Outdoor LED drivers – reliable, durable and efficient

**OPTOTRONIC® 4DIM/DALI**
Constant current, programmable

- 4DIM functionality in one device (StepDIM, AstroDIM, MainsDIM, DALI)
- Very high efficiency and reliability
- High surge protection: up to 8kV (protection class I or II)
- Great flexibility due to wide operating temperature range of -40...55 or 60°C
- Vibration- and humidity-protected (varnished, IP 20)
- Output current range: up to 1,050 mA
- Flexible current setting with multivendor LEDset2 interface (plug & play)
- Isolated DALI interface for bidirectional telemanagement systems
- Constant lumen function
- Overtemperature protection via external NTC and LEDset2 interface
- Suitable for protection class I and II luminaires

**OPTOTRONIC® 2DIM/0-10 V LED (IP 64)**
Constant current, programmable

- 2DIM functionality in one device (AstroDIM, 0–10V)
- High efficiency and reliability
- High surge protection: up to 6kV (protection class I or II)
- Great flexibility due to wide operating temperature range of -40...55°C
- High ingress protection (IP 64)
- Output current range: up to 1,400 mA
- Fast programming without mains voltage
- Flexible current setting with multivendor LEDset2 interface (plug & play)
- Isolated 0–10V interface for unidirectional telemanagement systems
- Constant lumen function
- Overtemperature protection with external NTC or LEDset2 interface
- Suitable for luminaires of protection classes I and II

**OPTOTRONIC® ON/OFF (IP 65)**
Constant current

- High efficiency and reliability
- High surge protection: up to 6kV (protection class I)
- Great flexibility due to wide operating temperature range of -40...55°C
- High ingress protection (IP 65)
- Fixed output current: 700 mA
- Integrated overtemperature protection

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Outdoor lighting dimming

Through dimming of outdoor lighting applications, OSRAM enables significant cost and energy savings for cities while fulfilling the demand for reliable and more attractive light. By offering a variety of dimming options, OSRAM adapts the light to the specific needs of street lighting installations while minimizing energy consumption.

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Products of OSRAM GmbH, distributed by LEDVANCE

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**Light is OSRAM**
Outdoor lighting dimming – many possibilities with OPTOTRONIC® LED drivers

Dimming functionalities

**Stand-alone control**

- **AstroDIM**
  
  AstroDIM provides multi-stage night-time power reduction based on an internal timer reference to the power on/off time. There is no need for an external control infrastructure. The unit automatically performs a dimming profile based on the predefined scheduled reference to the midpoint, which is calculated based on the power on/off times.

- **Presence-controlled**
  
  In this dimming mode, the light output can be adjusted to the activity around each light point with an additional external sensor powered by the mains, regardless of the actual dimming level of the AstroDIM mode.

**Group control**

- **StepDIM**
  
  The StepDIM (bi-power) mode allows switching between two output levels, the “normal” mode and the “reduced load” mode, by means of an additional switched phase. In the “reduced load” mode, the driver reduces the lighting level and therefore the energy consumption. The light levels can be preprogrammed flexibly.

- **MainsDIM**
  
  This feature is mainly used in combination with magnetic ballasts for outdoor applications. The light output is reduced by lowering the mains voltage. The reduction of the mains voltage is applied by a controller in the distribution cabinet.

**Network control**

- **DALI**
  
  In the DALI mode, the driver can be integrated in a light management system such as the OSRAM Street Light Control system. The standardized DALI interface enables bi-directional communication between the driver and the light management system, which means that stepless dimming, status requests and addressing of each individual fixture are possible.

- **0–10V**
  
  With the 0–10 V interface, the driver can be integrated in a light management system such as the OSRAM Street Light Control system. This uni-directional interface allows adjusting the light output of the system.

Dimming functionalities per product family

<table>
<thead>
<tr>
<th>OPTOTRONIC® LED drivers</th>
<th>4DIMLT2</th>
<th>2DIMLT2</th>
</tr>
</thead>
<tbody>
<tr>
<td>AstroDIM</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Presence-controlled</td>
<td>x</td>
<td>x + ext. relay</td>
</tr>
<tr>
<td>StepDIM</td>
<td>x</td>
<td>x + ext. relay</td>
</tr>
<tr>
<td>MainsDIM</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>DALI</td>
<td></td>
<td></td>
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<tr>
<td>0–10V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant lumen</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Multivendor LED interface LEDset2</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Tuning factor</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

Additional cost-saving features

**Constant lumen**

To ensure the maintenance interval of the system, the light level must be achieved also at the end of the entire lifetime. Due to lumen depreciation of the light source over time, the system usually needs to be overpowered at the beginning which leads to increased energy cost. This is not necessary by means of the constant lumen function as the operating output is adjusted continuously to compensate for the lumen loss.

**LEDset2 + tuning factor**

LEDset2 is a multivendor LED module interface which ensures optimal efficiency, a high level of reliability and the adaptability of the LED drivers to the latest LED technologies without reprogramming. In case the necessary light level falls between two lumen packages, it can be adjusted by the tuning factor. This allows further energy reduction and prevents unnecessary light pollution.

**High overvoltage protection**

With the OSRAM developed EQUI connection, these drivers (depending on the OPTOTRONIC® family type) offer a high overvoltage protection up to 6 kV in common mode (6 kV in differential mode) for protection class I or II, protecting not only the LED driver, but also the connected module.

**Programmable hardware and software**

- **DALI magic**
  - Product: 4052899039551 (For all DALI drivers)
  - Tuner4TRONIC®
    - Supports DALI magic, OT Programmer

*Software is available for free download at www.myosram.com for OEMs

**Street Light Control**

- **SLC Luminaire Controller**
  - Product: 4052899059907
    - Interfaces: DALI, 0 – 10 V

- **SLC Pole Controller**
  - Product: 4052899033715
    - Interfaces: DALI, 0 – 10 V

- **SLC Gateway**
  - Product: 4052899072275
    - Interfaces: GPRS, LAN, fiber optics