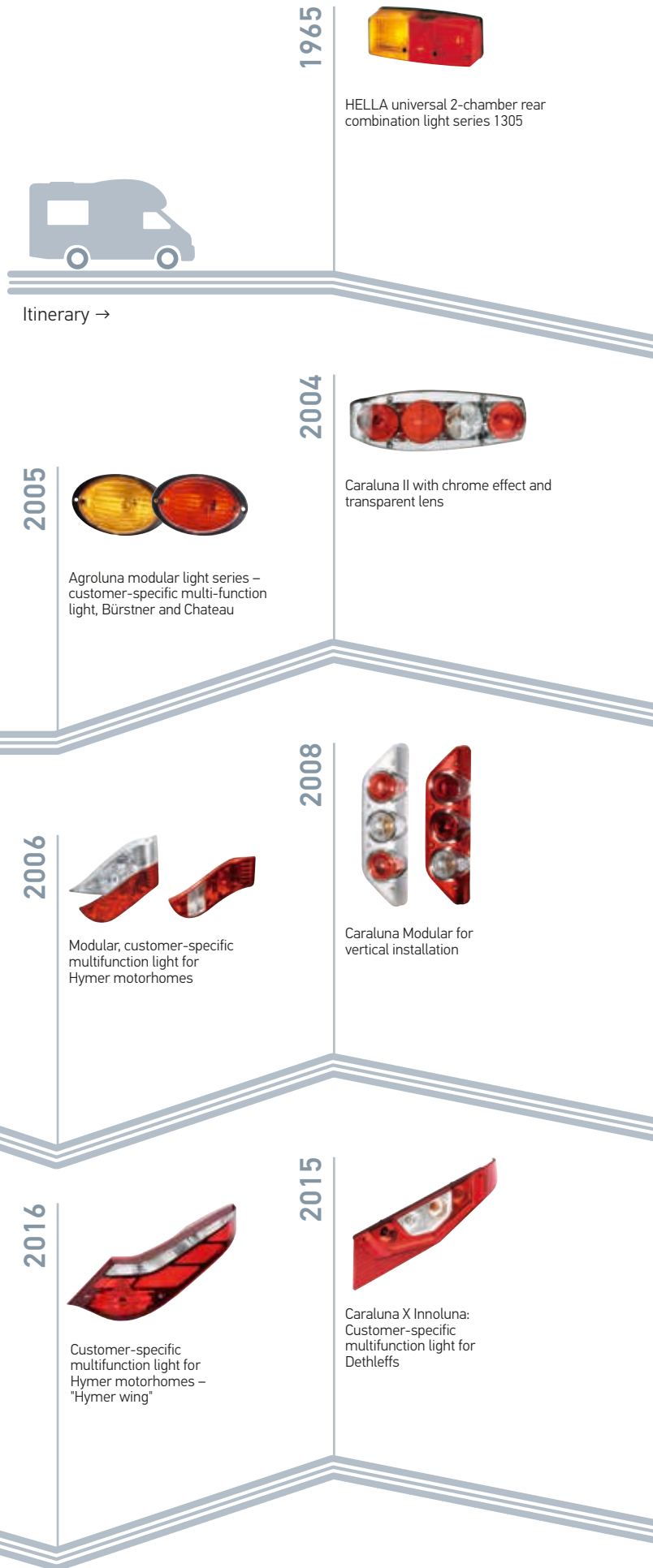
History
A trip down memory lane

For over a hundred years, HELLA has had a close relationship with caravans and motorhomes.

Let us take you along on a little journey into our more recent shared history. The advances made in terms of design and technology will inspire you.

1965

HELLA universal 2-chamber rear combination light series 1305

Itinerary →

2005

Customer-specific rear combination light with vertical design for Bürstner

2005

Agroluna modular light series – customer-specific multi-function light, Bürstner and Chateau

2004

Caraluna II with chrome effect and transparent lens

2006

Customer-specific multifunction light Caraluna II Plus for Hobby caravans and motorhomes

2006

Modular, customer-specific multifunction light for Hymer motorhomes

2008

Caraluna Modular for vertical installation

2016

Shapeline light series (Combination example: Style series)

2016

Customer-specific multifunction light for Hymer motorhomes – "Hymer wing"

2015

Caraluna X Innoluna: Customer-specific multifunction light for Dethleffs

1973

HELLA series 2844

1978

HELLA universal 3-chamber rear combination light series 3409

1986

HELLA universal 4-chamber rear combination light series 4460

1989

HELLA universal 3-chamber rear combination light series 6459 with lens pattern

2002

HELLA-specific Caraluna II light for horizontal mounting

2000

The customer-specific multifunction light for Hobby Caravan

1998

The modular 122 mm light series for individual and combination lights

1996

HELLA Caraluna I

2009

A new member of the Caraluna family: Caraluna vertical with chrome effect

2009

LED upgrade for the round 122 mm light series

2010

Customer-specific multifunction light for Fendt Brillant

2011

Customer-specific multifunction light for the Hobby Premium Caravan

2014

Caraluna X: A rear combination light with individual lighting concept

2013

Customer-specific multifunction light for Carthago with "Glowing Body" technology for the tail light and stop light

2012

Customer-specific multifunction light for Adria Caravans with LED light guide technology for the tail light

2011

Customer-specific multifunction light for Knaus motorhomes with LED light guide technology for the tail light

IP protection classes
Characteristics and descriptions

What does IP protection category mean?
IP stands for International Protection. The IP protection categories are determined according to DIN 40 050, Part 9. The purpose of the standard is the exact definition of electrical vehicle equipment against the penetration of solid materials including dust and against water penetration. The different degrees of protection important for signalling systems are explained below.

Protective category IP 5K4K
Dust may only penetrate to the 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 9K
Water that is directed from high-pressure / steam-cleaning equipment onto the housing must not have any damaging effect: water pressure approx. 80 – 100 bar.
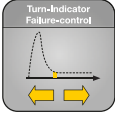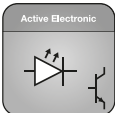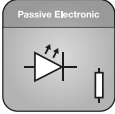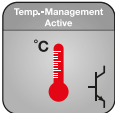
Protection class IP 6K7
Dust must not penetrate. No water may penetrate, even if the device is submersed for some time. HELLA products meet the highest requirements and are ideally protected against all kinds of weather conditions.

Key of icons
Characteristics, descriptions and comments

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 CO_2.	
Vehicle electrical system voltage	Defines the voltage supply of the light. Whether 12 V, 24 V or for a multi-voltage range (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. 5K = Dust-protected 6K = Dust protection 9K = Water resistance during high-pressure/ steam cleaning.	The higher the protective category, the better the protection against penetrating media. IP 67 maximum value → Completely sealed against dust and water.
	Resistant to high-pressure jet cleaners	

FEATURES	DESCRIPTION	COMMENTS

Turn 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

Passive

Basically, two different circuits are possible for LED lamps:

Active:
LED current regulation through active electronics

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

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

Thermal Management

Active

Passive

Active:
Electronic power control of the LEDs in the case 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.

Operating temperature

Whether in cold or warm temperatures, our products must always be operational. Thermal management and an optimised housing design guarantee full functionality for all operating temperatures through product tests from -40 °C to 100 °C.

FEATURES	DESCRIPTION	COMMENTS

Overvoltage protection

Supplement to the electronics for protecting the LED against high voltage / current in the vehicle's electric system as per ISO 7637-2.

Overloading of the LEDs can be caused by voltage peaks in the vehicle because of:
→ Jump-starting
→ Faulty 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.

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.

Polarity reversal protection

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

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.

SAE

The product has been tested in accordance with SAE specifications.

More information is provided close to the relevant products in the footer.

FEATURES	DESCRIPTION	COMMENTS

ECE

Product is licensed according to ECE guidelines.

More information is provided close to the relevant products in the footer.

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 EC type approval obtained.

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.

Automotive Electronic Council

Components qualified according to automotive standard.

Electronic components (LEDs, diodes, ...) are more robust and safer than electronic components for industry thanks to automotive specifications.

By using certified suppliers, a more robust design of the circuit is possible - even for longer periods of time with consistent quality. Thus slight additional costs for the components improve the service life of LED lighting functions.

SHAPE *LINE*

DESIGN YOUR LIGHT

| Premium Design | Flexible | Robust | Simple and safe | ECE and SAE | Multivolt |

CUSTOMISED LIGHT DESIGN!

The variety and range of shapes and the various combination options paired with a technically optimised product design make the new Shapeline light series a true innovation in vehicle lighting.

Whether the front, side or rear of a vehicle, every vehicle series – whether big or small – can have a unique and, above all, consistent look using a customised configuration and arrangement of lights. This allows us to meet the demands of vehicle manufacturers with lower numbers of manufactured vehicles.

Along with innovative technology and the familiar high quality of HELLA's products, the variety of shapes of Shapeline lights provide you with nearly infinite design freedom.

The modular HELLA Shapeline product range provides a variety of different light functions that can be combined with each other individually. Here, all lights are available in two different designs: the classic straight-line **Shapeline Tech** design and the dynamic, curved **Shapeline Style design**.

Tech or Style: The HELLA Shapeline series provides design freedom for nearly any application and vehicle, and achieves a consistent light signature for your vehicle at the same time. Each of the items is available in a single (-001) pack and a multipack (-007).

Design your light – with HELLA Shapeline!

Design freedom at the click of a mouse

The **HELLA Shapeline online configuration tool** turns you into a lighting designer: With a few clicks, make your own vehicle light design for the front, sides, and rear – and see the result directly after, as applied convincingly to a vehicle outline.

www.hella.com/shapeline
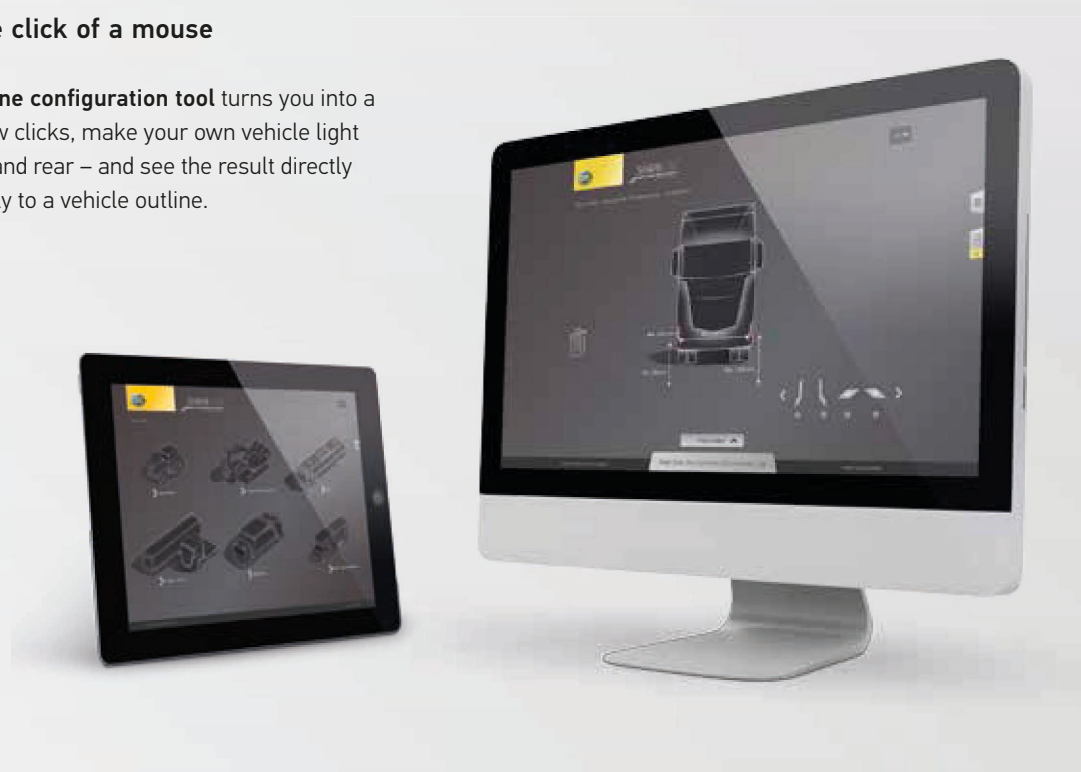
FRONT LIGHTING

→ 90 mm modules
→ 90 mm modules with auxiliary light functions
→ Customer-specific front lighting
→ 50 mm headlamps
→ Micro DE headlights
→ Position lights
→ Indicator and position lights
→ Auxiliary headlamps
→ Shapeline: front lighting
→ Daytime running lights

90 mm modules
Range overview

→ For diverse applications and the highest demands
→ Maximum design and technological freedom thanks to modular system
→ More illumination and safety with innovative LED technology

	LED	**Halogen** (conventional lighting technology)
Main light functions	→ Low beam and high beam (bi-modules) → Low Beam → Low beam with daytime running and position light → High Beam → High beam with daytime running and position light → Dipped beam and indicator	→ Low beam and high beam (bi-modules) → Low Beam → High Beam → High beam and position light
Auxiliary light functions	→ Fog light → Fog light and cornering light → Fog light, daytime running light and position light → Daytime running lights → Daytime running light and position light → Indicator, daytime running light and position light	→ 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

90 mm modules
Configuration tool

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.
www.hella.com/90mm-modules

90 mm modules
L 4060 LED low beam

Uniform illumination similar to daylight. Low beam, daytime running light and position light in one module or as a separate low beam. 40 x 60 mm polycarbonate lens for a new design. Mounting points as for Performance module, enabling like-for-like replacement. FEP or DEUTSCH connection. Hardened plastic cover lens. Integrated electronics, robust die-cast aluminium housing, multi-voltage 9 – 32 V. Perfectly fitting adjusting screws for fixing Premium and Performance included in the scope of supply.

These LED products have the following features:
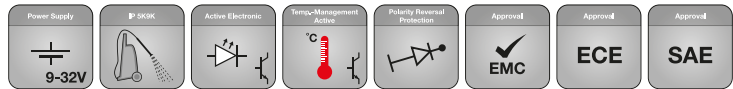
Power Supply	IP 5K9K	Active Electronic	Temp.-Management Active	Polarity Reversal Protection	Approval	Approval	Approval
9-32V			°C		EMC	ECE	SAE

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

L 4060 LED LOW-BEAM HEADLAMP*

Module headlamp with 40 x 60 mm polycarbonate lens, robust aluminium die-cast housing, silver design cover (black design cover upon request), multi-voltage 9 – 32 V.

Right-hand traffic/USA version, FEP connector	**1BL 012 488-001**
Left-hand traffic, FEP connector	**1ML 012 488-011**
Right-hand traffic/USA version, DEUTSCH connector	**1BL 012 488-101**
Left-hand traffic, DEUTSCH connector	**1ML 012 488-111**

Type approval: 1BL 012 488-001: ECE (E) 3831, 1ML 012 488-011: ECE (E) 4090, 1BL 012 488-101: ECE (E) 3881, 1ML 012 488-11: ECE (E) 4090

L 4060 LED LOW-BEAM HEADLAMP WITH DAYTIME RUNNING LIGHT/POSITION LIGHT*

Module headlamp with 40 x 60 mm polycarbonate lens, robust aluminum die-cast housing, silver design cover (black design cover upon request), multi-voltage 9 – 32 V.

Right-hand traffic/USA version, FEP connector	**1BL 012 488-021**
Left-hand traffic, FEP connector	**1ML 012 488-031**
Right-hand traffic/USA version, DEUTSCH connector	**1BL 012 488-121**
Left-hand traffic, DEUTSCH connector	**1ML 012 488-131**

Type approval: 1BL 012 488-021: ECE (E) 3831, 1ML 012 488-031: ECE (E) 4090 1BL 012 488-121: ECE (E) 3881, 1ML 012 488-131: ECE (E) 4090

*In areas where the ECE R48 regulation applies, vehicles registered in accordance with ECE R48, series 05, must incorporate suitable measures to safeguard active failure monitoring of an LED headlamp in the vehicle electrical system. For vehicles that are registered in accordance with ECE R48, series 06, the failure monitor is no longer mandatory.

90 mm modules
L 4060 LED high beam

High-end illumination. High beam, daytime running and position lights in one module, one high-beam/direction indicator combination or high beam as a separate module. 40 x 60 mm polycarbonate lens for a new design. Pattern-free and hardened plastic cover lens. High-beam headlamp with either pre-mounted carrier frame or as a 90 mm Performance module mount, enabling like-for-like replacement. Integrated FEP connector and driver electronics. Sturdy die-cast aluminium housing, multi-voltage, 9 - 32 V.

These LED products have the following features:

| Power Supply 9-32V | IP 5K9K | Active Electronic | Temp.-Management Active | Polarity Reversal Protection | Approval EMC | Approval ECE |

LED SPOTLIGHT L 4060

Module headlamp with 40 x 60 mm polycarbonate lens, robust aluminium die-cast housing, silver design cover (black design cover upon request), multi-voltage 9 – 32 V.

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

Type approval: ECE 🄴 3831

LED SPOTLIGHT L 4060
WITH DAYTIME RUNNING LIGHT / POSITION LIGHT
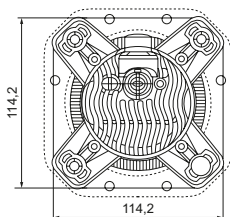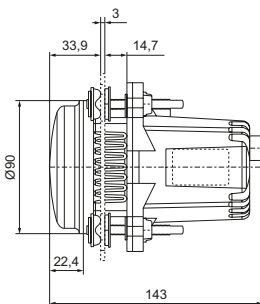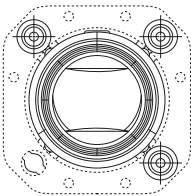
Module headlamp with 40 x 60 mm polycarbonate lens, robust aluminium die-cast housing, silver design cover (black design cover upon request), multi-voltage 9 – 32 V.

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

Type approval: ECE 🄴 3831

LED HIGH-BEAM HEADLAMP L 4060
WITH DIRECTION INDICATOR

Module headlamp with 40 x 60 mm polycarbonate lens, robust aluminium die-cast housing, silver design cover (black design cover upon request), multi-voltage 9 – 32 V.

Preassembled carrier frame, with pulse generator	1F0 011 988-081
Preassembled carrier frame, without pulse generator	1F0 011 988-071
Performance attachment, with pulse generator	1F0 011 988-181
Performance attachment, without pulse generator	1F0 011 988-171

Type approval: ECE 🄴 3831

With pre-mounted carrier frame

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

Pulse generators
Malfunctions of the high beam with direction indicator module can usually be detected with the vehicle control unit. The stages of detection are as follows: DI: < 400 mA | HB: < 800 mA

If your control unit cannot detect stage < 400 mA for DI, the pulse generator will increase the amperage in an interval of 100 to 120 ms to simulate the level consistent with a standard 12 V (21 W) bulb.

90 mm modules
L 4060 fog light

Uniform illumination similar to daylight. Fog light in various combinations or as a separate module, with daytime running light, position light and cornering light. 40 x 60 mm polycarbonate lens, pattern-free, hardened cover lens made of plastic, integrated FEP connector and driver electronics. Sturdy die-cast aluminium housing, multi-voltage, 9 - 32 V.
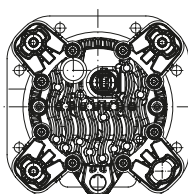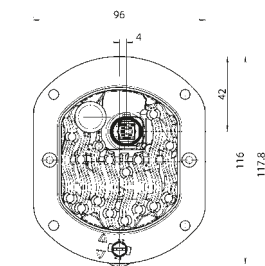
These LED products have the following features:

Power Supply 9-32V	IP 5K9K	Active Electronic	Temp.-Management Active	Polarity Reversal Protection	Approval EMC	Approval ECE
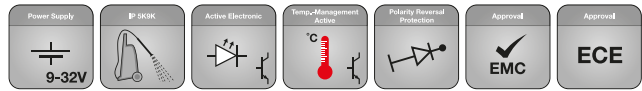
LED FOG LIGHT L 4060

Module headlamp with 40 x 60 mm polycarbonate lens, robust aluminium die-cast housing, silver design (black design upon request), multi-voltage 9 – 32 V.

Pre-mounted carrier frame	1N0 011 988-001

Type approval: ECE 3831

With pre-mounted carrier frame
1N0 011 988-001
1N0 011 988-011

With pre-mounted carrier frame
1N0 011 988-051
1N0 011 988-061
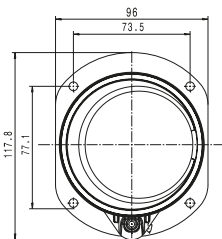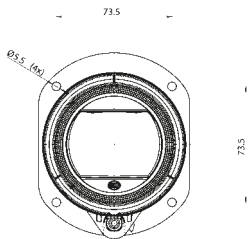
LED FOG LIGHT L 4060
WITH DAYTIME RUNNING LIGHT/POSITION LIGHT

Module headlamp with 40 x 60 mm polycarbonate lens, robust aluminium die-cast housing, silver design (black design upon request), multi-voltage 9 – 32 V.

Pre-mounted carrier frame	1N0 011 988-011

Type approval: ECE 3831
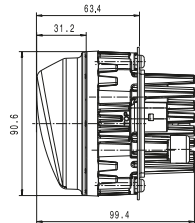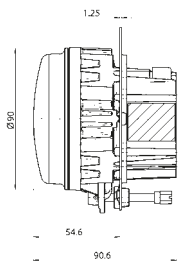
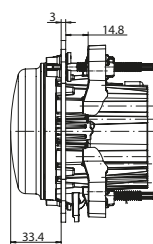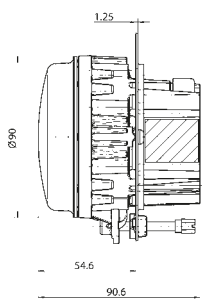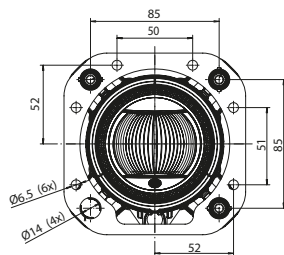### L 4060 LED FOG LAMP
WITH CORNERING LIGHT
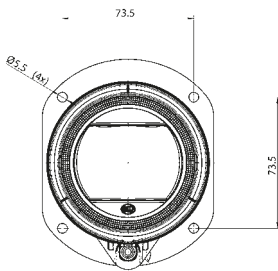
Module headlamp with 40 x 60 mm polycarbonate lens, robust aluminium die-cast housing, silver design (black design upon request), multi-voltage 9 – 32 V.

Preassembled carrier frame, right	1N0 011 988-061
Preassembled carrier frame, left	1N0 011 988-051

Type approval: ECE 3832
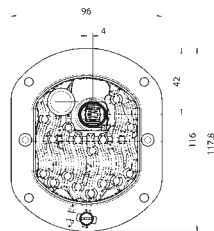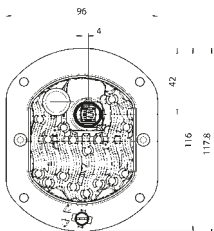
90 mm modules – bi-LED
L 5570 and L 70 low beam and high beam

Low beam and high beam from a single headlamp module. Uniform illumination similar to daylight. Hardened plastic cover lens, no moving parts, passive cooling. FEP and DEUTSCH connector, USA version available. Integrated function output for failure monitor. Multi-voltage 9- 32 V.

This LED product has the following features:

| Power Supply 9-32V | IP 5K9K | Active Electronic | Temp.-Management Active | Polarity Reversal Protection | Approval EMC | Approval ECE | Approval SAE |

2ND GENERATION (SINCE 2016)
L 5570 BI-LED LOW-BEAM AND HIGH-BEAM HEADLAMP

Module headlamp with 55 x 70 mm polycarbonate lens and further developed lighting/electronics, robust aluminium die-cast housing, hardened plastic cover lens, no moving parts, multi-voltage 9 – 32 V.

Right-hand traffic, FEP connector	1AL 012 758-001
Left-hand traffic, FEP connector	1LL 012 758-011
USA version, FEP connector	1AL 012 758-021
Right-hand traffic, DEUTSCH connector	1AL 012 758-101
Left-hand traffic, DEUTSCH connector	1LL 012 758-111
USA version, DEUTSCH connector	1AL 012 758-121

Type approval: right-hand traffic: ECE Ⓔ 4208, left-hand traffic: ECE Ⓔ 4209, USA versions: SAE

2nd generation   **1st generation**

134,4
85
120
85

179,2
182,3
Ø 90
143,2

These LED products have the following features:

| Power Supply 9-32V | IP 5K9K | Active Electronic | Temp.-Management Active | Polarity Reversal Protection | Approval EMC | Approval ECE |
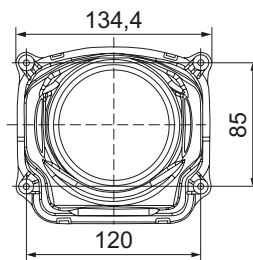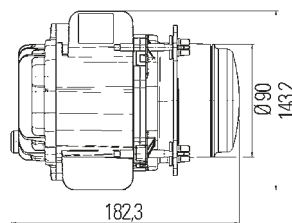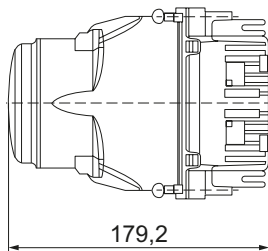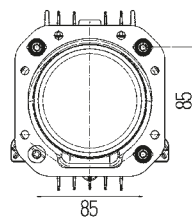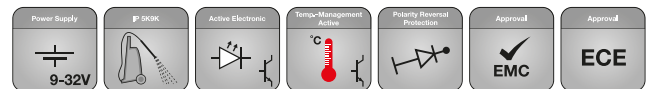
1ST GENERATION (SINCE 2012)
L 70 BI-LED LOW-BEAM AND HIGH-BEAM HEADLAMP*

Module headlamp with 70 mm DE lens.	
Right-hand traffic	1AL 010 820-021**
Left-hand traffic	1LL 010 820-031**

Type approval: right-hand traffic: ECE Ⓔ 3351/6189, left-hand traffic: ECE Ⓔ 3352/6189

1ST GENERATION (SINCE 2011)
L 70 LED LOW-BEAM HEADLAMP*

Module headlamp with 70 mm DE lens.	
Right-hand traffic	1BL 010 820-001**
Left-hand traffic	1ML 010 820-011**

Type approval: right-hand traffic: ECE Ⓔ 3359 / 6189, left-hand traffic: ECE Ⓔ 3160 / 6189

* In areas where the ECE R48 regulation applies, vehicles registered in accordance with ECE R48, series 05, must incorporate suitable measures to safeguard active failure monitoring of an LED headlamp in the vehicle electrical system. For vehicles that are registered in accordance with ECE R48, series 06, the failure monitor is no longer mandatory.
** Set versions comprising 1 control unit for function monitoring and 1 first-generation LED headlamp available on request.

90 mm modules
Premium low beam and high beam

Low beam and high beam from a single headlamp module with 70 mm DE lens. Pattern-free and hardened glass cover lens. High-quality aluminium reflector. Preassembled adjusting screws. Including light source. Connection using 0.5 m shielded supply cable with detachable plug connection.

Bi-halogen
Low beam and spotlight
and
Halogen low beam headlamp

BI-HALOGEN
LOW-BEAM AND HIGH-BEAM HEADLAMPS

Halogen, low beam and high beam in one headlamp, metal reflectors with clear DE lens. Ideal in combination with the coordinated high-beam headlamps and fog lamps, incl. 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: ECE Ⓔ 2484 and ECE Ⓔ 2485

HALOGEN LOW BEAM HEADLAMP

Metal reflectors with clear DE lens. Ideal in combination with the coordinated high-beam headlamps and fog lamps, incl. 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: ECE Ⓔ 2486 and ECE Ⓔ 2487

90 mm modules
Performance low beam and high beam

Proven illumination. Modules in enhanced quality for use on long hauls. Pattern-free and hardened glass cover lens. High-quality aluminium reflector. With splash-water-proof plug connection. Perfectly fitting adjusting screws included in the scope of supply. Including light source. 24 V versions incl. Heavy Duty Longlife bulbs. Low beam with 50 mm DE lens, high beam with free-form reflector.

HALOGEN LOW BEAM HEADLAMP

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

12 V, right-hand traffic, H1, for Performance fixing	**1BL 247 042-007**
12 V, left-hand traffic, H1, for Performance fixing	**1ML 247 042-027**
12 V, right-hand traffic, H1, for Premium fixing	**1BL 247 042-177**
12 V, left-hand traffic, H1, for Premium fixing	**1ML 247 042-187**

Type approval: ECE ⒠ 2397 and ECE ⒠ 2398

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

Halogen low beam headlamp   **Halogen spotlight**
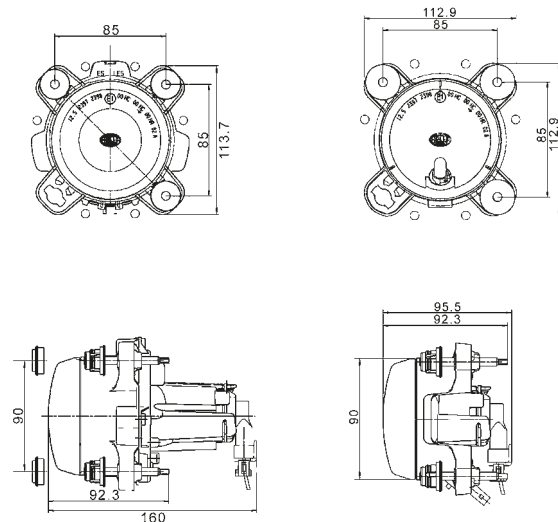
HALOGEN SPOTLIGHT

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

12 V, with position light, H1, for Performance fixing	**1K0 247 043-007**
12 V, without position light, H1, for Performance fixing	**1K0 247 043-017**
12 V, with position light, H1, for Premium fixing	**1K0 247 043-117**
12 V, without position light, H1, for Premium fixing	**1K0 247 043-127**

Type approval: ECE ⒠ 2397

24 V, with position light, H1 Heavy Duty Longlife, for Performance fixing	**1K0 247 043-027**
24 V, without position light, H1, for Performance fixing	**1K0 247 043-037**
12 V, with position light, H1, for Classic fixing	**1K0 247 043-157**
12 V, H1, for Classic fixing	**1K0 247 043-167**

Type approval: ECE ⒠ 2397 and ECE ⒠ 2398

90 mm modules
LED low beam comparison

Road simulation   Road simulation – colour

L 4060
(012 488)
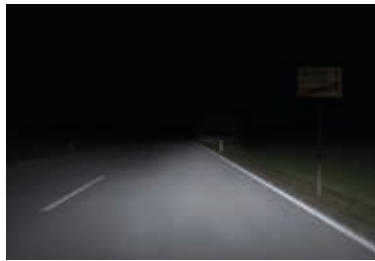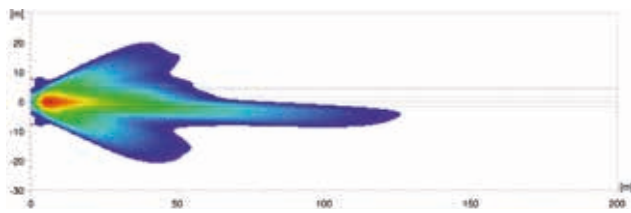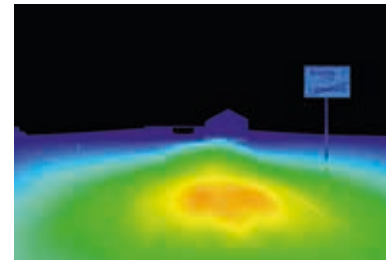
L 5570 2nd generation (bi-module)
(012 758)
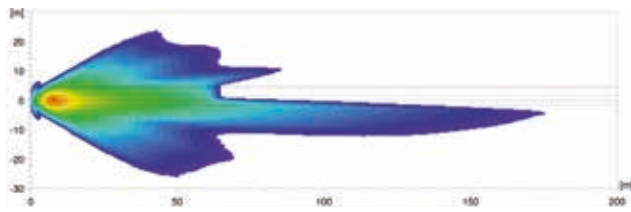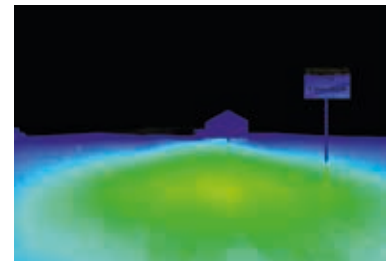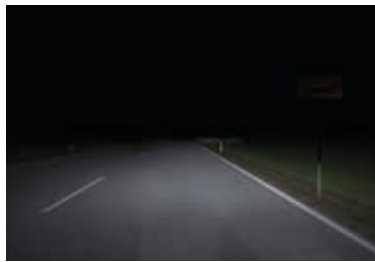
L 70 1st generation
(010 820)
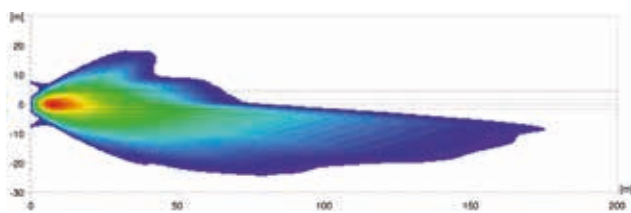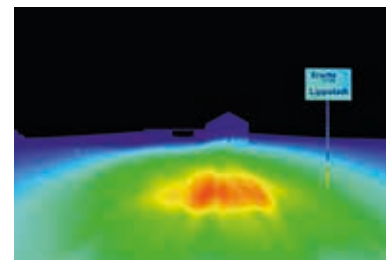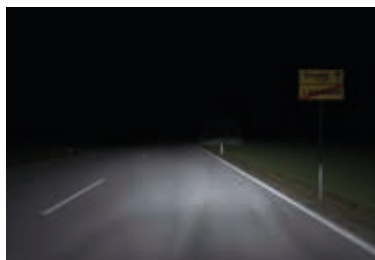
Legend, isolux diagram (1 – 350 lux)

1.0   3.5   35.0   350.0

Remarks
Headlamp mounting height: 0.65 m / gap between the headlamps: 1.20 m

90 mm modules
Halogen low beam comparison

**Premium halogen (009 999)
and bi-halogen (009 998)**

Road simulation

Road simulation – colour
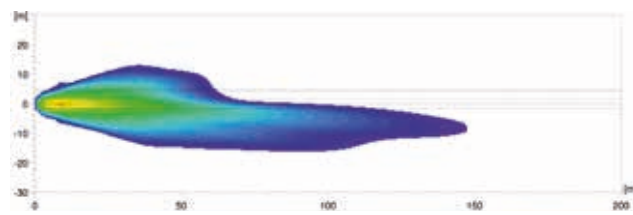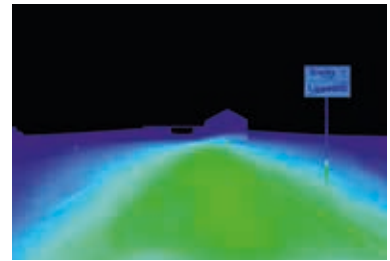
**Performance halogen
(247 042)**
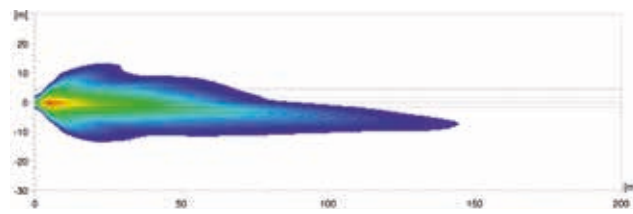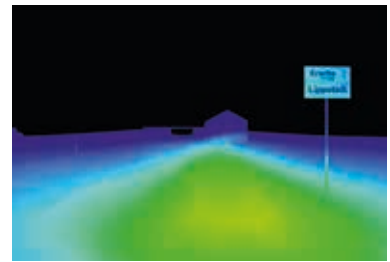
**Classic halogen
(008 193)**
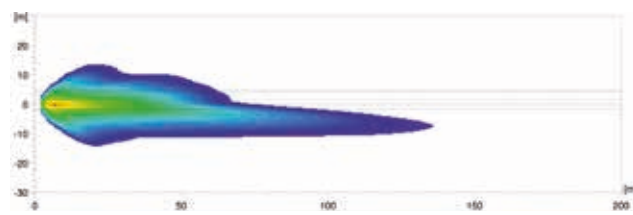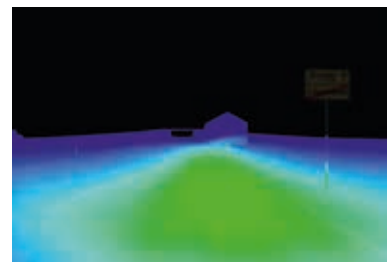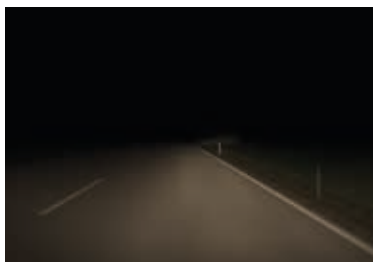
90 mm modules
High beam comparison

**L 4060 LED
(011 988)**

Road simulation

Road simulation – colour
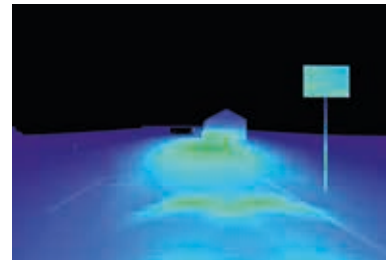
**Performance halogen
(247 043)**
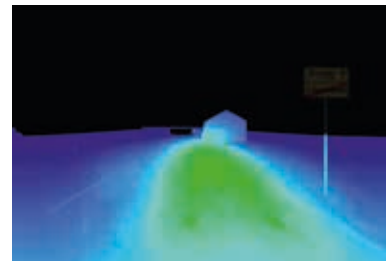
**Classic halogen
(008 191)**
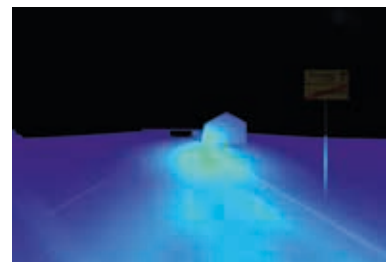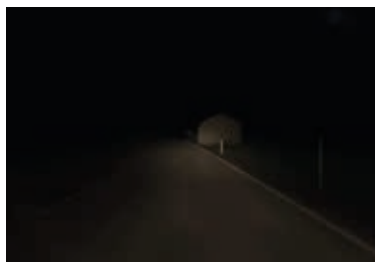
Note
Display of high beam only. When driving, the high beam is augmented by the low beam.

90 mm modules
Bi-module high beam comparison

Road simulation   Road simulation – colour

L 5570 bi-module, 2nd generation
(012 758)
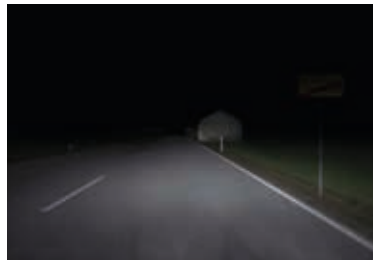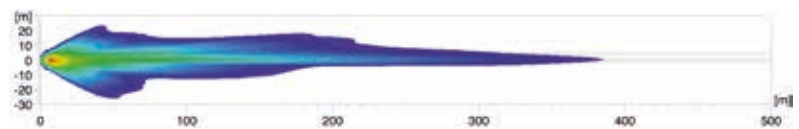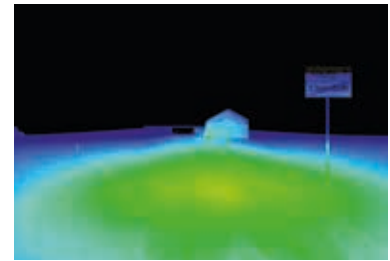
L 70 bi-LED 1st generation
(010 820)
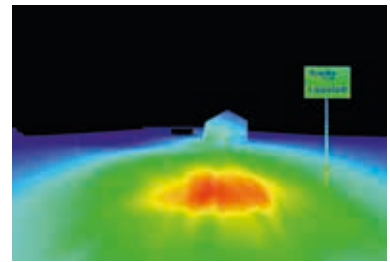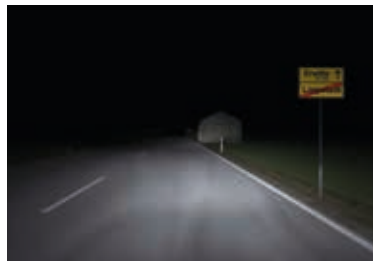
Premium bi-halogen
(009 998)
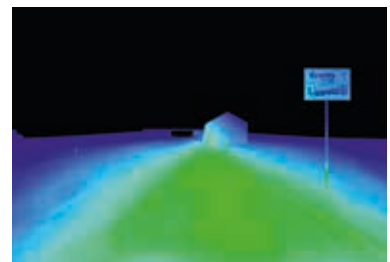
Note
Bi-light distributions are generated when the low beams are switched on and are only available as a bi-version.

90 mm modules

Comparison of combinations of low-beam and high-beam modules

**L 4060 LED
(012 488)**

**L 4060 LED
(011 988)**
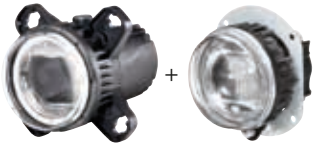
Road simulation
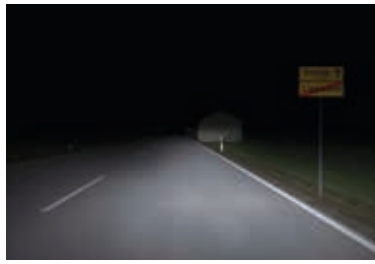
Road simulation – colour
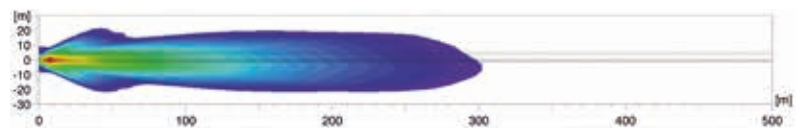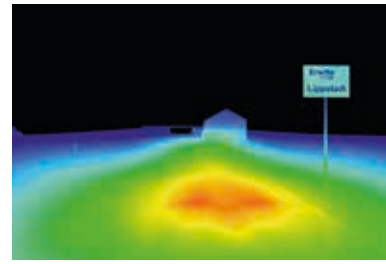
**L 4060 LED
(012 488)**

**Performance
halogen (247 043)**
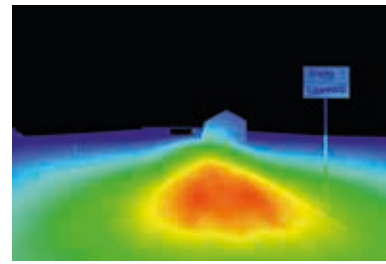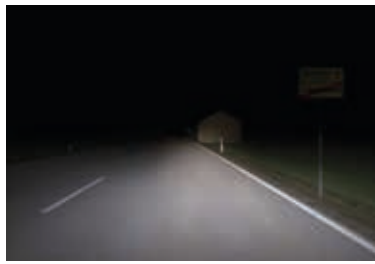
**Performance
halogen (247 042)**

**Performance
halogen (247 043)**
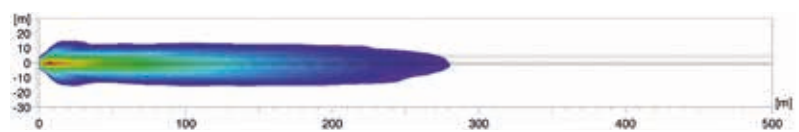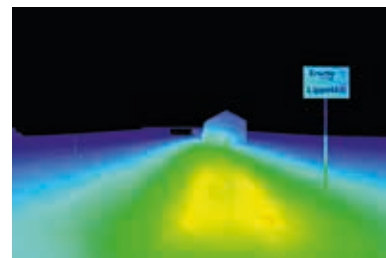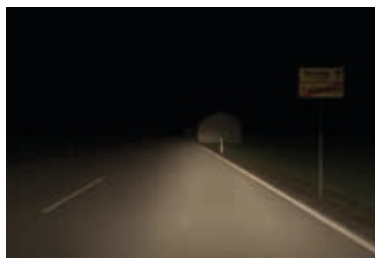
90 mm modules
Fog light comparison

**L 4060 LED
fog lamp (011 988)**
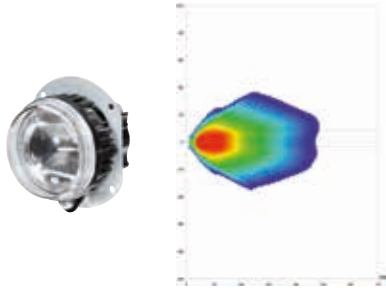
Road simulation

Road simulation – colour
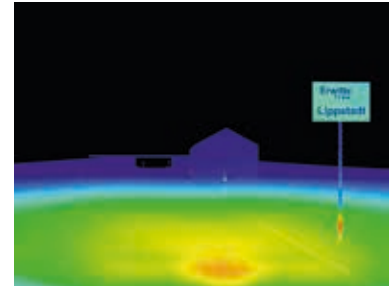
**H15 fog lamp,
halogen (010 294)**
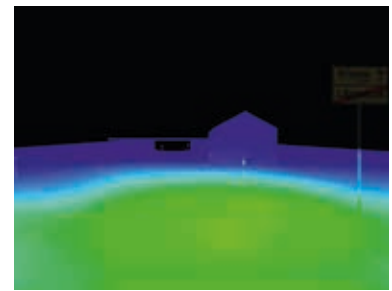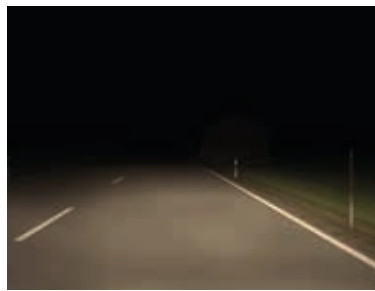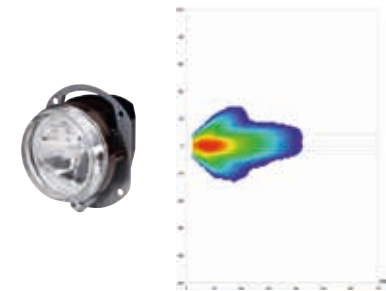
90 mm modules
Cornering light comparison

**L 4060 LED
(011 988)**
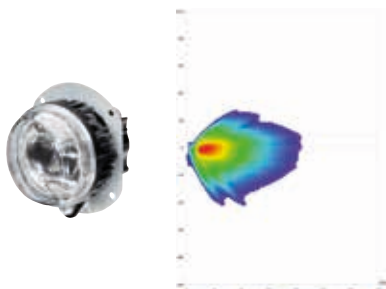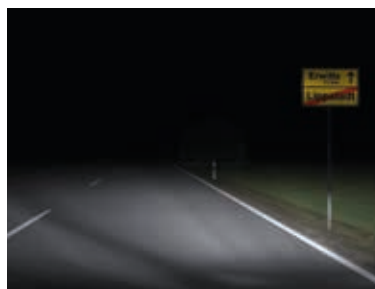
Road simulation

Road simulation – colour
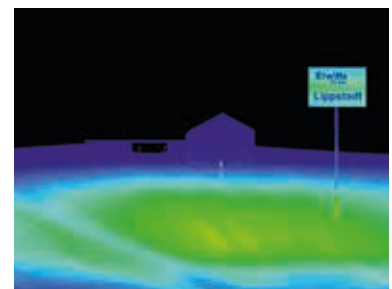
**Dyna View EVO 02
(009 295)**
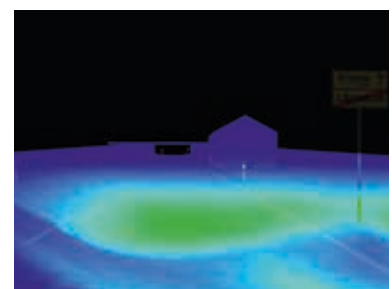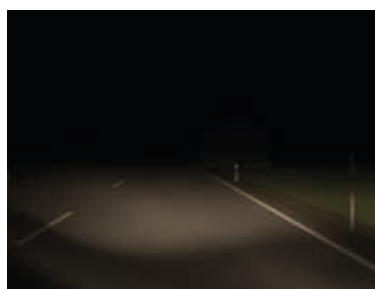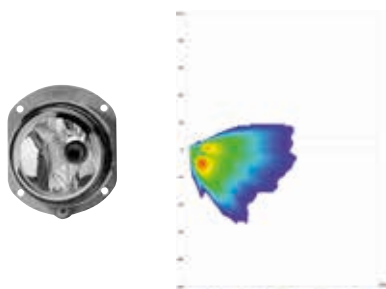
Note
Display of cornering light only. When driving, the cornering light is augmented by the low beam.

90 mm modules
LED accessories

Legend
•)   Accessory for proper connection, or mandatory accessory
••)   Optional accessory

Accessory components	Part number	Features
Carrier frame		
Premium carrier frame	**9AH 169 580-011**	Black
Performance carrier frame	**9AH 254 228-012**	Black
Performance carrier frame for agricultural and truck applications	**9AH 185 978-011**	Black
Premium carrier frame	**9AH 205 652-011**	Black
Performance carrier frame	**9AH 205 652-111**	Black
Adapter for like-for-like replacement from 009 999 bi-halogen modules to bi-LED	**9AH 213 181-001**	Black
Adapter for like-for-like replacement from bi-LED to 009 999 bi-halogen modules	**9AH 205 653-001**	Black
Surplus supply LED: AMP SUPERSEAL connector, 3-pin		
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 connector, 4-pin		
Housing	**8JA 202 231-002**	10 units
Flat contact	**8KW 863 933-013**	50 units
Strand sealing, 0.35 - 0.5 mm^2 or	**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 connector, 4-pin (together with adapter cable, see 1), except for 012 488-1xx and 012 758-1xx)		
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	**8KW 201 025-112**	50 units
Blind plug	**9NB 201 026-012**	50 units
Set packaging (1 connector housing, 1 lock, 5 contact sleeves, 3 blind plugs)	**8JA 201 022-821**	
Headlight beam throw adjustment system		
Headlamp leveling system, 12 V	**6NM 007 282-221**	
Headlamp leveling system, 24 V	**6NM 008 299-501**	
Bracket for right-side mounting of actuator	**8HG 138 619-007**	
Bracket for left-side mounting of actuator	**8HG 138 620-007**	
Mounting set for headlamp leveling actuators (bracket and articulated element)	**8HG 183 586-001**	
Left bracket/interface for headlamp leveling actuator for connecting to the module	**8HG 208 791-011**	
Right bracket/interface for headlamp leveling actuator for connecting to the module	**8HG 208 791-001**	
Bend lighting accessories		
LED module connection cable - cornering light control unit	**8KB 163-160-811**	1 unit
Bend lighting 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 connector to Performance module (247 043) or DynaView (009 295)	**8KA 202 117-011**	1 unit
Other accessories (only if the vehicle was registered i.a.w. ECE R48, series 05. As of ECE R48, series 06, no more mandatory accessories)		
Function monitoring device, 12 V	**5DS 011 630-001**	1 unit
Function monitoring device, 24 V	**5DS 011 630-011**	1 unit
Function monitoring device, 24 V	**5DS 011 630-211**	1 unit

	L 4060															L 5570		L 70	
	Low Beam 012 488-001 / -011	Low Beam 012 488-101 / -111	Low beam, daytime running light and position light 012 488-021 / -031	Low beam, daytime running light and position light 012 488-121 / -131	High Beam 011 988-021	High Beam 011 988-121	High beam, daytime running light and position light 011 988-031	High beam, daytime running light and position light 011 988-131	High beam and direction indicator (with pulse) 011 988-081	High beam and direction indicator (with pulse) 011 988-181	High beam and direction indicator (without pulse) 011 988-071	High beam and direction indicator (without pulse) 011 988-171	Fog light 011 988-001	Fog light, daytime running light and position light 011 988-011	Fog light and cornering light 011 988-051 / -061	Bi-LED low beam and high beam 012 758-001 / -011 / -021	Bi-LED low beam and high beam 012 758-101 / -111 / -121	Bi-LED low beam and high beam 010 820-021 / -031	Low Beam 010 820-001 / -011
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90 mm modules
Halogen accessories

Legend
•)   Accessory for proper connection, or mandatory accessory
••) Optional accessory

Accessory components	Part number	Features	Premium				Performance		
			H7 bi-halogen low beam and high beam 009 998	H7 bi-halogen low beam and high beam 009 998 Version with fording capability	H9 bi-halogen low beam and high beam 009 998 USA version	H7 halogen low beam 009 999	Halogen low beam 247 042	Halogen high beam 247 043	H1 halogen high beam with position light 247 043
Carrier frame									
Premium carrier frame	**9AH 169 580-011**	Black	••	••	••	••	••	••	••
Performance carrier frame	**9AH 254 228-012**	Black					••	••	••
Caps									
Flat version for angled connectors									
Vented	**9GH 152 654-007**								
Non-vented	**9GH 152 654-012**								
Deep version for receptacle housing									
Vented	**9GH 145 943-001**								
Non-vented	**9GH 145 943-012**								
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							•
High-beam change-over switch AMP SUPERSEAL, 2-pin									
Housing	**8JA 746 184-022**	10 units	•	•	•	•			
Female socket connector	**8KW 744 837-002**	50 units	•	•	•	•			
Strand insulation	**9GD 746 185-002**	50 units	•	•	•	•			

90 mm modules
Auxiliary light functions

DYNAVIEW® EVO2
CORNERING LIGHT AND FOG LIGHT

Incl. H7 bulb, with mounting bracket

12 V, set including control electronics and cable set	**1N0 009 295-801**
12 V, individual left	**1N0 009 295-011**
12 V, individual right	**1N0 009 295-021**
24 V, individual left	**1N0 009 295-057**
24 V, individual right	**1N0 009 295-067**

Type approval: ECE Ⓔ 1951

ECE R119 cornering light,
ECE R19 fog light, B series 02 / B series 03

CONNECTOR PLUG SET

DynaView® Evo2

For 20 headlamps	**8JD 156 151-807**
Harness	**8KB 163 160-801**
Control electronics	**5DF 009 244-007**

90 mm modules
Auxiliary light functions

This LED product has the following features:

Power Supply 9-33V	IP 6K7	IP 6K9K	Over-Voltage Protection	Approval EMC	Approval ECE	Approval SAE

90 MM LED DAYTIME RUNNING LIGHT SET

Black aluminium housing, for upright and pendant mounting in or on the front apron. Multi-voltage, 9 – 33 V, 3 high-power LEDs per light.
Set contents: 2 mounting brackets and 2 lights included.

Daytime running light, set	**2PT 009 599-811**
Daytime running light, left	**2PT 009 599-111**
Daytime running light, right	**2PT 009 599-121**
Daytime running light with position light, left	**2PT 009 559-131**
Daytime running light with position light, right	**2PT 009 599-141**

Type approval: ECE Ⓔ 2372 and SAE

Optional accessories

Universal carrier frame	**9AH 165 968-001**
Harness, pre-assembled	**8KA 165 959-001**

This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K7	IP 6K9K	Over-Voltage Protection	Approval EMC	Approval ECE

83 MM LED DIRECTION INDICATOR, DAYTIME RUNNING AND POSITION LIGHT
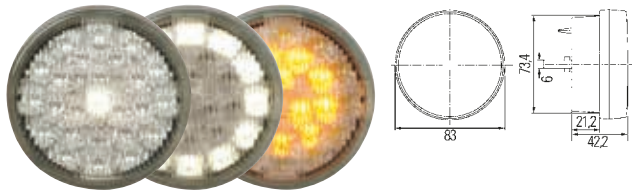
LED 3 function light with integrated electronics, which are configured so that the daytime running light switches off during flashing, pre-cabled with a 2,500 mm long, sheathed, four-wire cable.

Single light, 12 V	**2BE 980 691-001***
Single light, 24 V	**2BE 980 690-001***

Type approval: ECE Ⓔ24 5854

Optional accessories

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**
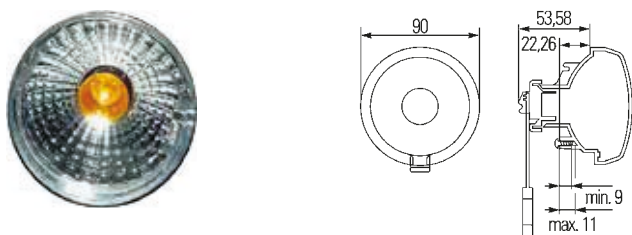
90 MM DIRECTION INDICATOR

Signal light with pattern-free, real glass or plastic cover lens.	
Direction indicator with amber bulb, 12 V	**2BA 965 039-061**

Type approval: ECE Ⓔ4 10215

* No integrated pulse, switching-off of daytime running light during operation of direction indicator.

90 mm modules
Auxiliary light functions
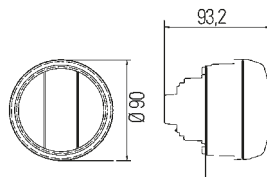
90 MM DIRECTION INDICATOR WITH POSITION LIGHT

Headlamp with pattern-free glass cover lens, with PY21W/12 V silver bulb and Kartoval LED.

12 V	**2BE 010 102-001**
24 V	**2BE 010 102-011**

Type approval: ECE Ⓔ 2586
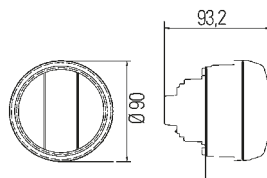
90 MM DAYTIME RUNNING LIGHT WITH POSITION LIGHT

Headlamp with pattern-free glass cover lens, with P21 W12V Longlife bulb and Kartoval LED.

12 V	**2BE 010 102-101**
24 V	**2PT 010 102-111**
Connector set, 3-pin	**8JD 162 581-802**
Optional carrier frame with 3 screws	**9AH 165 968-001**

Type approval: ECE Ⓔ 2586
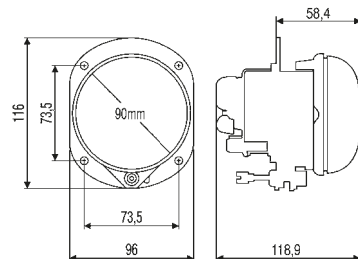
90 MM HIGH-BEAM OR FOG LAMP

Module headlamp with pattern-free glass cover lens, with H15 bulb, with carrier frame, 12 V (55 W / 15 W)/24 V (70 W / 20 W).

12 V, with high beam (additional option: daytime running light)	**1F0 010 293-001**
24 V, with high beam (additional option: daytime running light)	**1F0 010 293-011**

Type approval: ECE Ⓔ 2680, ECE R87, ECE R112

12 V, with fog light (additional option: daytime running light)	**1N0 010 294-001**
24 V, with fog light (additional option: daytime running light)	**1N0 010 294-011**

Type approval: ECE Ⓔ 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**
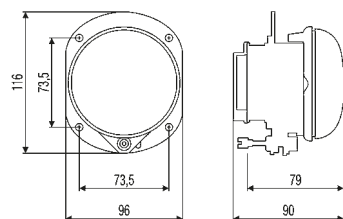
90 MM FOG LAMP

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	**1N0 008 582-007**
24 V, halogen	**1N0 008 582-017**

Type approval: ECE Ⓔ 1342, ECE R19 B series 02, B series 03

Accessories

Rubber cap	**9GH 158 051-007**

Customer-specific front lighting
Headlamps

We give your vehicle an individual appearance

HELLA is the leading supplier of vehicle-specific lighting in Germany and parts of Europe. We use our innovative power to continuously expand our product range. Functional safety, a perfect fit and product durability are all guaranteed through "HELLA Original Parts Quality". We offer our customers a multitude of equipment variants. Our extraordinarily wide product range and various modular systems serve to emphasise a unique brand character and enable customised trend-setting in the process. Benefit from HELLA's expertise in mass production and the resulting ease of use in your vehicles.

Custom-designed headlamp

Reliable quality, the very highest comfort, high-quality equipment and an extremely high degree of safety – all included as standard!

Hymer motorhomes, for example, are equipped with the headlamp custom-designed by HELLA. Particularly noticeable are the three lighting functions – daytime running lights, direction indicators and position lights – which are all emitted by a single LED-fed light guide.

The low-beam/high-beam module is realised both as a bi-halogen and bi-LED variant. As a result, this headlamp sets yet another milestone in terms of vehicle-specific motorhome equipment.

HYMER HEADLAMP

→ Low beam and high beam as bi-halogen or bi-LED
→ Daytime running light, direction indicator and position light based on LED coupling in the customer-specific light guide
→ Custom-designed plastic cover lens

On request

50 mm headlamps
Premium low-beam, high-beam and fog lamps
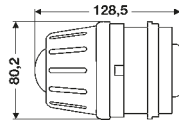
50 MM PREMIUM LOW-BEAM HEADLAMP

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: ECE Ⓔ1 1903 and ECE Ⓔ1 1904
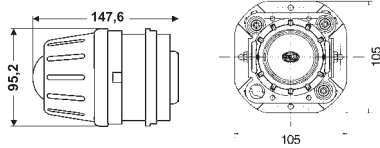
50 MM PREMIUM HIGH-BEAM HEADLAMP

3-point holder, adjusted via adjusting screw. With ECE and SAE type approval.	
12 V, H9	**1KL 009 486-001**

Type approval: ECE Ⓔ1 2198 and SAE
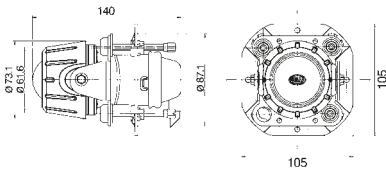
50 MM PREMIUM FOG LAMP

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: ECE Ⓔ1 877, ECE R19 B series 02, B series 03 and SAE

ACCESSORIES
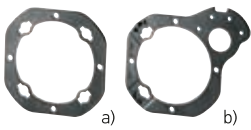
Carrier frame (not for H9 halogen spotlights)	
a) Without HLL holder	**9AH 161 786-017**
b) With HLL holder	**9AH 161 784-017**

Plastic cap (rubber cap)	
a) For halogen low-beam headlamps	**9GH 152 654-007**
b) For fog lamps	**9GH 147 009-007**

Connector plug set	
Plastic cap for 20 headlamps	**8JD 156 150-807**
H9 connectors for 20 headlamps (not shown)	**8JD 158 175-807**

Actuator motors for headlight range adjustment	
For 12 V halogen	**6NM 007 282-221**
24 V actuator	**6NM 008 299-501**
Actuator assembly set	**8HG 183 586-001**

Micro DE headlights
Fog light
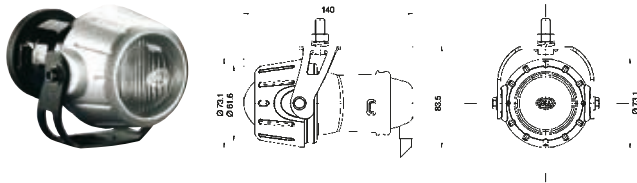
Micro DE PREMIUM FOG LAMP

12 V H3 bulb, aluminium design finisher, rubber cap contained in scope of delivery.

Individual	**1NL 008 090-301**

Type approval: ECE Ⓔ 877, ECE R19 B series 02 and B series 03
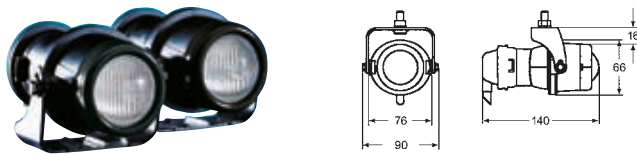
Micro DE FOG LAMP

12 V H3 bulb, rubber cap and universal mounting bracket contained in the scope of delivery.

Set	**1NL 008 090-821**
Individual	**1NL 008 090-031**

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

Position lights

This LED product has the following features:

Power Supply	IP 6K9K	Passive Electronic	Temp.-Management Passive	Bi-Polarity	GGVS	AECQ	Approval
12V			°C		ADR	AECQ	ECE
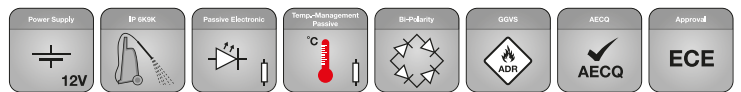
LED POSITION LIGHT WITHOUT REFLECTOR

For installation, clear lens, black plastic housing with adhesive film for attaching 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: ECE Ⓔ 11371

This LED product has the following features:

Power Supply	IP 5K9K	Active Electronic	Approval
9-33V			ECE
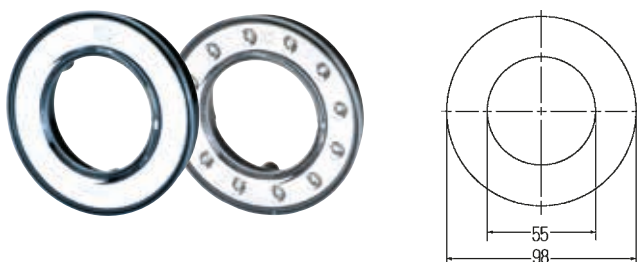
LED POSITION LIGHT AND CHROMIUM-PLATED CIRCULAR FINISHER

Suitable for light series 008 221 and 011 172, for mounting.

Circular finisher, chromium-plated	**8XU 008 405-031**
12 V, position light, with 12 LEDs	**2PF 008 405-061**

Type approval: ECE Ⓔ 1696 and ECE Ⓔ 2295

Position lights

This LED product has the following features:

Power Supply 9-32V	IP 6K7	Active Electronic	Temp.-Management Passive	GGVS ADR	Approval EMC	Approval ECE
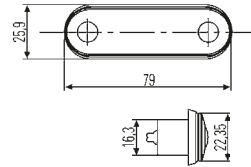
LED POSITION LIGHT, INSTALLATION

For horizontal or vertical installation, with 0.5 m cable,
12 V / 0.5 W, current consumption = approx. 0.04 A.

10–33 V	**2PF 959 590-401**

Type approval: ECE E4 7597 and e1 031721

This LED product has the following features:

Power Supply 12V	IP 5K9K	Passive Electronic	Temp.-Management Passive	Bi-Polarity	Approval EMC	Approval ECE
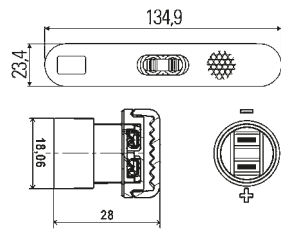
LED POSITION LIGHT

For mounting, self-adhesive with 6.3 mm contacts and mating connector grommet,
current consumption = 0.04 A.

12 V	**2PF 009 226-097**
Counterplug grommet (order separately)	**9GT 186 597-007**
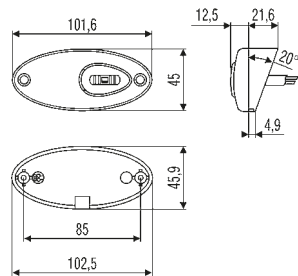
Type approval: ECE E11 3016

This LED product has the following features:

Power Supply 12V	IP 6K9K	Passive Electronic	Temp.-Management Passive	Bi-Polarity	Approval EMC	Approval ECE

LED POSITION LIGHT

For horizontal mounting, with 20° adapter base supplied loose.

12 V/0.3 W, current consumption = approx. 0.03 A	**2PF 964 295-257**

Type approval: ECE E17 817
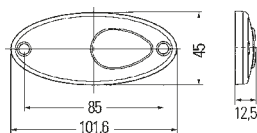
This LED product has the following features:

Power Supply 12V	IP 6K9K	Passive Electronic	Temp.-Management Passive	Bi-Polarity	Approval EMC	Approval ECE
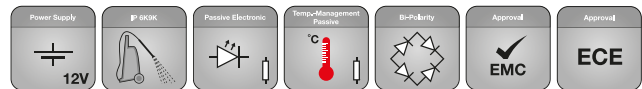
LED POSITION LIGHT WITH REFLECTOR

For horizontal mounting, with 2 LEDs.

12 V/0.3 W, current consumption = approx. 0.03 A	**2PG 964 295-121**

Type approval: ECE E17 0301

Position lights

This LED product has the following features:

Power Supply 12V	IP 6K9K	Passive Electronic	Temp.-Management Passive °C	GGVS ADR	Approval EMC	Approval ECE

105

ø 10,3

54

147

14,7

with cable
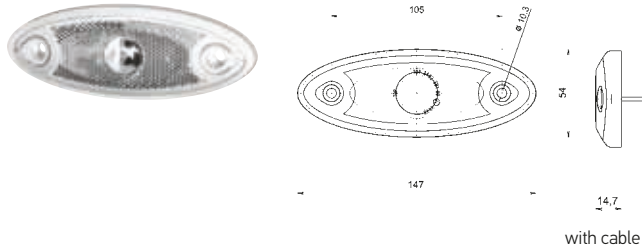
LED POSITION LIGHT

For horizontal 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

Type approval: ECE E24 5853

45

85

101,6

40
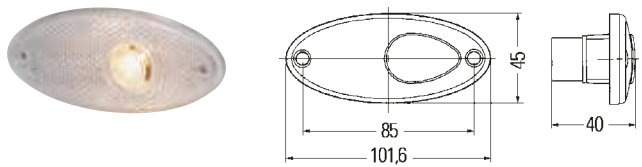
POSITION LIGHT

12 V, for horizontal installation, with pre-fitted 12 V / 5 W bulb and seal.	
with reflex reflector	2PG 964 295-011
without reflex reflector (not shown) for horizontal or vertical flush-mounting	2PF 964 295-021

Type approval: ECE E17 9806 and E17 811

80

15

10

45

M5

41
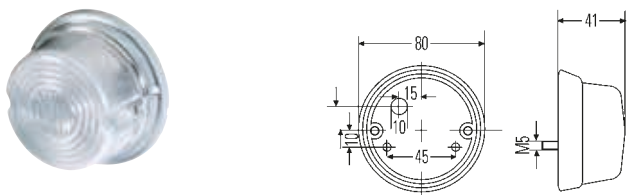
POSITION LIGHT

For mounting, clear lens, 2 x M5 fastening screws.	
12 V	2PF 001 259-631
Intermediate piece for mounting at 45° angles (order separately)	8HG 002 247-001

Type approval: ECE E1 21624

126

100

38

26

11
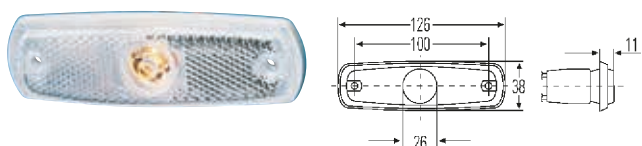
POSITION LIGHT WITH REFLECTOR

For horizontal or vertical installation, 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: ECE E4 7499 and ECE E4 3153

Indicator and position lights

| Power Supply | IP 5K9K | Passive Electronic | AECQ | ECE | SAE |

LED POSITION LIGHT, 66 MM DIAMETER

For installation, with 12 LEDs.	
Position light	2PF 009 001-421

Type approval: ECE E4 12390
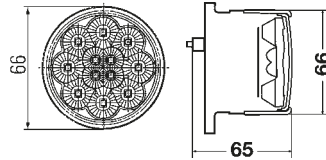
DIRECTION INDICATOR AND POSITION LIGHT, 66 MM DIAMETER

12 V / 21 W, with clear lens	
Direction indicator, amber bulb	2BA 009 001-071

Type approval: ECE

ECE: > 40 mm gap to the low-beam headlamp/ fog lamp
      < 40 mm gap to the low-beam headlamp/ fog lamp
      < 20 mm gap to the low-beam headlamp/ fog lamp

12 V / 21 W, with clear lens	
Direction indicator, amber bulb	2BA 009 001-091

Type approval: SAE

SAE: < 2,032 mm width, gap to the low-beam headlamp > 75 – 100 mm

12 V / 21 W, with clear lens	
Direction indicator, silver bulb	2BA 009 001-201

Type approval: ECE

ECE: > 40 mm gap to the low-beam headlamp/ fog lamp
      < 40 mm gap to the low-beam headlamp/ fog lamp
      < 20 mm gap to the low-beam headlamp/ fog lamp

With P21/5W bulb	
Position light	2PF 009 001-081

Type approval: ECE E4 6546 and ECE E4 7613

SAE: < 2,032 mm width

| Power Supply 12V | IP 6K9K | Active Electronic | Temp-Management Passive °C | Turn-Indicator Failure-control | AECQ | EMC | ECE |
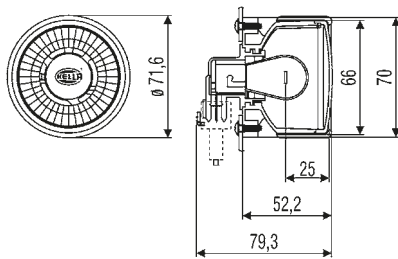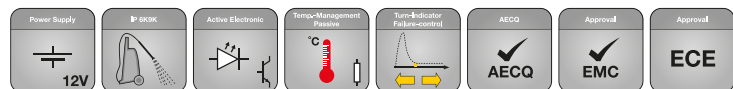
LED DIRECTION INDICATOR AND POSITION LIGHT, MODULAR, 55 MM DIAMETER

For front installation, clear lens with pattern and a 500 mm connecting cable.	
Direction indicator, without pulse	2BA 011 172-001/7
Direction indicator, with pulse	2BA 011 172-011/7

Type approval: ECE E1 3284 and CCC (BL)

ECE: distance < 40 mm to the low-beam headlamp/fog lamp
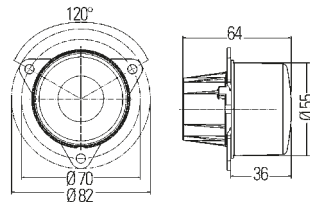
DIRECTION INDICATOR, 55 MM DIAMETER

For installation with white lens, with fitted amber 12 V / 21 W bulb.	
Indicator	2BA 008 221-107

Type approval: ECE E1 878

ECE: > 40 mm gap to the low-beam headlamp/ fog lamp
      < 40 mm gap to the low-beam headlamp/fog lamp

For installation with white lens, with fitted white 12 V / 5 W bulb.	
Position light	2PF 008 221-011

Type approval: ECE E1 879
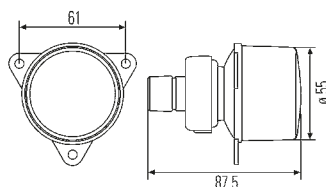
Accessories

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

Indicator and position lights
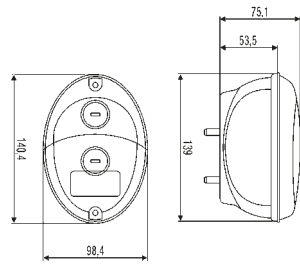
OVAL DIRECTION INDICATOR AND POSITION LIGHT

12 / 24 V, for horizontal or vertical mounting, with grommet, without bulb.

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

Indicator	**2BA 343 130-057***
Direction indicator with position light	**2BE 343 130-007**

Type approval: ECE E4 6550 and ECE E4 10202

* ECE: > 40 mm gap to the low-beam headlamp/ fog lamp
  SAE: > 2,031 mm width, > 100 mm gap to the low-beam headlamp

This LED product has the following features:

Power Supply	Power Supply	IP 6K9K	IP 6K7	Polarity Reversal Protection	Approval	Approval
12V	24V		6K7		EMC	ECE

"STRIP LAMP" LED DIRECTION INDICATOR

Ultra-flat design, mounting variant, without pulse for direction indicator failure monitor, low power consumption, 12 and 24 V, lens made from highly impact-resistant Grilamid®.

12 V, horizontal	**2BA 980 888-311**
12 V, vertical	**2BA 980 888-511**
24 V, horizontal	**2BA 980 888-411**
24 V, vertical	**2BA 980 888-611**

Type approval: ECE E24 5869 and ECE E24 5890

This LED product has the following features:

Power Supply	IP 6K7	IP 6K9K	Active Electronic	Temp.–Management Passive	GGVS	Approval	Approval
9-33V	6K7			°C	ADR	EMC	ECE
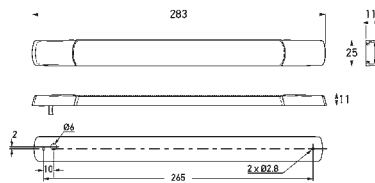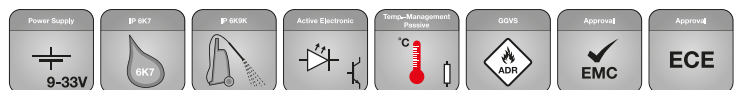
DuraLED POSITION LIGHT

Mounting variant with 2 LEDs, slimline design with 9 mm profile, horizontal or vertical installation, IP 6K7, IP 6K9K, high vibration resistance, extremely low energy consumption, multi-voltage 9 – 33 V, hermetically sealed to protect against dirt and humidity

0.5 m cable, x1	**2PF 959 855-201**
0.5 m cable, x24	**2PF 959 855-207**
2.5 m cable, x1	**2PF 959 855-241**
2.5 m cable, x16	**2PF 959 855-247**
0.5 m cable, x1	**2PF 959 855-251**
0.5 m cable, x24	**2PF 959 855-257**

Type approval: ECE E24 587 and EMC E4 10R-042899

Accessories and spare parts

Wheel cover, polished stainless steel (ECE engraving)	**9AB 959 685-201**
Contour seal	**9GD 958 028-001**
Flat, rectangular seal (x8)	**9GD 980 867-507**
Cap for screw top, black (x4)	**9HD 980 858-008**
Cap for screw top, white (x4)	**9HD 980 858-018**

Auxiliary driving lamps
for all-wheel drive

This LED product has the following features:

Power Supply	IP 6K9K	IP 6K7	Active Electronic	Temp.-Management Active	Polarity Reversal Protection	Over-Voltage Protection	Approval	Approval
9-33V		6K7		°C			EMC	ECE
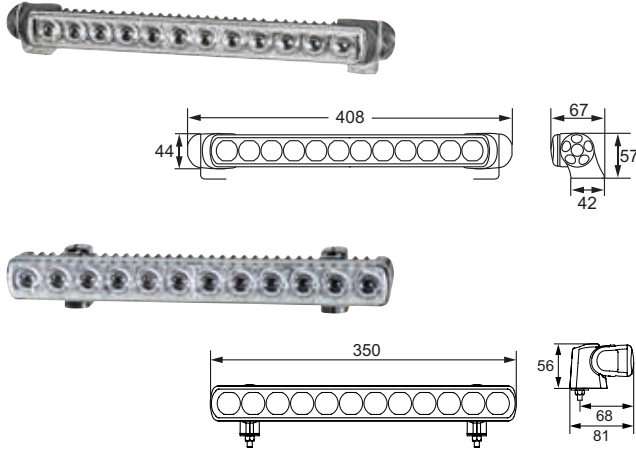
AUXILIARY DRIVING LAMP LED LIGHT BAR 350

12 high-power LEDs with high luminous intensity, power requirements: 25 watts, multi-voltage 12 – 24 V, IP 6K7 (submersible), ECE type approval R112 and EMC R10.

Ref. 20, with plastic bracket	**1FJ 958 040-001**
Ref. 30, with plastic bracket	**1FJ 958 040-051**
Ref. 20, with universal bracket	**1FJ 958 040-072**
Ref. 30, with universal bracket	**1FJ 958 040-082**

Type approval: ECE ⓔ24 0008 (ref. 20), ECE ⓔ24 0009 (ref. 30)

Spare parts/accessories

1 plastic bracket	**8HG 958 053-801**
Bracket set (2 steel angle brackets for dual mounting)*	**8HG 958 128-811**

* Only for products with a universal bracket.

This LED product has the following features:

Power Supply	IP 6K9K	IP 6K7	Active Electronic	Temp.-Management Active	Polarity Reversal Protection	Over-Voltage Protection	Approval	Approval
9-33V		6K7		°C			EMC	ECE
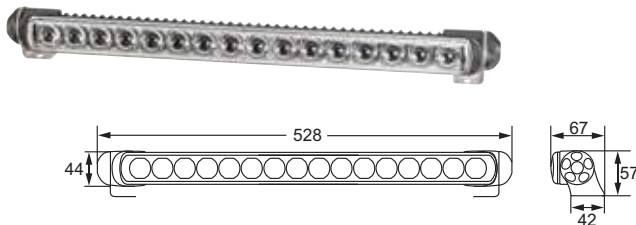
AUXILIARY DRIVING LAMP LED LIGHT BAR 470

16 high-power LEDs with high luminous intensity, power requirements: 35 watts, multi-voltage 12 – 24 V, IP 6K7 (submersible), ECE type approval R112 and EMC R10.

Ref. 25, with universal bracket	**1FJ 958 130-111**
Ref. 37.5, with universal bracket	**1FJ 958 130-011**

Type approval: ECE ⓔ24 0012 (ref. 25), ECE ⓔ24 0013 (ref. 37.5)

Spare parts/accessories

Bracket set (2 universal brackets)	**8HG 958 139-841**
Bracket (1 universal bracket without steel angle bracket, also for custom angles)	**8HG 958 139-071**
Bracket set (2 steel angle brackets for dual mounting)	**8HG 958 128-811**

This LED product has the following features:

Power Supply	Active Electronic	Temp.-Management Active	Polarity Reversal Protection	Over-Voltage Protection	Approval	Approval
9-33V		°C			EMC	ECE

LUMINATOR LED

High-beam headlamp, multi-voltage 12 – 24 V, ECE ref. 50.	
With position light and chrome design ring	**1F8 011 002-211**

Type approval: ECE ⓔ1 3967

Accessories

High-beam headlamp insert ref. 50 with position light	**1F8 181 541-031**

Auxiliary driving lamps
for all-wheel drive

This LED product has the following features:

Power Supply	IP 6K9K	IP 6K7	Active Electronic	Temp.-Management Active	Polarity Reversal Protection	Over-Voltage Protection	AECQ	Approval	Approval
9-33V		6K7		°C			AECQ	EMC	ECE
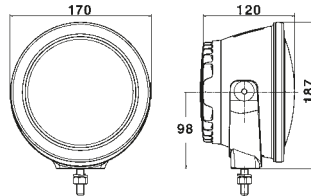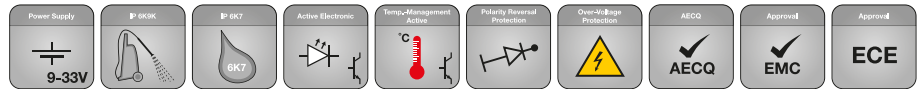
LUMINATOR COMPACT LED

High-beam headlamp, multi-voltage 12 – 24 V, ECE ref. 45	
With chrome design ring	1F3 011 815-001
With black design ring	1F3 011 815-011
With black design ring (Heavy Duty with hose ventilation)	1F3 011 815-031

Type approval: ECE (E1) 3738

Spare parts/accessories

Cover lens with chrome design ring	9AG 195 614-001
Cover lens with matt black design ring	9AG 195 614-011
Protective cap, not for use on public roads	8XS 199 170-011

This LED product has the following features:

Power Supply	IP 6K9K	IP 6K7	Active Electronic	Temp.-Management Active	Polarity Reversal Protection	Over-Voltage Protection	EMC	Approval
9-33V		6K7		°C			EMC 5	ECE
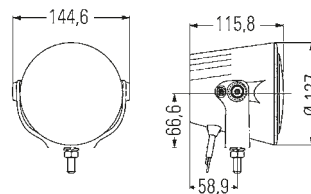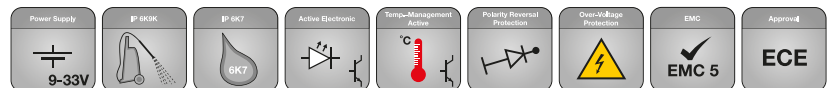
LUMINATOR X LED

High-beam headlamp, multi-voltage 12 – 24 V, ECE ref. 37.5.	
With chrome design ring	1F0 012 206-001
With black design ring	1F0 012 206-011
With black design ring, ECE ref. 25	1F0 012 206-112

Type approval: ECE (E4) 0009 (ref. 37.5), ECE (E4) 0477 (ref. 25)

Spare parts

Cover lens with seal	9ES 199 813-001
Chrome design ring	9AG 199 812-001
Black design ring	9AG 199 812-011

This LED product has the following features:

Power Supply	IP 9K9K	Passive Electronic	Temp.-Management Passive	Polarity Reversal Protection	Over-Voltage Protection	AECQ	EMC	Approval	Approval
12V			°C			AECQ	EMC 5	ECE	SAE
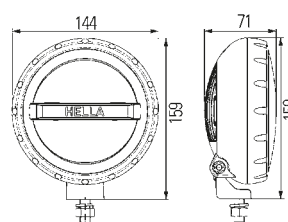
COMET 200 LED

High-beam headlamp, 12 V, ECE ref. 12.5	
For upright mounting	1F2 012 414-001

Type approval: ECE (E1) 3965, SAE Y14 TF62, CCC

Accessories

Protective cap, not for use on public roads	8XS 203 384-011

Shapeline
LED position lights

These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	-40°C - +60°C	⚠	▷⊢	EMC 5	ECE	SAE
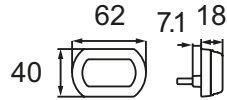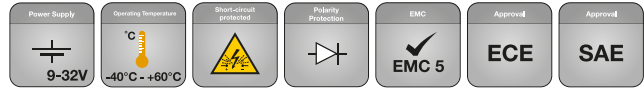
SHAPELINE SMALL POSITION LIGHT

1 LED, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	26 mA at 13.5 V / 32 mA at 28 V
Power consumption	0.35 W at 13.5 V / 0.9 W at 28 V
Dimensions (length/width/height)	62 / 40 / 18 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Failure monitor	in accordance with ISO 13207
Integrated short-circuit protection	Yes

6.3 mm receptacles, 2,100 mm	**2PF 013 323-211**
Open ends, 250 mm	**2PF 013 323-221**
Open ends, 5,000 mm	**2PF 013 323-201**

Homologation: ECE / SAE
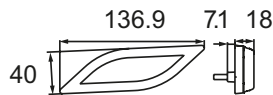
SHAPELINE SMALL POSITION LIGHT

1 LED, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	26 mA at 13.5 V / 32 mA at 28 V
Power consumption	0.35 W at 13.5 V / 0.9 W at 28 V
Dimensions (length/width/height)	139.6 / 40 / 18 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(6°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Failure monitor	in accordance with ISO 13207
Integrated short-circuit protection	Yes

Left, AMP SUPERSEAL, 250 mm	**2PF 013 324-011**
Left, open ends, 250 mm	**2PF 013 324-031**
Left, Amphenol, 250 mm	**2PF 013 324-051**
Right, AMP SUPERSEAL, 250 mm	**2PF 013 324-021**
Right, open ends, 250 mm	**2PF 013 324-041**
Right, Amphenol, 250 mm	**2PF 013 324-061**

Homologation: ECE / SAE

* Other fastening options upon request.

Shapeline
LED position lights

These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	-40°C - +60°C			EMC 5	ECE	SAE

SHAPELINE POSITION LIGHT, WING

30 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	315 mA at 13.5 V / 340 mA at 28 V
Power consumption	5.5 W at 13.5 V / 5.5 W at 28 V
Dimensions (length/width/height)	384.4 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(6°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Integrated short-circuit protection	Yes

Left, horizontal, 2-pin AMP SUPERSEAL integrated	**2PF 013 325-011**
Right, horizontal, 2-pin AMP SUPERSEAL integrated	**2PF 013 325-021**

Homologation: ECE / SAE

SHAPELINE POSITION LIGHT, WING

30 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	315 mA at 13.5 V / 340 mA at 28 V
Power consumption	5.5 W at 13.5 V / 5.5 W at 28 V
Dimensions (length/width/height)	384.4 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Integrated short-circuit protection	Yes

Left, vertical, 2-pin AMP SUPERSEAL integrated	**2PF 013 325-031**
Right, vertical, 2-pin AMP SUPERSEAL integrated	**2PF 013 325-041**

Homologation: ECE / SAE

Shapeline
LED position lights

These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	-40°C - +60°C			EMC 5	ECE	SAE

SHAPELINE SLIM POSITION LIGHT

6 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	65 mA at 13.5 V / 75 mA at 28 V
Power consumption	0.88 W at 13.5 V / 2.1 W at 28 V
Dimensions (length/width/height)	198.1/40/25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(6°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Failure monitor	in accordance with ISO 13207
Integrated short-circuit protection	Yes

Left, horizontal, 2-pin AMP SUPERSEAL integrated	**2PF 013 326-011**
Right, horizontal, 2-pin AMP SUPERSEAL integrated	**2PF 013 326-021**

Homologation: ECE / SAE

198.1   16.4   25
40

SHAPELINE SLIM POSITION LIGHT

6 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	65 mA at 13.5 V / 75 mA at 28 V
Power consumption	0.88 W at 13.5 V / 2.1 W at 28 V
Dimensions (length/width/height)	198.1/40/25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Failure monitor	in accordance with ISO 13207
Integrated short-circuit protection	Yes

Left, vertical, 2-pin AMP SUPERSEAL integrated	**2PF 013 326-031**
Right, vertical, 2-pin AMP SUPERSEAL integrated	**2PF 013 326-041**

Homologation: ECE / SAE

25
16.4
198.1
40

* Other fastening options upon request.

Shapeline
LED direction indicators

These LED products have the following features:

Power Supply	Operating Temperature	Turn-Indicator Failure-control	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	-40°C - +60°C				EMC 5	ECE	SAE

SHAPELINE WING DIRECTION INDICATOR

12 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	407 mA at 13.5 V / 197 mA at 28 V
Power consumption	5.5 W at 13.5 V / 5.5 W at 28 V
Dimensions (length/width/height)	384.4 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(6°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure monitor	in accordance with ISO 13207
Integrated short-circuit protection	Yes

Left, horizontal, 2-pin AMP SUPERSEAL integrated	**2BA 013 334-011**
Right, horizontal, 2-pin AMP SUPERSEAL integrated	**2BA 013 334-021**

Homologation: ECE / SAE

Left, horizontal, 2-pin AMP SUPERSEAL integrated Wiping L→R	**2BA 013 334-051**
Right, horizontal, 2-pin AMP SUPERSEAL integrated Wiping R→L	**2BA 013 334-061**
Right, horizontal, 2-pin AMP SUPERSEAL integrated Wiping L→R	**2BA 013 334-071**
Left, horizontal, 2-pin AMP SUPERSEAL integrated Wiping R→L	**2BA 013 334-081**

Homologation: ECE

SHAPELINE WING DIRECTION INDICATOR

12 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	407 mA at 13.5 V / 197 mA at 28 V
Power consumption	5.5 W at 13.5 V / 5.5 W at 28 V
Dimensions (length/width/height)	384.4 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure monitor	in accordance with ISO 13207
Integrated short-circuit protection	Yes

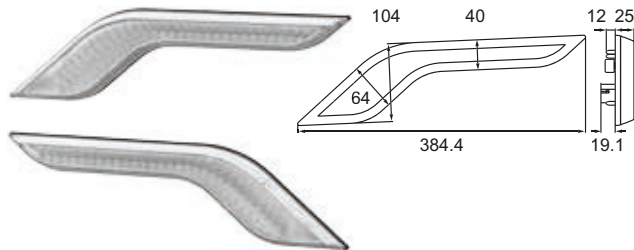|	
Left, vertical, 2-pin AMP SUPERSEAL integrated	**2BA 013 334-031**
Right, vertical, 2-pin AMP SUPERSEAL integrated	**2BA 013 334-041**

Homologation: ECE / SAE

* Other fastening options upon request.

Shapeline
LED direction indicators

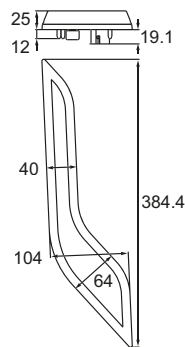**These LED products have the following features:**

Power Supply	Operating Temperature	Turn-Indicator Failure-control	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	-40°C - +60°C				EMC 5	ECE	SAE

SHAPELINE SLIM DIRECTION INDICATOR

6 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	217 mA at 13.5 V / 105 mA at 28 V
Power consumption	2.93 W at 13.5 V / 2.93 W at 28 V
Dimensions (length/width/height)	198.1 / 40 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure monitor	in accordance with ISO 13207
Integrated short-circuit protection	Yes

Left, vertical, 2-pin AMP SUPERSEAL integrated	**2BA 013 335-051**
Right, vertical, 2-pin AMP SUPERSEAL integrated	**2BA 013 335-061**

Homologation: ECE / SAE >2,032

25
16.4
198.1
40

SHAPELINE SLIM DIRECTION INDICATOR

6 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	217 mA at 13.5 V / 105 mA at 28 V
Power consumption	2.93 W at 13.5 V / 2.93 W at 28 V
Dimensions (length/width/height)	198.1 / 40 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(6°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure monitor	in accordance with ISO 13207
Integrated short-circuit protection	Yes

Left, horizontal, 2-pin AMP SUPERSEAL integrated	**2BA 013 335-031**
Right, horizontal, 2-pin AMP SUPERSEAL integrated	**2BA 013 335-041**

Homologation: ECE / SAE >2,032

Left, horizontal, 2-pin AMP SUPERSEAL integrated Wiping R→L	**2BA 013 335-011**
Right, horizontal, 2-pin AMP SUPERSEAL integrated Wiping L→R	**2BA 013 335-021**

Homologation: ECE

198.1   16.4   25
40

* Other fastening options upon request.

Shapeline
LED direction indicators

These LED products have the following features:

Power Supply	Operating Temperature	Turn-Indicator Failure-control	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	-40°C - +60°C				EMC 5	ECE	SAE
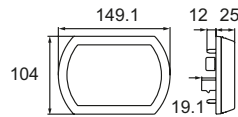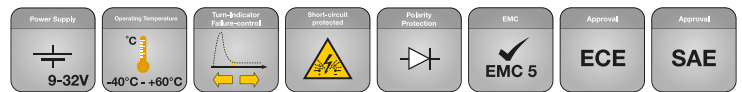
SHAPELINE DIRECTION INDICATOR, CLEAR

12 LEDs, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	408 mA at 13.5 V / 240 mA at 28 V
Power consumption	5.5 W at 13.5 V / 6.7 W at 28 V
Dimensions (length/width/height)	149.1/104/25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure monitor	in accordance with ISO 13207
Integrated short-circuit protection	Yes

2-pin AMP SUPERSEAL integrated	**2BA 013 330-011**

Homologation: ECE and SAE > 2,032

149.1   12   25
104
19.1
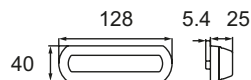
SHAPELINE DIRECTION INDICATOR

6 LEDs, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	217 mA at 13.5 V / 105 mA at 28 V
Power consumption	2.93 W at 13.5 V / 2.93 W at 28 V
Dimensions (length/width/height)	128 / 40 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure monitor	in accordance with ISO 13207
Integrated short-circuit protection	Yes

Without wiping function, 2-pin AMP SUPERSEAL integrated	**2BA 013 398-001**

Homologation: ECE / SAE

With wiping function, 2-pin AMP SUPERSEAL integrated	**2BA 013 398-011**

Homologation: ECE

128   5.4   25
40

* Other fastening options upon request.

Shapeline
Reflex reflectors

These products have the following features:

Operating Temperature
°C
-40°C - +60°C   ECE   SAE

SHAPELINE REFLEX REFLECTOR

Style Design	
Dimensions (length/width/height)	161.8 / 40 / 12 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape
Assembly homologation	6°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Left	8RA 013 347-011
Right	8RA 013 347-021

Homologation: ECE / SAE

161.8   12
40
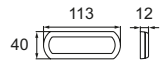
SHAPELINE REFLEX REFLECTOR

Tech Design	
Dimensions (length/width/height)	113 / 40 / 12 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
	8RA 013 403-011

Homologation: ECE / SAE

113   12
40

Daytime running lights
Legal regulations
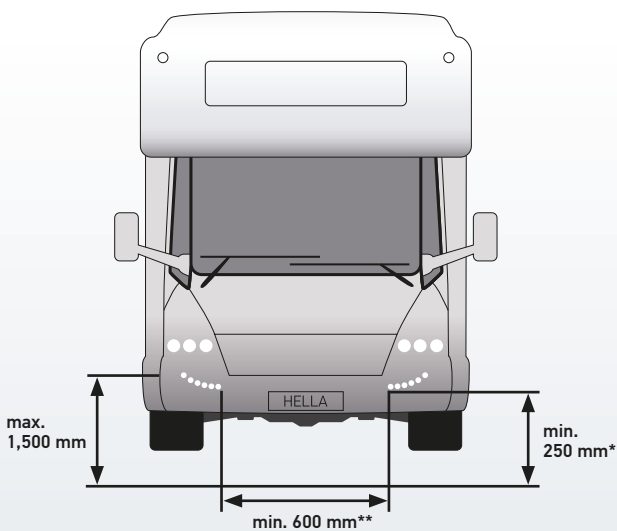
→ Daytime running lights provide a decisive safety advantage on the roads and help prevent approx. 58% of accidents which result in serious injuries.
→ It is much easier to see than normal low beam.
→ A vehicle's own visibility is significantly increased.
→ The vehicle can be seen earlier on, which provides a few more seconds of vital reaction time.
→ Fuel consumption significantly reduced compared to driving with low beam.

Required by law:
The law has recognised the advantages of daytime running lights: From 2012 onwards, daytime running lights are obligatory for all new commercial vehicles licensed to use the roads in EU countries. Various installation options are allowed. However, distances and reflected beam angles are specified.

→ * When used as a position light, the minimum permitted installation height is 350 mm and the lights must not be more than 400 mm from the outer edge of the vehicle.
→ ** For vehicles with a width of < 1,300 mm, the spacing distance must be at least 400 mm.
→ When using a daytime running light as a position light, the standard position light must be permanently decommissioned in accordance with ECE R48.
→ For more information on legal stipulations and attachment regulations, please refer to the Internet or a qualified garage.
→ See the relevant assembly instructions for more detailed information.

min. = minimum distance
max. = maximum distance
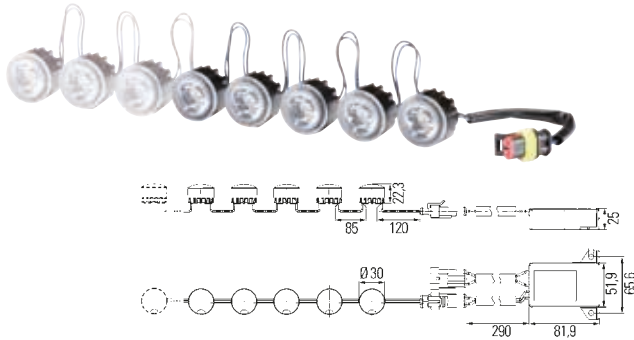
max. 1,500 mm

min. 250 mm*

min. 600 mm**

HELLA

Daytime running lights
Sets

LED DAYTIME RUNNING LIGHT SET LEDayFlex

Set consisting of two pre-wired module sets with 5 – 8 round LED modules as well as two electronics boxes for controlling the daytime running lights, available with or without position light. The system is connected to the vehicle electrical system via a 3-pin AMP SUPERSEAL connector, multi-voltage 12/24 V.

5 daytime running light LED modules	**2PT 010 458-701**
5 daytime running light LED modules with position light	**2PT 010 458-711**
6 daytime running light LED modules	**2PT 010 458-721**
6 daytime running light LED modules with position light	**2PT 010 458-731**
7 daytime running light LED modules	**2PT 010 458-741**
7 daytime running light LED modules with position light	**2PT 010 458-751**
8 daytime running light LED modules	**2PT 010 458-761**
8 daytime running light LED modules with position light	**2PT 010 458-771**

Type approval: ECE 24 5852 and SAE

Accessories

12 / 24 V, control unit for daytime running light with position light	**5DS 010 668-701**
12 / 24 V, control unit for position light	**5DS 010 668-711**
Harness (not included)	**8KA 165 959-001**

Type approval: ECE E9 1152 – R10
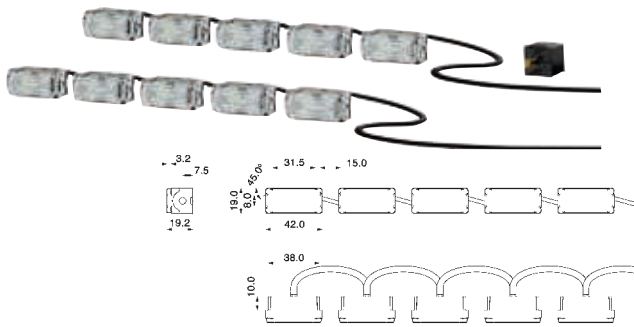
LED DAYTIME RUNNING LIGHT SET LEDayFlex II

LEDayFlex II has expanded the system of flexibly connected module chains since 2012. The two square LED daytime running light chains with five or six pre-wire light modules make new designs possible.

12 V, 5 LED light module	**2PT 980 789-851**
12 V, 6 LED light module	**2PT 980 789-861**

Type approval: ECE 24 5864
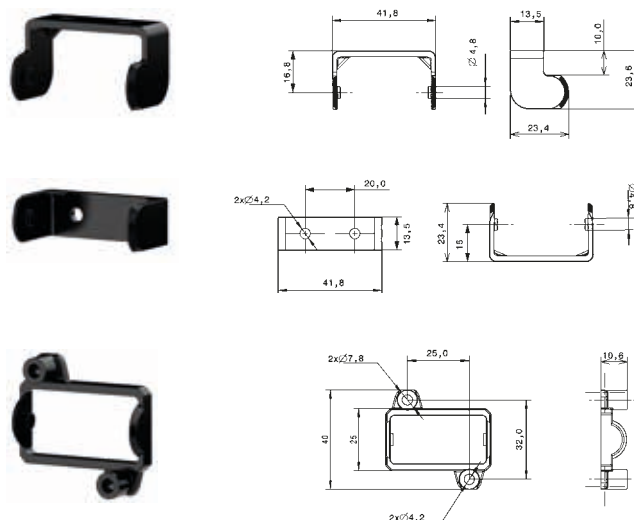
Bracket for screw attachment, above
Included

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**

Daytime running lights
Sets

This LED product has the following features:

Power Supply	IP 6K9K	Over-Voltage Protection	Approval	Approval	Approval
9-33V		⚡	EMC ✓	ECE	SAE
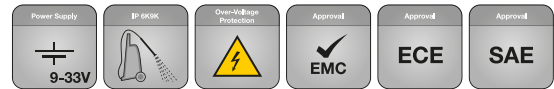
LED DAYTIME RUNNING LIGHT, RECTANGULAR
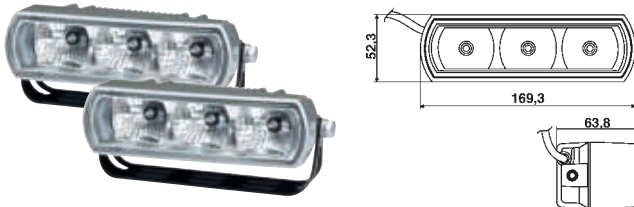
LED daytime running light set with silver-grey aluminium housing and integrated relays for upright and pendant mounting in or on the front apron.
Set contents: two lights, each with 3 LEDs, professional harness with AMP SUPERSEAL connector.

Daytime running light, set	2PT 009 496-801

Type approval: ECE (E) 2344 and SAE

This LED product has the following features:

Power Supply	Power Supply	Polarity Reversal Protection	Approval
12V	24V		ECE
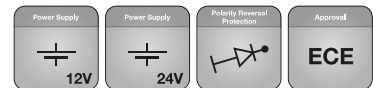
LED DAYTIME RUNNING LIGHT SET LEDayLine "STRIP LAMP"
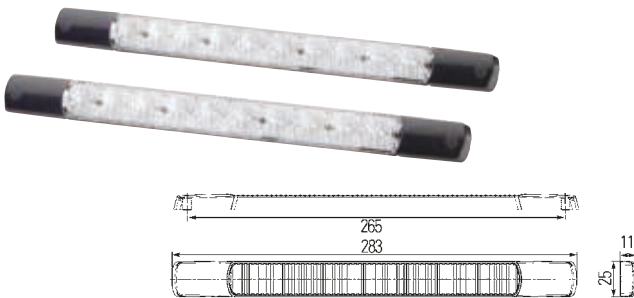
Light for "mounting" with 10 high-power LEDs, lens made from highly impact-resistant Grilamid®, horizontal mounting, two fastening screws, one on each end of the light, cover caps for concealing the fixing points, with 2.5 m sheathed connecting cable, power consumption 3 W, polarity reversal protection and ECE-tested.

12 V, daytime running lights, set	2PT 980 880-811
24 V, daytime running lights, set	2PT 980 880-861

Type approval: ECE

This LED product has the following features:

Power Supply	IP 5K9K	Active Electronic	Temp.-Management Active	Over-Voltage Protection	AECQ	Approval	Approval
12V			°C	⚡	AECQ ✓	EMC ✓	ECE

LED DAYTIME RUNNING LIGHTS SET LEDayLine WITH POSITION LIGHT

2 lights with five LEDs per light and integrated relay for fully automatic switch-on, incl. professional harness and fixing material, multi-voltage 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: ECE (E) 2578

Vehicle-specific finisher, black
(only daytime running light)

Fits Fiat Ducato, Citroën Jumper, Peugeot Boxer, from 2006-2011.
Includes connector cable set, assembly material and assembly instructions.

	2PT 010 043-811

Type approval: ECE (E) 2578

Daytime running lights
Sets

Power Supply 12V	Power Supply 24V	IP 6K9K	IP 6K7	Over-Voltage Protection	Approval EMC	Approval ECE
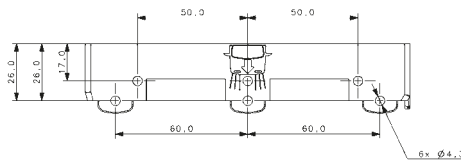
LEDayLine Zero

For horizontal installation, 8 high-power LEDs per daytime running light, suitable for vehicles without sweep angle, power consumption 2 W, IP 6K7 / IP 6K9K, high vibration resistance and polarity reversal protection.

12 V, daytime running light, set	**2PT 980 970-821**
24 V, daytime running light, set	**2PT 980 970-871**

Type approval: ECE E24 5875

Power Supply 12V	Power Supply 24V	IP 6K9K	IP 6K7	Over-Voltage Protection	Approval EMC	Approval ECE	Approval SAE
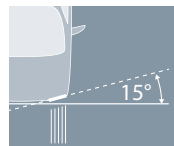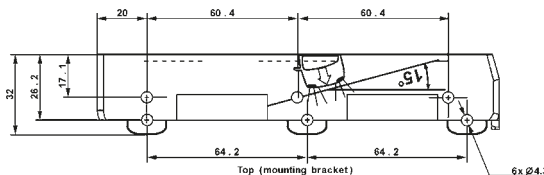
LEDayLine 15 WITH POSITION LIGHT

Suitable for vehicles with a 15° sweep angle at the installation location, for horizontal installation, 8 LEDs per daytime running light, power consumption 2 W.

Top-down view

12 V, light module daytime running light/position light	**2PT 980 860-001**
24 V, light module daytime running light/position light	**2PT 980 860-501**
Brackets (set right/left)	**8HG 980 864-101**

Type approval: ECE E24 5863 and SAE

Control units*

12 V, with connecting cables	**8KA 959 186-801**
24 V, with connecting cables	**8KA 959 186-811**

Power Supply 12V	Power Supply 24V	IP 6K9K	IP 6K7	Over-Voltage Protection	Approval EMC	Approval ECE	Approval SAE
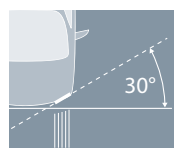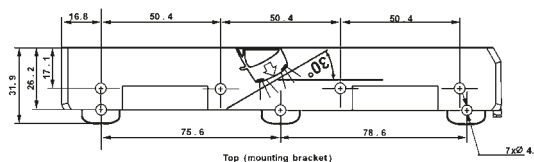
LEDayLine 30 WITH POSITION LIGHT

Suitable for vehicles with a 30° sweep angle at the installation location, for horizontal installation, 8 LEDs per daytime running light, power consumption 2 W.

Top-down view

12 V, light module daytime running light/position light	**2PT 980 850-001**
24 V, light module daytime running light/position light	**2PT 980 850-501**
Brackets (set right/left)	**8HG 980 854-101**

Type approval: ECE E29 5862 and SAE

Control units*

12 V, with connecting cables	**8KA 959 186-801**
24 V, with connecting cables	**8KA 959 186-811**

*Lights cannot be switched on separately (L/ R) on the vehicle.

SIDE LIGHTING

→ Shapeline: side lighting
→ Auxiliary indicators
→ Side marker lights

Shapeline
LED direction indicators
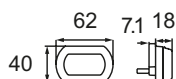
These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval
9-32V	-40°C - +60°C			EMC 5	ECE

SHAPELINE DIRECTION INDICATOR, CAT. 5

2 LEDs, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	50 mA at 13.5 V / 50 mA at 28 V
Power consumption	0.7 W at 13.5 V / 1.4 W at 28 V
Dimensions (length/width/height)	62 / 40 / 18 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Integrated short-circuit protection	Yes

Open ends, 500 mm	**2BM 013 336-001**

Homologation: ECE
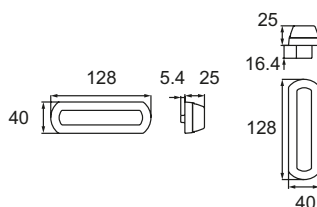
SHAPELINE DIRECTION INDICATOR, CAT. 6

2 LEDs, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	232 mA at 13.5 V / 116 mA at 28 V
Power consumption	3.3 W at 13.5 V / 3.3 W at 28 V
Dimensions (length/width/height)	128 / 40 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Integrated short-circuit protection	Yes

Horizontal, open ends, 500 mm	**2BM 013 337-011**
Horizontal, 2-pin AMP integrated	**2BM 013 337-001**
Vertical, left, open ends, 500 mm	**2BM 013 337-031**
Vertical, right, open ends, 500 mm	**2BM 013 337-041**
Vertical, left, 2-pin AMP integrated	**2BM 013 337-051**
Vertical, right, 2-pin AMP integrated	**2BM 013 337-061**

Homologation: ECE

* Other fastening options upon request.

Shapeline
LED direction indicators

These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval
9-32V	-40°C - +60°C			EMC 5	ECE
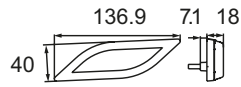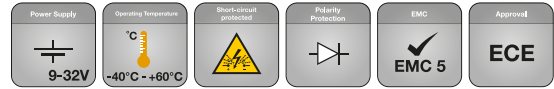
SHAPELINE DIRECTION INDICATOR, CAT. 5

2 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	50 mA at 13.5 V / 50 mA at 28 V
Power consumption	0.7 W at 13.5 V / 1.4 W at 28 V
Dimensions (length/width/height)	136.9 / 40 / 18 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Integrated short-circuit protection	Yes

Left, open ends, 500 mm	**2BM 013 338-011**
Right, open ends, 500 mm	**2BM 013 338-021**

Homologation: ECE

136.9   7.1   18
40
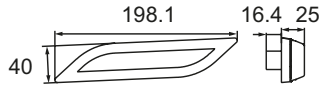
SHAPELINE DIRECTION INDICATOR, CAT. 6

2 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	232 mA at 13.5 V / 116 mA at 28 V
Power consumption	3.3 W at 13.5 V / 3.3 W at 28 V
Dimensions (length/width/height)	199.8 / 40 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Integrated short-circuit protection	Yes

Left, open ends, 500 mm	**2BM 013 339-011**
Left, 2-pin AMP integrated	**2BM 013 339-031**
Right, open ends, 500 mm	**2BM 013 339-021**
Right, 2-pin AMP integrated	**2BM 013 339-041**

Homologation: ECE

198.1   16.4   25
40

* Other fastening options upon request.

Shapeline
Reflex reflectors

These products have the following features:

| Operating Temperature -40°C - +60°C | ECE | SAE |
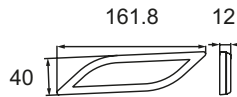
SHAPELINE REFLEX REFLECTOR

Style Design
Dimensions (length/width/height)	163.5/40/12 mm
Fixing system	Tape
HELLA Specification	HN 67101 class 6.3 + 7.2

Left	**8RA 013 347-031**
Right	**8RA 013 347-041**

Homologation: ECE / SAE
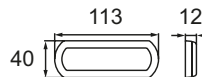
SHAPELINE REFLEX REFLECTOR

Tech Design
Dimensions (length/width/height)	113/40/12 mm
Fixing system	Tape
HELLA Specification	HN 67101 class 6.3 + 7.2

	8RA 013 403-021

Homologation: ECE / SAE

Shapeline
Clearance light

This LED product has the following features:

| Power Supply 9-32V | Operating Temperature -40°C - +60°C | Short-circuit protected | EMC 5 | ECE | SAE |
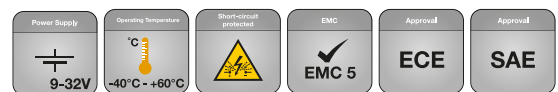
**SHAPELINE CLEARANCE LIGHT, SIDE MOUNTING,
LIGHT EMISSION TO THE FRONT AND REAR**

Tech Design
Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Dimensions (length/width/height)	91/40.5/21 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Integrated short-circuit protection	Yes

Open ends, 500 mm	**2XS 013 327-011**
Integrated 2-pin AMP	**2XS 013 327-001**

Homologation: ECE

Open ends, 500 mm	**2XS 013 327-111**
Integrated 2-pin AMP	**2XS 013 327-101**

Homologation: SAE

* Other fastening options upon request.

Shapeline
LED side marker lights

These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	EMC	Approval	Approval
⏚ 9–32V	°C -40°C - +60°C	⚠	✓ EMC 5	ECE	SAE

SHAPELINE SIDE MARKER LIGHT WITH REFLEX REFLECTOR

3 LEDs, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	41 mA at 13.5 V / 47 mA at 28 V
Power consumption	0.55 W at 13.5 V / 1.3 W at 28 V
Dimensions (length/width/height)	168 / 34 / 15.5 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Integrated short-circuit protection	Yes

Horizontal, EasyConn, angled, 1,000 mm	**2PS 013 300-011**
Horizontal, AMP SUPERSEAL, 450 mm	**2PS 013 300-021**
Horizontal, EasyConn, straight, 1,300 mm	**2PS 013 300-031**
Horizontal, Quick-Link, 1,300 mm	**2PS 013 300-041**
Horizontal, 6.3 mm receptacles, 2,100 mm	**2PS 013 300-051**
Horizontal, open ends, 500 mm	**2PS 013 300-001**
Horizontal, open ends, 1,500 mm	**2PS 013 300-061**
Horizontal, Amphenol, 500 mm	**2PS 013 300-071**
Vertical, EasyConn, angled, 1,000 mm	**2PS 013 301-011**
Vertical, AMP SUPERSEAL, 450 mm	**2PS 013 301-021**
Vertical, EasyConn, straight, 1,300 mm	**2PS 013 301-031**
Vertical, Quick-Link, 1,300 mm	**2PS 013 301-041**
Vertical, 6.3 mm receptacles, 2,100 mm	**2PS 013 301-051**
Vertical, open ends, 500 mm	**2PS 013 301-001**
Vertical, open ends, 1,500 mm	**2PS 013 301-061**
Vertical, Amphenol, 500 mm	**2PS 013 301-071**

Homologation: ECE SM1 / SAE
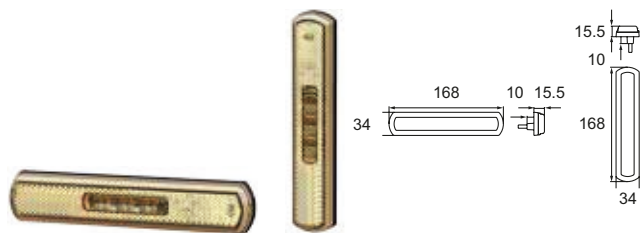
SHAPELINE SIDE MARKER LIGHT WITH REFLEX REFLECTOR

1 LED, Tech Design

Voltage range	9 – 16 V
Rated voltage	12 V
Current flow	38 mA at 13.5 V
Power consumption	0.5 W at 13.5 V
Dimensions (length/width/height)	168 / 34 / 15.5 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Integrated short-circuit protection	Yes

Horizontal, AMP SUPERSEAL, 250 mm, not overmolded	**2PS 013 302-011**
Horizontal, 6.3 mm receptacles, 250 mm	**2PS 013 302-021**
Horizontal, open ends, 250 mm	**2PS 013 302-001**
Vertical, AMP SUPERSEAL, 250 mm, not overmolded	**2PS 013 302-111**
Vertical, 6.3 mm receptacles, 250 mm	**2PS 013 302-121**
Vertical, open ends, 250 mm	**2PS 013 302-101**

Homologation: ECE SM2

* Other fastening options upon request.

Shapeline
LED side marker lights

These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	EMC	Approval	Approval
9-32V	°C -40°C - +60°C	⚠	EMC 5	ECE	SAE

SHAPELINE SIDE MARKER LIGHT
WITH A REFLEX REFLECTOR AND RUBBER HOUSING

3 LEDs, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	41 mA at 13.5 V / 47 mA at 28 V
Power consumption	0.55 W at 13.5 V / 1.3 W at 28 V
Dimensions (length/width/height)	171.8 / 37.8 / 17.1 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Integrated short-circuit protection	Yes

Horizontal, EasyConn, angled, 1,000 mm	**2PS 013 300-251**
Horizontal, AMP SUPERSEAL, 450 mm	**2PS 013 300-261**
Horizontal, EasyConn, straight, 1,300 mm	**2PS 013 300-271**
Horizontal, Quick-Link, 1,300 mm	**2PS 013 300-281**
Horizontal, 6.3 mm receptacles, 2,100 mm	**2PS 013 300-291**
Horizontal, open ends, 500 mm	**2PS 013 300-241**
Horizontal, open ends, 1,500 mm	**2PS 013 300-301**
Horizontal, Amphenol, 500 mm	**2PS 013 300-311**
Vertical, EasyConn, angled, 1,000 mm	**2PS 013 301-251**
Vertical, AMP SUPERSEAL, 450 mm	**2PS 013 301-261**
Vertical, EasyConn, straight, 1,300 mm	**2PS 013 301-271**
Vertical, Quick-Link, 1,300 mm	**2PS 013 301-281**
Vertical, 6.3 mm receptacles, 2,100 mm	**2PS 013 301-291**
Vertical, open ends, 500 mm	**2PS 013 301-241**
Vertical, open ends, 1,500 mm	**2PS 013 301-301**
Vertical, Amphenol, 500 mm	**2PS 013 301-311**

Homologation: ECE SM1 / SAE

SHAPELINE SIDE MARKER LIGHT

3 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	41 mA at 13.5 V / 47 mA at 28 V
Power consumption	0.55 W at 13.5 V / 1.3 W at 28 V
Dimensions (length/width/height)	205 / 34 / 15.5 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Integrated short-circuit protection	Yes

Left, AMP SUPERSEAL, 250 mm, overmolded	**2PS 013 305-011**
Left, 6.3 mm receptacles, 250 mm	**2PS 013 305-031**
Left, open ends, 250 mm	**2PS 013 305-051**
Left, Amphenol, 500 mm	**2PS 013 305-071**
Right, AMP SUPERSEAL, 250 mm, overmolded	**2PS 013 305-021**
Right, 6.3 mm receptacles, 250 mm	**2PS 013 305-041**
Right, open ends, 250 mm	**2PS 013 305-061**
Right, Amphenol, 500 mm	**2PS 013 305-081**

Homologation: ECE SM1 / SAE

* Other fastening options upon request.

Shapeline
LED side marker lights
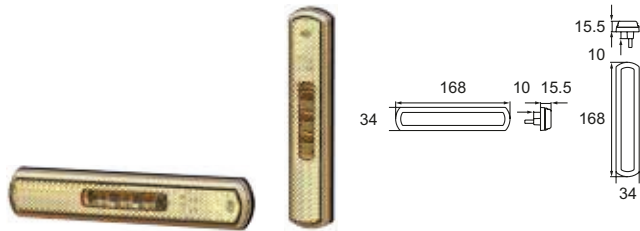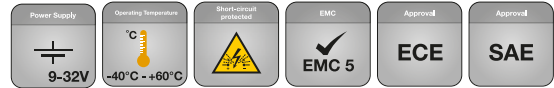
These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	EMC	Approval	Approval
9-32V	-40°C - +60°C	⚡	EMC 5	ECE	SAE

SHAPELINE SIDE MARKER LIGHT
WITH RUBBER HOUSING

3 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	41 mA at 13.5 V / 47 mA at 28 V
Power consumption	0.55 W at 13.5 V / 1.3 W at 28 V
Dimensions (length/width/height)	205 / 34 / 15.5 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Integrated short-circuit protection	Yes

Left, AMP SUPERSEAL, 250 mm, overmolded	**2PS 013 305-251**
Left, 6.3 mm receptacles, 250 mm	**2PS 013 305-271**
Left, open ends, 250 mm	**2PS 013 305-291**
Left, Amphenol, 500 mm	**2PS 013 305-311**
Right, AMP SUPERSEAL, 250 mm, overmolded	**2PS 013 305-261**
Right, 6.3 mm receptacles, 250 mm	**2PS 013 305-281**
Right, open ends, 250 mm	**2PS 013 305-301**
Right, Amphenol, 500 mm	**2PS 013 305-321**

Homologation: ECE SM1 / SAE

205   10 15.5
34
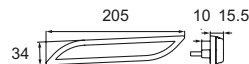
SHAPELINE SIDE MARKER LIGHT

1 LED, Style Design

Voltage range	9 – 16 V
Rated voltage	12 V
Current flow	38 mA at 13.5 V
Power consumption	0.5 W at 13.5 V
Dimensions (length/width/height)	205 / 34 / 15.5 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Integrated short-circuit protection	Yes

Left, AMP SUPERSEAL, 250 mm, not overmolded	**2PS 013 306-011**
Left, 6.3 mm receptacles, 250 mm	**2PS 013 306-031**
Left, open ends, 250 mm	**2PS 013 306-051**
Right, AMP SUPERSEAL, 250 mm, not overmolded	**2PS 013 306-021**
Right, 6.3 mm receptacles, 250 mm	**2PS 013 306-041**
Right, open ends, 250 mm	**2PS 013 306-061**

Homologation: ECE SM2 / SAE

205   10 15.5
34

* Other fastening options upon request.

Shapeline
LED side marker lights

These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	EMC	Approval
9–32V	-40°C - +60°C	⚡	EMC 5	SAE

SHAPELINE SIDE MARKER LIGHT WITH REFLEX REFLECTOR

3 LEDs, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	41 mA at 13.5 V / 47 mA at 28 V
Power consumption	0.55 W at 13.5 V / 1.3 W at 28 V
Dimensions (length/width/height)	168 / 34 / 15.5 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Horizontal, EasyConn, angled, 1,000 mm	**2PS 013 303-011**
Horizontal, AMP SUPERSEAL, 450 mm	**2PS 013 303-021**
Horizontal, EasyConn, straight, 1,300 mm	**2PS 013 303-031**
Horizontal, Quick-Link, 1,300 mm	**2PS 013 303-041**
Horizontal, 6.3 mm receptacles, 2,100 mm	**2PS 013 303-051**
Horizontal, open ends, 500 mm	**2PS 013 303-001**
Horizontal, open ends, 1,500 mm	**2PS 013 303-061**
Horizontal, Amphenol, 500 mm	**2PS 013 303-071**
Vertical, EasyConn, angled, 1,000 mm	**2PS 013 304-011**
Vertical, AMP SUPERSEAL, 450 mm	**2PS 013 304-021**
Vertical, EasyConn, straight, 1,300 mm	**2PS 013 304-031**
Vertical, Quick-Link, 1,300 mm	**2PS 013 304-041**
Vertical, 6.3 mm receptacles, 2,100 mm	**2PS 013 304-051**
Vertical, open ends, 500 mm	**2PS 013 304-001**
Vertical, open ends, 1,500 mm	**2PS 013 304-061**
Vertical, Amphenol, 500 mm	**2PS 013 304-071**

Homologation: SAE

SHAPELINE SIDE MARKER LIGHT

3 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	41 mA at 13.5 V / 47 mA at 28 V
Power consumption	0.55 W at 13.5 V / 1.3 W at 28 V
Dimensions (length/width/height)	205 / 34 / 15.5 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Integrated short-circuit protection	Yes

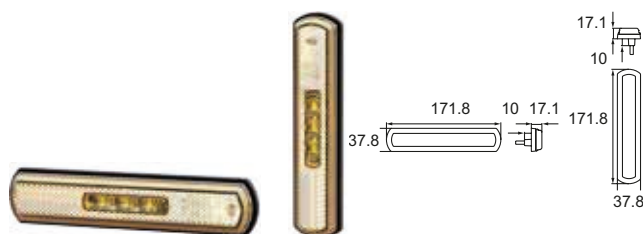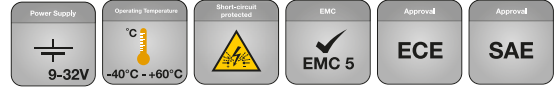|	
Left, AMP SUPERSEAL, 250 mm, overmolded	**2PS 013 307-011**
Left, 6.3 mm receptacles, 250 mm	**2PS 013 307-031**
Left, open ends, 250 mm	**2PS 013 307-051**
Left, Amphenol, 500 mm	**2PS 013 307-071**
Right, AMP SUPERSEAL, 250 mm, overmolded	**2PS 013 307-021**
Right, 6.3 mm receptacles, 250 mm	**2PS 013 307-041**
Right, open ends, 250 mm	**2PS 013 307-061**
Right, Amphenol, 500 mm	**2PS 013 307-081**

Homologation: SAE

* Other fastening options upon request.

Shapeline
LED side marker lights
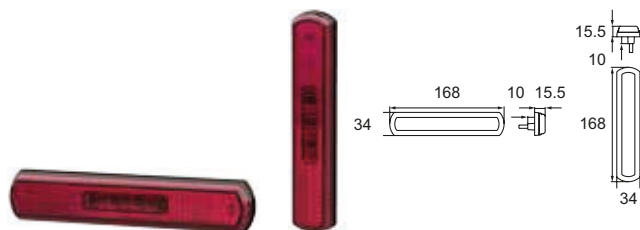
These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	EMC	Approval
9-32V	-40°C - +60°C		EMC 5	SAE

SHAPELINE SIDE MARKER LIGHT
WITH A REFLEX REFLECTOR AND RUBBER HOUSING

3 LEDs, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	41 mA at 13.5 V / 47 mA at 28 V
Power consumption	0.55 W at 13.5 V / 1.3 W at 28 V
Dimensions (length/width/height)	171.8 / 37.8 / 17.1 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

horizontal, EasyConn, angled, 1,000 mm	**2PS 013 303-251**
horizontal, AMP SUPERSEAL, 450 mm	**2PS 013 303-261**
horizontal, EasyConn, straight, 1,300 mm	**2PS 013 303-271**
horizontal, Quick-Link, 1,300 mm	**2PS 013 303-281**
horizontal, 6.3 mm receptacles, 2,100 mm	**2PS 013 303-291**
horizontal, open ends, 500 mm	**2PS 013 303-241**
horizontal, open ends, 1,500 mm	**2PS 013 303-301**
horizontal, Amphenol, 500 mm	**2PS 013 303-311**
vertical, EasyConn, angled, 1,000 mm	**2PS 013 304-251**
vertical, AMP SUPERSEAL, 450 mm	**2PS 013 304-261**
vertical, EasyConn, straight, 1,300 mm	**2PS 013 304-271**
vertical, Quick-Link, 1,300 mm	**2PS 013 304-281**
vertical, 6.3 mm receptacles, 2,100 mm	**2PS 013 304-291**
vertical, open ends, 500 mm	**2PS 013 304-241**
vertical, open ends, 1,500 mm	**2PS 013 304-301**
vertical, Amphenol, 500 mm	**2PS 013 304-311**

Homologation: SAE

SHAPELINE SIDE MARKER LIGHT
WITH RUBBER HOUSING

3 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	41 mA at 13.5 V / 47 mA at 28 V
Power consumption	0.55 W at 13.5 V / 1.3 W at 28 V
Dimensions (length/width/height)	205 / 34 / 15.5 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Integrated short-circuit protection	Yes

Left, AMP SUPERSEAL, 250 mm, overmolded	**2PS 013 307-251**
Left, 6.3 mm receptacles, 250 mm	**2PS 013 307-271**
Left, open ends, 250 mm	**2PS 013 307-291**
Left, Amphenol, 500 mm	**2PS 013 307-311**
Right, AMP SUPERSEAL, 250 mm, overmolded	**2PS 013 307-261**
Right, 6.3 mm receptacles, 250 mm	**2PS 013 307-281**
Right, open ends, 250 mm	**2PS 013 307-301**
Right, Amphenol, 500 mm	**2PS 013 307-321**

Homologation: SAE

Auxiliary indicators

This LED product has the following features:

Power Supply	IP 6K9K	Passive Electronic	GGVS	AECQ	Approval	Approval	Approval
12V			ADR	AECQ	EMC	ECE	SAE
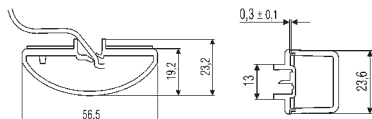
LED AUXILIARY INDICATOR, CAT. 5

For horizontal installation, simple gluing into prepared mirror, can also be used as a universal auxiliary indicator, with ECE and SAE type approval.

12 V / 0.7 W, current consumption = approx. 0.06 A	2BM 008 771-001

Type approval: ECE 🄔 011423 and SAE

SAE type approval for vehicles: < 12 m total length

This LED product has the following features:

Power Supply	IP 9K6X	Passive Electronic	GGVS	Approval
12V			ADR	ECE
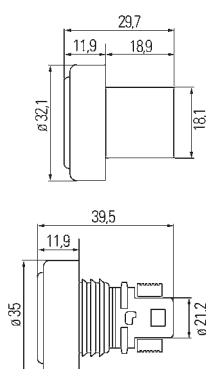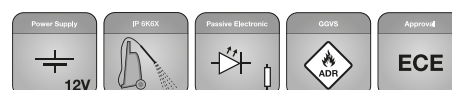
LED AUXILIARY INDICATOR, CAT. 5

12 V, power consumption 0.7 W, operating temperature -40 °C to +60 °C, screwed on, 2-pin EasyConn, AMP SUPERSEAL, rubber housing, 6.3 mm receptacles and plastic housing.

Screwed on, 2-pin EasyConn with rubber housing	2BM 340 825-201/7
AMP SUPERSEAL (AMP 282080-1) with rubber housing	2BM 340 825-211/7
6.3 mm receptacles with plastic housing	2BM 340 825-301/7
AMP SUPERSEAL (AMP 282080-1) with plastic housing	2BM 340 825-311/7
AMP SUPERSEAL (AMP 282080-1) with plastic housing, clear lens	2BM 340 825-321/7

Type approval: ECE 🄔 01 0066
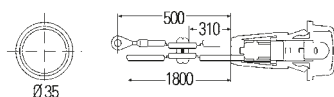
AUXILIARY INDICATOR, CAT. 5

For installation on the side, category 5 for 12 V, with bulb, small, space-saving.

Left and right	2BM 003 563-111

Type approval: ECE 🄔 42621
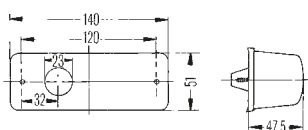
AUXILIARY INDICATOR, CAT 5. AND 6

For mounting on the side, for 12 V and 24 V/21 W, with bulb, suitable for GGVS / ADR.

Left	2BM 006 692-017
Right	2BM 006 692-027

Type approval: ECE 🄔 0152621

Information

For vehicles < 6 m in length and/ or < 3.5 t in weight, CAT. 5 auxiliary indicators are stipulated.
For vehicles > 6 m in length and/ or > 3.5 t in weight, CAT. 6 auxiliary indicators are stipulated.

Auxiliary indicators
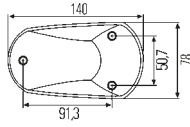
AUXILIARY INDICATOR, CAT. 6

For mounting on the side, for 24 V/21 W, without bulb, extremely flat design, with ECE and SAE type approval.

Amber Lens	2BM 008 355-001

Type approval: ECE Ⓔ1 1059

Crystal-clear lens	2BM 008 355-017

Type approval: ECE Ⓔ1 1848

This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K9K	Passive Electronic	Temp.-Management Passive °C	Approval EMC	AECQ AECQ	Approval ECE	Approval SAE
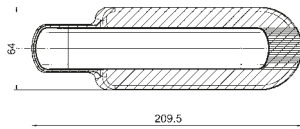
LED AUXILIARY INDICATOR, CAT. 6 WITH FRAME

With ECE and SAE type approval
12 V/3.5 W, current consumption = approx. 0.29 A
24 V/3.5 W, current consumption = approx. 0.15 A

12 V, direct AMP SUPERSEAL screw connection with black frame	2BM 011 788-011
12 V, direct screw connection, 500 mm cable, with open cable end and black frame	2BM 011 788-031
24 V, direct AMP SUPERSEAL screw connection with black frame	2BM 011 788-001
24 V, direct screw connection, 500 mm cable, with open cable end and black frame	2BM 011 788-021

Type approval: ECE Ⓔ1 7506 and SAE

Spare parts/accessories

Black frame	9AB 194 559-001
AMP SUPERSEAL mating connector (AMP no. 282080-1)	8JA 746 184-022

Direction of travel

Frame version

This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K9K	Passive Electronic	Temp.-Management Passive °C	Approval EMC	AECQ AECQ	Approval ECE	Approval SAE
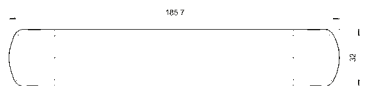
LED AUXILIARY INDICATOR, CAT. 6 SELF-ADHESIVE

With ECE and SAE type approval
12 V/3.5 W, current consumption = approx. 0.29 A
24 V/3.5 W, current consumption = approx. 0.15 A

12 V, self-adhesive, AMP SUPERSEAL	2BM 011 788-051
12 V, self-adhesive, 500 mm cable, with open cable end	2BM 011 788-071
24 V, self-adhesive AMP SUPERSEAL	2BM 011 788-041
24 V, self-adhesive, 500 mm cable, with open cable end	2BM 011 788-061

Type approval: ECE Ⓔ1 7506 and SAE

Spare parts/accessories

AMP SUPERSEAL mating connector (AMP no. 282080-1)	8JA 746 184-022

Direction of travel

Information

For vehicles < 6 m in length and/ or < 3.5 t in weight, CAT. 5 auxiliary indicators are stipulated.
For vehicles > 6 m in length and/ or > 3.5 t in weight, CAT. 6 auxiliary indicators are stipulated.

Side marker lights

This LED product has the following features:

Power Supply	Power Supply	Approval
12V	24V	ECE

LED SIDE MARKER LIGHT

For 12 and 24 V, high degree of safety due to maximum illuminated area, 1 LED, modern night design.

With 6.3 mm contacts for horizontal and vertical mounting

12 V, white housing	2PS 344 690-007
12 V, grey housing	2PS 344 690-027
12 V, black housing	2PS 344 690-067
24 V, black housing	2PS 344 690-037

With AMP SUPERSEAL for horizontal and vertical mounting

12 V, white housing	2PS 344 690-607
12 V, black housing	2PS 344 690-617
24 V, orange housing	2PS 344 690-687
24 V, black housing	2PS 344 690-627

Accessories

Rubber seal	9GD 343 697-007
Grommet	9GT 343 367-002

Type approval: ECE E24 5853 and e17 03 0227

6.3 mm contact   AMP-SUPERSEAL

This LED product has the following features:

Power Supply	IP 6K9K	Passive Electronic	Temp.-Management Passive	Bi-Polarity	Approval	Approval	Approval
12V			°C		EMC	ECE	SAE

LED SIDE MARKER LIGHT

For horizontal mounting, with 2 LEDs, with reflex 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

With fastening screws	2PS 964 295-067
Self-adhesive, without seal, with caps for the screw holes	2PS 964 295-081

Type approval: ECE E17 0202 and SAE
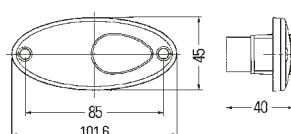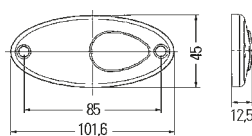
SIDE MARKER LIGHT

For horizontal installation, with reflex reflector, with seal, with 12 V bulb, with ECE and SAE type approval.

12 V/5 W, amber	2PS 964 295-001
Red SMLR in accordance with SAE	2XS 964 295 -031 -037

Type approval: ECE E17 9807 and E17 812

Side marker lights

This LED product has the following features:

Power Supply	IP 6K9K	Passive Electronic	Bi-Polarity	AECQ	Approval
12V				AECQ	ECE
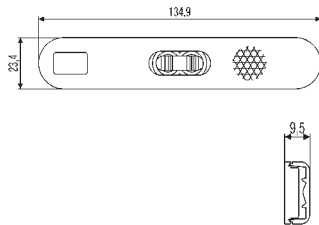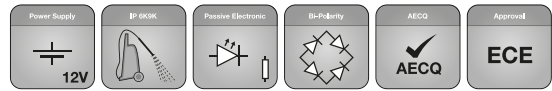
**LED SIDE MARKER LIGHT
WITH REFLEX REFLECTOR**

For horizontal mounting, with 250 mm cable, self-adhesive.

12 V, horizontal	**2PS 009 226-007**
24 V, horizontal	**2PS 009 226-037**
12 V, vertical	**2PS 009 226-077**
24 V, vertical	**2PS 009 226-087**

For horizontal mounting, with 6.3 mm contacts and mating connector grommet, self-adhesive

12 V, horizontal	**2PS 009 226-067**

Type approval: ECE ⓔ4 10236

This LED product has the following features:

Power Supply	IP 6K9K	Passive Electronic	Temp.-Management Passive	Bi-Polarity	GGVS	Approval
12V			°C		ADR	ECE
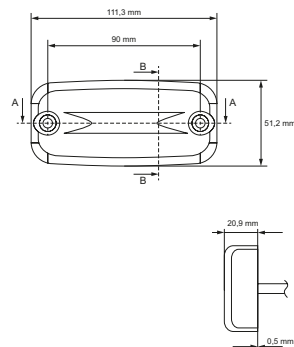
LED SIDE MARKER LIGHT

500 mm cable, stripped end
12 V/0.6 W, current consumption = approx. 0.04 A
24 V/1.2 W, current consumption = approx. 0.04 A

12 V	**2PS 345 600-001**
24 V	**2PS 345 600-011**

Type approval: ECE ⓔ29 5881

SIDE MARKER LIGHT
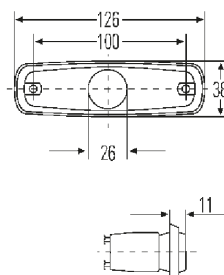
For horizontal or vertical installation, with reflex reflector, with 12 V bulb, with white base plate, with ECE and SAE type approval.

12 V/ 3 W	**2PS 962 964-037**

Type approval: ECE ⓔ4 10236

Accessories

Seal (order separately)	**9GD 963 281-001**
Grommet (order separately)	**9GT 963 129-001**

Side marker lights

Power Supply 9-33V	IP 6K9K	IP 6K7	Active Electronic	Temp.-Management Passive	GGVS ADR	Approval EMC	Approval ECE
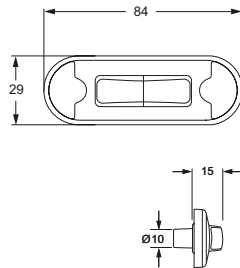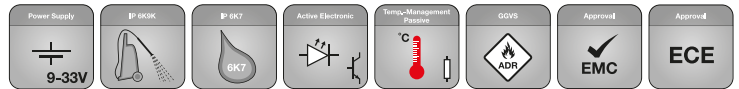
DuraLED SIDE MARKER LIGHT

Mounting variant with 2 LEDs, slimline design with 9 mm profile, horizontal or vertical installation, IP 6K7, IP 6K9K, high vibration resistance, extremely low energy consumption, multi-voltage 9 – 33 V, hermetically sealed to protect against dirt and humidity.

0.5 m cable, x1	**2PS 980 868-201**
0.5 m cable, x24	**2PS 980 868-207**
2.5 m cable, x1	**2PS 980 868-211**
2.5 m cable, x16	**2PS 980 868-217**

Type approval: ECE Ⓔ 0007 and EMC Ⓔ 10R-042899

Accessories and spare parts

Wheel cover, polished stainless steel (ECE engraving)	**9AB 959 685-201**
Contour seal	**9GD 958 028-001**
Flat, rectangular seal (x8)	**9GD 980 867-507**
Cap for screw top, black (x4)	**9HD 980 858-008**
Cap for screw top, white (x4)	**9HD 980 858-018**

This LED product has the following features:

Power Supply 12V	IP 6K9K	Passive Electronic	AECQ	Approval ECE	Approval SAE
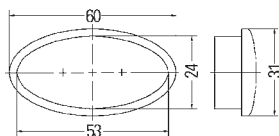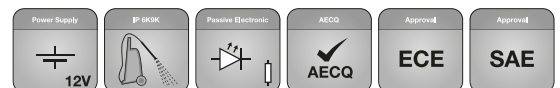
LED SIDE MARKER LIGHT SET

For horizontal installation, for retrofitting to passenger cars < 6 m, 4 units each, with LED technology, with ECE and SAE type approval, 12 V/0.7 W, current consumption = approx. 0.06 A

Amber lenses, silver-grey finishers	**2PS 008 138-801**
Grey lenses, black finishers	**2PS 008 138-811**
Grey lenses, silver-grey finishers	**2PS 008 138-821**

Type approval: ECE Ⓔ 9110 and SAE

REAR LIGHTING

→ Shapeline: rear lighting
→ Customer-specific rear lighting
→ Universal rear combination lights
→ Auxiliary reversing lights
→ Auxiliary stop lights
→ Clearance lights
→ Reflex reflectors
→ Licence plate lights

Shapeline
LED position lights

These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	-40°C - +60°C			EMC 5	ECE	SAE

SHAPELINE SMALL POSITION LIGHT

62 7.1 18
40

1 LED, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	48 mA at 13.5 V / 54 mA at 28 V
Power consumption	0.65 W at 13.5 V / 1.5 W at 28 V
Dimensions (length/width/height)	62 / 40 / 18 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Integrated short-circuit protection	Yes

6.3 mm receptacles, 2,100 mm	**2SA 013 323-011**
Open ends, 250 mm	**2SA 013 323-021**
Open ends, 5,000 mm	**2SA 013 323-001**

Homologation: ECE / SAE

SHAPELINE SMALL POSITION LIGHT

136.9 7.1 18
40

1 LED, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	48 mA at 13.5 V / 54 mA at 28 V
Power consumption	0.65 W at 13.5 V / 1.5 W at 28 V
Dimensions (length/width/height)	139.6 / 40 / 18 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	6°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Integrated short-circuit protection	Yes

Left, AMP SUPERSEAL, 250 mm	**2SA 013 324-211**
Left, open ends, 250 mm	**2SA 013 324-231**
Left, Amphenol, 250 mm	**2SA 013 324-251**
Right, AMP SUPERSEAL, 250 mm	**2SA 013 324-221**
Right, open ends, 250 mm	**2SA 013 324-241**
Right, Amphenol, 250 mm	**2SA 013 324-261**

Homologation: ECE / SAE

* Other fastening options upon request.

Shapeline
LED tail/stop lights

These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	-40°C - +60°C			EMC 5	ECE	SAE
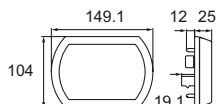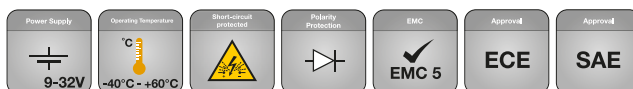
SHAPELINE TAIL/STOP LIGHT

24 / 12 LEDs, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	Stop: 260 mA at 13.5 V / 272 mA at 28 V
	Tail: 52 mA at 13.5 V / 54 mA at 28 V
Power consumption	Stop: 3.5 W at 13.5 V / 7.6 W at 28 V
	Tail: 0.7 W at 13.5 V / 1.5 W at 28 V
Dimensions (length/width/height)	149.1/104/25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Integrated short-circuit protection	Yes

3-pin AMP SUPERSEAL integrated	**2SB 013 341-001**

Homologation: ECE / SAE

SHAPELINE TAIL/STOP LIGHT

24/12 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	Stop: 260 mA at 13.5 V / 272 mA at 28 V
	Stop: 52 mA at 13.5 V / 54 mA at 28 V
Power consumption	Stop: 3.5 W at 13.5 V / 7.6 W at 28 V
	Tail: 0.7 W at 13.5 V / 1.5 W at 28 V
Dimensions (length/width/height)	270.8/104/25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Integrated short-circuit protection	Yes

Left, horizontal, 3-pin AMP SUPERSEAL integrated	**2SB 013 342-011**
Right, horizontal, 3-pin AMP SUPERSEAL integrated	**2SB 013 342-021**

Homologation: ECE / SAE

* Other fastening options upon request.

Shapeline
LED tail/stop lights

These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	°C -40°C - +60°C	⚡	▷|◁	EMC 5	ECE	SAE

SHAPELINE TAIL/STOP LIGHT

24/12 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	Stop: 260 mA at 13.5 V / 272 mA at 28 V
	Stop: 52 mA at 13.5 V / 54 mA at 28 V
Power consumption	Stop: 3.5 W at 13.5 V / 7.6 W at 28 V
	Tail: 0.7 W at 13.5 V / 1.5 W at 28 V
Dimensions (length/width/height)	270.8/104/25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Integrated short-circuit protection	Yes

Left, vertical, 3-pin AMP SUPERSEAL integrated	**2SB 013 342-031**
Right, vertical, 3-pin AMP SUPERSEAL integrated	**2SB 013 342-041**

Homologation: ECE / SAE

SHAPELINE WING TAIL/STOP LIGHT

30 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	Stop: 305 mA at 13.5 V / 330 mA at 28 V
	Tail: 40 mA at 13.5 V / 60 mA at 28 V
Power consumption	Stop: 4.2 W at 13.5 V / 9.3 W at 28 V
	Tail: 0.6 W at 13.5 V / 1.7 W at 28 V
Dimensions (length/width/height)	384.4/104/25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(6°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, 3-pin AMP SUPERSEAL integrated	**2SB 013 399-011**
Right, 3-pin AMP SUPERSEAL integrated	**2SB 013 399-021**

Homologation: ECE / SAE

* Other fastening options upon request.

Shapeline
LED tail/stop lights and LED tail/stop/direction indicator

This LED product has the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	-40°C - +60°C			EMC 5	ECE	SAE

SHAPELINE WING TAIL/STOP LIGHT

30 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	Stop: 305 mA at 13.5 V / 330 mA at 28 V
	Tail: 40 mA at 13.5 V / 60 mA at 28 V
Power consumption	Stop: 4.2 W at 13.5 V /9.3 W at 28 V
	Tail: 0.6 W at 13.5 V /1.7 W at 28 V
Dimensions (length/width/height)	384.4 /104 /25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, 3-pin AMP SUPERSEAL integrated	**2SB 013 399-031**
Right, 3-pin AMP SUPERSEAL integrated	**2SB 013 399-041**

Homologation: ECE / SAE

This LED product has the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval
9-32V	-40°C - +60°C			EMC 5	ECE

SHAPELINE DIRECTION INDICATOR/TAIL/STOP LIGHT

4 /12 /4 LEDs, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	Stop: 82 mA at 13.5 V / 118 mA at 28 V
	Tail: 45 mA at 13.5 V / 50 mA at 28 V
	DI: 304 mA at 13.5 V / 190 mA at 28 V
Power consumption	Stop: 1.1 W at 13.5 V / 3.3 W at 28 V
	Tail: 0.6 W at 13.5 V / 1.4 W at 28 V
	DI: 4.1 W at 13.5 V / 5.3 W at 28 V
Dimensions (length/width/height)	149.1 /104 /25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

4-pin AMP SUPERSEAL integrated	**2SD 013 341-011**

Homologation: ECE

* Other fastening options upon request.

Shapeline
LED tail light stop light direction indicator

These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval
9-32V	°C -40°C - +60°C	⚠	⊳⊢	EMC 5	ECE

SHAPELINE DIRECTION INDICATOR/TAIL/STOP LIGHT

4/12/4 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	Stop: 82 mA at 13.5 V / 118 mA at 28 V
	Tail: 45 mA at 13.5 V / 50 mA at 28 V
	DI: 304 mA at 13.5 V / 190 mA at 28 V
Power consumption	Stop: 1.1 W at 13.5 V / 3.3 W at 28 V
	Tail: 0.6 W at 13.5 V / 1.4 W at 28 V
	DI: 4.1 W at 13.5 V / 5.3 W at 28 V
Dimensions (length/width/height)	270.8 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, 4-pin AMP SUPERSEAL integrated	**2SD 013 342-111**
Right, 4-pin AMP SUPERSEAL integrated	**2SD 013 342-121**

Homologation: ECE

SHAPELINE DIRECTION INDICATOR/TAIL/STOP LIGHT

4/12/4 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	Stop: 82 mA at 13.5 V / 118 mA at 28 V
	Tail: 45 mA at 13.5 V / 50 mA at 28 V
	DI: 304 mA at 13.5 V / 190 mA at 28 V
Power consumption	Stop: 1.1 W at 13.5 V / 3.3 W at 28 V
	Tail: 0.6 W at 13.5 V / 1.4 W at 28 V
	DI: 4.1 W at 13.5 V / 5.3 W at 28 V
Dimensions (length/width/height)	275.4 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, vertical, 4-pin AMP SUPERSEAL integrated	**2SD 013 342-131**
Right, vertical, 4-pin AMP SUPERSEAL integrated	**2SD 013 342-141**

Homologation: ECE

* Other fastening options upon request.

Shapeline
LED direction indicators
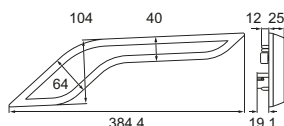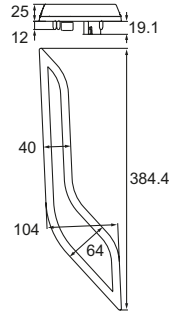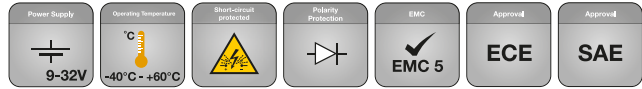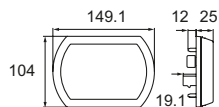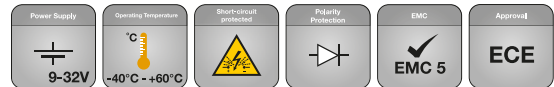
These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval
9-32V	-40°C - +60°C			EMC 5	ECE

SHAPELINE DIRECTION INDICATOR

12 LEDs, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	171 mA at 13.5 V / 183 mA at 28 V
Power consumption	2.3 W at 13.5 V / 5.1 W at 28 V
Dimensions (length/width/height)	149.1/104/25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

2-pin AMP SUPERSEAL integrated	**2BA 013 330-001**

Homologation: ECE

SHAPELINE DIRECTION INDICATOR

12 LEDs, Tech Design

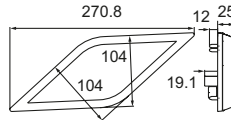|	
Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	171 mA at 13.5 V / 183 mA at 28 V
Power consumption	2.3 W at 13.5 V / 5.1 W at 28 V
Dimensions (length/width/height)	149.1/104/25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

2-pin AMP SUPERSEAL integrated	**2BA 013 330-021**

Homologation: ECE

* Other fastening options upon request.

Shapeline
LED direction indicators
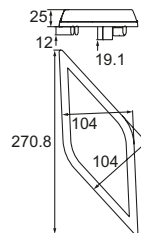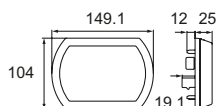
These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval
9-32V	-40°C - +60°C	⚠	▷⊢	EMC 5	ECE

SHAPELINE DIRECTION INDICATOR

12 LED, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	171 mA at 13.5 V / 183 mA at 28 V
Power consumption	2.3 W at 13.5 V / 5.1 W at 28 V
Dimensions (length/width/height)	270.8 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, horizontal, 2-pin AMP SUPERSEAL integrated	**2BA 013 331-011**
Right, horizontal, 2-pin AMP SUPERSEAL integrated	**2BA 013 331-021**

Homologation: ECE

270.8 12 25 104 104 19.1

SHAPELINE DIRECTION INDICATOR

12 LED, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	171 mA at 13.5 V / 183 mA at 28 V
Power consumption	2.3 W at 13.5 V / 5.1 W at 28 V
Dimensions (length/width/height)	270.8 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, horizontal, 2-pin AMP SUPERSEAL integrated	**2BA 013 331-051**
Right, horizontal, 2-pin AMP SUPERSEAL integrated	**2BA 013 331-061**

Homologation: ECE

270.8 12 25 104 104 19.1
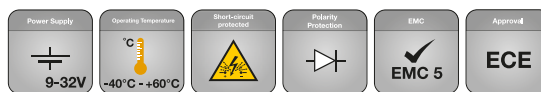
* Other fastening options upon request.

Shapeline
LED direction indicators

These LED products have the following features:

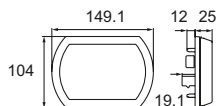| Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval
9-32V	-40°C - +60°C	⚠	⊣▷⊢	EMC 5	ECE

SHAPELINE DIRECTION INDICATOR

12 LED, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	171 mA at 13.5 V / 183 mA at 28 V
Power consumption	2.3 W at 13.5 V / 5.1 W at 28 V
Dimensions (length/width/height)	270.8 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, vertical, 2-pin AMP SUPERSEAL integrated	**2BA 013 331-071**
Right, vertical, 2-pin AMP SUPERSEAL integrated	**2BA 013 331-081**

Homologation: ECE

25 / 12 / 19.1 / 270.8 / 104 / 104

SHAPELINE DIRECTION INDICATOR

12 LED, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	171 mA at 13.5 V / 183 mA at 28 V
Power consumption	2.3 W at 13.5 V / 5.1 W at 28 V
Dimensions (length/width/height)	270.8 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, vertical, 2-pin AMP SUPERSEAL integrated	**2BA 013 331-031**
Right, vertical, 2-pin AMP SUPERSEAL integrated	**2BA 013 331-041**

Homologation: ECE

25 / 12 / 19.1 / 270.8 / 104 / 104
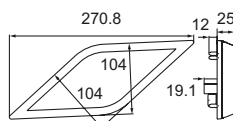
* Other fastening options upon request.

Shapeline
LED direction indicators

These LED products have the following features:

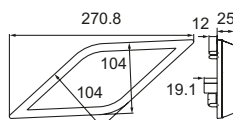| Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval
9-32V	-40°C - +60°C			EMC 5	ECE

SHAPELINE WING DIRECTION INDICATOR

30 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	285 mA at 13.5 V / 315 mA at 28 V
Power consumption	3.9 W at 13.5 V / 8 W at 28 V
Dimensions (length/width/height)	384.4 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(6°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, horizontal, 2-pin AMP SUPERSEAL integrated	**2BA 013 333-011**
Right, horizontal, 2-pin AMP SUPERSEAL integrated	**2BA 013 333-021**
Left, horizontal, 2-pin AMP SUPERSEAL integrated Wiping L→R	**2BA 013 333-051**
Right, horizontal, 2-pin AMP SUPERSEAL integrated Wiping L→R	**2BA 013 333-061**
Left, horizontal, 2-pin AMP SUPERSEAL integrated Wiping R→L	**2BA 013 333-071**
Right, horizontal, 2-pin AMP SUPERSEAL integrated Wiping R→L	**2BA 013 333-081**

Homologation: ECE

SHAPELINE WING DIRECTION INDICATOR

30 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	285 mA at 13.5 V / 315 mA at 28 V
Power consumption	3.9 W at 13.5 V / 8 W at 28 V
Dimensions (length/width/height)	384.4 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

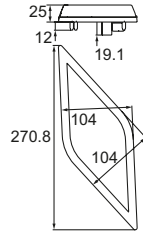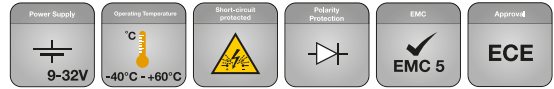|	
Left, vertical, 2-pin AMP SUPERSEAL integrated	**2BA 013 333-031**
Right, vertical, 2-pin AMP SUPERSEAL integrated	**2BA 013 333-041**

Homologation: ECE

* Other fastening options upon request.

Shapeline
LED direction indicators
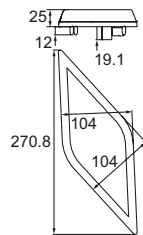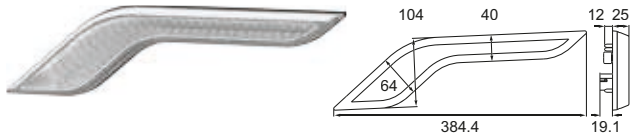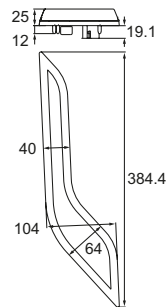
These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval
9-32V	-40°C - +60°C			EMC 5	ECE

SHAPELINE SLIM DIRECTION INDICATOR

6 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	130 mA at 13.5 V / 90 mA at 28 V
Power consumption	1.8 W at 13.5 V / 2.5 W at 28 V
Dimensions (length/width/height)	198.1 / 40 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(6°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, horizontal, 2-pin AMP SUPERSEAL integrated	**2BA 013 332-031**
Right, horizontal, 2-pin AMP SUPERSEAL integrated	**2BA 013 332-041**
Left, horizontal, 2-pin AMP SUPERSEAL integrated Wiping	**2BA 013 332-011**
Right, horizontal, 2-pin AMP SUPERSEAL integrated Wiping	**2BA 013 332-021**

Homologation: ECE

SHAPELINE SLIM DIRECTION INDICATOR

6 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	130 mA at 13.5 V / 90 mA at 28 V
Power consumption	1.8 W at 13.5 V / 2.5 W at 28 V
Dimensions (length/width/height)	198.1 / 40 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

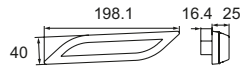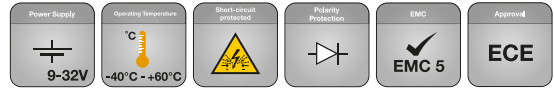|	
Left, vertical, 2-pin AMP SUPERSEAL integrated	**2BA 013 332-051**
Right, vertical, 2-pin AMP SUPERSEAL integrated	**2BA 013 332-061**

Homologation: ECE

* Other fastening options upon request.

Shapeline
LED reversing lights

These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	°C -40°C - +60°C			EMC 5	ECE	SAE

SHAPELINE REVERSING LIGHT

4 LEDs, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	230 mA at 13.5 V / 130 mA at 28 V
Power consumption	3.1 W at 13.5 V / 3.6 W at 28 V
Dimensions (length/width/height)	149.1/104/25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

3-pin AMP SUPERSEAL integrated	**2ZR 013 344-101**

Homologation: ECE / SAE

SHAPELINE REVERSING LIGHT

4 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	230 mA at 13.5 V / 130 mA at 28 V
Power consumption	3.1 W at 13.5 V / 3.6 W at 28 V
Dimensions (length/width/height)	270.8/104/25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, horizontal, 3-pin AMP SUPERSEAL integrated	**2ZR 013 345-111**
Right, horizontal, 3-pin AMP SUPERSEAL integrated	**2ZR 013 345-121**

Homologation: ECE / SAE

* Other fastening options upon request.

Shapeline
LED reversing lights
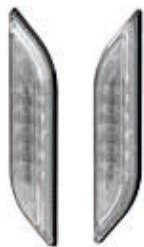
These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	-40°C - +60°C			EMC 5	ECE	SAE

SHAPELINE REVERSING LIGHT

4 LEDs, Style Design

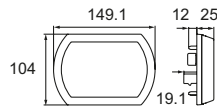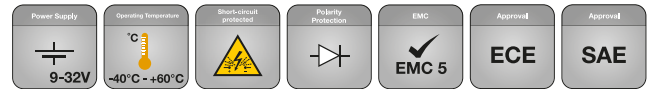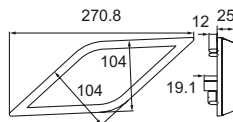|	
Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	230 mA at 13.5 V / 130 mA at 28 V
Power consumption	3.1 W at 13.5 V / 3.6 W at 28 V
Dimensions (length/width/height)	270.8/104/25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, vertical, 3-pin AMP SUPERSEAL integrated	**2ZR 013 345-131**
Right, vertical, 3-pin AMP SUPERSEAL integrated	**2ZR 013 345-141**

Homologation: ECE / SAE

SHAPELINE SLIM REVERSING LIGHT

6 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	243 mA at 13.5 V / 117 mA at 28 V
Power consumption	2.9 W at 13.5 V / 2.9 W at 28 V
Dimensions (length/width/height)	198.1/40/25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(6°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, horizontal, 2-pin AMP SUPERSEAL integrated	**2ZR 013 401-011**
Right, horizontal, 2-pin AMP SUPERSEAL integrated	**2ZR 013 401-021**

Homologation: ECE / SAE, (only with 2 lights)

* Other fastening options upon request.

Shapeline
LED reversing lights

These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	-40°C - +60°C			EMC 5	ECE	SAE

SHAPELINE SLIM REVERSING LIGHT

6 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	243 mA at 13.5 V / 117 mA at 28 V
Power consumption	2.9 W at 13.5 V / 2.9 W at 28 V
Dimensions (length/width/height)	198.1 / 40 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	2.5° (horizontal)
	47.5° (vertical)
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, diagonal, 2-pin AMP SUPERSEAL integrated	**2ZR 013 401-051**
Right, diagonal, 2-pin AMP SUPERSEAL integrated	**2ZR 013 401-061**

Homologation: ECE / SAE

25
16.4
198.1

SHAPELINE SLIM REVERSING LIGHT

6 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	243 mA at 13.5 V / 117 mA at 28 V
Power consumption	2.9 W at 13.5 V / 2.9 W at 28 V
Dimensions (length/width/height)	198.1 / 40 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

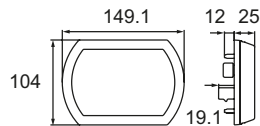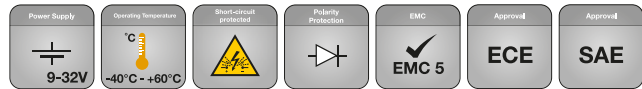|	
Left, vertical, 2-pin AMP SUPERSEAL integrated	**2ZR 013 401-031**
Right, vertical, 2-pin AMP SUPERSEAL integrated	**2ZR 013 401-041**

Homologation: ECE / SAE, (only with 2 lights)

25
16.4
198.1
40

* Other fastening options upon request.

Shapeline
LED rear fog lights

These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	°C -40°C - +60°C			EMC 5	ECE	SAE

SHAPELINE REAR FOG LIGHT

149.1   12 25
104
19.1

12 LEDs, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	171 mA at 13.5 V / 100 mA at 28 V
Power consumption	2.3 W at 13.5 V / 2.8 W at 28 V
Dimensions (length/width/height)	149.1/104/25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

3-pin AMP SUPERSEAL integrated	**2NE 013 344-001**

Homologation: ECE / SAE

SHAPELINE REAR FOG LIGHT

270.8   12 25
104
104
19.1

12 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	171 mA at 13.5 V / 100 mA at 28 V
Power consumption	2.3 W at 13.5 V / 2.8 W at 28 V
Dimensions (length/width/height)	270.8 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, horizontal, 3-pin AMP SUPERSEAL integrated	**2NE 013 345-011**
Right, horizontal, 3-pin AMP SUPERSEAL integrated	**2NE 013 345-021**

Homologation: ECE / SAE

* Other fastening options upon request.

Shapeline
LED rear fog lights
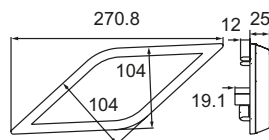
These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	-40°C - +60°C			EMC 5	ECE	SAE

SHAPELINE REAR FOG LIGHT

12 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	171 mA at 13.5 V / 100 mA at 28 V
Power consumption	2.3 W at 13.5 V / 2.8 W at 28 V
Dimensions (length/width/height)	270.8 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, vertical, 3-pin AMP SUPERSEAL integrated	**2NE 013 345-031**
Right, vertical, 3-pin AMP SUPERSEAL integrated	**2NE 013 345-041**

Homologation: ECE / SAE

SHAPELINE SLIM REAR FOG LIGHT

6 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	155 mA at 13.5 V / 74 mA at 28 V
Power consumption	1.9 W at 13.5 V / 1.9 W at 28 V
Dimensions (length/width/height)	198.1 / 40 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(6°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

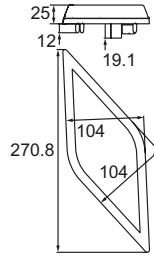|	
Left, horizontal, 2-pin AMP SUPERSEAL integrated	**2NE 013 343-011**
Right, horizontal, 2-pin AMP SUPERSEAL integrated	**2NE 013 343-021**

Homologation: ECE / SAE

* Other fastening options upon request.

Shapeline
LED rear fog lights
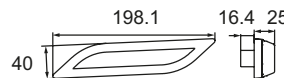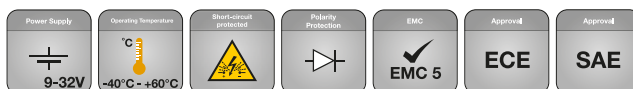
These LED products have the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	-40°C - +60°C			EMC 5	ECE	SAE

SHAPELINE SLIM REAR FOG LIGHT

6 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	155 mA at 13.5 V / 74 mA at 28 V
Power consumption	1.9 W at 13.5 V / 1.9 W at 28 V
Dimensions (length/width/height)	198.1/40 /25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	2.5° (horizontal)
	47.5° (vertical)
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, diagonal, 2-pin AMP SUPERSEAL integrated	**2NE 013 343-051**
Right, diagonal, 2-pin AMP SUPERSEAL integrated	**2NE 013 343-061**

Homologation: ECE / SAE

25
16.4
198.1

SHAPELINE SLIM REAR FOG LIGHT

6 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	155 mA at 13.5 V / 74 mA at 28 V
Power consumption	1.9 W at 13.5 V / 1.9 W at 28 V
Dimensions (length/width/height)	198.1/40 /25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Current detection	1 LED off = all off
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, vertical, 2-pin AMP SUPERSEAL integrated	**2NE 013 343-031**
Right, vertical, 2-pin AMP SUPERSEAL integrated	**2NE 013 343-041**

Homologation: ECE / SAE

25
16.4
198.1

* Other fastening options upon request.

Shapeline
LED rear fog/reversing lights

These LED products have the following features:

Power Supply 9-32V	Operating Temperature -40°C - +60°C	Short-circuit protected	Polarity Protection	EMC 5	Approval ECE	Approval SAE

SHAPELINE REAR FOG/REVERSING LIGHT

149.1 | 12 | 25 | 104 | 19.1

12/4 LEDs, Tech Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	RF: 171 mA at 13.5 V / 100 mA at 28 V
	Rev.: 230 mA at 13.5 V / 130 mA at 28 V
Power consumption	RF: 2.3 W at 13.5 V / 2.8 W at 28 V
	Rev.: 3.1 W at 13.5 V / 3.6 W at 28 V
Dimensions (length/width/height)	149.1 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

3-pin AMP SUPERSEAL integrated	**2NR 013 344-201**

Homologation: ECE / SAE

SHAPELINE REAR FOG/REVERSING LIGHT

270.8 | 12 | 25 | 104 | 104 | 19.1

12/4 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	RF: 171 mA at 13.5 V / 100 mA at 28 V
	Rev.: 230 mA at 13.5 V / 130 mA at 28 V
Power consumption	RF: 2.3 W at 13.5 V / 2.8 W at 28 V
	Rev.: 3.1 W at 13.5 V / 3.6 W at 28 V
Dimensions (length/width/height)	270.8 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

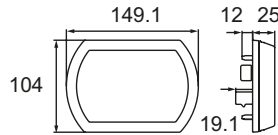|	
Left, horizontal, 3-pin AMP SUPERSEAL integrated	**2NR 013 345-211**
Right, horizontal, 3-pin AMP SUPERSEAL integrated	**2NR 013 345-221**

Homologation: ECE / SAE

* Other fastening options upon request.

Shapeline
LED rear fog/reversing lights
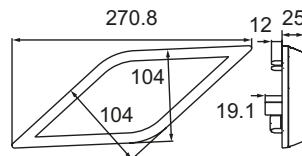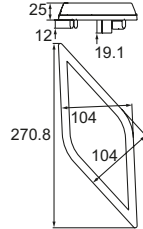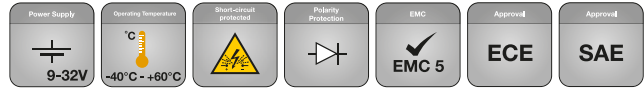
This LED product has the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval	Approval
9-32V	-40°C - +60°C			EMC 5	ECE	SAE

SHAPELINE REAR FOG/REVERSING LIGHT

12/4 LEDs, Style Design

Voltage range	9 – 16 V, 18 – 32 V
Rated voltage	12 / 24 V
Current flow	RF: 171 mA at 13.5 V / 100 mA at 28 V
	Rev.: 230 mA at 13.5 V / 130 mA at 28 V
Power consumption	RF: 2.3 W at 13.5 V / 2.8 W at 28 V
	Rev.: 3.1 W at 13.5 V / 3.6 W at 28 V
Dimensions (length/width/height)	270.8 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2
Polarity reversal protection	Yes
Failure protection	ISO 13207
Integrated short-circuit protection	Yes

Left, vertical, 3-pin AMP SUPERSEAL integrated	**2NR 013 345-231**
Right, vertical, 3-pin AMP SUPERSEAL integrated	**2NR 013 345-241**

Homologation: ECE / SAE
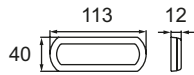
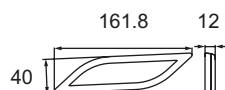## Shapeline
Reflex reflectors

These products have the following features:

Operating Temperature	Approval	Approval
-40°C - +60°C	ECE	SAE

SHAPELINE REFLEX REFLECTOR

Tech Design

Dimensions (length/width/height)	113 / 10 / 12 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2

	8RA 013 403-001

Homologation: ECE / SAE

SHAPELINE REFLEX REFLECTOR

Style Design

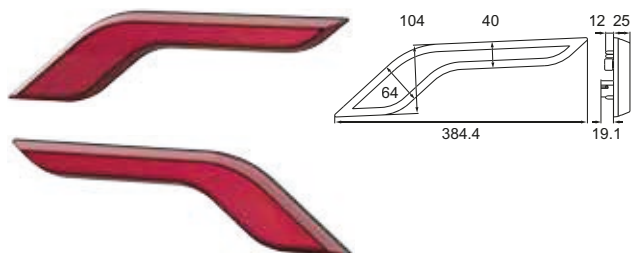|	
Dimensions (length/width/height)	161.8 / 40 / 12 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Tape*
Assembly homologation	0°
(Tolerance +/- angle [°])	(6°)
HELLA Specification	HN 67101 class 6.3 + 7.2

Left	**8RA 013 347-051**
Right	**8RA 013 347-061**

Homologation: ECE / SAE

* Other fastening options upon request.

Shapeline
Reflex reflectors, warning lights and design elements
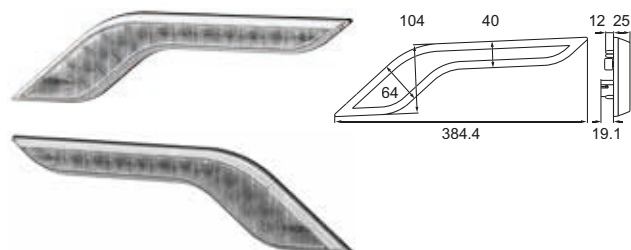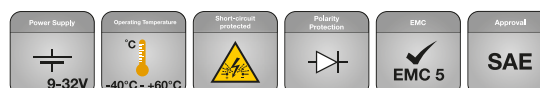
This product has the following features:

Operating Temperature	Approval	Approval
-40 °C - +60 °C	ECE	SAE

SHAPELINE WING REFLEX REFLECTOR

Style Design	
Dimensions (length/width/height)	384.4 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(6°)
HELLA Specification	HN 67101 class 6.3 + 7.2

Left	**8RA 013 402-011**
Right	**8RA 013 402-021**

Homologation: ECE / SAE

This LED product has the following features:

Power Supply	Operating Temperature	Short-circuit protected	Polarity Protection	EMC	Approval
9-32V	-40°C - +60°C			EMC 5	SAE

SHAPELINE WARNING LIGHT

Style Design	
Voltage range	9 – 16 V, 18 – 32 V
Dimensions (length/width/height)	384.4 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(6°)
HELLA Specification	HN 67101 class 6.3 + 7.2

Left, 2-pin AMP SUPERSEAL integrated	**2XW 013 493-011**
Right, 2-pin AMP SUPERSEAL integrated	**2XW 013 493-021**

Homologation: SAE
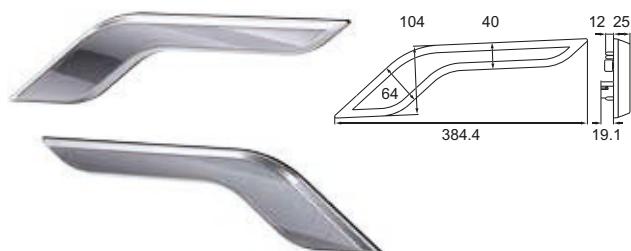
SHAPELINE DESIGN ELEMENT

Style Design	
Current flow	407 mA at 13.5 V / 197 mA at 28 V
Power consumption	5.5 W at 13.5 V / 5.5 W at 28 V
Dimensions (length/width/height)	384.4 / 104 / 25 mm
Operating temperature	-40 °C to +60 °C
Fixing system	Screw*
Assembly homologation	2.5°
(Tolerance +/- angle [°])	(0°)
HELLA Specification	HN 67101 class 6.3 + 7.2

Left, no connector	**2XX 013 349-011**
Right, no connector	**2XX 013 349-021**

* Other fastening options upon request.

Customer-specific rear lighting
Multi-function lights

An individual appearance at the rear

Our area of expertise lies in developing tailored solutions to be implemented in applications custom-made to address your challenges. For rear lighting, too, you can benefit from the synergies that HELLA is able to combine thanks to its many years of international development for original automotive equipment. See our customised concepts and products for yourself and prepare to be inspired!
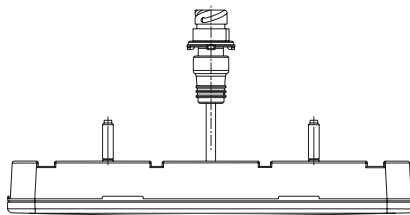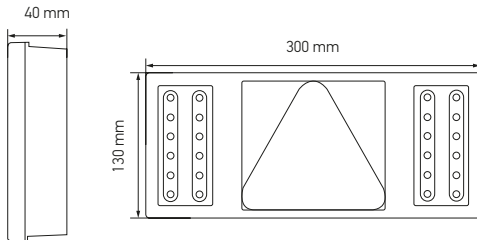

„Hymer-Swing"

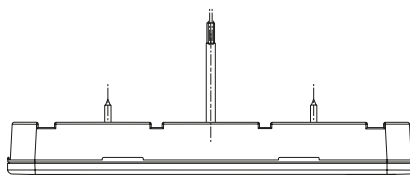Adria

Dethleffs Innoluna

Carthago

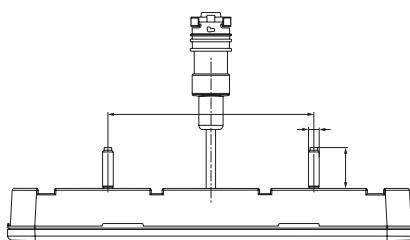# Universal rear combination lights

For caravans and motorhomes

This LED product has the following features:

Power Supply 24V	Power Supply 12V	IP 6K9K	Active Electronic	Temp.-Management Passive	Turn-Indicator Failure-control	Polarity Reversal Protection	GGVS ADR	Over-Voltage Protection	AECQ	ASIL	Approval EMC	Approval ECE	Approval SAE

COMPLETE LED COMBINATION TAIL LAMPS "COLUNA"

12 V version for caravans, horizontal mounting with a triangular reflex reflector, no pulse, fastening bolts inserted from the rear, cable 500 mm, open ends.

Left	**2VP 345 900-331**
Right	**2VP 345 900-341**

12 V version for motorhomes, horizontal or vertical mounting with triangular reflex reflector, with and without pulse

Left/right, fastening screws inserted from the front, cable 500 mm, open ends	**2VP 345 900-401***
Left/right, fastening screws inserted from the front, cable 500 mm with open ends	**2VP 345 900-411**
Left/right, fastening bolts inserted from the rear, cable 500 mm with open ends	**2VP 345 900-421***
Left/right, fastening bolts inserted from the rear, cable 500 mm with open ends	**2VP 345 900-431**
Left/right, fastening screws inserted from the front, cable 3,000 mm with 6.3 mm flat receptacles	**2VP 345 900-441***
Left/right, fastening screws inserted from the front, cable 3,000 mm with 6.3 mm flat receptacles	**2VP 345 900-451**
Left/right, fastening bolts inserted from the rear, cable 3,000 mm with 6.3 mm flat receptacles	**2VP 345 900-461***
Left/right, fastening bolts inserted from the rear, cable 3,000 mm with 6.3 mm flat receptacles	**2VP 345 900-471**

* With pulse

24 V version for motorhomes, horizontal or vertical mounting with triangular reflex reflector, with and without pulse

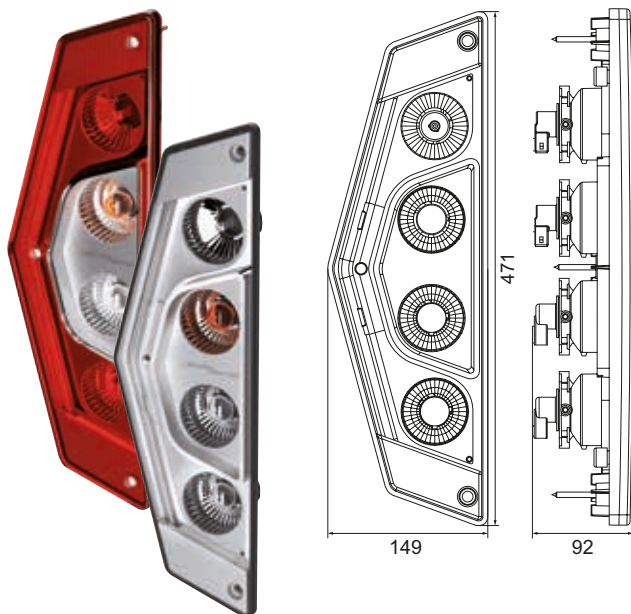|	
Left/right, fastening screws inserted from the front, cable 500 mm with open ends	**2VP 345 900-201***
Left/right, fastening screws inserted from the front, cable 500 mm with open ends	**2VP 345 900-211**
Left/right, fastening bolts inserted from the rear, cable 500 mm with open ends	**2VP 345 900-221***
Left/right, fastening bolts inserted from the rear, cable 500 mm with open ends	**2VP 345 900-231**
Left/right, fastening screws inserted from the front, cable 3,000 mm with 6.3 mm flat receptacles	**2VP 345 900-241***
Left/right, fastening screws inserted from the front, cable 3,000 mm with 6.3 mm flat receptacles	**2VP 345 900-251**
Left/right, fastening bolts inserted from the rear, cable 3,000 mm with 6.3 mm flat receptacles	**2VP 345 900-261***
Left/right, fastening bolts inserted from the rear, cable 3,000 mm with 6.3 mm flat receptacles	**2VP 345 900-271**

* With pulse

40 mm

300 mm

130 mm

Fixing to vehicle with 7-pin DIN connector

Mounting on vehicle with fixing screws from the front, cable with open ends

Mounting on vehicle with fixing screws from the rear, cable with EC connector

Current consumption	with 12 V	with 24 V
Tail light	2.6 W – 0.2 A	2.8 W – 0.12 A
Stop light	1.8 W – 0.15 A	2 W – 0.08 A
Indicator	3.3 W – 0.28 A	3.8 W – 0.16 A
Rear fog light	2.2 W – 0.18 A	2.4 W – 0.1 A
Back-up light	3.8 W – 0.32 A	5.6 W – 0.23 A

Type approval: ECE / ADR / EMC, ⓔ 5879 and 5880, ⓔ 10R 04 0071, SAE and CCC

Note: The individual functions of the light must only be operated with a 3A fuse. Operation of the light with AC voltage or synchronised DC voltage is not permitted.
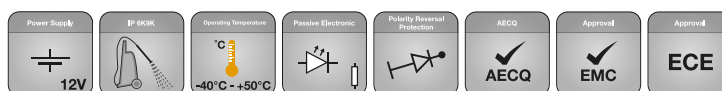
Universal rear combination lights
For caravans and motorhomes

CARALUNA X

This LED product has the following features:

| Power Supply 12V | IP 6K9K | Operating Temperature -40°C - +50°C | Passive Electronic | Polarity Reversal Protection | AECQ | Approval EMC | Approval ECE |

CARALUNA X

Can be mounted vertically, horizontally or at an angle of 13°, electrical connection: all light functions each via 2-pin AMP connector, specification: HELLA Norm 67101, Class 3.2, fixing: from the front with 3 screws (ST 4.8 mm).

Hybrid version
Tail light: 12 V / 1.4 W, current consumption = approx. 0.12 A, stop light, direction indicator, rear fog light and reversing light: 12 V / 21 W, current consumption = approx. 1.75 A

Vertical, left (light guide towards the inside of the vehicle)	2VP 012 570-111
Vertical, right (light guide towards the inside of the vehicle)	2VP 012 570-121
Horizontal, left (light guide above)	2VP 012 570-131
Horizontal, right (light guide above)	2VP 012 570-141
Horizontal, left (light guide below)	2VP 012 570-151
Horizontal, right (light guide below)	2VP 012 570-161
13° horizontal, left (light transmitter guide below)	2VP 012 570-171
13° horizontal, right (light transmitter guide below)	2VP 012 570-181

Type approval: ECE

Bulb version
Tail light: 12 V / 5 W, current consumption = approx. 0.42 A, stop light, direction indicator, rear fog light and reversing light: 12 V / 21 W, current consumption = approx. 1.75 A

Vertical, left (light guide towards the inside of the vehicle)	2VP 012 570-011
Vertical, right (light guide towards the inside of the vehicle)	2VP 012 570-021
Horizontal, left (light guide above)	2VP 012 570-031
Horizontal, right (light guide above)	2VP 012 570-041
Horizontal, left (light guide below)	2VP 012 570-051
Horizontal, right (light guide below)	2VP 012 570-061
13° horizontal, left (light transmitter guide below)	2VP 012 570-071
13° horizontal, right (light transmitter guide below)	2VP 012 570-081

Type approval: ECE

Spare parts/accessories

Mating connector set (2-pin)	8JD 156 150-807
Mating connector set (3-pin) (for hybrid)	8JD 162 581-802
12 V, tail lamp/brake light (P21/5W)	8GD 002 078-121
12 V, indicator light (PY21W)	8GA 006 841-121
12 V, reversing light (P21W)	8GA 002 073-121
12 V, rear fog light (H21W)	8GH 008 417-001

471

149   92

Universal rear combination lights
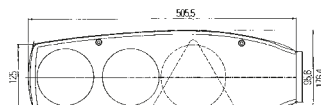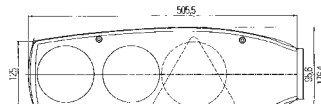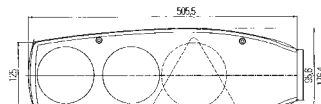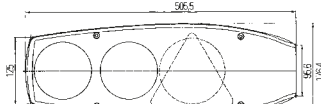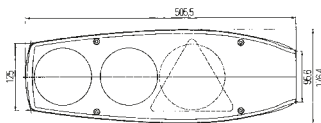
CARALUNA II

For horizontal installation, rear stop/direction indicator/side marker light with reflex reflector and 12 V bulbs.

With triangular reflex reflector	
Left, incl. rear fog light	2VA 341 419-011
Right	2VA 341 419-021

With round reflex reflector	
Left, incl. rear fog light	2VA 341 419-117 -111
Right, incl. rear fog light	2VA 341 419-147
Left, incl. reversing light	2VP 341 419-137
Right, incl. reversing light	2VP 341 419-127 -121

Type approval: ECE ⓔ4 9836

SAE type approval for vehicles < 2,032 mm wide
SAE type approval for vehicles > 2,031 mm wide

CARALUNA II CHROMIUM

For horizontal installation, direction indicator/tail/stop light with rear fog light and reflex reflector, with 12 V bulbs, without side marker light.

With triangular reflex reflector	
Left, incl. rear fog light	2VA 341 419-097
Right, incl. rear fog light	2VA 341 419-167
Left, incl. reversing light	2VP 341 419-157
Right, incl. reversing light	2VP 341 419-107

With round reflex reflector	
Left, incl. rear fog light	2VA 341 419-077
Right, incl. rear fog light	2VA 341 419-187
Left, incl. reversing light	2VP 341 419-177
Right, incl. reversing light	2VP 341 419-087

Type approval: ECE ⓔ4 10217

CARALUNA II PLUS

For horizontal installation, direction indicator/stop/rear fog/reversing light with side marker light with triangular reflex reflector, with 12 V bulbs, combined direction indicator and reversing light module.

Left	2VP 343 590-017
Right	2VP 343 590-027

Type approval: ECE ⓔ4 9836

CARALUNA II PLUS CHROMIUM

For horizontal installation, direction indicator/tail/stop/rear fog/reversing light with 12 V bulbs, with triangular reflex reflector and combined direction indicator and reversing light module, can also be used as an upgrade of the basic version 2.. 343 419-..., without side marker/reflex reflector light.

Left	2VP 343 590-057
Right	2VP 343 590-067

Type approval: ECE ⓔ4 10217

Universal rear combination lights

CARALUNA VERTICAL

For vertical installation, direction indicator/tail/stop light with 12 V-bulbs.

Right-hand traffic

Left, incl. rear fog light	2SD 343 440-017
Right, incl. reversing light	2SK 343 440-027
Left, incl. rear fog light, Chromium	2SD 343 440-057
Right, incl. reversing light, Chromium	2SK 343 440-067

Left-hand traffic

Left, incl. reversing light	2SK 343 440-037
Right, incl. rear fog light	2SD 343 440-047

Type approval: ECE Ⓔ17 0501

CARALUNA MODULAR

For vertical installation, with 12 V bulbs, direction indicator/tail/stop/rear fog/reversing light, with combined direction indicator and reversing light module and with integrated red side marker light.
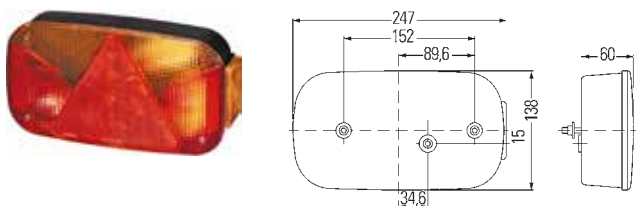
Red lens

Left	2VP 343 520-017 -011
Right	2VP 343 520-027 -021

Crystal-clear lens

|	
Left	2VP 343 520-057/-051
Right	2VP 343 520-067/-061

Type approval: ECE Ⓔ4 12677

DIRECTION INDICATOR/TAIL/TRIANGULAR REFLEX REFLECTOR/STOP/REAR FOG/SIDE MARKER/REFLEX REFLECTOR LIGHT

Tail light, stop light, rear fog light and red triangular reflex reflector, white reversing light and direction indicator (amber bulb), amber side marker light and reflex reflector, for horizontal mounting or installation, 12 V bulbs.

Left	2VA 998 232-291
Right	2VP 998 232-301

Type approval: ECE Ⓔ9 5447
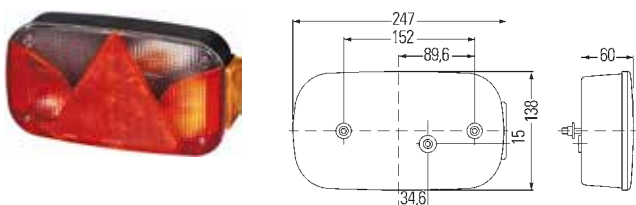
TAIL LIGHT/TRIANGULAR REFLEX REFLECTOR/DIRECTION INDICATOR/STOP/SIDE MARKER/REFLEX REFLECTOR LIGHT

Tail light, stop light and red triangular reflex reflector, direction indicator (amber bulb) and clear license plate light, amber side marker/reflex reflector light, for horizontal mounting, 12 V bulbs.

Left, with license plate light	2VB 998 232-557
Right, without license plate light	2VA 998 232-567

Type approval: ECE Ⓔ9 5447

Spare parts for series 998 232

P21/5W bulb, 12 V	8GD 002 078-121
P21W bulb, 12 V	8GA 002 073-121
PY21W bulb, 12 V	8GA 006 841-121
C5W bulb, 12 V	8GM 002 092-121

Universal rear combination lights

This LED product has the following features:

| Power Supply 9-32V | IP 6K9K | Active Electronic | Temp.-Management Active °C | Turn-Indicator Failure-control | Over-Voltage Protection | GGVS ADR | AECQ | EMC | ECE |
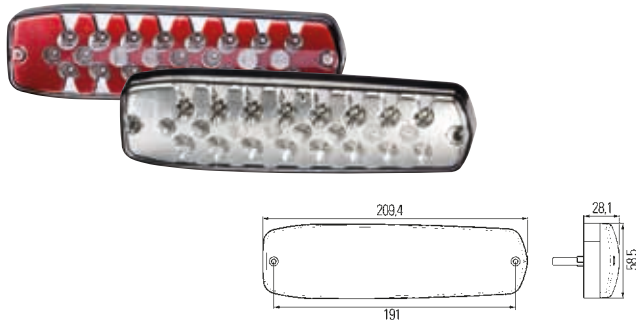
LeanLED

Tail light/stop light/indicator for horizontal and vertical mounting, with 24 LEDs, clear lens, with pulse for indicator failure check, Multivolt 9 – 32 V, part-metallised, other frame colours available upon request.

Current consumption:
Tail lamp: 12 V/0.5 W, current consumption = approx. 0.04 A
Brake light: 12 V/1 W, current consumption = approx. 0.08 A
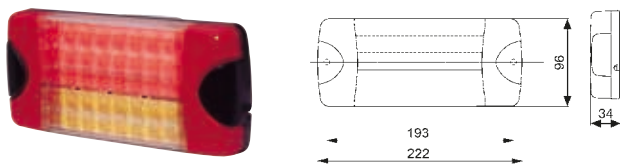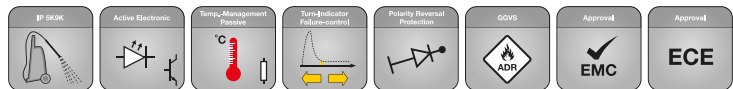Direction indicator: 12 V/1.5 W, current consumption = approx. 0.12 A

Silver, with 500 mm cable and open ends	**2SD 343 910-001**
With 200 mm cable, 4-pin AMP connector 282 106-1 to corresponding mating connector AMP 282 088-1	**2SD 343 910-017**
Silver, with integrated 4-pin AMP connector	**2SD 343 910-027**
Red, with 100 mm cable and 4-pin DEUTSCH connector	**2SD 343 910-057**

Type approval: ECE Ⓔ1 035109 and Ⓔ4 12393

Without type approval and without pulse for indicator failure check

With 500 mm cable and open ends	**2SD 343 910-037**

Dimensions: 209.4, 191, 58.5, 28.1

This LED product has the following features:

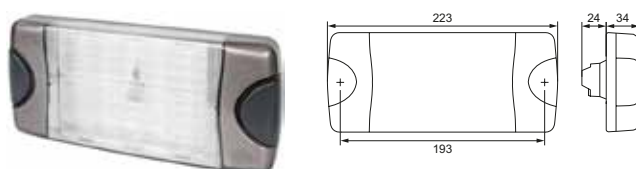| IP 5K9K | Active Electronic | Temp.-Management Passive °C | Turn-Indicator Failure-control | Polarity Reversal Protection | GGVS ADR | EMC | ECE |

DuraLED Combi

Multi-voltage 8 – 28 V, direction indicator/stop/tail light, for horizontal or vertical mounting, 2,500 mm cable with stripped ends, 40 LEDs and clear glass lens

Current consumption:
12 V/9.5 W, current consumption = approx. 0.8 A

	2SD 959 050-401

Type approval: ECE Ⓔ4 10176 and Ⓔ4 03 1586

Dimensions: 193, 222, 96, 34

This LED product has the following features:

| IP 6K9K | Active Electronic | Temp.-Management Passive °C | Polarity Reversal Protection | GGVS ADR | EMC | ECE |

DuraLED

12 / 24 V, direction indicator/tail/stop light, for horizontal or vertical mounting, 2,500 mm cable with stripped ends, with 30 LEDs, clear glass lens and painted grey

With DEUTSCH connector	**2SK 980 615-001**
With 2,500 mm cable	**2SK 980 603-503**

Type approval: ECE Ⓔ24 5870 and ECE Ⓔ24 10 R – 04 0958, GGVS /ADR regulations, EMC

Dimensions: 223, 193, 24, 34

Universal rear combination lights
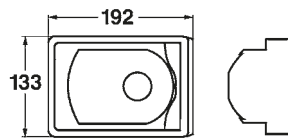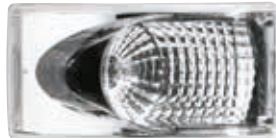
REAR LIGHT

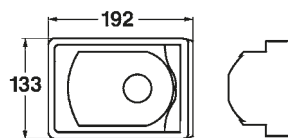| 12 V, for horizontal installation	
Red lens	
Tail light with SAE type approval for vehicles < 2,032 mm and > 2,031 mm in width	**2SA 008 805-007**
Stop light with SAE type approval for vehicles > 2,031 mm in width	**2DA 008 805-017**
Tail/stop light for dual mounting, with SAE type approval for vehicles > 2,031 mm in width	**2SB 008 805-027**
Rear fog light	**2NE 008 805-037**
Crystal-clear lens	
Reversing light with SAE type approval for vehicles < 2,032 mm and > 2,031 mm in width	**2ZR 008 805-047**
Direction indicator for dual mounting	**2BA 008 805-057**

Type approval: ECE (E4) 10151 and SAE

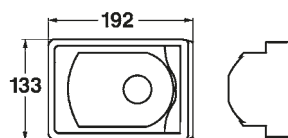**This LED product has the following features:**

Power Supply 12V	IP 6K9K	Passive Electronic	Temp.-Management Passive °C	Over-Voltage Protection	GGVS ADR	Approval EMC	Approval ECE

LED TAIL STOP LIGHT

For horizontal installation, with brilliant-finish clear lens	
12 V/3 W, current consumption = approx. 0.25 A	**2SB 345 982-367**

Type approval: ECE (E17) 10880
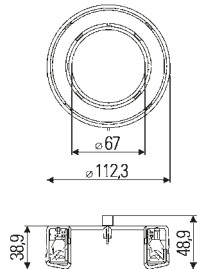
This LED product has the following features:

Power Supply 12V	IP 6K9K	Passive Electronic	Temp.-Management Passive °C	Turn-Indicator Failure-control	Over-Voltage Protection	GGVS ADR	Approval EMC	Approval ECE

LED INDICATOR

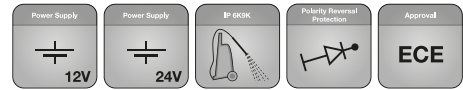| For horizontal installation, with brilliant-finish clear lens	
12 V/2 W, current consumption = approx. 0.17 A	**2BA 345 982-347**

Type approval: ECE (E1) 034046 and (E17) 10880

Universal rear combination lights
112 mm ring modules

This LED product has the following features:

| Power Supply 12V	Power Supply 24V	IP 6K9K	Polarity Reversal Protection	Approval ECE

LED EDGE RING MODULES, DIAMETER 112 MM

12 or 24 V, tail/stop light in innovative LED Edge Light technology, ideal for combination with light series 009 001 (diameter 66 mm), optionally available with clear or red cover lens	
12 V, red lens	**2SB 009 362-301**
24 V, red lens	**2SB 009 362-321**
12 V, clear lens	**2SB 009 362-311**
24 V, clear lens	**2SB 009 362-331**

Type approval: ECE 24 7R-025889

This LED product has the following features:

| Power Supply 12V	IP 5K4K	Passive Electronic	AECQ	Approval ECE
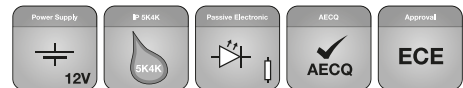
LED RING MODULES, DIAMETER 112 MM

12 V, tail/stop light, ideal for combination with light series 009 001 (diameter 66 mm), optionally available with clear or red cover lens	
Tail/stop light, red lens with ECE approval for double lights	**2SB 009 362-041**
Reflex reflector, red lens (not shown)	**8RA 009 362-001**
Tail/stop light, clear lens with ECE approval for double lights	**2SB 009 362-021**

Type approval: ECE 4 7747 and 4 7748
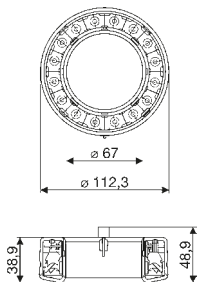
This LED product has the following features:

Power Supply 12V	IP 5K4K	Passive Electronic	AECQ	Approval SAE
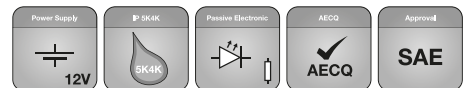
### LED DIRECTION INDICATOR/TAIL/STOP LIGHT, DIAMETER 112 MM

For rear installation, clear lens, with 24 red LEDs, suitable for light series 009 362 and 009 001	
12 V/4.8 W, current consumption = approx. 0.4 A	**2SD 009 362-201**

Type approval: SAE type approval for vehicles with width > 2,031 mm

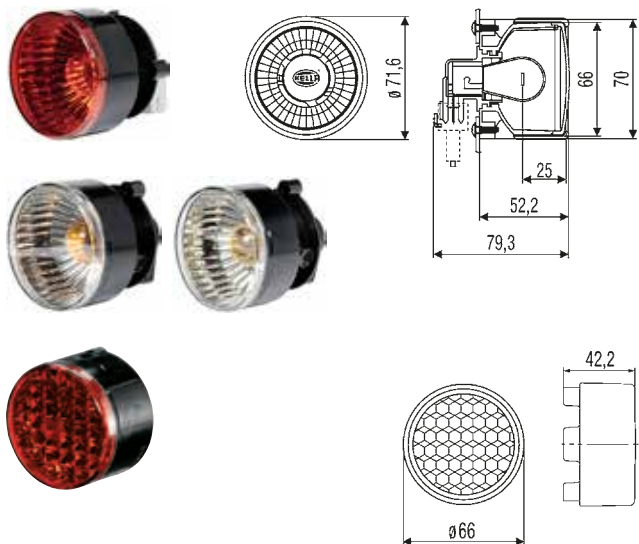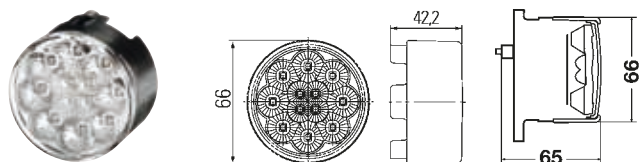| For mounting or installation, with 16 LEDs, 2.4 W, for tail/stop light, 12 amber Power LEDs, 2.4 W, for direction indicator	
12 V, without design ring	**2SD 010 546-127**
12 V, with silver-coloured design ring	**2SD 010 546-137**
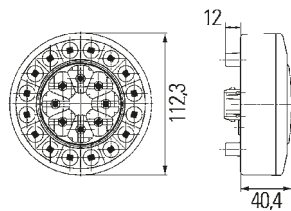
DESIGN RINGS, DIAMETER 118 MM

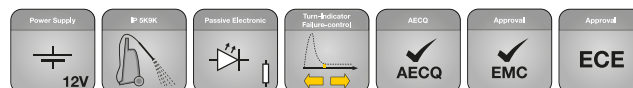| Suitable for light series 009 362, perfect high-gloss finish with one "click"	
High-gloss chromium-plated	**9HB 163 085-012**
Silver	**9HB 163 085-001**

Universal rear combination lights
66 mm modules

This LED product has the following features:

Power Supply	IP 9K9K	Passive Electronic	Turn-Indicator Failure-control	AECQ	Approval	Approval
12V				AECQ	EMC	ECE

LED TAIL/STOP LIGHT AND DIRECTION INDICATOR, DIAMETER 66 MM

With clear lens, 12 LEDs and AMP connector	
12 V, tail/stop light	2SB 009 001-401
12 V, direction indicator, without pulse	2BA 009 001-411
12 V, direction indicator, with pulse	2BA 009 001-431

Type approval: ECE E4 12390

REAR COMBINATION LIGHTS, DIAMETER 66 MM

With mounted bulbs, 12 V, incl. design ring	
Red lens	
Tail light with ECE approval for double lights	2SA 009 001-047
Stop light with ECE approval for double lights	2DA 009 001-057
Tail/stop light with ECE approval for double lights	2SB 009 001-067
Rear fog light with SAE type approval for vehicles < 2,032 mm and > 2,031 mm in width	2NE 009 001-027
Macro reflex reflector with SAE type approval for vehicles < 2,032 mm and > 2,031 mm in width	8RA 009 001-037
Grey lens	
Direction indicator with ECE approval for double lights	2BA 009 001-007
Reversing light with SAE type approval for vehicles < 2,032 mm and > 2,031 mm in width	2ZR 009 001-017
With Silver Vision bulb	
Direction indicator with ECE approval for double lights	2BA 009 001-191

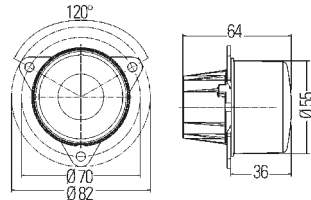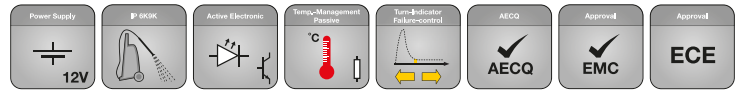**Type approval:** ECE E4 3917, E4 6546, E4 7613, E4 23255, E4 3189 (reflex reflector)

REAR COMBINATION LIGHTS DESIGN RINGS, DIAMETER 66 MM

Suitable for 66 mm light modules with diameter 71.6 mm (article number ... 009 001-... except LED versions), perfect high-gloss finish with one "click"	
High-gloss chromium-plated	9HB 161 122-012
Silver	9HB 161 122-007
Premium silver	9HB 164 168-002
Locking ring, comet silver	8HG 162 530-002

ACCESSORIES FOR REAR COMBINATION LIGHTS, DIAMETER 66 MM

2-pin mating connector	8JD 156 150-807
3-pin mating connector	8JD 162 581-802
Adapter ring screw connection, frontal for rear combination lights, diameter 66 mm, direct mounting as well as mounting in ring module, black	9XD 161 119-007
Adapter ring, for installing LED lights or the reflex reflector in the ring module series ... 009 362-..., black	9XD 161 119-017

Universal rear combination lights
55 mm LED modules

This LED product has the following features:

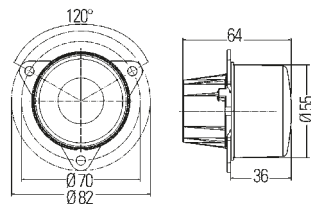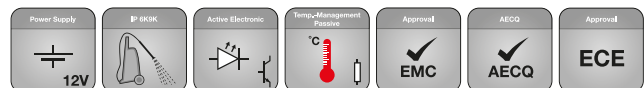| Power Supply 12V	IP 6K9K	Active Electronic	Temp.-Management Passive °C	Turn-Indicator Failure-control	AECQ ✓	Approval EMC ✓	Approval ECE

LED DIRECTION INDICATOR/TAIL/STOP LIGHT, DIAMETER 55 MM

For rear installation, clear lens with pattern and 500 mm connecting cable,
12 V / 1.1 W, current consumption = 0.09 A

Tail light	**2SA 011 172-041**
Stop light	2DA 011 172-061
Direction indicator, with pulse	2BA 011 172-031
Direction indicator, without pulse	2BA 011 172-021

Type approval: ECE Ⓔ 3283, Ⓔ 3284, Ⓔ 10R-036317 and CCC

This LED product has the following features:

Power Supply 12V	IP 6K9K	Active Electronic	Temp.-Management Passive °C	Approval EMC ✓	AECQ ✓	Approval ECE

LED REAR FOG AND REVERSING LIGHT, DIAMETER 55 MM

for rear installation, clear lens with pattern and 500 mm connecting cable,
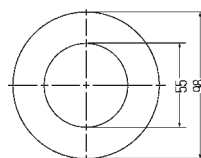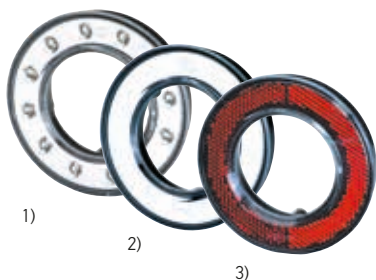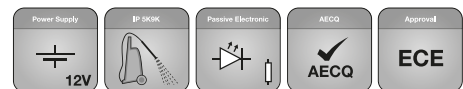12 V / 2.5 W, current consumption = 0.21 A

Rear fog light	**2NE 011 172-081**

Type approval: ECE Ⓔ 3286, Ⓔ 10R-036317 and CCC

Back-up light	**2ZR 011 172-101**

Type approval: ECE Ⓔ 3285, Ⓔ 10R-036317 and CCC

This LED product has the following features:

Power Supply 12V	IP 5K9K	Passive Electronic	AECQ ✓	Approval ECE

LED RING MODULES, DIAMETER 98 MM

12 V, for installation, ideal for combination with light series 011 172
(diameter 55 mm), optionally available with clear or red cover lens.

1) LED tail light/clearance light, with 12 red LEDs, clear lens, 12 V/1.8 W, current consumption = approx. 0.15 A	**2SA 008 405-021**
1) LED tail light/ stop light, with 12 red LEDs, clear lens, with passive Thermo Management, 12 V/2.1 W, current consumption = approx. 0.15 A	**2SB 008 405-101**
1) LED position light 12 V / 1.8 W, current consumption = approx. 0.15 A	**2PF 008 405-061**
2) Chromium-plated finisher	8XU 008 405-031
3) Reflex reflector	8RA 008 405-001

Type approval: ECE Ⓔ 1196, Ⓔ 1197 and Ⓔ 1892

Universal rear combination lights
55 mm modules
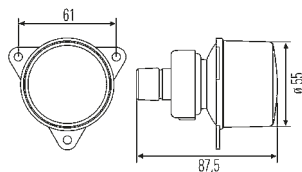
TAIL/STOP LIGHT AND REAR FOG LIGHT, DIAMETER 55 MM

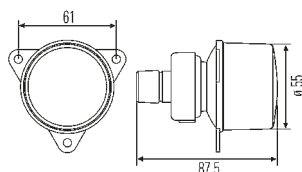| 12 V and 24 V, for installation, with red lens.	
Tail light	2XA 008 221-021
Tail light with mounted 12 V / 5 W bulb	2SA 008 221-127
Stop light	2XA 008 221-021
Stop light with mounted 12 V / 21 W bulb	2DA 008 221-167
Type approval: ECE Ⓔ 1048 and Ⓔ 1049	

Rear fog light	2NE 008 221-031
Rear fog light with mounted 12 V / 21 W bulb	2NE 008 221-137
Type approval: ECE Ⓔ 1050	

Accessories

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

DIRECTION INDICATOR AND REVERSING LIGHT, DIAMETER 55 MM

12 / 24 V, for installation with gray lens.	
Indicator	2BA 008 221-041
Direction indicator with mounted amber 12 V / 21 W bulb	2BA 008 221-147
Type approval: ECE Ⓔ 878, Ⓔ 879 and Ⓔ 1051	

Back-up light	2ZR 008 221-051
Reversing light with mounted 12 V / 21 W bulb	2ZR 008 221-157
Type approval: ECE Ⓔ 1052 and SAE type approval for vehicles with width < 2,032 mm and > 2,031 mm	

Accessories

Harness with grommet	8KA 152 134-007
Grommet separate	9GT 137 236-007
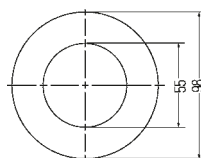
EXAMPLES OF COMBINATION POSSIBILITIES

Rear lighting	
1) Tail light and direction indicator	2BA 008 221-041 **and** 2SA 008 405-021
2) Stop light and reversing light	2XA 008 221-021 **and** 8RA 008 405-001
Heat-conducting shield (necessary at > 50 °C ambient temperature)	9XB 161 749-007

1)

2)

Universal rear combination lights

These LED products have the following properties

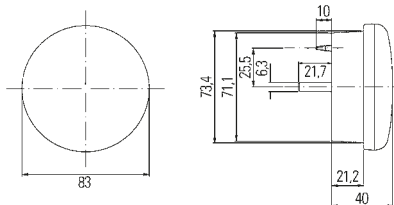| Power Supply 24V	Power Supply 9-33V	IP 6K9K	IP 6K7	Passive Electronic	Temp.-Management Passive °C	Turn-Indicator Failure-control	GGVS ADR	Approval EMC	Approval ECE
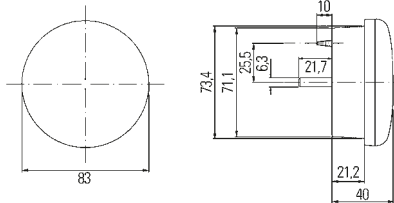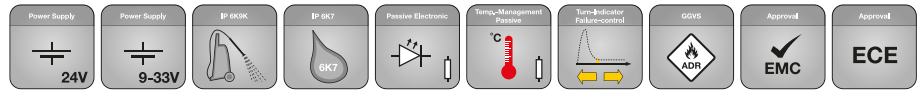
LED TAIL LIGHT/STOP LIGHT, DIAMETER 83 MM

With red lens, 12 LEDs, for installation and 2,500 mm cable
24 V/4 W, current consumption = approx. 0.17 A

24 V	2SB 959 010-301

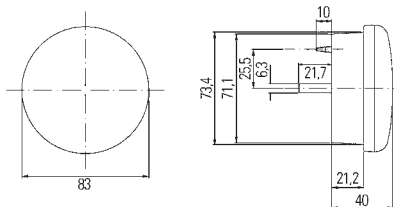**Type approval:** ECE E4 12373 and E4 031671

LED DIRECTION INDICATOR/TAIL/STOP LIGHT, DIAMETER 83 MM

With clear cover lens, 16 LEDs, for installation, with 2,500 mm cable and pulse for direction indicator failure monitor
24 V/5 W, current consumption = approx. 0.2 A

24 V	2SD 959 010-401

Type approval: ECE E9 1538 and E4 031671

LED DIRECTION INDICATOR, DIAMETER 83 MM

With amber lens, 12 LEDs, for installation, with 2,500 mm cable and pulse for direction indicator failure monitor
24 V/3 W, current consumption = approx. 0.13 A

24 V	2BA 959 011-301

Type approval: ECE E4 12373 and E4 031671
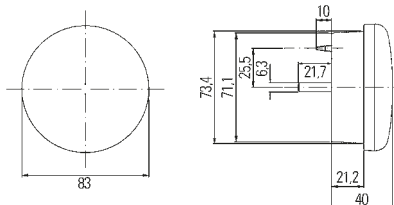
LED REVERSING LIGHT, DIAMETER 83 MM

With clear lens, 24 LEDs, for installation and 2,500 mm cable
12 V / 3 W, current consumption = approx. 0.33 A
24 V / 3 W, current consumption = approx. 0.17 A

Multivolt	2ZR 959 010-501

Type approval: ECE E4 11391 and E4 031671

LED REAR FOG LIGHT, DIAMETER 83 MM

With clear lens, 24 LEDs, for installation and 2,500 mm cable
12 V / 3 W, current consumption = approx. 0.25 A
24 V / 3 W, current consumption = approx. 0.13 A

	2NE 959 011-501

Type approval: ECE E4 11391 and E4 031671

Universal rear combination lights

TAIL/STOP LIGHT, DIAMETER 83 MM
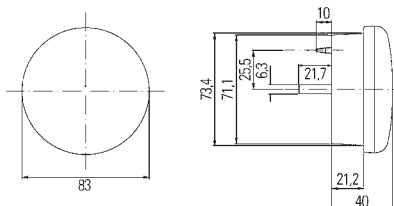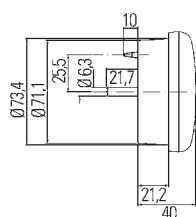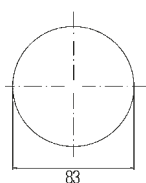
With red lens, 12 V bulb, for installation, PC lens with black PC housing, welded, 2 holes with 4.1 mm diameter for fastening screws

12 V, red lens	**2SB 302 252-057**

Spare parts

P21/5W bulb, 12 V	**8GD 002 078-121**

Type approval: ECE Ⓔ4 10909

REAR FOG LIGHT, DIAMETER 83 MM

With red lens, 12 V bulb, for installation, PC lens with black PC housing, welded, 2 holes with 4.1 mm diameter for fastening screws

12 V, red lens	**2NE 302 252-037**

Spare parts

P21W bulb, 12 V	**8GA 002 073-121**

Type approval: ECE Ⓔ4 10909

REVERSING LIGHT, DIAMETER 83 MM

With grey lens, 12 V bulb, for installation, PC lens with black PC housing, welded, 2 holes with 4.1 mm diameter for fastening screws

12 V, grey lens	**2ZR 302 252-047**

Spare parts

P21W bulb, 12 V	**8GA 002 073-121**

Type approval: ECE Ⓔ4 10909
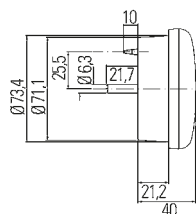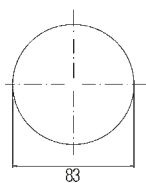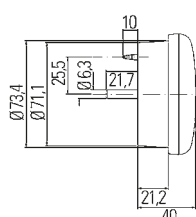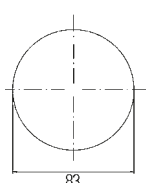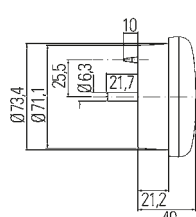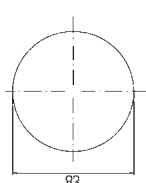
DIRECTION INDICATOR, 83 MM DIAMETER

With amber lens, 12 V bulb, for rearward installation, PC lens with black PC housing, welded, 2 holes with 4.1 mm diameter for fastening screws

12 V, amber lens	**2BA 302 252-027**

Spare parts

P21W bulb, 12 V	**8GA 002 073-121**

Type approval: ECE Ⓔ4 10909

Universal rear combination lights

This LED product has the following features:

Power Supply 9-32V	IP 6K9K	Active Electronic	Temp.-Management Active °C	Turn-Indicator Failure-control	Over-Voltage Protection	GGVS ADR	AECQ	Approval EMC	Approval ECE

LED DIRECTION INDICATOR/TAIL/STOP LIGHT, DIAMETER 122 MM
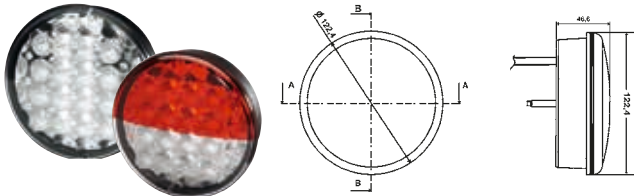
For mounting, redesign of series 964 169, 24 LEDs, active electronics.
Tail light: 12 V / 1 W, current consumption = approx. 0.08 A
Stop light: 12 V / 2 W, current consumption = approx. 0.17 A
Direction indicator: 12 V / 2 W, current consumption = approx. 0.17 A

With clear lens	2SD 344 200-001
With red / clear lens	2SD 344 200-071

Type approval: ECE E4 12371, E4 12658 and e1 03 4895

This LED product has the following features:

Power Supply 9-32V	IP 6K9K	Active Electronic	Temp.-Management Active °C	Over-Voltage Protection	GGVS ADR	AECQ	Approval EMC	Approval ECE

LED TAIL LIGHT/STOP LIGHT, DIAMETER 122 MM
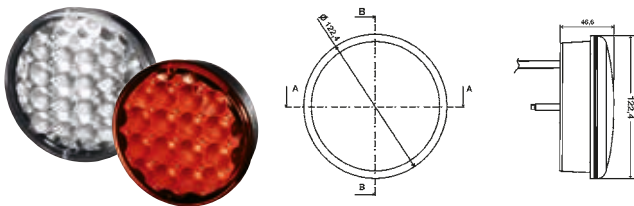
For mounting, active electronics.
Tail light: 12 V / 1 W, current consumption = approx. 0.08 A
Stop light: 12 V / 3 W, current consumption = approx. 0.25 A

With clear lens	2SB 344 200-021
With red lens	2SB 344 200-081

Type approval: ECE E4 12658 and e1 03 4895

This LED product has the following features:

Power Supply 9-32V	IP 6K9K	Active Electronic	Temp.-Management Active °C	Turn-Indicator Failure-control	Over-Voltage Protection	GGVS ADR	AECQ	Approval EMC	Approval ECE

LED DIRECTION INDICATOR, DIAMETER 122 MM
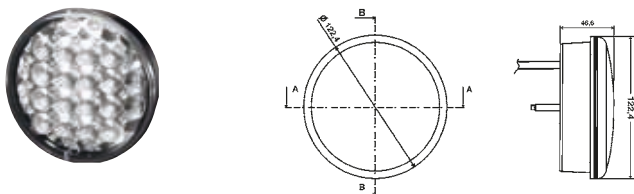
For mounting, active electronics.
Direction indicator: 12 V / 3 W, current consumption = approx. 0.25 A

With clear lens	2BA 344 200-031

Type approval: ECE E4 12658 and e1 03 4895

This LED product has the following features:

Power Supply 9-32V	IP 6K9K	Active Electronic	Temp.-Management Active °C	Over-Voltage Protection	GGVS ADR	Approval EMC	Approval ECE

LED REAR FOG LIGHT, DIAMETER 122 MM
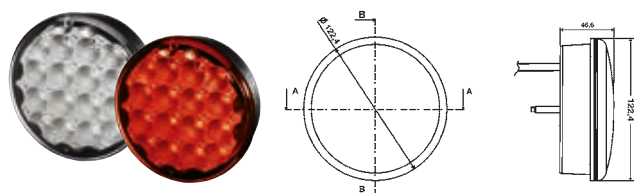
For mounting, active electronics
Rear fog light: 12 V / 2 W, current consumption = approx. 0.17 A

With clear lens	2NE 344 200-061
With red lens	2NE 344 200-091

Type approval: ECE E4 14198 and e1 03 4895

Universal rear combination lights

This LED product has the following features:

Power Supply 9-32V	IP 6K9K	Active Electronic	Temp.-Management Active	Over-Voltage Protection	GGVS ADR	Approval EMC	Approval ECE

LED REVERSING LIGHT, DIAMETER 122 MM

For mounting, clear lens, active electronics.
Reverse light: 12 V / 2 W, current consumption = approx. 0.17 A

12 V	**2ZR 344 200-051**
12 V, incl. rear fog light	**2NR 344 169-441**
24 V, incl. rear fog light	**2NR 344 169-461**

Type approval: ECE E4 14198 and e1 03 4895

This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K9K	Passive Electronic	Temp.-Management Passive	GGVS ADR	Approval EMC	Approval ECE
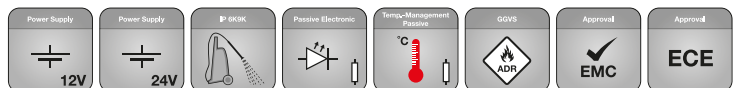
LED TAIL LIGHT/STOP LIGHT, DIAMETER 122 MM

For mounting, passive electronics.

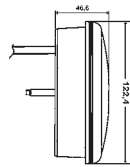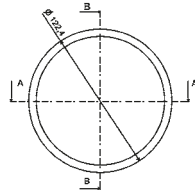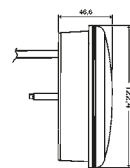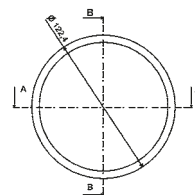|	
12 V, clear lens	**2SB 344 200-221**
24 V, clear lens	**2SB 344 200-321**
12 V, red lens	**2SB 344 200-231**
24 V, red lens	**2SB 344 200-331**

Type approval: ECE E4 12658 and e17 03 0235
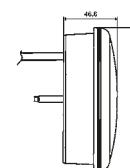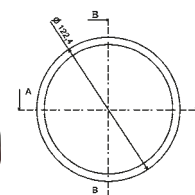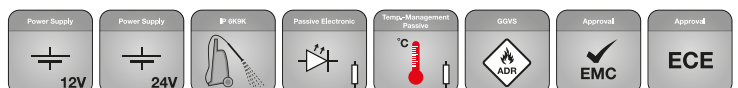
This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K9K	Passive Electronic	Temp.-Management Passive	GGVS ADR	Approval EMC	Approval ECE

LED DIRECTION INDICATOR/TAIL/STOP LIGHT, DIAMETER 122 MM

For mounting, passive electronics.

12 V, clear lens	**2SD 344 200-201**
12 V, red/ clear lens	**2SD 344 200-211**
24 V, red/ clear lens	**2SD 344 200-311**
12 V, red/amber lens	**2SD 344 200-251**

Type approval: ECE E4 12371 and e17 03 0235

This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K9K	Passive Electronic	Temp.-Management Passive	GGVS ADR	Approval EMC	Approval ECE
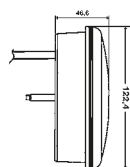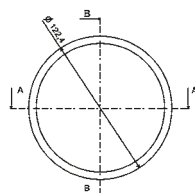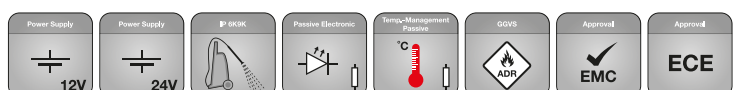
LED DIRECTION INDICATOR, DIAMETER 122 MM

For mounting, clear lens, passive electronics.

12 V	**2BA 344 200-241**
24 V	**2BA 344 200-341**

Type approval: ECE E4 12658 and e17 03 0235

Universal rear combination lights

This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K9K	Operating Temperature -40°C - +50°C	GGVS ADR	Approval EMC	Approval ECE
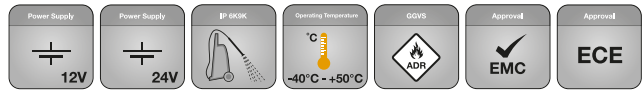
LED REAR FOG LIGHT/REVERSING LIGHT, DIAMETER 122 MM
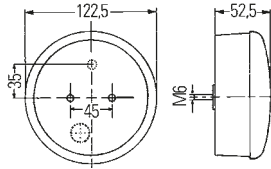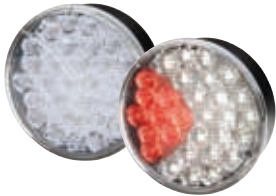
Combination light, long service life with low current consumption, rear fog light in red.

12 V	**2NR 344 169-441**
24 V	**2NR 344 169-461**

Type approval: ECE (E24) 5876

REAR FOG LIGHT
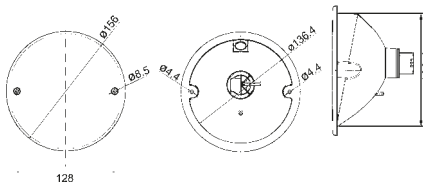
With integrated reflex reflector.

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

Type approval: ECE (E24) 5857

This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K9K	IP 6K7	Passive Electronic	Temp.-Management Passive	Polarity Reversal Protection	Approval EMC	Approval ECE

LED TAIL LIGHT/STOP LIGHT "STRIP LAMP"
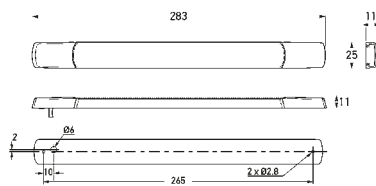
Mounting variant, horizontal and vertical, low power consumption, 12 and 24 V, lens made from highly impact-resistant Grilamid®, with 300 mm cable.

12 V	**2SB 980 887-011**
24 V	**2SB 980 887-211**

Type approval: ECE (E4) 10R 04-2913 and (E24) 5891

This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K9K	IP 6K7	Passive Electronic	Temp.-Management Passive	Polarity Reversal Protection	Approval EMC	Approval ECE

LED DIRECTION INDICATOR "STRIP LAMP"

Without pulse for direction indicator failure monitor, mounting variant, horizontal and vertical, low power consumption, 12 and 24 V, lens made from highly impact-resistant Grilamid®, with 2,500 mm cable.

12 V	**2BA 980 888-011**
24 V	**2BA 980 888-211**

Type approval: ECE (E4) 10R 04-2910 (only 24 V) and (E24) 5891

Universal rear combination lights

This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K9K	IP 6K7	Passive Electronic	Temp.-Management Passive	Polarity Reversal Protection	Approval EMC	Approval ECE
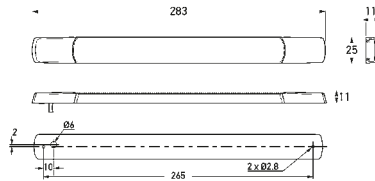
LED ADDITIONAL STOP LIGHT "STRIP LAMP"

Mounting variant, horizontal and vertical, low power consumption, 12 and 24 V, lens made from highly impact-resistant Grilamid®, with 2,500 mm cable.

12 V	**2DA 890 887-311**
24 V	**2DA 980 887-411**

Type approval: ECE E4 10R 04-2910 (only 24 V) and E24 0087

This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K9K	IP 6K7	Passive Electronic	Temp.-Management Passive	Polarity Reversal Protection	Approval EMC	Approval ECE
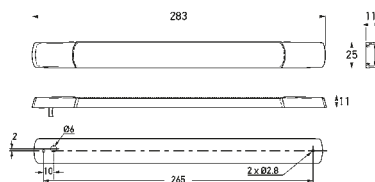
LED REAR FOG LIGHT "STRIP LAMP"

Mounting variant, horizontal and vertical, low power consumption, 12 and 24 V, lens made from highly impact-resistant Grilamid®, with 2,500 mm cable.

12 V	**2NE 980 889-501**
24 V	**2NE 980 889-601**

Type approval: ECE E4 10R 04-2910 (only 24 V) and E24 0010

This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K9K	IP 6K7	Passive Electronic	Temp.-Management Passive	Polarity Reversal Protection	Approval EMC	Approval ECE

LED REVERSING LIGHT "STRIP LAMP"

Mounting variant, horizontal or vertical, low power consumption, 12 and 24 V, lens made from highly impact-resistant Grilamid®, with 2,500 mm cable.

12 V, horizontal	**2ZR 980 889-011**
12 V, vertical	**2ZR 980 889-111**
24 V, horizontal	**2ZR 980 889-211**
24 V, vertical	**2ZR 980 889-311**

Type approval: ECE E24 0027 (horizontal) and E24 0028 (vertical)

Universal rear combination lights
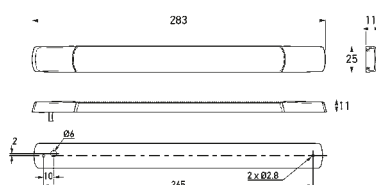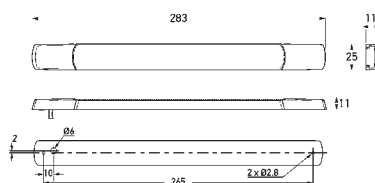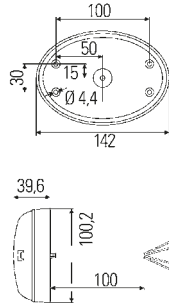
This LED product has the following features:

Power Supply	IP 6K9K	Operating Temperature	Active Electronic	Temp.-Management Active	Over-Voltage Protection	AECQ	Approval	Approval
9-32V		-40°C - +60°C				AECQ	EMC	ECE

LED TAIL LIGHT/STOP LIGHT "OVAL"

For mounting onto the vehicle, left or right, horizontal or vertical, with 100 mm cable and open end, punch out water drain hole. The individual light functions may only be operated with a vehicle fuse of max. 3A.
12 red LEDs for tail light: (reduced power):
9 V / 0.2 W, current consumption = approx. 0.02 A,
32 V/0.6 W, current consumption = approx. 0.02 A
12 red LEDs for stop light:
9 V / 1.6 W, current consumption = approx. 0.18 A,
32 V/2.5 W, current consumption = approx. 0.08 A

24 red LEDs	2SB 343 390-091

Type approval: ECE and e1 03 4631

This LED product has the following features:

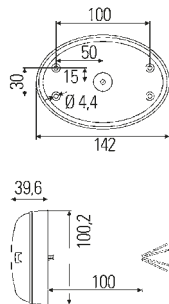| Power Supply	IP 6K9K	Operating Temperature	Active Electronic	Temp.-Management Active	Over-Voltage Protection	AECQ	Approval	Approval
9-32V		-40°C - +60°C				AECQ	EMC	ECE

LED "OVAL" DIRECTION INDICATOR/TAIL/STOP LIGHT

For mounting onto the vehicle, left or right, horizontal or vertical, with 100 mm cable and open end, punch out water drain hole. The individual light functions may only be operated with a vehicle fuse of max. 3A.
12 red LEDs for tail light: (reduced power):
9 V / 0.2 W, current consumption = approx. 0.02 A,
32 V/0.3 W, current consumption = approx. 0.01 A
12 red LEDs for stop light:
9 V / 0.9 W, current consumption = approx. 0.1 A,
32 V/1.2 W, current consumption = approx. 0.04 A
12 amber LEDs for direction indicator:
9 V / 1.2 W, current consumption = approx. 0.13 A,
32 V/2.1 W, current consumption = approx. 0.07 A

24 red and 12 amber LEDs	2SD 343 390-011

Type approval: ECE and e1 03 4631

This LED product has the following features:

Power Supply	IP 6K9K	Operating Temperature	Active Electronic	Temp.-Management Active	Turn-Indicator Failure-control	Over-Voltage Protection	AECQ	Approval	Approval
9-32V		-40°C - +60°C					AECQ	EMC	ECE
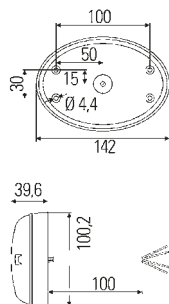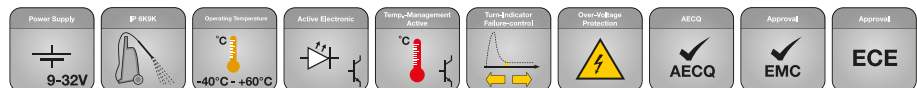
LED DIRECTION INDICATOR "OVAL"

For mounting on the vehicle, left or right, horizontal or vertical, with 100 mm cable and open end, direction indicator failure monitor integrated, punch out water drain hole. The individual light functions may only be operated with a vehicle fuse of max. 3A.
9 V/2.0 W, current consumption = approx. 0.22 A
32 V/2.9 W, current consumption = approx. 0.09 A

24 amber LEDs	2BA 343 390-071

Type approval: ECE and e1 03 4631

This LED product has the following features:

| Power Supply	IP 6K9K	Operating Temperature	Active Electronic	Temp.-Management Active	Turn-Indicator Failure-control	Over-Voltage Protection	AECQ	Approval	Approval
9-32V		-40°C - +60°C					AECQ	EMC	ECE
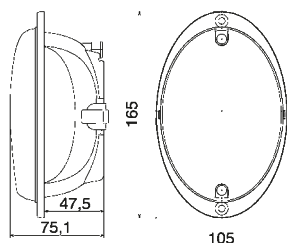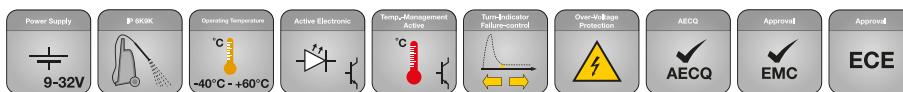
LED "OVAL" DIRECTION INDICATOR/TAIL/STOP LIGHT

For installation on the vehicle, left or right, vertical, with housing top and integrated 4-pin DEUTSCH connector, water drain hole is already opened. The individual light functions may only be operated with a vehicle fuse of max. 3A.
12 red LEDs for tail light: (reduced power):
9 V / 0.2 W, current consumption = approx. 0.02 A,
32 V/0.3 W, current consumption = approx. 0.01 A
12 red LEDs for stop light:
9 V / 0.9 W, current consumption = approx. 0.1 A,
32 V/1.2 W, current consumption = approx. 0.04 A
12 amber LEDs for direction indicator:
9 V / 1.2 W, current consumption = approx. 0.13 A,
32 V/2.1 W, current consumption = approx. 0.07 A

	2SD 343 390-401

Type approval: ECE and e1 03 4631
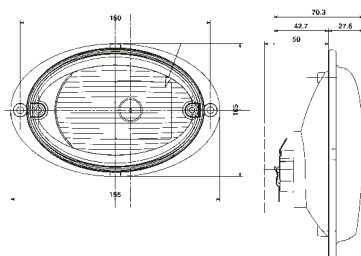
"OVAL LIGHT" COMBINATION REAR LIGHT

For installation and mounting, horizontal and vertical, lens with stripe pattern, housing with circumferential black rim, fully preassembled, with 100 mm cable and mounted 12 V bulb.

Tail light, left	2SA 343 400-217
Tail light, right	2SA 343 400-227

Type approval: ECE E17 823

Stop light, left	2DA 343 400-237
Stop light, right	2DA 343 400-247

Type approval: ECE E17 821

Tail/stop light, left	2SB 343 400-317
Tail/stop light, right	2SB 343 400-327

Type approval: ECE E17 822

Direction indicator, left	2BA 343 400-257
Direction indicator, right	2BA 343 400-267

Type approval: ECE E17 655

Rear fog light, left	2NE 343 400-277
Rear fog light, right	2NE 343 400-287

Type approval: ECE E17 3812

Reversing light, left	2ZR 343 400-297
Reversing light, right	2ZR 343 400-307

Type approval: ECE E17 3812

Can also be used as a front indicator in accordance with Category 1.

Universal rear combination lights
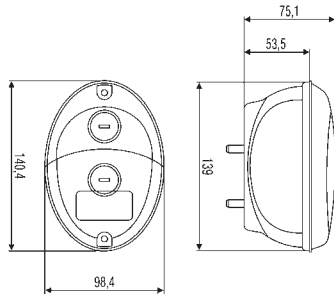
TAIL/STOP LIGHT AND REAR FOG LIGHT "OVAL"

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

Tail light/stop light	2SB 343 130-021

Type approval: ECE Ⓔ4 7698 and SAE type approval for vehicles with width < 2,032 mm and > 2,031 mm

Rear fog light	2NE 343 130-031

Type approval: ECE Ⓔ4 3919

DIRECTION INDICATOR "OVAL"

Suitable for horizonal and vertical installation and mounting, right or left (rotate light through 180°), 12 and 24 V, punch out the water drain hole before installation and insert the seal, amber cover lens.

Indicator	2BA 343 130-051

Type approval: ECE Ⓔ4 6550 and SAE type approval for vehicles with width < 2,032 mm and > 2,031 mm
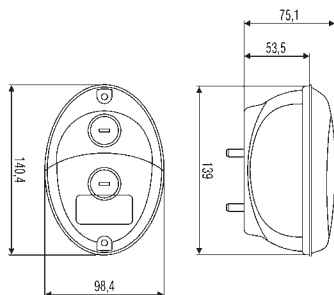
"OVAL" REVERSING LIGHT

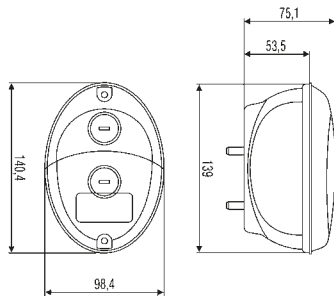With brilliant appearance, ideal for horizontal and vertical installation and mounting, on the right or left (rotate light 180°), can be used for 12 V and 24 V operation, punch out the water drain hole before installation and put on the seal, black housing colour, clear cover lens.

Back-up light	2ZR 343 130-041

Type approval: ECE Ⓔ4 23257 and SAE type approval for vehicles with width < 2,032 mm and > 2,031 mm
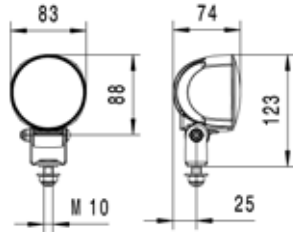
Auxiliary reversing lights
ECE type approval

This LED product has the following features:

| Power Supply 9–33V | IP 6K9K | Active Electronic | Temp.-Management Active °C | Polarity Reversal Protection | Over-Voltage Protection | Approval EMC | Approval ECE |

MODULE 70 LED REVERSING LIGHT

800 lumens, power requirement 13 W, colour temperature 6,500° K, high-grade aluminium housing, 2,000 mm cable, extra-wide close-range illumination, upright/pendant mounting with CoroSafe coating.

| | 2ZR 996 376-091 |

Type approval: ECE R23, ECE R10

83 74 88 123 M 10 25

This LED product has the following features:

| Power Supply 9–33V | IP 6K9K | Active Electronic | Temp.-Management Active °C | Polarity Reversal Protection | Over-Voltage Protection | GGVS ADR | Approval EMC | Approval ECE |
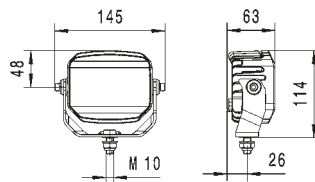
POWER BEAM 1000 REVERSING LIGHT

850 lumens, power requirement 15 W, colour temperature 6,500° K, high-quality aluminium housing, extra-wide close-range illumination, highly vibration-resistant thanks to heavy-duty surrounding bracket, upright/pendant mounting, with DT connector.

| | 2ZR 996 188-121 |

Type approval: ECE R23, ECE R10

145 63 48 114 M 10 26

This LED product has the following features:

| Power Supply 9–33V | IP 6K9K | Active Electronic | Temp.-Management Active °C | Polarity Reversal Protection | Over-Voltage Protection | GGVS ADR | Approval EMC | Approval ECE |
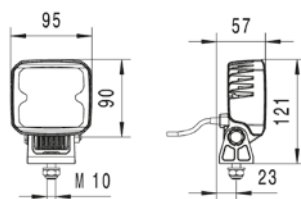
Q90 COMPACT LED REVERSING LIGHT

1,000 lumens, power requirement: 15 W, colour temperature: 6,500° K, heat-conducting plastic housing, total corrosion protection thanks to Thermo Pro technology, mounting upright/pendant.

| 2,000 mm cable | 2ZR 996 284-501 |
| 500 mm cable and DT connector, ADR / GGVSEB-tested | 2ZR 996 284-511 |

Type approval: ECE R23, ECE R10

95 57 90 121 M 10 23

Auxiliary reversing lights
ECE type approval

This LED product has the following features:

Power Supply 9-32V	IP 6K9K	Active Electronic	Temp.-Management Passive °C	Short-circuit protected	Polarity Reversal Protection	GGVS ADR	Lens Material GMD	Special Lens System	AECQ	EMC 3	Approval ECE

REPULSE Ultra, 3 LEDs

870 lumens, power requirement: 11 W, colour temperature: 5,500° K, heat-conducting plastic housing, total corrosion protection thanks to Thermo Pro technology, mounting upright/pendant.

6.3 mm flat receptacles with 3,500 mm connection cable	**2ZR 012 456-111**

Type approval: ECE R23, ECE R10

This LED product has the following features:

Power Supply 9-32V	IP 6K9K	Active Electronic	Temp.-Management Passive °C	Short-circuit protected	Polarity Reversal Protection	GGVS ADR	Lens Material GMD	Special Lens System	AECQ	EMC 3	Approval ECE

REPULSE PRO, 3 LEDs

870 lumens, power requirement: 11 W, colour temperature: 5,500° K, heat-conducting plastic housing, total corrosion protection thanks to Thermo Pro technology, mounting upright/pendant.

2-pin AMP SUPERSEAL connector with 2,000 mm connection cable	**2ZR 012 456-201**
2-pin EasyConn connector (angled at 90°) with 1,000 mm connecting lead	**2ZR 012 456-211**
6.3 mm flat receptacles with 3,500 mm connection cable	**2ZR 012 456-221**
Amphenol DT connector AT04-2P with 500 mm cable	**2ZR 012 456-231**

Type approval: ECE R23, ECE R10

This LED product has the following features:

Power Supply 9-32V	IP 6K9K	Active Electronic	Temp.-Management Passive °C	Short-circuit protected	Polarity Reversal Protection	GGVS ADR	Lens Material GMD	Special Lens System	AECQ	EMC 3	Approval ECE

REPULSE, 1 LED

870 lumens, power requirement: 11 W, colour temperature: 5,500° K, heat-conducting plastic housing, total corrosion protection thanks to Thermo Pro technology, mounting upright/pendant.
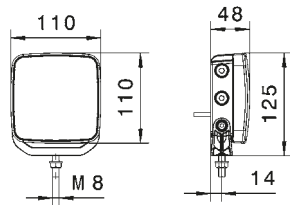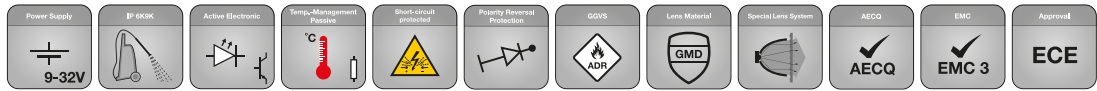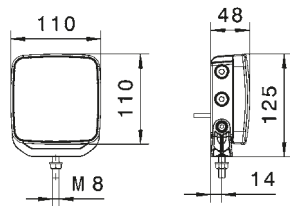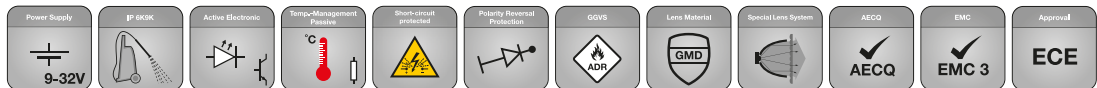
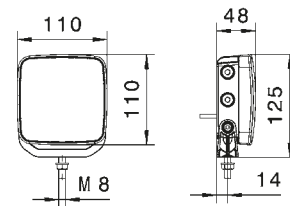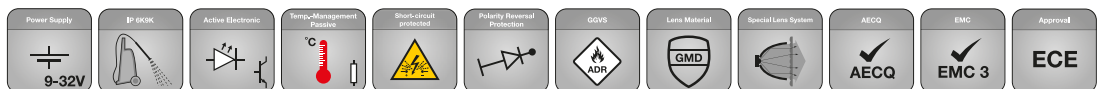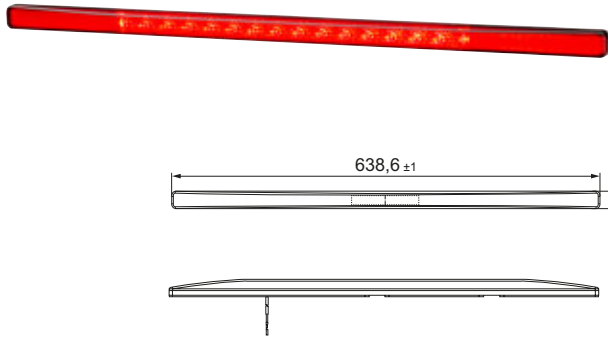|	
2-pin AMP SUPERSEAL connector with 2,000 mm connection cable	**2ZR 012 456-001**
2-pin EasyConn connector (angled at 90°) with 1,000 mm connecting lead	**2ZR 012 456-011**
6.3 mm flat receptacles with 3,500 mm connection cable	**2ZR 012 456-021**
Amphenol DT connector AT04-2P with 500 mm cable	**2ZR 012 456-031**

Type approval: ECE R23, ECE R10

Auxiliary stop lights

This LED product has the following features:

| Power Supply 12V | Power Supply 24V | IP 67 | Active Electronic | Temp.-Management Passive °C | Polarity Reversal Protection | Approval EMC | Approval ECE | Approval SAE |

CHMSL AUXILIARY STOP LIGHT LongLED, 16 LEDs

For horizontal mounting, 16 LEDs, 637 mm long, extremely slimline design with a profile height of just 11 mm, highly efficient electronic mounting with a power consumption of > 3 W, fully sealed housing, high vibration resistance.

12 V/2.8 W, current consumption = approx. 0.22 A
24 V/1.5 W, current consumption = approx. 0.06 A

12 V	**2DA 012 596-021**
24 V	**2DA 012 596-031**

Type approval: ECE, SAE and CCC

638,6 ±1   26,6 ±0,5

This LED product has the following features:

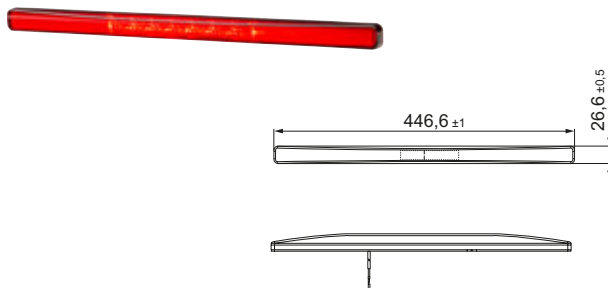| Power Supply 12V | Power Supply 24V | IP 67 | Active Electronic | Temp.-Management Passive °C | Polarity Reversal Protection | Approval EMC | Approval ECE | Approval SAE |

CHMSL AUXILIARY STOP LIGHT LongLED, 8 LEDs

For horizontal mounting, 8 LEDs, 445 mm long, extremely slimline design with a profile height of just 11 mm, highly efficient electronic mounting with a power consumption of just 3 W, fully sealed housing, high vibration resistance

12 V/1.5 W, current consumption = approx. 0.12 A
24 V/1 W, current consumption = approx. 0.04 A

12 V	**2DA 012 596-001**
24 V	**2DA 012 596-011**

Type approval: ECE, SAE and CCC

446,6 ±1   26,6 ±0,5

This LED product has the following features:

| Power Supply 12V | IP 6K9K | Passive Electronic | Temp.-Management Passive °C | Approval EMC | Approval ECE |
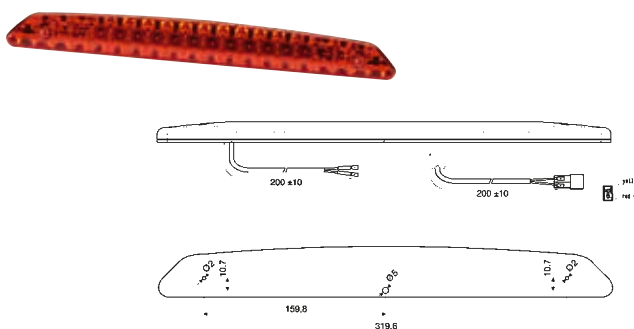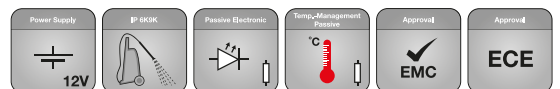
LED AUXILIARY STOP LIGHT

For horizontal mounting, with 12 red LEDs, in brilliant finish, with 3D effect thanks to each LED being embedded 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: ECE E4 7715

200 ±10   200 ±10   10,7   159,8   319,6

Auxiliary stop lights

This LED product has the following features:

Power Supply 12V	Passive Electronic	Temp.-Management Passive °C	Approval EMC	Approval ECE

LED AUXILIARY STOP LIGHT

For horizontal installation, with 12 red LEDs, 2,500 mm cable and open cable ends, 12 V / 2 W, current consumption = approx. 0.16 A

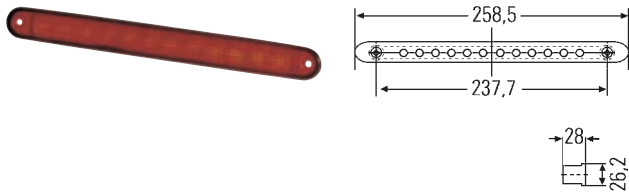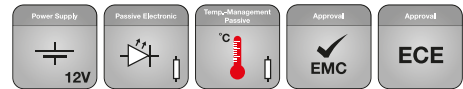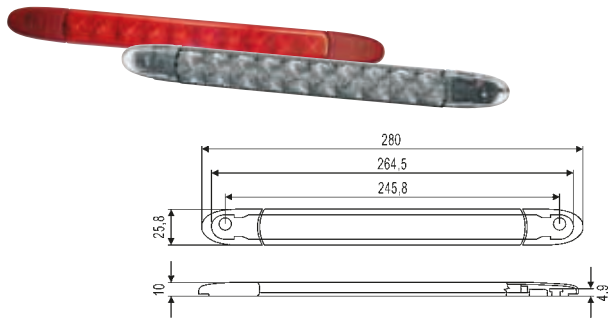|	
12 V, red lens	**2DA 959 071-537**
12 V, clear lens	**2DA 959 071-037**

Type approval: ECE E4 7547

This LED product has the following features:

Power Supply 12V	IP 6K9K	Passive Electronic	Temp.-Management Passive °C	Approval EMC	Approval ECE
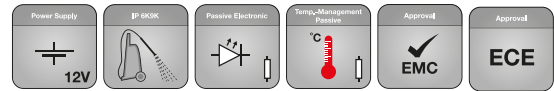
LED AUXILIARY STOP LIGHT

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

Red lens	
For screw attachment	**2DA 343 106-001**
Self-adhesive, for smooth and clean surfaces	**2DA 343 106-201**
Smoked glass lens	
For screw attachment	**2DA 343 106-021**
Self-adhesive, for smooth and clean surfaces	**2DA 343 106-221**

Type approval: ECE E4 7696

AUXILIARY STOP LIGHT
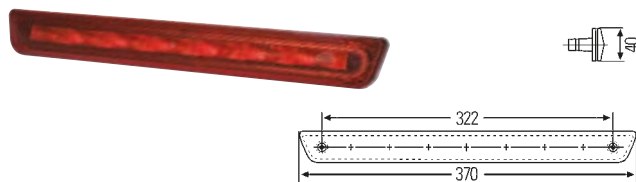
For horizontal installation, red lens, with pre-fitted 12 V bulbs, 2.3 W

With PE foam seal, coated on both sides with adhesive	**2DA 008 136-021**
Screw attachment from the front through the lens (screws are not included)	**2DA 008 136-011**

Type approval: ECE E13 02799

AUXILIARY STOP LIGHT
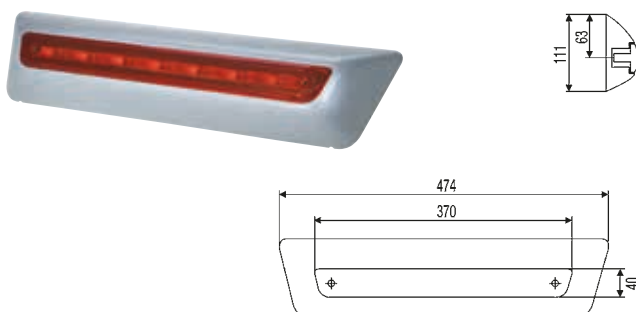
For horizontal mounting, with 12 V bulbs, 2.3 W, cable 146 751-00 included loose.

	2DA 008 136-031

Type approval: ECE E1 02799

Accessories (order separately):

Cable with grommet	**8KA 146 751-007**

Clearance lights
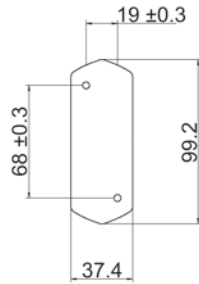
LED CLEARANCE LIGHT

Red/ clear lens, with direct screw connection and black AMP SUPERSEAL, black frame for direct screw connection.

12 V	**2XS 205 020-001**
24 V	**2XS 205 020-011**

Type approval: ECE 3011

Red/ clear lens, with direct screw connection and 500 mm cable, welded, without connector housing, black frame for direct screw connection.

12 V	**2XS 205 020-041**
24 V	**2XS 205 020-051**

Type approval: ECE 3011
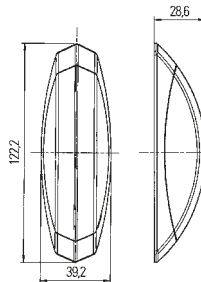
CLEARANCE LIGHT

For vertical mounting	
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**
Red/white with white base plate	
Left	**2XS 008 479-081**
Right	**2XS 008 479-091**
Red with grey base plate, PO function silver-coloured, opaque	
Left	**2XS 008 479-107**
Right	**2XS 008 479-117**

Type approval: ECE 3011
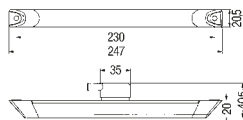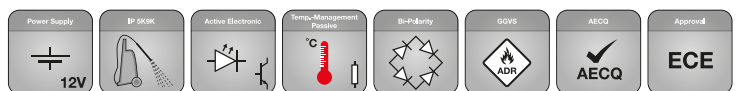
LED CLEARANCE LIGHT

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

12 V	**2XS 008 078-011**

Type approval: ECE 0515

Clearance lights

Power Supply	IP 6K9K	Passive Electronic	Temp.-Management Passive	Approval	Approval
12V				EMC	ECE

LED CLEARANCE LIGHT

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

500 mm cable	2TM 344 690-357

Type approval: ECE E4 7597 and e1 031721

This LED product has the following features:

Power Supply	IP 6K9K	Passive Electronic	Temp.-Management Passive	Bi-Polarity	Approval	Approval
12V					EMC	ECE
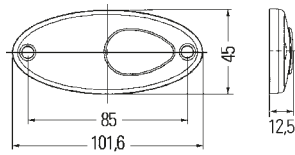
LED CLEARANCE LIGHT

12 V, for horizontal mounting, 2 LEDs, with seal
12 V / 0.5 W, current consumption = approx. 0.04 A

5,000 mm cable	2TM 964 295-101

Type approval: ECE E17 0302
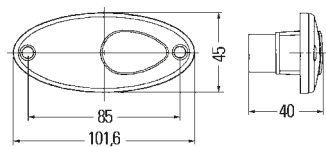
CLEARANCE LIGHT

For horizontal or vertical installation, with installed 12 V bulb and seal

	2XS 964 295-031

Type approval: ECE E17 812

This LED product has the following features:

Power Supply	IP 5K9K	Active Electronic	Temp.-Management Passive	GGVS	Approval	Approval
9-32V				ADR	EMC	ECE
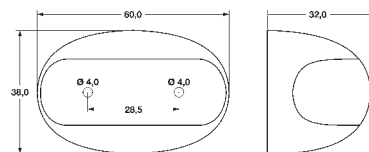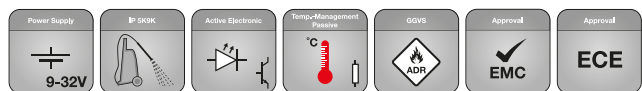
LED CLEARANCE LIGHT

For horizontal 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: ECE E1 7574 and e1 031721

Clearance lights

This LED product has the following features:

Power Supply	IP 6K9K	IP 6K7	Active Electronic	Temp.-Management Passive	Polarity Reversal Protection	GGVS	Approval	Approval
9-33V		6K7		°C		ADR	EMC	ECE
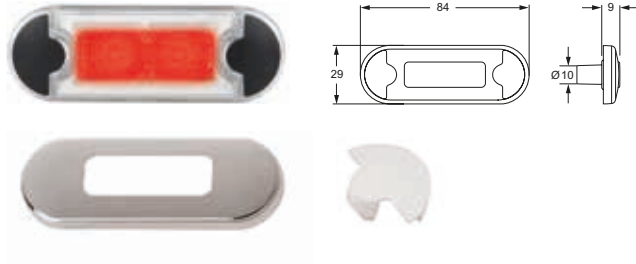
DuraLED CLEARANCE LIGHT, MOUNTING

Mounting variant with 2 LEDs, slimline design with 9 mm profile, horizontal or vertical installation, IP 6K7, IP 6K9K, high vibration resistance, extremely low energy consumption, multi-voltage 9 – 33 V, hermetically sealed to protect against dirt and humidity.

With 500 mm cable, x1	**2XS 959 855-401**
With 500 mm cable, x24	**2XS 959 855-407**
With 2,500 mm cable, x1	**2XS 959 855-441**
With 2,500 mm cable, x16	**2XS 959 855-447**
With 500 mm cable, x1	**2XS 959 855-451**
With 500 mm cable, x24	**2XS 959 855-457**

Type approval: ECE 🔲 587 and EMC 🔲 10R-042899

Accessories and spare parts

|	
Wheel cover, polished stainless steel (ECE engraving)	**9AB 959 685-201**
Contour seal	**9GD 958 028-001**
Flat, rectangular seal (x8)	**9GD 980 867-507**
Cap for screw top, black (x4)	**9HD 980 858-008**
Cap for screw top, white (x4)	**9HD 980 858-018**

This LED product has the following features:

Power Supply	IP 6K9K	Active Electronic	Temp.-Management Passive	GGVS	Approval	Approval
12V			°C	ADR	EMC	ECE
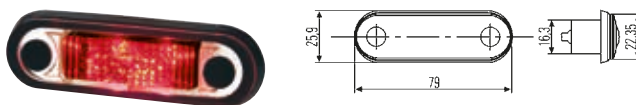
CLEARANCE LIGHT, INSTALLATION

For horizontal or vertical installation, clear lens with 2 red LEDs, can be used as tail light or clearance light, 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: ECE 🔲 7597 and 🔲 031721

Clearance lights and reflex reflectors

This LED product has the following features:

| Power Supply 12V | IP 5K9K | Passive Electronic | Temp.-Management Passive | Bi-Polarity | Approval EMC | Approval ECE |
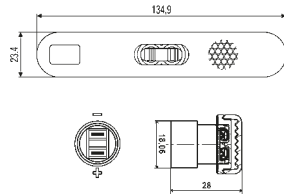
LED CLEARANCE LIGHT

For horizontal mounting, with 2 LEDs, self-adhesive, with 6.3 mm contacts and mating connector grommet

12 V	**2XS 009 226-107**
Counterplug grommet (order separately)	**9GT 186 597-007**

Type approval: ECE Ⓔ1 3017

This LED product has the following features:

| Power Supply 12V | IP 6K9K | Passive Electronic | Temp.-Management Passive | Bi-Polarity | GGVS ADR | AECQ | Approval ECE |
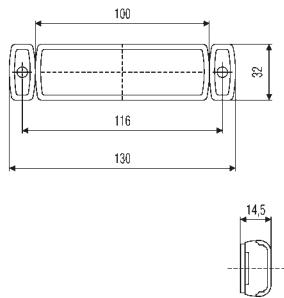
LED CLEARANCE LIGHT

For horizontal or vertical mounting, with reflex reflector, 12 V,
2 holes for fastening 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: ECE Ⓔ1 1395 and Ⓔ1 1398
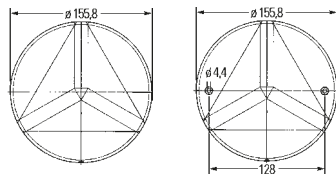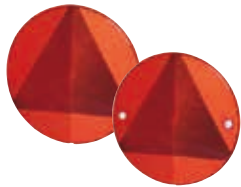
REFLEX REFLECTORS

Self-adhesive, red	**8RA 343 220-007**
With 2 holes for fastening screws, red	**8RA 343 220-017**

Type approval: ECE Ⓔ4 023191
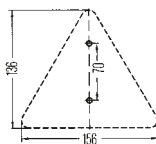
REFLEX REFLECTORS

2 holes, Ø 6 mm, for fastening screws

Red	**8RA 002 020-001**

Type approval: ECE Ⓔ17 02346

Reflex reflectors
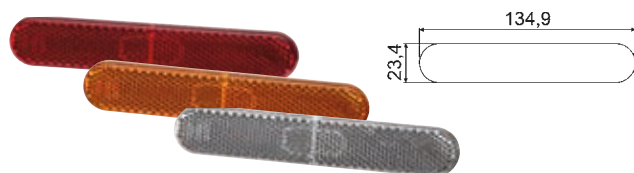
REFLEX REFLECTORS

For horizontal or vertical mounting, suitable for combination with light series 009 226.

Red, self-adhesive	**8RA 009 226-137**
Amber, self-adhesive	**8RA 009 226-127**
White, self-adhesive	**8RA 009 226-117**

Type approval: ECE ⓔ11 020668
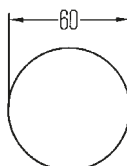
REFLEX REFLECTORS

Red, self-adhesive	**8RA 002 014-281**
Amber, self-adhesive	**8RA 002 014-301**
White, self-adhesive	**8RA 002 014-291**

Type approval: ECE ⓔ13 3535
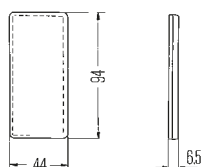
REFLEX REFLECTORS

For horizontal or vertical mounting

Red, self-adhesive	**8RA 003 326-031**
Amber, self-adhesive	**8RA 003 326-041**
White, self-adhesive	**8RA 003 326-051**

Type approval: ECE ⓔ2 0292031
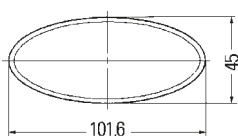
REFLEX REFLECTORS

For horizontal or vertical mounting, suitable for combination with light series 964 295

Red, self-adhesive	**8RA 343 160-007**
Amber, self-adhesive	**8RA 343 160-027**
White, self-adhesive	**8RA 343 160-017**

Type approval: ECE ⓔ4 3190

Licence plate lights

This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K9K	Passive Electronic	Temp.-Management Passive °C	GGVS ADR	Approval EMC	Approval ECE
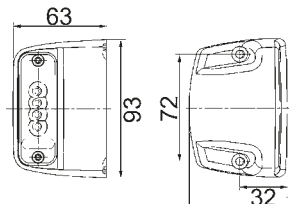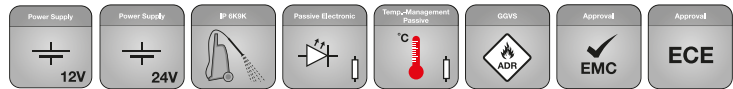
LED LICENCE PLATE LIGHT

For mounting on the right or left next to the licence plate, only 1 light needed for illumination. Clear lens, with 4 LEDs, black plastic housing.

Licence plate 520 x 120 mm	
12 V, with blade terminal 6.3 x 0.8 mm	**2KA 010 278-321**
24 V, with blade terminal 6.3 x 0.8 mm	**2KA 010 278-021**
24 V, with 500 mm cable and a 2 pin EasyConn plug	**2KA 010 278-051**
24 V, with 2,000 mm cable and 6.3 x 0.8 mm flat plug	**2KA 010 278-031**

Licence plate 340 x 240 mm or 280 x 200 mm	
12 V, with blade terminal 6.3 x 0.8 mm	**2KA 010 278-421**
24 V, with blade terminal 6.3 x 0.8 mm	**2KA 010 278-121**

Type approval: ECE Ⓔ1 2609

This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K9K	Passive Electronic	Temp.-Management Passive °C	GGVS ADR	Approval EMC	Approval ECE
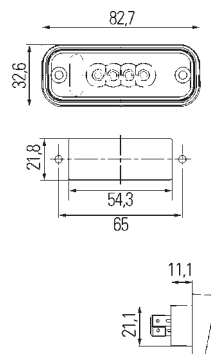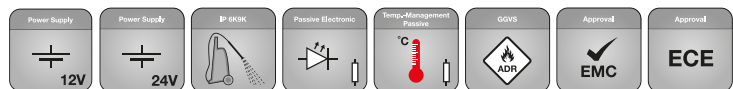
LED LICENCE PLATE LIGHT

For installation above the licence plate, 2 lights required to illuminate the licence plate.

Licence plate 520 x 120 mm, with blade terminal 6.3 x 0.8 mm	
12 V	**2KA 010 278-311**
24 V	**2KA 010 278-011**

Licence plate 520 x 120 mm, light contacts sealed and potted, with 1,000 mm cable with open cable ends	
12 V	**2KA 010 278-617**
24 V	**2KA 010 278-607**

Licence plate 340 x 240 mm or 280 x 200 mm, with blade terminal 6.3 x 0.8 mm 1 light required for illuminating the licence plate	
12 V	**2KA 010 278-411**

Type approval: ECE Ⓔ1 2609

Licence plate lights

This LED product has the following features:

Power Supply	IP 5K9K	Active Electronic	Temp.-Management Passive	GGVS	Approval	Approval
9-32V			°C	ADR	EMC	ECE
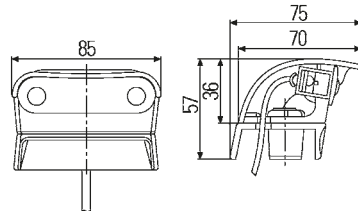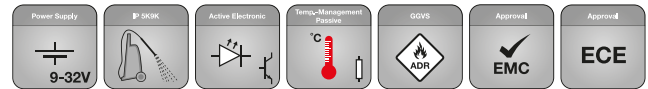
LED LICENCE PLATE LIGHT

For mounting to the 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, fastening screws, cover caps for screws as well as a spacer for different mounting situations, multi-voltage 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: ECE E4 4048 and ⌀1 031721
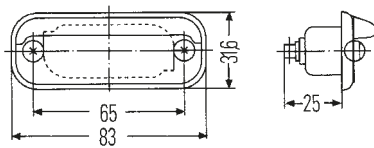
LICENCE PLATE LIGHT

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

With brilliant chrome 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: ECE E1 12958
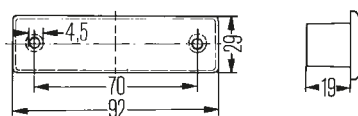
LICENCE PLATE LIGHT

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

With 12 V bulb	**2KA 004 331-061**

Type approval: ECE E1 22890
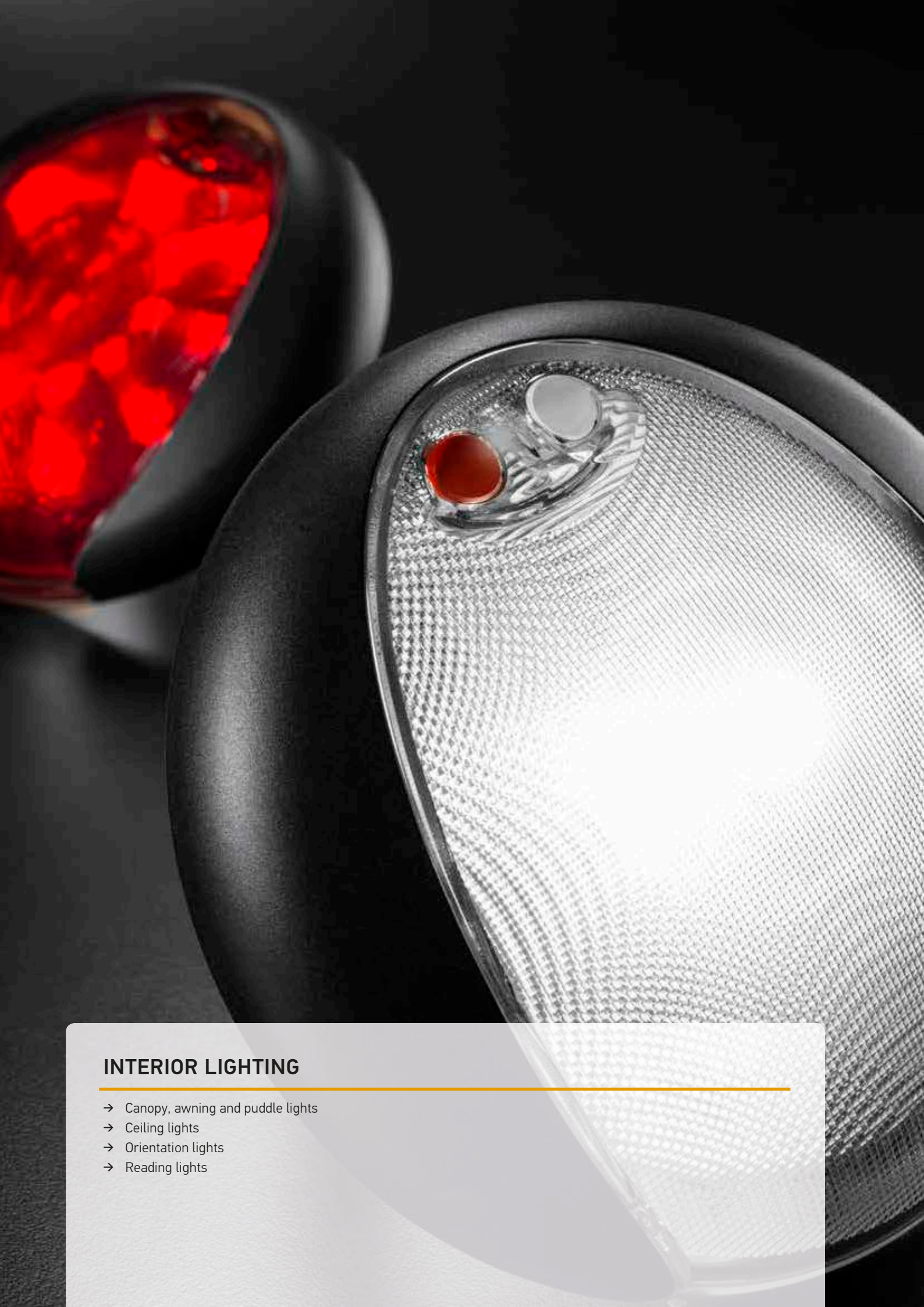
INTERIOR LIGHTING

→ Canopy, awning and puddle lights
→ Ceiling lights
→ Orientation lights
→ Reading lights

Canopy, awning and puddle lights

This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K9K	IP 6K7	Passive Electronic	Temp.-Management Passive	Polarity Reversal Protection	Approval EMC
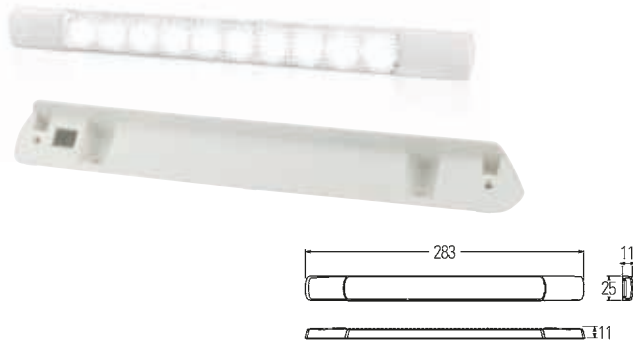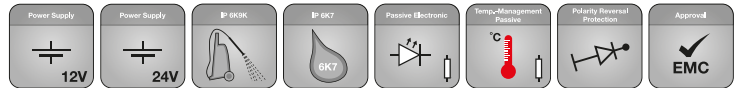
LED CANOPY LIGHT "STRIP LAMP"

With white screw caps (end pieces on the left and right)

Number of LEDs	10 LEDs
Connection	2,500 mm cable
Operating temperature	-40 °C to +60 °C
IP Protective Class	6K7, 6K9K
Installation	horizontal or vertical
Nominal output	3 W
Voltage	12 V and 24 V

12 V, white	**2JA 980 879-011**
24 V, white	**2JA 980 879-111**
12 V, warm white	**2JA 980 879-201**
24 V, warm white	**2JA 980 879-301**

Accessories/spare parts

"Strip Lamp" holder, 45°, white	**8HG 958 000-011**
"Strip Lamp" holder, 45°, dark gray	**8HG 958 000-021**
Screw caps, dark gray	**9HD 980 885-018**
Screw caps, chromium-plated	**9HD 980 885-108**
Screw caps, white (as a spare part)	**9HD 980 885-008**

283
11
25
11
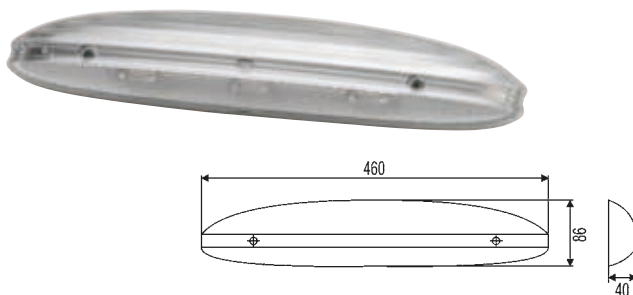
ENTRY LIGHT AND AWNING LIGHT

Number of light sources	3 tubular bulbs at 5 W
Illumination	optimal in and in front of the step area
Illuminance at 1 m	23 lux
Colouring	Housing painted in silver
Installation	Surface-mounting
Voltage	12 V

12 V	**2XT 008 929-001**

Spare parts

12 V bulb C5W	**8GM 002 092-121**

460
86
40
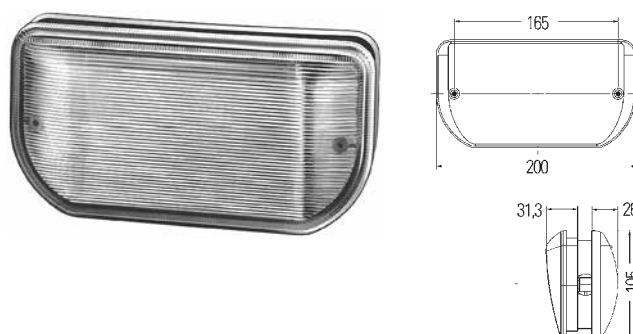
PUDDLE LIGHT

Number of light sources	1 P21W 12 V bulb
Illumination	0.5 m-138 lux, 1 m - 37 lux, 1.5 m - 15 lux
Illuminance at 1 m	37 lux
Colouring	white
Installation	Flush-mounting
Voltage	12 V

12 V	**2XT 007 945-077**

Spare parts

P21W 12 V, 21 W bulb	**8GA 002 073-121**

165
200
31,3
26
105

Ceiling lights

This LED product has the following features:

Power Supply 12V	Power Supply 24V	Active Electronic	Temp.-Management Active	Over-Voltage Protection	Approval EMC
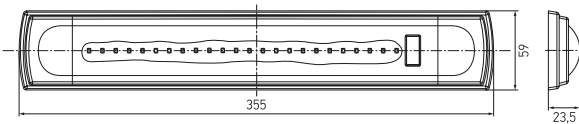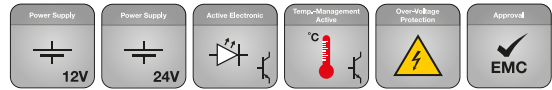
LED CEILING LIGHT, MOUNTING

Number of LEDs	24 LEDs
Illuminance at 1 m	approx. 200 lux (24 LEDs)
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 for 24 V

12 V with switch	2JA 007 373-301
12 V without switch	2JA 007 373-321
24 V with switch	2JA 007 373-311
24 V without switch	2JA 007 373-331

This LED product has the following features:

Power Supply 10-31V	Active Electronic	Temp.-Management Active	Over-Voltage Protection	Approval EMC
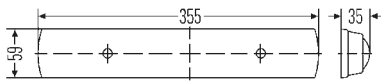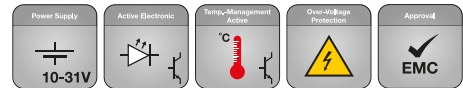
LED CEILING LIGHT WITH SWITCH

Number of LEDs	12 or 24 LEDs
Illuminance at 1 m	approx. 100 lux (12 LEDs)
	approx. 200 lux (24 LEDs)
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 (12 LEDs)
	7 W (24 LEDs)
Current consumption	12 LEDs:
	approx. 0.30 A (12 V), approx. 0.15 A (24 V)
	24 LEDs:
	approx. 0.58 A (12 V), approx. 0.29 A (24 V)

12 LEDs	2JA 007 373-151
24 LEDs	2JA 007 373-161

This LED product has the following features:

Power Supply 9-33V	IP 9K9K	Active Electronic	Temp.-Management Passive	Over-Voltage Protection	Approval EMC
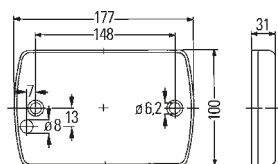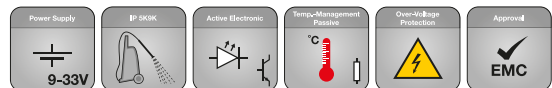
DuraLED CEILING LIGHT

Number of LEDs	36 white LEDs
Connection	electrical connection through a 2500 mm long cable
Illumination angle	70°, wide horizontal and narrow vertical illumination
Illuminance	720 lux
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

Multi-voltage 9 – 33 V	2JA 959 037-511

Ceiling lights

| Power Supply 12V | Power Supply 24V | Passive Electronic | Temp.-Management Passive °C | Over-Voltage Protection | Approval EMC |
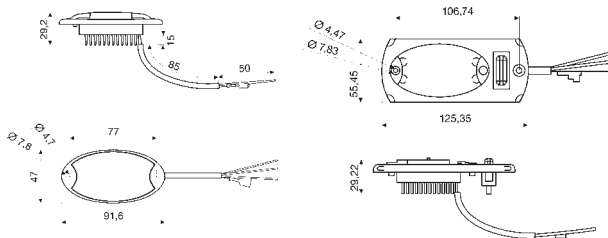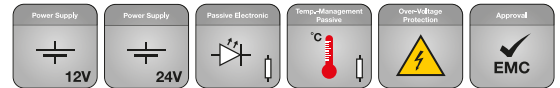
MINI OVAL LED

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 lux, Power = 54 lux
Function	Ambient illumination can be activated
IP Protective Class	6K9K (without frame/switch), 40 (with frame/switch)
Power consumption	Standard = 1.7 Watt (0.14 A at 12 V) Power = 3.6 Watt (0.30 A at 12 V)
Lens	brilliant and clear
Installation	Flush-mounting
Current consumption	3.6 W = approx. 0.30 A (12 V) 3.6 W = approx. 0.15 A (24 V)
Voltage	12 V or 24 V
Temperature range	-40° to +60°C

LED equipment	without frame and switch	with frame and switch
4 white power LEDs, 12 V, blue	**2JA 343 570-117**	**2JA 343 570-157**
4 white power LEDs, 24 V, blue	**2JA 343 570-101**	**2JA 343 570-141**
4 white Power LEDs, 12 V, red	**2JA 343 570-011**	**2JA 343 570-051**
4 white power LEDs, 24 V, red	**2JA 343 570-001**	**2JA 343 570-041**
4 white standard LEDs, 24 V, red	–	**2JA 343 570-061**

Other versions are available on request.

| Power Supply 9-31V | IP 6K9K | Active Electronic | Temp.-Management Passive °C | Over-Voltage Protection | GGVS ADR | Approval EMC |

CargoLED CEILING LIGHT

Number of LEDs	4 white Power LEDs
Connection	electrical, using a 310 mm cable
Illumination angle	44° (wide illumination at close range)
Illuminance at 1 m	180 lux
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 344 227-001**
Warm white	**2JB 344 227-041**

Accessories

Installation frame, grey	**9XD 344 118-101**

Ceiling lights

This LED product has the following features:

| Power Supply 12V | Power Supply 24V | Passive Electronic | Temp.-Management Passive °C | Over-Voltage Protection | Approval EMC |
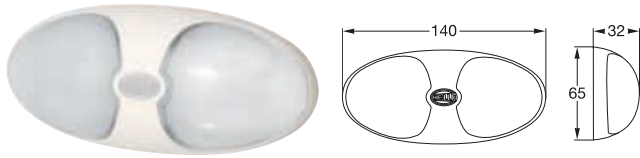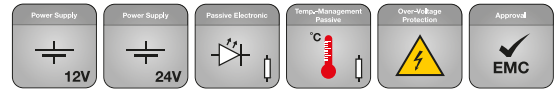
DuraLED OVAL CEILING LIGHT

Number of LEDs	4 white LEDs
LED angle of radiation	120°
Illuminance at 1 m	60 lux
IP Protective Class	6K6 6K7
Power consumption	3 W (0.25 A at 12 V)
Voltage	Dualvolt 12 and 24 V
12 V	**2JA 959 700-102**

This LED product has the following features:

| Power Supply 9-33V | IP 6K7 | Passive Electronic | Temp.-Management Passive °C | Approval EMC |
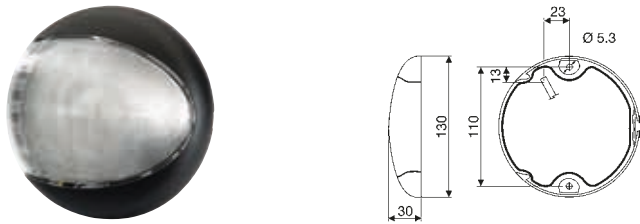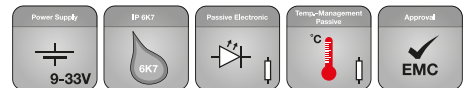
EuroLED CEILING LIGHT

Number of LEDs	1 white Power LED
Connection	electrical connection through a cable 2,500 mm long
Lens	white
Power consumption	4 W (0.33 A at 12 V), white <2.5 W (0.20 A at 12 V), red
Installation	Surface-mounting, permanently bonded with base plate
Multi-voltage 9 – 33 V	**2JA 959 820-501**

This LED product has the following features:

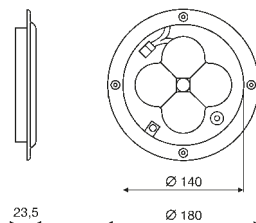| Power Supply 9-33V | IP 6K7 | Passive Electronic | Temp.-Management Passive °C | Over-Voltage Protection | Approval EMC |
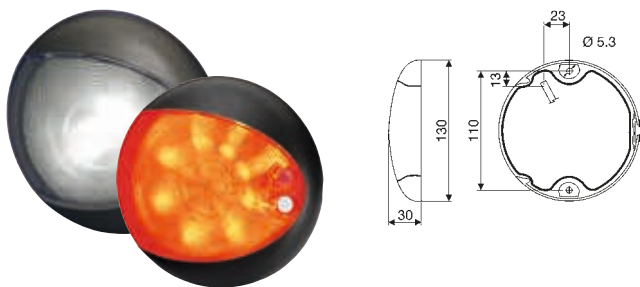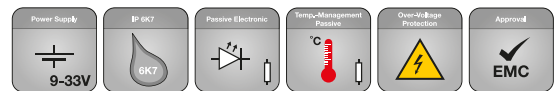
EuroLED TOUCH CEILING LIGHT

Number of LEDs	1 white and 8 red
Connection	electrical connection through a 2,500 mm long cable
Function	with sensitive switch, for ON/OFF and dimming as well as switching between red and white light
Lens	white
Power consumption	4 W (0.33 A at 12 V), white <2.5 W (0.20 A at 12 V), red
Installation	Surface-mounting, permanently bonded with base plate
Housing, black	**2JA 959 950-031**

Orientation lights
LED step lights

This LED product has the following features:

Power Supply	IP 6K9K	Passive Electronic	Temp.-Management Passive	Approval
12V			°C	EMC
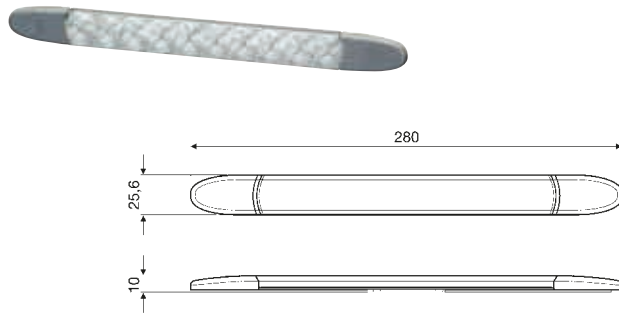
LED ORIENTATION LIGHT, MOUNTING, FLAT

Number of LEDs	10 white LEDs
Connection	electrical connection through a cable 500 mm long
Illumination angle	38°
Illuminance at 1 m	32 lux
Power consumption	1.8 W (0.15 A at 12 V)
Lens	Clear
Installation	Mounting, permanently bonded to gray base plate
Temperature range	– 40° to + 60°C

12 V, white LEDs	**2JA 343 606-001 / -007**
12 V, blue LEDs	**2JA 343 606-201 / -207**

280

25,6

10

This LED product has the following features:

Power Supply	IP 6K9K	Passive Electronic	Temp.-Management Passive
12V			°C
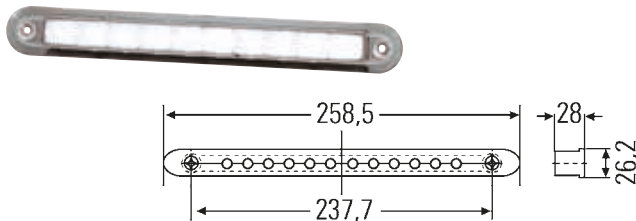
LED STEP LIGHT

Number of LEDs	10 white LEDs
Connection	2,500 mm cable
Illumination angle	24°
Illuminance at 1 m	130 lux
Feature	cast in one piece
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

12 V	**2JA 959 073-001**

258,5

28

26,2

237,7

Orientation lights
LED step lights

This LED product has the following features:

Power Supply 12V	Power Supply 24V	IP 6K9K	Passive Electronic	Temp. Management Passive °C	Approval EMC
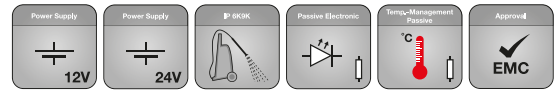
MINI THIN LED ORIENTATION LIGHT
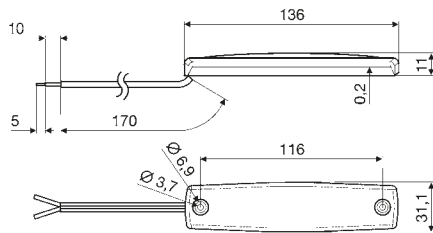
Number of LEDs	5 white LEDs
Connection	electrical connection through a cable 170 mm long
Illumination angle	34°
Illuminance at 1 m	7.2 lux
IP Protective Class	6K9K
Power consumption	2.8 W (0.23 A at 12 V) 2.8 W (0.11 A at 24 V)
Voltage	12 V or 24 V
12 V	**2JA 343 660-101**
24 V	**2JA 343 660-117**

This LED product has the following features:

Power Supply 10-33V	IP 5K9K	Active Electronic	Temp. Management Passive °C	Approval EMC
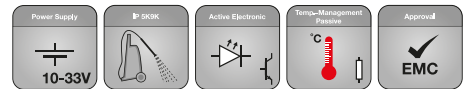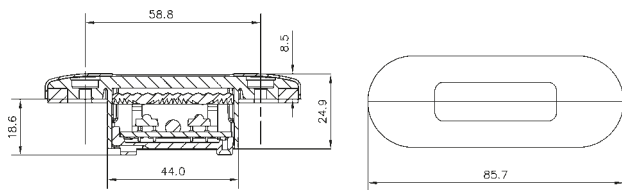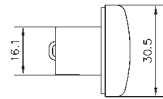
LED STEP LIGHT

Number of LEDs	1 LED
Feature	with polished steel frame
Installation	Flush-mounting
1 blue LED	**2XT 959 680-612**
1 white LED	**2XT 959 680-812**

This LED product has the following features:

Power Supply 12V	IP 67	Active Electronic	Passive Electronic	Temp. Management Passive °C	Approval EMC
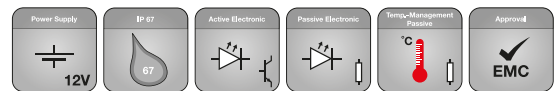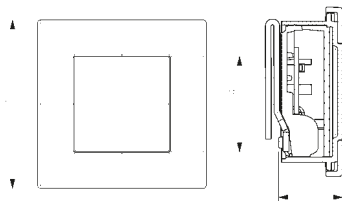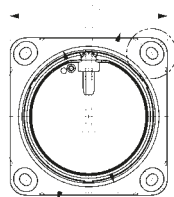
LED STEP LIGHT

Number of LEDs	4 white LEDs
Feature	with square white frame
Power consumption	0.5 W (0.04 A at 12 V)
Lens	white
Installation	Flush-mounting
12 V, active electronics	**2XT 980 596-002**

Orientation lights
LED step lights

This LED product has the following features:

Power Supply	IP 5K9K	Active Electronic	Temp.-Management Passive	Polarity Reversal Protection	Approval
10-33V			°C		EMC
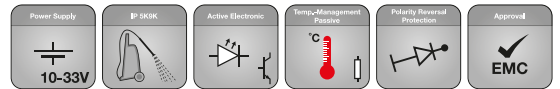
LED STEP LIGHT

Number of LEDs	2 LEDs
Connection	electrical, using a cable 120 mm long
Illumination angle	30°
Illuminance at 1 m	15 lx
Feature	with reverse polarity protection
IP Protective Class	5K9K
Power consumption	0.5 W (0.04 A at 12 V)
Lens	Clear
Scope of supply	Seal, fastening screws and screw caps
Installation	Flush-mounting

White LEDs	**2XT 959 510-427**
Blue LEDs	**2XT 959 510-657**

This LED product has the following features:

Power Supply	IP 6K9K	Approval	Polarity Reversal Protection
10-33V		EMC	

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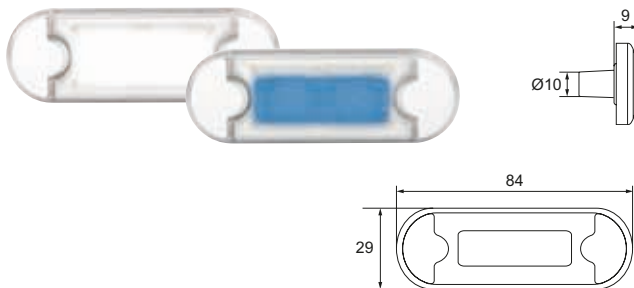
Number of LEDs	2 LEDs
Connection	electrical, using a cable 500 mm long
Connecting bracket	30°
Illuminance at 1 m	15 lx
Feature	with polarity reversal protection
Power consumption	0.5 W (0.04 A at 12 V)
IP Protective Class	6K9K
Lens	Clear
Scope of supply	Seal, fastening screws and screw caps
Installation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

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

This LED product has the following features:

Power Supply	IP 5K9K	Active Electronic	Temp.-Management Passive	Over-Voltage Protection
10-33V			°C	

LED STEP LIGHT

Number of LEDs	1 LED
Connection	electrical, using a 100 mm potted cable
Illumination	wide in close range areas
Illuminance at 1 m	< 10 lux
Colouring	White cover cap
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**
Blue LED	**2JA 998 560-057**

Reading lights

This LED product has the following features:

Power Supply 9-31V	Active Electronic	Temp.-Management Passive °C	Over-Voltage Protection	Approval EMC
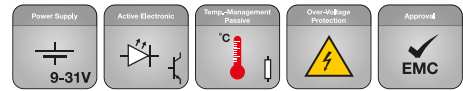
LED READING LIGHT, FLEXIBLY ADJUSTABLE ARM

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

Finisher colour white	
400 mm	**2JA 343 720-111**

Finisher colour black	
150 mm	**2JA 343 720-021**
400 mm	**2JA 343 720-121**

Finisher colour silver	
400 mm	**2JA 343 720-191**

With connector for cigarette lighter (150 mm)	
Finisher colour black	**2JA 343 720-081**

XENON READING LIGHT, FLEXIBLY ADJUSTABLE ARM

Number of light sources	1 Xenon bulb 12 V/6 W
Feature	with flexible metal arm
Light Source	strong and glare-free
Power consumption	6 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**

Accessories	
Lens, red	**9EL 128 922-011**

Spare parts	
Xenon bulb, 12 V	**8GP 007 676-121**
Bracket	**9XB 136 202-005**

Reading lights
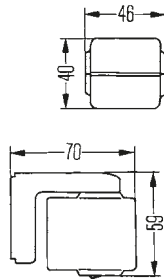
READING LIGHT

Number of light sources	1 halogen bulb
Connection	250 mm long cable
Feature	integrated ON/OFF switch in light head, can be turned (340°), can be pivoted (330°)
Housing	black
Power consumption	5 W (0.42 A at 12 V)
Lens	red or white replaceable
Installation	Surface-mounting
Voltage	12 V
12 V	**2AB 004 532-102**
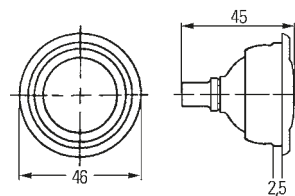
READING LIGHT

Number of light sources	1 WY5W 12 V bulb, amber
Electrical connection	via cables with tin-plated cable ends, 130 mm length
Housing	black
Power consumption	5 W (0.41 A at 12 V)
Lens	Clear
Installation	Installation, snap-on fitting
Voltage	12 V
12 V	**2AB 004 074-027**

ELECTRONICS

→ Electronics expertise
→ Energy management: intelligent battery sensors
→ Product divisions, special OE electronics
  Extract from the product range for motorhomes
→ Failure monitor and electrical connection

Electronics expertise

Product ranges, Special OE Electronics

Wherever quantities have to be controlled, measured, regulated or monitored, HELLA components have proven themselves a million times over, often under extremely difficult conditions. Our development is customer-specific and we manufacture high-quality electronic components for agricultural and construction machinery, trucks and trailers, city buses and coaches, municipal and special vehicles, emergency vehicles, motorhomes, quad bikes and sports cars. We invest large sums in research and development year after year with the following goal: to know today what the customer will require tomorrow.

You too can use our components and benefit from our decades of experience in developing and manufacturing products for small- and large-scale production alike! HELLA offers a wide product portfolio of electronics components which also satisfy the more stringent requirements for commercial vehicles. Special products for special vehicles in use around the clock and in extremely difficult conditions.

HELLA's strategy for success: providing electronics for individual challenges.

This brochure shows you an extract from the four divisions of the HELLA electronics product range.

Energy Management	Drive Train	Components	Lighting Electronics
Careful use of energy by appropriately influencing the consumer:	Increasing safety and efficiency of the overall system and preventing failures:	Provide added convenience with compact solutions in a variety of areas:	Provide added convenience with compact solutions in a variety of areas:
These electronic systems make it possible to monitor and plan the energy budget and maintain the power supply.	These electronic systems make it possible to precisely measure and record measured value in the engine compartment and drive train.	These electronic systems are generally invisible little helpers for the various automatic processes within the vehicle.	These electronic systems are generally invisible little helpers for the various automatic processes within the vehicle.
Products:	**Products:**	**Products:**	**Products:**
→ Intelligent Battery Sensors → Voltage stabilisers	→ Oil level switches → Oil pressure sensors → Oil level sensors → Accelerator pedal sensors	→ Turning angle sensors → Air quality sensors → Remote controls → Rain light sensors → Actuators → Temperature sensors	→ LED flasher units for towing vehicles → LED light control unit → Control unit for flashing side marker lights → Current monitoring control unit → Simulation device for cold checking

Energy management
Intelligent battery sensors

Second generation of intelligent battery sensors (IBS) for caravan and motorhome applications

Energy supply plays an all-important role for caravans and motorhomes in particular. It often presents a challenge, especially in living areas that need a reliable supply for interior lighting, televisions, refrigerators and other electrical appliances. The nearest campsite with a shore power connection can often be a long way off, and board batteries can supply only limited amounts of energy. This makes it particularly important for drivers to keep an eye on their exact battery capacity and power consumption. HELLA's IBS units have been supporting this since 2009.

HELLA has been supplying the second generation of intelligent battery sensors (IBS) since 2017 and uses the latest technology from the automotive sector to provide higher performance in caravan and motorhome applications. The space-saving, compact sensor precisely detects the voltage, electricity and temperature battery parameters and can be electrically and mechanically integrated into the most awkward installation positions with ease.

Basic design and function

Mounted to standard battery pole

The IBS generation II is attached directly to the negative terminal of the battery via the pole terminal. In addition to the terminal, the mechanical portion of the battery sensor consists of shunt and ground bolt components. The shunt is attached to the vehicle's load path and is used as a measuring resistor for indirect current measurement. The existing ground cable can be conveniently fixed to the grounding bolt with a cable lug.

The electronics are located in a molded casing with a plug connector, functioning as the interface to the energy management system. The communication interface to the higher-level control unit is the LIN protocol. The supply voltage, used simultaneously as the reference voltage for voltage measurement, is provided by the connection to the positive pole of the battery.

The IBS generation II now boasts the following advantages, unlike its predecessors: The sensor is now also able to monitor larger batteries. Thanks to the higher nominal capacity that can be set, this battery sensor can also be used to monitor several batteries connected in series. Instead of 250 ampere hours, they can be configured for up to 500 ampere hours (Ah). This is particularly important in view of the growing energy requirements of motorhomes and caravans. These new IBS generation II units are also particularly robust and can therefore reliably detect short-term, high current consumption – for example when a power inverter is used.

Battery sensor
IBS generation II

1. Shunt on the sensor
2. Plug
3. Sensor module
4. Negative terminal clip
5. Screw-on bolt
   For cable lug contacting
   (Ground cable)

Energy management
Intelligent battery sensors

Customer benefits
The intelligent battery sensor (IBS) generation II informs you about the current energy balance, allowing you to plan your energy supply.

The IBS generation II also comes with the tried-and-tested CI bus interface, which is increasingly becoming the standard in the caravan and motorhome industry. This communications interface can be used, for example, to convey the battery's charge condition to the charging system, which switches on automatically if necessary. You can find additional information about the CI bus interface at: www.civd.de

Application
The intelligent battery sensor (IBS) generation II from HELLA is the key element for energy management in the vehicle. The IBS generation II reliably and accurately measures the following battery parameters: voltage, current and temperature. Information about the battery's state of charge (SOC), state of health (SOH) and state of function (SOF) is calculated algorithmically from the measured values. The IBS generation II is designed for use in starter, gel and AGM (fleece) batteries to monitor in-vehicle starter or consumer batteries. Using the standardised LIN protocol, the IBS generation II can be directly integrated into the vehicle electrical system, e.g CI BUS.

Energy management in modern motorhomes

By using the intelligent battery sensor, the energy management system can react quickly in the event of a critical battery condition and influence both consumer and charging behaviour. The driver is sent a message straight to their smartphone, from where they can initiate the next steps, such as activating the charger.

Smartphone

Activation of the charger

Optical and acoustic driver warnings

Control of the charging system

Influence on consumer

Charger

Energy Management

Electrical energy

Consumer

Battery parameters (voltage, current, temperature, SOC, SOH, etc.)

LIN bus

Battery

Intelligent battery sensor
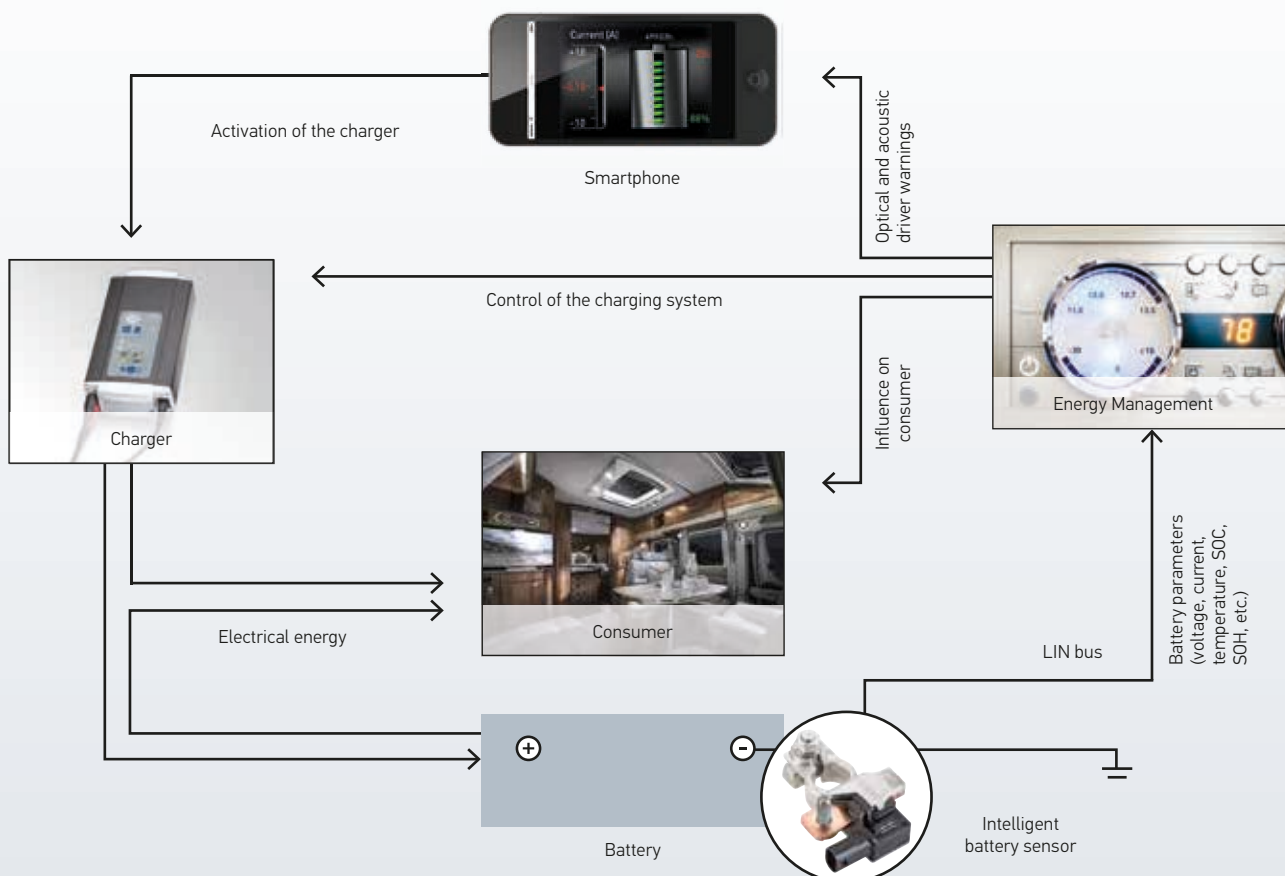
Product ranges, Special OE Electronics
Extract from the product range for motorhomes

INTELLIGENT BATTERY SENSOR (IBS) GENERATION II

For motorhomes	
Product division	Energy Management
Voltage range	6 – 16.5 V
Rated voltage	12 V
Operating temperature	-40 °C to +115 °C
Dimensions (length/width/height)	approx. 66 / 46.6 / 31
Weight	70 g
Protection class	IP 6K7
Mating connector*	Hirschmann 872-857-561

	6PK 013 824-001

* This accessory is not included in the scope of delivery.
  It may be purchased from Hirschmann Automotive.

INTELLIGENT BATTERY SENSOR (IBS) GENERATION I

For motorhomes	
Product division	Energy Management
Voltage range	6 – 16.5 V
Rated voltage	12 V
Operating temperature	-40 °C to +115 °C
Dimensions (length/width/height)	approx. 71.4 / 68.35 / 22.8
Weight	125 g
Protection class	IP 6K7
Mating connector*	Hirschmann 872-858-565

Sensor 1 (basic variant)	**6PK 010 842-001**
Sensor 2 **	**6PK 010 842-011**

* This accessory is not included in the scope of delivery.
  It may be purchased from Hirschmann Automotive.
** For monitoring a second battery in the same communication network

Product ranges, Special OE Electronics
Extract from the product range for motorhomes

RAIN/LIGHT SENSOR

For vehicles with steeply sloped windshields
Recording environmental properties

Product division	Components
Voltage range	9 – 16 V
Rated voltage	12 V
Operating temperature	– 40 to +85 °C
Dimensions without protective cap (width/radius/height)	approx. 58.5 / diameter 49 / 22.6
Weight	≤ 42 g
Protection class	IP 50
Mating connector*	114 18063-18, coding A

available on request

* This accessory is not included in the scope of delivery.
  May be purchased from TE Connectivity.

RADIO-CONTROLLED SYSTEM

Switching on and off and/or opening and locking

Radio transmitter

Product division	Components
Transmission frequency	434.42 MHz
Transmission power	30 µW ERP
Battery type*	CR2032
Service life of battery	100,000 clicks (approx. 3 years)
Average range**	70.5 m
Max. / Min. range**	119 m / 51 m
Operating/storage temperature	-20 °C to +60 °C
Protection class	IP 6K7 and IP X5

Radio receiver

Product division	Components
Operating voltage	6 – 32 V
Operating temperature	-40 °C to +80 °C
Storage temperature	-40 °C to +90 °C
Power consumption	11 mA (Signal output not activated)
Switching currents	up to 4x < 300 mA
Idling current	< 2 mA
Max. voltage	58 V for 250 ms
Overvoltage	36 V (at 40 °C, 1 hour)

Basic variant	**available on request**
Extended variant	**5FA 012 485-817**

* A battery is included in the scope of delivery for the radio transmitter.
** Ranges are dependent on the installation position and interference factors.
  The values specified are representative and must be validated for each new
  application.

Product ranges, Special OE Electronics
Extract from the product range for motorhomes

FUEL FILLER DOOR ACTUATOR

Electrical locking/unlocking, space-saving with micro-switch, power open rotation, return rotation via return spring, with soft-touch button

Product division	Components
Rated voltage	12 V
Voltage range	9 – 15.5 V
Function and service life	Power open and return rotation: 100,000 switching cycles
	Power open and return rotation with micro-switch: 60,000 switching cycles
	Power open rotation; return rotation via return spring: 7,500 switching cycles
Locking lever retention force	> 75 N
Locking lever breaking force	≥ 300 N
Functional angle	≤ 78°
Operating temperature	- 40 °C to + 85 °C
Protection class	IP 5K4

6NW 011 122-XXX*

DOOR LOCKING ACTUATOR/CENTRAL LOCKING SYSTEM

Electrical locking/unlocking & pull/push (medium force)
Power extension and retraction

Product division	Components	
Rated voltage	12 V	24 V
Voltage range	9 – 15 V	18 – 30 V
Position on delivery	Retracted or extended	
Mainspring reset	None, retract/extend	
Positioning force at the positioning mechanism	From 30 up to 170 N	
Manual adjustment	None to < 35 N	
Operating temperature	- 40° to + 80°	
Functional stroke	≤ 18 mm	
Protection class	IP 5K0 and IP 5K4	
Service life	Up to 100,000 cycles	

6NW 009 203-XXX*

ACTUATOR AS DOOR CLOSING ASSISTANCE

Electrical locking/unlocking & pull/push (high force)
Electrical rotation to right and left

Product division	Components
Rated voltage	12 V
Voltage range	9 – 16 V
Nominal torque	150 / 300 Ncm
Function	Retraction via spring, power extension
	Power extension and retraction
Mainspring reset	Available/not available
Functional angle	0° to 198°
Manual adjustment	none
Operating temperature	- 40 °C to + 85 °C
Functional stroke	≤ 18 mm
Protection class	IP 5K0
Service life	8,000/50,000 switching cycles

6NW 009 424-XXX*

Product ranges, Special OE Electronics
Extract from the product range for motorhomes

UNIVERSAL ROTARY ACTUATOR (URA)

Power locking/unlocking and closing, power rotational movement to right and left, with position feedback via CIPOS technology

Product division	Components
Rated voltage	13.5 V
Voltage range	9 – 16 V
Operating temperature	- 40 °C up to + 85 °C
Nominal torque (13.5 V; RT)	60 Ncm
Max. torque (13.5 V; RT)	< 300 Ncm
Operating angle range	> 360° (< 180° true power on)
Protection class	IP 6K9K IP 6K7 (depending on the category of the mating connector)
Service life	Typ. 250,000 cycles (1 cycle = 90° angle open – closed – open)
Control system	LIN 2.0 & PWM

6NW 011 303-701

Overview of actuator variants

Function	Voltage	Positioning force*	Manual adjustment	Protection class	Part number
Fuel filler door actuator					
Forward and reverse rotation electrical	12 V	-	Yes	IP 5K4	**6NW 011 122-017**
Electrical forward and reverse rotation with micro-switch	12 V	-	Yes	IP 5K4	**6NW 011 122-027**
Electrical forward rotation, return rotation via return spring, with soft-touch button	12 V	-	Yes	IP 5K4	**6NW 011 122-047**
Door locking actuator/central locking system					
Power extension and retraction	12 V	30 – 130 N	Yes	IP 5K0	**6NW 009 203-401**
	12 V	30 – 140 N	No	IP 5K0	**6NW 009 203-411**
	12 V	30 – 130 N	Yes	IP 5K4	**6NW 009 203-421**
	12 V	30 – 140 N	No	IP 5K4	**6NW 009 203-431**
	24 V	30 – 130 N	Yes	IP 5K4	**6NW 009 203-441**
	24 V	30 – 140 N	No	IP 5K4	**6NW 009 203-451**
	12 V	30 – 140 N	No	IP 5K4	**6NW 009 203-557**
Electrical retraction, extension with clockwork spring	12 V	30 – 170 N	No	IP 5K0	**6NW 009 203-461**
	12 V	30 – 170 N	No	IP 5K4	**6NW 009 203-471**
	24 V	30 – 170 N	Yes	IP 5K4	**6NW 009 203-541**
Electrical extension, retraction with clockwork spring	12 V	30 –130 N	No	IP 5K0	**6NW 009 203-491**
	12 V	30 –130 N	No	IP 5K4	**6NW 009 203-501**
	24 V	40 – 150 N	No	IP 5K4	**6NW 009 203-521**

* Dependent on the operating voltage and ambient temperature.

Function	Voltage	Torque	Manual adjustment	Protection class	Part number
Actuator as door closing assistance					
Retraction via spring, power extension	12 V	150 Ncm	No	IP 5K0	**6NW 009 424-781**
Power extension and retraction	12 V	300 Ncm	No	IP 5K0	**6NW 009 424-791**
URA					
Power locking/unlocking & closing, power rotational movement to right and left, with position feedback via CIPOS technology	12 V	300 Ncm	No	IP 6K9K or IP 6K7** (** dependent on the connector classification)	**6NW 011 303-701**

Failure monitor and electrical connection
LED lighting

LED light failure monitor
A defined standard such as for bulbs cannot be used for the monitoring of LED lights. Every LED light is different in its technical design and its energy consumption:

→　Due to the number of LEDs,
→　the intensity with which they are driven,
→　and also due to the electronic ballast necessary for their operation.

Monitoring of the light failure is therefore no longer as simple as it once was with bulbs. HELLA has various approaches as solutions to this problem that are summarised here under the heading "Lighting Electronics".

What is demanded by law?
ECE R48 defines that flashers as direction indicators have to be monitored and that their failure has to be signaled optically or visually.

There are two possibilities:
→　The LED light either has to be able to "communicate" with the vehicle
→　or it is monitored via its energy consumption. The "communication" is the better approach here, but is not always possible, e.g. between towing vehicle and trailer.

The flasher unit or the light control unit checks the output over 100 – 130 ms with an amplitude of ~ 21 W.
Measurement is conducted at this point.

At this time, LED and bulb have the same amperage so that a failure can be unambiguously recognised.

Single pulse

Representation of the power consumption of a bulb and of an LED light with integrated pulse

■ Bulb
■ LED
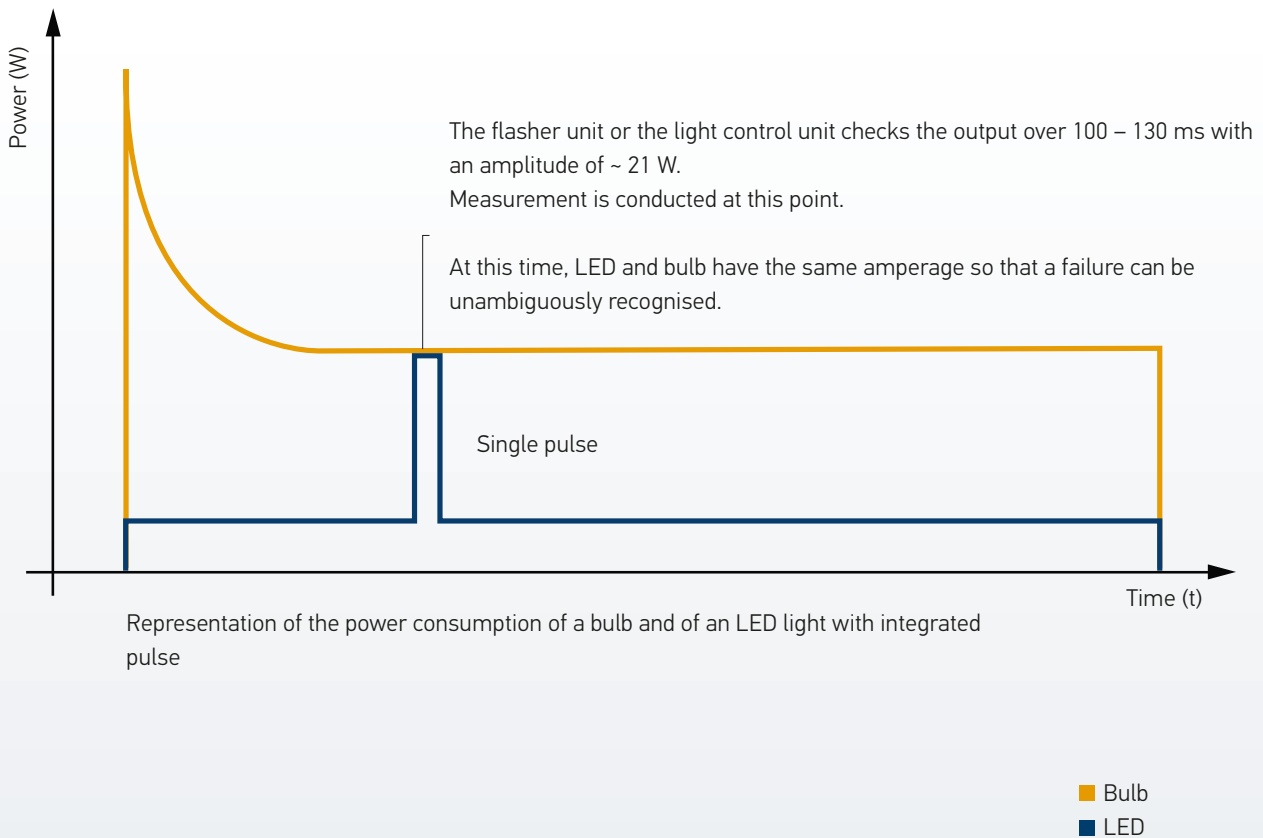
Failure monitor and electrical connection
LED lighting

Solutions:
The optimum solution is to match the lighting electronics or the flasher unit to the connected lighting. This is only possible in the most seldom of cases, however, as either a towing vehicle or trailer is involved or the vehicle electronics have already been stipulated by third parties.

Flasher unit
ISO 13207-conformant LED direction indicators can "communicate" with the flasher unit. The flasher unit checks for a defined energy consumption at a defined point in time: exactly 21 W for 100-130 ms after each activation of the direction indicator. The energy consumption or "pulse" corresponds here to that of a bulb, so that the flasher unit notices no difference between a bulb and an ISO 13207-conformant LED light.

If the intelligent ISO 13207-conformant LED light detects a defect or only a partial defect, this "pulse" is switched off and the flasher unit can interpret this as a failure. ISO 13207 -compliant LED lights and ISO 13207-compliant flasher units are required for this method.

Advantage:
Bulbs and ISO LED lights can be operated in any combination on an ISO 13207-conformant flasher unit. This is relevant both for vehicles that are frequently operated with different trailers and for manufacturers who wish to offer several variants of the lighting system without having to modify the underlying electronics.

LED light control units for use with third-party electronics
If the vehicle electronics have already been stipulated by third parties, HELLA offers LED control units that monitor the LED lights on the one hand, and on the other hand simulate to the vehicle that bulbs are connected. This allows LED lights to be used without any problems.

Current monitoring
Another possibility is to measure the average energy consumption of the headlamp or the LED light.

Disadvantage:
In most cases, however, partial defects cannot be detected in this way: With very efficient LED lights, it is possible that their energy consumption is so low that they are detected as defective even when functioning correctly. Or in the worst case: The electronic ballast of the LED light requires so much energy that a failure cannot be detected even if all the LEDs are defective.
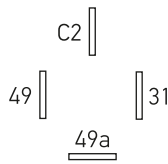
Suitable products

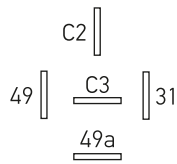LED flasher unit: towing vehicle

LED light control unit

Control unit for current monitoring

Failure monitor and electrical connection
LED lighting

C2

49   31

49a

C2   C3

49   31

49a

Pin configuration
LED flasher unit 3+1

Pin configuration
LED flasher unit 2+1+1

LED FLASHER UNIT: TOWING VEHICLE

ISO 13207-conformant LED direction indicators can "communicate" with the flasher unit. The flasher unit checks for a defined energy requirement at a defined point in time: exactly 21 W for 100-130 ms after each activation of the direction indicator. The energy consumption or "pulse" corresponds here to that of a bulb, so that the flasher unit notices no difference between a bulb and an ISO 13207-conformant LED light.

Benefit: Bulbs and ISO LED lights can be operated in any combination on an ISO 13207-compliant flasher unit. This is relevant both for vehicles that are frequently operated with different trailers and for manufacturers who wish to offer several variants of the lighting system without having to modify the underlying electronics.

Operating voltage	10 – 15 V (12 V)
	18 – 32 V (24 V)
Functional voltage	11 – 14 V (12 V)
	20 – 28 V (24 V)
Operating temperature	-40 to +85 °C
Protection class	IP 53 (contacts underneath)

12 V, LED flasher unit 3+1	**4DW 009 492-111**
12 V, LED flasher unit 2+1+1	**4DN 009 492-101**
24 V, LED flasher unit 3+1	**4DW 009 492-011**
24 V, LED flasher unit 2+1	**4DM 009 492-001**

LED LIGHT CONTROL UNIT

Basic control unit
Control unit is **responsible only** for monitoring the direction indicators.

12 V	**5DS 227 488-001**
24 V	**5DS 227 488-101**

Mating connector: Amphenol, 6-pin.

Premium control unit
Control unit is responsible for monitoring **the whole** rear lighting (tail lights, stop lights, direction indicators, reversing light and rear fog light).

12 V Premium (1 stop light channel)	**5DS 227 489-001**
12 V Premium (2 stop light channels)	**5DS 227 489-011**
24 V Premium (1 stop light channel)	**5DS 227 489-101**

Mating connector: Amphenol,
6-/ 12-pin.

CONTROL UNIT FOR FLASHING SIDE MARKER LIGHTS

In order to increase the safety of trailers, the side marker lights can flash synchronously with the direction indicators.

This control unit can be connected to any side marker light and allows it to flash if necessary, 6.3 mm blade terminal

ECE R48 category 6, 24 V	**available on request**

Failure monitor and electrical connection
LED lighting

15

ST | OUT | 31

IN
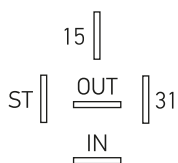
Pin configuration

CONTROL UNIT FOR CURRENT MONITORING

In order to test LED dipped beam headlamps or LED beacons, the average energy consumption is determined by measuring the current. The current monitors are matched to the HELLA products and allow very reliable monitoring.

Direct measurement	
12 V, 500 mA	**5DS 011 630-001**
24 V, 500 mA	**5DS 011 630-011**
24 V, 350 mA	**5DS 011 630-211**

Integrated measurement over time	
12 V	**5DS 011 630-101**
24 V	**5DS 011 630-111**

15

30 | OUT | 31

IN
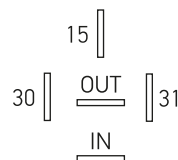
Pin configuration

SIMULATION DEVICE FOR COLD CHECKING

If the existing vehicle electrical system is programmed to monitor the lighting even when it is not in operation, we speak of a cold check. During a cold check, a small test pulse is transmitted to the light while switched off to see whether this pulse is discharged via the bulb to ground. The energy here is so low that the bulb does not light up.

As LED lights are essentially not suitable for this form of monitoring, HELLA offers an electronic system for "simulation of the cold check" to ensure operation.

Operating voltage	9 – 16 V (12 V)
	18 – 32 V (24 V)
Functional voltage	1.5 A
Operating temperature	-40 to +85 °C
Protection class	IP 54 (contacts underneath)

12 V	**5DS 009 602-011**
24 V	**5DS 009 602-001**

ELECTRICAL SYSTEM

→ Cable straps with edge clips
→ SUPERSEAL plug connections
→ DEUTSCH "DT series" plug connectors
→ Switch series
→ Module switches
→ HELLA switch configurator

Cable ties
with edge clips

To cleanly attach a cable bundle, this is often required more than the cable strap itself. Our cable straps with integrated edge clips offer a quick and easy to use complete solution with strong holding power. They are weatherproof, flame retardant and resistant to dilute organic acids, oils, petrol, salt water, solvents and greases. They offer perfect purchase even for bundles with the tiniest cross-section, so there is no need for additional padding.

Range advantages
→   Complete attachment solution in a single product
→   Suitable for numerous different positions and edge thicknesses
→   High-performance specification with original equipment references

DESCRIPTION	PROFILE THICKNESS	CAPACITY	PART NUMBER	PACKAGING UNIT, QUANTITY
Cable strap, black 200 x 4.8 mm	0.7 – 3.0 mm	ø 48 mm	8HL 185 549-001	100
Cable strap, black 200 x 4.8 mm	0.7 – 3.0 mm	ø 48 mm	8HL 185 549-011	100
Cable strap, black 200 x 4.8 mm	0.7 – 3.0 mm	ø 48 mm	8HL 185 549-021	100
Cable strap, black 200 x 4.8 mm	0.7 – 3.0 mm	ø 48 mm	8HL 185 549-031	100
Cable strap, black 200 x 4.8 mm	3.0 – 6.0 mm	ø 48 mm	8HL 185 549-041	100
Cable strap, black 200 x 4.8 mm	3.0 – 6.0 mm	ø 48 mm	8HL 185 549-051	100
Cable strap, black 200 x 4.8 mm	3.0 – 6.0 mm	ø 48 mm	8HL 185 549-061	100
Cable strap, black 200 x 4.8 mm	3.0 – 6.0 mm	ø 48 mm	8HL 185 549-071	100

SUPERSEAL connectors

Comply with the guidelines in IEC 529 as well as DIN ISO 40050 and have been given protection rating IP class 67, which guarantees maximum protection from water and dust penetration. The quality of the SUPERSEALS makes them ideal wherever other interconnection systems reach their limits due to adverse pressure or humidity conditions.

Range advantages

→ OEM quality
→ Reliable electrical connection
→ Maximum protection from external influences

DESCRIPTION	PIN	PART NUMBER	PACKAGING UNIT, QUANTITY
SUPERSEAL pin housing	1-pin	8JA 746 183-012	10
SUPERSEAL socket housing	1-pin	8JA 746 184-012	10
SUPERSEAL pin housing	2-pole	8JA 746 183-022	10
SUPERSEAL socket housing	2-pole	8JA 746 184-022	10
SUPERSEAL pin housing	3-pin	8JA 746 183-032	10
SUPERSEAL socket housing	3-pin	8JA 746 184-032	10
SUPERSEAL pin housing	4-pin	8JA 746 183-042	10
SUPERSEAL socket housing	4-pin	8JA 746 184-042	10
SUPERSEAL pin housing	5-pin	8JA 746 183-052	10
SUPERSEAL socket housing	5-pin	8JA 746 184-052	10
SUPERSEAL pin housing	6-pin	8JA 746 183-062	10
SUPERSEAL socket housing	6-pin	8JA 746 184-062	10
Male pin contact, B 143	1.0 – 1.5 mm²	8KW 744 836-002	50
Female contact, B 144	1.0 – 1.5 mm²	8KW 744 837-002	50
Strand insulation, B 145	Ø 1.8–2.4 mm	9GD 746 185-002	50
Strand insulation, B 146	Ø 2.6 – 3.3 mm	9GD 746 186-002	50
Blind plug, B 147	–	9GD 746 187-002	50

DEUTSCH plug connections
"DT series"

The concept combines high quality materials with a connecting system characterised by both reliability and easy handling. Thanks to these properties, the product range is particularly suited to applications where maximum performance is required with a minimum number of disruptions, despite tough environmental conditions.

The symmetrical star crimp process allows a gas-tight connection which is characterised by high resistance to temperature and oxidation-based fluctuations in resistance. The housing locking mechanism with integrated click-in function guarantees a quick and secure connection with a strong grip. The "wedgelocks" used for secondary locking facilitate precise, strain-resistant alignment of the contacts and are "clicked" into position on the contact side of the DT housing.

Range advantages

→ environmental sealing – maximum protection from external influences
→ high quality housing material
→ Strong, gas-tight crimp connections

DESCRIPTION	PIN	PART NUMBER	PACKAGING UNIT, QUANTITY
DEUTSCH housing	2-pole	**8JA 201 021-022**	10
DEUTSCH connector	2-pole	**8JA 201 022-022**	10
DEUTSCH "wedgelock" for housing	2-pole	**9NB 201 023-022**	10
DEUTSCH "wedgelock" for connector	2-pole	**9NB 201 024-022**	10
DEUTSCH housing	3-pin	**8JA 201 021-032**	10
DEUTSCH connector	3-pin	**8JA 201 022-032**	10
DEUTSCH "wedgelock" for housing	3-pin	**9NB 201 023-032**	10
DEUTSCH "wedgelock" for connector	3-pin	**9NB 201 024-032**	10
DEUTSCH housing	4-pin	**8JA 201 021-042**	10
DEUTSCH connector	4-pin	**8JA 201 022-042**	10
DEUTSCH "wedgelock" for housing	4-pin	**9NB 201 023-042**	10
DEUTSCH "wedgelock" for connector	4-pin	**9NB 201 024-042**	10
DEUTSCH housing	6-pin	**8JA 201 021-062**	10
DEUTSCH connector	6-pin	**8JA 201 022-062**	10
DEUTSCH "wedgelock" for housing	6-pin	**9NB 201 023-062**	10
DEUTSCH "wedgelock" for connector	6-pin	**9NB 201 024-062**	10
DEUTSCH housing, coding "A"	8-pin	**8JA 201 021-082**	10
DEUTSCH connector, coding "A"	8-pin	**8JA 201 022-082**	10
DEUTSCH "wedgelock" for housing	8-pin	**8JA 201 023-082**	10
DEUTSCH "wedgelock" for connector	8-pin	**8JA 201 024-082**	10
DEUTSCH housing, coding "A"	12-pin	**8JA 201 021-122**	10
DEUTSCH connector, coding "A"	12-pin	**8JA 201 022-122**	10
DEUTSCH "wedgelock" for housing	12-pin	**8JA 201 023-122**	10
DEUTSCH "wedgelock" for connector	12-pin	**8JA 201 024-122**	10
Contact sleeve	2 mm²	**9NB 201 025-012**	50
Contact pin	2 mm²	**9NB 201 025-022**	50
Contact sleeve	0.5 – 1.5 mm²	**9NB 201 025-112**	50
Contact pin	0.5 – 1.5 mm²	**9NB 201 025-122**	50
Blind plug	–	**9NB 201 026-012**	50

Switch series
3100

The waterproof module switch series for electrical systems meets the requirements of protection class IP 68. The lasered symbols are illuminated by integrated LEDs.

The strength of the product range:
→ IP 68 according to test standard IEC EN 60529
→ Extremely reliable in extreme conditions
→ Ideal for use in agricultural and construction machinery
→ Most diverse switch functions in 12/24 V
  • Normally open contact/changeover contact
  • Momentary-contact switch/maintained-contact switch
  • Locking functions
  • Hazard warning light switch
→ Wide range of standard and customer-specific laser symbols
→ Up to two LED light sources enable direct symbol illumination
→ Simple to install, directly in the mounting hole or using a modular mounting frame
→ Display lights in the same design for safety-related feedback

The HELLA switch configurator
You can configure your own switches individually at www.hella.com/switch.

Select switching functions, symbol combinations and accessories with just a few clicks.

TECHNICAL DATA

Mounting opening	21.1 mm x 37.0 mm
Material rocker	PC transparent, painted
Base plate material	PBT
Connecting contacts	6.3 mm x 0.8 mm
Coating of switch contacts	CuZn silver-plated
Light Source	max. 2 LEDs 1 x orientation lighting, green 1 x function light, red Warning lights available in amber and green
Symbol type	lasered
Service life	6 A / 24 V at 150,000 switching cycles
Leak tightness	IP 66 terminal side, IP 68
Operating temperature	–40 °C to +85 °C
Storage temperature	–40 °C to +85 °C
Dashboard thickness	for direct installation: 1.6 mm … 6.3 mm

Accessories

Modular	
End piece left, right	**9AR 169 209-102/ -107**
Centre piece	**9AR 169 208-102/ -107**

Dummy panel	**9HB 172 229-101/ -107**

Receptacle housing	
Type I	**8JD 010 076-102/ -107**
Type II	**8JD 010 076-112/ -117**
Type III	**8JD 010 076-122/ -127**

Flat receptacle 6.3 mm	
0.5 mm² – 1 mm²	**8KW 744 882-003**
1.5 mm² – 2.5 mm²	**8KW 744 825-003**

Dismantling tool	**8PE 197 631-001**

Switch series
4100

The module switch series with self-cleaning contacts is suitable for modern electrical and electronic systems. This also ensures reliable switching of small currents without contaminating the contacts. The series features a timeless design, with lasered symbols illuminated by integrated LEDs.

The strength of the product range:
→   Modular design of the switch
→   Realisation of a wide variety of 12 V and 24 V switching functions:
  • Normally open contact/ changeover contact
  • Momentary-contact switch/maintained-contact switch
  • Locking function
  • Hazard warning light switch
→   Wide range of standard and customer-specific symbols
→   Selective, reliable and durable illumination of the symbols by using up to 4 LED light sources
→   Simple to install, directly in the mounting hole or using a modular mounting frame
→   Display lights in the same design for safety-related feedback
→   Modern and timeless design
→   Pleasant to the touch

The HELLA switch configurator
You can configure your own switches individually at www.hella.com/switch.

Select switching functions, symbol combinations and accessories with just a few clicks.

TECHNICAL DATA

Mounting opening	19.8 mm x 41.8 mm
Material rocker	PC transparent, painted
Base plate material	PA white, housing PA black
Connecting contacts	3 mm Junior Power Timer
Coating of switch contacts	AgNi
Light Source	max. 4 LEDs 2 x orientation lighting, green 2 x function lighting, red Warning lights also available in blue and amber
Symbol type	lasered
Service life	5 mA / 450,000 cycles 5 A / 24 V inductive / 270,000 cycles 4 A / 24 V lamp (75 W) / 90,000 cycles 10 A / 24 V resistive/80,000 cycles
Leak tightness	IP 54
Operating temperature	-40 °C to +85 °C
Storage temperature	-40 °C to +100 °C
Dashboard thickness	2 mm switch for direct installation

Accessories

Installation frame	
Simple	**9AR 168 396-002/-007**

Modular	
End piece, left	**9AR 169 209-002/-007**
End piece, right	**9AR 169 210-002/-007**
Centre piece	**9AR 169 208-002/-007**

Dummy panel	**9HB 172 229-002/-007**

Cable sachet housing, 10-pin	**8JD 010 076-002/-007**

Flat receptacle, 2.8 mm	
Junior Power Timer 0.5 mm² – 1 mm²	**8KW 863 934-003**
Junior Power Timer 1.5 mm² – 2.5 mm²	**8KW 863 934-023/-024**

Module switches from series 4100
for motorhomes
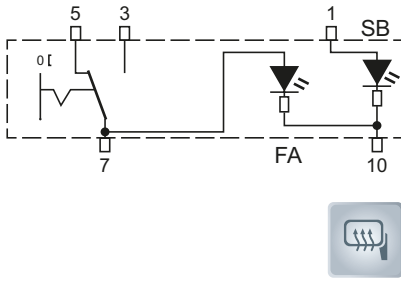
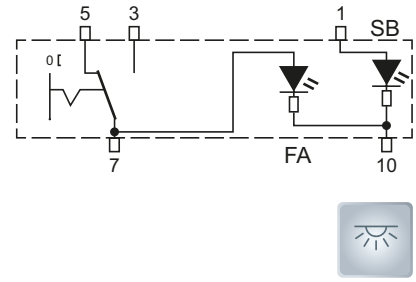### HEATABLE OUTER MIRROR

Locking changeover contact, 1-pin, 2-level

Function	01
Function check	1 x internal
Rated voltage	12 V
Symbol	1: 176
Packaging unit	1 unit
	6FH 354 100-671
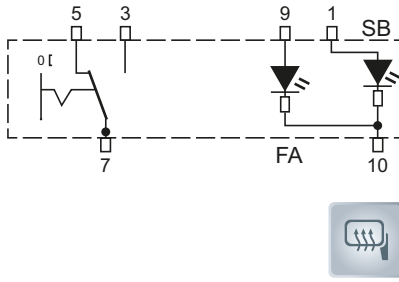
HEATABLE OUTER MIRROR

Locking changeover contact, 1-pin, 2-level

Function	08
Function check	1 x external
Rated voltage	12 V
Symbol	1: 176
Packaging unit	12 units
	6FH 354 103-922

INTERIOR LIGHTING

Locking changeover contact, 1-pin, 2-level

Function	01
Function check	1 x internal
Rated voltage	12 V
Symbol	1 : 020
Packaging unit	1 unit
	6FH 354 103-541
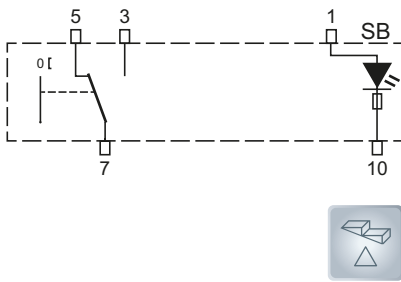
STEP

Locking changeover contact, 1-pin, 2-level

Function	07
Function check	none
Rated voltage	12 V
Symbol	1: 183
Packaging unit	12 units
	6FH 354 100-682
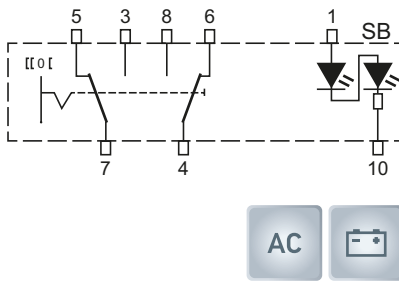
AIR CONDITIONING

Locking changeover contact, 2x1-pin, 2-level

Function	14
Function check	none
Rated voltage	12 V
Symbol	1: 235, 2 : 100
Packaging unit	1 unit
	6FH 354 104-831
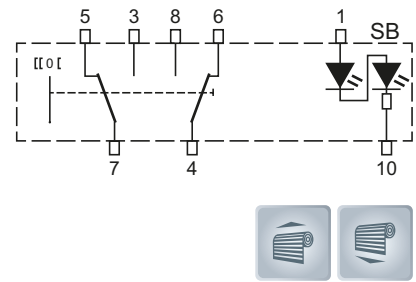
WINDOW BLIND

Locking changeover contact, 2 x 1-pin, 2-level

Function	15
Function check	none
Rated voltage	12 V
Symbol	1 : 308, 2 : 307
Packaging unit	12 PC's
	6FH 354 105-762
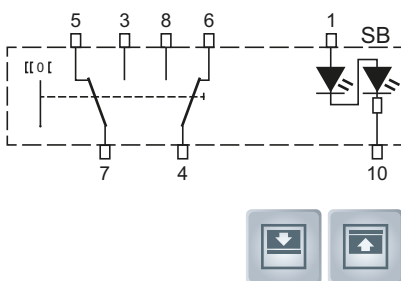
WINDOW UP/DOWN

Locking changeover contact, 2 x 1-pin, 2-level

Function	15
Function check	none
Rated voltage	12 V
Symbol	1 : 250, 2 : 249
Packaging unit	12 PC's
	6FH 354 111-392
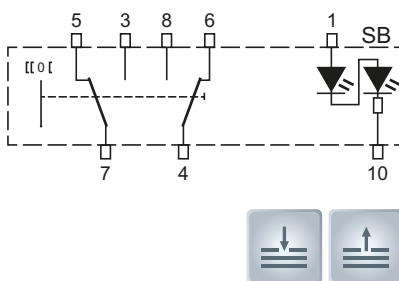
SUN PROTECTION

Locking changeover contact, 2 x 1-pin, 2-level

Function	15
Function check	none
Rated voltage	12 V
Symbol	1 : 286, 2 : 285
Packaging unit	12 PC's
	6FH 354 111-412
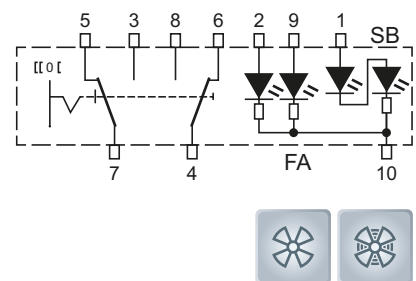
BLOWER

Locking changeover contact, 2x1-pole, 2-level

Function	21
Function check	2 x external
Rated voltage	12 V
Symbol	1 : 156, 2 : 155
Packaging unit	12 units
	6FH 354 111-402

Module switches from series 4100

for motorhomes
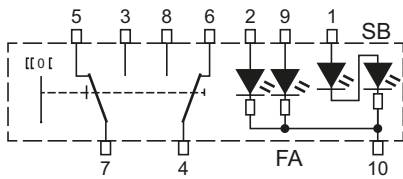
DEFROSTING WINDSHIELD

Locking changeover contact, 2 x 1-pin, 2-level	
Function	22
Function check	2 x external
Rated voltage	12 V
Symbol	1 : 177
Packaging unit	12 units
	6FH 354 112-811
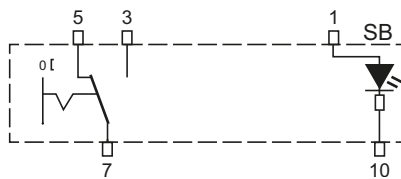
READING LIGHT

Locking changeover contact, 1-pin, 1-level	
Function	01
Function check	1 x internal
Rated voltage	12 V
Symbol	1 : 026
Packaging unit	1 unit
	6FH 354 126-301
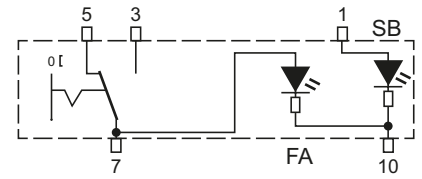
HEATED FRESH WATER TANK

Locking changeover contact, 1-pin, 1-level	
Function	00
Function check	none
Rated voltage	12 V
Symbol	1 : 295
Packaging unit	1 unit
	6FH 354 120-301
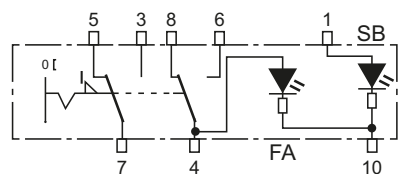
WASTE WATER

Locking changeover contact, 2-pin, 1-level	
Function	05
Function check	1 x external
Rated voltage	12 V
Symbol	1 : 658
Packaging unit	12 units
	6FH 354 122-942
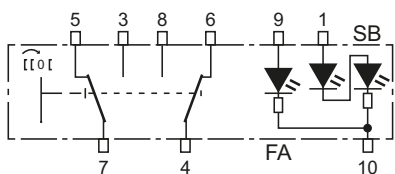
BLUETOOTH

Locking, non-latching changeover contact, 2 x 1-pin, 2-level	
Function	20
Function check	1 x external
Rated voltage	12 V
Symbol	1 : 646, 2 : 645
Packaging unit	12 units
	6FH 354 122-152
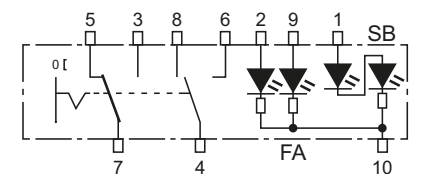
RADIO

Locking changeover contact, 2-pin, 1-level	
Function	13
Function check	2 x external
Rated voltage	12 V
Symbol	1 : 657, 2 : 656
Packaging unit	12 PC's
	6FH 354 122-682

HELLA switch configurator

HELLA module switch configuration tool

Configure your switches yourself! Firstly, choose between the waterproof 3100 series or the 4100 series.

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

ACCESSORIES

→ Universal accessories
→ Emergency accessories
→ HELLA worlds

Universal accessories

Connectors, adapters and sockets

UNIVERSAL CONNECTOR

2-pin with screwed-on strain relief and 8 A fuse, suitable for cigarette lighters and standard sockets (ISO 4165), screw connection up to 2.5 mm

6–24 V	**8JA 007 589-001**

CONNECTOR

2-pin in accordance with ISO 4165

6–24 V	**8JA 002 262-001**

CONNECTOR

7-pin in accordance with ISO 1724, plastic version, screw connections

12 V	**8JA 001 930-003**

CONNECTOR

13-pin in accordance with ISO 11 446, plastic version, screw connections, with rubber grommet

12 V	**8JA 005 951-001**

MINI-SHORT ADAPTER

From 7-pin socket (ISO 1724) on the towing vehicle to 13-pin connector (ISO 11 446) on the trailer

12 V	**8JA 008 981-001**

CABLE ADAPTER

From 13-pin socket (ISO 11 446) on the traction vehicle
To 7-pin connector (ISO 11 446) on the trailer, with 250 mm cable

12 V	**8JA 005 952-001**

SUPER-SHORT ADAPTER

From a 13-pin socket (ISO 11 446) on a towing vehicle
To a 7-pin connector (ISO 11 446) on a trailer.

12 V	**8JA 008 969-001**

CONNECTOR SOCKET

7-pin in accordance with ISO 1724, plastic version, screw connections

12 V	**8JB 001 943-003**

CONNECTOR SOCKET

13-pin in accordance with ISO 11 446, plastic version, screw connections, with rubber grommet and rubber seal in the cover.

12 V	**8JB 005 949-001**

CONNECTOR SOCKET

13-pin in accordance with ISO 11 446, plastic design, screw connections, with rear fog light deactivation.

12 V	**8JB 005 949-011**

SOCKET

2-pin in accordance with ISO 4165, without cover, 6.3 mm blade terminal connections, load-carrying capacity: max. 16 A.

6–24 V	**8JB 001 946-072**

SOCKET

2-pin in accordance with ISO 4165, 6.3 mm blade terminal connections, with a spring-loaded cover, load-carrying capacity: max. 16 A.

6–24 V	**8JB 001 946-082**

SOCKET

2-pin in accordance with ISO 4165, 6.3 mm blade terminal connections, with spring-loaded cover, load-carrying capacity: max. 16 A.

6–24 V	**8JB 001 946-092**

SURFACE-MOUNTED SOCKET

2-pin in accordance with ISO 4165, screw connections, load-carrying capacity: max. 16 A.

6–24 V	**8JB 004 123-001**

POWER SOCKET

2-pin with cover and split sleeve, suitable for cigarette lighter connector, 6.3 mm blade terminal connections, load-carrying capacity: max. 16 A.

6–24 V	**8JB 008 023-001**

Emergency accessories

**HAZARD WARNING LIGHT
MODELL 3003 ACCU**

With type approval: When the engine is running, the rechargeable battery is charged through contacts in the charging bracket. Automatic 12 / 24 V vehicle electric system voltage changeover, operating time in flashing mode 40 hours or 7 hours with work light, charging bracket and rechargeable lead-gel battery included in scope of delivery

	2XW 007 146-011

**HAZARD WARNING LIGHT
MODELL 3003**

With type approval: with fastening bracket (for battery operation via 5 mono cells, not included in the scope of delivery)

	2XW 007 146-001

BOXES OF SPARE BULBS

A must for every responsible camper. The assortment contains one bulb for each of the most common lighting functions as well as various spare fuses.

H4, 12 V	**8GJ 002 525-913**
H9, 12 V (not shown)	**8GH 007 157-901**

Notes

HELLA worlds
Website, apps and more

Website for motorhomes and caravans
Here, you can find everything you need to know about new products, technology and options for equipping your vehicle. Learn more about our solutions for a modern temporary home.

www.hella.com/caravan

**Shapeline
Configuration tool**

Become a lighting designer and configure your own custom vehicle light signature.

www.hella.com/shapeline

**90 mm
Configuration tool**

Just a few steps to the right product for your motorhome from the HELLA 90 mm module series.

www.hella.com/90mm-modules

**Module switch
Configuration tool**

Put your own individual switches together quickly and easily by using our module switch configurator.

www.hella.com/switch

Electronics tool

Electronics products from HELLA for special original equipment intended for caravans and motorhomes.

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HELLA Mobile Apps

With our HELLA apps, you can interact with the products and make use of our practical services when using your smartphone or tablet while on the road.

With the HELLA Addlight App, for example, you can virtually install auxiliary headlamps from HELLA on your own vehicle and also look at these in a detailed 360° view. You can also drive through the darkness with the HELLA Night Driving App and discover more about HELLA light systems.

Simply let yourself get carried away to interactive worlds with our range of apps - experience different light technologies, illumination and much more.

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