



Technology with Vision

K-LED 2.0 BEACON

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Subject to technical and price modifications



Rotates or flashes - as required.

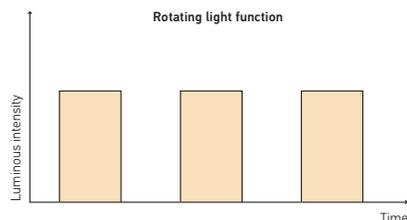
Better visibility enhances safety

The new HELLA K-LED 2.0 ensures the best possible warning effect and, with that, optimum safety, as it automatically illuminates 2.3 x brighter during the day than it does at night. It is also the first HELLA beacon where you can choose between rotating or flashing warning signals by switch or programming. This offers you the right warning signal for any application.

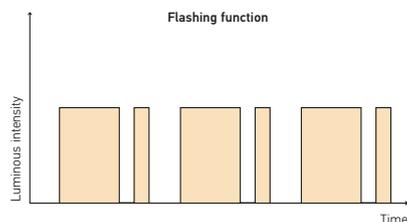
Product benefits

- Signal: Rotating/Flashing. For fixed attachments you can choose between switches or the programming option. For pipe sockets and magnetic attachments the warning signal is factory-set on flashing.
- Automatic day-time/night-time level: sensor measures the ambient brightness and controls the changeover between day-time/night-time levels by means of the measured values. This provides an optimum warning signal during the day and nobody is dazzled at night.
- Intelligent and powerful electronics: programmable for a wide range of flashing sequences or changeover to rotating function, multi-voltage function.
- Operational safety by means of 12 / 24 V polarity reversal and overvoltage protection.
- Ideal for permanent use, thanks to low total current consumption and LED durability.
- Ideal light output and focusing through the use of a special reflector and 20 high-power LEDs.
- Very robust and vibration-resistant: no moving parts, extremely flat design and impact-resistant dome.
- High-quality corrosion protection: thanks to the special finishing and coating of the housing. This provides a considerable degree of protection against aggressive media like salt and lyes.
- Cooling fins for an optimum thermal management to ensure the long design life.
- Assembly possible from below on bolt circle Ø 130 mm and from below and above on bolt circle Ø 150.

Lighting functions



Homogenous illumination with rapid increase in the light values, signal can be perceived immediately.



Intensive perception thanks to double-flash signal, 360° warning effect, rapid increase in light values, signal can be perceived immediately.



More information:
www.hella.com/municipal

Advantages of LEDs

1 Vibration resistance

LEDs are stable light sources and insensitive towards vibrations and jolting.



2 Design life

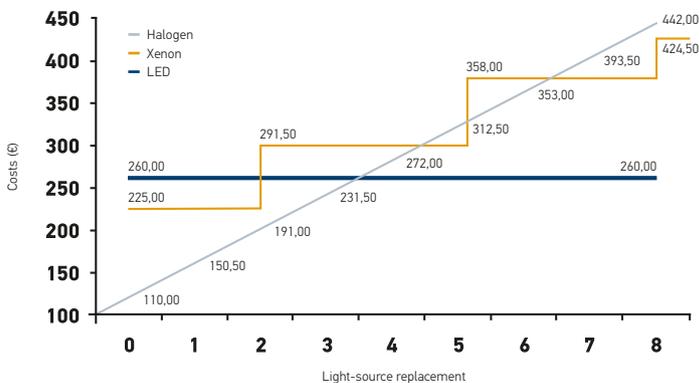
Empirical values indicate the following design life with different light sources in beacons:

- Halogen, approx. 500 hours
- Xenon, approx. 2,500 hours
- LED, approx. 20,000 hours



3 Cost saving since there are no follow-on costs

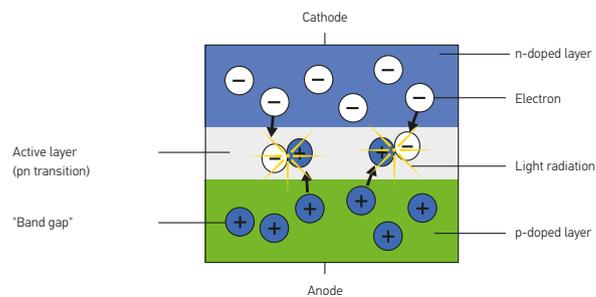
The cost structure of the vehicle fleet can be optimised, as costs for spare parts and maintenance are a thing of the past. Here is a comparative calculation as an example:



Intelligent electronics concepts ...

... guarantee the protection the LEDs need

Inverse polarity protection and protection from voltage peaks are necessary for the reliable realisation of extremely long LED design lives. When a current flows through the LED from the anode + to cathode -, light is produced (emitted). The diagram below illustrates how this works: A high degree of efficiency is achieved by means of the intelligent electronics concept of the LEDs.



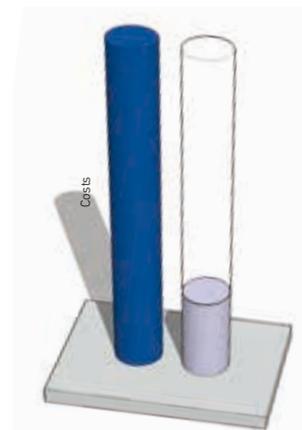
Although LEDs are expensive, there is no stopping their increased use in more and more fields, as the advantages quickly more than outweigh the greater initial purchasing costs.

This means LED products are more expensive than other lighting technologies:

- Implementation of thermal management
- Use of high-quality LEDs
- Intelligent electronics
- Overvoltage protection
- Reverse polarity protection
- Complex development

Advantages of LED products:

- Vibration-resistant
- Intensive light colour
- Safety for drivers and other road users
- No maintenance
- Extremely long design life
- Low consumption
- Design freedom



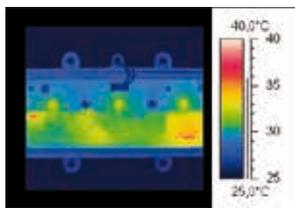
- Halogen
- LED

LEDs are not all the same

With LEDs you are investing in high-quality technology – but a significant reduction in follow-on costs and a longer problem-free design life means that this technology will pay off. The widespread use of LEDs is the best indication of their clear benefits. However, certain factors must be taken into account.

With thermal management

Thermal management dissipates heat away from the LEDs and transfers it to the surroundings.

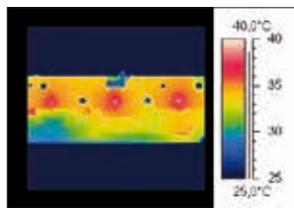


The LEDs only achieve their extremely long design lives with appropriate thermal management.

HELLA ensures optimum thermal management in all developments.

Without thermal management

If heat is not dissipated away from the LEDs, hotspots develop. These damage the LEDs and can even cause them to fail.



If reliable thermal management is not implemented, the LEDs can overload and, in the worst case scenario, can even fail.

Thermal management is an absolute must to protect LEDs.

LEDs are sensitive to heat. If the LEDs become too hot, the diodes can lose their luminous intensity and even be destroyed completely in the worst case.

HELLA's selection of heat-conducting materials and arrangement of components ensure effective heat flow: the thermal management directs heat away from the LED. This means we can guarantee the long design life of our products!

If you want to get the best out of LED technology, thermal management is essential!

K-LED 2.0

K-LED 2.0 F
2XD 011 557-101



K-LED 2.0 F
2XD 011 557-841



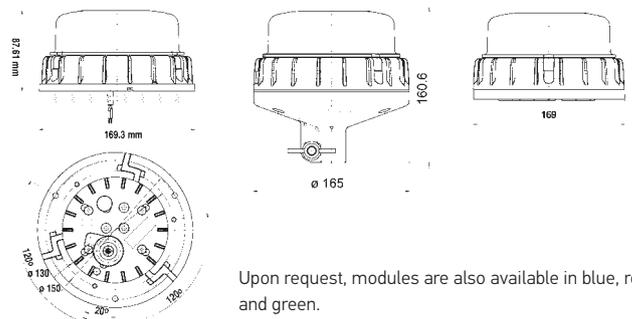
K-LED 2.0 R
2XD 011 557-201



K-LED 2.0 R
2XD 011 557-811



K-LED 2.0 M
2XD 011 557-301



Upon request, modules are also available in blue, red and green.

Technical specifications / type approval

Nominal voltage (U_N)	Multivolt
Operating voltage (U_B)	10 – 32 V
Interference suppression (CISPR25)	Power-controlled class 5
Total current consumption	0.45 A to 2.5 A
Power consumption	Max. 30 W
Operating temperature range	-40°C to +60°C
Service life of LEDs	ca. 30,000 hours*
Dome	Polycarbonate
Installation	From below
Reverse polarity protection	Yes
Position of use	Upright
Protection class	IP 67
Approval	GGVSE / ADR
Lighting technology homologation (rotating)	TA1  R10: 056816 R65: 003468
Lighting technology homologation (flashing)	TA2  R10: 056816 R65: 003555

* As per details provided by LED manufacturers; depending on operating conditions the length of LED service life can vary.