IDEAS TODAY FOR THE CARS OF TOMORROW

**LED-Spot round Interior light**

- **LED and bulb technology**
- **Fixed and adjustable**
- **With ambient CELIS® ring**

**Technical details**

- **Power LED with dimming function**
  Optimum light output thanks to the combination of Power LED and precision reflector. Service life at least 50,000 hours. The electronics have a dimming function.

- **Precision reflector**
  The light of the Power LED is focused and enables illumination with an extremely high light output (43 lx at a distance of 1 m).

- **Clear lens**
  Requires a clean finish within the light, since reflector, LED and the optional CELIS® light-transmitter ring are visible.

- **CELIS® light-transmitter ring**
  This technology, which is used exclusively by Hella, stands out through the special design for indirect ambient lighting. This creates a relaxed atmosphere in the vehicle.

- **Frame**
  Sturdy, durable and impact-resistant (plastic: ABS). Available in the following colours: white, black, silver and gold.
LED lighting technology

As the innovative leader in supplying original equipment for the automotive industry, Hella is setting new benchmarks in interior lighting with LED technology.

An overview of the advantages of modern LED lighting technology:

Extremely low energy consumption
Through the combination of efficient light-emitting diodes (LEDs) and precision lenses, the Hella LED interior lights provide almost as much light per watt as conventional bulbs and halogen lights, although they only consume a quarter of the energy (Hella LED spotlight: 17.2 lx/W; bulb spotlight: 21.8 lx/W).

No light source replacement, no preventative maintenance and an extremely long service life
LEDs are semiconductor components and thus do not have any breakable filaments. In addition, LEDs are absolutely resistant to impact and vibration. This guarantees lighting and safety in every situation. Furthermore, the service life of LEDs is approx. 50,000 operating hours and thus exceeds the vehicle’s lifetime.

Dimming function and ambient CELIS® light-transmitter ring
A dimming function is integrated into the electronics of all LED spotlights from Hella. In addition, all the items are available with ambient CELIS® light-transmitter ring, which is used for indirect lighting and thus creates a relaxed atmosphere in the vehicle.

LED Multivolt™ technology
Multivolt™ circuits keep the light power constant over a voltage range of 10 to 31 volts. This makes it possible to use the same Hella interior lights both for 12-volt and 24-volt applications. Multivolt™ also compensates for the fluctuations in voltage which arise due to the use of long cables, plugconnections, and within the vehicle electric system. Furthermore, Hella Multivolt™ circuits are protected from polarity reversal and voltage peaks, providing absolute safety even when battery voltage is low.

Cost comparison between bulb and LED spotlight

<table>
<thead>
<tr>
<th></th>
<th>LED</th>
<th>Bulb/halogen</th>
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<tbody>
<tr>
<td>Service life</td>
<td>50,000 h</td>
<td>2,000 h</td>
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<tr>
<td>Energy consumption</td>
<td>2.5 watts</td>
<td>10 watts</td>
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<td>Light output (at a distance of 1 m)</td>
<td>43 lx</td>
<td>218 lx</td>
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Basis for calculation:
Service life: 25,000 operating hours. Replacement: 1,00 €/£ 0.80 per bulb, plus 1,00 €/£ 0.80 per piece. (time required for procurement and replacement) Current costs: 0.19 €/£ 0.15 per kWh. Figures rounded off.
Connection diagrams

Without dimming control unit

- +10–31 V
- Earth
- +10–31 V ambient
- CELIS® ring
- Switch
- Connection of further lights

With dimming control unit

- +10–31 V
- Earth
- Switch on
- Switch off
- Control unit
- +10–31 V ambient
- CELIS® ring
- Switch
- Connection of further lights
**Technical drawings, installation openings and overview of range**

**LED spotlights**
Colour of the LEDs: warm-white. Mounting: choice of either screw or spring-clamp attachment (surface-mounting, fixed: screw attachment only). Multi-voltage 10–31 V. Current consumption spotlight at 12 V: 2.5 W = approx. 0.20 A. Packaging unit 1. Further cover colours (e.g. real-wood look) or ambient CELIS® light-transmitter ring (e.g. blue, red) on request.

<table>
<thead>
<tr>
<th>Cover</th>
<th>Flush-mounting, fixed</th>
<th>Flush-mounting, adjustable</th>
<th>Flush-mounting, adjustable with white, ambient CELIS® ring</th>
<th>Surface-mounting, fixed</th>
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<td>2JA 344 040-731*</td>
<td>2JA 343 790-351*</td>
<td>2JA 343 790-751*</td>
<td>2JA 344 190-031*</td>
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*Bulb spotlights*
Mounting: Screw attachment (flush-mounting, fixed), either screw or spring-clamp attachment (flush-mounting, adjustable). 12 V/5 W halogen bulb. Packaging unit 1. Further cover colours (e.g. real-wood look) available on request.

<table>
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<tr>
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<th>Flush-mounting, adjustable</th>
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*available from 2nd quarter of 2009*