

Lighting

Electrics

Electronics

Thermal
Management

Sales
Support

Technical
Service

Our Ideas,
Your Success.

LED Expertise from Hella.

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HELLA
Ideas today for
the cars of tomorrow

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the cars of tomorrow

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*Ideas today for
the cars of tomorrow*

Optimum synthesis of technology, economy and safety.

LEDs, or light-emitting diodes, are asserting themselves in more and more fields –in all vehicle areas. The lighting pioneer Hella has managed to expand rapidly the spectrum of application possibilities for all kinds of vehicles.

The technical, economical and safety- related advantages of LEDs speak for themselves:

- Long service life.
- No downtime and installation time.
- Minimum energy consumption.
- Wear- and maintenance-free.
- Higher eye-catching effect.
- Dustproof and waterproof.
- Compact models.
- No warm-up phase – the light signal reaches the reference value more quickly.
- New design freedom.

Hella has always set milestones in lighting technology. It continues to do so in the LED era. Hella gives you and your customers the certainty of exploiting the optimum synthesis of technology, economy and safety just perfectly.

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LED lights failure check

On account of the low electrical power of LED lights, which distinguishes them significantly from filament bulb versions, there can be problems with the bulb failure check during operation on various traction vehicles. Since indicator failure checks are required by legislation, we recommend only operating the light in combination with an indicator control unit.

In addition, further lighting functions are detected by some traction vehicles. This is a vehicle comfort function which is not required by legislation and does not release drivers from

their obligation to see for themselves that the lighting equipment is working. Here, too, faulty diagnoses can be a result of the lower power levels involved (instrument panel in the driver cab indicates a bulb failure although the function is working).

If faulty diagnoses such as the one described above occur during operation of your traction vehicle type, please contact the traction vehicle manufacturer.

Up to 100,000 hours of function, function, function.

LED means "light-emitting diode". These small technical miracles are taking over more and more applications in the commercial vehicles sector, too. The spectrum of their advantages is convincing both in terms of engineering and economy.

Increased profitability through LEDs.

Longer service life:

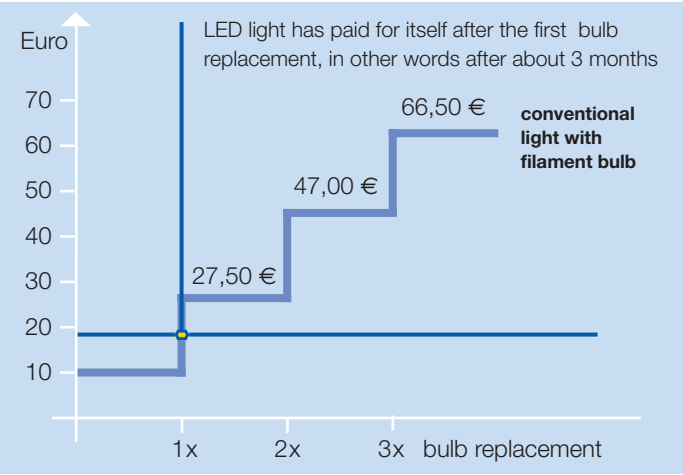
Filament bulbs in combination rearlights are placed under strain by vibrations, humidity, cold, heat etc.. On the basis of its design criteria, a standard P21W filament bulb has a service life of approx. 500 hours, for example. In contrast, LEDs have a service life of up to 100,000 hours. In other words, an LED would be lit continually for 11 1/2 years. Thanks to pioneering LED technology, frequent bulb replacement will become a thing of the past. Because LEDs are wear- and maintenance-free. This quickly pays in comparison to filament bulbs: LED lights will usually make up for their somewhat higher purchasing price once a few bulb replacement cycles have been saved.

Example of side marker lights:

Conventional light with filament bulb		€8.00/£5.00
LED light		€18.00/£12.50
Costs for filament bulb		€1.25 / £0.85
Replacement time t	0,25 hours =	€9.50 / £6.75
Vehicle downtime	0,25 hours =	€8.75 / £6.25
Total bulb replacement costs		€19.50 / £13.85

Market research shows that the first bulb change in side marker lights without LED technology can be necessary after only three months. The follow-on costs of the very first bulb replacement makes conventional lights with bulbs significantly more expensive than the purchasing costs of the wear- and maintenance-free LED lights. The one-off increased costs pay for themselves after only three to six months.

Bulb replacement up to 4 x every year



No downtime and installation time:

With a service life of up to 100,000 hours, LEDs work for as good as a vehicle lifetime. Since they are wear- and maintenance- free, they do not cause any additional costs through downtime and installation time.

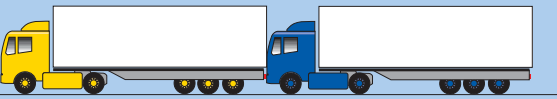
Lower power consumption:

When LEDs are used, power consumption is reduced for the same light output in comparison with filament lamps.

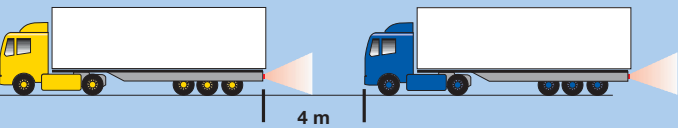
Increased safety through LEDs.

Early warning through LED: The few decisive additional metres of braking distance.

No LED at 80 km/h / 50 mph



With LED at 80 km/h / 50 mph



Example of LED stoplights:

With normal bulbs, the filament has to be heated up for 200 ms before it can emit light in the required brightness. LEDs do not require a warm-up phase, enabling the light signal to reach the reference value more quickly. This optimises early warning for the road users behind your vehicle and increases their reaction time. Such fractions of a second can prevent pile-ups or moderate the effects. At a driving speed of 80 km/h / 50 mph, braking distance is shortened by approx. four metres.

Example of LED indicators:

LED indicators achieve a higher eye-catching effect (source: LED study NFO-Infratest, 2003). Particularly at high temperatures on motorways this ensures more safety when changing lanes, for example.

Failure control for LED indicators.



Legal requirement in all ECE states

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

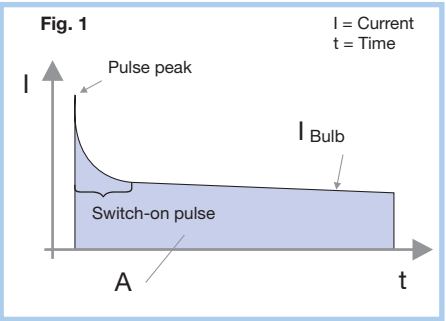
As soon as one single LED fails, the light can be considered faulty, the pulse is not generated. The ballast then switches the bulb simulation off and the flasher unit indicates the fault to the driver.

Safe conversion to LED indicators now possible thanks to patented Hella electronics

Hella supplies electronic ballasts for all Hella LED indicators which make it possible to convert the indicator failure display for various vehicles. This is necessary if the vehicle manufacturer does not guarantee indicator bulb failure control via the vehicle wiring system. The method has been patented for Hella. At the moment, there are three different ballasts and several different LED indicator types available.



LED indicator failure control: Background information



Why does the failure detection required by law work with various LED lights with some flasher units and not with others?

Fig. 1 illustrates the typical current pattern when a bulb is switched on. Different flasher units detect this in different ways, for example by

- a) measuring the pulse peak or
- b) measuring the current at some point during the switch-on pulse or
- c) measuring the current after the pulse, when the current is constant and has a certain intensity, or
- d) determining the total energy flowing through the light (size of area A)

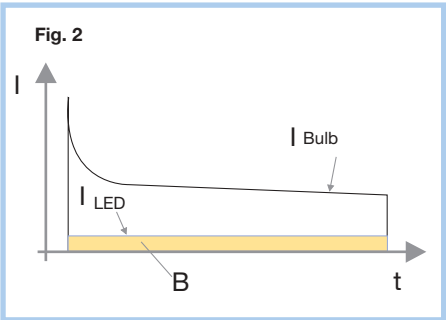
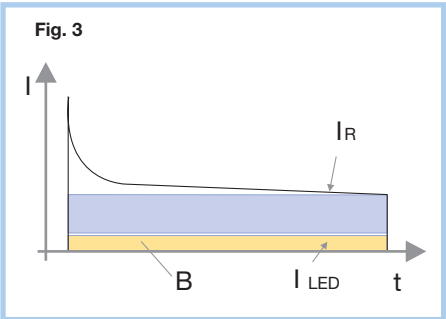


Fig. 2 shows the LED current (I_{LED}) in relation to this. None of the methods mentioned above can work here, because there is neither a switch-on pulse available nor is the current intensity high enough or the total energy through both lights is identical (area B is as large as A).

If a simple Ohmic resistor is inserted, e.g. a resistor cable, the current is increased by a certain value (I_R) and the curve illustrated in Fig. 3 is the result. In this case, only a flasher unit according to principle c) would work. If the resistance is chosen somewhat higher, principle d) could also possibly work. If the light fails afterwards due to mechanical damage, the flasher unit could detect the inserted resistor as a functional bulb. In this case, a light working perfectly would be indicated although this is not the case! This means: In this case the vehicle would lose its approval for use on public roads.



The only solution conceivable for universal use is one that works with all the flasher units on the market. As the above considerations have shown, this can practically only be guaranteed if the current pattern of a bulb is simulated exactly by means of an electronic circuit.

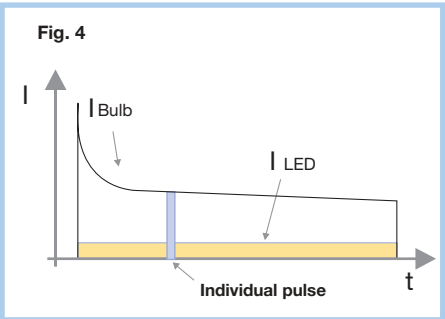
Since such a circuit is extremely complex, it is not possible to integrate this in the LED light. In order to be able to benefit from the advantages of LED lights despite this fact, a ballast is required for the circuit. This combination provides the perfect – and above all legally conform – solution to the problem.

Hella patent for the perfect problem solution

All Hella LED indicators with integrated electronics for failure control are self-monitoring and generate an individual pulse. This pulse is evaluated by the electronic ballasts. The ballasts simulate a 21 W bulb. This makes operation with conventional flasher units possible. If the light is faulty, which can be the case if only a single LED fails, the above-mentioned pulse is not generated. The ballasts then switch the bulb simulation off and the flasher unit indicates the fault to the driver.

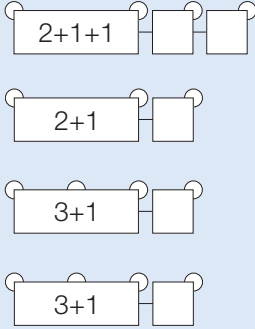



By measuring the light current during a time window (Fig. 4), direct exchange between the Hella LED light and a bulb version is possible.

Hella ballasts are straightforward to convert even at a later date.

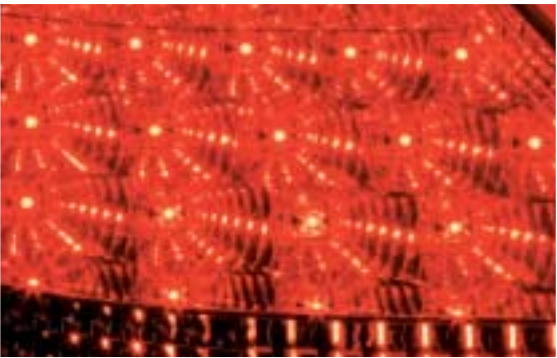


Vehicle manufacturers can also ensure ECE-conform failure control by evaluating the pulse of the Hella LED indicators shown in the adjacent diagram directly in their control units. The exact specification can be obtained from Hella.

Which Hella ballast for which vehicle?

<div>Vehicles with flasher unit.</div> <div>1.</div>	<div>Solution: Replacement of the existing flasher unit by an LED flasher unit</div> <div></div>	<div>LED flasher unit 12 V 2+1+1</div> <div>Part no. 4DN 009 492-101</div> <div>LED flasher unit 24 V 2+1</div> <div>Part no. 4DM 009 492-001</div> <div>LED flasher unit 24 V 3+1</div> <div>Part no. 4DW 009 492-011</div> <div>LED flasher unit 12 V 3+1</div> <div>Part no. 4DW 009 492-111</div> <div></div>
<div>Vehicles that use the cold scan for the indicator failure check.</div> <div>2.</div>	<div>If there is no flasher unit, please check using cold scan.</div> <div>Description of fault indication: Is a faulty light indicated when the ignition is switched on or directly when the fault occurs or when the bulb is screwed out without the indicator being triggered?</div> <div>Solution: Simulation device for cold scan</div>	<div>Simulation device for cold scan 24 V</div> <div>Part no. 5DS 009 602-001</div> <div>Simulation device for cold scan 12 V</div> <div>Part no. 5DS 009 602-011</div> <div></div>
<div>Vehicles without flasher unit that carry out current measurement for the failure check.</div> <div>3.</div>	<div>Only to be used if solutions 1 and 2 are not possible.</div> <div>Description of fault indication: Is a fault only determined during flashing (e.g. double flashing frequency)?</div> <div>Solution: Indicator control unit</div> <div>Protective rating IP 6K9K Dust must not penetrate. Water that is directed against the housing during high-pressure/steam jet cleaning may not have a harmful effect; water pressure approx. 80 - 100 bar.</div>	<div>Indicator control units 24 V for traction vehicles</div> <div>■ No independent voltage supply is required</div> <div>■ Protective rating IP 6K9K</div> <div>For EasyConn:</div> <div>Part no. 5DS 009 552-001</div> <div>with flat receptacles:</div> <div>Part no. 5DS 009 552-011</div> <div></div>

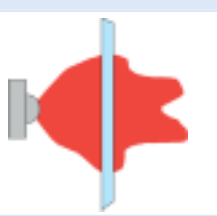

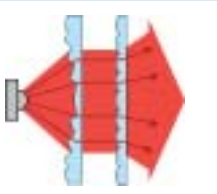
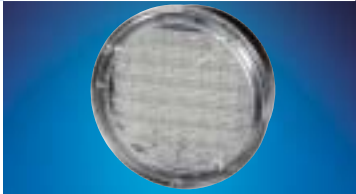
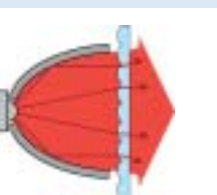

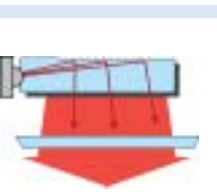

More design freedom through LEDs.



Thanks to the use of LEDs, design engineers have a great deal more design freedom. Ergonomic aspects can also be implemented easily and effectively.

Wide range of technical possibilities through LEDs.

Depending on the requirements on the product or customer wishes, Hella uses LEDs in different optical systems. Here are some examples for combination rearlights:

<div>Direct light</div> <div>■ Spot-shaped appearance</div> <div>■ No optical system necessary</div> <div>■ Max. distance between 2 LEDs = 15 mm</div>	<div></div> <div></div>
<div>Fresnel systems</div> <div>■ Suitable for all functions</div> <div>■ Homogeneous appearance</div>	<div></div> <div></div>
<div>Reflector with pattern/Lens without pattern</div> <div>■ High degree of effectiveness</div> <div>■ Brilliant finish</div>	<div></div> <div></div>
<div>Light guide systems</div> <div>■ Elongated appearance</div> <div>■ Homogeneous illumination</div> <div>■ Adaptation to curved exterior shape</div>	<div></div> <div></div>

More functional safety through LEDs.

Commercial vehicles are always under a lot of performance pressure. Fleet managers and drivers alike expect functional safety with no ifs and buts. In other words, highquality vehicle components with a long service life. Hella LED lights meet these requirements. Their development and production takes place according to the most stringent quality standards. Hella tests their suitability for everyday use in a series of the toughest simulation tests. These include martyr stretches, artic cold, tropical heat, thunderstorms and torrential rain. At the end of the day, LEDs come out winners against conventional filament bulbs.

Note: All LED lights have been designed for operation in DC voltage networks. Their operation with pulsed supply voltage or alternating current is not permissible.



Hella Original Parts quality sets standards.

All LEDs are subjected to extensive testing at Hella, both in the laboratory and in practice. Since 2002, for example, 20 trailers belonging to an international freight carrier have been fitted out with Dura-LED lights for a marathon test. Result: No failures to date.

Products in comparison.

Hella's original parts quality is subject to comparison with standard products in regular laboratory tests. These reveal again and again how detailed solutions can cause or prevent problems for the user.

Product test LED lights: Two examples.

1. The temperature-sensitive current controllers in one **side marker light** common on the market are soldered by hand. During this process, minor unnoticed preliminary damage is caused to the components. This significantly reduces the service life of the whole LED light.

Hella relies exclusively on a precise automated process.

2. In the case of one **position light** tested, metal plates were inserted with the purpose of reflecting the light and thus adhering to the radiation angle prescribed by legislation. This engineering principle is extremely dubious, however, both in terms of production tolerances and in normal operation. Influences such as corrosion or bending of the metal caused by vibration lead to the prescribed lighting values no longer being achieved.

Hella uses a high-grade optical system for this functional requirement.

In this context, a note about ECE approval:

The products tested by Hella usually have ECE approval. The test results often convey the impression, however, that there must have been fluctuations in quality during production. In contrast, Hella products meet all legal requirements as well as vehicle manufacturers' requirements, which often go beyond the criteria required by law.

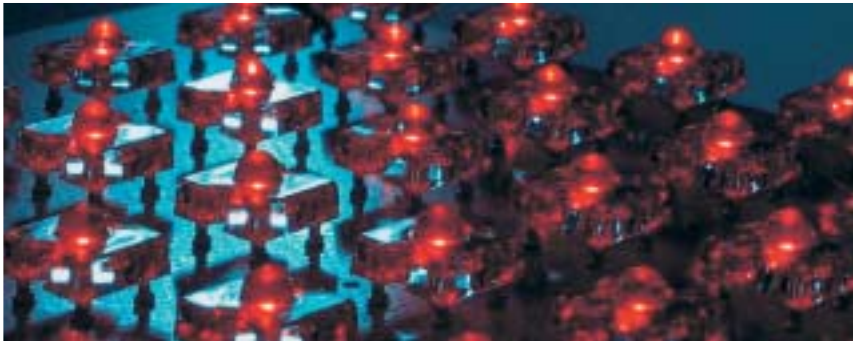
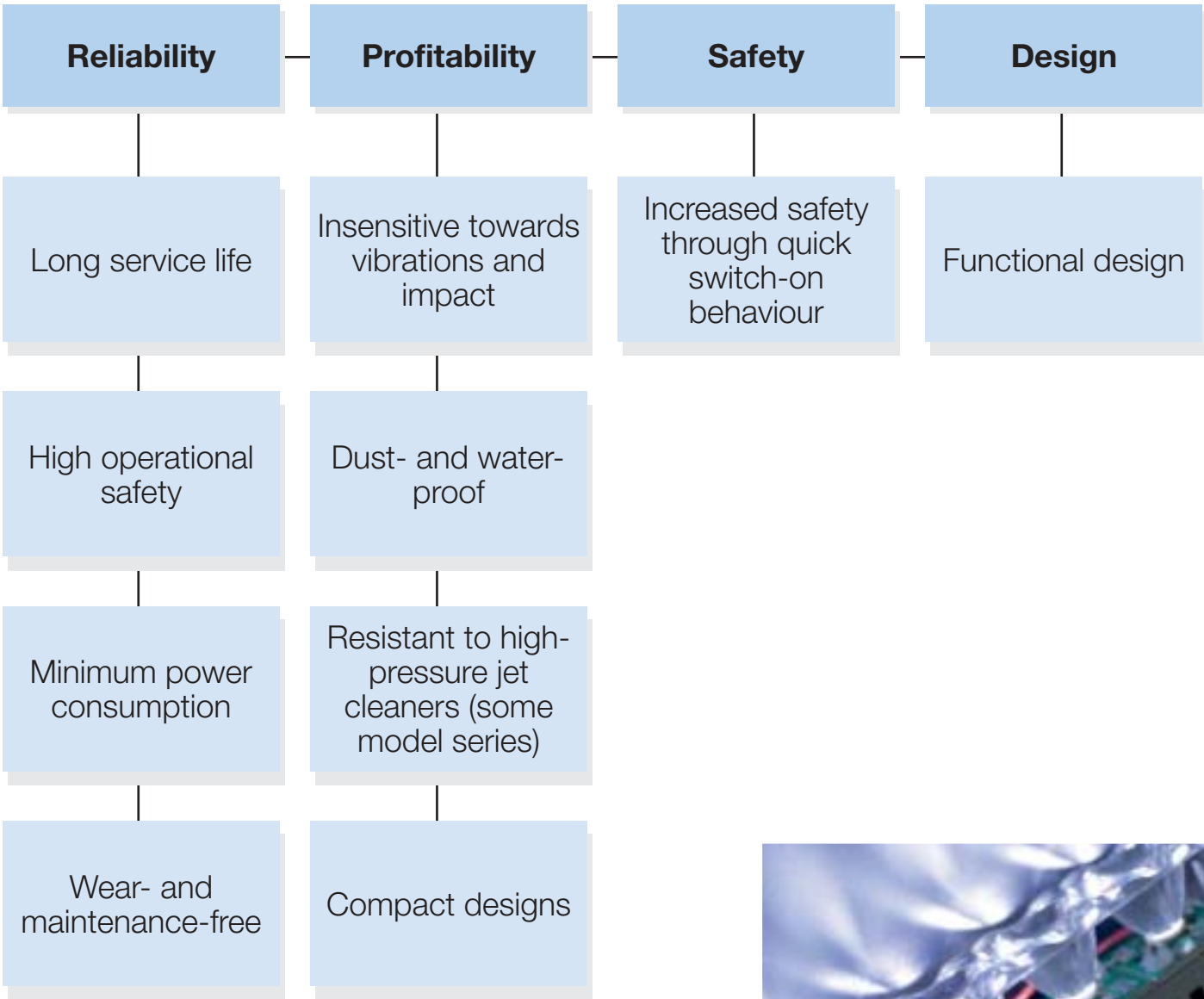


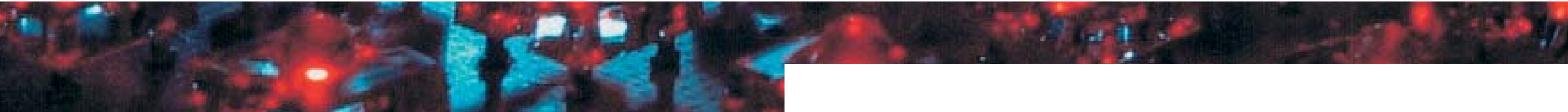
Negative example 1: Side marker light.



Negative example 2: Position light.

Summary of the advantages of the Hella LED products





The wide range of uses for Hella's modern LED technology.



Example: CELIS® technology.

Here, LEDs CELIS® light guide rings are combined. The LED takes over the role of the light source, the light output is via the CELIS® light guide ring. There is an optical element in the ring which ensures absolutely homogeneous light.



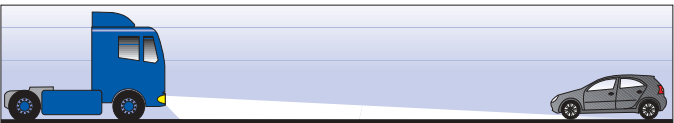
- Auxiliary light Luminator Chromium CELIS® with integrated light-transmitter technology:**
- Spotlight in clear-glass look.
 - Circular position lights using CELIS® light guide technology.
 - LEDs give position lights a white appearance.
 - High-boost reflector.

Further product information on page 14



Example: LED daytime running lights for commercial vehicles.

More safety – less downtime
Those who do not drive with the lights on during the day live dangerously. Studies prove the significant reduction of accident figures when vehicles have their lights on during the day. Hella daytime running light has been optimized for daylight – it supplies a wider radiation characteristic than low beam light and thus has a stronger signalling effect. The vehicle is recognised by other road users more quickly and better. Which means Hella daytime running light makes the crucial difference in increasing reaction time. Teamed up with modern LED technology, Hella daytime running lights combine this increase in safety with the long service life of the LEDs – and thereby with reduced downtime. Because the other bulbs are not switched on, they do not wear.



Low beam (developed for seeing in the dark)



Hella daytime running light (developed for being seen during the day)

Further product information on page 15.



Example: Accessory products.

- Hella LED products set the pace in engineering and design here, too.
- LED Upgrade combination rearlights set for Volkswagen Golf V:**
- Reduces the danger of accidents. 16 high-power LEDs in the taillight and stop light ensure the vehicle is seen better and earlier.
 - Integrated reflector.
 - Perfect fit.
- Upgrade headlight for BMW 3-Series E 36:**
- Circular position lights using CELIS® light guide technology as a special styling feature.
 - LEDs give position lights a white appearance.

For further production information contact your wholesaler.



Example: LED worklights.

- The first Hella worklight to use LED technology.
- Extremely long LED service life.

Further product information on page 42.



Example: LED hand lamp.

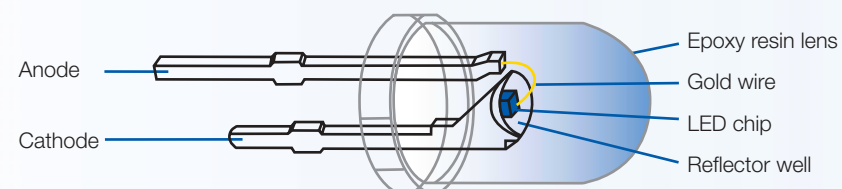
- Freedom without cables.**
- 30 high-grade LEDs for bright light and good illumination.
 - High-quality electronics guarantee a long product life.
 - 5 hours of uninterrupted lighting: that's plenty for a long working day.
 - For mobile use – without cable.

For further production information contact your wholesaler.



How LEDs work

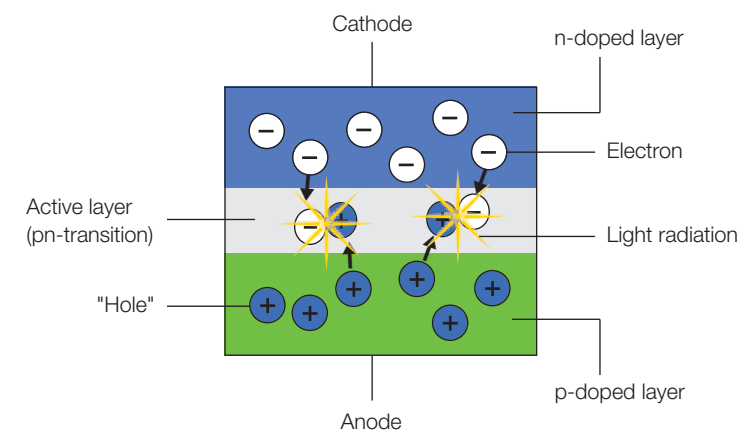
LEDs are replacing conventional bulbs in more and more vehicles. Thanks to the technical advantages such as smaller dimensions or a longer service life, LEDs are being used in more and more areas of automotive technology. But what is an LED actually made up of?



An LED mainly comprises several layers of semi-conductor connections. Semi-conductors, such as silicon, are materials which in terms of conductivity are somewhere between conductors, such as the metals silver and copper, and non-conductors (insulators), such as Teflon and quartz glass. The conductivity of semi-

conductors can be greatly influenced by the specific introduction of foreign substances which have an electrical effect (by means of a process known as doping). The various layers of semi-conductors together form the LED chip. The light output (efficiency) of the LED and the colour of the light depend to a major extent

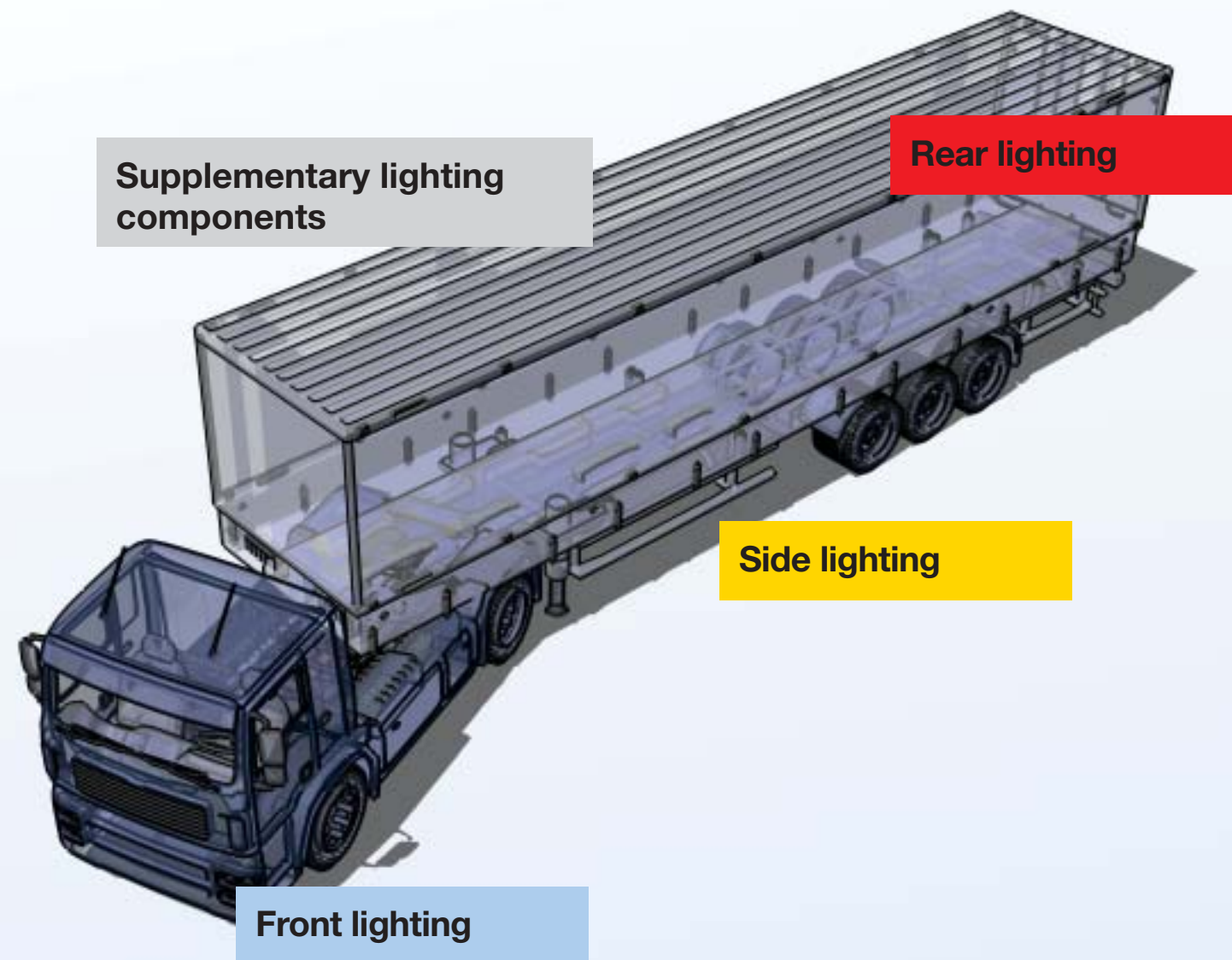
on the way these layers are put together (different semi-conductors). This LED chip is enclosed by a plastic (epoxy resin lens), which in turn is responsible for the radiation characteristic of the LED – while at the same time protecting the diode.



If a current flows through the LED in the direction of flow (from anode + to cathode -), light is generated (emitted). The adjacent diagram illustrates how this works:

The n-doped layer has been prepared by the introduction of foreign atoms in such a way that there are excess electrons. There are only a few of these charge carriers in the p-doped layer. This results in so-called electron gaps (holes). When an electric voltage (+) is applied to the p-doped layer and (-) to the n-doped layer, the charge carriers move towards each other. They are recombined at the pn-transition (particles with opposite charge join together to become neutral). During this process, energy is released in the form of light.

Supplementary lighting components



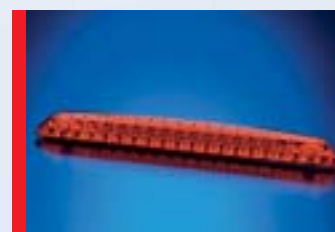
Blue
Front lighting
Auxiliary lights
LED daytime running lights

Page 14–18



Amber
Side lighting

Page 19–24



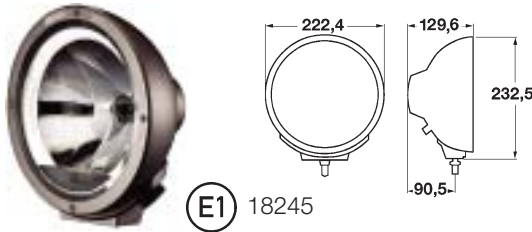
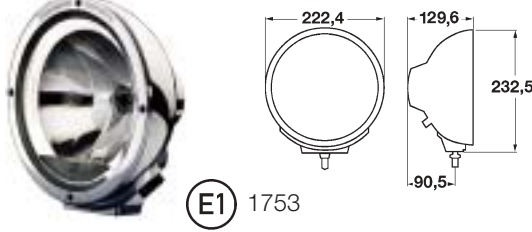
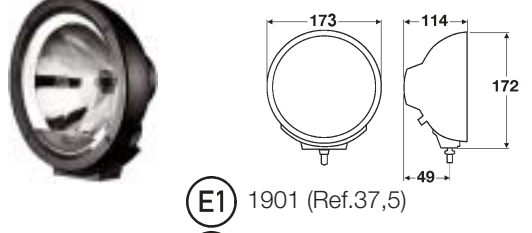
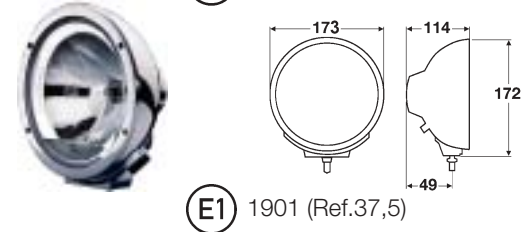
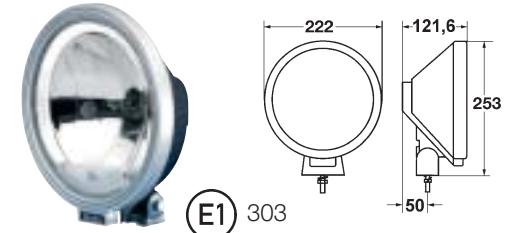
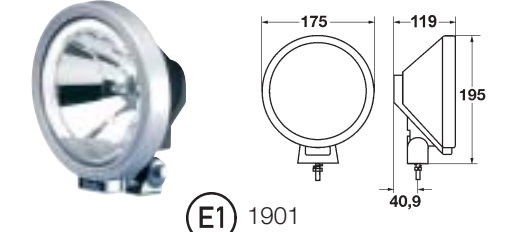
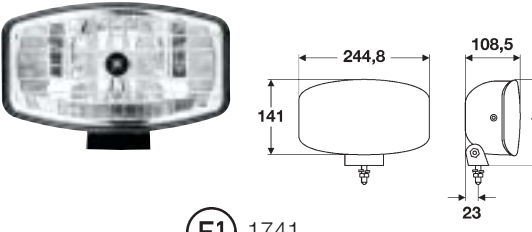
Red
Rear lighting

Page 25–41






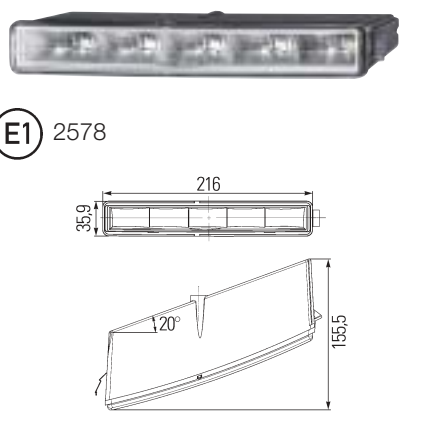
Grey
stands for supplementary components such as interior lighting

Page 41–47

Figure	Description	Part number	PU
 (E1) 18245	Luminator Metal CELIS® Spotlight, with CELIS® LED position light, clear-glass look, black housing. Spotlight (Ref. 17.5)	1F8 007 560-201*	1
 (E1) 1753	Luminator Chromium CELIS® Spotlight, with CELIS® LED position light, clear-glass look, high-sheen chrome-plated housing. Spotlight (Ref. 17.5)	1F8 007 560-211*	1
 (E1) 1901 (Ref. 37.5)  (E1) 1902 (Ref. 17.5)	Luminator Compact Metal CELIS® Spotlight, with CELIS® LED position light, clear-glass look, black housing. Spotlight (Ref. 37.5) Spotlight (Ref. 17.5) Luminator Compact Chromium CELIS® Spotlight, with CELIS® LED position light, clear-glass look, high-sheen chrome-plated housing. Spotlight (Ref. 37.5) Spotlight (Ref. 17.5)	1F1 009 094-041* 1F1 009 094-081* 1F1 009 094-051* 1F1 009 094-091*	1 1 1 1
 (E1) 303	Rallye 3000 CELIS® Spotlight, with CELIS® LED position light, clear-glass look, black housing. Spotlight (Ref. 17.5)	1F8 006 800-401*	1
 (E1) 1901	Rallye 3000 Compact CELIS® Spotlight, with CELIS® LED position light, clear-glass look, black housing. Spotlight (Ref. 37.5) Spotlight (Ref. 17.5)	1F1 009 390-021* 1F1 009 390-041*	1 1
 (E1) 1741	Jumbo 320 Xenon Spotlight (Ref. 37.5), LED position light, clear-glass look, black housing, incl. D2S Xenon bulb and electronic ballast. Spotlight 12 V Spotlight 24 V	1FE 008 773-021* 1FE 008 773-051*	1 1





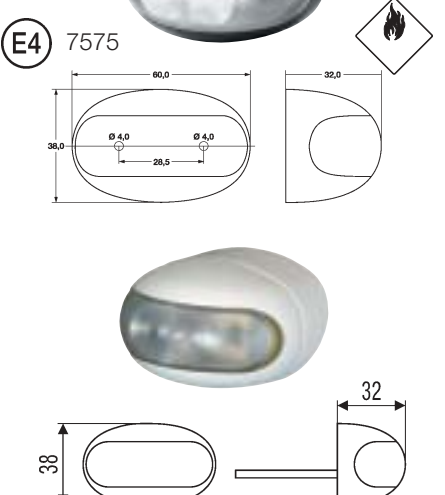
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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
 (E1) 1655	Jumbo 320 FF Halogen Spotlight (Ref. 37.5), with LED position light, clear-glass look, black housing. Spotlight 12 V/24V	1FE 008 773-081*	1
 (E1) 2372	Universal daytime running light set 90 mm The set contains two LED lights incl. pre-assembled professional harness for fully automatic switch-on, as well as a bracket for diverse mounting positions. Multi-voltage 9–32 V 12 V max. 5,5 W, current consumption = approx. 0,36 A 24 V max. 11 W, current consumption = approx. 0,36 A	2PT 009 599-801	1
 (E1) 2005	Universal daytime running light set The set contains two LED daytime running lights, connection cable set, installation instructions. The electronics and relay circuit are integrated in the daytime running light. With 3 white LEDs. With SAE type approval. Multi-voltage 9–32 V 12 V/max. 5,5 W, current consumption = approx. 0,36 A 24 V/max. 11 W, current consumption = approx. 0,36 A	2PT 009 496-801	1
 (E1) 2578	LEDayLine® daytime running light set LEDayLine® (2 lights) with five LEDs per light and integrated relay for fully automatic switch-on, incl. professional harness, fastening material for diverse mounting positions and installation instructions. Light with integrated LED position light. When used as a position light, the standard-position light has to be disabled permanently. 12 V max. 5,5 W, Stromaufnahme = ca. 0,67 A	2PT 010 043-801*	1

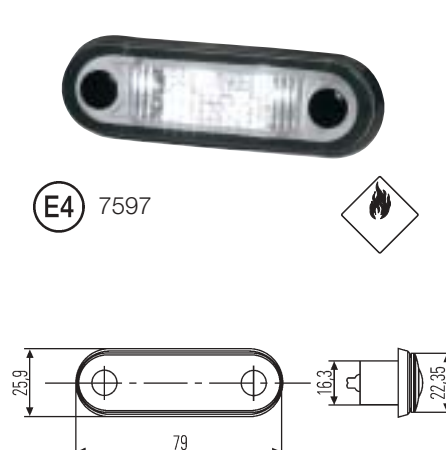
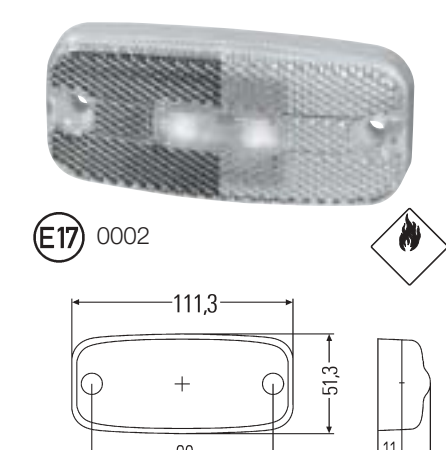
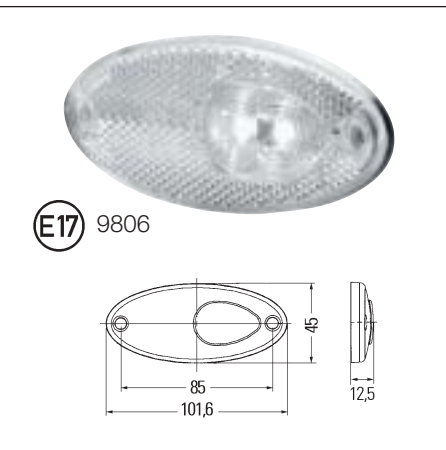

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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
 <p>E1 2586</p>	<p>Combinable daytime running light with bulb and integrated LED position light</p> <p>Light with integrated LED position light. When used as a position light, the standard position light has to be disabled permanently.</p> <p>Ideal for combination with the 90 mm module headlights of the series 009 999-..., 009 998-..., 009 997-... 12 V/0.4 W, current consumption = approx. 0.03 A + bulb P21W</p>	2BE 010 102-101*	1
 <p>E4 11371</p>	<p>Position light</p> <p>Round flush-mounted light, clear lens, without reflector. Black rubber housing with lamellae. Can be simply pushed into vehicles with wall thicknesses of 3–10 mm.</p> <p>With 2 white LEDs, 2-pin EasyConn central plug. 24 V/0.9 W, current consumption = approx. 0.04 A</p> <p>Diameter 35 mm, depth 39.5 mm of this 11.9 mm above surface</p>	2PF 340 825-001*	1
 <p>E4 11371</p>	<p>Round flush-mounted light without reflector, clear lens. Black plastic housing with adhesive film for sticking to the body.</p> <p>2-pole cable, 150 mm long, open cable ends. With 2 white LEDs, 12 V/0.6 W, Current consumption = approx. 0.05 A Protective category: IP 6K9K</p>	2PF 340 825-041*	1
 <p>E1 2300</p>	<p>Position light for flush-mounting</p> <p>with 2 white LEDs, for mounting position 10–20° for mounting position 20–30° 24 V/0.5 W current consumption = approx. 0.02 A</p>	<p>2PF 009 514-001* 2PF 009 514-011*</p>	<p>1 1</p>
 <p>E4 7575</p>	<p>Position light with black housing, for horizontal surface-mounting.</p> <p>White light, clear lens. With 2 white LEDs, 0.5 W. Multi-voltage 10 V–33 V. Current consumption at 12 V = approx. 0.04 A Current consumption at 24 V = approx. 0.02 A</p> <p>with 500 mm cable</p> <p>with 5,000 mm cable</p> <p>Position light with white housing and 500 mm cable</p> <p>with matching 25° adapter base, white (to be ordered separately) 12 V/0.5 W Current consumption = approx. 0.04 A 24 V/0.5 W Current consumption = approx. 0.02 A</p>	<p>2PF 959 570-401 * 2PF 959 570-407* 2PF 959 570-411* 2PF 959 570-417*</p> <p>2PF 959 570-427*</p> <p>8HG 959 571-007</p>	<p>2 16 2 10</p> <p>16</p> <p>80</p>

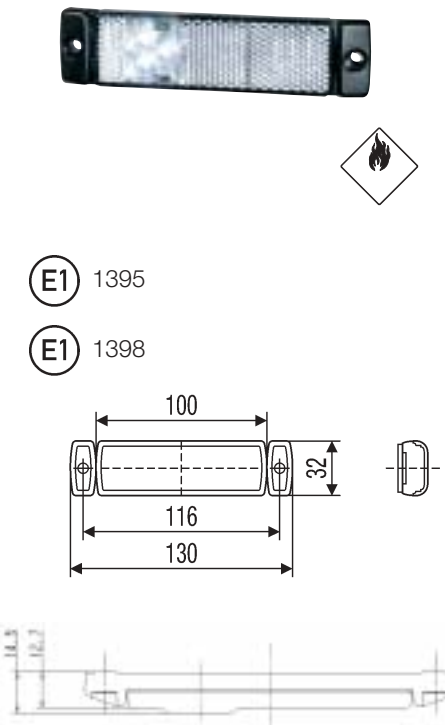
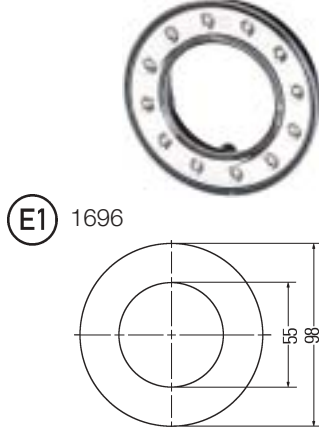
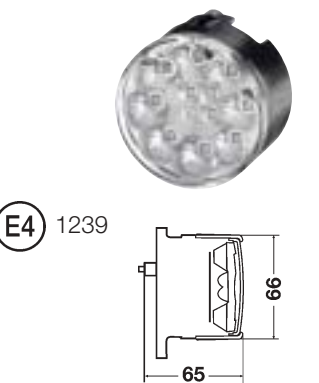
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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
 <p>E4 7597</p>	<p>Position light for horizontal or vertical flush-mounting.</p> <p>White light, clear lens. With black cover caps for the screw heads. With 2 white LEDs, 0.5 W. Multi-voltage 10 V–33 V. Current consumption at 12 V = approx. 0.04 A Current consumption at 24 V = approx. 0.02 A</p> <p>with 500 mm cable</p> <p>with 5,000 mm cable</p> <p>with 8,000 mm cable</p>	<p>2PF 959 590-401* 2PF 959 590-407* 2PF 959 590-411* 2PF 959 590-417* 2PF 959 590-437*</p>	<p>2 30 2 10 48</p>
 <p>E17 0002</p>	<p>Position light with reflector, without bracket, for horizontal surface-mounting.</p> <p>White light. White base plate. With 2 white LEDs. 2 holes, Ø 5.5 mm, for fastening screws.</p> <p>With 500 mm potted cable, 24 V/0.5 W, current consumption = approx. 0.02 A</p> <p>With 5,000 mm potted cable, 24 V/0.5 W, current consumption = approx. 0.02 A</p>	<p>2PG 963 639-401*</p> <p>2PG 963 639-411*</p>	<p>1</p> <p>1</p>
 <p>E17 9806</p>	<p>Position light with reflector, for horizontal surface-mounting at the front.</p> <p>Clear lens. With screw attachment and 2 white LEDs. Seal and 5,000 mm cable,</p> <p>24 V/0.6 W, current consumption = approx. 0.03 A</p> <p>12 V/0.3 W, current consumption = approx. 0.03 A</p>	<p>2PG 964 295-111* 2PG 964 295-117*</p> <p>2PG 964 295-121* 2PG 964 295-127*</p>	<p>1 20</p> <p>1 20</p>
 <p>E17 817</p>	<p>Position light without reflector, for horizontal surface-mounting at the front.</p> <p>Clear lens. With bracket holder included loose (RAL 9010) for mounting to surfaces with 20° tilt and 2 white LEDs.</p> <p>with 100 mm PVC cable and 2.8 mm blade connectors with insulating sleeves,</p> <p>12 V/0.3 W, current consumption = approx. 0.03 A</p>	2PF 964 295-257*	20

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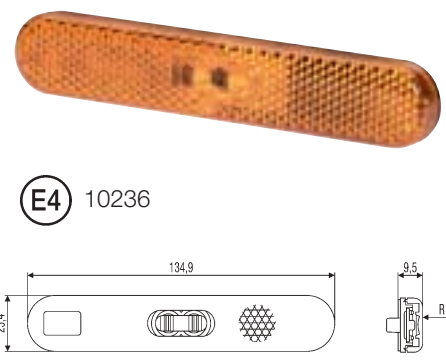
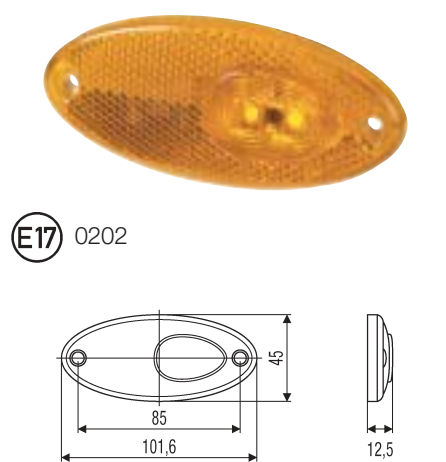
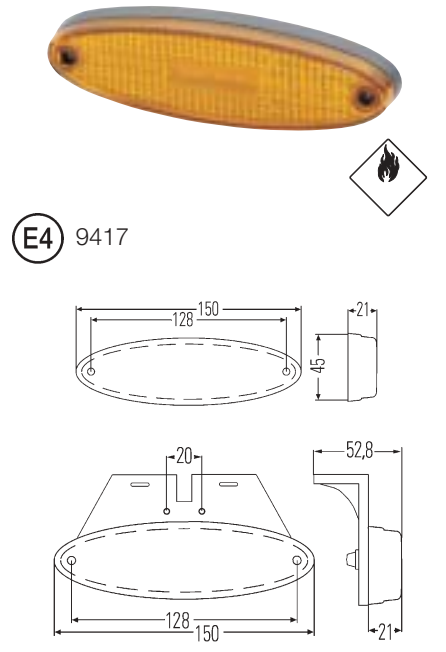
* See the note on page 2 about LED light failure check.

	<p>Position light with reflector, for horizontal and vertical surface-mounting.</p> <p>White light. Black housing. With 3 white LEDs. With black plastic base plate and 500 mm cable, 24 V/0.9 W, current consumption = approx. 0.04 A</p> <p>With 5,000 mm cable, 24 V/0.9 W, current consumption = approx. 0.04 A</p> <p>Black housing with cellular rubber seal for sealing the light, 300 mm cable with EasyConn plug and 2 attachment holes. 24 V/0.9 W, current consumption = approx. 0.04 A</p> <p>As -321, but with 1,300 mm cable As -321, but with 3,000 mm cable</p> <p>With 300 mm cable with Quick-Link coupling incl. clamp for contacting a 2-wire flat cable, with cellular rubber seal for sealing the light. 24 V/0.9 W, current consumption = approx. 0.04 A</p> <p>with 5,000 mm cable with Quick-Link coupling incl. clamp for contacting a 2-wire flat cable, with cellular rubber seal for sealing the light. 24 V/0.9 W, current consumption = approx. 0.04 A</p>	<p>2PG 008 645-041* 1</p> <p>2PG 008 645-047* 50</p> <p>2PG 008 645-051* 1</p> <p>2PG 008 645-057* 40</p> <p>2PG 008 645-321* 1</p> <p>2PG 008 645-331* 1</p> <p>2PG 008 645-341* 1</p> <p>2PG 008 645-631* 1</p> <p>2PG 008 645-637* 50</p> <p>2PG 008 645-641* 1</p> <p>2PG 008 645-647* 40</p>	
	<p>Position light for flush-mounting at the front.</p> <p>Clear lens with 12 white LEDs, 1.8 W. Suitable for light series 008 221-...</p> <p>12 V Current consumption = approx. 0.15 A</p> <p>24 V Current consumption = approx. 0.08 A</p> <p>Accessories: Heat deflection plate **)</p>	<p>2PF 008 405-061* 1</p> <p>2PF 008 405-067* 60</p> <p>2PF 008 405-051* 1</p> <p>2PF 008 405-057* 60</p> <p>9XB 161 749-007 60</p>	
	<p>60 mm Premium LED light</p> <p>Position light for flush-mounting, with 12 LEDs</p> <p>12 V/1.5 W, current consumption = approx. 0.125 A 24 V/1.5 W, current consumption = approx. 0.0625 A</p>	<p>2PF 009 001-421* 1</p> <p>2PF 009 001-521* 1</p>	

**) When the ring 008 405-... is mounted in combination with the lights 008 221-..., the heat deflection plate must be used (to be ordered separately). The use of the heat deflection plate is necessary with an ambient temperature of > 50°C.

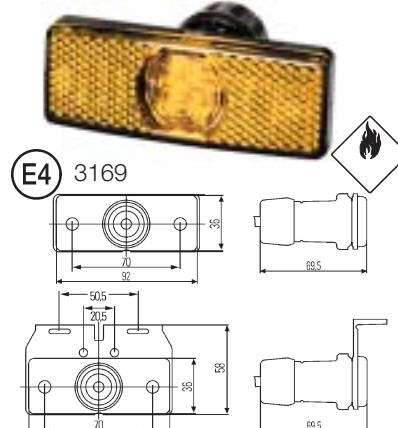
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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
	<p>Side marker light with reflector for horizontal surface-mounting.</p> <p>Amber lens. Amber light. With 2 amber LEDs. With pre-assembled 195 mm cable with plug-type contacts.</p> <p>AMP plug housing included loose, fastening by means of double-sided adhesive tape. 24 V/1.0 W, current consumption = approx. 0.04 A</p> <p>without AMP plug housing Fastening by means of double-sided adhesive tape. 12 V/0.5 W, current consumption = approx. 0.04 A 24 V/1.0 W, current consumption = approx. 0.04 A</p>	<p>2PS 009 226-017* 160</p> <p>2PS 009 226-027* 160</p> <p>2PS 009 226-037* 300</p>	
	<p>Side marker light with reflector for horizontal surface-mounting.</p> <p>Amber lens. Amber light. With 2 amber LEDs. With two 500 mm cables, with rubber seal and screw attachment. 12 V/0.5 W, current consumption = approx. 0.04 A</p> <p>24 V/1.0 W, current consumption = approx. 0.04 A</p> <p>without rubber seal, adhesive version, with caps for the screw holes. 12 V/0.5 W, current consumption = approx. 0.04 A</p> <p>24 V/1.0 W, current consumption = approx. 0.04 A</p>	<p>2PS 964 295-061* 1</p> <p>2PS 964 295-067* 80</p> <p>2PS 964 295-051* 1</p> <p>2PS 964 295-057* 80</p> <p>2PS 964 295-081* 1</p> <p>2PS 964 295-087* 80</p> <p>2PS 964 295-071* 1</p> <p>2PS 964 295-077* 80</p>	
	<p>Side marker light with reflector for horizontal surface-mounting.</p> <p>Amber lens. Amber light. With 3 amber LEDs. Grey base plate. With 500 mm cable and stripped ends. 2 holes, Ø 4.5 mm, for fastening screws.</p> <p>without bracket 12 V/0.7 W, current consumption = approx. 0.06 A 24 V/1.4 W, current consumption = approx. 0.06 A</p> <p>with bracket holder, angled forwards 24 V/1.4 W, current consumption = approx. 0.06 A 12 V/0.7 W, current consumption = approx. 0.06 A</p>	<p>2PS 007 943-311* 1</p> <p>2PS 007 943-317* 105</p> <p>2PS 007 943-011* 8</p> <p>2PS 007 943-017* 105</p> <p>2PS 007 943-021* 10</p> <p>2PS 007 943-027* 124</p> <p>2PS 007 943-321* 10</p>	


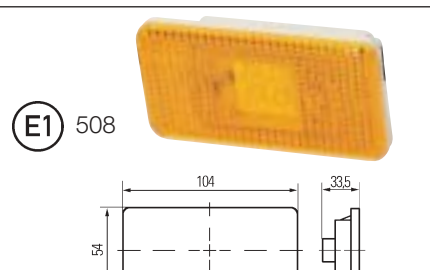
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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
 E4 9110	For horizontal flush-mounting for retrofitting to passenger cars < 6 m. With 3 amber LEDs each. 12 V/0.7 W, current consumption = approx. 0.06 A Side marker lights set with 4 lights and installation material Amber lenses, silver-grey trims Grey lenses, black trims Grey lenses, silver-grey trims Spare parts: Side marker light for -801 for -811 for -821	2PS 008 138-801 2PS 008 138-811 2PS 008 138-821 2PS 008 138-001 2PS 008 138-101 2PS 008 138-111	1 1 1 1 1 1
 E4 3169	Side marker light (according to SAE, the last side marker light has to be red) using LED technology, 12 V, with 500 mm cable for horizontal surface-mounting, amber for horizontal surface-mounting, red Only SAE type approval	2PS 959 660-207* 2PS 959 660-407*	16 16
 E4 3169	Side marker light for horizontal flush-mounting. Amber lens. Amber light, without reflector. With 4 amber LEDs. without bracket 24 V/1.0 W, current consumption = approx. 0.04 A (can be combined with reflector 9EL 154 637-001) Side marker lights set without bracket with bracket holder, angled forwards, surface-mounting	2PS 008 382-001* 2PS 008 382-007* 2PS 008 382-807* 2PS 008 382-801* 2PS 008 382-817* 2PS 008 382-811*	1 60 60 1 60 1
 E17 1410	Side marker light with reflector for horizontal surface-mounting. Amber lens. Amber light. With 2 amber LEDs. Plug-type connection. It is possible to request completely cabled chains of side marker lights with position light with a varying number of lights at varying distances to one another. Faulty lights are easy to replace thanks to the plug-type connection. With bracket holder, angled to the rear 24 V/1.0 W, current consumption = approx. 0.04 A Spare light without bracket 24 V/1.0 W, current consumption = approx. 0.04 A	2PS 008 616-017* 2PS 008 616-011* 2PS 008 616-001*	30 1 1

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* See the note on page 2 about LED light failure check.


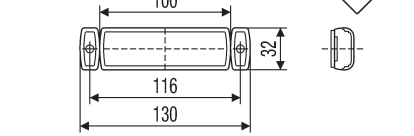



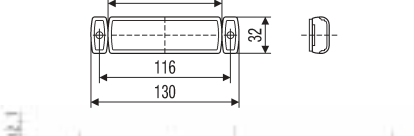

Figure	Description	Part number	PU
 E17 9605	Side marker light with reflector for horizontal surface-mounting. Amber lens. Amber light. Black base plate. With 2 amber LEDs. without bracket with 500 mm cable, 12 V/0.7 W, current consumption = approx. 0.06 A with 500 mm cable, 24 V/1.3 W, current consumption = approx. 0.05 A with 1,500 mm cable, 24 V/1.3 W, current consumption = approx. 0.05 A with 200 mm cable, 24 V/1.3 W, current consumption = approx. 0.05 A With bracket, angled to the rear with 500 mm cable, 12 V/0.7 W, current consumption = approx. 0.06 A with 500 mm cable, 24 V/1.3 W, current consumption = approx. 0.05 A with 1,500 mm cable, 24 V/1.3 W, current consumption = approx. 0.05 A With 2,000/500 mm cable and cut-off ends without bracket, 24 V/1.3 W, current consumption = approx. 0.05 A with bracket*, 24 V/1.3 W, current consumption = approx. 0.05 A With 4,000/500 mm cable and system plug without bracket, 24 V/1.3 W, current consumption = approx. 0.05 A with bracket*, 24 V/1.3 W, current consumption = approx. 0.05 A With 5,500/500 mm cable and 6.3 mm blade terminal without bracket, 24 V/1.3 W, current consumption = approx. 0.05 A with bracket*, 24 V/1.3 W, current consumption = approx. 0.05 A With 4,500 mm cable and system plug without bracket, 24 V/1.3 W, current consumption = approx. 0.05 A with bracket*, angled to the rear, 24 V/1.3 W, current consumption = approx. 0.05 A without bracket with 5,000 mm cable, 24 V/1.3 W, current consumption = approx. 0.05 A with 10,000 mm cable, 24 V/1.3 W, current consumption = approx. 0.05 A With 1,500 mm cable and base, without bracket, 24 V/1.3 W, current consumption = approx. 0.05 A With 1,500 mm cable, plug and bracket, angled to the rear, 24 V/1.3 W, current consumption = approx. 0.05 A Spare parts, seal	2PS 963 639-001* 2PS 963 639-011* 2PS 963 639-197* 2PS 963 639-207* 2PS 963 639-061* 2PS 963 639-071* 2PS 963 639-167* 2PS 963 639-101* 2PS 963 639-111* 2PS 963 639-041* 2PS 963 639-021* 2PS 963 639-081* 2PS 963 639-091* 2PS 963 639-051* 2PS 963 639-031* 2PS 963 639-137 2PS 963 639-147* 2PS 963 639-177* 2PS 963 639-157* 9GD 341 063-007	1 1 1 20 1 1 20 1 1 1 1 20 20 20 20 20
 E1 508	Side marker light with reflector for horizontal flush-mounting. Amber lens. Amber light. With 500 mm cable and 4 amber LEDs. 24 V/1.0 W, current consumption = approx. 0.04 A	2PS 007 972-011* 2PS 007 972-017*	4 100

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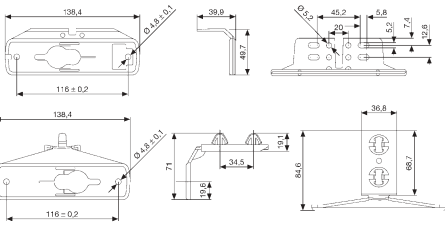
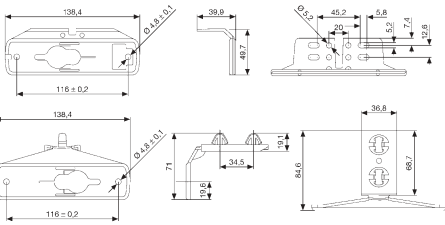
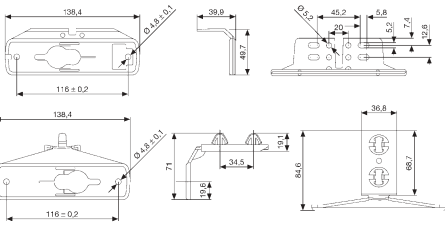
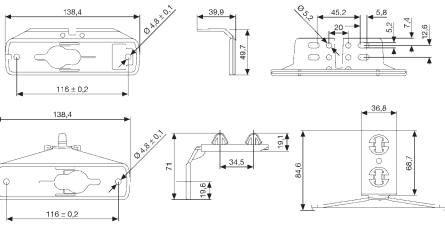
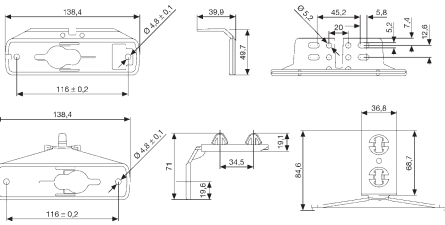

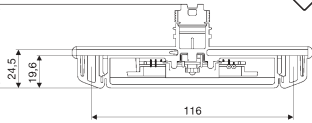
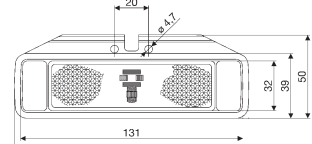
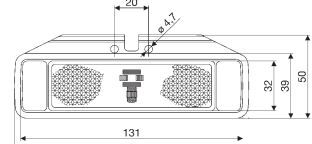



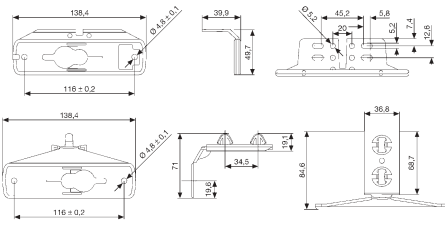

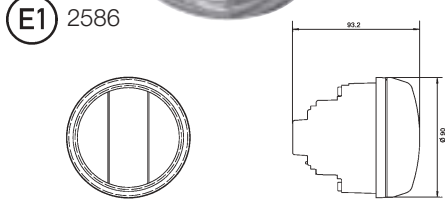
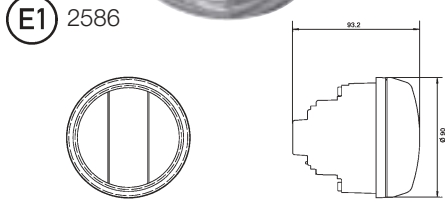
* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
 (E1) 1429	Side marker light with reflector for horizontal surface-mounting. Amber lens. Amber lens. Amber light. With 2 amber LEDs. Mounted on a bracket. With bracket longwise , angled to the rear, contacting through incision-clamp connection. 24 V/1.4 W, current consumption = approx. 0.06 A	2PS 008 643-011* 2PS 008 643-017*	1 30
 (E1) 1429	With bracket crosswise , angled forwards 24 V/1.4 W, current consumption = approx. 0.06 A	2PS 008 643-021* 2PS 008 643-027*	1 30
 (E1) 1429	With universal bracket , angled to the rear, 24 V/1.4 W, current consumption = approx. 0.06 A 12 V/0.7 W, current consumption = approx. 0.06 A	2PS 008 643-031* 2PS 008 643-037* 2PS 008 643-331*	1 30 1
	Without bracket 24 V/1.4 W, current consumption = approx. 0.06 A	2PS 008 643-007*	300
 (E17) 9605	Side marker light with reflector for horizontal surface-mounting. Amber lens. Amber light. With 2 amber LEDs. Mounted on a bracket. With clipped bracket crosswise, at the front. 24 V/1.3 W, current consumption = approx. 0.05 A	2PS 340 001-001*	1
 (E17) 9605	Mounted on a universal bracket, angled to the rear, 24 V/1.3 W, current consumption = approx. 0.05 A	2PS 340 001-011*	1
	Necessary accessories (please order separately) Usable cables and connection sets Round cable (100 mm) 2-pole connection set 2-pole connection set (for 10 lights)	8KL 340 055-001* 9XX 340 220-011* 9XX 340 220-801*	1 10 1


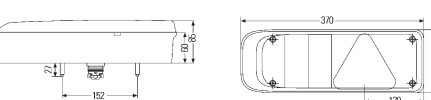
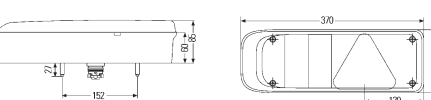
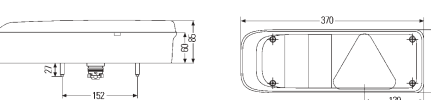
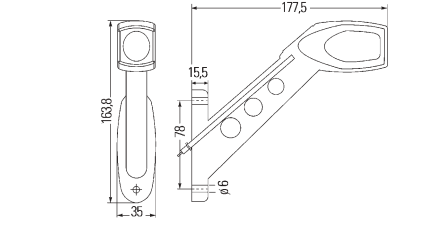
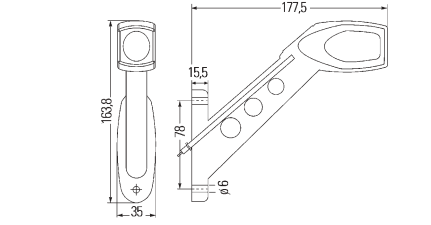
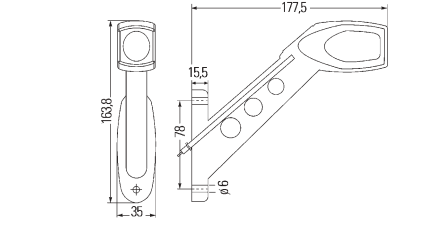
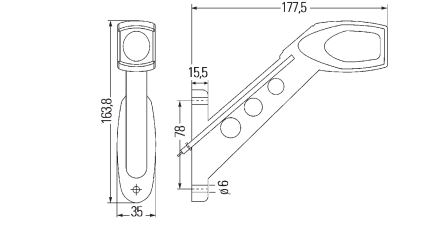

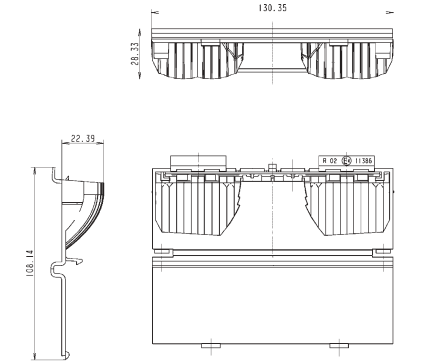
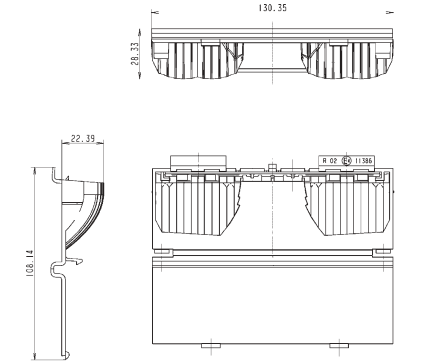

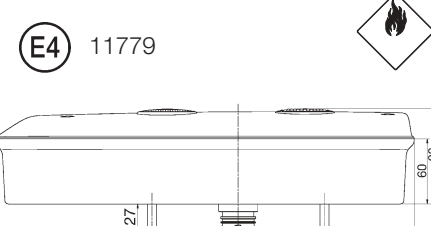
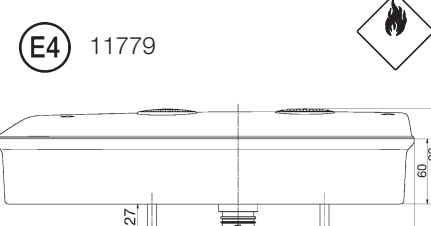
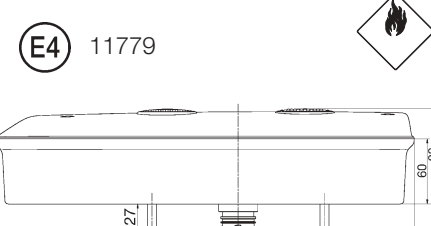
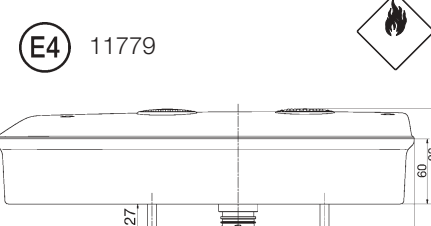
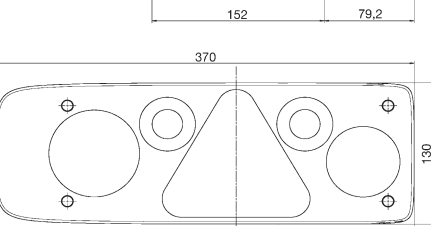
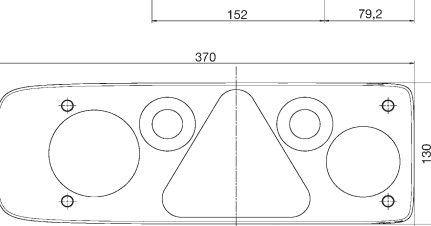
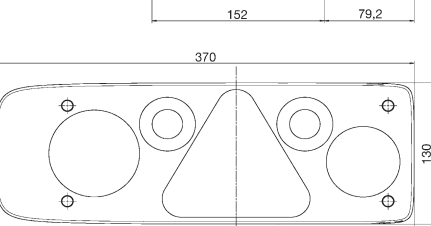
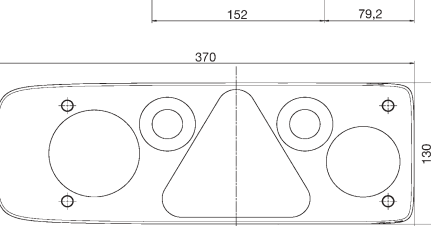
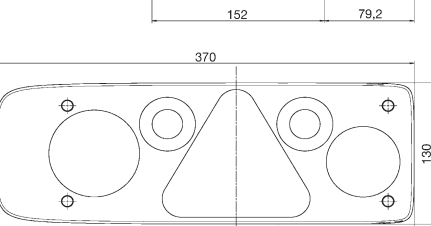
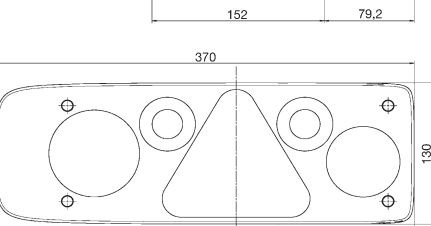
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Figure	Description	Part number	PU
 (E1) 1395, 1396	Side marker light with reflector for horizontal surface-mounting. Amber lens. With horizontal surface-mounting, the patterned field must point to the outer vehicle edge. Amber light. With 3 amber LEDs. Black housing. With cellular rubber seal for sealing the light. 2 holes for fastening screws B4.2. with 2-pole EasyConn plug housing 24 V/1.2 W, current consumption = approx. 0.05 A		
 (E1) 1395, 1396	with 300 mm cable with 1,300 mm cable with 2,000 mm cable	2PS 008 645-301* 2PS 008 645-311* 2PS 008 645-361*	1 1 1
 (E1) 1395, 1396	with 1,500 mm cable, 24 V/1.2 W, current consumption = approx. 0.05 A	2PS 008 645-001* 2PS 008 645-007*	1 50
 (E1) 1397	for vertical surface-mounting with open cable end and 1,500 mm cable 24 V/1.2 W, current consumption = approx. 0.05 A 12 V/0.6 W, current consumption = approx. 0.05 A	2PS 008 645-021* 2PS 008 645-031*	1 1
 (E1) 1395, 1396	Side marker light with reflector for horizontal surface-mounting. with 1,500 mm cable, 12 V/0.6 W, current consumption = approx. 0.05 A with 5,000 mm cable, 24 V/1.2 W, current consumption = approx. 0.05 A	2PS 008 645-011* 2PS 008 645-187*	1 50
 (E1) 1395, 1396	with 10,000 mm cable, 24 V/1.2 W, current consumption = approx. 0.05 A with 150 mm cable with Quick-Link coupling incl. clamp for contacting a 2-wire flat cable. 24 V/1.2 W, current consumption = approx. 0.05 A	2PS 008 645-497* 2PS 008 645-601* 2PS 008 645-607*	50 1 50
 (E1) 1395, 1396	for horizontal surface-mounting with Quick-Link wiring for contacting a 2-wire flat cable, complete with clamp 24 V/1.2 W, current consumption = approx. 0.05 A with 300 mm cable	2PS 008 645-611* 2PS 008 645-617*	1 50
	with 1,300 mm cable	2PS 008 645-621* 2PS 008 645-627*	1 50

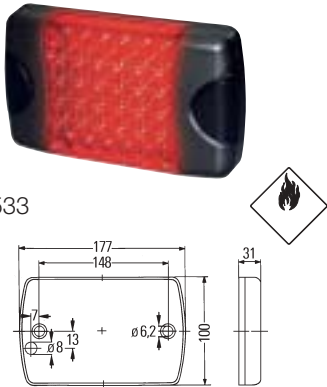


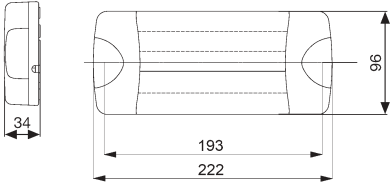

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Figure	Description	Part number	PU
	Accessories (please order separately): Assembly tool for Quick-Link cable connections	8PE 008 932-001	1
	Rubber seal as base between light and vehicle	9GD 157 876-001	22
	Bracket holder, angled to the rear, for all lamps of the series 008 645-...	8HG 160 409-002	10
	Universal angled bracket with 2 mounting screws for fastening the lights to the holder	8HG 340 489-001	1
	Universal bracket holder, angled to the rear	8HG 340 413-001	1
	Clipped bracket to the rear		
	Side marker light with reflector for horizontal surface-mounting. Amber lens. Protected against inverse polarity thanks to bridge circuit. With 2 amber LEDs. 24 V/1.4 W, current consumption = approx. 0.06 A		
	Attachment through bracket angled "to the front" or "to the rear", with 2-pin EasyConn central plug.	2PS 340 836-051*	1
	with 2-pole EasyConn plug housing, with potted cable 1,300 mm long	2PS 340 837-111*	1
	with Quick-Link wiring (suitable for Hella flat cable 8KA 340 822-...), with 1,300 mm cable	2PS 340 837-041*	1
	Attachment using attachment holes at the side, with 2-pin EasyConn central plug	2PS 340 836-011*	1
	with 2-pole EasyConn plug housing, with potted cable 1,300 mm long	2PS 340 837-101*	1
	with Quick-Link wiring (suitable for Hella flat cable 8KA 340 822-...), with 1,300 mm cable	2PS 340 837-031*	1
	Accessories (please order separately): Universal bracket holder, angled to the rear Clipped bracket to the rear Clamp for Quick-Link wiring Assembly tool for Quick-Link cable connections	8HG 340 489-001 8HG 340 413-001 8KW 998 602-002 8PE 008 932-001	1 1 15 1
	Combined indicator with LED position light Diameter 90 mm. Ideal for combination with the 90 mm module headlights of the series 009 999-..., 009 998-..., 009 997-...		
	12 V 0.4 W, current consumption = 0.03 A + silver-coloured bulb PY21W	2BE 010 102-001*	1
	24 V 0.4 W, current consumption = 0.016 A + amber bulb PY21W	2BE 010 102-011*	1

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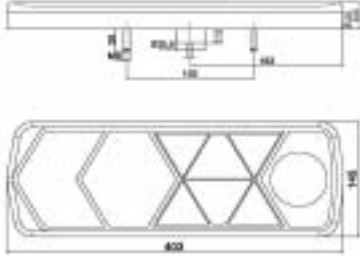

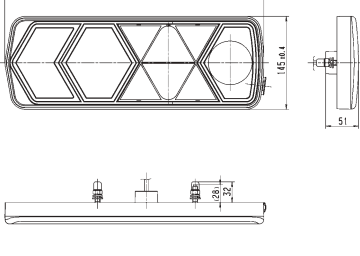

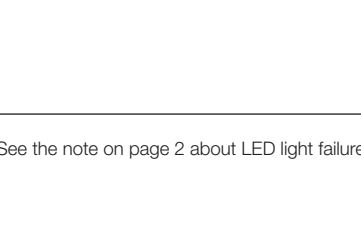
Figure	Description	Part number	PU
	EasyConn I Multi-function combination rearlight for horizontal surface-mounting. Combined tail-triangular reflector-stop-indicator-rear fog-reverse light with 4 vibration dampers, 7-pin EasyConn central plug. 2 x taillight with 2 red LEDs each. Protective category IP54.		
	24 V/1 W, current consumption for LED taillight = approx. 0.04 A	2VP 340 932-001*	1
	right (without rubber arm)	2VP 340 932-011*	1
	left (without rubber arm)		
	With clearance and side marker light in the rubber arm. With 2 white LEDs for position light, 1 red LED for clearance light and 2 amber LEDs for side marker light.	2VP 340 934-101*	1
	right	2VP 340 934-111*	1
	left		
	24 V/1.5 W, current consumption = 0.05 A		
	Retrofit set "LED module for taillight function" For converting the taillight function from bulb technology to LED technology. For EasyConn combination rearlights fitted with bulbs (2VP 340 830-..., 2VP 340 831-..., 2VP 340 930-... and 2VP 340 931-...)	9XX 340 173-801*	1
	The set comprises 2 reflectors, one each for the right and left light, with one board each including 4 LEDs and adapter cable for connection to the bulb holder. The board is seawater-proof. Simply click the module into the reflector. The two lugs are used to fix the module flush to the surface. The type approval number is embossed visibly in the right-hand lug. At the same time, the type approval number of the bulb version is covered by the lugs.		
	24 V/1 W, current consumption = approx. 0.04 A		
	EasyConn II Multi-function combination rearlight for horizontal surface-mounting. Combined tail-triangular reflector-stop-indicator-rear fog-reverse light with 4 vibration dampers, 7-pin EasyConn central plug, 24 V.		
	Taillight function behind the triangular reflector with 10 red LEDs.	2VP 340 942-001*	1
	right (without rubber arm)	2VP 340 942-011*	1
	left (without rubber arm)		
	24 V/2 W, current consumption = 0.08 A		
	With 10 red LEDs in the taillight, with clearance and side marker light in LED in the rubber arm. 2 white LEDs for position light	2VP 340 940-101*	1
	1 red LED for clearance light	2VP 340 940-111*	1
	2 amber LEDs for side marker light		
	right		
	left		
	24 V/1.5 W, current consumption = 0.05 A		

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Figure	Description	Part number	PU
	"DuraLED" for horizontal or vertical surface-mounting. Clear lens. With 36 red LEDs and potted cable 2,500 mm long with stripped cable ends. Multi-voltage 9 V–33 V. 12 V/13 W, current consumption = approx. 1.08 A 24 V/13 W, current consumption = approx. 0.54 A	2SP 959 060-601*	1
	Combined tail-stop-parklight Clear lens, red light Taillight = 2 W Stop light = 9 W Parklight = 2 W		
	Indicator for rear surface-mounting (category 2a) Clear lens, amber light, with 36 amber LEDs, with integrated electronics as a failure check. 12 V/9 W, current consumption = approx. 0.75 A 24 V/9 W, current consumption = approx. 0.38 A	2BA 959 070-631*	1
	Combined tail-stop-indicator light for horizontal surface-mounting. "DuraLED" Combi light Clear lens, with 40 LEDs and potted cable 2,500 long with stripped cable ends, multi-voltage 8–28 V. 12 V/11 W, current consumption = approx. 0.92 A 24 V/11 W, current consumption = approx. 0.46 A Stop light with 24 red LEDs, 5 W. Taillight with 8 red LEDs, of the 24 LEDs 8 are used at a reduced power level, 1 W. Indicator with 16 amber LEDs, 5 W.		
	"Lean LED" combined rearlight tail-stop-indicator light for horizontal or vertical surface-mounting. Clear lens, with 24 LEDs Multi-voltage 9–32 V, with 200 mm cable and AMP plug Indicator: 12 V/1.5 W, current consumption = approx. 0.125 A 24 V/2 W, current consumption = approx. 0.04 A Taillight: 12 V/0.5 W, current consumption = approx. 0.04 A 24 V/1 W, current consumption = approx. 0.04 A Stop light: 12 V/1 W, current consumption = approx. 0.08 A 24 V/1.5 W, current consumption = approx. 0.06 A Protective category: IP 6K9K	2SD 959 050-401*	1
		2SD 343 910-017*	50


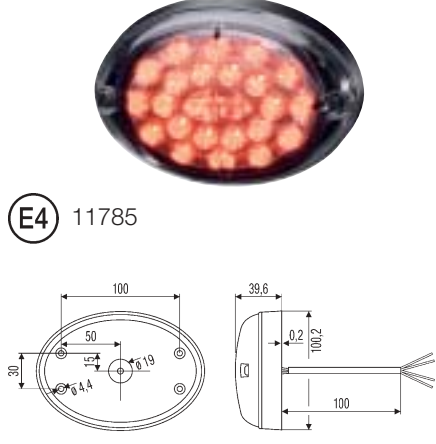


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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
	100% LED Multi-function combination rearlight for horizontal surface-mounting Lens clear on the outside, reflector red on the inside With 31 LEDs 24 V. Combined tail-triangular reflector-stop-indicator-reverse light with 500 mm cable and 7-pole EasyConn plug housing. All light functions use LED technology. Lens firmly glued to housing. Ventilation through membrane.		
	Taillight: 15 red LEDs, 24 V/0.7 W Current consumption = approx. 0.03 A Stop light: 15 red LEDs, 24 V/5 W Current consumption = approx. 0.21 A Indicator: 15 amber LEDs, 24 V/3 W Current consumption = approx. 0.125 A Reverse light: 1 white LED, 24 V/5.5 W Current consumption = approx. 0.23 A Left light with additional output from the 7-pole EasyConn plug housing into a cable 500 mm long with 2-pole EasyConn receptacle housing for connection to a rear fog light.		
	Left Right only with 7-pole connection	2VP 340 950-011*	1
	Left 1,500 mm cable with 6.3 mm blade sliders Right 2,500 mm cable with 6.3 mm blade sliders	2VP 340 950-021*	1
	Version for traction vehicles Combined tail, reflector, stop, indicator and reverse light, 1,500 mm cable with 6.3 mm blade sliders	2VP 340 950-031*	1
	Protective category: IP 6K9K With patented electronics for indicator failure check. See pages 7–10.	2VP 340 950-041*	1
		2VP 340 950-051*	1

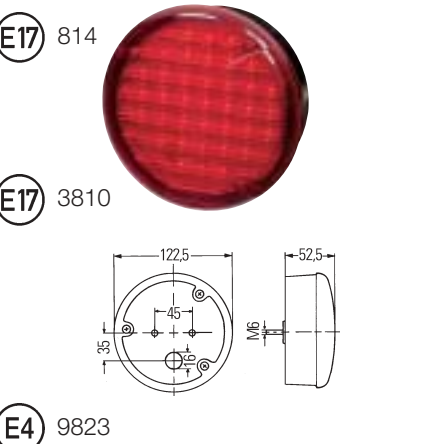

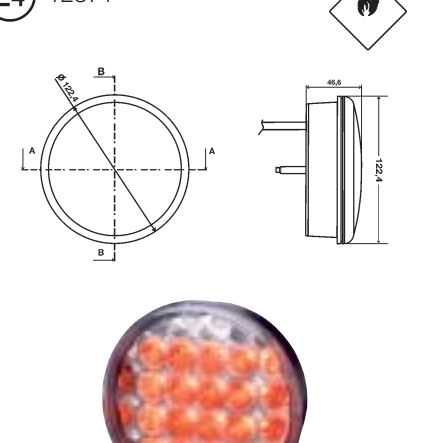
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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
 E4 11785	"Oval" combination rearlight With clear lens, 24 LEDs, Multi-voltage 9–32 V, for horizontal or vertical surface-mounting, can be used on the right or left, can be turned through 180°, 2 bodywork fastening screws (diagonal arrangement) with 100 mm harness. Protective category: IP 6K9K Indicator 12 V/3 W, current consumption = approx. 0.25 A 24 V/3.5 W, current consumption = approx. 0.15 A <i>With patented electronics for indicator failure check. See pages 7–10.</i>	2BA 343 390-071*	1
 E4 11785	Combined tail/stop light Stop light: 12 V/2 W, current consumption = approx. 0.17 A 24 V/2.5 W, current consumption = approx. 0.10 A Taillight: 12 V/0.5 W, current consumption = approx. 0.04 A 24 V/0.5 W, current consumption = approx. 0.02 A	2SB 343 390-091*	1
 E4 11785	Combined tail-stop-indicator light Indicator: 12 V/1.5 W, current consumption = approx. 0.125 A 24 V/2 W, current consumption = approx. 0.08 A Stop light: 12 V/1 W, current consumption = approx. 0.08 A 24 V/1.5 W, current consumption = approx. 0.06 A Taillight: 12 V/0.5 W, current consumption = approx. 0.04 A 24 V/1 W, current consumption = approx. 0.04 A <i>With patented electronics for indicator failure check. See pages 7–10.</i>	2SD 343 390-011*	1
 E4 11785	Combined tail-stop-indicator light for vertical flush-mounting only With 4-pin Deutsch plug integrated in the housing. <i>With patented electronics for indicator failure check. See pages 7–10.</i>	2SD 343 390-401* 2SD 343 390-407*	1 24

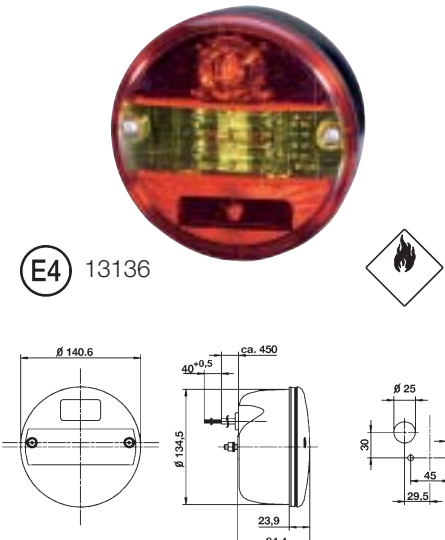
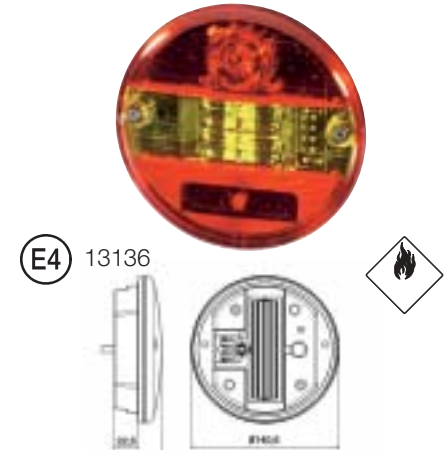

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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
 E17 814  E17 3810 E4 9823	for surface-mounting or flush-mounting. with 37 red LEDs, cable 500 mm long, without plug. Combined tail-stop light, red lens 24 V/5.7 W, current consumption = approx. 0.24 A Taillight = 0.7 W Stop light = 5 W Rear fog light, red lens 24 V/4 W, current consumption = approx. 0.17 A Reverse light, clear lens, with 37 white LEDs. 24 V/5 W, current consumption = approx. 0.21 A left right	2SB 964 169-301* 2SB 964 169-307* 2NE 964 169-341*	1 36 1
 E4 23254	Combined tail-stop-indicator light for surface- mounting Redesign of the 964 169 series With clear lens, 24 LEDs, multi-voltage 9–32 V and 500 mm harness. Indicator: 12 V/1 W, current consumption = approx. 0.08 A 24 V/1.5 W, current consumption = approx. 0.06 A Taillight: 12 V/0.5 W, current consumption = approx. 0.04 A 24 V/0.5 W, current consumption = approx. 0.02 A Stop light 12 V/1 W, current consumption = approx. 0.08 A 24 V/1.5 W, current consumption = approx. 0.06 A Protective category: IP 6K9K <i>With patented electronics for indicator failure check. See pages 7–10.</i> Combined tail-stop light for surface-mounting Stop light: 12 V/2 W, current consumption = approx. 0.17 A 24 V/2.5 W, current consumption = approx. 0.10 A Taillight: 12 V/0.5 W, current consumption = approx. 0.04 A 24 V/0.5 W, current consumption = approx. 0.02 A Protective category: IP 6K9K Indicator for surface-mounting 12 V/1.5 W, current consumption = approx. 0.125 A 24 V/2 W, current consumption = approx. 0.08 A Protective category: IP 6K9K <i>With patented electronics for indicator failure check. See pages 7–10.</i>	2SD 344 200-001* 2SD 344 200-007* 2SB 344 200-027* 2BA 344 200-037*	1 36 36 36


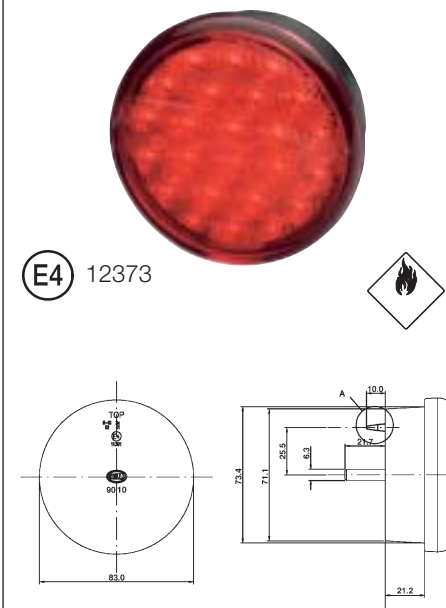


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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
 <p>(E4) 13136</p>	<p>Combined tail-stop-indicator light for horizontal surface-mounting</p> <p>With red/amber/red lens and black housing, 4 LEDs. 2 LEDs for indicator, 1 LED for taillight, 1 LED for stop light. Multi-voltage 9–32 V</p> <p>Indicator: 12 V/2 W, current consumption = approx. 0.17 A 24 V/3 W, current consumption = approx. 0.125 A Taillight: 12 V/1 W, current consumption = approx. 0.08 A 24 V/2 W, current consumption = approx. 0.08 A Stop light: 12 V/2 W, current consumption = approx. 0.17 A 24 V/3 W, current consumption = approx. 0.125 A</p> <p>Protective category: IP 6K9K <i>With patented electronics for indicator failure check. See pages 7–10..</i></p>	2SD 344 100-101*	1
 <p>(E4) 13136</p>	<p>Combined tail-stop-indicator light for horizontal flush-mounting. Low-profile design as flush-mounted variant.</p> <p>Can also be used in the bulb housing variants 001 685-211 and -277.</p>	2SD 344 100-001*	1
 <p>(E4) 10208</p>	<p>Combined tail-stop light</p> <p>EuroLED cast in one piece with black base plate. Electrical connection via a cable 2,500 mm-long. Multi-voltage 9 V–33 V.</p> <p>Combined tail-stop light Red lens, with 1 red LED. 12 V/2.5 W, current consumption = approx. 0.21 A 24 V/2.5 W, current consumption = approx. 0.10 A</p> <p>Rear fog light Clear lens, with 1 red LED, 12 V/4 W, current consumption = approx. 0.33 A 24 V/4 W, current consumption = approx. 0.17 A</p> <p>Reverse light White lens, with 1 white LED, 12 V/2.5 W, current consumption = approx. 0.21 A 24 V/2.5 W, current consumption = approx. 0.10 A</p> <p>Indicator Amber lens, with 1 amber LED. 12 V/2.5 W, current consumption = approx. 0.21 A 24 V/2.5 W, current consumption = approx. 0.10 A</p> <p><i>With patented electronics for indicator failure check. See pages 7–10.</i></p>	<p>2SB 959 821-601*</p> <p>2NE 959 821-201*</p> <p>2ZR 959 820-601*</p> <p>2BA 959 822-601*</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p>

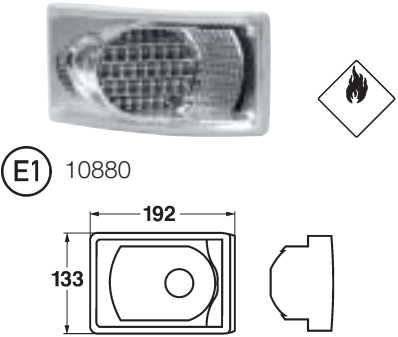

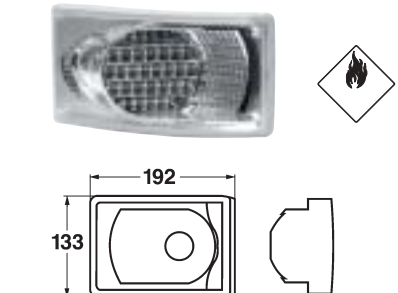
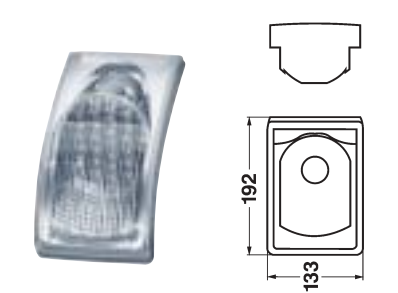
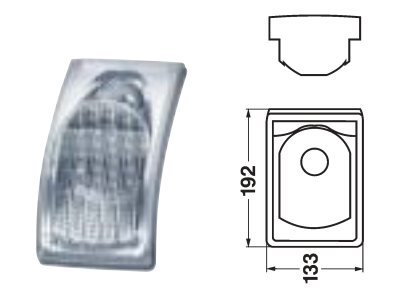
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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
 <p>(E4) 12373</p>	<p>Indicator for flush-mounting at the rear (category 2a)</p> <p>With amber lens, 24 V, 12 LEDs and 2,500 mm cable.</p> <p>24 V/2 W, current consumption = approx. 0.08 A</p> <p>Protective category: IP 6K6, IP 6K7</p> <p><i>With patented electronics for indicator failure check. See pages 7–10.</i></p>	<p>2BA 959 011-301* 2BA 959 011-307*</p>	<p>1 10</p>
 <p>(E4) 12373</p>	<p>Combined tail-stop light for flush-mounting</p> <p>With red lens, 24 V, 12 LEDs and 2,500 mm cable.</p> <p>Taillight 24 V/1 W, current consumption = approx. 0.04 A Stop light 24 V/3 W, current consumption = approx. 0.125 A</p> <p>Protective category: IP 6K6, IP 6K7</p>	<p>2SB 959 010-301* 2SB 959 010-307*</p>	<p>1 10</p>
 <p>(E4) 11391</p>	<p>Rear fog light for flush-mounting</p> <p>Clear lens, with 24 LEDs and 2,500 mm cable. Multi-voltage 9–33 V</p> <p>12 V/3 W, current consumption = approx. 0.25 A 24 V/3 W, current consumption = approx. 0.13 A</p> <p>Protective category: IP 6K6, IP 6K7</p>	<p>2NE 959 011-501* 2NE 959 011-507*</p>	<p>1 10</p>
 <p>(E4) 11391</p>	<p>Reverse light for flush-mounting</p> <p>Clear lens, with 24 LEDs and 2,500 mm cable. Multi-voltage 9–33 V</p> <p>12 V/4 W, current consumption = approx. 0.33 A 24 V/4 W, current consumption = approx. 0.17 A</p> <p>Protective category: IP 6K6, IP 6K7</p>	<p>2ZR 959 010-501* 2ZR 959 010-507*</p>	<p>1 10</p>

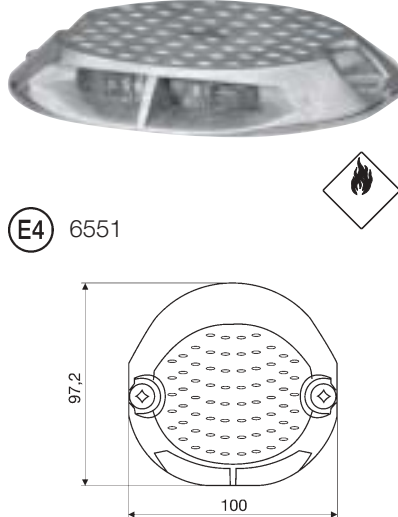
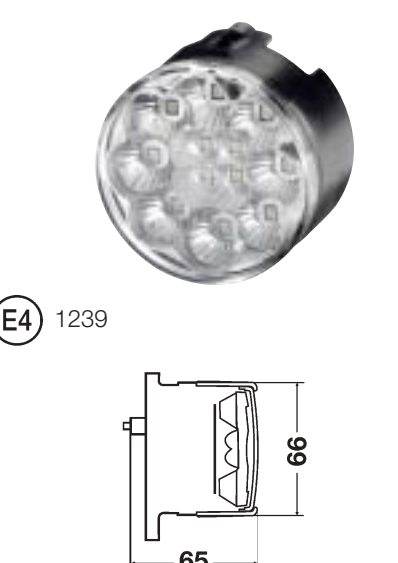
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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
 <p>(E1) 10880</p>	<p>Indicator for flush-mounting at the rear (category 2a).</p> <p>With clear lens, 32 amber LEDs, grey housing, with pulse for indicator failure check. With 500 mm cable, flush-mounting 24 V/2 W, current consumption = approx. 0.08 A</p> <p>12 V/2 W, current consumption = approx. 0.17 A</p> <p><i>With patented electronics for indicator failure check. See page 7–10</i></p>	<p>2BA 008 982-041* 1 2BA 008 982-047* 32</p> <p>2BA 008 982-341* 1 2BA 008 982-347* 32</p>	
	<p>Combined tail-stop light</p> <p>With red cover lens, 32 red LEDs. 24 V/3 W, current consumption = approx. 0.13 A</p> <p>12 V/3 W, current consumption = approx. 0.25 A</p>	<p>2SB 008 982-001* 1 2SB 008 982-007* 32</p> <p>2SB 008 982-301* 1 2SB 008 982-307* 32</p>	
	<p>With clear cover lens, 32 red LEDs. 12 V/3 W, current consumption = approx. 0.25 A</p>	2SB 008 982-367* 32	
 <p>(E4) 12386</p>	<p>Combined tail-stop light for vertical flush-mounting</p> <p>With clear lens, 32 red LEDs, 12 V.</p> <p>Taillight: 12 V/3 W, current consumption = approx. 0.25 A Stop light: 12 V/3 W, current consumption = approx. 0.25 A</p>	2SB 008 982-207* 36	
 <p>(E4) 12386</p>	<p>Indicator for vertical flush-mounting (category 2a)</p> <p>With clear lens and 32 amber LEDs.</p> <p>12 V/2 W, current consumption = approx. 0.17 A</p> <p><i>With patented electronics for indicator failure check. See pages 7–10.</i></p>	2BA 008 982-217* 36	

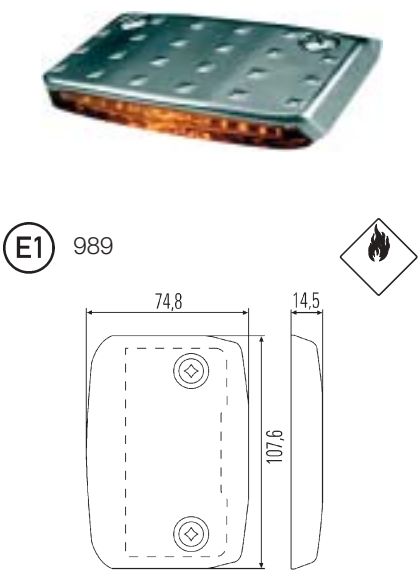
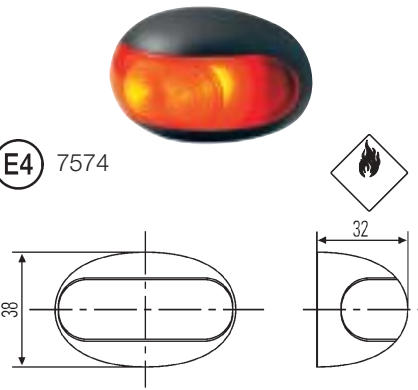
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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
 <p>(E4) 6551</p>	<p>Indicator for lifting loading platforms for rear surface-mounting (category 2a).</p> <p>Clear lens, with 2 amber LEDs, zinc diecast housing.</p> <p>With 190 mm potted cable 12 V/4 W, current consumption = approx. 0.33 A</p> <p>With 190 mm potted cable 24 V/8 W, current consumption = approx. 0.33 A</p> <p>With 190 mm potted cable 24 V/8 W, current consumption = approx. 0.33 A</p> <p>Without patented electronics for indicator failure check. In the case of lifting loading platforms, the provision of an indicator failure check is not mandatory.</p>	<p>2BA 009 204-041* 1</p> <p>2BA 009 204-051* 1</p> <p>2BA 009 204-057* 20</p>	
 <p>(E4) 1239</p>	<p>Indicator</p> <p>Clear lens, with 12 amber LEDs, plastic housing, low weight, slim design depth, waterproof outer plug connection. Suitable for light series 009 362-... and 009 001-...</p> <p>12 V/1.5 W, current consumption = 0.125 A 24 V/1.5 W, current consumption = 0.0625 A</p>	<p>2BA 009 001-411* 2BA 009 001-511*</p>	<p>1 1</p>

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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
 <p>E1 989</p>	<p>Indicator for lifting loading platforms for rear surface-mounting (category 2a).</p> <p>Clear lens, with 12 amber LEDs, zinc diecast housing. 2 fastening screws M6, with potted cables. Protective category: IP5K9K. 24 V/2.8 W, current consumption = approx. 0.12 A</p>	<p>2BA 008 260-001*</p> <p>2BA 008 260-007*</p>	<p>1</p> <p>20</p>
	<p>12 V/2.8 W, current consumption = approx. 0.23 A</p>	<p>2BA 008 260-017*</p>	<p>20</p>
	<p>Necessary for installation: Flasher unit, 12 V 10–110 W</p> <p>or</p> <p>flasher unit, 24 V 10–110 W</p>	<p>4ZA 001 879-011*</p> <p>4ZA 001 879-021*</p>	<p>1</p> <p>1</p>
	<p>Clearance light for horizontal surface-mounting.</p> <p>Clear lens, with 3 red LEDs, black housing. Multi-voltage 8 V–28 V. 12 V/0.5 W, current consumption = approx. 0.04 A 24 V/0.5 W, current consumption = approx. 0.02 A</p> <p>with 500 mm cable with 5,000 mm cable</p>  <p>E4 7574</p>	<p>2XA 959 560-401*</p> <p>2XA 959 560-411*</p>	<p>2</p> <p>2</p>

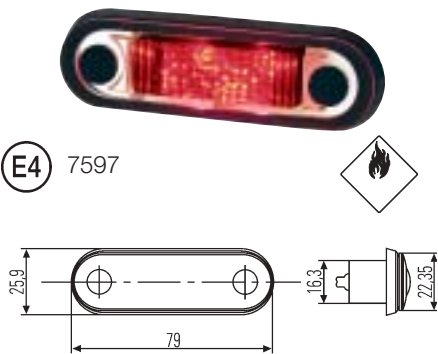
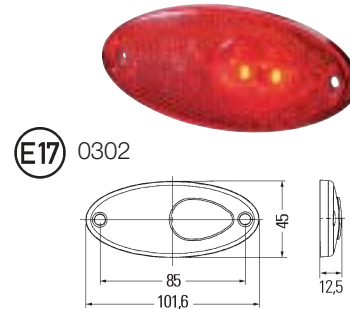
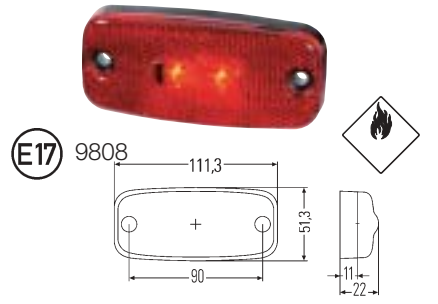
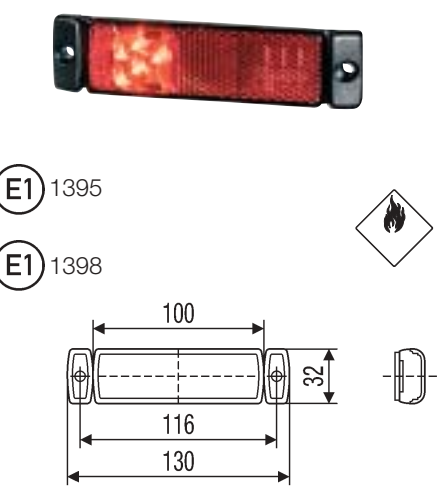
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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
 <p>E4 10211</p>	<p>Clearance light with integrated side marker light in the long rubber arm.</p> <p>Clear lens. With interior amber cover lens at the side. With 500 mm cable and Quick-Link wiring for upright surface-mounting to vertical surfaces at the side. 2 white LEDs for position light, 1 red LED for clearance light and 2 amber LEDs for side marker light, 24 V. right left</p>	<p>2XS 340 418-121*</p> <p>2XS 340 418-131*</p>	<p>1</p> <p>1</p>
	<p>With 500 mm cable and 2-pole EasyConn receptacle housing for upright surface-mounting to vertical surfaces at the side. 2 white LEDs for position light, 1 red LED for clearance light and 2 amber LEDs for side marker light. right left 24 V/1.5 W, current consumption = 0.05 A</p>	<p>2XS 340 418-021*</p> <p>2XS 340 418-031*</p>	<p>1</p> <p>1</p>
	<p>Clearance light with integrated side marker light in the short rubber arm. Can be used on the left and right.</p> <p>Clear lens. With interior amber cover lens at the side. With 500 mm cable and Quick-Link wiring for surface-mounting to vertical surfaces at the side. 2 white LEDs for position light, 1 red LED for clearance light and 2 amber LEDs for side marker light, 24 V.</p>	<p>2XS 340 447-001*</p>	<p>1</p>
	<p>With 500 mm cable and 2-pole EasyConn receptacle housing for surface-mounting to vertical surfaces at the side. 2 white LEDs for position light, 1 red LED for clearance light and 2 amber LEDs for side marker light. 24 V/1.5 W, current consumption = 0.05 A</p>	<p>2XS 340 447-021*</p>	<p>1</p>
 <p>E4</p>	<p>Clearance light with integrated side marker light in the long rubber arm.</p> <p>Clear lens. With interior amber cover lens at the side. With 500 mm cable and Quick-Link wiring. For upright surface-mounting on horizontal surfaces at the side. 2 white LEDs for position light, 1 red LED for clearance light and 2 amber LEDs for side marker light, 24 V. right left</p>	<p>2XS 340 448-021*</p> <p>2XS 340 448-031*</p>	<p>1</p> <p>1</p>
	<p>With 500 mm cable and 2-pole EasyConn receptacle housing. 2 white LEDs for position light, 1 red LED for clearance light and 2 amber LEDs for side marker light. right left 24 V/1.5 W, current consumption = 0.05 A</p>	<p>2XS 340 448-001*</p> <p>2XS 340 448-011*</p>	<p>1</p> <p>1</p>

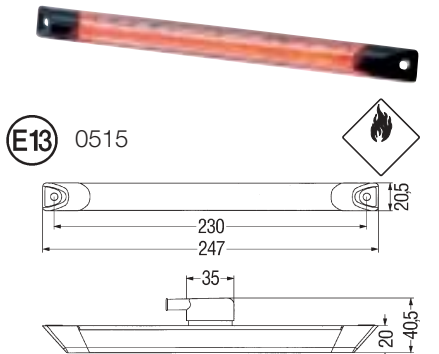
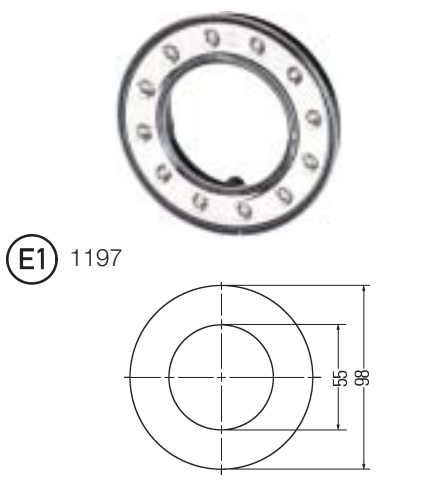
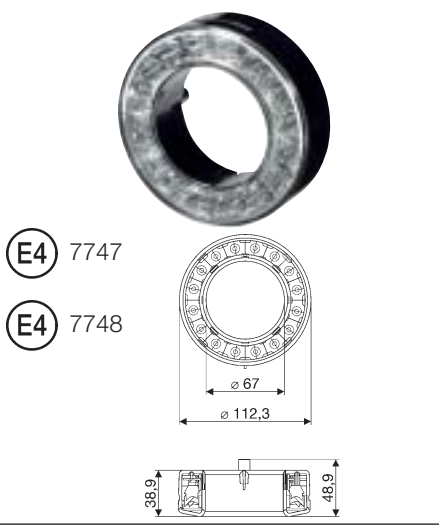
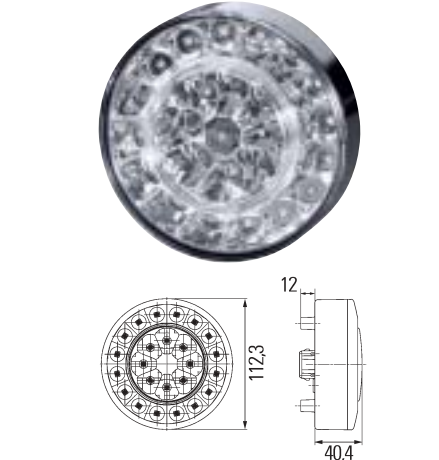
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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
	Signal light for horizontal and vertical flush-mounting. Can be used as a taillight or clearance light. Clear lens with 2 red LEDs. With seal. Multi-voltage 8 V–28 V. Current consumption at 12 V/0.5 W = approx. 0.04 A Current consumption at 24 V/0.5 W = approx. 0.02 A with 500 mm cable and caps with 5,000 mm cable and caps	2XA 959 790-401* 2XA 959 790-407* 2XA 959 790-411*	2 30 2
	Taillight with reflector for horizontal surface-mounting. Red lens. With 2 red LEDs. with seal and 5,000 mm cable, 24 V/1.0 W, current consumption = approx. 0.04 A with seal and 5,000 mm cable, 12 V/0.5 W, current consumption = approx. 0.04 A	2TM 964 295-091* 2TM 964 295-097* 2TM 964 295-101* 2TM 964 295-107*	1 20 1 20
	Taillight with reflector for horizontal surface-mounting. Red lens. With 2 red LEDs, black base plate, without bracket. With 5,000 mm cable, 12 V/0.5 W, current consumption = approx. 0.04 A With 5,000 mm cable, 24 V/1.0 W, current consumption = approx. 0.04 A	2TM 963 639-307* 2TM 963 639-317*	20 20
	Taillight with reflector¹⁾ for horizontal or vertical surface-mounting. With horizontal surface-mounting, the LED field must point to the outer vehicle edge. With vertical surface-mounting, the LED field may face point upwards or downwards. Red light, with 3 red LEDs. Black housing. 2 holes for fastening screws B4.2. 12 V/0.6 W, current consumption = approx. 0.05 A With 500 mm cable With 5,000 mm cable 24 V/1.2 W, current consumption = approx. 0.05 A With 500 mm cable With 5,000 mm cable With 5,000 mm cable and 2-pole EasyConn plug housing with 300 mm cable with Quick-Link coupling incl. clamp for contacting a 2-wire flat cable, 24 V 1.2 W with 5,000 mm cable with Quick-Link coupling incl. clamp for contacting a 2-wire flat cable, 24 V 1.2 W	2TM 008 645-081* 2TM 008 645-087* 2TM 008 645-091* 2TM 008 645-061* 2TM 008 645-067* 2TM 008 645-071* 2TM 008 645-077* 2TM 008 645-351* 2TM 008 645-651* 2TM 008 645-657 2TM 008 645-661* 2TM 008 645-667*	1 50 1 1 50 1 50 1 1 50 1 50


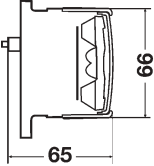

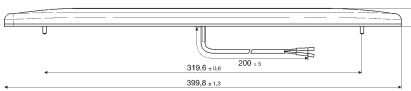
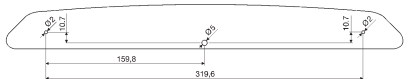

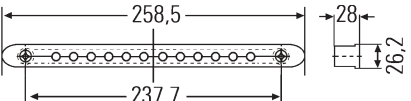
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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
	Combined tail-clearance light for horizontal or vertical surface-mounting to box trailers and semi-trailers. Clear lens, with 2 red LEDs, with grommet. Base plate and caps made of grey plastic. With prism rod as light aperture body. 2 holes, Ø 5.4 mm, for fastening screws. 12 V/0.7 W, current consumption = approx. 0.06 A 24 V/1.4 W, current consumption = approx. 0.06 A	2XS 008 078-011* 2XS 008 078-001* 2XS 008 078-007*	1 1 60
	Taillight and stop light for flush-mounting at the rear. Clear lens with 12 red LEDs. Suitable for light series 008 221-... 12 V/1.8 W, current consumption = approx. 0.15 A 24 V/1.8 W, current consumption = approx. 0.075 A 12 V/2.1 W, current consumption = approx. 0.175 A 24 V/2.1 W, current consumption = approx. 0.0917 A	2SA 008 405-021* 2SA 008 405-027* 2SA 008 405-011* 2SA 008 405-017* 2SB 008 405-101* 2SB 008 405-091*	1 60 1 60 1 1
	Tail-stop light ring ECE Lens with 16 LEDs. Suitable for light series 009 001-... 12 V (clear) 0.1 W/2.3 W, 0.0083 A/0.2 A 12 V (red) 0.1 W/2.3 W, 0.0083 A/0.2 A 24 V (red) 0.2 W/4.6 W, 0.0083 A/0.2 A	2SB 009 362-021* 2SB 009 362-041* 2SB 009 362-011*	1 1 1
	Combined tail-stop-indicator light SAE for flush-mounting at the rear Combined tail-stop-indicator light for vehicles with SAE approval greater and smaller than 2,030 mm vehicle width. Clear lens, with 24 red LEDs. Suitable for light series 009 362-..., 009 001-... 12 V (clear) 2.8 W, current consumption = 0.23 A	2SD 009 362-201*	1

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* See the note on page 2 about LED light failure check.


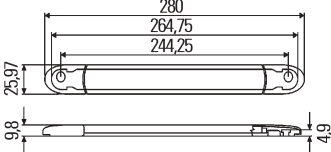
Figure	Description	Part number	PU
 (E4) 1239 	Combined tail-stop light Clear lens, with 12 red LEDs, plastic housing, low weight, slim design depth, waterproof outer plug connection. Suitable for light series 009 362-... and 009 001-... 12 V/0.4 W/2.6 W, current consumption = 0.03 A/0.22 A 24 V/0.4 W/2.6 W, current consumption = 0.017 A/0.11 A	2SB 009 001-401* 2SB 009 001-501*	1 1
 (E4) 7715  	Auxiliary stop light for horizontal surface-mounting. With 12 red LEDs, in brilliant finish with 3D effect thanks to each LED being embedded in a separate reflector. 12 V/1.8 W, current consumption = approx. 0.15 A 12 V, with rubber base 24 V, screw version 12 V/1.8 W, current consumption = approx. 0.15 A 24 V/1.8 W, current consumption = approx. 0.08 A	2DA 343 800-001* 2DA 343 800-007* 2DA 343 800-057* 2DA 343 800-047*	1 36 48 48
 (E4) 7547 	Auxiliary stop light*) for horizontal flush-mounting. With 12 red LEDs and attached connection cable. With red lens 12 V/2 W, current consumption = approx. 0.17 A 24 V/2 W, current consumption = approx. 0.08 A With red lens and fastening material 24 V/2 W, current consumption = approx. 0.08 A With clear lens 12 V/2 W, current consumption = approx. 0.17 A 24 V/2 W, current consumption = approx. 0.08 A	2DA 959 071-537* 2DA 959 071-737* 2DA 959 071-757* 2DA 959 071-037* 2DA 959 071-237*	10 10 10 10 60

38 *) Die Leuchte kann hinter der Heckscheibe angebaut werden. Für Heckscheibenwinkel zur Horizontalen von 75° bis 90°. Der Transmissionsgrad der Heckscheibe ist zulässig von 80 % bis 90 %.

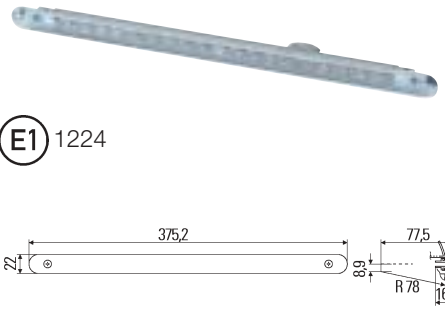
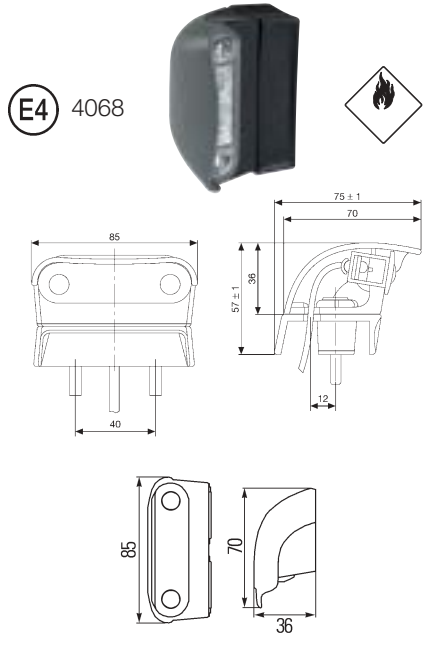
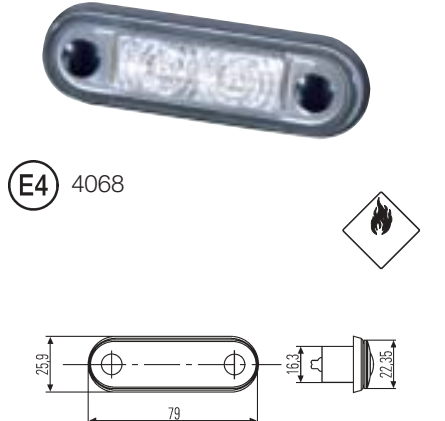
* See the note on page 2 about LED light failure check.

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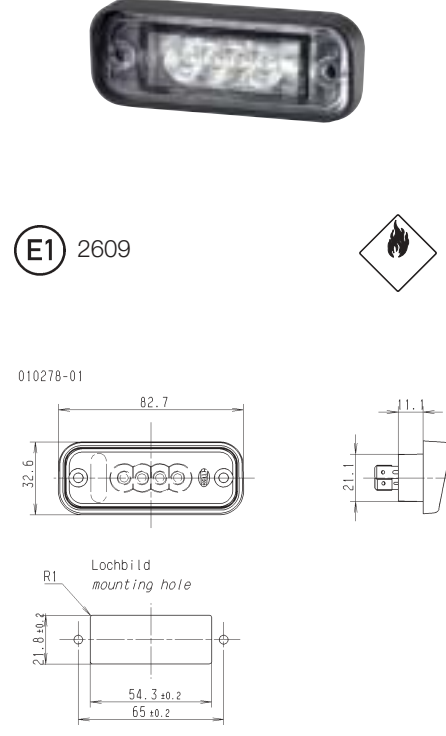
Figure	Description	Part number	PU
 (E4) 7696 	Auxiliary stop light for horizontal or vertical surface-mounting. With 10 red LEDs and 3,000 mm cable. 2 holes, Ø 3 mm, for fastening screws. Lens and caps red, for fastening screws. 12 V/0.7 W, current consumption = approx. 0.06 A 24 V/1.4 W, current consumption = approx. 0.06 A Lens and cover caps smoke-glass coloured, for fastening screws. 12 V/0.7 W, current consumption = approx. 0.06 A 24 V/1.4 W, current consumption = approx. 0.06 A Lens and cover caps red, for fastening screws. Self-adhesive, for fastening openings 12 V/0.7 W, current consumption = approx. 0.06 A 24 V/1.4 W, current consumption = approx. 0.06 A Lens and cover caps smoke-glass coloured, for fastening screws. Self-adhesive. 12 V/0.7 W, current consumption = approx. 0.06 A 24 V/1.4 W, current consumption = approx. 0.06 A Lens blue and cover caps grey, for fastening screws. With ECE type approval. 12 V/0.7 W, current consumption = approx. 0.06 A Lens red, without cover caps and bush, self-adhesive. 12 V/0.7 W, current consumption = approx. 0.06 A	2DA 343 106-001* 2DA 343 106-007* 2DA 343 106-011* 2DA 343 106-017* 2DA 343 106-021* 2DA 343 106-027* 2DA 343 106-031* 2DA 343 106-037* 2DA 343 106-201* 2DA 343 106-207* 2DA 343 106-211* 2DA 343 106-217* 2DA 343 106-221* 2DA 343 106-227* 2DA 343 106-231* 2DA 343 106-237* 2DA 343 106-307* 2DA 343 106-407*	1 30 1 30 1 30 1 30 1 30 1 30 30 30

* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
 <p>E1 1224</p>	<p>Auxiliary stop light for flush-mounting, e.g. in rear spoiler.</p> <p>Clear lens. With 20 red LEDs and fastening screws included. With PMMA lens, attachment from the outside. Permissible tolerance of the light: +5° and -5° parallel to the roadway. 12 V, 3 W, current consumption = approx. 0.25 A</p> <p>Accessories Cable with grommet</p>	<p>2DA 007 858-037*</p> <p>8KA 146 751-007</p>	<p>32</p> <p>56</p>
 <p>E4 4068</p>	<p>Licence plate light for surface-mounting on the left and right next to the licence plate (520 x 120 mm).</p> <p>Clear lens, with 2 white LEDs, housing and base made of black plastic, bulb holder with vibration damping, with 2 caulked screws, multi-voltage 10–33 Volt. 12 V/0.5 W, current consumption = approx. 0.04 A 24 V/0.5 W, current consumption = approx. 0.02 A</p> <p>with 500 mm cable and 2-pole EasyConn receptacle housing</p> <p>with 2,500 mm cable</p>	<p>2KA 959 640-661*</p> <p>2KA 959 640-607*</p>	<p>1</p> <p>8</p>
 <p>E4 4068</p>	<p>Licence plate light for surface-mounting above the licence plate.</p> <p>3 licence plate lights are required for illumination of the licence plate 520 x 120 mm.</p> <p>With 2,500 mm cable and 2 white LEDs, multi-voltage 10–33 V, 12 V/0.5 W, current consumption = approx. 0.04 A 24 V/0.5 W, current consumption = approx. 0.02 A</p>	<p>2KA 959 640-102*</p>	<p>3</p>

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* See the note on page 2 about LED light failure check.

Figure	Description	Part number	PU
 <p>E1 2609</p>	<p>Licence plate light for surface-mounting on the left or right next to the licence plate (520 x 120 mm) Only 1 light required for illumination.</p> <p>Clear lens, with 4 LEDs, black plastic housing With blade terminal 6.3 x 0.8</p> <p>24 V/1 W, current consumption = approx. 0.04 A 12 V/1 W, current consumption = approx. 0.08 A</p> <p>24 V with 500 mm cable and 2-pole EasyConn plug</p> <p>24 V with 2,000 mm cable and blade terminal 6.3 x 0.8</p> <p>24 V with 500 mm cable and Quick-Link connector</p>	<p>2KA 010 278-021*</p> <p>2KA 010 278-321*</p> <p>2KA 010 278-051*</p> <p>2KA 010 278-031*</p> <p>2KA 010 278-041*</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>
 <p>E1 2609</p>	<p>Licence plate light for flush-mounting above the licence plate (520 x 120 mm) 2 lights are required for illumination of the licence plate</p> <p>With blade terminal 6.3 x 0.8 24 V/1 W, current consumption = approx. 0.04 A 12 V/1 W, current consumption = approx. 0.08 A</p> <p>Protective category: IP 6K9K</p>	<p>2KA 010 278-011*</p> <p>2KA 010 278-311*</p>	<p>1</p> <p>1</p>

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* See the note on page 2 about LED light failure check.


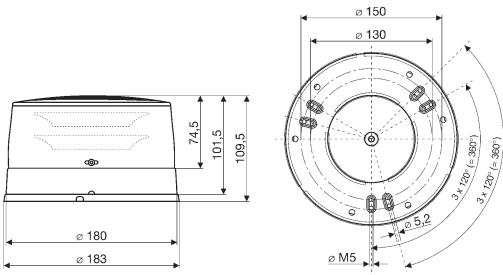

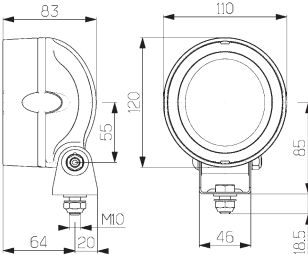
Figure	Description	Part number	PU
 <p>E4 6518 e1 4238</p> 	<p>K-LED</p> <p>Beacon with 2 LED discs with amber light and rubber base.</p> <p>Aluminium housing. Clear PMMA light dome with bayonet lock.</p> <p>Rated voltage 12 V/24 V Operating voltage 9–32 V Single flash 12 V 2 A/24 V 0.9 A Double flash 12 V 2.4 A/24 V 1.1 A</p> <p>With amber housing With silver-coloured housing With black housing</p> <p>Spare parts: Light dome (PMMA), for orange light dome (PMMA), for silver light dome (PMMA), for black</p>	<p>2XD 009 386-021 1 2XD 009 386-121 1 2XD 009 386-421 1</p> <p>9EL 863 943-071 1 9EL 863 943-061 1 9EL 863 943-081 1</p>	
 	<p>Mega Beam LED</p> <p>Worklight with aluminium housing, with 4 white LEDs, with 2,000 mm cable. Multi-voltage 9 V–31 V.</p> <p>12 V/7 W, current consumption = approx. 0.6 A 24 V/7 W, current consumption = approx. 0.3 A Upright surface-mounting Pendant surface-mounting Upright surface-mounting, multi-voltage 36 V–80 V 7 W, current consumption max. 0.7 A.</p>	<p>1GM 996 136-101 1 1GM 996 136-111 1</p> <p>1GM 996 136-131 1</p>	

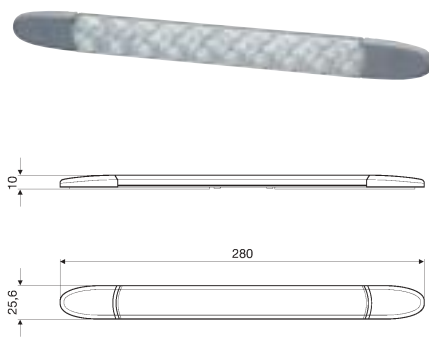
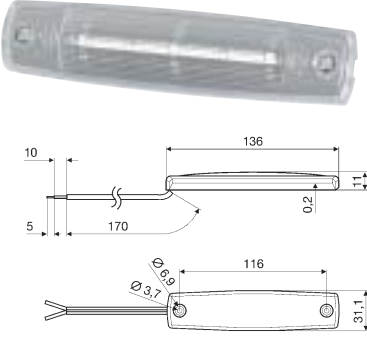
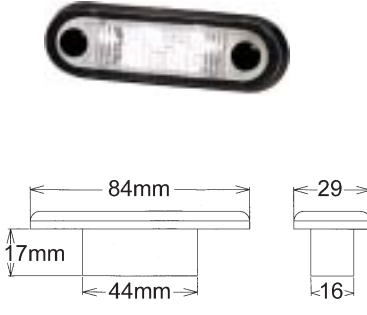
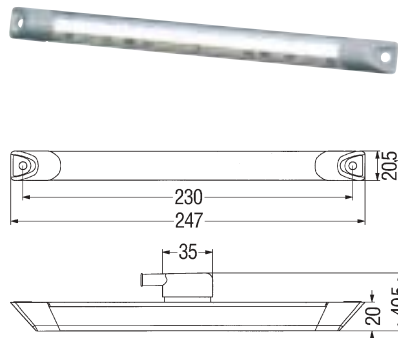
Figure	Description	Part number	PU
 <p>The figure shows a photograph of the interior light 'SpotLED' and its technical drawings. The top drawing is a perspective view of the light fixture. The middle drawing is a top view showing a circular light with a diameter of 110 mm and a mounting flange with a diameter of 70.2 mm. The bottom drawing is a side view showing the mounting flange with a thickness of 21.7 mm and a base with a diameter of 38.7 mm. The technical drawings also indicate a diameter of 65 mm for the mounting flange and a diameter of 92 mm for the base.</p>	<p>Interior light "SpotLED", adjustable, for flush-mounting.</p> <p>With 1 white LED, adjustable spotlight (20°), electrical connection through a cable 200 mm long. Multi-voltage 9–31 V, narrow illumination.</p> <p>With blue ambient CELIS® ring with screw or spring attachment White trim Black trim</p> <p>Spotlight 12 V/2.5 W, current consumption = approx. 0.21 A 24 V/2.5 W, current consumption = approx. 0.10 A</p> <p>Ambient CELIS® ring 12 V/0.5 W, current consumption = approx. 0.04 A 24 V/0.5 W, current consumption = approx. 0.02 A</p> <p>Without CELIS® ring, with white trims and screw attachment.</p> <p>With red ambient CELIS® ring, with black trims and screw attachment.</p> <p>With blue ambient CELIS® ring, with black trims; with screw and spring attachment.</p>	<p>2JA 343 700-071 2JA 343 700-271</p> <p>2JA 343 700-051 2JA 343 700-167 2JA 343 700-271</p>	<p>1 1</p> <p>1 30 1</p>
 <p>The figure shows a photograph of the interior light 'Spot LED' and its technical drawings. The top drawing is a perspective view of the light fixture. The middle drawing is a top view showing a circular light with a diameter of 110 mm and a mounting flange with a diameter of 70.2 mm. The bottom drawing is a side view showing the mounting flange with a thickness of 26 mm and a base with a diameter of 42.2 mm. The technical drawings also indicate a diameter of 65 mm for the mounting flange and a diameter of 92 mm for the base.</p>	<p>Interior light "Spot LED", fixed, for flush-mounting. 1 white LED, black housing, clear lens with matt edging. Electrical connection through a cable 200 mm long. Multi-voltage 9–31 V. Narrow illumination. Possible to change between white functional lighting and ambient night design (CELIS® ring). IP69, temperature range -40°C to +60°C</p> <p>Spotlight 12 V/2.5 W, current consumption = approx. 0.21 A 24 V/2.5 W, current consumption = approx. 0.10 A</p> <p>Ambient CELIS® ring 12 V/0.5 W, current consumption = approx. 0.04 A 24 V/0.5 W, current consumption = approx. 0.02 A</p> <p>With red ambient CELIS® ring, with white trims and screw attachment.</p> <p>With blue ambient CELIS® ring, with grey trims, screw and spring attachment.</p>	<p>2JA 343 680-067 2JA 343 680-127</p>	<p>30 30</p>

Figure	Description	Part number	PU
	<p>Spot LED Round 1 white LED, black housing, clear lens with matt edging, electrical connection via a cable 200 mm long. Multi-voltage 9–31 V, narrow illumination. Possible to change between white functional light and ambient night design.</p> <p>Spotlight 12 V/2.5 W, current consumption = approx. 0.21 A 24 V/2.5 W, current consumption = approx. 0.10 A</p> <p>Ambient CELIS® ring 12 V/0.5 W, current consumption = approx. 0.04 A 24 V/0.5 W, current consumption = approx. 0.02 A</p> <p>Flush-mounting, fixed, black trim Screw attachment, with white ambient CELIS® ring</p> <p>Flush-mounting, adjustable, (swivelling angle 20 degrees) White trim, screw and spring attachment, with blue ambient CELIS® ring</p>	<p>2JA 343 980-217</p> <p>2JA 343 790-107</p>	<p>48</p> <p>30</p>
	<p>Mini OvalLED for flush-mounting. 4 white LEDs, 1 LED for ambient light, brilliant-finish and clear lens, black housing, available either with or without black frame and switch; ambient lighting can be switched on in addition, electrical connection via a cable 150 mm long. Illumination for the driver or instrument panel area at the side. IP69, temperature range -40°C to +60°C</p> <p>12 V/6 W, current consumption = approx. 0.5 A 24 V/6 W, current consumption = approx. 0.25 A</p> <p>12 V red ambient, without frame and switch Premium G-LED 12 V blue ambient, without frame and switch Premium G-LED 12 V red ambient, with frame and switch Premium G-LED 12 V blue ambient, with frame and switch Premium G-LED</p>	<p>2JA 343 570-011</p> <p>2JA 343 570-117</p> <p>2JA 343 570-051</p> <p>2JA 343 570-157</p>	<p>1</p> <p>48</p> <p>1</p> <p>48</p>
	<p>Interior light "SpotLED" flexible, for surface-mounting. With 1 white LED, electrical connection via a cable 120 mm long. Multi-voltage 9–31 V, narrow illumination, perfect for map reading.</p> <p>12 V/2.5 W, current consumption = approx. 0.20 A 24 V/2.5 W, current consumption = approx. 0.10 A</p> <p>White trim With flexibly adjustable arm, 150 mm With flexibly adjustable arm, 400 mm</p> <p>Black trim With flexibly adjustable arm, 150 mm With flexibly adjustable arm, 400 mm</p> <p>Black trim with 1 red LED With flexibly adjustable arm, 400 mm</p>	<p>2JA 343 720-011 2JA 343 720-111</p> <p>2JA 343 720-021 2JS 343 720-121</p> <p>2JA 343 720-157</p>	<p>1 1</p> <p>1 1</p> <p>12</p>

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Figure	Description	Part number	PU
	<p>Interior light "CargoLED", for flush-mounting. With clear lens, 4 white LEDs and aluminium-coloured installation frame. Electrical connection via a cable 310 mm long. Multi-voltage 9–31 V, broader illumination at close range.</p> <p>ADR/GGVS tested. IP 69, temperature range -40 to +60°C.</p> <p>12 V/6 W, current consumption = approx. 0.5 A 24 V/6 W, current consumption = approx. 0.25 A</p> <p>ambient functional lighting</p>	<p>2JB 343 227-001</p> <p>2JB 343 227-047</p>	<p>1</p> <p>12</p>
	<p>Rectangular interior light "DuraLED", for surface-mounting. Cast in one piece with white base plate. With clear lens, 36 white LEDs and white housing. Electrical connection via a cable 2,500 mm long. Multi-voltage 9–31 V, broad horizontal and narrow vertical illumination.</p> <p>12 V/9 W, current consumption = approx. 0.75 A 24 V/9 W, current consumption = approx. 0.38 A</p>	<p>2JA 959 037-511</p>	<p>1</p>
	<p>Interior light "EuroLED", for horizontal surface-mounting. Clear lens, with 1 white LED. Cast in one piece with black base plate. Electrical connection via a cable 2,500 mm long. Multi-voltage 9–31 V.</p> <p>12 V/4 W, current consumption = approx. 0.33 A 24 V/4 W, current consumption = approx. 0.17 A</p> <p>Interior light "EuroLED Touch" Clear lens, with 1 white LED. 8 red LEDs with sensitive switch, for on/off function and dimming as well as changing between white and red light.</p> <p>12 V/3 W, current consumption = approx. 0.25 A 24 V/3 W, current consumption = approx. 0.13 A</p> <p>black trim white trim</p>	<p>2JA 959 820-501</p> <p>2JA 959 950-017</p> <p>2JA 959 950-031 2JA 959 950-041</p>	<p>1</p> <p>12</p> <p>1 1</p>

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Figure	Description	Part number	PU
	Interior light "ThinLite" for surface-mounting with screw attachment. With 10 white LEDs, cast in one piece with grey base plate. Electrical connection via a cable 1,000 mm long. Broad illumination at close range. IP 69, temperature range -40 to +60°C. 12 V/1.8 W, current consumption = approx. 0.15 A 24 V/3.6 W, current consumption = approx. 0.15 A	2JA 343 606-007 2JA 343 606-017	30 30
	Interior light "Mini ThinLED" for surface-mounting with screw attachment. With 5 white LEDs, cast in one piece with grey base plate. Electrical connection via a cable 180 mm long. Broad illumination at close range. IP 69, temperature range -40 to +60°C. 12 V/2.8 W, current consumption = approx. 0.23 A 12 V/2.8 W, current consumption = approx. 0.23 A 24 V/2.8 W, current consumption = approx. 0.12 A	2JA 343 660-101 2JA 343 660-107 2JA 343 660-117	1 30 30
	Entry lights for flush-mounting. Step light, emergency and night-lighting. Clear lens, with 2 LEDs, seal, fastening screws and screw caps. Dustproof and waterproof, with polarity inversion protection. Multi-voltage 10–33 V. 12 V/0.5 W, current consumption = approx. 0.04 A 24 V/0.5 W, current consumption = approx. 0.02 A Step light with 2 white LEDs Electrical connection via a cable 120 mm long. Electrical connection via a cable 150 mm long and 2-pin Packard plug. Step light with 2 blue LEDs electrical connection via a cable 120 mm long.	2XT 959 510-427 2XT 959 510-467 2XT 959 510-657	36 24 36
	Interior light for surface-mounting. Clear lens. 12 V/0.7 W, current consumption = approx. 0.06 A Interior light with white LEDs With prism rod as light aperture body	2JA 008 078-031	1

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Figure	Description	Part number	PU
	Interior light, potted, for flush-mounting. Clear lens, with 10 white LEDs, 2,500 cable, with screws, screw caps, seal and cable clip. 12 V/2 W, current consumption = approx. 0.17 A 24 V/2 W, current consumption = approx. 0.08 A	2JA 959 073-001 2JA 959 073-201	1 1
	Step light for flush-mounting. Clear lens housing, with 1 LED, electrical connection via a potted cable 100 mm long, white cover cap, seal, snap-on or 2-screw attachment possible. Multi-voltage 9–31 V. Broad illumination at close range. 12 V/0.5 W, current consumption = approx. 0.04 A 24 V/0.5 W, current consumption = approx. 0.02 A Step light with white LEDs Step light with blue LEDs	2JA 998 560-017 2JA 998 560-057	20 20
	Entry light for flush-mounting. Cockpit or map-reading light, emergency and night-lighting. Clear lens, with white ring covering the 3 fastening screws. With 120 mm cable, seal and fastening screws. Dustproof and waterproof, with polarity inversion protection. Multi-voltage 9–31 V. 12 V/1 W, current consumption = approx. 0.08 A 24 V/1 W, current consumption = approx. 0.04 A Entry light with 4 blue LEDs Entry light with 4 white LEDs	2XT 959 500-207 2XT 959 500-677	24 24
	Interior light for flush-mounting. With 12 white LEDs 12 V/1.8 W, current consumption = approx. 0.15 A	2PF 008 405-061	1

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