LED - Lighting and connection technology

Spot/Downlight System GH36d-4

pkg  wt.  part no.
1  28 g  32.120.0008.00

Spot/Downlight LED lamp
for applications in Shop, Office and Hospitality-areas

Twist and Lock System
Body of aluminium works as heatsink
Not suitable for power supply voltage, power supply by external ballast
Tc-point (Marking at rim of aluminium base): max. 65 °C

• Flat Design
• More flexibility with reflector design
• With integrated reflector-interface for easy insertion of reflector
• Fasten and release aid: grip pins and recessed grip
• Guided insertion of LED lamp
• Glass lens as protection against contact
• Easy exchange of LED lamp - Late-Stage-Finishing
• Beam angle: 113°

Energiy efficiency at Tc 50 °C A+

Specific technical data

<table>
<thead>
<tr>
<th>Operational current I, [mA]</th>
<th>Min.</th>
<th>Typical</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour rendering index CRI</td>
<td>&gt;80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colour temperature at Tc 25 °C</td>
<td>2.880 K</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luminous flux at Tc 25 °C</td>
<td>2.780 lm</td>
<td>3.100 lm</td>
<td>3.400 lm</td>
</tr>
<tr>
<td>Module efficiency at Tc 25 °C</td>
<td>108 lm/W</td>
<td>120 lm/W</td>
<td>132 lm/W</td>
</tr>
<tr>
<td>Operational voltage U,V at Tc 25 °C</td>
<td>33,6 V</td>
<td>36,65 V</td>
<td>40 V</td>
</tr>
<tr>
<td>Power consumption [W] at Tc 25 °C</td>
<td>23,5 W</td>
<td>25,7 W</td>
<td></td>
</tr>
</tbody>
</table>

| Colour temperature at Tc 50 °C | 2.880 K |         |      |
| Luminous flux at Tc 50 °C | 2.640 lm | 2.930 lm | 3.230 lm |
| Module efficiency at Tc 50 °C | 105 lm/W | 116 lm/W | 128 lm/W |
| Operational voltage U,V at Tc 50 °C | 33 V | 36 V | 39,5 V |
| Power consumption [W] at Tc 50 °C | 23,1 W | 25,2 W |      |
| Energy efficiency at Tc 50 °C | A+ |         |      |

Tolerances of optical and electrical data: ± 10%

* Warranty conditions of BJB GmbH & Co KG as stated on page 100 of the LED Applications catalogue (Issue No.1 - 2014) and as available via the Internet under www.bjb.com/warranty-conditions.html are valid.

Applicable with:

Lampholder for Spot/Downlight LED lamp

Screw fixing: for standard M3 screws
Max. torque for screw fixing 0.3 Nm

Housing: solid PPS for constant force transmission

• Twist and Lock System
• Strip length: 8 + 1 mm
• Optimised heat management: CrNi leaf springs provide permanent contact pressure between LED lamp and heat sink

See page 43 of the LED Application catalogue

pkg  wt.  part no.
240  9.4 g  28.720.1001.90
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Light distribution

Spectral intensity

Wave length (nm)

Relative luminous flux based on operational current

Relative luminous flux based on Tc

Efficiency / leading power

Efficiency / temperature
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Electrical current / voltage characteristics

Voltage / temperature

Only schematically, since the voltage is subject to a tolerance

Current [mA] vs. Voltage [V] graph

Temperature [°C] vs. Forward voltage [V] graph
**EOS/ESD safety guidelines**

Some components of the BJB /// OEM – Line Modular System might be harmed by electrostatic discharge (ESD) and electrical overstress (EOS) and may only be installed in the factory and on site if appropriate EOS/ESD protection measures have been taken. Modules like the Spot/Downlight System with enclosed housing, where no contact to the LED module is possible do not need special measures for protection of electrostatic discharge (ESD).

**Assembly instructions**

Twist and Lock System with lampholder 28.720 1001.90.

The selected heat sink should have a flat, smooth surface to the lamp. The heatsink should be free of foreign matter and oils / fats etc. This prevents heat dissipation of the lamp. The heatsink must be selected according to the specified heat dissipation by the key used in each case.

Avoid additional mechanical stress of the lamp, do not exceed the max. weight of the reflector 30 g. The reflector must not touch the housing to avoid lifting off the lamp. Before an installation or removal of the luminaire the power supply has to be switched off. A replacement with power supply might harm the luminaire and for the control gear.

**Attention should be paid to:**

Do not cover the lamp with paper, fabric or other easily inflammable material.

Keep the lamp apart from water and intense humidity.

Avoid additional mechanical stress.

Do not touch the lamp during or shortly after use – Risk of burns!

Do not look directly into the lamp.

Before working on the lamp or luminaire always disconnect from the mains!

**Screw fixing**

The lampholder is fixed with two corrosion-protected steel M3 screws with a torque of 0.3 Nm. The screw head must not protrude beyond the surface version. The distance between the screw holes can be found on the catalog page.

**Note to chemical reactions**

Chemical substances may harm the LED module. This could lead to reduced luminous flux, colour shift or total failure of the module caused by corrosion of electrical connections. Avoid corrosive atmosphere during usage and storage.

**Life span and lumen maintenance**

The light output of an LED module decreases over the life-time, this is characterized with the L value.

L70 means that the LED module will give 70 % of its initial luminous flux. This value is always related to the number of operation hours and therefore defines the lifetime of an LED module. As the L value is a statistical value and the lumen maintenance may vary over the delivered LED modules.

**Thermal design, tc point, ambient temperature and life-time**

The rated life of a LED module depends to a large extent on the temperature. If the permissible temperature limits are exceeded, the life of the LED module will be greatly reduced or the module may be destroyed.

The temperature at tc reference point is crucial for the light output and life-time of a LED module.

**Electrical supply**

LED modules from BJB are not protected against overvoltages, overcurrents, overloads or short-circuit currents. Safe and reliable operation can only be guaranteed in conjunction with a LED control gear which complies with the relevant standards.

BJB LED Module must be supplied by a constant current LED control gear. Operation with a constant voltage LED control gear will lead to an irreversible damage of the module. Wrong polarity can damage the LED module. If LED modules are wired in parallel connection and a wire breaks or a complete module fails then the current passing through the other module increases. This may reduce its life considerably. In addition there can be slight differences in light output caused by tolerances.

**Wiring and cross section for lampholder 28.720**

For solid conductors with a cross section of 0.5 to 0.75 mm² or conductors with tinned wire ends and a cross section of 0.25 to 0.5 mm²