

LED Expertise from Hella.



*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.

LED lights failure check.

On account of the low wattage 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 prescribed by legislation, we recommend only operating the light in combination with the indicator control unit, Hella part no. 5DS 009 552-001.

In addition, further lighting functions are detected by some traction vehicles. This is a vehicle comfort function which is not prescribed 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.



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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:

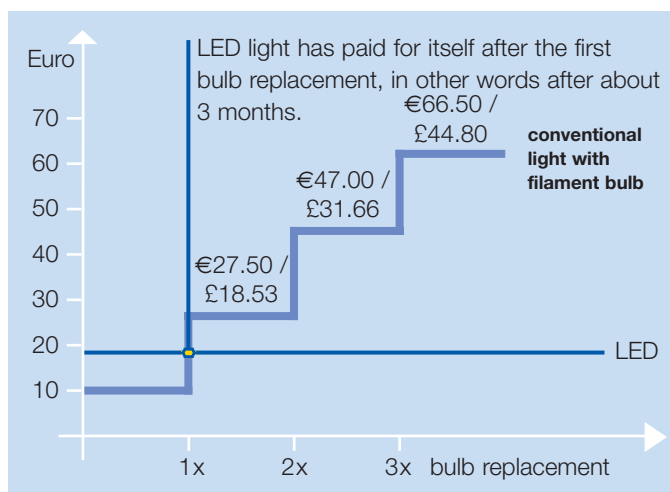
Filament bulbs in combination rearlights are placed under strain by vibrations, humidity, cold, heat etc.. On the basis of its design criteria, a standard P21W filament bulb has a service life of approx. 500 hours, for example. In contrast, LEDs have a service life of up to 100,000 hours. In other words, an LED would be lit continually for 11½ 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	
Replacement time 0.25 hours =	€1.25 / £0.85
Vehicle downtime 0.25 hours =	€9.50 / £6.75
	€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.

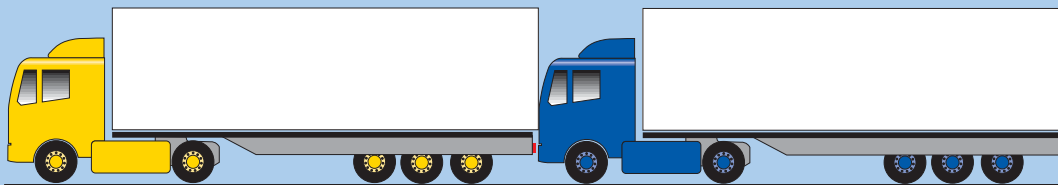
Lower power consumption:

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

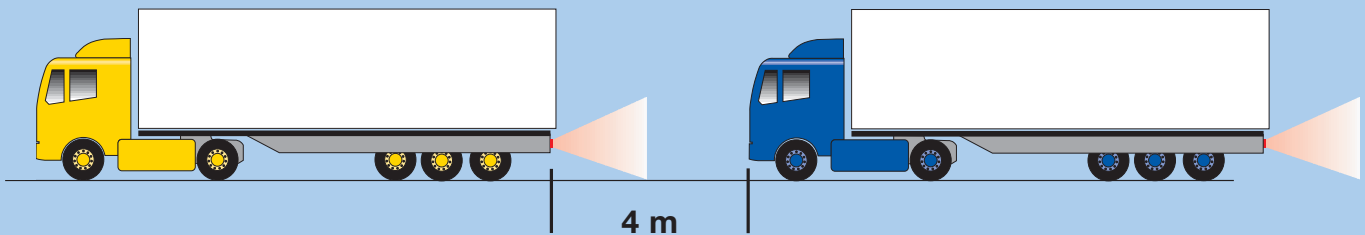
Increased safety through LEDs.

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

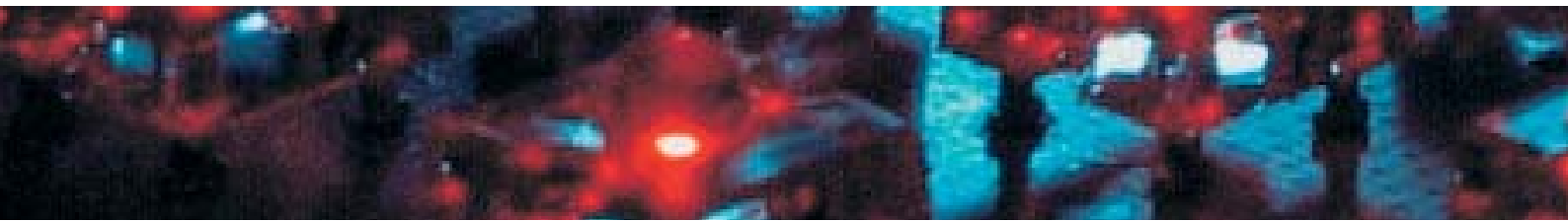


Example of LED stoplights:

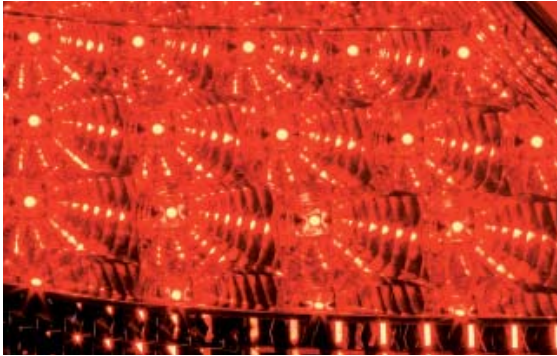
With normal bulbs, the filament has to be heated up for 200 ms before it can emit light in the required brightness. LEDs do not require a warm-up phase, enabling the light signal to reach the reference value more quickly. This optimises early warning for the road users behind your vehicle and increases 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.



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:

<p>Direct light</p> <ul style="list-style-type: none"> ■ Spot-shaped appearance ■ No optical system necessary ■ Max. distance between 2 LEDs = 15 mm 		
<p>Fresnel systems</p> <ul style="list-style-type: none"> ■ Suitable for all functions ■ Homogeneous appearance 		
<p>Reflector with pattern/ Lens without pattern</p> <ul style="list-style-type: none"> ■ High degree of effectiveness ■ Brilliant finish 		
<p>Light guide systems</p> <ul style="list-style-type: none"> ■ Elongated appearance ■ Homogeneous illumination ■ Adaptation to curved exterior shape 		

LED indicators and the patented failure check-



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 check systems currently in use cannot detect simple LED lights and display a fault. All Hella LED indicators have integrated electronics for failure checking. 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 checking via the vehicle electric system. The method has been patented by Hella. At the moment, there are three different ballasts and several different LED indicator types available.



LED indicator failure check: Background information.

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

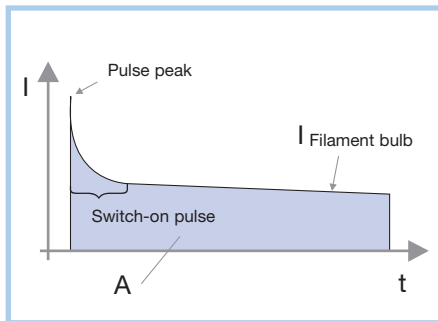


Fig. 1

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)

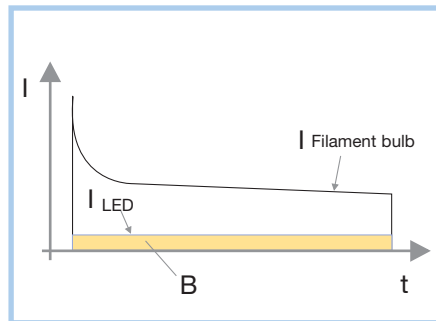


Fig. 2

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

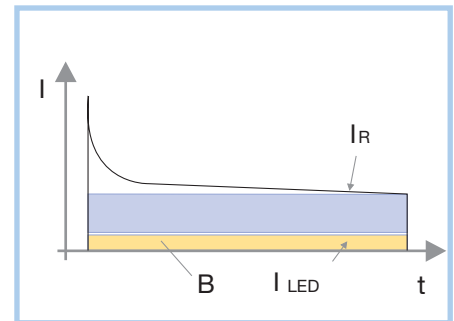


Fig. 3

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.

I = Current
t = Time

LED indicator failure check: The patented Hella solution.

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 conforming – solution to the problem.

Hella patent for the perfect problem solution

All Hella LED indicators with integrated electronics for failure checking 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 switches the bulb simulation off and the flasher unit indicates the fault to the driver.

By measuring the light current during a time window of 10 ms (**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.

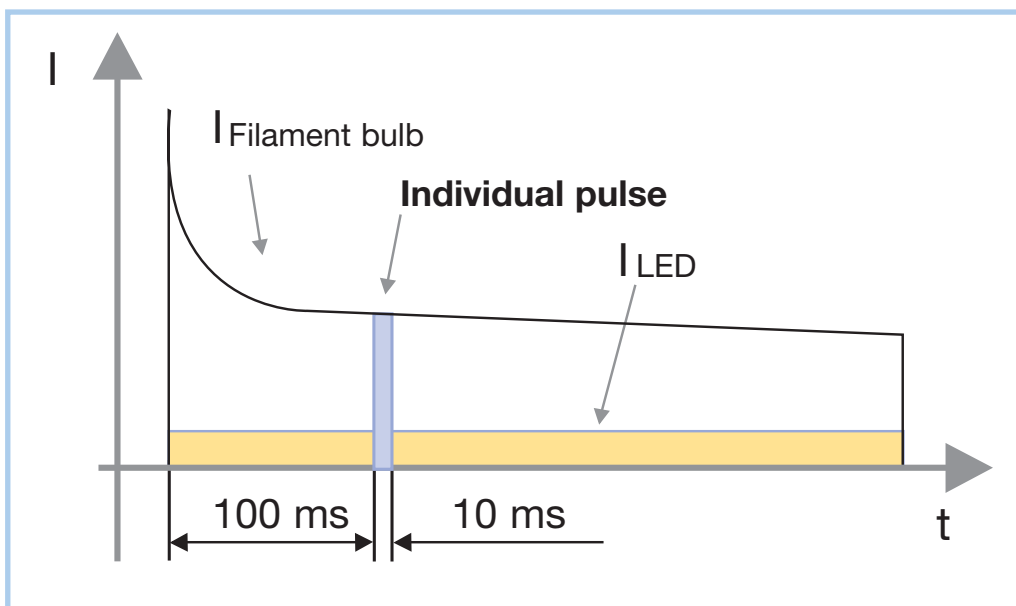


Fig. 4

Vehicle manufacturers can also ensure ECE-conforming failure checking 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?

Vehicles that use the cold scan for the indicator failure check.

1.

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?

Solution:
Simulation device for cold scan

Simulation device for cold scan 24 V

Part no. 5DS 009 602-001



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

2.

Description of fault indication:
Is a fault only determined during flashing (e.g. double flashing frequency)?

Solution:
Indicator control unit

Indicator control units 24 V for traction vehicles

- An independent voltage supply must be guaranteed
- Protective rating IP 20

Part no. 5DS 008 828-001



Protective rating IP 20
Protection against the penetration of solid particles with a diameter greater than 12 mm. Keep away from fingers or similar. No particular water protection.

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.

for 24 V trailers

- No independent voltage supply is required
- Protective rating IP 6K9K

Part no. 5DS 009 552-001

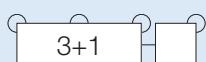
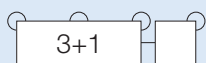
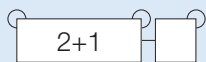
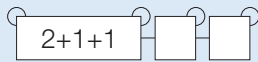
Available from 2nd quarter 2007



Vehicles with flasher unit.

3.

Solution: Replacement of the existing flasher unit by an LED flasher unit



LED flasher unit 12 V 2+1+1

Part no. 4DN 009 492-101

LED flasher unit 24 V 2+1

Part no. 4DM 009 492-001

LED flasher unit 24 V 3+1

Part no. 4DW 009 492-011

LED flasher unit 12 V 3+1

Part no. 4DW 009 492-111



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, high-quality 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, arctic 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 LED are subjected to extensive testing at Hella, both in the laboratory and in practice. In the year 2002, for example, 20 trailers belonging to an international freight carrier were fitted out with Dura-LED lights for a marathon test. Result: No failures to date. The test continues.

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.

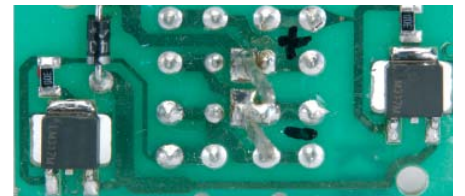
Hella relies exclusively on a precise automated process.

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.

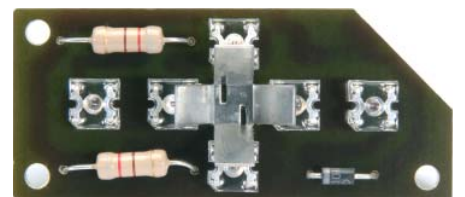
Hella uses a high-grade optical system for this functional requirement.

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.

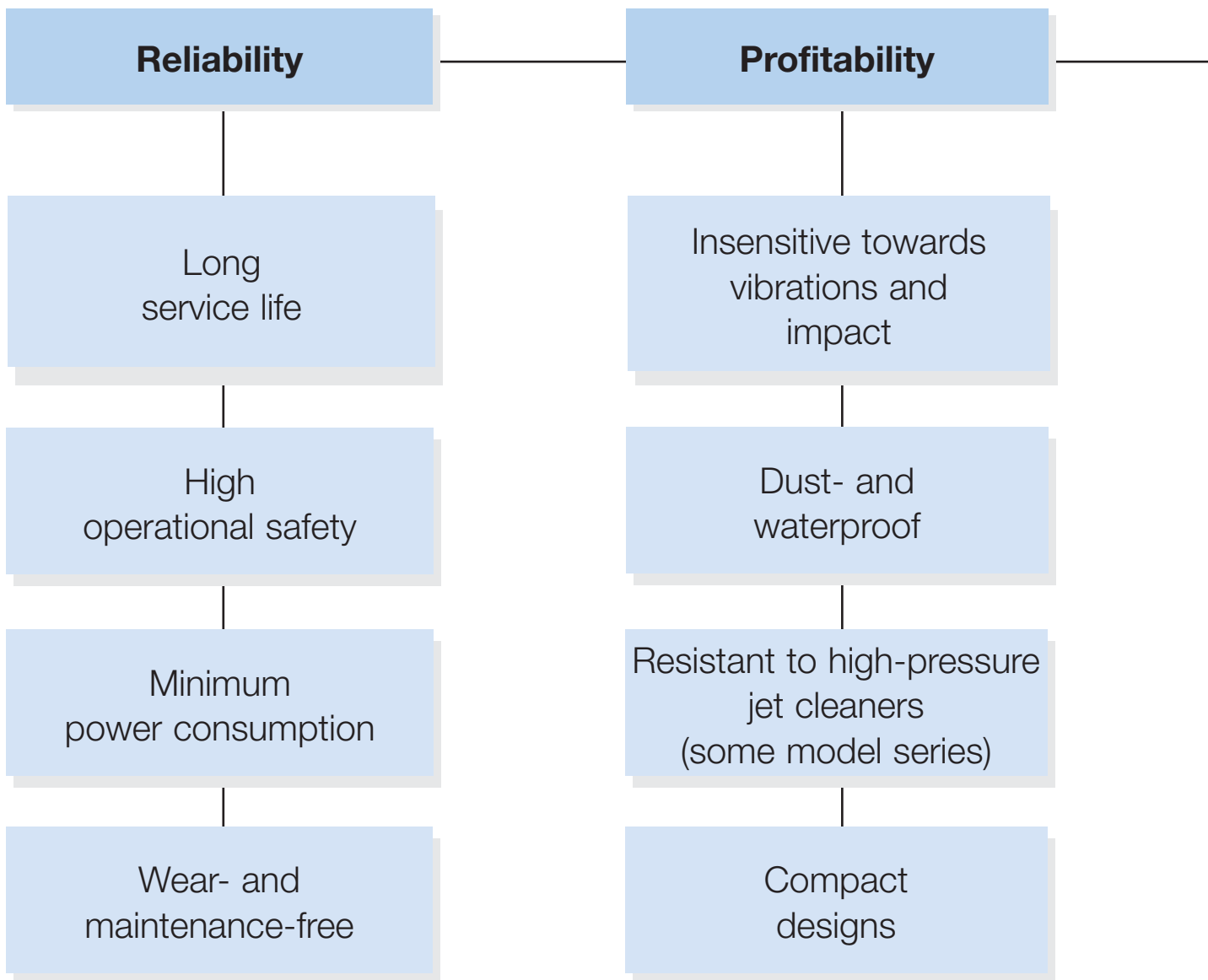


Negative example 1: Side marker light.



Negative example 2: Position light.

Summary of the advantages of the Hella LED products



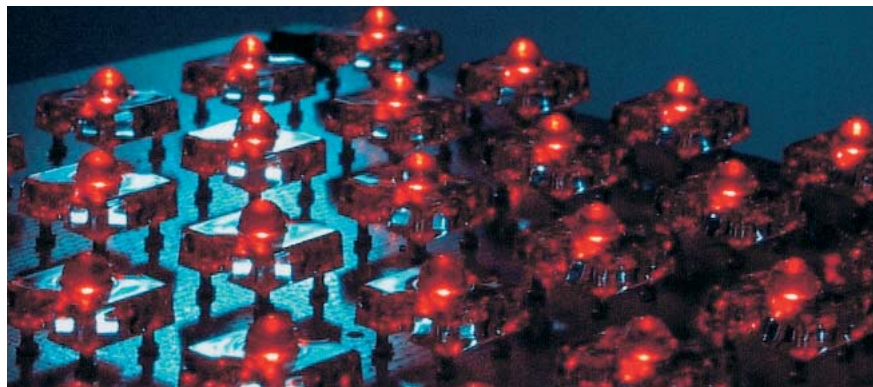


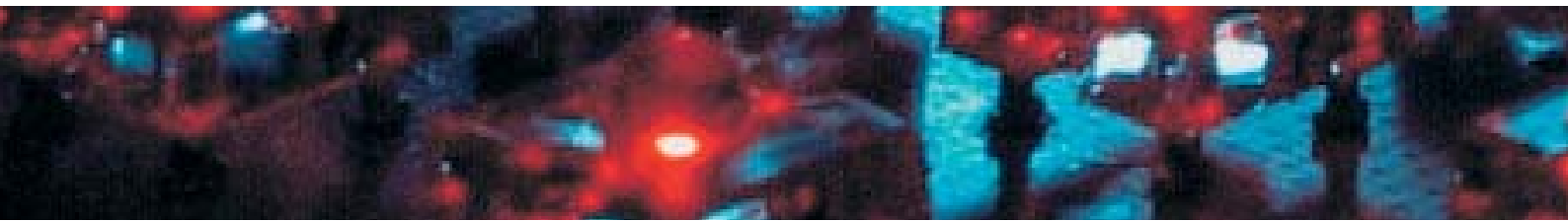
Safety

Increased safety
through quick
switch-on behaviour

Design

Functional
design





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 Metal CELIS® with integrated light guide technology:

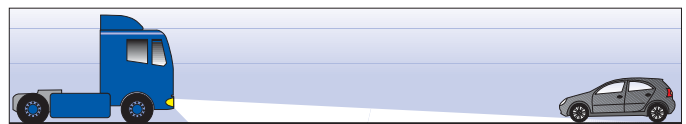
- Spotlight in clear-glass look.
- Circular position lights using CELIS® light guide technology.
- LEDs give position lights a white appearance.
- High-boost reflector.

Further product information on page 18.

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 19.



Example: Accessory products.

Hella LED products set the pace in engineering and design here, too.

LED Upgrade combination rearlights set for Volkswagen Golf V:

- 36 high-power LEDs per light for the taillight, stoplight and indicator.
- 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 38.



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.

LED product overview

Your guide through the current Hella range.



Blue

Front lighting
Auxiliary lights
LED daytime running lights



Amber

Side lighting

Page 18–21

Page 22–27



Red
Rear lighting



Grey
stands for supplementary
components
such as interior lighting

Page 28–37

Page 38–41

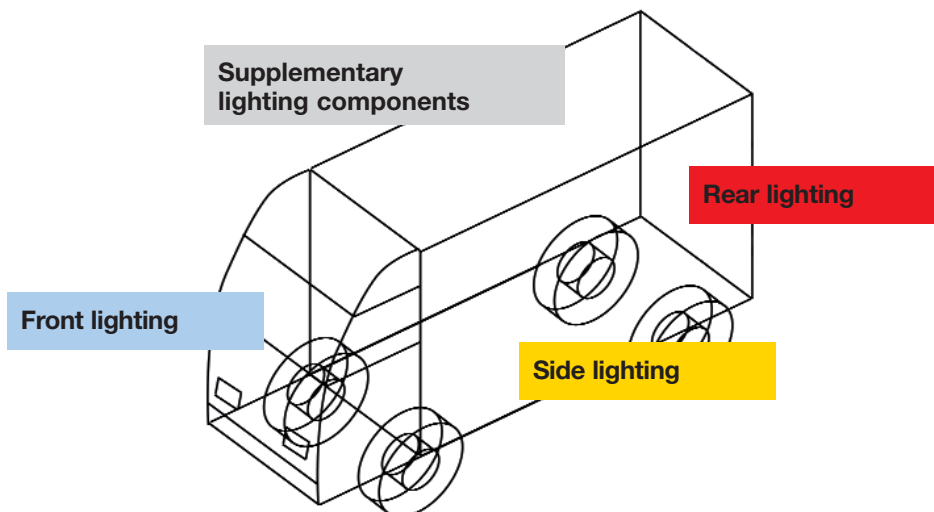


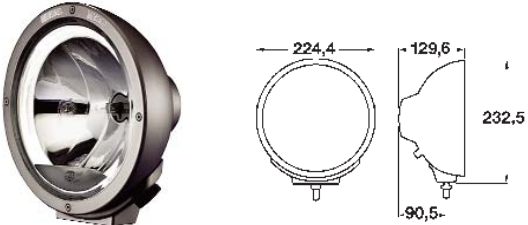
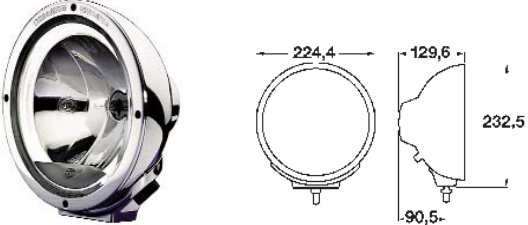
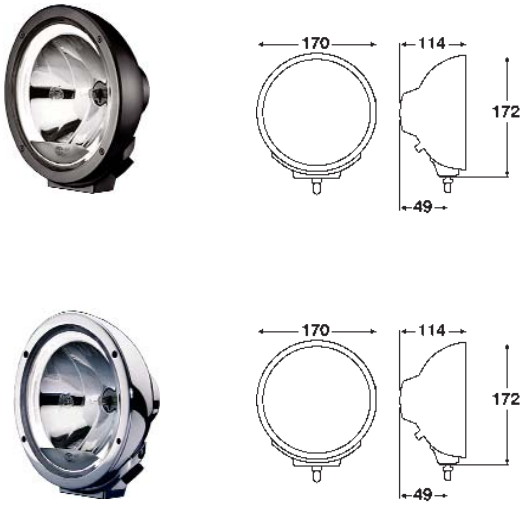
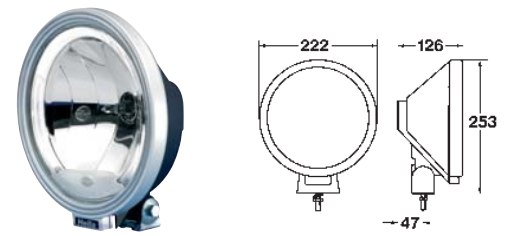
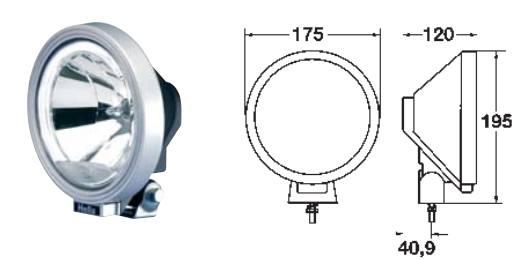
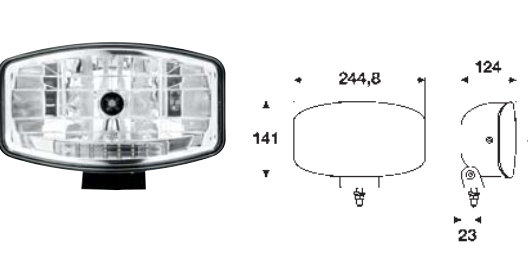




Illustration	Description	Part number	PU
	<p>Luminator Metal CELIS®</p> <p>Spotlight, with CELIS® LED position light, clear-glass look, black housing colour.</p> <p>Spotlight (Ref. 17.5)</p>	<p>1F8 007 560-201</p>	<p>1</p>
	<p>Luminator Chromium CELIS®</p> <p>Spotlight, with CELIS® LED position light, clear-glass look, high-sheen chrome-plating.</p> <p>Spotlight (Ref. 17.5)</p>	<p>1F8 007 560-211</p>	<p>1</p>
	<p>Luminator Compact Metal CELIS®</p> <p>Spotlight, with CELIS® LED position light, clear-glass look, black housing colour.</p> <p>Spotlight (Ref. 37.5) Spotlight (Ref. 17.5)</p> <p>Luminator Compact Chromium CELIS®</p> <p>Spotlight with CELIS® LED position light, clear-glass look, high-sheen chrome-plating.</p> <p>Spotlight (Ref. 37.5) Spotlight (Ref. 17.5)</p>	<p>1F1 009 094-041 1F1 009 094-081</p> <p>1F1 009 094-051 1F1 009 094-091</p>	<p>1 1</p> <p>1 1</p>
	<p>Rallye 3000 CELIS®</p> <p>Spotlight, with CELIS® LED position light, clear-glass look, black housing colour</p> <p>Spotlight (Ref. 17.5)</p>	<p>1F8 006 800-401</p>	<p>1</p>
	<p>Rallye 3000 Compact CELIS®</p> <p>Spotlight, with CELIS® LED position light, clear-glass look, black housing colour</p> <p>Spotlight (Ref. 37.5) Spotlight (Ref. 17.5)</p>	<p>1F1 009 390-021 1F1 009 390-041</p>	<p>1 1</p>
	<p>Jumbo 320 Xenon</p> <p>Spotlight (Ref. 37.5), LED position light, clear-glass look, black housing colour, incl. D2S Xenon bulb and electronic ballast.</p> <p>Spotlight 12 V Spotlight 24 V</p>	<p>1FE 008 773-021 1FE 008 773-051</p>	<p>1 1</p>

Illustration	Description	Part number	PU
 <p>Technical drawing of the daytime running light set showing dimensions: 169,3 mm length, 52,3 mm height, and 63,6 mm width.</p>	<p>Universal daytime running light set</p> <p>The set contains two LED daytime running lights, connection cable set, installation instructions. The electronics and the relay circuit are integrated in the daytime running light. With 3 white LEDs.</p> <p>Multi-volt 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</p> <p>With SAE type approval.</p>	<p>2PT 009 496-801</p>	<p>1</p>
 <p>Technical drawing of the position light showing dimensions: 30,5 mm diameter, 11,9 mm depth, and 21,2 mm mounting height.</p>	<p>Position light</p> <p>Round flush-mounted light, clear lens, without reflector. Black rubber housing with lamellae. Simply pressed into vehicles with wall thicknesses from 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>	<p>2PF 340 825-001*</p>	<p>1</p>
 <p>Technical drawing of the position light showing dimensions: 38 mm diameter and 27 mm depth.</p>	<p>Position light with black housing, for horizontal surface-mounting.</p> <p>White light, clear lens. With 2 white LEDs, 0.5 W. Voltage range 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 With 5,000 mm cable With white housing and 500 mm cable</p>	<p>2PF 959 570-401* 2PF 959 570-407* 2PF 959 570-411* 2PF 959 570-417* 2PF 959 570-427*</p>	<p>2 16 2 10 16</p>
 <p>Technical drawing of the position light showing dimensions: 59 mm length and 27 mm depth.</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. Voltage range 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 With 5,000 mm cable 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>

* See the note on page 2 regarding LED light failure check

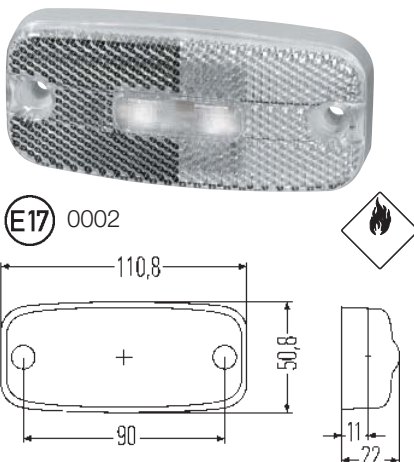
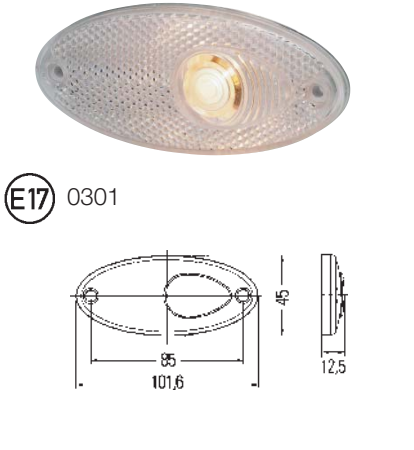

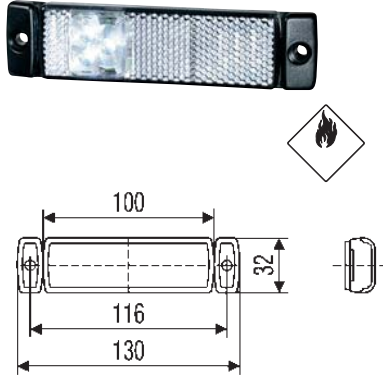
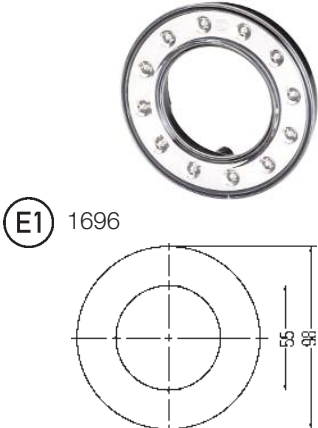
Illustration	Description	Part number	PU
 <p>(E17) 0002</p>	<p>Position light with reflector, without bracket, for horizontal surface-mounting.</p> <p>White light. White base plate. With 2 white LEDs. 2 holes, Ø 5.5 mm, for fastening screws.</p> <p>With 500 mm potted cable. 24 V 0.5 W, current consumption = 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) 0301</p>	<p>Position light with reflector, for horizontal surface-mounting at the front.</p> <p>Clear lens. With screw attachment and 2 white LEDs.</p> <p>Seal and cable 5,000 mm long, 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*</p> <p>2PG 964 295-117*</p> <p>2PG 964 295-121*</p> <p>2PG 964 295-127*</p>	<p>1</p> <p>20</p> <p>1</p> <p>20</p>
 <p>(E17) 817</p>	<p>Position light without reflector, for horizontal surface-mounting at the front.</p> <p>Clear lens. With loosely enclosed angled bracket (RAL 9010) for surface mounting 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>	<p>2PF 964 295-257*</p>	<p>20</p>

Illustration	Description	Part number	PU
	<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, 1,500 mm cable (Power Seal cable) and 2 attachment holes. 24 V 0.9 W, current consumption = approx. 0.04 A</p> <p>Black housing with cellular rubber seal for sealing the light, 1,000 mm cable (Power Seal cable) and 2 attachment holes. 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 and Quick-Link coupling incl. clamp for contacting a 2-wire flat cable, complete 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 and Quick-Link coupling incl. clamp for contacting a 2-wire flat cable, complete 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* 2PG 008 645-047*</p> <p>2PG 008 645-051* 2PG 008 645-057*</p> <p>2PG 008 645-227*</p> <p>2PG 008 645-237*</p> <p>2PG 008 645-321*</p> <p>2PG 008 645-331* 2PG 008 645-341*</p> <p>2PG 008 645-631* 2PG 008 645-637*</p> <p>2PG 008 645-641* 2PG 008 645-647*</p>	<p>1 50</p> <p>1 40</p> <p>70</p> <p>70</p> <p>1</p> <p>1 1</p> <p>1 50</p> <p>1 40</p>
	<p>Position light for flush-mounting at the front.</p> <p>Clear lens, with 12 white LEDs, 1.8 W. Matches the 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* 2PF 008 405-067*</p> <p>2PF 008 405-051* 2PF 008 405-057*</p> <p>9XB 161 749-007</p>	<p>1 60</p> <p>1 60</p> <p>60</p>

* See the note on page 2 regarding LED light failure check

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

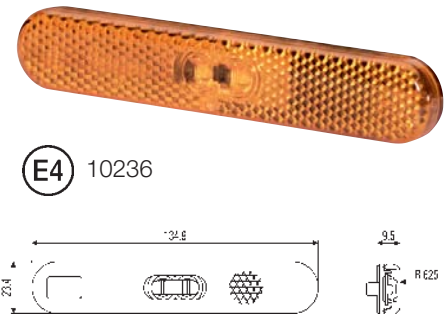
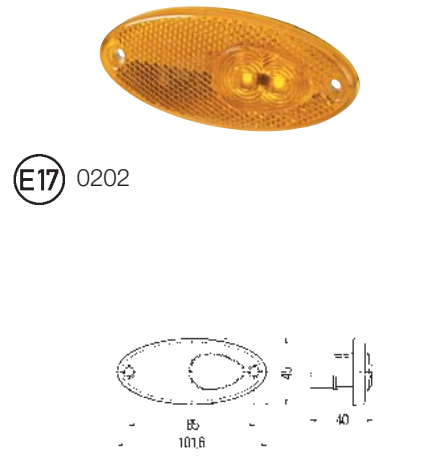
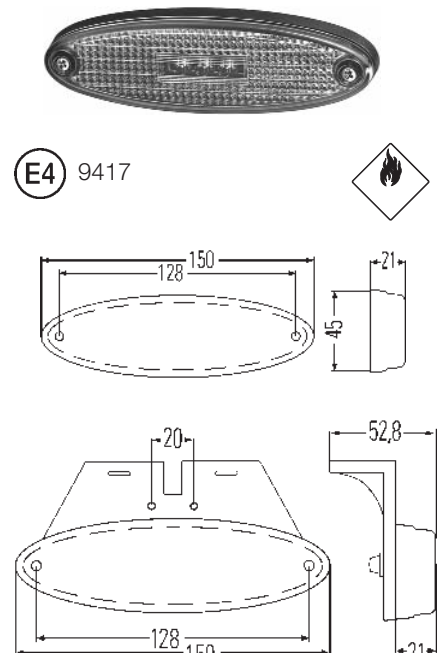

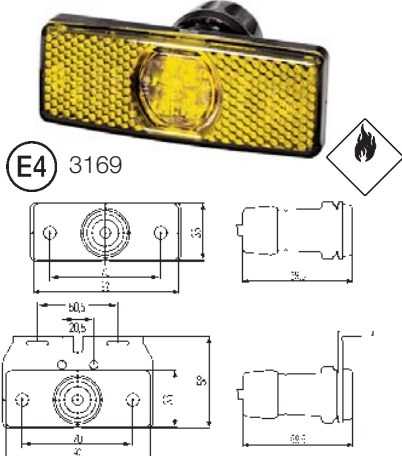
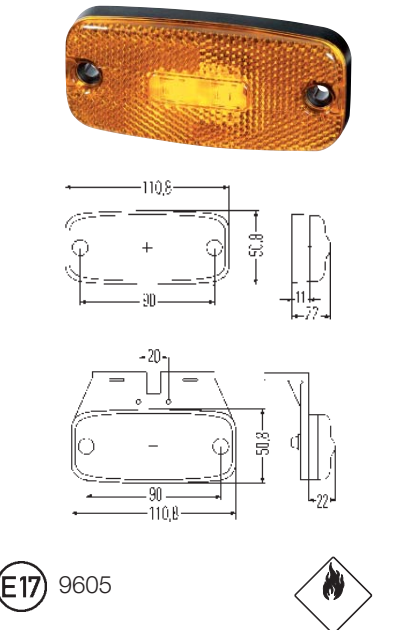
Illustration	Description	Part number	PU
 <p>E4 10236</p>	<p>Side marker light with reflector for horizontal or vertical surface-mounting.</p> <p>With 2 amber LEDs. With pre-fitted 195 mm cable with plug-type contacts. AMP plug housing enclosed loose. Attachment by means of double-sided adhesive tape.</p> <p>24 V 1.0 W = current consumption = approx. 0.04 A</p> <p>12 V 0.5 W = current consumption = approx. 0.04 A</p>	<p>2PS 009 226-017*</p> <p>2PS 009 226-027*</p>	<p>160</p> <p>160</p>
 <p>E17 0202</p>	<p>Side marker light with reflector for horizontal surface-mounting.</p> <p>Lens amber. With 2 amber LEDs. With two 500 mm cables, with rubber seal and screw attachment.</p> <p>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.</p> <p>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>All versions with SAE Type approval.</p>	<p>2PS 964 295-061*</p> <p>2PS 964 295-067*</p> <p>2PS 964 295-051*</p> <p>2PS 964 295-057*</p> <p>2PS 964 295-081*</p> <p>2PS 964 295-087*</p> <p>2PS 964 295-071*</p> <p>2PS 964 295-077*</p>	<p>1</p> <p>80</p> <p>1</p> <p>80</p> <p>1</p> <p>80</p> <p>1</p> <p>80</p>
 <p>E4 9417</p>	<p>Side marker light with reflector for horizontal surface-mounting.</p> <p>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</p> <p>12 V 0.7 W, current consumption = approx. 0.06 A</p> <p>24 V 1.4 W, current consumption = approx. 0.06 A</p> <p>With angled bracket, angled to the front</p> <p>24 V 1.4 W, current consumption = approx. 0.06 A</p> <p>12 V 0.7 W, current consumption = approx. 0.06 A</p>	<p>2PS 007 943-311*</p> <p>2PS 007 943-317*</p> <p>2PS 007 943-011*</p> <p>2PS 007 943-017*</p> <p>2PS 007 943-021*</p> <p>2PS 007 943-027*</p> <p>2PS 007 943-321*</p>	<p>1</p> <p>105</p> <p>8</p> <p>105</p> <p>10</p> <p>124</p> <p>10</p>

Illustration	Description	Part number	PU
 <p>E4 9110</p>	<p>For horizontal retrofit flush-mounting to cars < 6 m.</p> <p>With 3 amber LEDs each. 12 V 0.7 W, current consumption = approx. 0.06 A</p> <p>Side marker lights set with 4 lights and mounting material</p> <p>Lenses amber, trim silver-grey Lenses clear, trim black Lenses clear, trim silver-grey</p> <p>Spare parts: Side marker light for -801 for -811 for -821</p>	<p>2PS 008 138-801* 2PS 008 138-811* 2PS 008 138-821*</p> <p>2PS 008 138-001* 2PS 008 138-011* 2PS 008 138-021*</p>	<p>1 1 1 1 1 1</p>
 <p>E4 3169</p>	<p>Side marker light for horizontal flush-mounting.</p> <p>Amber light, without reflector. With 4 amber LEDs.</p> <p>Without bracket 24 V 1.0 W, current consumption = approx. 0.04 A (can be combined with reflector 9EL 154 637-001)</p> <p>Side marker lights set Without bracket</p> <p>With angled bracket, angled to the front</p>	<p>2PS 008 382-001* 2PS 008 382-007*</p> <p>2PS 008 382-807* 2PS 008 382-801*</p> <p>2PS 008 382-817* 2PS 008 382-811*</p>	<p>1 60 60 1 60 1</p>
 <p>E17 9605</p>	<p>Side marker light with reflector for horizontal surface-mounting.</p> <p>Lens amber. Black base plate. With 2 amber LEDs.</p> <p>Without bracket 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</p> <p>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</p> <p>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</p> <p>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</p> <p>With 5,500/500 mm cable and 6.4 mm blade connector 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</p>	<p>2PS 963 639-011* 2PS 963 639-197* 2PS 963 639-207*</p> <p>2PS 963 639-061* 2PS 963 639-071* 2PS 963 639-167*</p> <p>2PS 963 639-101* 2PS 963 639-111*</p> <p>2PS 963 639-041* 2PS 963 639-021*</p> <p>2PS 963 639-081* 2PS 963 639-091*</p>	<p>1 1 20 1 1 20 1 1 1 1</p>

* See the note on page 2 regarding LED light failure check

** Angled to the rear

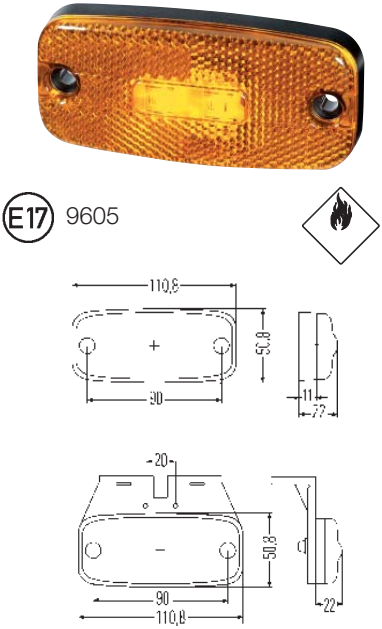
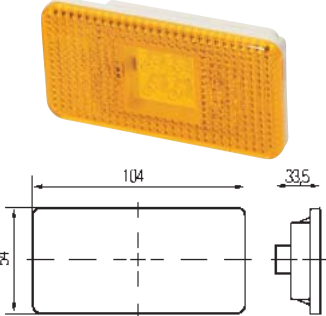
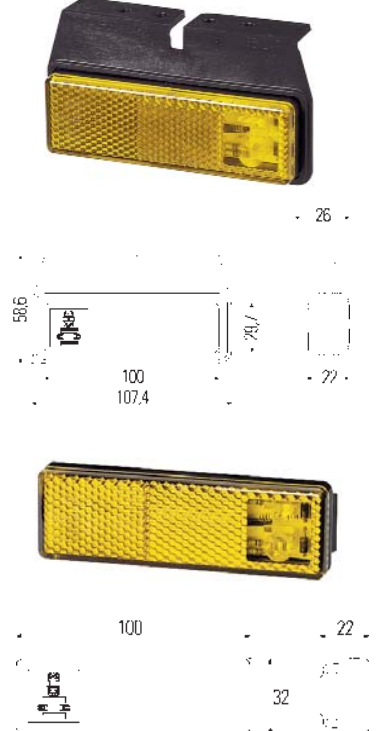
Illustration	Description	Part number	PU
 <p>(E17) 9605</p>	<p>Side marker light with reflector for horizontal surface-mounting.</p> <p>Amber light, With 2 amber LEDs. With 4,500 mm cable and system plug Without bracket, 24 V 1.3 W, current consumption = approx. 0.05 A</p> <p>With bracket, angled to the rear, 24 V 1.3 W, current consumption = approx. 0.05 A</p> <p>Without bracket With 5,000 mm cable, 24 V 1.3 W, current consumption = approx. 0.05 A</p> <p>With 10,000 mm cable, 24 V 1.3 W, current consumption = approx. 0.05 A</p> <p>With 500 mm cable and base, without bracket, 24 V 1.3 W, current consumption = approx. 0.05 A</p> <p>With 1,500 cable, plug and bracket, angled to the rear, 24 V 1.3 W, current consumption = approx. 0.05 A</p> <p>Spare parts Seal</p>	<p>2PS 963 639-051* 1</p> <p>2PS 963 639-031* 1</p> <p>2PS 963 639-137* 20</p> <p>2PS 963 639-147* 20</p> <p>2PS 963 639-177* 20</p> <p>2PS 963 639-157* 20</p> <p>9GD 341 063-007 20</p>	
	<p>Side marker light with reflector for horizontal flush-mounting.</p> <p>Amber light, With 500 mm cable and 4 amber LEDs. 24 V 1.0 W, current consumption = approx. 0.04 A</p>	<p>2PS 007 972-011* 4</p> <p>2PS 007 972-017* 100</p>	
	<p>Side marker light with reflector for horizontal surface-mounting.</p> <p>Amber light, With 2 amber LEDs. Connection with plug-type connection. It is possible to request completely pre-wired chains with a varying number / distance of/between the side marker lights together with position lights. Faulty lights are easy to replace thanks to the plug-type connection.</p> <p>With angled bracket, angled to the rear 24 V 1.0 W, current consumption = approx. 0.04 A</p> <p>Replacement light without bracket, 24 V 1.0 W, current consumption = approx. 0.04 A</p>	<p>2PS 008 616-017* 30</p> <p>2PS 008 616-011* 1</p> <p>2PS 008 616-001* 1</p>	

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

Side lighting

* See the note on page 2 regarding LED light failure check


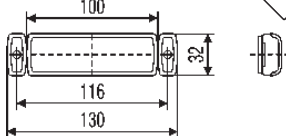

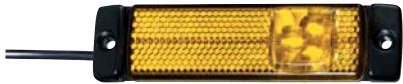



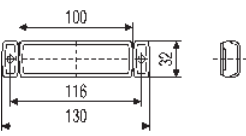



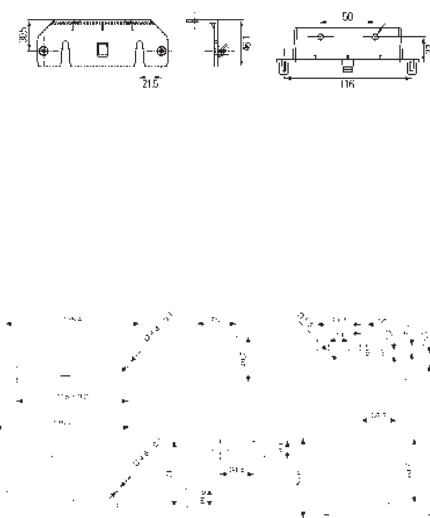
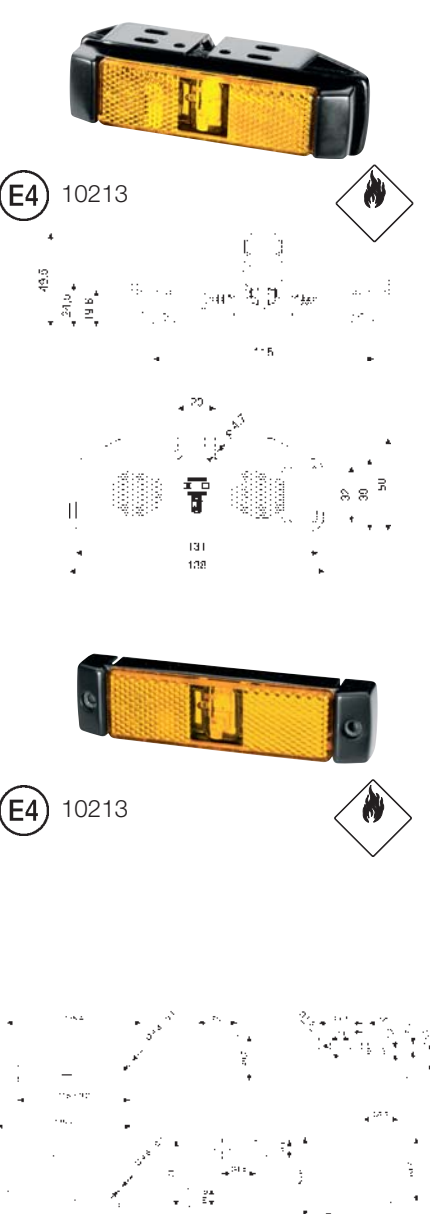
Illustration	Description	Part number	PU
 <p>(E1) 1395, 1396</p>  	<p>Side marker light with reflector for horizontal surface-mounting.</p> <p>In the case of horizontal surface-mounting, the patterned field must be facing the outer vehicle edge. Amber light, With 3 amber LEDs. Black housing. With cellular rubber seal for sealing the light. 2 holes for attachment screws B4,2.</p> <p>With 2-pin EasyConn plug housing 24 V 1.2 W, current consumption = approx. 0.05 A</p> <p>With 300 mm cable</p>	<p>2PS 008 645-301*</p>	<p>1</p>
	<p>With 1,300 mm cable</p>	<p>2PS 008 645-311*</p>	<p>1</p>
 <p>(E1) 1395, 1396</p> 	<p>With 2,000 mm cable</p> <p>With 1,500 mm cable, 24 V 1.2 W, current consumption = approx. 0.05 A</p> <p>For vertical surface-mounting With open cable end and 1,500 mm cable 24 V 1.2 W, current consumption = approx. 0.05 A</p>	<p>2PS 008 645-001* 2PS 008 645-007*</p> <p>2PS 008 645-021*</p>	<p>1 50</p> <p>1</p>
 <p>(E1) 1395, 1397</p>  	<p>Side marker light with reflector for horizontal surface-mounting.</p> <p>With 1,500 mm cable, 12 V 0.6 W, current consumption = approx.0.05 A</p> <p>With 5,000 mm cable, 24 V 1.2 W, current consumption = approx. 0.05 A</p> <p>With 1,500 mm cable (Power Seal cable) and 2 attachment holes. 24 V 1.2 W, current consumption = approx.0.05 A</p> <p>With 1,000 mm cable (Power Seal cable) and 2 attachment holes. 24 V 1.2 W, current consumption = approx.0.05 A</p> <p>With 10,000 mm cable, 24 V 1.2 W, current consumption = approx. 0.05 A</p> <p>With 150 mm cable and Quick-Link coupling incl. clamp for contacting a 2-wire flat cable. 24 V 1.2 W, current consumption = approx. 0.05 A</p> <p>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</p>	<p>2PS 008 645-011*</p> <p>2PS 008 645-187*</p> <p>2PS 008 645-207*</p> <p>2PS 008 645-217*</p> <p>2PS 008 645-497*</p> <p>2PS 008 645-601* 2PS 008 645-607*</p>	<p>1</p> <p>50</p> <p>70</p> <p>70</p> <p>50</p> <p>1 50</p>
 <p>(E1) 1395, 1396</p> 	<p>With 300 mm cable</p> <p>With 1,300 mm cable</p>	<p>2PS 008 645-611* 2PS 008 645-617*</p> <p>2PS 008 645-621* 2PS 008 645-627*</p>	<p>1 50</p> <p>1 50</p>

Illustration	Description	Part number	PU
	<p>Accessories (please order separately): Installation tool for Quick-Link cable connections</p> <p>Rubber seal as base between light and vehicle</p> <p>Angled bracket, angled to the rear, for all lights of the 008 645-... series Universal angled bracket with 2 mounting screws for fixing the lights to the bracket</p> <p>Universal angled bracket, angled to the rear</p> <p>Clip angled to the rear</p>	<p>8PE 008 932-001</p> <p>9GD 157 876-001</p> <p>8HG 160 409-002</p> <p>8HG 340 489-001</p> <p>8HG 340 413-001</p>	<p>1</p> <p>22</p> <p>10</p> <p>1</p> <p>1</p>
	<p>Side marker light with reflector for horizontal surface-mounting.</p> <p>Protected against inverse polarity thanks to bridge circuit. With 2 amber LEDs. 24 V 1.4 W, current consumption = approx. 0.06 A</p> <p>Attachment by angled holder "front" or "rear", with 2-pin EasyConn central plug.</p> <p>With 2-pin EasyConn plug housing, with moulded cable 1,300 mm long</p> <p>With Quick-Link wiring (suitable for Hella flat cable 8KA 340 822-...), with 1,300 mm cable</p> <p>Attachment using attachment holes at the side With 2-pin EasyConn central plug</p> <p>With 2-pin EasyConn plug housing, with moulded cable 1,300 mm long</p> <p>With Quick-Link wiring (suitable for Hella flat cable 8KA 340 822-...), with 1,300 mm cable</p> <p>Accessories (please order separately):</p> <p>Universal angled bracket, angled to the rear</p> <p>Clip angled to the rear</p> <p>Clamp for Quick-Link wiring</p> <p>Installation tool for Quick-Link cable connections</p>	<p>2PS 340 836-051*</p> <p>2PS 340 837-111*</p> <p>2PS 340 837-041*</p> <p>2PS 340 836-011*</p> <p>2PS 340 837-101*</p> <p>2PS 340 837-031*</p> <p>8HG 340 489-001</p> <p>8HG 340 413-001</p> <p>8KW 998 602-002</p> <p>8PE 008 932-001</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>15</p> <p>1</p>

Side lighting

* See the note on page 2 regarding LED light failure check

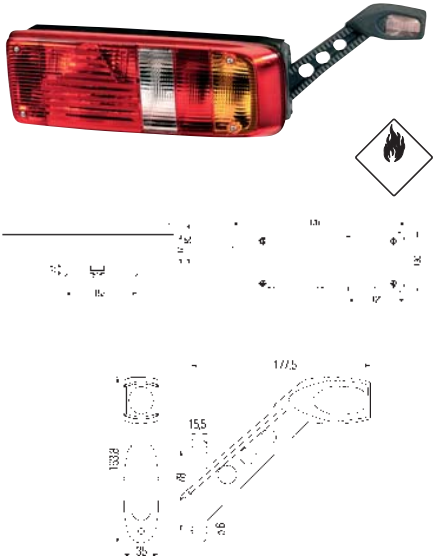
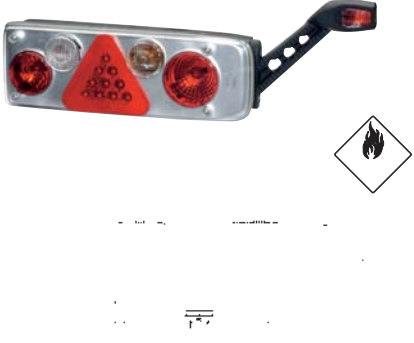
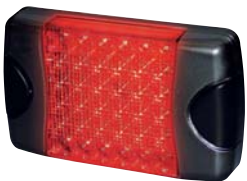
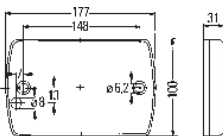
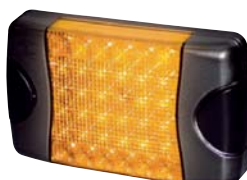
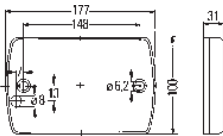

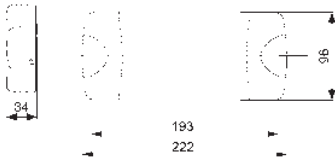
Illustration	Description	Part number	PU
 <p data-bbox="119 734 252 786">E4 11386</p>	<p data-bbox="563 143 1121 203">EasyConn I multi-function combination rearlight for horizontal surface-mounting.</p> <p data-bbox="563 241 1121 427">Taillight-triangular reflector-stoplight-indicator-rear fog light-reverse light with 4 vibration dampers. 7-pin EasyConn central plug. 2 x taillight with 2 red LEDs each. Protective rating IP54 24 V 1 W, current consumption for LED taillight = approx. 0.04 A</p> <p data-bbox="563 434 612 490">right left</p> <p data-bbox="563 528 1102 651">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.</p> <p data-bbox="563 658 612 714">right left</p> <p data-bbox="563 786 962 842">Retrofit set "LED module for taillight function"</p> <p data-bbox="563 880 1121 1032">For the conversion of the taillight function from filament bulb technology to LED technology. For EasyConn combination rearlights with bulbs fitted (2VP 340 830-..., 2VP 340 831-..., 2VP 340 930-... und 2VP 340 931-...)</p> <p data-bbox="563 1070 1121 1193">The set comprises 2 reflectors, one each for the right-hand and the left-hand light, with one board each including 4 red LEDs and adapter cable for connection to the light base. The blank is sea-water protected. 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 up. 24 V 1 W, current consumption = approx. 0.04 A</p>	<p data-bbox="1169 434 1366 461">2VP 340 932-001*</p> <p data-bbox="1169 465 1366 492">2VP 340 932-011*</p> <p data-bbox="1169 658 1366 685">2VP 340 934-101*</p> <p data-bbox="1169 689 1366 716">2VP 340 934-111*</p> <p data-bbox="1169 880 1366 907">9XX 340 173-801*</p>	<p data-bbox="1401 434 1422 461">1</p> <p data-bbox="1401 465 1422 492">1</p> <p data-bbox="1401 658 1422 685">1</p> <p data-bbox="1401 689 1422 716">1</p> <p data-bbox="1401 880 1422 907">1</p>
	<p data-bbox="563 1442 1126 1503">EasyConn II multi-function combination rearlight for horizontal surface-mounting.</p> <p data-bbox="563 1541 1121 1630">Taillight-triangular reflector-stoplight-indicator-rear fog light-reverse light with 4 vibration dampers, 7-pin EasyConn central plug, 24 V.</p> <p data-bbox="563 1668 1042 1787">Taillight function behind the triangular reflector with 10 red LEDs. right left</p> <p data-bbox="563 1861 1102 2011">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 1 red LED for clearance light 2 amber LEDs for side marker light</p> <p data-bbox="563 2018 612 2074">right left</p>	<p data-bbox="1169 1731 1366 1758">2VP 340 942-001*</p> <p data-bbox="1169 1762 1366 1789">2VP 340 942-011*</p> <p data-bbox="1169 2018 1366 2045">2VP 340 940-111*</p> <p data-bbox="1169 2049 1366 2076">2VP 340 940-101*</p>	<p data-bbox="1401 1731 1422 1758">1</p> <p data-bbox="1401 1762 1422 1789">1</p> <p data-bbox="1401 2018 1422 2045">1</p> <p data-bbox="1401 2049 1422 2076">1</p>

Illustration	Description	Part number	PU
 <p>(E13) 0533</p>   <p>(E13) 0363</p> 	<p>"DuraLED" light for horizontal or vertical surface-mounting.</p> <p>Clear lens. With 36 red LEDs and potted cable 2,500 mm long with stripped cable ends. Voltage range 9 V–33 V. 12 V 13 W, current consumption = approx. 1.08 A 24 V 13 W, current consumption = approx. 0.54 A</p> <p>Taillight-stoplight-parklight red light Taillight = 2 W Stoplight = 9 W Parklight = 2 W</p> <p>Indicator amber light, with 36 amber LEDs, with integrated electronics for failure check. 12 V 9 W, current consumption = approx. 0.75 A 24 V 9 W, current consumption = approx. 0.38 A</p> <p><i>With patented electronics for indicator failure check. See page 7-10.</i></p>	<p>2SP 959 060-601*</p> <p>2BA 959 070-631*</p>	<p>1</p> <p>1</p>
 <p>(E4) 10176</p> 	<p>Taillight-stoplight-indicator for horizontal surface-mounting.</p> <p>"DuraLED" Combi light</p> <p>Clear lens, with 40 LEDs and potted 2,500 mm cable with stripped cable ends, multi-volt 8 -28 V.</p> <p>12 V 11 W, current consumption = approx. 0.92 A 24 V 11 W, current consumption = approx. 0.46 A</p> <p>Stoplight with 24 red LEDs, 5 W.</p> <p>Taillight with 8 red LEDs, of the 24 LEDs 8 are used at reduced power, 1 W.</p> <p>Indicator with 16 amber LEDs, 5 W.</p> <p><i>With patented electronics for indicator failure check. See page 7-10.</i></p>	<p>2SD 959 050-401*</p>	<p>1</p>

* See the note on page 2 regarding LED light failure check




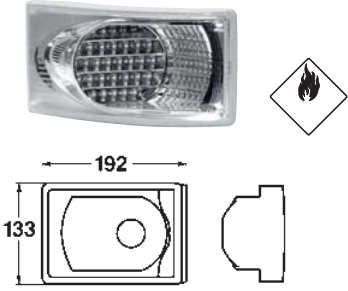
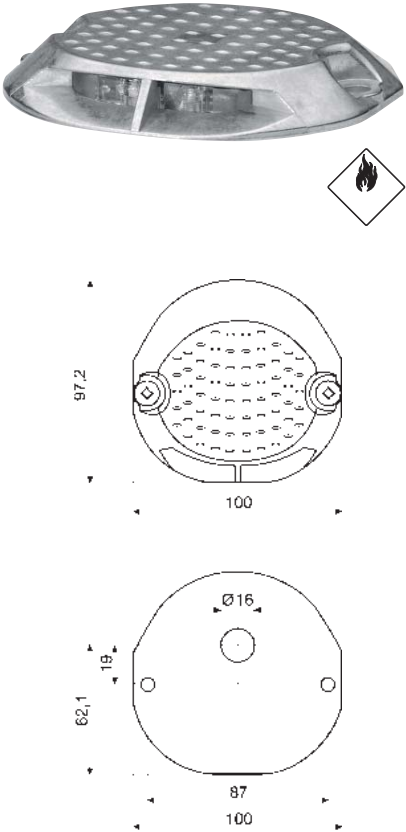
Illustration	Description	Part number	PU
 <p>(E17) 814</p>	<p>For surface or flush mounting.</p> <p>With 37 red LEDs, cable 500 mm long, without plug.</p> <p>Taillight-stoplight, red 24 V 5.7 W, current consumption = approx. 0.24 A Taillight = 0.7 W Stoplight = 5 W</p>	<p>2SB 964 169-301* 2SB 964 169-307*</p>	<p>1 36</p>
 <p>(E17) 3810</p>	<p>Rear fog light 24 V 4 W, current consumption = approx. 0.17 A</p>	<p>2NE 964 169-341*</p>	<p>1</p>
 <p>(E4) 9823</p>	<p>Reverse light, with 37 white LEDs. 24 V 5 W, current consumption = approx. 0.21 A left right</p>	<p>2ZR 964 169-351* 2ZR 964 169-361*</p>	<p>1 1</p>
 <p>(E4) 10208</p>	<p>For horizontal surface-mounting.</p> <p>EuroLED with black base plate firmly cast. Electrical connection through a cable 2,500 mm long. Multi-volt 9 V – 33 V.</p> <p>Taillight/stoplight 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 page 7-10..</i></p>	<p>2SB 959 821-601* 2NE 959 821-201* 2ZR 959 820-601* 2BA 959 822-601*</p>	<p>1 1 1 1</p>

Illustration	Description	Part number	PU
	<p>Indicator for rear surface-mounting (category 2a).</p> <p>With clear lens, 32 amber LEDs, grey housing, with pulse for indicator failure check. 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>Taillight/stoplight</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>With clear cover lens, 32 red LEDs. 12 V 3 W, current consumption = approx. 0.25 A</p> <p><i>With patented electronics for indicator failure check. See page 7-10.</i></p>	<p>2BA 008 982-041* 2BA 008 982-047*</p> <p>2BA 008 982-341* 2BA 008 982-347*</p> <p>2SB 008 982-001* 2SB 008 982-007*</p> <p>2SB 008 982-301* 2SB 008 982-307*</p> <p>2SB 008 982-367*</p>	<p>1 32</p> <p>1 32</p> <p>1 32</p> <p>1 32</p>
	<p>Indicator for lifting loading platforms for rear surface-mounting (category 2a).</p> <p>Clear lens, with 2 amber LEDs, diecast zinc 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>2BA 009 204-041*</p> <p>2BA 009 204-051*</p>	<p>1</p> <p>1</p>

* See the note on page 2 regarding LED light failure check


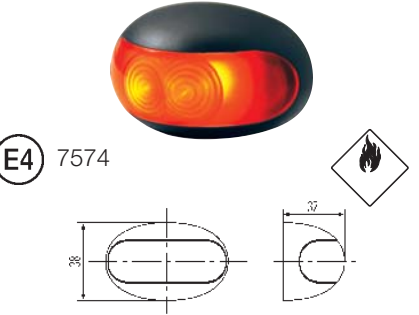


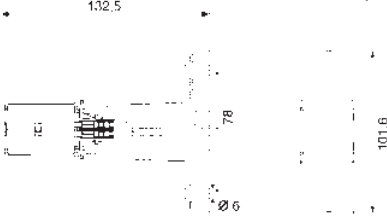


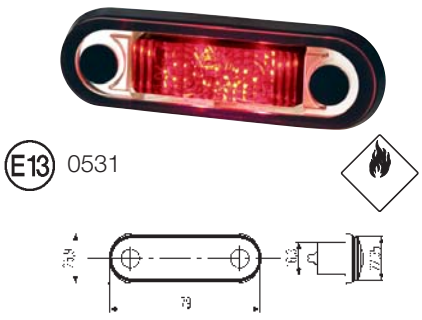
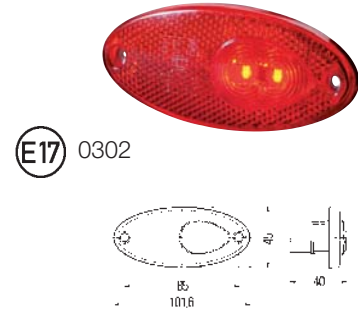
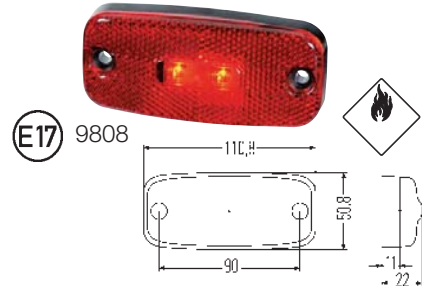
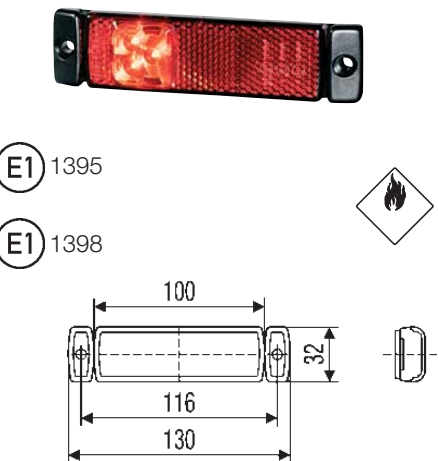
Illustration	Description	Part number	PU
 <p>E4 6516</p>	<p>Indicator for lifting loading platforms for rear surface-mounting (category 2a).</p> <p>Clear lens, diecast zinc housing. 2 attachment screws M6, with potted cables. Protective rating: IP5K9K. 24 V 2.8 W, current consumption = approx. 0.12 A</p> <p>12 V 2.8 W, current consumption = approx. 0.23 A</p> <p>Required for installation: Flasher unit, 12 V 10–110 W or Flasher unit, 24 V 10–110 W</p>	<p>2BA 008 260-001* 1 2BA 008 260-007* 20</p> <p>2BA 008 260-017* 20</p> <p>4ZA 001 879-011* 1 4ZA 001 879-021* 1</p>	
 <p>E4 7574</p>	<p>Clearance light for horizontal surface-mounting.</p> <p>Clear lens, with 3 red LEDs, housing black. Voltage range 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>2XA 959 560-401* 2 2XA 959 560-411* 2</p>	

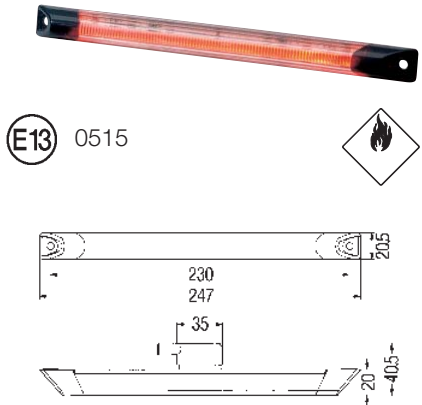
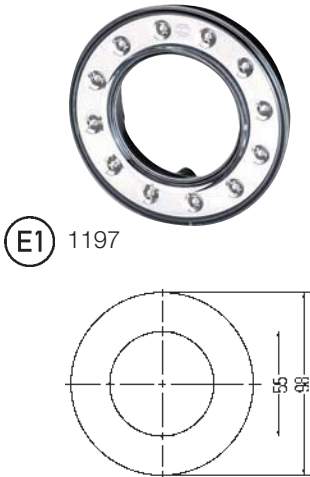
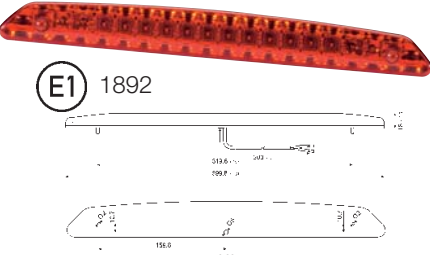
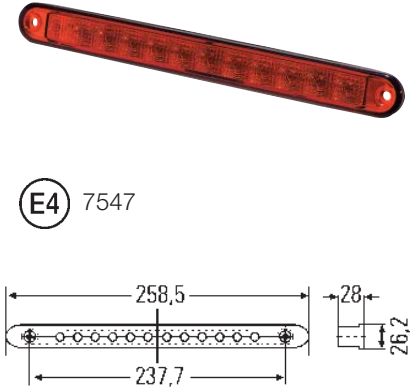
Illustration	Description	Part number	PU
 	<p>Clearance light with integrated side marker light in long rubber arm.</p> <p>With 500 mm cable and Quick-Link wiring for upright surface-mounting at the side on vertical surfaces. 2 white LEDs for position light, 1 red LED for clearance light and 2 amber LEDs for side marker light, 24 V.</p> <p>right left</p> <p>With 500 mm cable and 2-pole EasyConn socket housing for upright surface-mounting at the side to vertical surfaces. 2 white LEDs for position light, 1 red LED for clearance light and 2 amber LEDs for side marker light.</p> <p>right left</p> <p>24 V 1,5 W, current consumption = approx. 0,05 A</p>	<p>2XS 340 418-121*</p> <p>2XS 340 418-131*</p> <p>2XS 340 418-021*</p> <p>2XS 340 418-031*</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p>
 	<p>Clearance light with integrated side marker light in short rubber arm. Can be used on the right or left.</p> <p>With 500 mm cable and Quick-Link wiring for surface-mounting at the side to vertical surfaces. 2 white LEDs for position light, 1 red LED for clearance light and 2 amber LEDs for side marker light, 24 V.</p> <p>With 500 mm cable and 2-pole EasyConn socket housing for surface-mounting at the side to vertical surfaces. 2 white LEDs for position light, 1 red LED for clearance light and 2 amber LEDs for side marker light.</p> <p>24 V 1,5 W, current consumption = approx. 0,05 A</p>	<p>2XS 340 447-001*</p> <p>2XS 340 447-021*</p>	<p>1</p> <p>1</p>
 	<p>Clearance light with integrated side marker light in long rubber arm.</p> <p>With 500 mm cable and Quick-Link wiring. For upright surface-mounting at the side on horizontal surfaces. 2 white LEDs for position light, 1 red LED for clearance light and 2 amber LEDs for side marker light, 24 V.</p> <p>right left</p> <p>With 500 mm cable and 2-pole EasyConn socket housing. 2 white LEDs for position light, 1 red LED for clearance light and 2 amber LEDs for side marker light.</p> <p>right left</p> <p>24 V 1,5 W, current consumption = approx. 0,05 A</p>	<p>2XS 340 448-021*</p> <p>2XS 340 448-031*</p> <p>2XS 340 448-001*</p> <p>2XS 340 448-011*</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p>

* See the note on page 2 regarding LED light failure check

Illustration	Description	Part number	PU
 <p>E13 0531</p>	<p>Signal light for horizontal flush-mounting.</p> <p>Can be used as a taillight or clearance light. Clear lens with 2 red LEDs. With seal. Voltage range 8 V-28 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 and caps</p> <p>With 5,000 mm cable and caps</p> <p>With seal, 1,500 mm cable and caps</p>	<p>2XA 959 610-401*</p> <p>2XA 959 610-407*</p> <p>2XA 959 610-411*</p> <p>2XA 959 610-417*</p> <p>2XA 959 610-437*</p>	<p>2</p> <p>30</p> <p>2</p> <p>10</p> <p>200</p>
 <p>E17 0302</p>	<p>Taillight with reflector for horizontal surface-mounting.</p> <p>Red lens. With 2 red LEDs. With SAE type approval.</p> <p>With seal and cable 5,000 mm long, 24 V 1.0 W, current consumption = approx. 0.04 A</p> <p>With seal and cable 5,000 mm long, 12 V 0.5 W, current consumption = approx. 0.04 A</p>	<p>2TM 964 295-091*</p> <p>2TM 964 295-097*</p> <p>2TM 964 295-101*</p> <p>2TM 964 295-107*</p>	<p>1</p> <p>20</p> <p>1</p> <p>20</p>
 <p>E17 9808</p>	<p>Taillight with reflector for horizontal surface-mounting.</p> <p>With 2 red LEDs, black base plate, without bracket.</p> <p>With 5,000 mm cable, 12 V 0.5 W, current consumption = approx. 0.04 A</p> <p>With 5,000 mm cable, 24 V 1.0 W, current consumption = approx. 0.04 A</p>	<p>2TM 963 639-307*</p> <p>2TM 963 639-317*</p>	<p>20</p> <p>20</p>
 <p>E1 1395</p> <p>E1 1398</p>	<p>Taillight with reflector ** for horizontal and vertical surface-mounting.</p> <p>In the case of horizontal surface-mounting, the LED field must be facing the outer vehicle edge. In the case of vertical surface-mounting the LED field may point upwards or downwards. Red light, with 3 red LEDs. Black housing. 2 holes for attachment screws B4,2. 12 V 0.6 W, current consumption = approx. 0.05 A With 500 mm cable</p> <p>With 5,000 mm cable</p> <p>24 V 1.2 W, current consumption = approx. 0.05 A With 500 mm cable</p> <p>With 5,000 mm cable</p> <p>With 5,000 mm cable and 2-pole EasyConn socket housing With 300 mm cable and Quick-Link coupling incl. clamp for contacting a 2-wire flat cable, 24 V 1.2 W</p> <p>With 5,000 mm cable and Quick-Link coupling incl. clamp for contacting a 2-wire flat cable, 24 V 1.2 W</p>	<p>2TM 008 645-081*</p> <p>2TM 008 645-087*</p> <p>2TM 008 645-091*</p> <p>2TM 008 645-061*</p> <p>2TM 008 645-067*</p> <p>2TM 008 645-071*</p> <p>2TM 008 645-077*</p> <p>2TM 008 645-351*</p> <p>2TM 008 645-651*</p> <p>2TM 008 645-657*</p> <p>2TM 008 645-661*</p> <p>2TM 008 645-667*</p>	<p>1</p> <p>50</p> <p>1</p> <p>1</p> <p>50</p> <p>1</p> <p>50</p> <p>1</p> <p>50</p> <p>1</p> <p>50</p>

* See the note on page 2 regarding LED light failure check

** Can also be used as clearance light with reflector.

Illustration	Description	Part number	PU
 <p>E13 0515</p>	<p>Taillight-clearance light for horizontal or vertical surface-mounting to trailers and box-type semi-trailers.</p> <p>Clear lens with 2 red LEDs, with bush. Base plate and caps made of grey plastic. With prism rod as light aperture body. 2 holes, Ø 5.4 mm, for attachment screws.</p> <p>12 V 1.4 W, current consumption = approx. 0.12 A 24 V 1.4 W, current consumption = approx. 0.06 A</p>	<p>2XS 008 078-011* 1 2XS 008 078-001* 1 2XS 008 078-007* 60</p>	
 <p>E1 1197</p>	<p>Taillight and stoplight for flush-mounting at the rear.</p> <p>Clear lens, with 12 red LEDs. Matches the light series 008 221-...</p> <p>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</p>	<p>2SA 008 405-021* 1 2SA 008 405-027* 60 2SA 008 405-011* 1 2SA 008 405-017* 60 2SB 008 405-101* 1 2SB 008 405-091* 1</p>	
 <p>E1 1892</p>	<p>Additional stoplight horizontal surface-mounting.</p> <p>With 12 red LEDs, in brilliant finish with 3D effect thanks to each LED being embedded in a separate reflector.</p> <p>12 V 1.6 W, current consumption = approx. 0.13 A</p>	<p>2DA 343 800-007* 36</p>	
 <p>E4 7547</p>	<p>Additional stoplight** horizontal flush-mounting.</p> <p>With 12 red LEDs and attached connection cable.</p> <p>With red lens 12 V 2 W, current consumption = approx. 0.17 A 24 V 2 W, current consumption = approx. 0.08 A</p> <p>With red lens and fastening material 24 V 2 W, current consumption = approx. 0.08 A</p> <p>With clear lens 12 V 2 W, current consumption = approx. 0.17 A 24 V 2 W, current consumption = approx. 0.08 A</p>	<p>2DA 959 071-537* 10 2DA 959 071-737* 10 2DA 959 071-757* 10 2DA 959 071-037* 10 2DA 959 071-237* 60</p>	

* See the note on page 2 regarding LED light failure check

** The light can be installed behind the rear window. For rear window angles to the horizontal of 75° to 90°. The degree of transmission at the rear window is permissible from 80 % to 90 %.

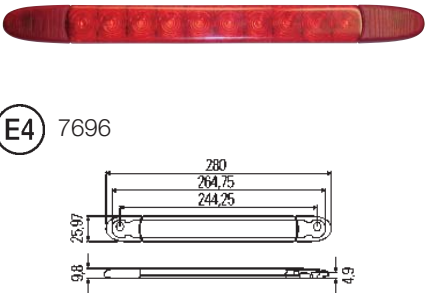
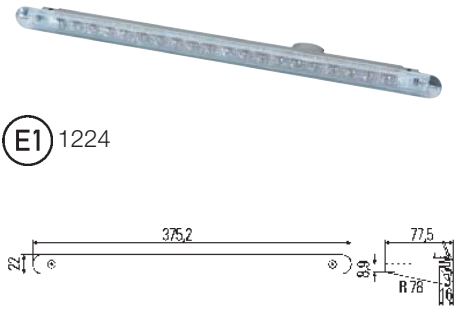

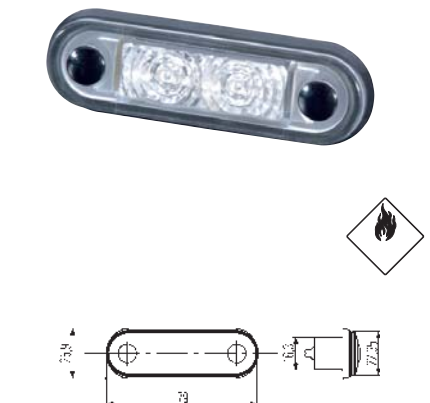

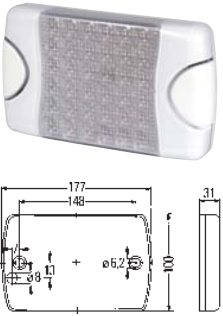
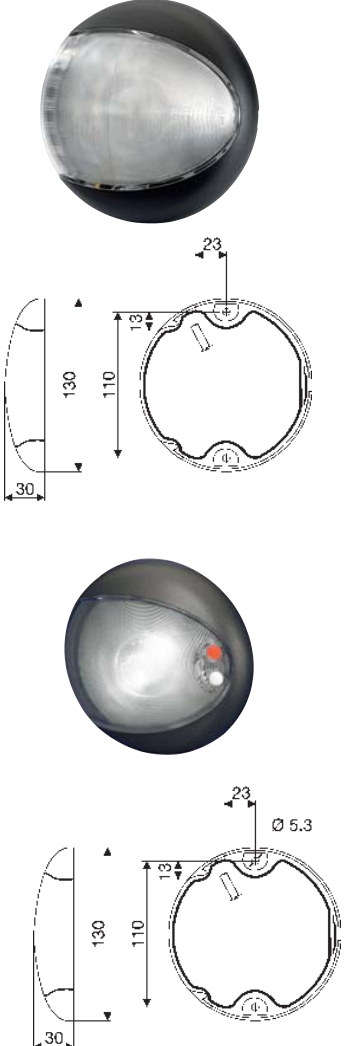
Illustration	Description	Part number	PU
 <p data-bbox="102 271 213 315">E4 7696</p>	<p data-bbox="563 147 1101 203">Additional stoplight horizontal or vertical surface-mounting.</p> <p data-bbox="563 241 1034 297">With 10 red LEDs and cable 3,000 mm long. 2 holes, Ø 3 mm, for fastening screws.</p>		
	<p data-bbox="563 338 991 360">Lens and caps red, for fastening screws.</p> <p data-bbox="563 371 895 394">With ECE/SAE type approval.■</p> <p data-bbox="563 405 1098 427">12 V 0.7 W, current consumption = approx. 0.06 A</p>	<p data-bbox="1153 338 1362 360">2DA 343 106-001*</p> <p data-bbox="1153 371 1362 394">2DA 343 106-007*</p>	<p data-bbox="1401 338 1422 360">1</p> <p data-bbox="1401 371 1433 394">30</p>
	<p data-bbox="563 465 1098 488">24 V 1.4 W, current consumption = approx. 0.06 A</p>	<p data-bbox="1153 465 1362 488">2DA 343 106-011*</p> <p data-bbox="1153 499 1362 521">2DA 343 106-017*</p>	<p data-bbox="1401 465 1422 488">1</p> <p data-bbox="1401 499 1433 521">30</p>
	<p data-bbox="563 595 1062 651">Lens and cover caps smoke-glass coloured, for fastening screws. With ECE/SAE type approval.</p> <p data-bbox="563 663 1098 685">12 V 0.7 W, current consumption = approx. 0.06 A</p>	<p data-bbox="1153 595 1362 618">2DA 343 106-021*</p> <p data-bbox="1153 629 1362 651">2DA 343 106-027*</p>	<p data-bbox="1401 595 1422 618">1</p> <p data-bbox="1401 629 1433 651">30</p>
	<p data-bbox="563 719 1098 741">24 V 1.4 W, current consumption = approx. 0.06 A</p>	<p data-bbox="1153 719 1362 741">2DA 343 106-031*</p> <p data-bbox="1153 752 1362 775">2DA 343 106-037*</p>	<p data-bbox="1401 719 1422 741">1</p> <p data-bbox="1401 752 1433 775">30</p>
	<p data-bbox="563 848 895 904">Lens and cover caps red, for fastening screws. Self-adhesive.</p> <p data-bbox="563 916 895 938">With ECE/SAE type approval.■</p> <p data-bbox="563 949 1098 972">12 V 0.7 W, current consumption = approx. 0.06 A</p>	<p data-bbox="1153 848 1362 871">2DA 343 106-201*</p> <p data-bbox="1153 882 1362 904">2DA 343 106-207*</p>	<p data-bbox="1401 848 1422 871">1</p> <p data-bbox="1401 882 1433 904">30</p>
	<p data-bbox="563 1010 1098 1032">24 V 1.4 W, current consumption = approx. 0.06 A</p>	<p data-bbox="1153 1010 1362 1032">2DA 343 106-211*</p> <p data-bbox="1153 1043 1362 1066">2DA 343 106-217*</p>	<p data-bbox="1401 1010 1422 1032">1</p> <p data-bbox="1401 1043 1433 1066">30</p>
	<p data-bbox="563 1167 1027 1223">Lens and cover caps smoke-glass coloured, for fastening screws. Self-adhesive.</p> <p data-bbox="563 1234 895 1256">With ECE/SAE type approval.■</p> <p data-bbox="563 1267 1098 1290">12 V 0.7 W, current consumption = approx. 0.06 A</p>	<p data-bbox="1153 1267 1362 1290">2DA 343 106-221*</p> <p data-bbox="1153 1301 1362 1323">2DA 343 106-227*</p>	<p data-bbox="1401 1267 1422 1290">1</p> <p data-bbox="1401 1301 1433 1323">30</p>
	<p data-bbox="563 1357 1098 1379">24 V 1.4 W, current consumption = approx. 0.06 A</p>	<p data-bbox="1153 1357 1362 1379">2DA 343 106-231*</p> <p data-bbox="1153 1391 1362 1413">2DA 343 106-237*</p>	<p data-bbox="1401 1357 1422 1379">1</p> <p data-bbox="1401 1391 1433 1413">30</p>
	<p data-bbox="563 1491 1007 1547">Lens blue and cover caps grey, for fastening screws. With SAE type approval.</p> <p data-bbox="563 1559 1098 1581">12 V 0.7 W, current consumption = approx. 0.06 A</p>	<p data-bbox="1153 1491 1362 1514">2DA 343 106-307*</p>	<p data-bbox="1401 1491 1433 1514">30</p>
<p data-bbox="563 1682 1038 1738">Lens red, without cover caps and bush self-adhesive. With ECE/SAE type approval.■</p> <p data-bbox="563 1749 1098 1771">12 V 0.7 W, current consumption = approx. 0.06 A</p>	<p data-bbox="1153 1682 1362 1704">2DA 343 106-407*</p>	<p data-bbox="1401 1682 1433 1704">30</p>	

Illustration	Description	Part number	PU
	<p>Additional stoplight for flush-mounting, e.g. in rear spoiler.</p> <p>Clear lens. With 20 red LEDs and included fastening screws. With PMMA lens, attachment from the outside. Permissible tolerance of the light: +5° and -5° parallel to the road surface. 12 V 3 W, current consumption = approx. 0.25 A</p> <p>Accessories Cable with bush</p>	<p>2DA 007 858-037*</p> <p>8KA 146 751-007</p>	<p>1</p> <p>56</p>
	<p>Licence plate light for surface-mounting 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-volt 10–33 Volt. 12 V 0.5 W, current consumption = approx. 0.04 A 24 V 0.5 W, current consumption = approx. 0.045 A</p> <p>With 500 mm cable and 2-pole EasyConn socket 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>Licence plate light for surface-mounting above the licence plate.</p> <p>3 licence plate lights are necessary for illuminating the licence plate 520 mm x 120 mm.</p> <p>With 2,500 mm cable and 2 white LEDs. Multi-volt 10 – 33 V. 12 V 1 W, current consumption = approx. 0.08 A 24 V 1 W, current consumption = approx. 0.04 A</p>	<p>2KA 959 640-102*</p>	<p>3</p>

* See the note on page 2 regarding LED light failure check

Illustration	Description	Part number	PU
	<p>K-LED</p> <p>Beacon with 4 LED discs with amber light and rubber base.</p> <p>60 amber LEDs per disc, aluminium housing. Transparent 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 orange housing With silver-coloured housing With black housing</p>	<p>2XD 009 386-101*</p> <p>2XD 009 386-111*</p> <p>2XD 009 386-401*</p>	<p>1</p> <p>1</p> <p>1</p>
	<p>Mega Beam LED</p> <p>Worklight with 4 white LEDs, with 2,000 mm cable. Multi-volt 12-33 V. 12 V 7 W, current consumption = approx. 0.6 A 24 V 7 W, current consumption = approx. 0.3 A</p> <p>Upright surface-mounting Pendant surface-mounting Upright surface-mounting, Multi-volt 36 V - 80 V</p>	<p>1GM 996 136-101*</p> <p>1GM 996 136-111*</p> <p>1GM 996 136-131*</p>	<p>1</p> <p>1</p> <p>1</p>
	<p>Interior light "SpotLED" adjustable, for flush-mounting.</p> <p>With 1 white LED, adjustable spot (20°), electrical connection through a cable 200 mm long, Multi-volt 9 -31 V, narrow illumination.</p> <p>With blue ambient CELIS® ring and white trims.</p> <p>With screw attachment With spring attachment</p> <p>Ambient CELIS® ring: 12 V 0.5 W, current consumption = approx. 0.04 A 24 V 1 W, current consumption = approx. 0.04 A</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>Without CELIS® ring with white trims and screw attachment.</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>2JA 343 700-071*</p> <p>2JA 343 700-221*</p> <p>2JA 343 700-051*</p>	<p>1</p> <p>1</p> <p>1</p>
	<p>Interior light "SpotLED" flexible, for surface-mounting.</p> <p>With 1 white LED, electrical connection through a cable 120 mm long. Multi-volt 9 -31 V, narrow illumination, perfect for map-reading.</p> <p>12 V 2.5 W, current consumption = approx. 0.20 A 24 V 3 W, current consumption = approx. 0.12 A</p> <p>With flexibly adjustable arm, 150 mm With flexibly adjustable arm, 400 mm</p>	<p>2JA 343 720-011*</p> <p>2JA 343 720-121*</p>	<p>1</p> <p>1</p>

Illustration	Description	Part number	PU
	<p>Interior light "CargoLED", for flush-mounting.</p> <p>With clear lens, 4 white LEDs and aluminium-coloured installation frame. Electrical connection through a cable 310 mm long, Multi-volt 9 -31 V, broad illumination at close range. ADR /GGVS tested. IP 69, temperature range -40 °C to +60 °C.</p> <p>12 V 6 W, current consumption = approx. 0.05 A 24 V 6 W, current consumption = approx. 0.25 A</p>	<p>2JB 343 227-001*</p>	<p>1</p>
	<p>Rectangular interior light "DuraLED", for surface-mounting.</p> <p>Cast in one piece with white base plate. With clear lens, 36 white LEDs and white housing. Electrical connection through cable 2,500 mm long cable. Multi-volt 9-33 V, wide 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.</p> <p>Clear lens, with 1 white LED. Cast in one piece with black base plate. Electrical connection through a cable 2,500 mm long. Multi-voltage 9-33 V.</p> <p>12 V 2.5 W, current consumption = approx. 0.33 A 24 V 2.5 W, current consumption = approx. 0.17 A</p> <p>Interior light "EuroLED Touch",</p> <p>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>2JA 959 820-501*</p> <p>2JA 959 950-017*</p>	<p>1</p> <p>12</p>

* See the note on page 2 regarding LED light failure check

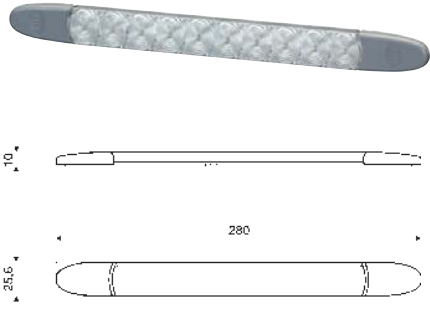
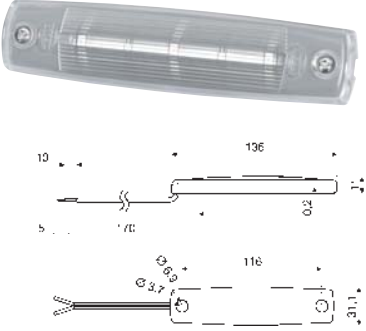
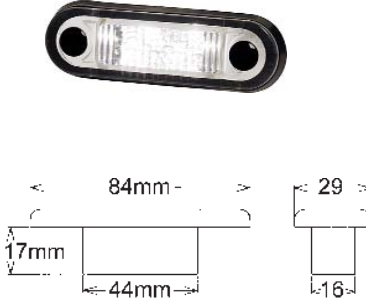
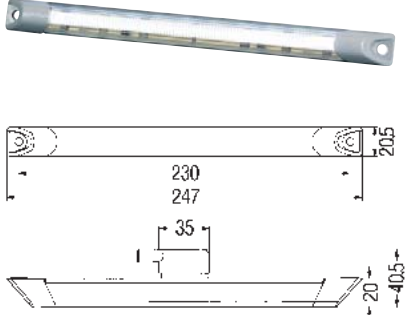
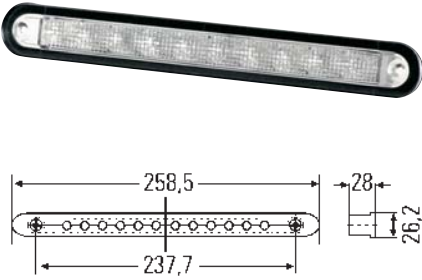

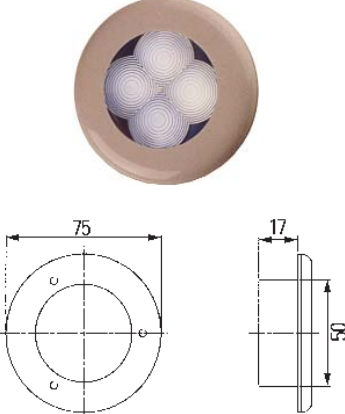
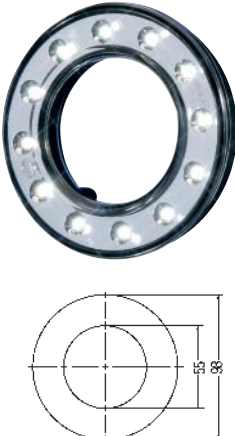
Illustration	Description	Part number	PU
 <p>Technical drawing showing a perspective view of a cylindrical light fixture with a textured grey base plate. Dimensions include a diameter of 10 mm and a length of 280 mm.</p>	<p>Interior light "ThinLite" for surface-mounting with screw attachment.</p> <p>With 10 white LEDs, cast in one piece with grey base plate. Electrical connection through a cable 250 mm long. Broad illumination at close range. IP 69, temperature range -40 °C to +60 °C.</p> <p>12 V 1.8 W, current consumption = approx. 0.15 A 24 V 3.6 W, current consumption = approx. 0.15 A</p>	<p>2JA 343 606-007* 2JA 343 606-017*</p>	<p>30 30</p>
 <p>Technical drawing showing a perspective view of a cylindrical light fixture with a clear lens and a grey base plate. Dimensions include a diameter of 10 mm and a length of 136 mm.</p>	<p>Interior light "Mini ThinLED", for surface-mounting with screw attachment.</p> <p>With 5 white LEDs, cast in one piece with grey base plate. Electrical connection through a cable 180 mm long. Broad illumination at close range. IP 69, temperature range -40 °C to +60 °C.</p> <p>12 V 0.7 W, current consumption = approx. 0.06 A</p>	<p>2JA 343 660-107*</p>	<p>30</p>
 <p>Technical drawing showing a perspective view of an oval-shaped step light with a clear lens and a black housing. Dimensions include a length of 84 mm, a width of 17 mm, and a depth of 29 mm.</p>	<p>Entry light for flush-mounting.</p> <p>Step light, emergency and night-lighting. Lens clear, with 2 LEDs, seal, fastening screws and screw caps. Dustproof and waterproof, with inverse polarity protection. Multi-voltage 10-33 V.</p> <p>12 V 0.35 W, current consumption = approx. 0.03 A 24 V 0.7 W, current consumption = approx. 0.03 A</p> <p>Step light with 2 white LEDs electrical connection through a cable 120 mm long,</p> <p>Electrical connection through a cable 150 mm long and 2-pin Packard plug.</p> <p>Step light with 2 blue LEDs electrical connection through a cable 120 mm long,</p>	<p>2XT 959 510-427* 2XT 959 510-467* 2XT 959 510-657*</p>	<p>36 24 36</p>
 <p>Technical drawing showing a perspective view of a long, narrow light fixture with a clear lens and a grey base plate. Dimensions include a length of 230 mm, a width of 20.5 mm, and a depth of 40.5 mm.</p>	<p>Interior light for surface-mounting.</p> <p>Clear lens. 12 V 7 W, current consumption = approx. 0.06 A</p> <p>Interior light Blue MD12 Blue LEDs, with prism rod as light aperture body</p> <p>Interior light White MD12 White LEDs, with prism rod as light aperture body</p>	<p>2JA 008 078-021* 2JA 008 078-031*</p>	<p>1 1</p>

Illustration	Description	Part number	PU
	<p>Interior light, cast, for flush-mounting.</p> <p>Clear lens, with 10 white LEDs, cable 2,500 mm long, with screws, screw caps, seal and cable clips.</p> <p>12 V 2 W, current consumption = approx. 0.17 A 24 V 2 W, current consumption = approx. 0.08 A</p>	<p>2JA 959 073-001* 2JA 959 073-201*</p>	<p>1 1</p>
	<p>Step light for flush-mounting.</p> <p>Lens housing clear, with 1 white LED, electrical connection through a potted cable 100 mm long, Cover cap white, seal, mounting possible either using 2 screws or with snap-on attachment Broad illumination at close range</p> <p>12 V 0.5 W, current consumption = approx. 0.04 A 24 V 0.5 W, current consumption = approx. 0.02 A</p> <p>Step light MD12 white Step light MD 24 white Step light MD12 blue Step light MD24 blue</p>	<p>2JA 998 560-017* 2JA 998 560-037* 2JA 998 560-057* 2JA 998 560-077*</p>	<p>20 20 20 20</p>
	<p>Entry light</p> <p>Cockpit or map-reading light, emergency and night-lighting. Clear lens, with white ring for covering the 3 fastening screws. With cable 120 mm long, seal and fastening screws, Dust and waterproof, with inverse polarity protection, Multi-volt 10-33 V.</p> <p>12 V 0.7 W, current consumption = approx. 0.08 A 24 V 1.4 W, current consumption = approx. 0.04 A</p> <p>Entry light with 4 blue LEDs Entry light with 4 white LEDs</p>	<p>2XT 959 500-207* 2XT 959 500-677*</p>	<p>24 24</p>
	<p>Interior light MD 12 for flush-mounting.</p> <p>With 12 blue LEDs. 12 V 1.8 W, current consumption = approx. 0.15 A</p>	<p>2JA 008 405-081*</p>	<p>1</p>

* See the note on page 2 regarding LED light failure check

Preview/Outlook

Illustration	Description	Part number	PU
	<p>Taillight, triangular reflector, stoplight, indicator and reverse light in 100% LED, 24 V. For horizontal surface-mounting.</p> <p>With 7-pin EasyConn central plug. With additional 2-pin EasyConn connection for the connection of a separate rear fog light to the left-hand light.</p> <p><i>With patented electronics for indicator failure check. See page 7-10.</i></p> <p>Taillight-stoplight, 15 red LEDs stoplight: 24 V 3-4 W, current consumption = approx. 0.125–0.166 A taillight: 24 V 0,36 - 0,5 W, current consumption = approx. 0,015 - 0,02 A</p> <p>Indicator, 15 amber LEDs 24 V 3-4 W, current consumption = approx. 0.125–0.166 A</p> <p>Reverse light, 1 white LED 24 V 5-6 W, current consumption = approx. 0.23 A</p> <p>left right</p>	<p>2VP 340 950-011*</p> <p>2VP 340 950-021*</p>	<p>1</p> <p>1</p>
	<p>"Oval" combination rear light</p> <p>With clear lens, 24 LEDs, multi-volt 9-32 V, for horizontal and vertical surface-mounting, can be used on the right and left, turned through 180°, 2 body fastening screws (diagonal arrangement) with 100 mm cable assembly.</p> <p>Taillight-stoplight-indicator With 12 red LEDs for stoplight</p> <p>With 12 red LEDs for taillight: reduced power</p> <p>With 12 amber LEDs for indicator with clear lens</p> <p><i>With patented electronics for indicator failure check. See page 7-10.</i></p> <p>Stoplight with clear lens, 24 red LEDs.</p> <p>Taillight-stoplight with clear lens With 24 red LEDs for stoplight</p> <p>With 24 red LEDs for taillight: reduced power</p> <p>Taillight with clear cover lens With 24 red LEDs</p> <p>Indicator with clear lens With 24 amber LEDs</p>	<p>2SD 343 390-...*</p> <p>2DA 343 390-...*</p> <p>2SB 343 390-...*</p> <p>2SA 343 390-...*</p> <p>2BA 343 390-...*</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>

Illustration	Description	Part number	PU
 <p>Design is under revision</p>	<p>Redesign 2.. 001 685-...</p> <p>Taillight-stoplight-indicator With red/amber lens. Multi-volt 9-32 V.</p> <p>With 12 red LEDs for stoplight 12 V 1 W, current consumption = approx. 0.08 A 24 V 1 W, current consumption = approx. 0.04 A</p> <p>With 12 red LEDs for taillight: reduced power 12 V 0.2 W, current consumption = approx. 0.02 A 24 V 0.2 W, current consumption = approx. 0.01 A</p> <p>With 12 amber LEDs for indicator 12 V 1.5 W, current consumption = approx. 0.13 A 24 V 1.5 W, current consumption = approx. 0.06 A <i>With patented electronics for indicator failure check. See page 7-10.</i></p>	2SD 344 100-...*	1
 <p>Design is under revision</p>	<p>Redesign 2.. 964 169-...</p> <p>Taillight-stoplight-indicator With clear lens, multi-volt 9-32 V.</p> <p>With 12 red LEDs for stoplight 12 V 1 W, current consumption = approx. 0.08 A 24 V 1 W, current consumption = approx. 0.04 A</p> <p>With 12 red LEDs for taillight: reduced power 12 V 0.2 W, current consumption = approx. 0.02 A 24 V 0.2 W, current consumption = approx. 0.01 A</p> <p>With 12 amber LEDs for indicator 12 V 1.5 W, current consumption = approx. 0.13 A 24 V 1.5 W, current consumption = approx. 0.06 A <i>With patented electronics for indicator failure check. See page 7-10.</i></p>	2SD 344 200-...*	1
	<p>Position light for flush-mounting.</p> <p>With 2 white LEDs. 24 V 0.5 W, current consumption = approx. 0.02 A</p> <p>For mounting position 10-20° For mounting position 20-30°</p>	2PF 009 514-001* 2PF 009 514-011*	1 1

* See the note on page 2 regarding LED light failure check

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